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PRELIMINARY ASSESSMENT AND SITE INSPECTION FOR U S ARMY HAWK MISSILE  
SITE BOCA CHICA SITE 25 NAS KEY WEST FL  
9/1/2012  
TETRA TECH

# Comprehensive Long-term Environmental Action Navy

CONTRACT NUMBER N62470-08-D-1001



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## Preliminary Assessment and Site Inspection U.S. Army Hawk Missile Site, Boca Chica, Site 25

Naval Air Station Key West  
Key West, Florida

Contract Task Order JM17

September 2012



Southeast

NAS Jacksonville

Jacksonville, Florida 32212-0030

**PRELIMINARY ASSESSMENT AND SITE INSPECTION  
U.S. ARMY HAWK MISSILE SITE, BOCA CHICA, SITE 25  
NAVAL AIR STATION (NAS) KEY WEST,  
KEY WEST, FLORIDA**

**COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY  
(CLEAN) CONTRACT**

**Submitted to:  
Naval Facilities Engineering Command Southeast  
Building 903  
NAS Jacksonville  
Jacksonville, Florida 32212-0030**

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**Prepared under:  
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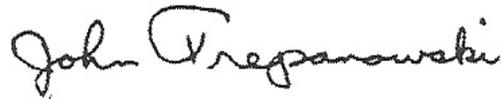
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## EXECUTIVE SUMMARY

Tetra Tech, Inc. (Tetra Tech) has been contracted by the U.S. Department of Navy (Navy) and funded by the Naval Facilities Engineering Command (NAVFAC) Southeast (SE) to perform a Preliminary Assessment (PA) and Site Inspection (SI) at the former United States (US) Army Hawk Missile Site (AHMS) Boca Chica (Site 25) at Naval Air Station (NAS) Key West, Key West, Florida. The work was conducted for Contract Task Order (CTO) JM17 under the Comprehensive Long-Term Environmental Action Navy (CLEAN) Contract No. N62470-08-D-1001. The PA is the first component of the overall site evaluation, which is a limited scope investigation of readily available information, and a site and environs reconnaissance. The PA was designed to distinguish if further investigation was necessary and if so, be followed by the SI. The SI is not intended as a full-scale study of the nature and extent of contamination, but is performed to augment the data collected in the PA, and to generate site-specific data to determine whether contaminants are present or absent and whether response actions or further investigation is appropriate. The objective of performing this PA/SI was to efficiently gather the data necessary to make this determination. The United States Environmental Protection Agency (USEPA) guidance for conducting and documenting PAs and SIs was followed to provide an overall site evaluation.

NAS Key West is located in the Florida Keys, between the Gulf of Mexico and the Atlantic Ocean in Monroe County, Florida. The first naval base was constructed in Key West in 1823 to combat piracy in South Florida. The NAS Key West complex comprises 6,249 acres of land, distributed over 14 properties that include: Demolition Key, Fleming Key, Truman Annex, Trumbo Point Annex, Peary Court Annex, Sigsbee Park Annex, Navy Branch Health Clinic – Key West, Boca Chica Field, North Boca Chica, Geiger Key, Big Coppitt Key, Rockland Key, Navy Computer and Telecommunications Station – Saddlebunch Key, and Battery HM-40 – Key Largo Site. The installation's present-day mission is to provide pilot training facilities and services, as well as access to airspace and training ranges for tactical aviation squadrons.

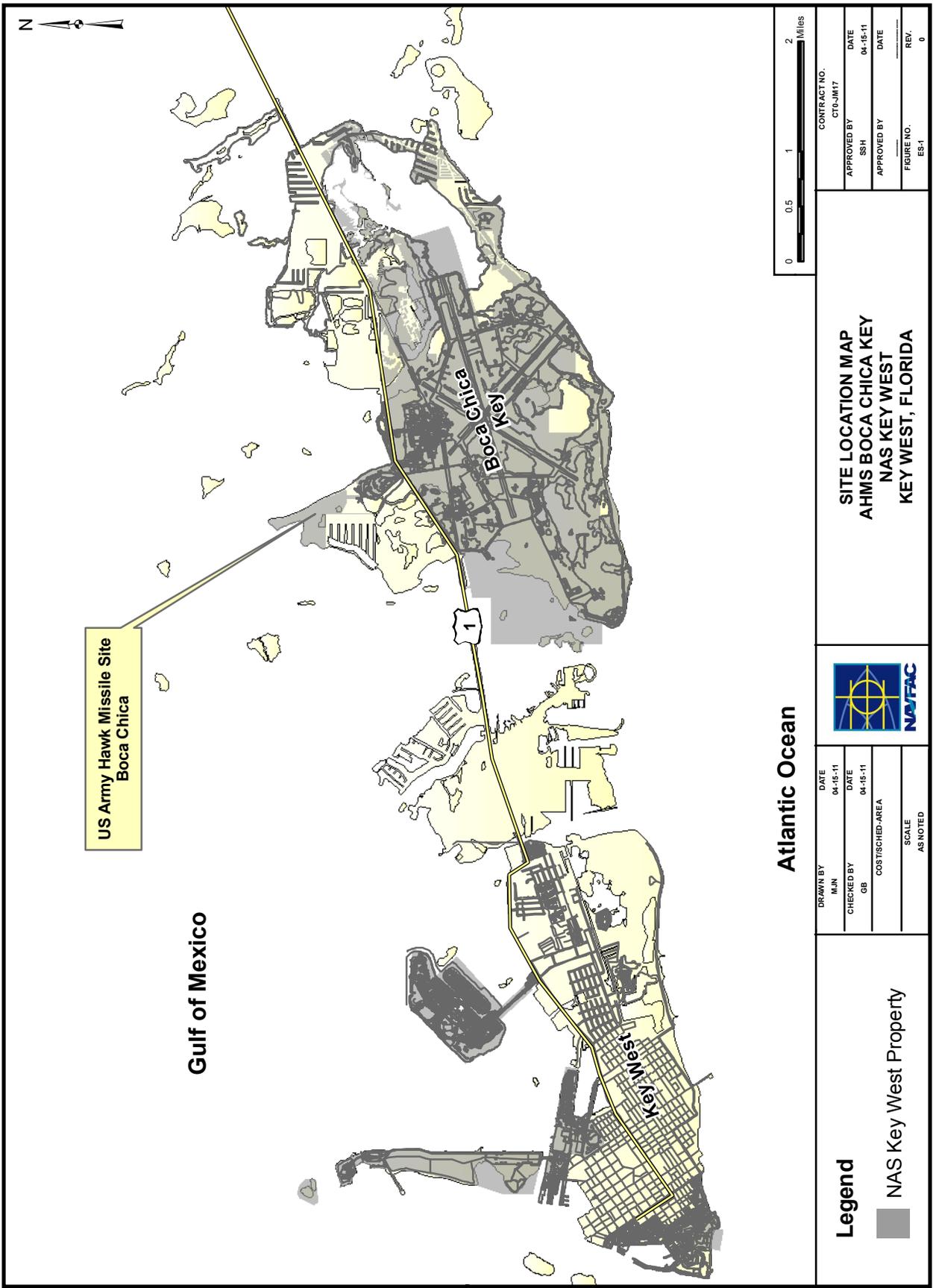
Information regarding the former AHMS Boca Chica Key is the focus of this PA/SI report and is included in the following paragraphs:

The former AHMS Boca Chica Key Site is located on the north side of Boca Chica Key. AHMS Boca Chica Key is surrounded by mangrove swamps and the waters of the Gulf of Mexico. (Figure ES-1)

Based on the surrounding area, the land on which AHMS Boca Chica Key was built was most likely a mangrove swamp that was probably filled in by the U.S. Army in order to adapt the area for use as a missile site similar to the AHMS Geiger Key Site. Work on the facility began in 1965 in support of the Cuban Missile Crisis, and continued for several years thereafter. The site contains most of the

original buildings used for storage, maintenance, and repairs on the Hawk missiles. It also contains the original radar and illuminator towers, missile launch pads, and generator building. It was used for coastal defense until 1979, at which time the Army units demobilized from all of the Hawk Missile batteries in the Florida Keys. It was used for coastal defense until 1979, at which time the Army units demobilized from all of the Hawk Missile batteries in the Florida Keys. The current and future land use is industrial as outline in the NAS Key West Base Master Plan.

A series of investigations have occurred at AHMS Boca Chica Key following the removal of a closed aboveground storage tank (AST), and were first described in the Closure Report submitted to the Florida Department of Environmental Protection (FDEP) in 1996. The investigations, restricted to a small area on the site, verified that there was soil and groundwater contamination in the vicinity of the AST area. A natural attenuation monitoring sampling plan for polycyclic aromatic hydrocarbons (PAHs) was approved and the site was sequentially sampled in November 2003, and February and May 2004. The PAH levels were below regulatory limits for three consecutive sampling events at the Site and no further action (NFA) was proposed. A site rehabilitation completion order was issued in August 2005 and was followed by all monitoring wells on site being abandoned.



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## ACRONYMS AND ABBREVIATIONS

°C	Degrees Celsius
°F	Degrees Fahrenheit
%R	Percent Recovery
µg/L	microgram per liter
µg/kg	microgram per kilogram
AHMS	U.S. Army Hawk Missile Site
AST	Aboveground Storage Tank
BB&L	Blasland, Bouck & Lee, Inc.
bgs	Below Ground Surface
CAC	Common Access Cards
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
CLEAN	Comprehensive Long-Term Environmental Action Navy
CSM	Conceptual Site Model
CTO	Contract Task Order
DL	Detection Limit
DoD	Department of Defense
DQI	Data Quality Indicator
DPT	Direct Push Technology
ELAP	Environmental Laboratory Accreditation Program
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
GCTL	Groundwater Cleanup Target Level
GPS	Geographic Positioning System
HASP	Health and Safety Plan
ICRMP	Installation Cultural Resources Management Plan
IDW	Investigation-Derived Waste
INRMP	Installation Natural Resources Management Plan
IR	Installation Restoration
JP	Jet Propellant Fuel
KAG	Kerosene Analytical Group
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
mg/kg	Milligram per Kilogram

MNA	Monitored Natural Attenuation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
msl	Mean Sea Level
NAMPAO	Natural Attenuation Monitoring Sampling Plan
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Command
Navy	United States Department of the Navy
NOAA	National Oceanic and Atmospheric Administration
NRHP	National Register of Historic Places
OVA	Organic Vapor Analyzer
PA	Preliminary Assessment
PAH	Polycyclic Aromatic Hydrocarbon
PAL	Project Action Limit
PCB	Polychlorinated Biphenyl
PID	Photoionization Detector
PPE	Personal Protective Equipment
PQLG	Project Quantitation Limit Goals
QA/QC	Quality Assurance / Quality Control
QAPP	Quality Assurance Project Plan
RI	Remedial Investigation
RPD	Relative Percent Difference
SAP	Sampling and Analysis Plan
SAR	Site Assessment Report
SARA	Superfund Amendments and Reauthorization Act
SCTL	Soil Cleanup Target Level
SE	Southeast
SI	Site Inspection
SOP	Standard Operating Procedure
SRCO	Site Rehabilitation Completion Order
SVOC	Semivolatile Organic Compound
Tetra Tech	Tetra Tech, Inc.
TRPH	Total Recoverable Petroleum Hydrocarbons
US	United States
U.S.C.	United States Code
USCG	United States Coast Guard
USDA	United States Department of Agriculture

USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UFP	Uniform Federal Policy
VOC	Volatile Organic Compound
WW	World War

## **1.0 PRELIMINARY ASSESSMENT INTRODUCTION**

Tetra Tech, Inc. (Tetra Tech) was contracted to conduct a Preliminary Assessment (PA) at the former United States (US) Army Hawk Missile Site (AHMS) Boca Chica Key (Site 25) at Naval Air Station (NAS) Key West, Monroe County, Florida (Figure 1-1). Tetra Tech has prepared this PA under the Comprehensive Long-Term Environmental Action Navy (CLEAN) Contract No. N62470-08-D-1001, Contract Task Order (CTO) JM17. The Department of Defense (DoD) and the US Department of the Navy (Navy) continue to establish policy and guidance for environmental remediation under the process outlined in the National Contingency Plan (40 Code of Federal Regulations [CFR] 300), as authorized by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, 42 United States Code (U.S.C.) 9605, and amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), Pub. L. 99-499 (hereinafter CERCLA). In accordance with Executive Order 12580, DoD is the lead agency for actions taken under the authority of CERCLA at DoD installations. US Environmental Protection Agency (USEPA) guidance was used for conducting and documenting the information contained in this PA.

This PA report is organized into the following sections:

Section 1 – Introduction

Section 2 – Background and History

Section 3 – Physical and Environmental Characteristics

Section 4 – Potential Contamination Migration Pathways

Section 5 – Summary and Conclusion

### **1.1 PURPOSE**

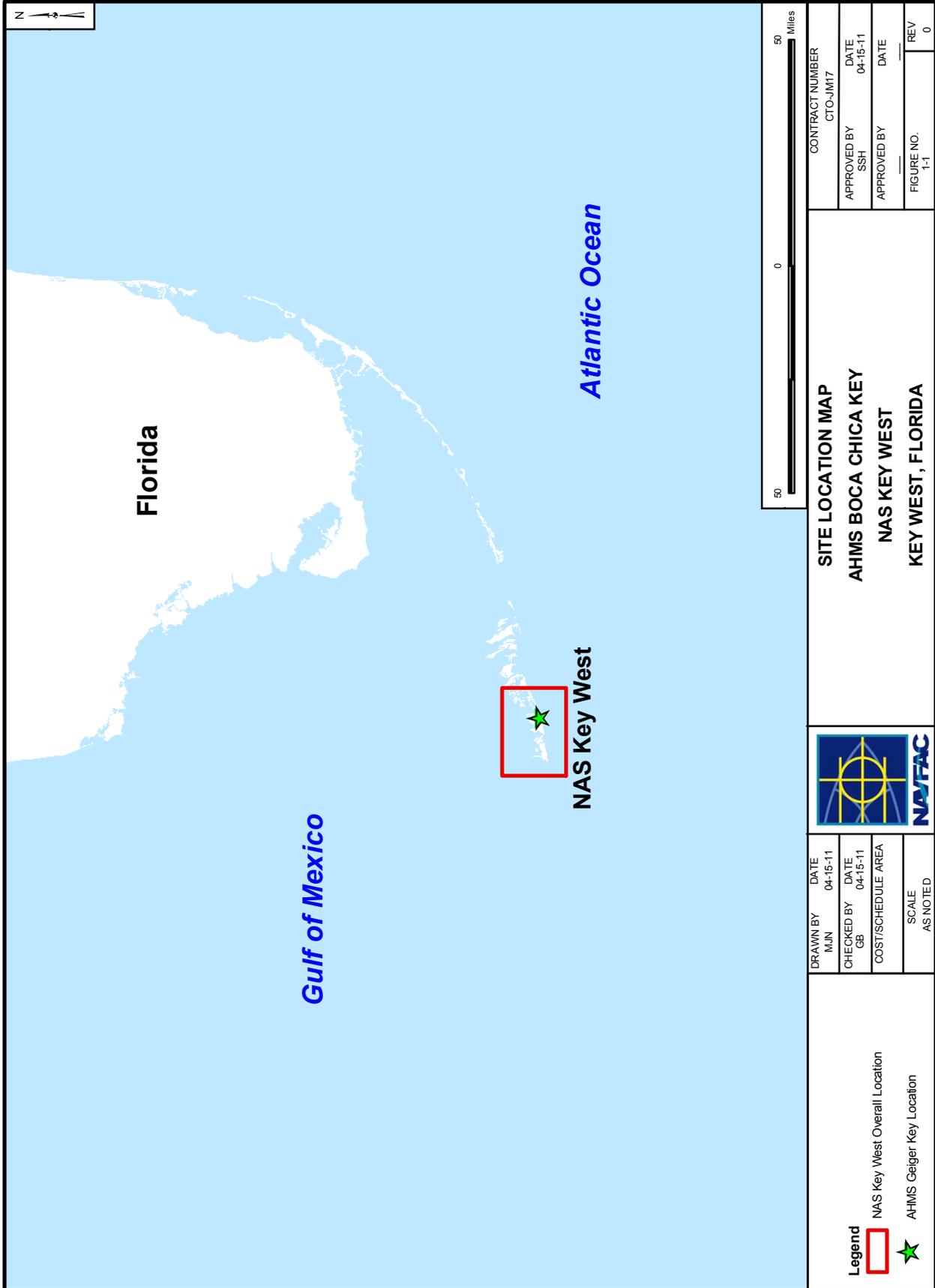
This PA summarizes the history of operations at AHMS Boca Chica Key, from conception to present time. This PA provides an assessment of the current conditions of the site environment, past investigation activities, and provides the Navy and regulatory decision-makers with necessary information to determine if chemical contaminants present an imminent hazard to human health or the environment and warrant a response action.

### **1.2 PRELIMINARY ASSESSMENT APPROACH**

The CERCLA implementing guidance, prepared for sites contaminated with hazardous substances, describes the PA as a limited-scope investigation based on existing and available data.

The PA process for this site involved collecting and reviewing existing and available information about the site. Data collection activities included off-site and on-site research and interviews. The process also included conducting a limited visual survey to assess physical evidence that may indicate the presence of chemical contamination at the site. The Tetra Tech data collection team conducted the on-site portion of the data collection and the limited visual survey for NAS Key West from 24 October 2010 and 7 December 2010. This PA is inclusive and makes use of all available data relating to chemical use at AHMS Boca Chica Key, including historical records, field data, anecdotal evidence, interviews with former site employees, and professional knowledge and experience.

It is based, in part, on information provided in the attached appendices A and B and is subject to the limitations and qualifications presented in the referenced documents.



<b>Legend</b>  NAS Key West Overall Location  AHMS Geiger Key Location	DRAWN BY MUN	DATE 04-15-11	<b>NAVFAC</b> 	<b>SITE LOCATION MAP</b> <b>AHMS BOCA CHICA KEY</b> <b>NAS KEY WEST</b> <b>KEY WEST, FLORIDA</b>		CONTRACT NUMBER CTO-JM17
	CHECKED BY GB	DATE 04-15-11		APPROVED BY SSH	DATE 04-15-11	APPROVED BY DATE
COST/SCHEDULE AREA		SCALE AS NOTED				

## **2.0 BACKGROUND AND HISTORY**

The following sections provide general information about NAS Key West, including its location and setting, a history of the installation, missions over time, storage, and usage.

### **2.1 GENERAL FACILITY BACKGROUND**

#### **2.1.1 History**

NAS Key West is located in the Florida Keys, between the Gulf of Mexico and the Atlantic Ocean in Monroe County, Florida (Figure ES-1). The first naval base was constructed in Key West in 1823 to combat piracy in South Florida. Expansion of the base occurred in stages, between 1823 and 1917, and coincided with periods of military activity during the Mexican War, the Spanish-American War, and World War (WW) I. When WWI ended, the base was decommissioned and many buildings were destroyed, although the land remained property of the United States (US) government.

At the onset of WWII, the base was re-opened to support naval destroyers and patrol bomber aircraft. Satellite facilities, including Meacham Field and a runway at Boca Chica, were developed. On 15 December 1940, the seaplane base was designated as a naval air station. Aerial photographs dated 1942 show that Fleming Key was constructed during this time period using dredge spoils from the channels being created and/or expanded near Fleming Key (Malcolm Pirnie and Osage, 2010). In May 1945, the satellite fields were disestablished and combined into one aviation facility, NAS Key West. After WWII, NAS Key West was retained as a training facility. During the subsequent Cuban Missile Crisis, operational and reconnaissance flights were flown from the station. In March 1979, a decision was made to keep NAS Key West as a fully operational naval air station.

NAS Key West's present-day mission is to provide pilot training facilities and services, as well as access to airspace and training ranges for tactical aviation squadrons. NAS Key West offers access to one of the primary range complexes at which aircrews of the United States Atlantic Fleet train. The NAS Key West Range Complex, encompassing 25,498 square nautical miles of ocean, consists of an at-sea operating area that includes surface and subsurface waters, offshore special use airspace, a submerged surface target, and other special-use airspace. In addition, the range includes a Tactical Combat Training System used for air-to-air combat training. As such, NAS Key West serves as the Navy's East Coast pilot training facility for tactical aviation squadrons.

**2.1.2 Location and Setting**

The NAS Key West complex comprises 6,249 acres of land distributed over 14 properties that are: Demolition Key, Fleming Key, Truman Annex, Trumbo Point Annex, Peary Court Annex, Sigsbee Park Annex, Navy Branch Health Clinic - Key West, Boca Chica Field, North Boca Chica, Geiger Key, Big Coppitt Key, Rockland Key, Navy Computer and Telecommunications Station - Saddlebunch Key, and Battery HM-40 - Key Largo Site. The present-day mission of the installation is to provide pilot training facilities and services, as well as access to airspace and training ranges for tactical aviation squadrons. Information for the NAS Key West area related to climate, topography, geology, soil and vegetation types, hydrology, hydrogeology, cultural and natural resources, and threatened, endangered, and protected species relevant to the Conceptual Site Model (CSM) for each site are presented below. Other supporting background information is included in the PA.

**2.1.3 Current Land Use and Anticipated Future Land Use**

NAS Key West serves as the Navy's East Coast pilot training facility for tactical aviation squadrons.

Current land use, by facility, is as described below:

**NAS Key West Facility Locations**

<b>Facility Name</b>	<b>Location</b>	<b>Description</b>
Battery HM-40	Key Largo	Inactive missile site.
Big Coppitt Key	Big Coppitt Key	Former antenna facility and weapons storage area.
Boca Chica Field	Boca Chica Key	Airfield and associated facilities.
Demolition Key	North Fleming Key	Formerly used for demolition of explosives.
Fleming Key	Fleming Key	Dredge spoil area, weapons magazine, Special Forces training area, City of Key West wastewater treatment plant.
Geiger Key	Geiger Key	Inactive missile site; managed for uses including research, recreation, and wildlife.
Naval Computer and Telecommunications Station	Saddlebunch Key	Location for frequency transmitters for various types of transmissions.
Navy Branch Health Clinic	Key West	Naval branch medical clinic.
North Boca Chica	Boca Chica Key	Mixed use area, which includes former installation restoration (IR) site, pistol range, wastewater treatment plant, and other facilities.
Peary Court Annex	Key West	Residential area.
Rockland Key	Rockland Key	Air Installations, Compatible Use Zones and residential area.
Sigsbee Park Annex	Key West	Residential area.
Truman Annex	Key West	Mixed use area.
Trumbo Point Annex	Key West	Mixed use area, which included United States Coast Guard (USCG) facilities, helicopter pad, military lodging, and other facilities.

It is anticipated that future land use will be the same as current land use.

## **2.2 FORMER AHMS BOCA CHICA KEY SITE DESCRIPTION**

The former AHMS Boca Chica Key is located on the northern tip of Boca Chica Key and north of the Naval Air Station entrance. The site can be accessed via a service road adjacent to the main Overseas Highway. Figure 2-1 shows the site location on the United States Geological Survey (USGS) topographic quadrangle map (Boca Chica Key, Florida Quadrangle). The site is located at latitude 24° 35' 49" North and longitude 81° 42' 48" West. AHMS Boca Chica Key is surrounded by mangrove swamps followed by the waters of the Gulf of Mexico. The site and surrounding area are shown on Figure 2-2. With the exception of a tower operated by the National Oceanic and Atmospheric Administration (NOAA) and an associated emergency generator with a 1,000-gallon aboveground storage tank (AST) containing jet propellant fuel (JP-5), the Site is abandoned and overgrown with vegetation in some areas.

## **2.3 FORMER AHMS BOCA CHICA KEY SITE HISTORY**

In October 1962, the US Army 6<sup>th</sup> Missile Battalion (Hawk), 65<sup>th</sup> Artillery was ordered to Key West, Florida. Four batteries were stationed to house the battalion across Key West and Boca Chica Key as a link in the defensive perimeter around the Keys during the confrontation between the United States, the Soviet Union, and Cuba, known as the Cuban Missile Crisis. Battery A was located on Fleming Key; Battery B was originally located on Smathers Beach then moved to the Key West International Airport; Battery C was originally at NAS Boca Chica, then moved to Saddlebunch Key and was finally moved to a permanent location on Geiger Key; and Battery D was located on NAS Boca Chica.

The Boca Chica Key site, originally known as Battery D or Delta Battery, was completed by the Army and became operational in April 1965 (Osato and Straup, 1968). In 1967, the Delta Battery was dedicated as the "Major Peter S. Knight HAWK Missile Site" in honor of a local Key West Army man who lost his life in Vietnam (KWC, 1967). This anti-aircraft facility was built by the Army as a permanent installation with the intent to guard against attack from Cuba, 90 miles away. The Hawk missile was initially designed to destroy aircraft and was later adapted to destroy other missiles in flight. During operations, work in support of the Site's mission was focused on keeping the missiles, radar towers, and equipment clean and ready for use at all times. Maintenance of the individual components for the Hawk system included, but was not limited to, generator maintenance and repair, radar coolant service, electronic component replacement, and anti-corrosion repairs; missile component replacement, anti-corrosion and contamination maintenance, and replacement of vital air-conditioning for electronics (Osato and Straup, 1968).

In February 2009, an interview was conducted by NAS Key West representatives with a former AHMS Geiger Key employee in order to gain additional information on the daily activities performed at the Hawk missile sites on NAS Key West during operational years (Tetra Tech, 2010). The results of the interview confirmed the large amount of maintenance and repair necessary to keep the Hawk system operational, and the disposal practices that occurred at the missile sites. The former employee noted that the disposal practices at AHMS Geiger Key were the same for all Hawk missile sites. The site was decommissioned in April 1979 and continues to be maintained by the NAS Key West. The current and future land use is industrial as outline in the NAS Key West Base Master Plan. To date, no other activities, with the exception of maintenance of the NOAA tower, have occurred at the facility and it is currently abandoned.

### **2.3.1 Site Layout**

The site contains most of the original buildings used for storage, maintenance, operation, and repairs on the Hawk missiles. It also contains the original radar and illuminator towers, missile launch pads, and generator building. The layout of the Site is presented on Figure 2-3.

The Generator Building housed a series of generators supplying electricity to the site. Solvents were commonly used during the repairs and maintenance of the generators. It was reported that trichloroethene was used extensively in the generator building for these purposes. This information was confirmed by a former employee who specifically recalled “yellow liquid” constantly flowing from the Generator Building (Tetra Tech, 2010). Also attached to the Generator Building were large transformers, housed in a secure metal cage.

The Assembly and Storage Building, located on the south side of the Site, was the main location for all maintenance and repairs on the missiles. It was reported that solvents were used extensively in the Assembly and Storage Building and (to a lesser extent) the missile storage sheds, which were located on both sides of the Assembly and Storage Building. These two sheds, also on the south side of the Site, were used to store a ready supply of missiles. A single storage shed remains, the second shed was demolished, and a NOAA Doppler radar tower and emergency generator were placed on its footprint.

Four radar towers and an illuminator tower are located in the central portion of the Site and were an integral part of the Hawk missile anti-aircraft system. Each tower was used for a specific type of radar (Pulse Acquisition Radar, Continuous Wave Acquisition Radar, High Power Illuminator Radar, and Range Only Radar) and held approximately 4 gallons of coolant for radar equipment (Osato and Straup, 1968). It was noted that during coolant replacement activities, old coolant was allowed to drain to the ground directly under, or adjacent to, the tower. In addition, maintenance and repair

activities generally took place on the tower itself. Used solvents were simply poured over the side of the tower when a particular maintenance or repair activity was completed.

The six missile launch pads were relatively well maintained. It was reported that no maintenance took place at the individual launch pads because of live ordnance hazards.

### **2.3.2 Previous Investigations**

Previously conducted Site Investigations (SIs) are discussed in this section. On 17 June 1996, the Navy submitted a Closure Assessment Form to the Florida Department of Environmental Protection (FDEP) for the removal of two ASTs from AHMS Boca Chica (Blasland, Bouck, and Lee, Inc. [BB&L], 2002). The Site contained a 2,000-gallon AST and a 500 gallon AST. Both ASTs were used to store diesel fuel for the Site's generators. The ASTs were removed April 14, 1996. The data in the Closure Report indicated that soil and groundwater in the vicinity of the 2,000-gallon AST showed signs of petroleum hydrocarbons above the FDEP regulatory criteria in place at the time of closure (BB&L, 2002). It was recommended in the Closure Report that a Contamination Assessment be performed.

Following a site assessment in 2001, a Site Assessment Report (SAR) was submitted to FDEP in February 2002 (BB&L, 2002). Results indicated that concentrations of Kerosene Analytical Group (KAG) constituents in soil were below FDEP Soil Cleanup Target Levels (SCTLs), and that organic vapor analyzer (OVA) readings did not exceed 10 parts per million (ppm). Polycyclic aromatic hydrocarbons (PAHs) were detected at levels above FDEP Groundwater Cleanup Target Levels (GCTLs) in groundwater from monitoring wells B01-MW-01 and B01-MW-03. However, no other KAG constituents were detected above GCTLs. Hydrocarbons detected above the GCTLs are shown on Figure 3-4 of the SAR (BB&L, 2002). BB&L recommended that monitored natural attenuation (MNA) occur at the Site (BB&L, 2002).

A Natural Attenuation Monitoring Sampling Plan (NAMPAO) was submitted in 2003 (Tetra Tech, 2003). Following the submittal of the plan, three quarterly groundwater monitoring events were conducted. Monitoring wells B01-MW-01 and B01-MW-03 were sampled and analyzed for PAHs, per the NAMPAO. During the first sampling event, in November 2003, naphthalene and 1-methylnaphthalene were detected in groundwater samples collected from monitoring well B01-MW-01. Concentrations of both compounds were below FDEP GCTLs. No PAHs were detected in groundwater collected from monitoring well B01-MW-03 (Tetra Tech, 2004a). No PAHs were detected in groundwater samples collected and analyzed during the February 2004 sampling event (Tetra Tech, 2004b) or the May 2004 sampling event (Tetra Tech, 2004c). Because PAHs were below GCTLs for three consecutive sampling events at the Site; therefore no further action (NFA) was proposed. As a result, the Navy requested that a Site Rehabilitation Completion Order

(SRCO) be issued (Tetra Tech, 2004c). On August 24, 2005, the SRCO was issued and that same year all five monitoring wells were abandoned. Analytical results of the November 2003 event is presented in Table 2-1.

**TABLE 2-1**  
**GROUNDWATER ANALYTICAL RESULTS, NOVEMBER 2003**  
**BOCA CHICA HAWK MISSILE SITE B01**  
**MNA REPORT**  
**NAVAL AIR STATION**  
**KEY WEST, FLORIDA**

LOCATION	PARAMETER	RESULT (µg/L)	QUAL <sup>(a)</sup>	GCTL <sup>(b)</sup> (µg/L)
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>				
B01-MW-01-1103	1-METYHLNAPHTHALENE	0.084	J	20
B01-MW-01-1103	NAPHTHALENE	0.08	J	

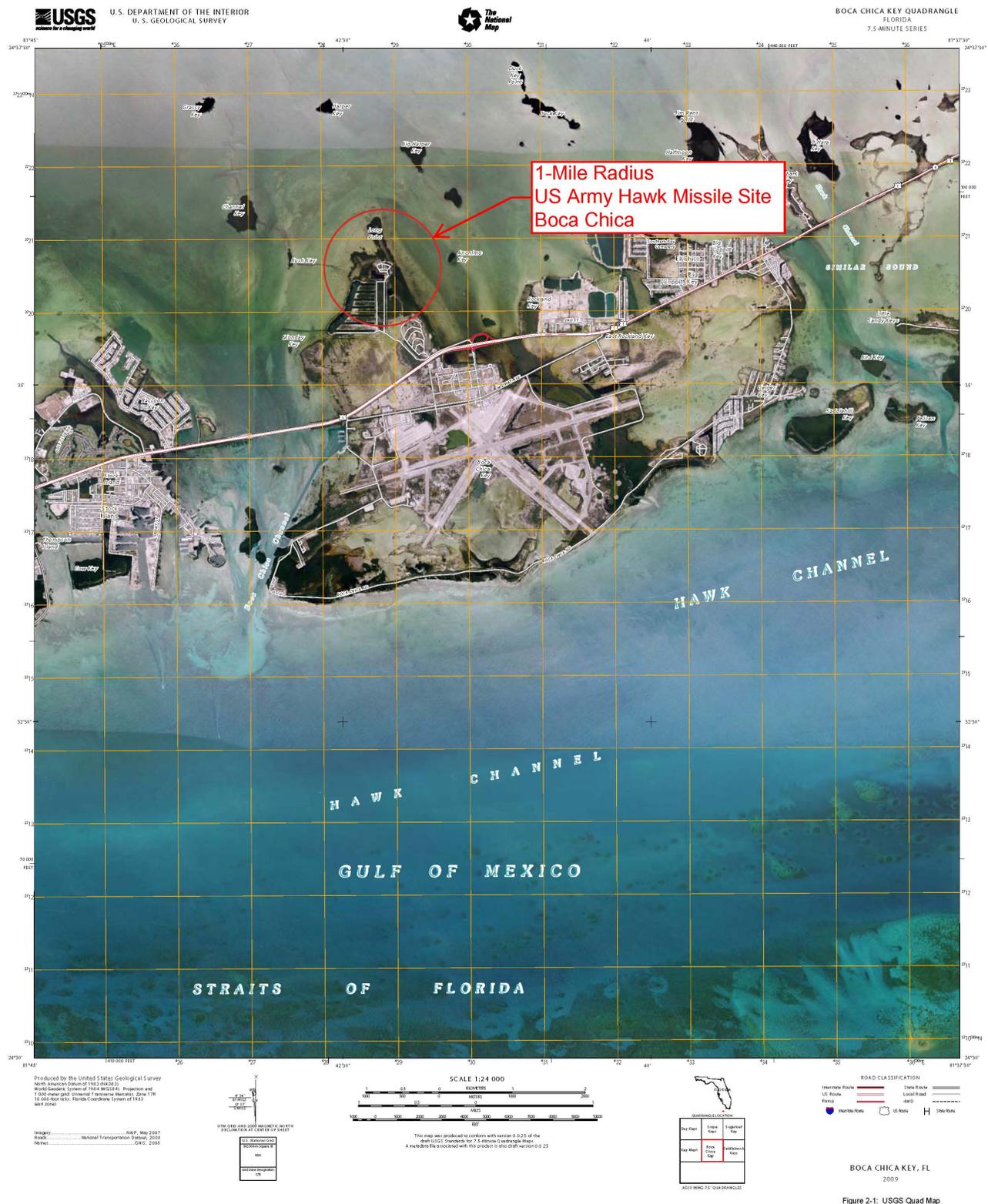
Notes:

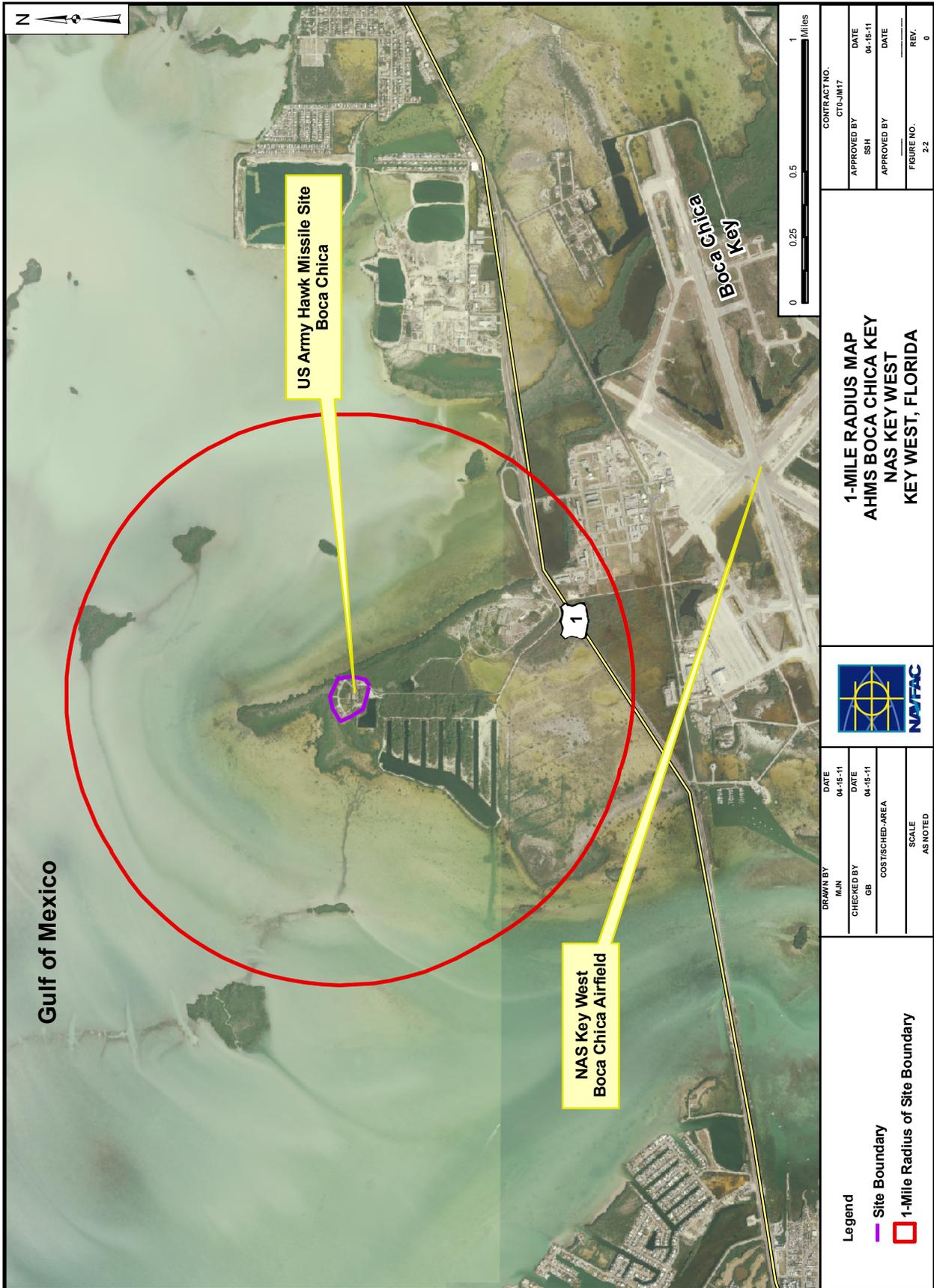
Qualifier (Qual.) Codes:

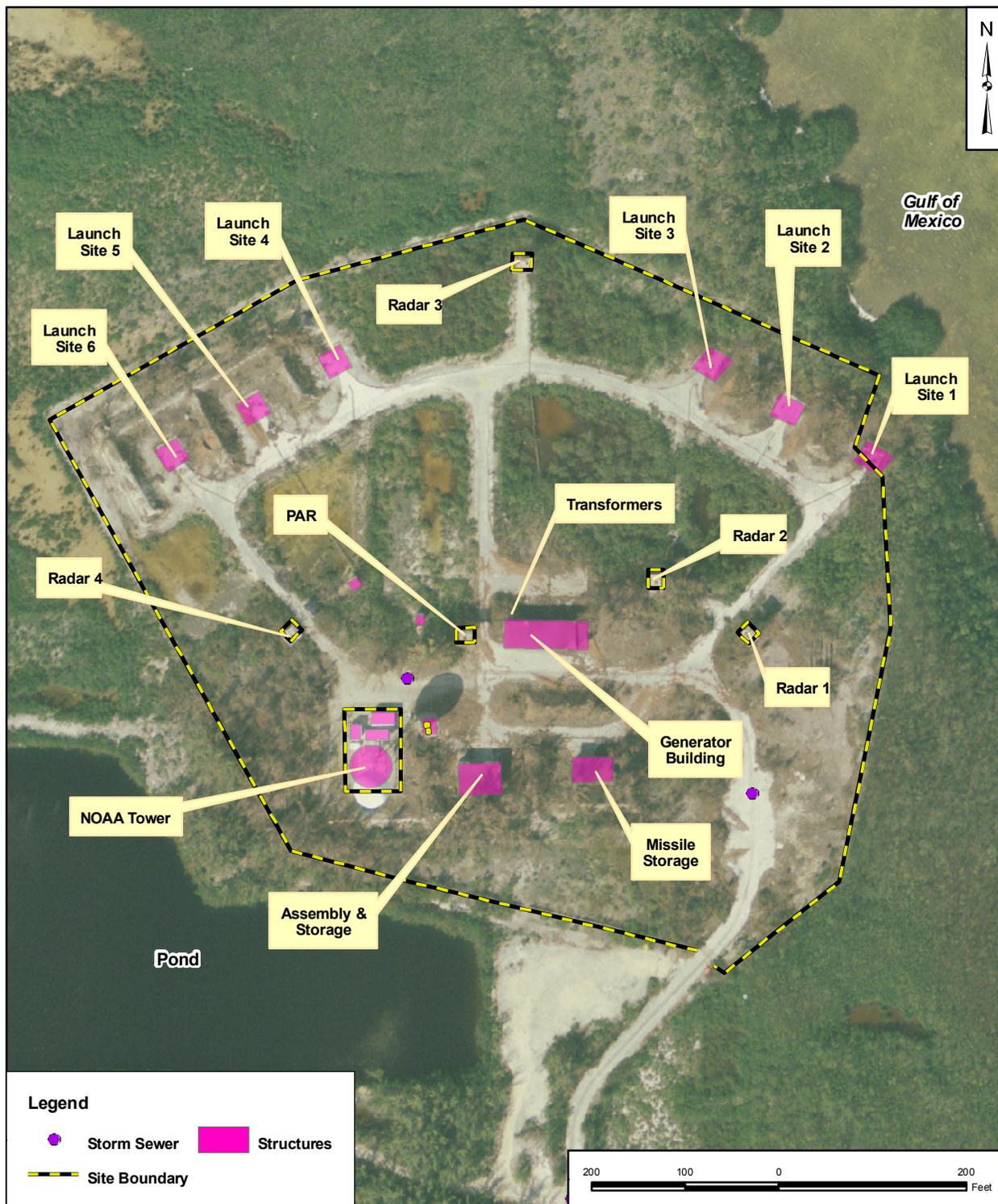
<sup>a</sup> J – The result is an estimated quantity.

<sup>b</sup> Groundwater Cleanup Target Level (GCTL) 2003, residential criteria for direct exposure, as listed in Chapter 62-777, Florida Administrative Code (F.A.C.), Table I.

µg/L- microgram per liter







DRAWN BY MJN	DATE 04-15-11
CHECKED BY GB	DATE 04-15-11
REVISED BY —	DATE —
SCALE AS NOTED	



**SITE LAYOUT  
AHMS BOCA CHICA KEY  
NAS KEY WEST  
KEY WEST, FLORIDA**

CONTRACT NUMBER CTO-JM17	
OWNER NUMBER —	
APPROVED BY SSH	DATE 04-15-11
FIGURE NO. 2-3	REV 0

### **3.0 PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS**

The following sections provide general information for NAS Key West, including climate, topography, geology, hydrogeology, hydrology, soil and vegetation types, water resources, and endangered species.

#### **3.1 CLIMATE**

The Florida Keys, where Boca Chica Key is located, has a subtropical, marine climate and are susceptible to occasional tropical storms and hurricanes. The Florida Keys have their lowest average temperature of 64.4 degrees Fahrenheit (°F) in January and the highest average temperature of 88.7 °F in August. The average annual temperature is 77 °F. The combined effect of the proximity of the Gulf Stream and the Gulf of Mexico mitigate the effects of cold fronts, resulting in a temperature difference between summer and winter of about 14 °F. The lowest average rainfall is 1.6 inches in February and the highest average rainfall is 6.4 inches in September. Annually, the Florida Keys receive an average of approximately 40 inches of rainfall (NAVFAC, 2008).

The location of the Florida Keys results in tropical storms and hurricanes being a large threat. The hurricane season lasts from June through November each year. While hurricanes can occur throughout that period, hurricane frequency is greatest in the period from August through October. Hurricanes typically approach Key West from the south and east and affect the south, east, and west sides of the islands; however, hurricanes have struck Key West from every side. The probability of a hurricane with winds greater than 73 miles per hour occurring in the 50 mile segment of the coast near Key West is 13 percent annually. For a hurricane with winds greater than 125 miles per hour in the same area, the probability is 4 percent annually (NAVFAC, 2008).

#### **3.2 TOPOGRAPHY**

The Florida Keys, including NAS Key West, consist of a series of low islands extending southwest of the Florida mainland. Naturally occurring elevations of the islands rarely exceed 5 feet above sea level. Most of the NAS Key West complex has elevations averaging 4 to 5 feet above mean sea level (msl), as is the case for developed areas of the installation, including Trumbo Point Annex and parts of Fleming Key. The Dredge Spoil Area on Fleming Key is approximately 10 feet above msl. The Boca Chica airfield is 6 feet above msl. The other interior areas of Boca Chica and other parts of the NAS Key West complex adjacent to water bodies have elevations ranging from 0 to 2 feet above msl (NAVFAC, 2008).

The Atlantic Ocean is located along the eastern side of the Florida Keys, and the Gulf of Mexico is located along the western side. Along the Atlantic Coast, a narrow shelf is present, then the seafloor

drops into the Straits of Florida. The tropical waters of Florida along the Atlantic Coast make the area favorable for coral reef development several miles offshore (NAVFAC, 2008).

The topography of the Boca Chica Key Site is relatively flat with a naturally occurring elevation between 1 and 2 feet above sea level.

### **3.3 GEOLOGY**

The Florida Keys are low-lying islands that comprise overlying Pleistocene limestone in the southern zone of the coastal lowlands. This area is part of the Florida Plateau and is assigned to the Gold Coast-Florida Bay District. In this area, Pleistocene limestone and limestone cap rocks are prevalent. The Florida Keys are divided into the Upper Keys, from Bahia Honda northward, the Lower Keys, from Big Pine Key to Key West, and the Holocene mud islands of Florida Bay. The Florida Keys are further subdivided into three island groups: 1) the Oolitic Keys, which include the Key West area; 2) the Coral Reef Keys; and 3) the Dry Tortugas, shoals, and islands composed of bioclastic carbonate sand and mud (NAVFAC, 2008).

The Boca Chica Key Site is located in the lower Keys, which are underlain by the oolitic facies of the Miami Limestone. The oolitic facies consists of well-sorted ooids with varying amounts of skeletal material (corals, echinoids, mollusks, algae) and some quartz sand, and is a soft, white to yellow, stratified to massive, cross-bedded and are constituted of pure calcium carbonate. Key Largo Limestone underlies the Miami oolite; major constituents are cemented remains of ancient coral reefs and a subsidiary amount of fossils or coral, shell algae, and echinids. The oolite facies of the Miami Limestone passes laterally into the Key Largo Limestone at the southeastern point of Big Pine Key. The oolite in the rest of the island is underlain by the Key Largo Formation. The facies intergradation and superposition of the two units were mapped in detail by using cores from nine shallow wells drilled by the USGS. Unconsolidated to consolidated Miocene sediments of the Tamiami, Hawthorn, and Tampa formations, Oligocene Suwannee Limestone, and Eocene Avon Park Formation underlie recent and Pleistocene deposits (NAVFAC, 2008).

### **3.4 HYDROGEOLOGY**

The Biscayne Aquifer (i.e., the Surficial Aquifer) and the Floridian Aquifer are the two main aquifers beneath the Florida Keys. The Biscayne Aquifer is considered one of the most productive and permeable aquifers in the world. Hydrogeologically, the Florida Keys fall into two natural groups defined by the distribution of their principal geologic units. The first group consists of the narrow and elongate Upper Keys that comprise the Key Largo Limestone. Groundwater is at best brackish in these islands and has not been studied. The second group consists of the Lower Keys, which are relatively large and comprise the Miami Limestone. Small freshwater to slightly brackish lenses

occur on the largest of these islands. Freshwater lenses on Key West and Big Pine Key have been the subject of published water-resources studies by the USGS. However, the freshwater below the lower Florida Keys is subject to salt water intrusion due to the permeability of the Key Largo limestone formation, which underlies the less porous Miami oolite formation that forms the base layer of the islands. Due to the salt water intrusion, the Biscayne Aquifer at NAS Key West is only available for non-potable use. The aquifer averages 5 feet below ground surface (bgs) and is generally centered to the western half of the island of Key West (NAVFAC, 2008).

### **3.5 HYDROLOGY**

NAS Key West is within the Florida Bay-Florida Keys Watershed. Approximately 53 percent of the annual rainfall total occurs from June to October, during hurricane season. Due to the porosity of the limestone substrate, most rainfall on the Florida Keys percolates into the limestone rather than running off the ground surface. The amount of rain that does become overland runoff is carried to tidal waters via overland flow or storm drains (NAVFAC, 2008).

The Florida Keys are bordered by the Atlantic Ocean to the east and the Gulf of Mexico to the west.

The Lower Florida Keys are consequently subjected to mixed semidiurnal tides (usually two high and two low tides per day). The mean tidal range is approximately 1.3 feet and the spring tidal range is approximately 1.8 feet. Flood tides flow toward the Gulf of Mexico, while ebb tides flow toward the Atlantic Ocean (NAVFAC, 2008).

The waters around the Florida Keys are designated as Outstanding Florida Waters. The classification essentially prohibits a significant decrease in ambient water quality. Long standing issues with decreasing water quality in the area have led Congress to direct the USEPA, in conjunction with the Department of Commerce, to develop a Water Quality Protection Program for the area (NAVFAC, 2008).

### **3.6 GROUNDWATER RESOURCES**

In general, water resources in the Florida Keys are insufficient for the human population of the area. Most Keys have only ephemeral freshwater lenses and cannot be relied on for perennial supplies of potable water (Klein 1970). Only the largest of the Lower Keys, Big Pine and Key West for example, have permanent freshwater lenses. Even the large Upper Keys, such as Elliott Key, do not have permanent lenses, even though rainfall increases northward. The Lower Keys are more likely to have lenses because of their geometry and geology. These Keys retain the broad flat of an ooid shoal in contrast to the Upper Keys, which are narrow and elongate, parallel to the shelf. In addition, the surficial lithologic unit of the Lower Keys (oolite) is less transmissive than that of the Upper Keys (reef).

Although some groundwater is used for irrigation (on Big Pine Key), and some potable water is provided by cisterns and reverse-osmosis facilities, more than 95 percent of water for domestic use is now provided by the Florida Keys Aqueduct Authority via pipeline from a wellfield on the mainland. Currently, about 57,000 cubic meters per day (15 million gallons per day) are pumped to the Florida Keys (NOAA, 1995). The volume of this flow for two days is comparable to the volume of the freshwater lens beneath Key West during the wet season, (Mackenzie, 1990).

The majority of water pumped to the Keys is for domestic use. Key West and Key Colony Beach (Marathon) have sewage-treatment facilities and ocean outfalls. Much of the remaining freshwater is disposed of as sewage through septic tanks and shallow wells beneath the islands. The sewage is rich in nutrients, providing a potential environmental problem in this region of oligotrophic waters. The ultimate fate of the sewage beneath the islands is a topic of continuing study (Shinn et al., 1994). Based on water usage and disposal methods, it is clear that freshwater piped to the Florida Keys can make a significant contribution to small and short duration lenses of these islands.

### **3.7 SOIL AND VEGETATION TYPES**

NAS Key West is composed of a variety of soil types, but is dominated by the Urban Land Complex. The Urban Land Complex is a soil series designation used by the US Department of Agriculture (USDA) to denote areas of heavily modified or developed land that no longer have the attributes that would enable them to be designated by a soil series found in an undisturbed area. Based on a survey conducted at NAS Key West using the Florida Natural Areas Inventory, there are five natural communities present, in addition to landscaped areas around buildings. Mangroves represent a coastal wetland habitat in the Florida Keys. The five communities present include (NAVFAC, 2008):

- Tidal swamp. The largest natural community present; dominated by three mangrove species including red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), and white mangrove (*Laguncularia racemosa*). Wetland communities have a variable group of plants depending on the specific salinity, substrate, and tidal influence.
- Coastal Rock Barren. Located between the tidal swamp and inland communities; includes flat rocklands with plentiful, exposed and eroded limestone with sparse vegetation, including stunted, xeric and halophytic shrubs, cacti, algae, and herbs. Vegetation is typically dominated by buttonwood (*Conocarpus erectus*) varying from stunted shrubs to small trees.
- Beach Dune. Includes wind-deposited foredune and wave-deposited upper beach areas that have sparse vegetation. Vegetation typically includes pioneer species, such as sea oats (*Uniola paniculata*).

- Coastal Berm. Includes a variety of plant associations that develop on storm deposited ridges of sand, shell, and debris. May be vegetated with thick stands of shrubs and small trees or sparsely vegetated with spiny xerophytic plants. Typical species may include scrub buttonwood (*Conocarpus erectus*), black (*Avicennia germinans*) or white (*Laguncularia racemosa*) mangroves, Christmas berry (*Lycium carolinianum*), and sea purslane (*Sesuvium sp.*).
- Rockland Hammock. Hardwood forest present on an upland site with limestone near or at the surface and frequently exposed. Vegetation may be similar to a coastal berm, but is usually more diverse and mature with a canopy. Species may include Jamaican dogwood (*Piscidia piscipula*), gumbo limbo (*Bursera simaruba*), poisonwood (*Metopium toxiferum*), and sea grape (*Coccoloba uvifera*). Understory and groundcover usually comprise the same species.

The Site is surrounded by wetlands, mangrove swamps and salt water ponds on a narrow strip of land that is bounded by the Gulf of Mexico. It is assumed that similar to other Hawk Missile sites in the Keys, the land on which AHMS Boca Chica Key sits was filled by the U.S. Army in order to adapt the area for use as a missile site.

### **3.8 ENDANGERED AND SPECIAL STATUS SPECIES**

A large number of protected species are known to, or have the potential to, occur on NAS Key West (NAVFAC, 2008). Some of the threatened or endangered species that have the potential to be present at the Site include the Key Largo woodrat, silver rice rat, Key Largo cotton mouse, Lower Keys marsh rabbit, bald eagle, roseate tern, eastern indigo snake, and Schaus swallowtail butterfly (NAVFAC, 2008). These species are listed in Table 3-1.

### **3.9 CULTURAL RESOURCES**

Due to the long history and location of NAS Key West, many cultural resources exist within the installation. The National Register of Historic Places (NRHP) includes the following sites/structures associated with NAS Key West: Fort Zachary Taylor, HA. 19 (Japanese Midget Submarine), Little White House (also known as Quarters "A"), and the US Naval Station District (roughly bounded by Whitehead Street, Eaton Street, and Caroline Street). Seventeen other architectural resources are considered eligible for the NRHP and include buildings, structures, or objects at Fleming Key, Geiger Key, Trumbo Point Annex, Truman Annex, and the Naval Medical Center (USACE, 2003).

TABLE 3-1

SUMMARY OF PROTECTED SPECIES KNOWN OR POTENTIALLY FOUND  
ON NAS KEY WEST PROPERTY  
NAVAL AIR STATION  
KEY WEST, FLORIDA  
PAGE 1 OF 2

Common Name	Scientific Name	Federal Status	State Status	Occurrence
<b>Mammals</b>				
Key Largo Woodrat	<i>Neotoma floridana smalli</i>	E	E	
Silver Rice Rat	<i>Oryzomys palustris natator</i>	E	E	Y
Key Largo Cotton Mouse	<i>Peromyscus gossypinus allapaticola</i>	E	E	
Lower Keys Marsh Rabbit	<i>Sylvilagus palustris hefneri</i>	E	E	Y
West Indian Manatee	<i>Trichechus manatus</i>	E	E	
<b>Birds</b>				
White-crowned Pigeon	<i>Columba leucocephalus</i>		T	Y
Peregrine Falcon	<i>Falco peregrinus</i>		E	Y
Bald Eagle	<i>Haliaeetus eucocephalus</i>	T	T	Y
Least Tern	<i>Sterna Antillarum</i>		T	Y
Roseate Tern	<i>Sterna dougallii dougallii</i>	T	T	Y
<b>Reptiles and Amphibians</b>				
American Crocodile	<i>Crocodylus Acutus</i>	E	E	Y
Eastern Indigo Snake	<i>Drymarchon Corais Couperi</i>	T	T	
Green Sea Turtle	<i>Chelonia mydas</i>	E	E	
Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	E	E	
Leatherback Sea Turtle	<i>Dermochelys coriacea</i>	E	E	
Loggerhead Sea Turtle	<i>Caretta caretta</i>	T	T	Y
Key Ringneck Snake	<i>Diadophis puctatus acricus</i>		T	
Lower Keys Brown Snake	<i>Storeria dekayi victa</i>		T	
Rim Rock Crowned Snake	<i>Tantilla oolitic</i>		T	
Lower Keys Ribbon Snake	<i>Thamnophis sauritus sackenii</i>		T	
<b>Fish</b>				
Smalltooth Sawfish	<i>Pristis pectinata</i>	E		
<b>Invertebrates</b>				
Elkhorn Coral	<i>Acropora palmata</i>	T		
Miami Blue Butterfly	<i>Cyclargus thomasi bethunebakeri</i>	C	E	
Schaus Swallowtail Butterfly	<i>Heraclides aristodemus ponceanus</i>	E	E	
Staghorn Coral	<i>Acropora cervicornis</i>	T		
Stock Island Tree Snail	<i>Orthalicus reses (not incl. nesodryas)</i>	T	E	
<b>Plants</b>				
Cinnecord, Tamarindillo	<i>Acacia choriophylla</i>		E	Y
Barbed-Wire Cactus	<i>Acanthocereus tetragonus</i>		T	Y

TABLE 3-1

**SUMMARY OF PROTECTED SPECIES KNOWN OR POTENTIALLY FOUND  
ON NAS KEY WEST PROPERTY  
NAVAL AIR STATION  
KEY WEST, FLORIDA  
PAGE 2 OF 2**

Common Name	Scientific Name	Federal Status	State Status	Occurrence
Seaside Ageratum	<i>Ageratum littorale</i>		E	Y
Sea Lavender	<i>Argusia gnaphalodes</i>		E	Y
Blodgett's Wild Mercury	<i>Argythamnia blodgettii</i>	C	E	Y
Pine Pink Orchid	<i>Bletia purpurea</i>		T	Y
Locustberry	<i>Byrsonima lucida</i>		T	Y
Wild Cinnamon	<i>Canella winterana</i>		E	Y
Garber's Spurge	<i>Chamaesyce garberi</i>	E	E	Y
Porter's Sandmat	<i>Chamaesyce porteriana</i>		E	Y
Silver Palm	<i>Coccothrinax argentata</i>		T	Y
Curacao Bush	<i>Cordia globosa</i>		E	Y
Rhacoma, Maidenberry	<i>Crossopetalum rhacoma</i>		T	Y
Milkbark	<i>Drypetes diversifolia</i>		E	Y
Red Stopper	<i>Eugenia rhombea</i>		E	Y
Caribbean Princewood	<i>Exostema caribaeum</i>		E	Y
Wild Cotton	<i>Gossypium hirsutum</i>		E	Y
Lignum-Vitae	<i>Guaiaacum sanctum</i>		E	Y
Manchineel	<i>Hippomane mancinella</i>		E	Y
Joewood	<i>Jacquinia keyensis</i>		T	Y
Wild Dilly	<i>Manilkara jaimiqui</i>		T	Y
Prickly Pear Cactus	<i>Opuntia stricta</i>		T	Y
Smooth Devil's Claw	<i>Pisonia rotundata</i>		E	Y
Long-Stalked Stopper	<i>Psidium longipes</i>		T	Y
Bahama Wild Coffee	<i>Psychotria ligustrifolia</i>		E	Y
Bahama Brake Fern	<i>Pteris bahamensis</i>		T	Y
Inkberry, Half-Flower	<i>Scaevola plumieri</i>		T	Y
Florida Boxwood	<i>Schaefferia frutescens</i>		E	Y
Mahogany	<i>Swietenia mahagoni</i>		T	Y
Silver Thatch Palm	<i>Thrinax morissii</i>		E	Y
Green Thatch Palm	<i>Thrinax radiata</i>		E	Y
Twisted Airplant	<i>Tillandsia flexuosa</i>		T	Y
Giant Airplant	<i>Tillandsia utriculata</i>		E	Y
West Indian Trema	<i>Trema lamarckianum</i>		E	Y

C = Candidate Species, E = Endangered Species, T = Threatened Species, PT = Proposed Threatened Species, Y = Indicated a species known to occur on NAS Key West property (NAVFAC, 2008)

## **4.0 POTENTIAL CONTAMINATION MIGRATION PATHWAYS**

### **4.1 GROUNDWATER**

Contaminants in surface soil can leach to the subsurface and easily reach the shallow water table, which is located approximately 2 to 4 feet bgs. Groundwater flow in the area is affected by several factors, including tidal fluctuation, hurricanes, and the nature of the oolitic limestone subsurface. There is very little or no surface soil on-site. Instead subsurface soil is found at approximately 0 to 2 feet bgs, with the oolitic limestone caprock extending from approximately 2 to 25 feet bgs. This is a unique geological feature found throughout NAS Key West. It is likely that these factors can either minimize or enhance groundwater and plume migration over time. Groundwater flow direction is generally toward the east during mid-tide and toward the north during low tide (Tetra Tech, 2004c). Currently, it is not known if contaminated groundwater is discharging to any of the surface water features surrounding the Site.

The source of groundwater contamination is most likely former operational areas, including the Generator Building, the Missile Assembly and Storage Buildings, the radar towers, and the missile launch sites. These potential sources will be taken into consideration during future remedial investigations at this site. Solvents were likely released from the Generator Building and the Assembly and Storage Building. Solvents and coolant were released from the radar towers. Coolant may have been released from the transformers located on the northeast side of the Generator Building. However, these potential releases have yet to be investigated. This PA addresses the need to determine if additional contaminants (those not investigated previously) are present in the former operational areas of the site.

Groundwater flow direction gauged during the SAR in November 2001 reported a groundwater direction to the west at low- and mid-tides. Groundwater flow direction was to the northwest in November 2003, to the east during February 2004, and to the north-northwest during the May 2004 gauging events. This inconsistent pattern of groundwater flow is indicative of tidal influence on the surficial aquifer. At this time, it is not known if contaminated groundwater is discharging to any of the surface water features surrounding the Site.

In general, groundwater in the Florida Keys is unfit for domestic use (e.g., drinking, showering, or cooking). Therefore, there is no consumption of groundwater by human receptors.

### **4.2 SURFACE WATER**

Recharge of groundwater at AHMS Boca Chica is by infiltration of rainwater in surface areas not covered by asphalt and/or concrete. As the Site is relatively flat, surface water runoff is influenced

by minor variations in topography. During heavy rainstorms, surface water would have a tendency to flow toward the southwest into the drainage pond and northeast into the Gulf of Mexico (Figure ES-1). During these rainstorms, surface soil may also be transported into the surrounding water bodies.

#### **4.3 SOIL**

Contaminants in surface soil can leach to the subsurface and easily reach the shallow water table, which is approximately 2 to 4 feet bgs. Groundwater flow in the area is affected by several factors, including tidal fluctuation, hurricane events, and the nature of the oolitic limestone caprock. The surface soil consists mainly of unsorted fill material comprising of crushed oolitic limestone, caprock, and shell fragments, and extends from 0 to 2 ft bgs in places. Oolitic limestone extends from approximately 2 to 25 feet bgs. This is a unique geological feature found throughout NAS Key West. It is likely that these factors can either minimize or enhance groundwater and plume migration over time.

#### **4.4 LAND USES**

Access to the Site was originally restricted to military personnel and contractors. Currently, the Site is accessed only by personnel associated with the maintenance and use of the NOAA Doppler radar tower. The site is secured by fences and locked gates; however, signs of trespassing are evident. The full extent of unauthorized entry is not known, but may include vandalism or general curiosity. The only other potential receptors that may access the Site include personnel potentially engaged in Site cleanup and/or redevelopment activities. These individuals may have direct contact with the contaminated groundwater in the future. These receptors would have contact with soil (surface/subsurface). Trespassers would also have direct contact with surface soil.

#### **4.5 NEARBY POPULATION**

The Site is in a remotely located portion of NAS Key West, with no residential areas bordering the site. Vehicular traffic is restricted by two locked gates and fences surrounding the site. The Site can be accessed by recreational boaters; however, the mangrove swamps and salt ponds make access difficult and undesirable.

## 5.0 SUMMARY AND CONCLUSIONS

The former AHMS Boca Chica Key site is approximately 12 acres located on the north side of Boca Chica Key. AHMS Boca Chica Key is surrounded by mangrove swamps, beyond which are the waters of the Gulf of Mexico. The site is currently abandoned and the vegetation is very overgrown. Due to the overgrowth of vegetation, certain portions of the site are inaccessible, unless vegetation is disturbed.

Based on the surrounding area, the land on which AHMS Boca Chica Key was built was previously swamp area filled by the US Army in order to adapt the area for use as a missile site. Work on the facility began shortly after the time of the Cuban Missile Crisis in 1965, but continued for several years thereafter. The site contains most of the original buildings used for storage, maintenance and repairs on the Hawk missiles. It also contains the original radar and illuminator towers, missile launch pads, and generator building. It was used for coastal defense until 1979, at which time the Army units demobilized from all of the Hawk Missile batteries in the Florida Keys.

Information obtained during both the initial and sequential site visits indicates that the operational history of the site supports the use of chlorinated solvents, petroleum products, PCBs, pesticides and metals. The remaining structures onsite have signs of degradation. Research on the previous investigations at the Site supports that studies were isolated and focused on petroleum contamination around 2000 gallon AST. Previous data collected in the vicinity of the ASTs included detections of PAHs at concentrations exceeding the GCTLs. Subsequent monitoring revealed the detections to be below the GCTLs and a NFA status was granted for the site.

## **6.0 SITE INSPECTION INTRODUCTION**

### **6.1 PURPOSE OF REPORT**

This report describes the results of the Boca Chica Key Hawk Missile Site (AHMS Boca Chica Key) Site Inspection (SI) located at NAS Key West, located in Monroe County, Florida (Figure 6-1). Field activities were performed and included collection of groundwater samples from existing monitoring wells and groundwater and soil samples collected using direct push technology (DPT). This work was performed under CLEAN Contract No. N62470-08-D-1001, CTO JM17.

### **6.2 SCOPE OF WORK**

This document addresses operational areas of AHMS Boca Chica Key that have not been investigated to determine if contaminants are in soil and/or groundwater. The document will present the data from this SI to make a decision regarding the next steps, if any, in the remedial process.

The field investigations were based on the contents of the Uniform Federal Policy Sampling and Analysis Plan (UFP-SAP) (Tetra Tech NUS, Inc. [Tetra Tech], 2010). The UFP-SAP was prepared in accordance with the requirements of the *Uniform Federal Policy for Quality Assurance Project Plans* (UFP-QAPP) (USEPA, 2005) and the United States Environmental Protection Agency (USEPA) *Guidance for Quality Assurance Project Plans, EPA QA/G-5, QAMS* (USEPA, 2002b). The contents of the UFP-SAP were based on EPA Guidance for Performing Site Inspections under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (1992).

### **6.3 OBJECTIVES**

The primary objective of the SI was to determine the presence or absence of soil and/or groundwater contamination at the AHMS Boca Chica Key. In so doing, recommendations establishing the path forward were developed, as applicable. Other objectives were: to build on information contained in the PA and previous investigations by gathering additional site-specific information and initial field data to perform field reconnaissance and surveys; to gather analytical data; and to outline potential sources of soil and/or groundwater contamination, if present.

### **6.4 REPORT ORGANIZATION**

The following information is contained in this document:

- Section 6.0 discusses the purpose of the report and the objectives of the SI.
- Section 7.0 discusses general methodology, including the site inspection approach, SI methods, and analytical methodology.

- Section 8.0 discusses the AHMS Boca Chica Key.

The following appendices are included in this report and provide technical information compiled during the SI:

Appendix C: Groundwater Log Sheets

Appendix D: Soil Log Sheets

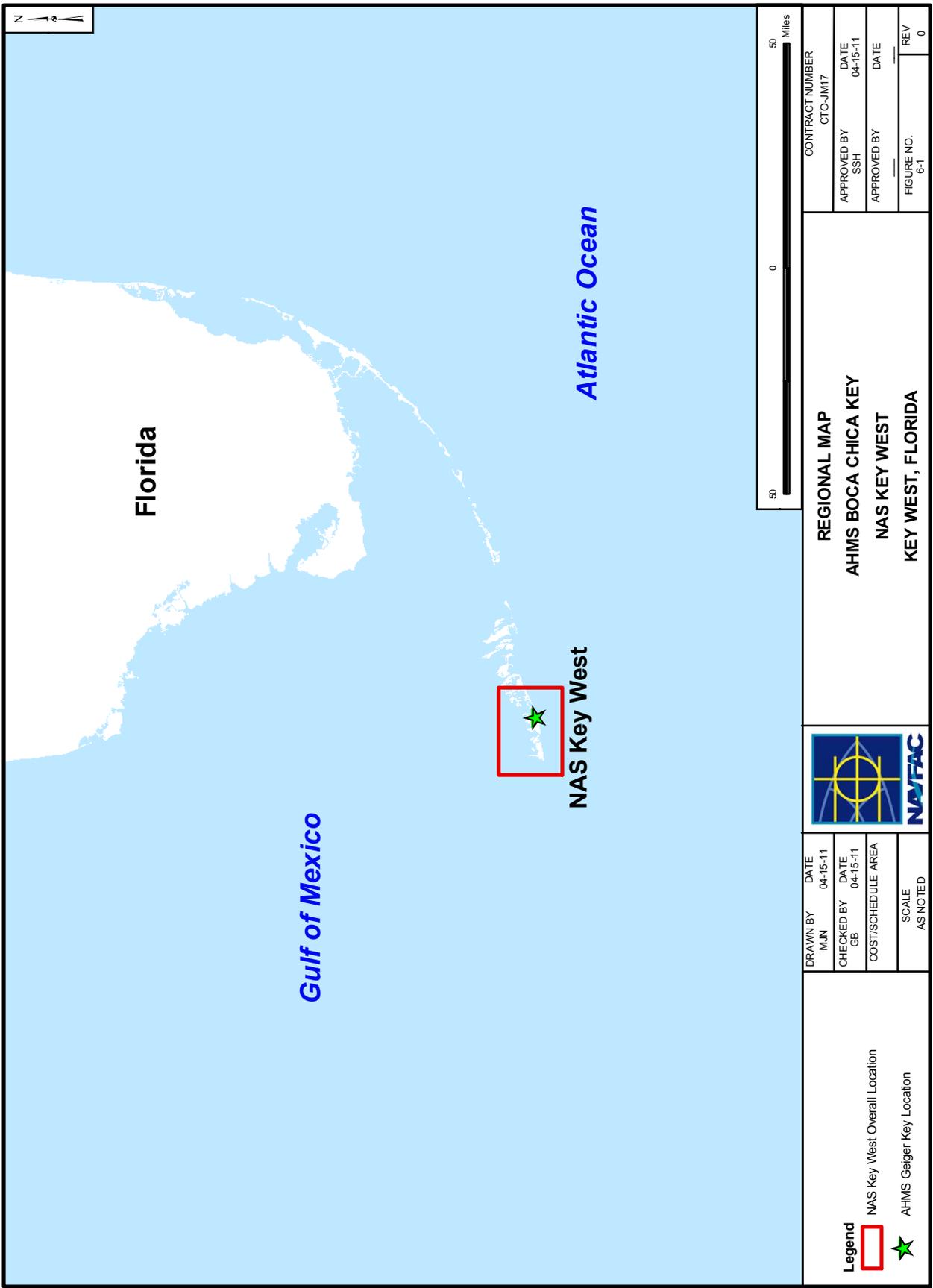
Appendix E: Chain of custodies

Appendix F: Boring Logs

Appendix G: Field Screening Results

Appendix H: Analytical Results

Appendix I: Validation Reports



<b>Legend</b> NAS Key West Overall Location AHIMS Geiger Key Location		DRAWN BY MUN DATE 04-15-11	CHECKED BY GB DATE 04-15-11	COST/SCHEDULE AREA	SCALE AS NOTED		<b>REGIONAL MAP</b> <b>AHIMS BOCA CHICA KEY</b> <b>NAS KEY WEST</b> <b>KEY WEST, FLORIDA</b>	CONTRACT NUMBER CTO-JM17	APPROVED BY SSH DATE 04-15-11	APPROVED BY DATE	FIGURE NO. 6-1	REV 0
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## **7.0 GENERAL METHODOLOGY**

### **7.1 SITE INSPECTION APPROACH**

#### **7.1.1 Site Preparation and Mobilization Activities**

All preliminary activities, such as subcontractor procurement and coordination, clearance of utilities, obtaining authorizations, and site access, were completed in accordance with the UFP-SAP (Tetra Tech, 2010). Tetra Tech field personnel mobilized to NAS Key West on December 6, 2010. All field team members reviewed the approved UFP-SAP, associated appendices, and Health and Safety Plan (HASP) prior to the start of project activities.

##### **7.1.1.1 Site Accessibility**

NAS Key West is a controlled area, accessible only through guarded access gates. To gain access to NAS Key West, all Tetra Tech personnel and subcontractors were required to provide copies of valid NAS Key West access badges, common access cards (CACs), or current military identification to complete the field work.

Access to the AHMS Boca Chica Key required daily coordination with NAS Key West environmental staff. The entry point is located on an access road that connects the guard gate to Boca Chica Field (Saratoga Avenue) and runs north and parallel to Overseas Highway. The Site is secured by two gates each with a combination lock. During working hours the gates were left un-locked. After each work day was complete, field staff locked the gates.

##### **7.1.1.2 Subcontracting**

The project necessitated the use of two subcontractors to provide drilling and analytical laboratory services. Tetra Tech staff performed utility clearance at all sites where drilling activities took place. A Florida-licensed driller employed by Wombat Environmental LLC of Stuart, Florida, supervised and performed the drilling. Empirical Laboratories, LLC (Nashville, Tennessee) conducted the analytical services. All Navy and Florida certified laboratories, performed analytical services.

### **7.2 SITE INSPECTION METHODS**

#### **7.2.1 Field Investigation Methods**

Groundwater and subsurface soil samples were collected via DPT during the field investigation. Field forms presented in Appendices C and D include the Groundwater and Soil Sample Log Sheets.

### **7.2.1.1 Direct Push Technology**

DPT methods were used to collect in situ groundwater and sub-surface soil samples at select locations within AHMS Boca Chica Key (Figure 7-1). DPT methods involve the advancement of a DPT sampling screen to a target depth. The screen is then revealed to the formation and groundwater is withdrawn via Teflon™ tubing to the surface using a peristaltic pump.

Groundwater samples from the DPT borings were collected using low-flow purging techniques (discharge rate of less than 1 liter per minute) with a peristaltic pump using Teflon™ tubing dedicated to each well. All groundwater samples were collected using the procedures specified in FS 2200, Groundwater Sampling (FDEP, 2008).

### **7.2.2 Investigation-Derived Waste Management**

Investigation-derived waste (IDW) was not collected during site inspection activities. All drill cuttings from the soil sampling procedure were returned to their respective borehole.

### **7.2.3 Field Sample Documentation**

Appropriate pre-preserved, certified-clean bottleware was supplied by the laboratories. Matrix-specific sample log sheets were maintained for each sample collected. In addition, sample collection information was recorded in bound field notebooks or on specific field forms. Samples were packaged and shipped according to FS 1000, General Sampling Procedures (FDEP, 2008).

Field documentation was performed in accordance with Standard Operating Procedure (SOP) SA-6.3 presented in Appendices C, D and F. A summary of all field activities was recorded in a bound logbook with consecutively numbered pages that cannot be removed. At a minimum, the following information was recorded in the site logbook:

- Name of the person to whom the logbook is assigned.
- Project name.
- Project start date.
- Names and responsibilities of on-site project personnel, including subcontractor personnel.
- Arrival/departure of site visitors.
- Arrival/departure of equipment.
- Sampling activities and sample log sheet references.
- Description of subcontractor activities.

- Sample pick-up information, including chain-of-custody numbers, air bill numbers, carrier, time, and date.
- Description of borehole or monitoring well installation activities and operations.
- Health and safety issues.
- Description of photographs including date, time, photographer, roll and picture number, location, and compass direction of photograph.

#### **7.2.4 Sample Handling, Packaging, and Shipping**

Following sample collection using appropriate bottleware, all samples were immediately placed on ice in a cooler. The glass sample containers were enclosed in bubble-wrap to protect the bottleware during shipment. The cooler was sealed using strapping tape along with a signed chain-of-custody seal. Sample coolers were delivered to a local courier location for priority overnight delivery to the selected laboratory for analysis. Samples were preserved as appropriate, based on the analytical method. The laboratories provided pre-preserved sample containers for sample collection. Samples were maintained at 4 ( $\pm$  2) degrees Celsius ( $^{\circ}$ C) until delivery to the laboratory. Proper custody procedures were followed throughout all phases of sample collection and handling.

After collection, each sample was maintained in the sampler's custody until formally transferred to another party (e.g., Federal Express). For all samples collected, chain-of-custody forms document the date and time of sample collection, the sampler's name, and the names of all others who subsequently held custody of the sample. Specifications for chemical analyses were also documented on the chain-of-custody form. Tetra Tech SOP SA-6.3 (Field Documentation) is provided in Appendix E and provides further details on the chain-of-custody procedure.

These subsections outline the procedures used by field and laboratory personnel to document project activities and sample collection procedures during this SI. All forms were filled in as completely as possible.

Tetra Tech personnel collected and handled the samples in order to not introduce contamination. Samples were sealed in appropriate containers, packaged by Tetra Tech personnel, and placed in sealed coolers following chain-of-custody procedures, in accordance with SOP FS 1000. Samples to be analyzed for volatile organic compounds (VOCs) were accompanied by a VOC trip blank. All coolers contained a temperature blank. Samples were transferred under chain-of-custody to a courier. Once received by the laboratory, receipt was documented on the chain-of-custody form and the samples were checked in. The samples remained under chain-of-custody throughout the analysis period to ensure their integrity was preserved.

Samples delivered to the laboratory(s) were made by a public courier (Federal Express). After sample collection, they were sent to the laboratory(s) within 24 hours. No sample holding times were exceeded.

#### **7.2.5 Quality Control Samples**

Quality assurance/quality control (QA/QC) samples were collected during sampling activities to monitor both field and laboratory procedures, in accordance with the UFP-SAP (Tetra Tech, 2010). QA/QC samples included field duplicates and temperature blanks. Types of QA/QC samples are briefly described below.

- Field Duplicates - consisted of a single sample split into two portions. Field duplicates were collected at the rate of one for every 20 samples collected during this field investigation to assess the overall precision of the sampling and analysis program.
- Temperature blanks - used to determine if samples were adequately cooled during shipment. Temperature blanks consisted of analyte-free water supplied by the laboratory. One temperature blank was submitted to the laboratory in each cooler, and the temperature was checked upon receipt at the laboratory.

#### **7.2.6 Global Positioning System**

Each sample location was marked with a brightly colored pin flag pushed into the ground next to the boring. If pin flags were not used due to ground hardness (i.e., oolitic limestone or asphalt/concrete), then spray paint was used to mark the sampling location. Boring locations were pre-loaded into a hand held Trimble XH (sub-meter) global positioning system (GPS) unit. This information is retained in the Tetra Tech database and can be used as a reference if repeat sampling is required at any of the sample locations.

#### **7.2.7 Decontamination Procedures**

Decontamination of major equipment and sampling equipment was performed in general accordance with FC 1000, Cleaning/Decontamination Procedures (FDEP, 2008). Sampling equipment (e.g., non-disposable hand trowels, hand augers) were decontaminated prior to and between sampling at each location. At each site, an abbreviated decontamination procedure consisting of a soapy water (laboratory-grade detergent) rinse followed by a deionized water rinse was performed.

### **7.2.8 Record Keeping**

Documentation of field observations were recorded in a field logbook and/or field log sheets, including sample collection logs, boring logs, VOC screening logs, and monitoring well construction logs. Field logbooks utilized on this project consisted of a bound, water-resistant logbook. All pages of the logbook were numbered sequentially and observations were recorded with indelible ink.

Field sample log sheets used to document sample collection details, and other observations and activities were recorded in the field logbook. Instrument calibration logs were used to record the daily instrument calibration. Field forms are included in Appendices C and D.

For sampling and field activities, the following information was recorded in the field log as appropriate:

- Site name and location
- Date and time of logbook entries
- Personnel and their affiliations
- Weather conditions
- Activities involved with the sampling
- Subcontractor activity summary
- Site observations including site entry and exit times
- Site sketches made on-site
- Visitor names, affiliations, arrival and departure times
- Health and safety issues including personal protective equipment (PPE)

## **7.3 ANALYTICAL METHODOLOGY**

### **7.3.1 Analytical Methods**

Chemical analysis for metals, semivolatile organic compounds (SVOCs), VOCs, total recoverable petroleum hydrocarbons (TRPH), PCBs and pesticides in groundwater and soil were performed by Empirical Laboratories, LLC. The laboratory is in the Department of Defense (DoD) Environmental Laboratory Approval Program (ELAP).

### **7.3.2 Data Usability General Methodology**

Data review processes were used to determine whether analytical laboratory data were of acceptable technical quality for use in decision-making. The review began with data validation, which is a comparison of data quality indicators (DQIs) to prescribed acceptance criteria. The DQIs used are measures to assess the bias and precision of the analytical calibrations and sample analyses. The output of this review was a set of alphabetic flags such as “U,” “J,” “R,” or combinations thereof, that may have been assigned to individual results based on the validation effort. These flags were used to infer the general quality of the data. Also evaluated were the measures of data completeness, sensitivity, comparability, and representativeness. Validated analytical results and the data usability reports are provided in Appendix H

### **7.3.3 Data Validation Process**

Limited data validation was conducted to evaluate false positives included and evaluations of data completeness, holding time compliance, calibrations, field QC and laboratory-generated blanks, field duplicate precision, and detection limits (DLs) for the data collected during the SI. The data packages provided by the analytical laboratory are expansive enough to allow future complete formal data validation, if necessary. Assignment of data qualification flags conformed to USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA 2008) and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004). Data validation specifications require that various data qualifiers be assigned when a deficiency is detected or when a result is less than its detection limit. If no qualifier is assigned to a result that has been validated, the data user is assured that no technical deficiencies were identified during validation. The qualification flags used are defined as follows:

- U – Indicates that the chemical was not detected at the numerical detection limit (sample-specific detection limit) noted. Non-detected results from the laboratory are reported in this manner. This qualifier is also added to a positive result (reported by the laboratory) if the detected concentration is determined to be attributable to contamination introduced during field sampling or laboratory analysis.
- UJ – Indicates that the chemical was not detected; however, the detection limit (sample-specific detection limit) is considered to be estimated based on problems encountered during laboratory analysis. The associated numerical detection limit is regarded as inaccurate or imprecise.
- J – Indicates that the chemical was detected; however, the associated numerical result is not a precise representation of the concentration that is actually present in the sample. The

laboratory reported concentration is considered to be an estimate of the true concentration.

- UR – Indicates that the chemical may or may not be present. The non-detected analytical result reported by the laboratory is considered to be unreliable and unusable. This qualifier is applied in cases of gross technical deficiencies [e.g., holding time missed by a factor of two times the specified time limit or severe calibration non-compliance, or extremely low QC recovery].
- R – Indicates that the chemical may or may not be present. The positive analytical result reported by the laboratory is considered to be unreliable and unusable. This qualifier is applied in cases of gross technical deficiencies.

The preceding data qualifiers may be categorized as indicative of major or minor problems. Major problems are defined as issues that result in the rejection of data and qualification with “UR” or “R” qualifiers.

These data are considered invalid and not used for decision-making purposes unless they are used in a qualitative way and the use is justified and documented. Minor problems are defined as issues resulting in the estimation of data and qualification with “U,” “J,” and “UJ” qualifiers. Estimated analytical results are considered to be suitable for decision-making purposes unless the data use requirements are very stringent and the qualifier indicates a deficiency that is incompatible with the intended data use. A “U” qualifier does not necessarily indicate that a data deficiency exists because all non-detect values are flagged with the “U” qualifier regardless of whether a quality deficiency has been detected.

#### **7.3.4 Data Validation Outputs**

After data were validated, a list was developed of non-conformities requiring data qualifier flags used to alert the data user to inaccurate or imprecise data. The reviewer then prepared a technical memorandum presenting qualification of the data, if necessary, and the rationale for making such qualifications (See Appendix H). The net result was a data package that had been carefully reviewed for its adherence to prescribed technical requirements. Pertinent quality estimates are summarized in a more quantitative format in the following section.

#### **7.3.5 Data Quality Review**

DQIs are parameters monitored to help establish the quality of data generated during an investigation. Some of the DQIs are generated from analysis of field samples (e.g., field duplicates) and some are generated from the analysis of laboratory samples (e.g., laboratory duplicates). Individually, field and laboratory DQIs provide measures of the performance of the respective

investigative operations (field or laboratory). During data validation, individual QC results were evaluated. If individual QC results were acceptable, no validation flag was assigned to an analytical result; otherwise, a flag indicating the type of QC deficiency was assigned to the result.

### **Completeness**

Completeness is a measure of the number of valid samples or measurements that are available relative to the number of samples or measurements that were intended to be generated. For this project, completeness was measured on two different bases:

- Samples collected - measure of the usable samples collected compared to those intended to be collected.
- Laboratory measurements - measure of the amount of usable valid laboratory measurements per matrix for each target analyte.

Usable valid samples (or results) were those judged, after data assessment, to represent the sampling populations and to have not been disqualified for use through data validation or additional data review. Completeness was determined using the following equation:

$$\%C = \frac{V}{T} \times 100$$

where %C = percent completeness

V = number of samples (or results) determined to be valid

T = total number of planned samples (or results)

### **Sensitivity**

Sensitivity is a comparison of the project quantitation limit goals (PQLGs) to the laboratory's DLs listed in Worksheet 15 in the UFP-SAP (Tetra Tech, 2010).

Sensitivity is the ability of the method or instrument to detect the target analytes at the level of interest. Sensitivity can be evaluated by calculating the percentages of analyte DLs that exceeded Project Action Limits (PALs). Two different percentages can be calculated: 1) the percentage of non-detected results that exceeded PALs when considering the total number of non-detected results, and 2) the percentage of non-detected results that exceeded PALs when considering the total number of results analyzed (both positive and non-detected results). The percentage of non-detected results that exceeded PALs when considering the total number of non-detected results is used to evaluate the overall success of the laboratory in achieving DLs equal to or less than PALs. The percentage of non-detected results that exceeded PALs when considering the total number of

results analyzed (positive and non-detected results) is used to evaluate the effect of sensitivity exceedances on the complete corresponding data set.

### Accuracy

Accuracy requirements for field measurements are typically ensured through control over sample collection and handling, and through routine instrument calibration. Field accuracies were monitored through the use of blanks to detect cross-contamination and by monitoring adherence to procedures that prevent sample contamination or degradation. Rinsate blanks were collected during the SI to assess cross-contamination via sample collection equipment. Each blank was obtained under representative field conditions by collecting the rinse water generated by running analyte-free water through sample collection equipment after decontamination and before use. The rinsate blank was analyzed for the same chemical constituents as the associated environmental samples.

Accuracy in the laboratory was measured through the comparison of a spiked sample or laboratory control sample/laboratory control sample duplicate (LCS/LCSD) result to a known or calculated value, and was expressed as a percent recovery (%R). It was also assessed by monitoring the analytical recovery of select surrogate compounds added to samples that are analyzed by organic chromatographic methods. LCSs were used to assess the accuracy of laboratory operations with minimal sample matrix effects. Matrix spike/matrix spike duplicate (MS/MSD) and surrogate compound analyses measure the combined accuracy effects of the sample matrix, sample preparation, and sample measurement. LCS and MS analyses were performed at a frequency of one per 20 associated samples of like matrix. Laboratory accuracy was assessed by comparing calculated %R values to accuracy control limits specified by the laboratory using SW-846 methods.

Percent recovery is calculated using the following equation:

$$\%R = \frac{Ss - So}{S} \times 100$$

where %R = percent recovery

Ss = result of spiked sample

So = result of non-spiked sample

S = concentration of spiked amount.

### Precision

Precision is a measure of the degree to which two or more measurements agree and describes the reproducibility of measurements of the same parameter for samples analyzed under similar conditions. Precision for chemical parameters is expressed as a Relative Percent Difference (RPD), which is defined as the ratio of the difference to the mean for the two values being evaluated. RPDs,

typically expressed as percentages, are used to evaluate both field and laboratory duplicate precision and are calculated as follows:

$$\text{RPD} = \frac{(V1 - V2)}{(V1 + V2)/2} \times 100$$

where RPD = relative percent difference

V1, V2 = two results obtained by analyzing duplicate samples.

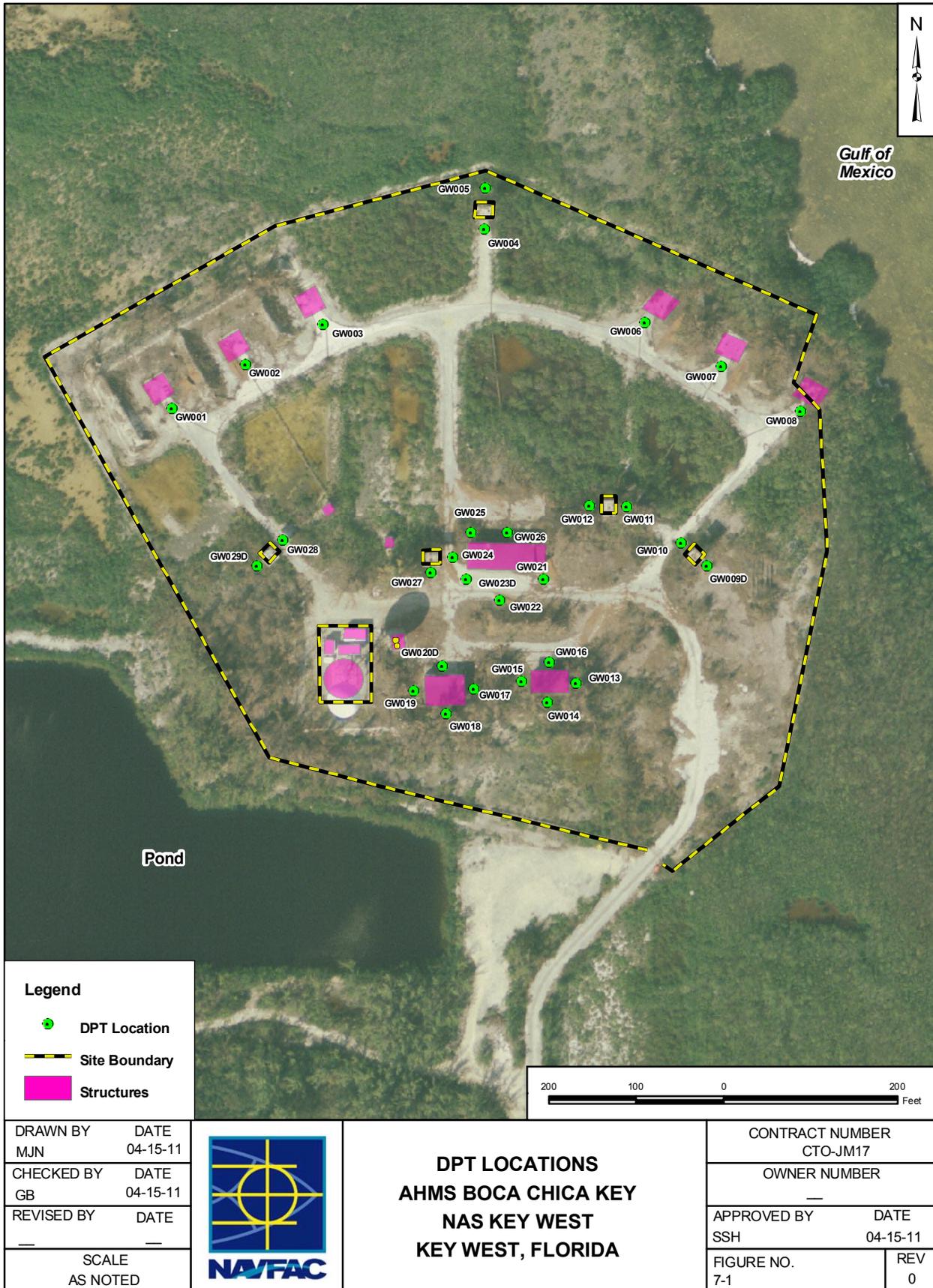
The precision estimates obtained from duplicate field samples encompass the combined uncertainty associated with sample collection, homogenization, splitting, handling, laboratory and field storage (as applicable), preparation for analysis, and analysis. In contrast, precision estimates obtained from analyzing duplicate laboratory samples incorporate only homogenization, sub-sampling, preparation for analysis, laboratory storage (if applicable), and analysis uncertainties.

### **Comparability**

Comparability is defined as the confidence with which one data set can be compared with another (e.g., among sampling points and among sampling events). Comparability was achieved by using standardized sampling and analysis methods and standardized data reporting formats. Comparability of field data was insured by following the UFP-SAP (Tetra Tech, 2010). Comparability of laboratory measurements was achieved primarily through the use and documentation of standard sampling and analytical methods. Results were reported in units that ensured comparability with previous data and with current state and federal standards and guidelines. Comparability of laboratory measurements was assessed primarily through the use of QC samples and through adherence to the laboratory's QA plan.

### **Representativeness**

Representativeness is an expression of the degree to which data accurately and precisely depict the actual characteristics of a population or environmental condition existing at the site. The UFP-SAP (Tetra Tech, 2010) and the use of standardized sampling, sample handling, sample analysis, and data reporting procedures were designed so that the final data would accurately represent actual site conditions. It is believed that all reported data are adequately representative of site conditions.



## 8.0 BOCA CHICA KEY HAWK MISSILE SITE

### 8.1 SITE BACKGROUND

The former AHMS Boca Chica Key is located on the northern end of Boca Chica Key and north of the NAS Key West Airfield. The site can be accessed via a service road adjacent to the main Overseas Highway. Figure 2-1 of the PA shows the site location on the United States Geological Survey (USGS) topographic quadrangle map (Boca Chica Key, Florida Quadrangle). The site is located at latitude 24° 35' 49" North and longitude 81° 42' 48" West. AHMS Boca Chica Key is surrounded by mangrove swamps followed by the waters of the Gulf of Mexico. The site and surrounding area are shown on Figure 2-2 of the PA. With the exception of a tower operated by the National Oceanic and Atmospheric Administration (NOAA) and an associated emergency generator with a 1,000-gallon aboveground storage tank (AST) containing jet propellant fuel (JP-5), the Site is abandoned.

#### 8.1.1 Historical Information

The former AHMS Boca Chica Key site was originally called Delta Battery or the "Major Peter S. Knight Hawk Missile Site". It was completed by the Army and became operational in April 1965 (Osato and Straup, 1968). This anti-aircraft facility was built as a permanent installation and was intended to guard against attack from Cuba, 90 miles away. The Hawk missile was initially designed to destroy aircraft and was later adapted to destroy other missiles in flight. During operations, work in support of the Site's mission was focused on keeping the missiles, radar towers, and equipment clean and ready for use at all times. Maintenance of the individual components for the Hawk system included, but was not limited to, generator maintenance and repair, radar coolant service and electronic component replacement and anti-corrosion repairs, missile component replacement, anti-corrosion and contamination maintenance, and replacement of vital air-conditioning units for electronics (Osato and Straup, 1968). In February 2009, an interview was conducted by NAS Key West representatives with a former AHMS Boca Chica Key employee in order to gain additional information on the daily activities performed at the Hawk missile sites on NAS Key West during operational years (Tetra Tech, 2010). The results of the interview confirmed the large amount of maintenance and repair necessary to keep the Hawk system operational, and the poor disposal practices that occurred at the missile site. The site was decommissioned in April 1979 and continues to be maintained by the NAS Key West. The current and future land use is industrial as outlined in the NAS Key West Base Master Plan. To date, no new use has been found for the facility and it is currently abandoned.

The Site had two ASTs that were used to store diesel fuel for the Site's generators. The ASTs were removed on April 14, 1996. A Closure Assessment Report indicated that soil and groundwater in the

vicinity of the 2,000-gallon AST showed signs of petroleum contamination. Following a site assessment in 2001, a Site Assessment Report (SAR) was submitted to FDEP in February 2002 (BB&L, 2002). Results indicated that polycyclic aromatic hydrocarbons (PAHs) were detected at levels above FDEP Groundwater Cleanup Target Levels (GCTLs) in groundwater from two monitoring wells. However, no other KAG constituents were detected above GCTLs. A Natural Attenuation Monitoring Sampling Plan was submitted in 2003 (Tetra Tech, 2003). Following the submittal of the plan, three quarterly groundwater monitoring events were conducted. Because PAHs were below GCTLs for three consecutive sampling events at the Site, no further action (NFA) was proposed. As a result, the Navy requested that a Site Rehabilitation Completion Order be issued (Tetra Tech, 2004c). The investigations, which were restricted to a small area on the site, verified that there was soil and groundwater contamination, but other potential areas of contamination at the Site were not investigated. An SI was completed to determine if contaminants are present in soil and/or groundwater in the operational areas of AHMS Boca Chica that have not yet been investigated. The Project Team will evaluate the data from this SI to make a decision regarding the next steps, if any, in the remedial process.

#### **8.1.2 Contaminant Storage and Usage**

The source of groundwater contamination is most likely at former operational areas, the Generator Building, the Missile Assembly and Storage Buildings, the radar towers, and the missile launch sites. Solvents were likely released from the Generator Building and the Assembly and Storage Building. Solvents and coolant were released from the radar towers. Coolant may have been released from the transformers located on the northeast side of the Generator Building. However, these potential releases have yet to be investigated. This SI addresses the need to determine if additional contaminants (those not investigated previously) are present in the former operational areas of the site.

#### **8.1.3 Potential Contaminant Migration Pathways**

Recharge of groundwater at the Site occurs through infiltration of rainwater in areas that are not covered by asphalt and/or concrete. Surface water flow is influenced by minor variations in topography, as the Site is relatively flat. During heavy rainstorms, surface water likely flows toward the northern portion of the Site toward the salt ponds. During these events, surface soil may also be transported into the ponds.

Contaminants in surface soil can leach to the subsurface and easily reach the shallow water table, which is approximately 2 to 4 feet bgs. Groundwater flow in the area is affected by several factors, including tidal fluctuation, hurricane events, and the nature of the oolitic limestone caprock. There is very little or no surface soil present on-site, instead subsurface soil is found at approximately 0- to

2-foot bgs, with the oolitic limestone caprock extending from approximately 2- to 25-foot bgs. This is a unique geological figure found throughout NAS Key West. It is likely that these factors can either minimize or enhance groundwater and plume migration over time. Groundwater flow direction is inconsistent. During the November 2001 gauging event, the groundwater flow direction was to the west, in November 2003 it was toward the northwest, in February 2004 it was to the east, and in May 2004 it was north-northwest. This inconsistent pattern of groundwater flow is indicative of tidal influence on the surficial aquifer. At this time, it is not known if contaminated groundwater is discharging to any of the surface water features surrounding the Site, this possibility will be investigated during future remedial activities.

#### **8.1.4 Current Land Use and Potential Exposure Pathways**

AHMS Boca Chica Key is located on NAS Key West, which is an active naval air station. In general, groundwater in the Florida Keys is unfit for domestic use (e.g., drinking, showering, or cooking). Therefore, there is no consumption of groundwater by human receptors. Furthermore, NAS Key West has a potable water system used by the personnel located on the property.

Access to the Site was originally restricted to military personnel and contractors. Currently the Site is accessed only by personnel associated with the maintenance and use of the NOAA Doppler radar tower. The site is secured by fences and locked gates; however, signs of trespassing is evident. The full extent of unauthorized entry is not known, but may include vandalism or general curiosity. The only other potential receptors that may access the Site include personnel potentially engaged in Site cleanup and/or redevelopment activities. These individuals may have direct contact with the contaminated groundwater in the future.

### **8.2 SITE INSPECTION FIELD ACTIVITIES**

#### **8.2.1 Field Data Collection**

##### **8.2.1.1 DPT Groundwater Sampling**

A total of 25 shallow groundwater samples and four deep groundwater samples were collected from DPT borings. DPT methods were used to collect in situ groundwater samples at select locations within AHMS Boca Chica. DPT methods involve the advancement of a DPT sampling screen to a target depth. The screen is then revealed to the formation and groundwater is withdrawn via Teflon™ tubing to the surface via a peristaltic pump.

Groundwater samples from the DPT borings were collected using low-flow purging techniques (discharge rate of less than 1 liter per minute) with a peristaltic pump using Teflon™ tubing dedicated to each well. All groundwater samples were collected using the procedures specified in

FS 2200, Groundwater Sampling (FDEP, 2008). Figure 7-1 specifies the groundwater sampling locations for this investigation.

The samples were transferred to the laboratory-supplied sample containers immediately following sample collection, placed in a cooler, chilled with ice, and shipped under chain-of-custody protocol for analysis.

### **8.2.1.2 Soil Sampling**

Subsurface soil samples were collected from the DPT borings using the procedures specified in FDEP SOP FS 3000. An initial 29 soil samples were collected from the DPT borings from the 0 to 2 feet range and screened on-site using a developing head-space analysis methodology and photo ionization detector (PID). Data from the headspace purge method and PID results were used to determine which soil samples were to be sent to the lab. Of the 29 initial borings, a total of 20 soil samples were shipped for laboratory analysis. Field technicians collected soil samples for shipment to the laboratory, based on elevated contaminant concentrations found through the field screening process.

After collection of the selected soil samples, the samples were placed in a cooler, chilled with ice, and shipped under chain-of-custody protocol to Empirical Labs for analysis.

## **8.3 SITE INSPECTION DATA COLLECTION RESULTS**

### **8.3.1 Results**

#### **8.3.1.1 Metals**

Metals were detected in groundwater samples at levels exceeding respective GCTLs in 12 soil boring locations. There were no exceedances of SCTLs found in the soil samples. Groundwater contaminants exceeding GCTLs consisted of lead and cadmium. Only one sample, boring BCHMS-GW-010, had a concentration of lead (71.9 µg/L) that exceeded that GCTL (15 µg/L) (Table 8-1, Figure 8-2).

Twelve samples had cadmium concentrations that exceeded the GCTL (5 µg/L) (Tables 8-1, Figure 8-2). The groundwater exceedances of cadmium occurred at four missile launch pads, four radar sites and a storage building.

Cadmium is a known chemical in metal coating, particularly corrosion resistant plating on steel. It is also used in paint pigmentation because cadmium forms various salts from which the sulfides are used as a yellow pigment. Also, cadmium selenide can be used as red pigment. Both pigments create bright long-lasting colors and were used in industrial paint at the site. The boring locations

and monitoring well locations that resulted in groundwater contaminant concentrations exceeding cadmium GCTL were found at the radar sites, storage facilities, and at or near the Generator Building. All of these structures were steel or steel/concrete and were treated with a metal coating to prevent corrosion from the saline climate. The groundwater and soil samples collected at each launch site resulted in only one cadmium concentration that exceeded the GCTL. The steel structures are the most likely source of cadmium.

#### **8.3.1.2 PCB/Pesticides**

There were contaminant detections of PCBs and pesticides found throughout the site; however, only two exceedances of the pesticide aldrin above GCTL (0.002 µg/L) were found in groundwater. Both locations (BCHMS-GW-010 [0.00382 µg/L] and BCHMS-GW-028 [0.00521 µg/L]) were adjacent to the radar sites. (Tables 8-2, Figure 8-3).

#### **8.3.1.3 TRPH**

One groundwater sample at boring BCHMS-GW-024 resulted in a TRPH concentration (119 milligram per liter [mg/L]) that exceeded the GCTL of 5 mg/L. No further groundwater or soil samples resulted in GCTL exceedances for TRPH (Tables 8-3, Figure 8-4).

#### **8.3.1.4 VOC/SVOC**

There was one sample for SVOCs and one sample for VOCs in the groundwater had concentrations that exceeded GCTLs. Groundwater sample BCHMS-GW-024 (30.6 µg/L) had an exceedance of the SVOC naphthalene GCTL (14 µg/L). Groundwater sample BCHMS-GW-023D (9.24 µg/L) had an exceedance of the VOC 1,1-dichloroethene GCTL (7 µg/L). Both locations were adjacent to the Generator Building. (Tables 8-4, Figure 8-5).

### **8.4 CONCLUSIONS**

The former AHMS Boca Chica Key Site is located on the northern section of Boca Chica Key and surrounded by waters of the Gulf of Mexico. The site is currently abandoned and the vegetation is overgrown.

Based on the surrounding area, the land on which AHMS Boca Chica Key was built was most likely filled by the US Army in order to adapt the area for use as a missile site. Work on the facility began shortly after the Cuban Missile Crisis in 1965 and continued for several years thereafter. The site contains most of the original buildings used for storage, maintenance and repairs on the Hawk missiles. It also contains the original radar and illuminator towers, missile launch pads, and generator building. It was used for coastal defense until 1979, at which time ownership was transferred to the Navy.

Metals (cadmium and lead) were detected at concentrations greater than screening criteria in groundwater. Cadmium concentrations above GCTLs were detected in 12 groundwater boring locations and ranged from 5.29 µg/L to 18.35 µg/L (Table 8-1, Figure 8-2). The cadmium contamination potentially is from the paint applied to the metal structures or the plating on the steel structures. Lead exceeded criteria of 15 µg/L in groundwater boring location BCHMS-GW-010 at a concentration of 71.9 µg/L. Sodium was detected in all samples, most of which exceeded the GCTL of 160,000 µg/L. Elevated sodium concentrations are due saltwater intrusion, which is typical at other NAS Key West sites (Table 8-1, Figure 8-2).

There were detections of PCBs and pesticides found throughout the site; however, two exceedances of the pesticide aldrin above GCTL (0.002 µg/L) were found in groundwater. Both locations (BCHMS-GW-010 [0.00382 µg/L] and BCHMS-GW-028 [0.00521 µg/L]) were adjacent to the radar sites. (Tables 8-2, Figure 8-3).

One groundwater sample at boring BCHMS-GW-024 resulted in a TRPH concentration (119 milligram per liter [mg/L]) that exceeded the GCTL of 5 mg/L (Tables 8-3, Figure 8-4).

Groundwater sample BCHMS-GW-024 (30.6 µg/L) had an exceedance of the SVOC naphthalene GCTL (14 µg/L). Groundwater sample BCHMS-GW-023D (9.24 µg/L) had an exceedance of the VOC 1,1-dichloroethene GCTL (7 µg/L). Both locations were adjacent to the Generator Building. (Tables 8-4, Figure 8-5). Note, based on these results, future remedial investigations at this site should include 1,1-dichloroethene analysis.

## **8.5 RECOMMENDATIONS**

The following actions are recommended for the former AHMS Boca Chica Key site in the form of an Expanded SI:

- Confirmatory sampling for TRPH in the vicinity of boring BCHMS-GW-024, possible additional sampling for TRPH taken through the generator building floor to delineate possible plume;
- And, conduct a site specific human health and ecological risk assessment.

These actions correlate with the steps in Rule 62.780.680 (3) Risk Management Level Option III as a final remedy in place. Rule 62.780.680 (3) is included in Appendix I for reference

TABLE 8-1

**GROUNDWATER ANALYTICAL EXCEEDANCES FOR METALS  
PRELIMINARY ASSESSMENT AND SITE INSPECTION  
NAVAL AIR STATION  
KEY WEST, FLORIDA**

SAMPLE	PARAMETER	RESULT (µg/L)	QUALIFIER <sup>(a)</sup>	GCTL (µg/L) <sup>(b)</sup>
BCHMS-FD001-1210	CADMIUM	16.2	J	5
BCHMS-FD001-1210	SODIUM	10400000	J	160000
BCHMS-FD002-1210	CADMIUM	17.2	J	5
BCHMS-FD002-1210	SODIUM	8270000	J	160000
BCHMS-GW-001-1210	SODIUM	1630000		160000
BCHMS-GW-002-1210	SODIUM	2800000		160000
BCHMS-GW-003-1210	CADMIUM	12.5	J	5
BCHMS-GW-003-1210	SODIUM	9430000		160000
BCHMS-GW-004-1210	CADMIUM	20.5	J	5
BCHMS-GW-004-1210	SODIUM	11400000	J	160000
BCHMS-GW-005-1210	CADMIUM	17.3	J	5
BCHMS-GW-005-1210	SODIUM	11200000	J	160000
BCHMS-GW-006-1210	CADMIUM	16.9	J	5
BCHMS-GW-006-1210	SODIUM	9060000	J	160000
BCHMS-GW-007-1210	CADMIUM	16.6	J	5
BCHMS-GW-007-1210	SODIUM	8450000	J	160000
BCHMS-GW-008-1210	CADMIUM	14.9	J	5
BCHMS-GW-008-1210	SODIUM	8230000	J	160000
BCHMS-GW-010-1210	CADMIUM	6.56		5
BCHMS-GW-010-1210	LEAD	71.9		15
BCHMS-GW-010-1210	SODIUM	3610000	J	160000
BCHMS-GW-011-1210	CADMIUM	13.6	J	5
BCHMS-GW-011-1210	SODIUM	8670000	J	160000
BCHMS-GW-012-1210	CADMIUM	14.1	J	5
BCHMS-GW-012-1210	SODIUM	7960000	J	160000
BCHMS-GW-013-1210	CADMIUM	5.29	J	5
BCHMS-GW-013-1210	SODIUM	4540000		160000
BCHMS-GW-014-1210	SODIUM	393000	J	160000
BCHMS-GW-017-1210	SODIUM	416000	J	160000
BCHMS-GW-018-1210	SODIUM	333000	J	160000
BCHMS-GW-019-1210	SODIUM	399000	J	160000
BCHMS-GW-021-1210	SODIUM	268000	J	160000
BCHMS-GW-023D-1210	SODIUM	1690000		160000
BCHMS-GW-024-1210	SODIUM	459000	J	160000
BCHMS-GW-028-1210	CADMIUM	6.67	J	5
BCHMS-GW-028-1210	SODIUM	4940000		160000
BCHMS-GW-029D-1210	CADMIUM	13.3	J	5
BCHMS-GW-029D-1210	SODIUM	9760000		160000
BCHMS-GW-20D-1210	SODIUM	893000		160000

<sup>a</sup> Qualifier (Qual.): J – The result is an estimated quantity.

<sup>b</sup> Groundwater Cleanup Target Level (GCTL) as defined in Chapter 62-777, Florida Administrative Code (F.A.C.), Table I  
µg/L microgram per liter

**TABLE 8-2**

**GROUNDWATER ANALYTICAL EXCEEDANCES FOR PCB AND PESTICIDES  
PRELIMINARY ASSESSMENT AND SITE INSPECTION  
NAVAL AIR STATION  
KEY WEST, FLORIDA**

<b>SAMPLE</b>	<b>PARAMETER</b>	<b>RESULT (µg/L)</b>	<b>QUALIFIER<sup>(a)</sup></b>	<b>GCTL (µg/L)<sup>(b)</sup></b>
BCHMS-GW-010-1210	ALDRIN	0.00382	J	0.002
BCHMS-GW-028-1210	ALDRIN	0.00521	J	0.002

<sup>a</sup> Qualifier (Qual.): J – The result is an estimated quantity.

<sup>b</sup> Groundwater Cleanup Target Level (GCTL) as defined in Chapter 62-777, Florida Administrative Code (F.A.C.), Table I  
µg/L microgram per liter

**TABLE 8-3**  
**GROUNDWATER ANALYTICAL EXCEEDANCES FOR TRPH**  
**PRELIMINARY ASSESSMENT AND SITE INSPECTION**  
**NAVAL AIR STATION**  
**KEY WEST, FLORIDA**

<b>SAMPLE</b>	<b>PARAMETER</b>	<b>RESULT (mg/L)</b>	<b>QUALIFIER<sup>(a)</sup></b>	<b>GCTL (mg/L)<sup>(b)</sup></b>
BCHMS-GW-024-1210	TRPH (C08-C40)	119		5

<sup>a</sup> Qualifier (Qual.): J – The result is an estimated quantity.  
<sup>b</sup> Groundwater Cleanup Target Level (GCTL) as defined in Chapter 62-777, Florida Administrative Code (F.A.C.), Table I  
mg/L milligram per liter

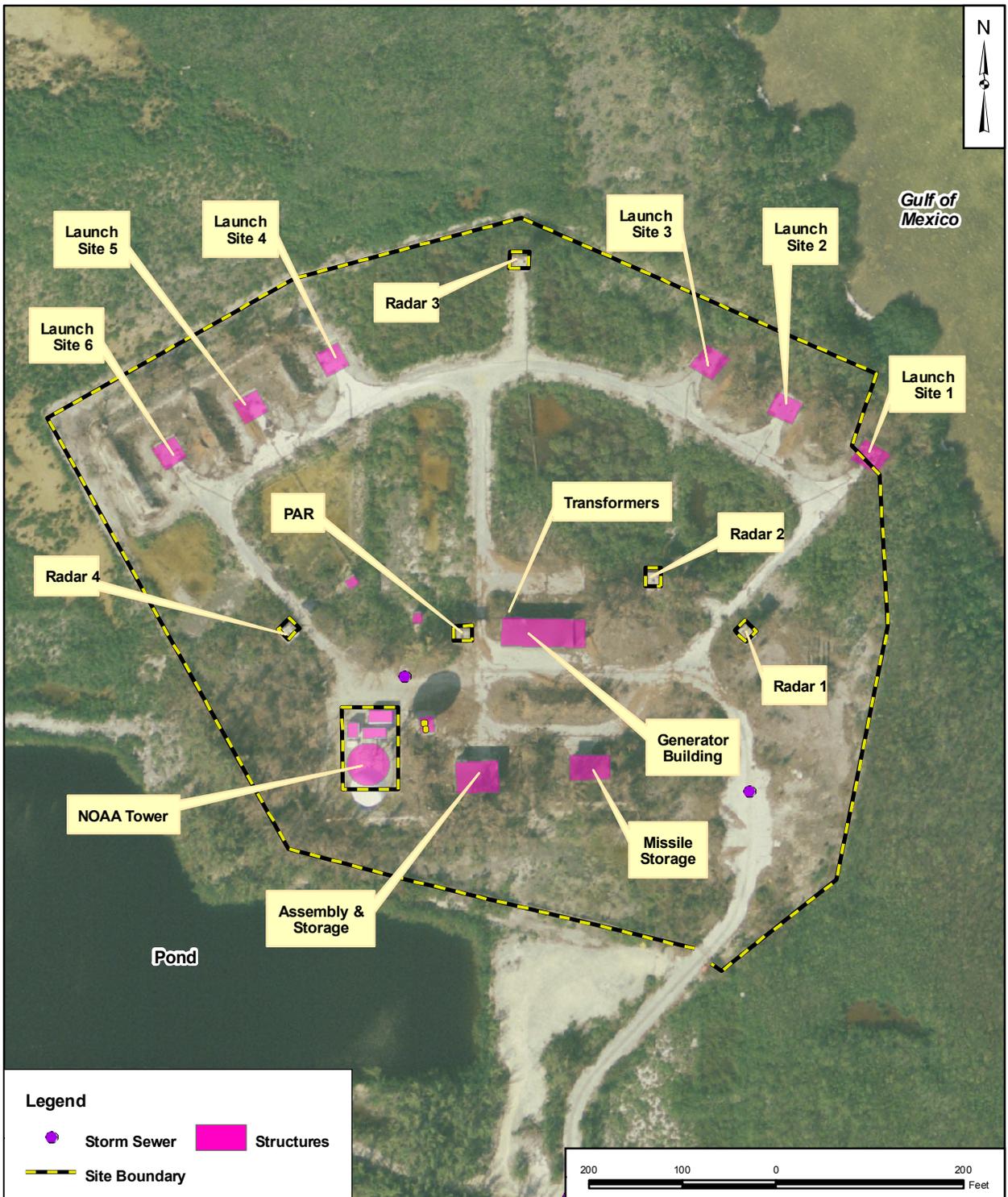
**TABLE 8-4**

**GROUNDWATER ANALYTICAL EXCEEDANCES FOR VOC AND SVOC  
PRELIMINARY ASSESSMENT AND SITE INSPECTION  
NAVAL AIR STATION  
KEY WEST, FLORIDA**

<b>SAMPLE</b>	<b>PARAMETER</b>	<b>RESULT (µg/L)</b>	<b>QUALIFIER<sup>(a)</sup></b>	<b>GCTL (µg/L)<sup>(b)</sup></b>
BCHMS-GW-023D-1210	1,1-DICHLOROETHENE	9.24		7
BCHMS-GW-024-1210	NAPHTHALENE	30.6		14

<sup>a</sup> Qualifier (Qual.): J – The result is an estimated quantity.

<sup>b</sup> Groundwater Cleanup Target Level (GCTL) as defined in Chapter 62-777, Florida Administrative Code (F.A.C.), Table I  
µg/L microgram per liter



**Legend**

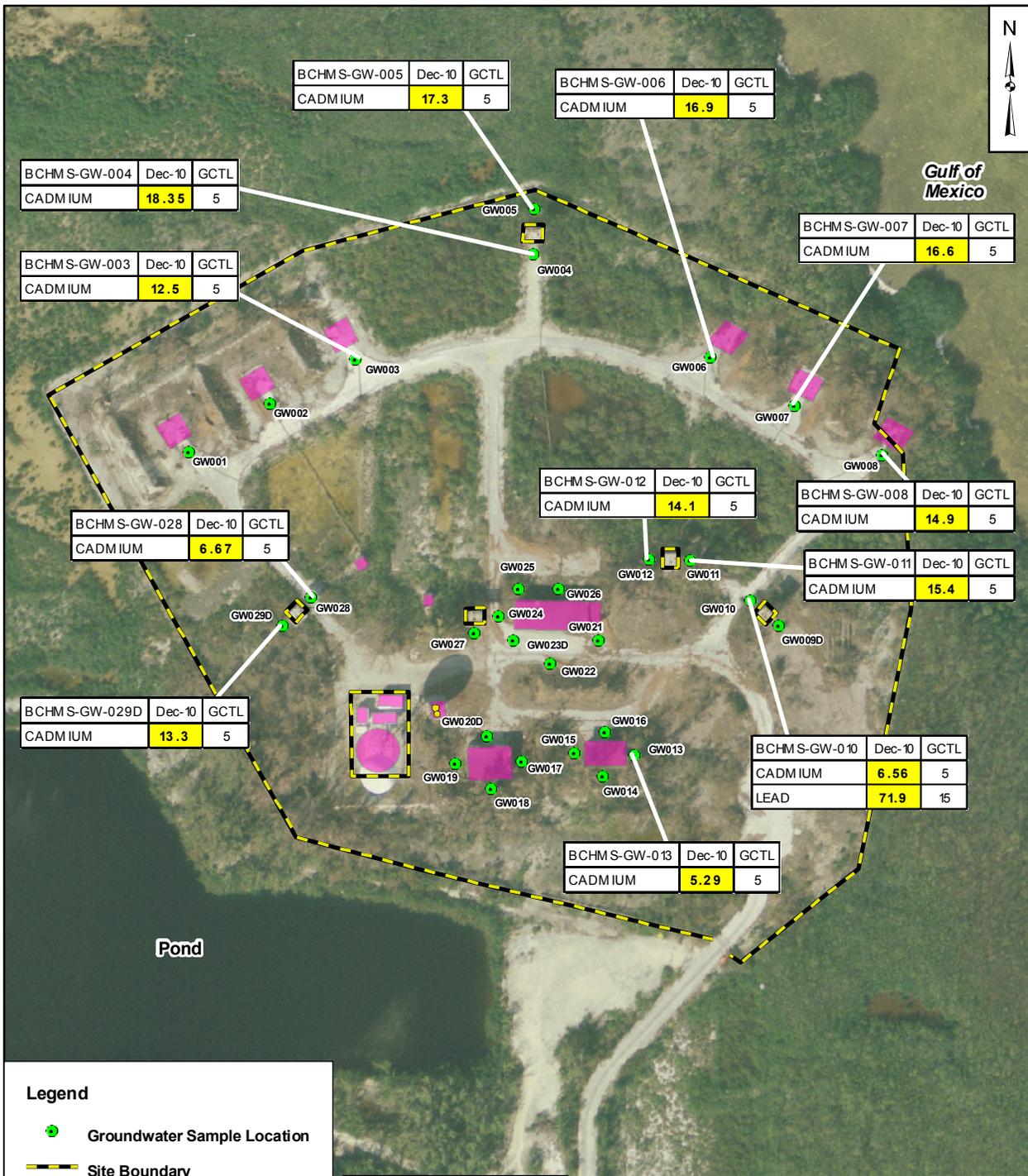
- Storm Sewer
- Structures
- Site Boundary

DRAWN BY MJN	DATE 04-15-11
CHECKED BY GB	DATE 04-15-11
REVISOR BY —	DATE —
SCALE AS NOTED	



**SITE LAYOUT  
AHMS BOCA CHICA KEY  
NAS KEY WEST  
KEY WEST, FLORIDA**

CONTRACT NUMBER CTO-JM17	
OWNER NUMBER —	
APPROVED BY SSH	DATE 04-15-11
FIGURE NO. 8-1	REV 0



**Legend**

- Groundwater Sample Location
- Site Boundary
- Structures

\*Exceedences in bold, yellow.  
\*\*Units: ug/l.

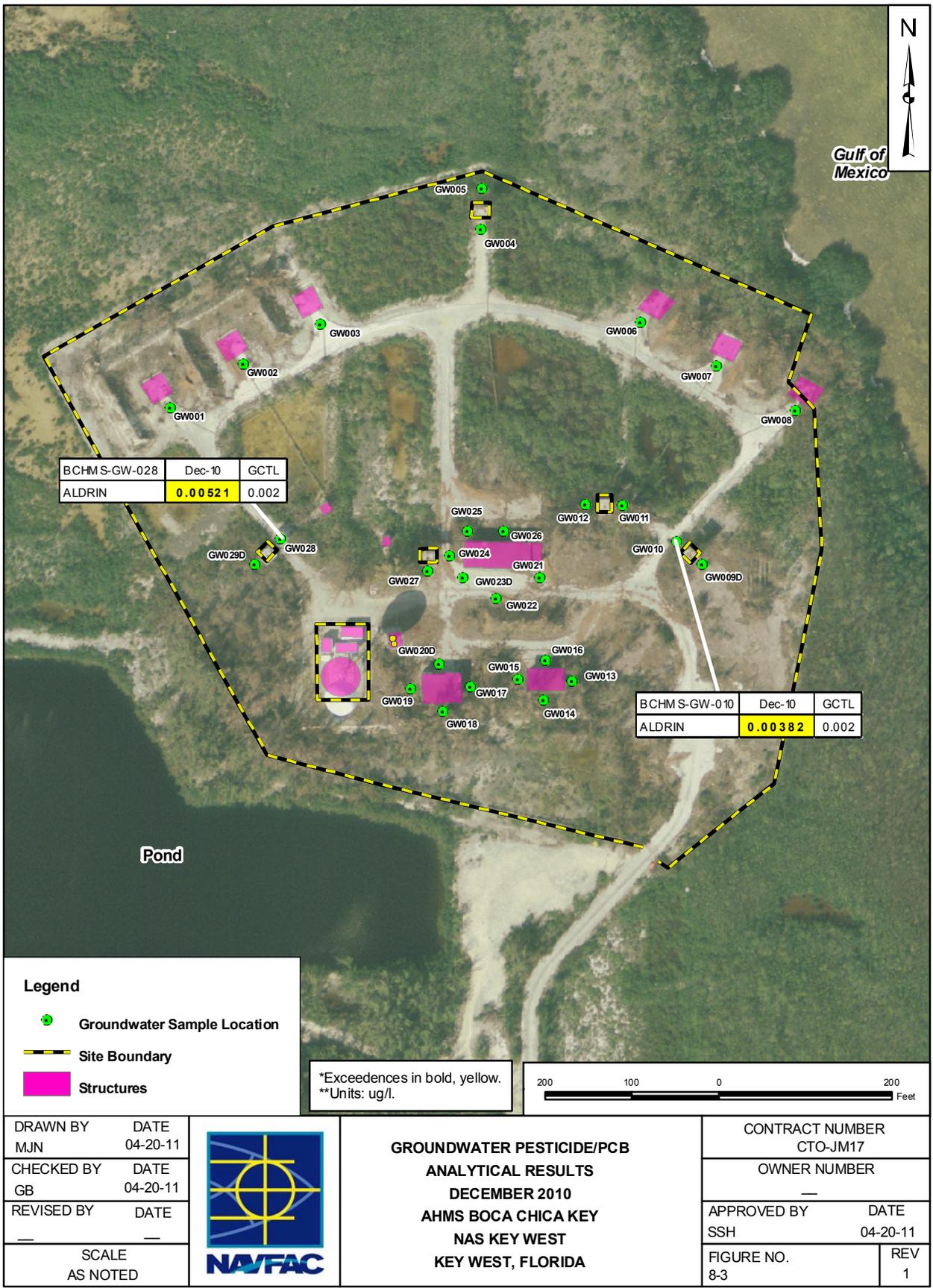


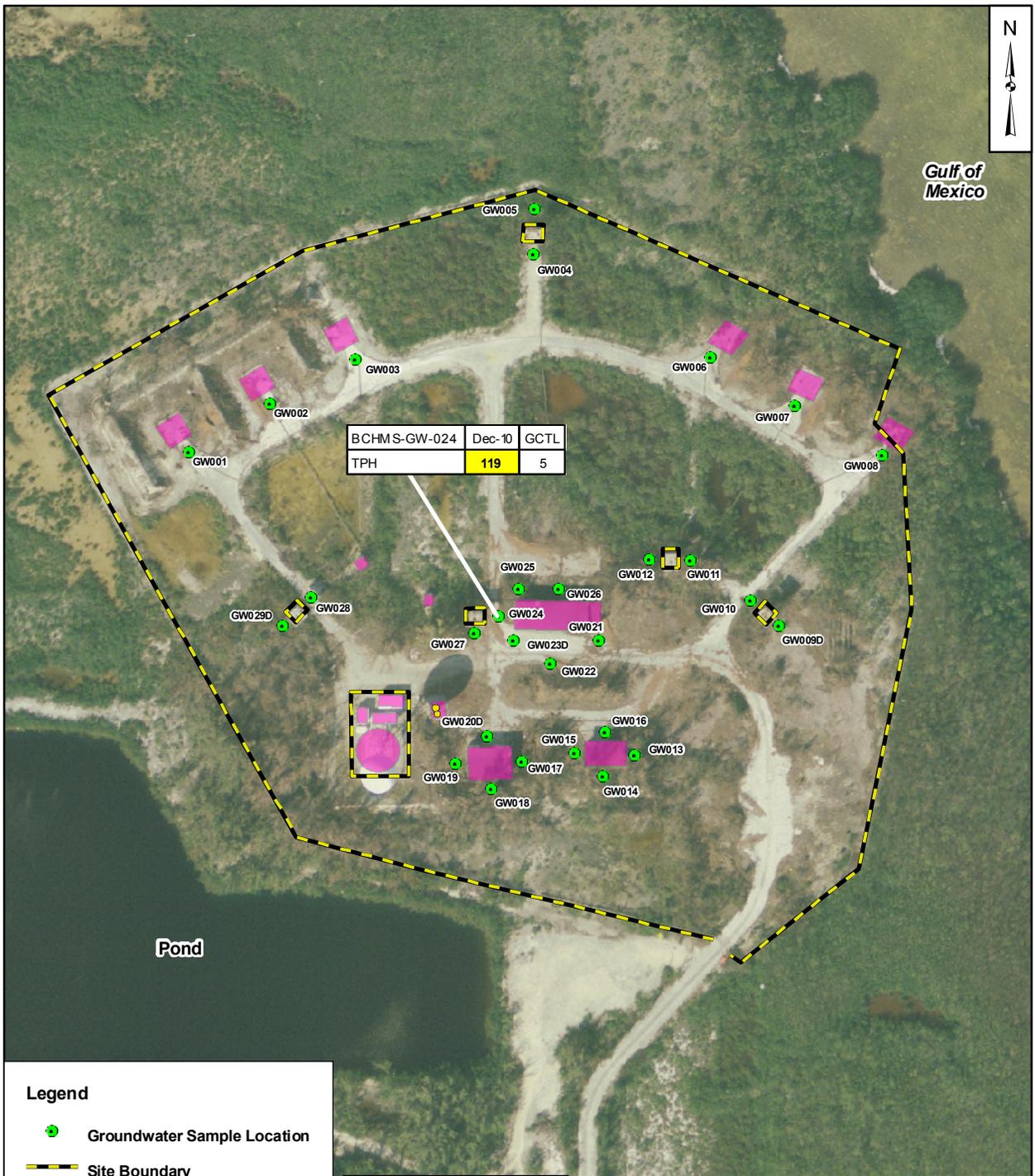
DRAWN BY MJN	DATE 04-20-11
CHECKED BY GB	DATE 04-20-11
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SCALE AS NOTED	



**GROUNDWATER METAL ANALYTICAL RESULTS**  
**DECEMBER 2010**  
**AHMS BOCA CHICA KEY**  
**NAS KEY WEST**  
**KEY WEST, FLORIDA**

CONTRACT NUMBER CTO-JM17	
OWNER NUMBER —	
APPROVED BY SSH	DATE 04-20-11
FIGURE NO. 8-2	REV 1





**Legend**

- Groundwater Sample Location
- Site Boundary
- Structures

\*Exceedences in bold, yellow.  
\*\*Units for TPH: mg/l.

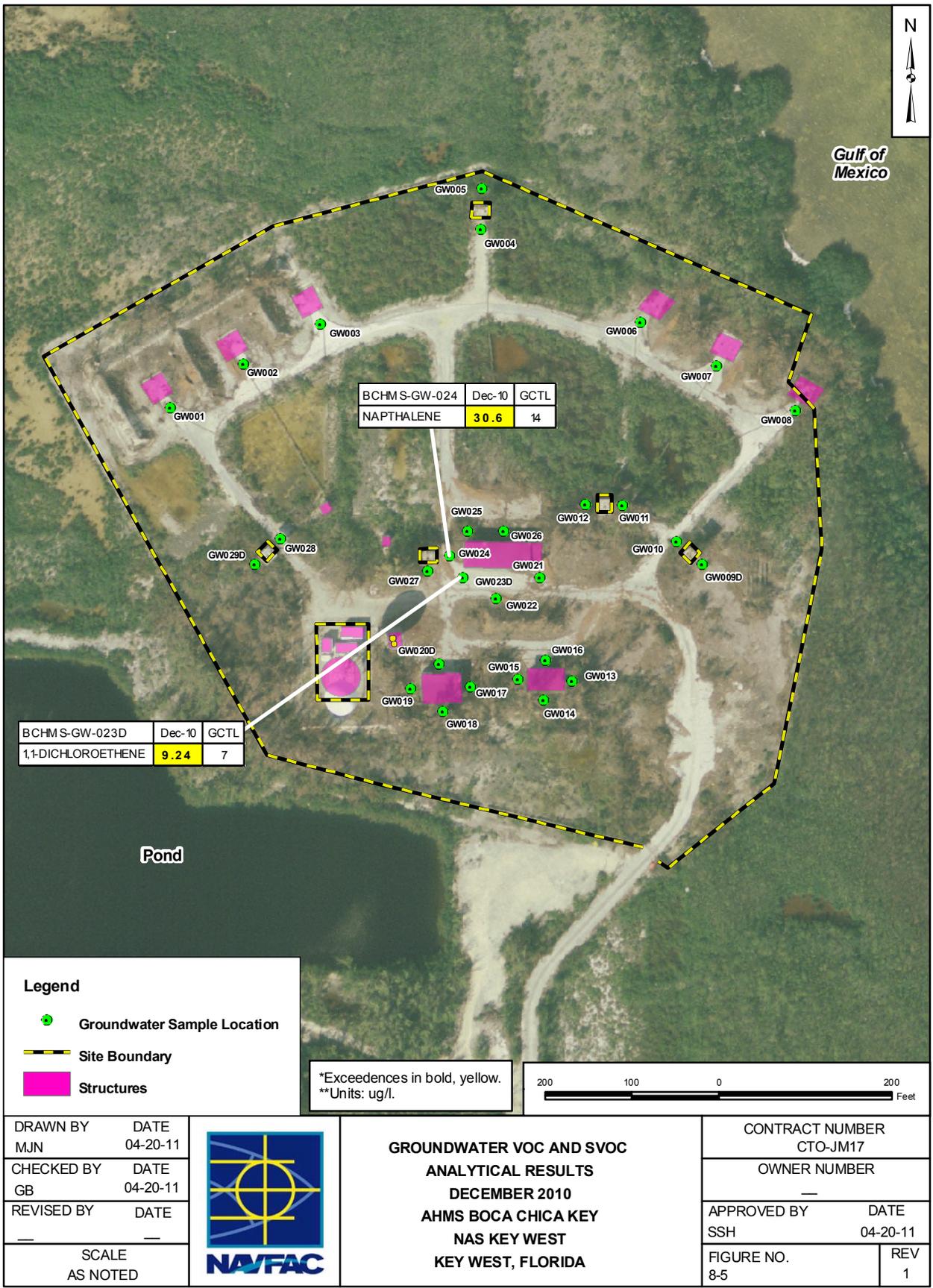


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**GROUNDWATER TPH ANALYTICAL RESULTS**  
**DECEMBER 2010**  
**AHMS BOCA CHICA KEY**  
**NAS KEY WEST**  
**KEY WEST, FLORIDA**

CONTRACT NUMBER CTO-JM17	
OWNER NUMBER —	
APPROVED BY SSH	DATE 04-20-11
FIGURE NO. 8-4	REV 1



BCHMS-GW-024	Dec-10	GCTL
NAPHTHALENE	<b>30.6</b>	14

BCHMS-GW-023D	Dec-10	GCTL
1,1-DICHLOROETHENE	<b>9.24</b>	7

- Legend**
- Groundwater Sample Location
  - Site Boundary
  - Structures

\*Exceedences in bold, yellow.  
\*\*Units: ug/l.



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**GROUNDWATER VOC AND SVOC  
ANALYTICAL RESULTS  
DECEMBER 2010  
AHMS BOCA CHICA KEY  
NAS KEY WEST  
KEY WEST, FLORIDA**

CONTRACT NUMBER CTO-JM17	
OWNER NUMBER —	
APPROVED BY SSH	DATE 04-20-11
FIGURE NO. 8-5	REV 1

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**APPENDIX A**

**PHOTODOCUMENTATION LOG FOR PRELIMINARY ASSESSMENT**



**Aerial Photograph of Site - March 1975.**



**Missile Launch Site.**

DRAWN BY MJN	DATE 04-15-11
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**HISTORIC PHOTOS I  
AHMS BOCA CHICA KEY  
NAS KEY WEST  
KEY WEST, FLORIDA**

CONTRACT NUMBER CTO-JM17	
OWNER NUMBER —	
APPROVED BY SSH	DATE 04-15-11
FIGURE NO. xxx	REV 0



2,000 Gallon AST.

DRAWN BY MJN	DATE 04-20-11		<p style="text-align: center;"><b>HISTORIC PHOTOS II</b>  <b>AHMS BOCA CHICA KEY</b>  <b>NAS KEY WEST</b>  <b>KEY WEST, FLORIDA</b></p>		CONTRACT NUMBER CTO-JM17			
CHECKED BY GB	DATE 04-20-11				OWNER NUMBER —			
REVISIED BY —	DATE —				APPROVED BY SSH	DATE 04-20-11	FIGURE NO. xxx	REV 0
SCALE AS NOTED								



**Boundary Fence in Disrepair.**



**Looking South Across Salt Pond at Generator Bldg., NOAA Tower, and Radar Site 5.**

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**PHOTOS I  
AHMS BOCA CHICA KEY  
NAS KEY WEST  
KEY WEST, FLORIDA**

CONTRACT NUMBER CTO-JM17	
OWNER NUMBER —	
APPROVED BY SSH	DATE 04-20-11
FIGURE NO. xxx	REV 0



**Missile Storage Bldg.**



**Looking South from Missile Launch Pad at NOAA Tower and Radar Sites 5, 2, and 1.**

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REVISED BY —	DATE —
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**PHOTOS II  
AHMS BOCA CHICA KEY  
NAS KEY WEST  
KEY WEST, FLORIDA**

CONTRACT NUMBER CTO-JM17	
OWNER NUMBER —	
APPROVED BY SSH	DATE 04-20-11
FIGURE NO. xxx	REV 0



**NOAA Doppler Radar Tower.**



**Overgrown Vegetation Blocking Access Road.**

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**PHOTOS III  
AHMS BOCA CHICA KEY  
NAS KEY WEST  
KEY WEST, FLORIDA**

CONTRACT NUMBER CTO-JM17	
OWNER NUMBER —	
APPROVED BY SSH	DATE 04-20-11
FIGURE NO. xxx	REV 0



**Pond Located North of Generator Bldg.**



**Radar Sites 1 and 2.**

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**PHOTOS IV  
AHMS BOCA CHICA KEY  
NAS KEY WEST  
KEY WEST, FLORIDA**

CONTRACT NUMBER CTO-JM17	
OWNER NUMBER —	
APPROVED BY SSH	DATE 04-20-11
FIGURE NO. xxx	REV 0



**Assembly and Storage Building.**

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CHECKED BY GB	DATE 04-20-11		OWNER NUMBER —	
REVISER BY —	DATE —		APPROVED BY SSH	DATE 04-20-11
SCALE AS NOTED			FIGURE NO. xxx	REV 0
<b>PHOTOS V</b> <b>AHMS BOCA CHICA KEY</b> <b>NAS KEY WEST</b> <b>KEY WEST, FLORIDA</b>				

**APPENDIX B**

**INTERVIEWS**

## **Geiger Key Hawk Missile Site Visit – Summary**

This is a brief summary highlighting the environmental-related discussions held during a site visit to the former Geiger Key Hawk Missile Site, located on Geiger Key, Florida. In attendance were Ron Demes, Jim Brooks, and Bob Courtright from NAS Key West, a former employee who was stationed at the missile site when it was active, and Chuck Bryan. Although the former employee worked at the Hawk Missile sites for about a year, the activities observed by the former employee had been repeated many times before and (most likely) after. The former employee noted that the Army (and the people in the Army) tended to do the same things, over and over again. The information in this document was provided by the former employee based on his first-hand knowledge of operations at the site and discussions with other employees who worked at the site.

The former employee noted the pond to the west of the entrance gate received various parts, at least two vehicles, some electronics gear, and basically anything else that needed a quick disposal (out of sight) prior to any type of inspection. The former employee recalled several IG inspections taking place during the 1969-1970 timeframe. Employees would “scramble” just prior to each inspection to clean-up the site and make it look organized and free of old parts, non-functional, equipment, etc. In addition, supplies and equipment would sometimes be subject to these “convenient” disposal practices toward the end of the fiscal year, which would justify purchasing new equipment (and maintaining the same budgetary level) for the following fiscal year. These “unofficial” disposal practices only occurred when officers were not on site.

The former employee noted the septic system to the right just after entering the former Geiger Key Hawk Missile site. The only bathroom (or kitchen, for that matter) on site was located across the entrance road inside the “Ready Building” to the left, just past the entrance gate.

The former employee mentioned the radar towers – each tower had a different purpose. But each tower also held about 4 gallons of coolant for the electronic gear on the tower. The former employee also noted the most efficient way to replace the coolant was to allow the fluid to drain to the ground. In addition, maintenance and repair activities generally took place on the tower. Solvent disposal was most conveniently performed by tossing it over the side of the tower when a particular maintenance or repair activity was completed.

Each missile site contained two sheds where additional missiles were stored. These missiles were kept in “ready” condition should they need to be launched in a hurry. The Assembly and Maintenance Building was located next to one of the missile storage sheds. The former employee noted solvents were used extensively in the Assembly and Maintenance Building and (to a lesser extent) the missile storage sheds. There was an emphasis on keeping the missiles ready and clean. The former employee also noted that gloves were never worn when using solvents (the solvents were one of the best ways to keep employees’ hands relatively clean).

The Generator Building housed two large generators supplying electricity to the site. The generators required a lot of attention to remain operational. Solvents were liberally used during the repairs and maintenance performed on the generators. The former employee specifically recalled “yellow liquid” constantly flowing from the generator building across the asphalt toward the berm. Trichloroethylene was used most extensively in the generator building. Staining in front of the generator building can be observed in a site photograph located on the “missiles in Key West” web site given at the end of this summary.

The former employee recalled the transformers formerly located adjacent to the Generator Building. The area still has a chain-link fence around it, but no transformers are currently located on site. There was a control center (the size of a small “shack”) located behind the Generator Building. Maintenance trailers were also located behind the generator building.

The former employee recalled seeing oil on the standing water in the ponds. Oils (and other liquids) were often dumped into the ponds. The petroleum sheen would help control the mosquito population. The chemicals would also reduce the plant growth within the ponds – making it easier to keep them clear of any plants or trees. Thus, the employees felt it was to their overall benefit to put spent chemicals in the ponds. They would also use herbicides and manual removal techniques to control plant growth in the ponds and (more generally) on the whole site.

There is a “J Box” building adjacent to one of the ponds. The former employee recalled this building being painted more than once. When finished, the extra paint was put in a pond or on the ground. This was a standard procedure for paint disposal upon completion of any painting project on site.

The launch pads were a relatively clean part of the site – the missiles had to be ready for an immediate launch at all times. Maintenance or repairs on missiles were not performed on the pads.

The former employee recalled a rather humorous incident where liquid was discharged from the top of the CWAR tower and felt like a light rain on the person below. The point of this story being: the employees at the missile site would strictly follow procedures when officers (or other visitors) were on site – but they would “modify” their actions when left alone. This missile site (designated “Charlie Battery”) and the one on the northern portion of Boca Chica Key (designated “Delta Battery”) rarely received visitors as they were a little too far “out of the way” for officers to drop in unexpectedly. Thus, officers spent less time at these batteries, and more time at the one on Key West (“Bravo Battery” - just north of the Key West airport). Personnel were constantly shifting between Charlie and Delta Batteries, so everything the former employee described about the missile site on Geiger Key also applies to the one on Boca Chica Key. Personnel generally followed the most convenient method they could think of for disposal at Charlie and Delta Batteries when the Duty Officers were not around. Back then, there was very little environmental awareness and few laws governing proper disposal, so such practices seemed appropriate at the time.

More information on all of the Hawk Missile sites located on or near Key West can be found online at <http://www.missiles=keywest.com/>.

**From:** [Bryan, Chuck](#)  
**To:** [Stotler-Hardy, Shauna](#); [Churchill, Peggy](#)  
**Subject:** FW: Environmental Investigations at the Former Hawk Missile Sites, Charlie and Delta Batteries  
**Date:** Friday, March 05, 2010 10:29:48 AM

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FYI - bits of information coming in from the former workers. Just enjoy the reading for now; these should help you with your DQOs.

-----Original Message-----

From: Wes Guidry [<mailto:wesguidry@suddenlink.net>]  
Sent: Thursday, March 04, 2010 8:11 PM  
To: Bryan, Chuck  
Subject: Re: Environmental Investigations at the Former Hawk Missile Sites, Charlie and Delta Batteries

some bits and pieces are coming in. I am trying to get them to talk. I will work on it.

> Back in the mid 70's when I was still a 16E, we had to wipe down the radars and launchers with a mixture of red hydraulic fluid and either, trichloethylene or trichloroethylene. Bad stuff either way. It made the equipment shine for "dog and pony" shows. the big wigs liked shiny equipment! I heard it was banned in the late 70's.

> - Steve

> I remeberer wiping down the equipment with cherry juice. I think they stopped that in the 80's when they found it also rotted out some of the gaskets.

>

> Dave

**From:** [Bryan, Chuck](#)  
**To:** [Stotler-Hardy, Shauna](#); [Churchill, Peggy](#)  
**Subject:** FW: Environmental Investigations at the Former Hawk Missile Sites, Charlie and Delta Batteries  
**Date:** Friday, March 05, 2010 10:30:06 AM

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-----Original Message-----

From: Wes Guidry [<mailto:wesguidry@suddenlink.net>]

Sent: Thursday, March 04, 2010 8:19 PM

To: Bryan, Chuck

Subject: Re: Environmental Investigations at the Former Hawk Missile Sites, Charlie and Delta Batteries

I remember working on the tower with the maintenance guy, and he drained a bunch of stuff from the illuminator. He said it was coolant, and let it run off the tower. Anybody know what that stuff was?

> glycol was used to cool the hipar.

The "cherry juice" is of interest to them. The mixture (what was the menu?) had some bad stuff in it

- > the cherry juice or hydraulic fluid was mil-H5606
- > and then there was trichloroethylene. that was used
- > to clean electronic components and chassis. Bad stuff.

**From:** [Bryan, Chuck](#)  
**To:** [Stotler-Hardy, Shauna](#); [Churchill, Peggy](#)  
**Subject:** FW: Site Remediation Key West  
**Date:** Friday, March 05, 2010 10:30:55 AM

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**From:** Bob Campbell [mailto:bcampbell12333@yahoo.com]  
**Sent:** Thursday, March 04, 2010 4:40 PM  
**To:** Bryan, Chuck  
**Subject:** Re: Site Remediation Key West

Chuck

I have taken part in a number of remediation efforts with the company I have worked with for 33 years. I am only too keenly aware of the complexities of that which was acceptable during the Cold War years and now. It was expedient back in those days I guess.

Contact me if I can be of further assistance.

-Bob

---

**From:** "Bryan, Chuck" <Chuck.Bryan@tetrattech.com>  
**To:** Bob Campbell <bcampbell12333@yahoo.com>  
**Sent:** Thu, March 4, 2010 2:38:39 PM  
**Subject:** RE: Site Remediation Key West

Bob,

Thank you very much for taking the time to provide us useful information to help us design our environmental sampling at the former Charlie and Delta batteries. We had not considered the potential asbestos issue - it is something we should probably look at. I recall Wes saying similar things about the solvent use.

We will include your information as part of our justification for the sampling design we end up using. Thank you again.

**Chuck Bryan | Project Manager**

Cell: 305.393.7109 | Direct: 803.641.4943 | Fax: 803.642.8454

[chuck.bryan@tetrattech.com](mailto:chuck.bryan@tetrattech.com)

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---

From: Bob Campbell [mailto:bcampbell12333@yahoo.com]  
Sent: Thursday, March 04, 2010 3:07 PM  
To: Bryan, Chuck  
Subject: Site Remediation Key West

Chuck

Wes Guidry forwarded you name and cover letter to me. I was stationed in Key West at the missile site by the airport (Bravo Battery) '70-'71. I am familiar with the (actual and probable) HAZMAT issues that might be encountered on any of the four battery locations. Trichloroethylene, (TCE) was used for just about everything under the sun. Degreasing things was the most common application, and it was conducted over most of the positions formerly occupied by the radars and missiles.

Diesel fuel would have been found in abundance in and around the generator buildings. Transite (asbestos) walls may have been present in the generator buildings as well. Glycols (propylene and ethylene) would have been present there too in all likelihood.

As the equipment was run on 416 volts, 400 Hz, there were transformers present. PCBs were very often employed as heat-transfer media in those devices.

Asbestos floor tile was almost certainly employed in the "ready building" portion of the sites. Only a guess on this, but I'm betting defoliants were used to keep the mangroves and weeds in check.

Lastly, there is the possibility of minute amounts of radioactivity due to the large vacuum tubes employed in the search radars. Microcurie amounts at best. Not sure of the isotope, but it may have been tritium (H3).

Having said all this, I'd bet very little of the contaminants remain because of many years of rainfall, and the water table being so close to the surface down there.

My background, beyond the time spent in the Army, included time in a nuclear medicine research lab, and 33 years in a chemical plant.

Bob Campbell  
St. Louis, MO

**From:** Bryan, Chuck  
**Sent:** Tuesday, March 09, 2010 8:37 AM  
**To:** Stotler-Hardy, Shauna  
**Subject:** FW: D Battery from 10/71 thru 1/74

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**From:** Wes Guidry [wesguidry@suddenlink.net]  
**Sent:** Saturday, March 06, 2010 9:28 AM  
**To:** Bryan, Chuck  
**Subject:** Fwd: D Battery from 10/71 thru 1/74

not much info, he is talking about the fictitious "sub pens" by delta. I believe they were dug out to start a housing project with waterfront property, but never completed the project. There is no way to get subs in there without some major dredging .

Begin forwarded message:

**Date:** March 6, 2010 8:59:43 AM CST  
**Subject:** D Battery from 10/71 thru 1/74

Wes

I was Delta Battery clerk from the dates indicated above. After we renovated a piece of crap barracks across the street (east) from the Army barracks, the supply room occupied a couple of the rooms. I remember the supply sergeant use "to dump stuff in the submarine pits" and then order replacement stuff that was exactly what he just threw away because he was afraid his funding or budget would get cut if he did not "spend" the money. Go figure.

I was just a clerk but I remember thinking that I can't believe they were doing this but I felt I was powerless to do anything about it. I suspect if our supply sergeant was doing this, so was everyone else. I do not know where the items were "dumped" because I worked in an office on the naval air station in one of the 2 buildings mentioned above, and I probably was not on site more than 10 times in 2 ½ years.

Anyway, I remember he threw away all kinds of stuff but the thing I remember the most was some fluorescent light fixtures with the ballast intact and weapons solvent, oil and ammo cans. I actually got an ammo can, some solvent and gun oil (I think I actually still have some of the stuff as I use to hunt a lot and I got all of it for maintenance purposes).

There really is no telling what they threw away. Maybe that will help.

I would prefer to be anonymous as I am too old to fight with the EPA!



**APPENDIX C**

**GROUNDWATER LOG SHEETS**



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Log Page 1 of 1

Sample ID:	BCHMS-GW-001-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW001	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter:
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis											
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.	
✓	12/11/10	9:30	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-2	
✓	12/11/10	9:30	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-2	
✓	12/11/10	9:30	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-2	
✓	12/11/10	9:30	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-2	

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Log Page 1 of 1

Sample ID:	BCHMS-GW-002-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW002	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter: N/A
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/11/10	10:30	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-2
✓	12/11/10	10:30	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-2
✓	12/11/10	10:30	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-2
✓	12/11/10	10:30	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-2

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
Site Name: KEY WEST NAS - Site 25 - BCHMS  
Project No: 112G02608.FI.FK (ED00000143)

Log Page 1 of 1

Sample ID: **BCHMS-GW-003-1210** Sampler: Gary Braganza  
Well ID: BCHMS-GW003 Well Type: Soil Boring  
QC Duplicate ID: N/A MS/MSD: N/A

## Well Information

Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

## Equipment

Water Quality Meter:	N/A	Pump Control Box:	N/A	Turbidity Meter:	N/A
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## Purge Information

Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other
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## Final Purge / Sample Data

Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other
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## Laboratory Analysis

Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/11/10	12:30	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-2
✓	12/11/10	12:30	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-2
✓	12/11/10	12:30	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-2
✓	12/11/10	12:30	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-2

## General Notes

None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Log Page 1 of 1

Sample ID:	BCHMS-GW-004-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW004	Well Type:	Soil Boring
QC Duplicate ID:	BCHMS-FD001-1210	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter: N/A
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis											
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.	
✓	12/12/10	10:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-3	
✓	12/12/10	10:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-3	
✓	12/12/10	10:00	PCBs/Pesticides	SW846 8082A/8081B	4°C	3	Glass - Amber	1L	None	ED00000143-3	
✓	12/12/10	10:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-3	
✓	12/12/10	10:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-3	

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Log Page 1 of 1

Sample ID:	BCHMS-GW-005-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW005	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter: N/A
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis											
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.	
✓	12/12/10	10:50	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-3	
✓	12/12/10	10:50	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-3	
✓	12/12/10	10:50	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-3	
✓	12/12/10	10:50	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-3	

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
Site Name: KEY WEST NAS - Site 25 - BCHMS  
Project No: 112G02608.FI.FK (ED00000143)

Log Page 1 of 1

Sample ID: **BCHMS-GW-006-1210** Sampler: Gary Braganza  
Well ID: BCHMS-GW006 Well Type: Soil Boring  
QC Duplicate ID: N/A MS/MSD: N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Pump Control Box: N/A
		Turbidity Meter: N/A

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/12/10	13:30	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-3
✓	12/12/10	13:30	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-3
✓	12/12/10	13:30	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-3
✓	12/12/10	13:30	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-3

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Log Page 1 of 1

Sample ID:	BCHMS-GW-007-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW007	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Pump Control Box: N/A
		Turbidity Meter: N/A

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/12/10	14:30	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-3
✓	12/12/10	14:30	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-3
✓	12/12/10	14:30	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-3
✓	12/12/10	14:30	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-3

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Sample ID:	BCHMS-GW-008-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW008	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter: N/A
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis											
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.	
✓	12/13/10	9:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-3	
✓	12/13/10	9:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-3	
✓	12/13/10	9:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-3	
✓	12/13/10	9:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-3	

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Log Page 1 of 1

Sample ID:	BCHMS-GW-009D-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW009D	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter: N/A
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/13/10	10:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-3
✓	12/13/10	10:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-3
✓	12/13/10	10:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-3
✓	12/13/10	10:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-3

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-GW-010-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW010	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter: N/A
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/13/10	11:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-3
✓	12/13/10	11:00	PCBs/Pesticides	SW846 8082A/8081B	4°C	3	Glass - Amber	1L	None	ED00000143-3
✓	12/13/10	11:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-3
✓	12/13/10	11:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-3
✓	12/13/10	11:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-3

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Sample ID:	BCHMS-GW-011-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW011	Well Type:	Soil Boring
QC Duplicate ID:	BCHMS-FD002-1210	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter:
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis											
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.	
✓	12/13/10	15:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-3	
✓	12/13/10	15:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-3	
✓	12/13/10	15:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-3	
✓	12/13/10	15:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-3	

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-GW-012-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW012	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter: N/A
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/13/10	14:00	PCBs/Pesticides	SW846 8082A/8081B	4°C	3	Glass - Amber	1L	None	ED00000143-3
✓	12/13/10	14:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-3
✓	12/13/10	14:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-3
✓	12/13/10	14:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-3
✓	12/13/10	14:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-3

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
Site Name: KEY WEST NAS - Site 25 - BCHMS  
Project No: 112G02608.FI.FK (ED00000143)

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Sample ID: **BCHMS-GW-013-1210** Sampler: Gary Braganza  
Well ID: BCHMS-GW013 Well Type: Soil Boring  
QC Duplicate ID: N/A MS/MSD: N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Pump Control Box: N/A
		Turbidity Meter: N/A

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/10/10	14:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-2
✓	12/10/10	14:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-2
✓	12/10/10	14:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-2
✓	12/10/10	14:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-2

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-GW-014-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW014	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter: N/A
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/10/10	15:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-2
✓	12/10/10	15:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-2
✓	12/10/10	15:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-2
✓	12/10/10	15:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-2

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-GW-015-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW015	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter: N/A
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/10/10	10:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-2
✓	12/10/10	10:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-2
✓	12/10/10	10:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-2
✓	12/10/10	10:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-2

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-GW-016-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW016	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter: N/A
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/10/10	11:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-2
✓	12/10/10	11:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-2
✓	12/10/10	11:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-2
✓	12/10/10	11:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-2

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-GW-017-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW017	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Pump Control Box: N/A
		Turbidity Meter: N/A

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/09/10	14:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-1
✓	12/09/10	14:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-1
✓	12/09/10	14:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-1
✓	12/09/10	14:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-1

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-GW-018-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW018	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter: N/A
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis											
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.	
✓	12/09/10	15:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-1	
✓	12/09/10	15:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-1	
✓	12/09/10	15:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-1	
✓	12/09/10	15:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-1	

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Sample ID:	BCHMS-GW-019-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW019	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter:
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/10/10	9:20	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-2
✓	12/10/10	9:20	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-2
✓	12/10/10	9:20	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-2
✓	12/10/10	9:20	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-2

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-GW-020D-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW020D	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter: N/A
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/09/10	10:40	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-1
✓	12/09/10	10:40	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-1
✓	12/09/10	10:40	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-1
✓	12/09/10	10:40	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-1

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-GW-021-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW021	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter: N/A
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis											
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.	
✓	12/08/10	10:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-1	
✓	12/08/10	10:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-1	
✓	12/08/10	10:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-1	
✓	12/08/10	10:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-1	

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-GW-022-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW022	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Pump Control Box: N/A
		Turbidity Meter: N/A

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/08/10	10:50	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-1
✓	12/08/10	10:50	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-1
✓	12/08/10	10:50	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-1
✓	12/08/10	10:50	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-1

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-GW-023D-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW023D	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter: N/A
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/08/10	15:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-1
✓	12/08/10	15:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-1
✓	12/08/10	15:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-1
✓	12/08/10	15:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-1

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-GW-024-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW024	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Pump Control Box: N/A
		Turbidity Meter: N/A

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/08/10	14:30	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-1
✓	12/08/10	14:30	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-1
✓	12/08/10	14:30	PCBs/Pesticides	SW846 8082A/8081B	4°C	3	Glass - Amber	1L	None	ED00000143-1
✓	12/08/10	14:30	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-1
✓	12/08/10	14:30	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-1

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-GW-025-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW025	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment			
Water Quality Meter:	N/A	Pump Control Box:	N/A
		Turbidity Meter:	N/A

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/09/10	9:00	PCBs/Pesticides	SW846 8082A/8081B	4°C	3	Glass - Amber	1L	None	ED00000143-1
✓	12/09/10	9:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-1
✓	12/09/10	9:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-1
✓	12/09/10	9:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-1
✓	12/09/10	9:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-1

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-GW-026-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW026	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Pump Control Box: N/A
		Turbidity Meter: N/A

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/09/10	9:50	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-1
✓	12/09/10	9:50	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-1
✓	12/09/10	9:50	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-1
✓	12/09/10	9:50	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-1

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Sample ID:	BCHMS-GW-027-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW027	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter: N/A
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis											
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.	
✓	12/08/10	13:30	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-1	
✓	12/08/10	13:30	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-1	
✓	12/08/10	13:30	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-1	
✓	12/08/10	13:30	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-1	

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-GW-028-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW028	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Turbidity Meter: N/A
Pump Control Box:	N/A	

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/11/10	15:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-2
✓	12/11/10	15:00	PCBs/Pesticides	SW846 8082A/8081B	4°C	3	Glass - Amber	1L	None	ED00000143-2
✓	12/11/10	15:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-2
✓	12/11/10	15:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-2
✓	12/11/10	15:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-2

General Notes
None



# GROUNDWATER SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-GW-029D-1210	Sampler:	Gary Braganza
Well ID:	BCHMS-GW029D	Well Type:	Soil Boring
QC Duplicate ID:	N/A	MS/MSD:	N/A

Well Information			
Well Diameter (in.)	N/A	Static Water Level (ft-BTOR)	N/A
Top of Screen (ft-BTOR)	N/A	H&S PID Monitor Reading (ppm)	N/A
Bottom of Screen (ft-BTOR)	N/A	Purge Method	Low flow - peristaltic
Total Depth of Well (ft-BTOR)	N/A	Sample Method	N/A

Equipment		
Water Quality Meter:	N/A	Pump Control Box: N/A
		Turbidity Meter: N/A

Purge Information													
Date	Time	Level (ft-BTOR)	Rate (ml/min)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Final Purge / Sample Data													
Start Purge	End Purge	Duration (min.)	Total Vol. (L)	Color	Odor	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)	ORP (mV)	Salinity (%)	Other

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/11/10	14:00	VOCs (low level analysis)	SW846 8260B	4°C/HCL	3	Glass - Clear	40ml vials	None	ED00000143-2
✓	12/11/10	14:00	TRPH	FL PRO	4°C/HCL	2	Glass - Amber	1L	None	ED00000143-2
✓	12/11/10	14:00	SVOCs (low level) and SIM PAHs	SW846 8720D/8270DSIM	4°C	2	Glass - Amber	1L	None	ED00000143-2
✓	12/11/10	14:00	Metals	SW846 6020A	4°C/HNO3	2	Plastic - PE	125ml	None	ED00000143-2

General Notes
None

**APPENDIX D**

**SOIL LOG SHEETS**



# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
Site Name: KEY WEST NAS - Site 25 - BCHMS  
Project No: 112G02608.FI.FK (ED00000143)

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Sample ID: **BCHMS-SO-001-1210** Sampler: N/A  
Location ID: BCHMS-SO001 MS/MSD: NA  
QC Duplicate ID: N/A

## Sample Information

Date	N/A	Concentration	N/A
Sample Source	N/A	Sample Data Type	N/A

## Location Data

Field GPS Northing	N/A	Field XY Coordinate System	N/A
Field GPS Easting	N/A	Field XY Datum	N/A
Field GPS Method	N/A	Update GIS with New Data?	N/A

## Sample Details

Date	Time	method	Monitor	Depth	Color	Notes
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## Laboratory Analysis

Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
X	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A
X	N/A	N/A	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	N/A
X	N/A	N/A	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

## Field Analysis

USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge
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## General Notes

None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Sample ID:	<b>BCHMS-SO-002-1210</b>	Sampler:	Gary Braganza
Location ID:	BCHMS-SO002	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/14/10	8:00	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✓	12/14/10	8:00	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✗	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Sample ID:	BCHMS-SO-003-1210	Sampler:	N/A
Location ID:	BCHMS-SO003	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✘	N/A	N/A	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	N/A
✘	N/A	N/A	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A
✘	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None



# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
Site Name: KEY WEST NAS - Site 25 - BCHMS  
Project No: 112G02608.FI.FK (ED00000143)

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Sample ID: **BCHMS-SO-004-1210** Sampler: Gary Braganza  
Location ID: BCHMS-SO004 MS/MSD: NA  
QC Duplicate ID: N/A

## Sample Information

Date	N/A	Concentration	N/A
Sample Source	N/A	Sample Data Type	N/A

## Location Data

Field GPS Northing	N/A	Field XY Coordinate System	N/A
Field GPS Easting	N/A	Field XY Datum	N/A
Field GPS Method	N/A	Update GIS with New Data?	N/A

## Sample Details

Date	Time	method	Monitor	Depth	Color	Notes
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## Laboratory Analysis

Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/14/10	8:20	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✓	12/14/10	8:20	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✓	12/14/10	8:20	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3

## Field Analysis

USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge
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## General Notes

None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	<b>BCHMS-SO-005-1210</b>	Sampler:	N/A
Location ID:	BCHMS-SO005	MS/MSD:	NA
QC Duplicate ID:	N/A		

### Sample Information

Date	N/A	Concentration	N/A
Sample Source	N/A	Sample Data Type	N/A

### Location Data

Field GPS Northing	N/A	Field XY Coordinate System	N/A
Field GPS Easting	N/A	Field XY Datum	N/A
Field GPS Method	N/A	Update GIS with New Data?	N/A

### Sample Details

Date	Time	method	Monitor	Depth	Color	Notes
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### Laboratory Analysis

Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✘	N/A	N/A	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A
✘	N/A	N/A	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	N/A
✘	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

### Field Analysis

USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge
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### General Notes

None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	<b>BCHMS-SO-006-1210</b>	Sampler:	N/A
Location ID:	BCHMS-SO006	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✘	N/A	N/A	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A
✘	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A
✘	N/A	N/A	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None



# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-SO-007-1210	Sampler:	Gary Braganza
Location ID:	BCHMS-SO007	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/14/10	8:40	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✓	12/14/10	8:40	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✗	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Sample ID:	BCHMS-SO-008-1210	Sampler:	N/A
Location ID:	BCHMS-SO008	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✘	N/A	N/A	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	N/A
✘	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A
✘	N/A	N/A	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Sample ID:	BCHMS-SO-009-1210	Sampler:	N/A
Location ID:	BCHMS-SO009	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✘	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A
✘	N/A	N/A	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A
✘	N/A	N/A	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None



# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-SO-010-1210	Sampler:	Gary Braganza
Location ID:	BCHMS-SO010	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/14/10	9:00	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✓	12/14/10	9:00	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✓	12/14/10	9:00	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Sample ID:	BCHMS-SO-011-1210	Sampler:	N/A
Location ID:	BCHMS-SO011	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✘	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A
✘	N/A	N/A	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A
✘	N/A	N/A	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None



# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
Site Name: KEY WEST NAS - Site 25 - BCHMS  
Project No: 112G02608.FI.FK (ED00000143)

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Sample ID: **BCHMS-SO-012-1210** Sampler: Gary Braganza  
Location ID: BCHMS-SO012 MS/MSD: NA  
QC Duplicate ID: N/A

Sample Information			
Date	N/A	Concentration	N/A
Sample Source	N/A	Sample Data Type	N/A

Location Data			
Field GPS Northing	N/A	Field XY Coordinate System	N/A
Field GPS Easting	N/A	Field XY Datum	N/A
Field GPS Method	N/A	Update GIS with New Data?	N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/14/10	9:20	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✓	12/14/10	9:20	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✓	12/14/10	9:20	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Sample ID:	<b>BCHMS-SO-013-1210</b>	Sampler:	Gary Braganza
Location ID:	BCHMS-SO013	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✔	12/14/10	9:40	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✔	12/14/10	9:40	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✘	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None



# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-SO-014-1210	Sampler:	Gary Braganza
Location ID:	BCHMS-SO014	MS/MSD:	NA
QC Duplicate ID:	BCHMS-SO-FD01-1210		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✔	12/14/10	10:00	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✔	12/14/10	10:00	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✘	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None



# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-SO-015-1210	Sampler:	Gary Braganza
Location ID:	BCHMS-SO015	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/14/10	10:20	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✓	12/14/10	10:20	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✗	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Sample ID:	BCHMS-SO-016-1210	Sampler:	Gary Braganza
Location ID:	BCHMS-SO016	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/14/10	10:40	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✓	12/14/10	10:40	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✗	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	<b>BCHMS-SO-017-1210</b>	Sampler:	Gary Braganza
Location ID:	BCHMS-SO017	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✔	12/14/10	11:00	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✔	12/14/10	11:00	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✘	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Sample ID:	BCHMS-SO-018-1210	Sampler:	Gary Braganza
Location ID:	BCHMS-SO018	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✔	12/14/10	11:20	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✔	12/14/10	11:20	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✘	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	<b>BCHMS-SO-019-1210</b>	Sampler:	Gary Braganza
Location ID:	BCHMS-SO019	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✔	12/14/10	11:40	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✔	12/14/10	11:40	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✘	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Log Page 1 of 1

Sample ID:	<b>BCHMS-SO-020-1210</b>	Sampler:	Gary Braganza
Location ID:	BCHMS-SO020	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✔	12/14/10	12:00	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✔	12/14/10	12:00	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✘	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	<b>BCHMS-SO-021-1210</b>	Sampler:	Gary Braganza
Location ID:	BCHMS-SO021	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/14/10	12:20	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✓	12/14/10	12:20	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✗	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Sample ID:	BCHMS-SO-022-1210	Sampler:	Gary Braganza
Location ID:	BCHMS-SO022	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✔	12/14/10	12:40	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✔	12/14/10	12:40	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✘	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Sample ID: **BCHMS-SO-023-1210** Sampler: Gary Braganza  
 Location ID: BCHMS-SO023 MS/MSD: NA  
 QC Duplicate ID: N/A

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✔	12/14/10	13:00	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✔	12/14/10	13:00	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✘	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None



# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Sample ID: **BCHMS-SO-024-1210** Sampler: Gary Braganza  
 Location ID: BCHMS-SO024 MS/MSD: NA  
 QC Duplicate ID: BCHMS-SO-FD02-1210

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✔	12/14/10	13:20	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✔	12/14/10	13:20	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✔	12/14/10	13:20	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None



# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-SO-025-1210	Sampler:	Gary Braganza
Location ID:	BCHMS-SO025	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/14/10	13:40	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✓	12/14/10	13:40	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✓	12/14/10	13:40	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Log Page 1 of 1

Sample ID:	<b>BCHMS-SO-026-1210</b>	Sampler:	Gary Braganza
Location ID:	BCHMS-SO026	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/14/10	14:00	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✓	12/14/10	14:00	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3
✗	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-SO-027-1210	Sampler:	N/A
Location ID:	BCHMS-SO027	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✘	N/A	N/A	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	N/A
✘	N/A	N/A	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A
✘	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None



# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

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Sample ID:	BCHMS-SO-028-1210	Sampler:	Gary Braganza
Location ID:	BCHMS-SO028	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	Concentration
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
	Field GPS Easting	N/A	Field XY Datum
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✓	12/14/10	14:20	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✓	12/14/10	14:20	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	ED00000143-3
✓	12/14/10	14:20	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	ED00000143-3

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

# SOIL LOG SAMPLE LOG SHEET

Event: Preliminary Site Investigation and Inspection - Site 25  
 Site Name: KEY WEST NAS - Site 25 - BCHMS  
 Project No: 112G02608.FI.FK (ED00000143)

Log Page 1 of 1

Sample ID:	<b>BCHMS-SO-029-1210</b>	Sampler:	N/A
Location ID:	BCHMS-SO029	MS/MSD:	NA
QC Duplicate ID:	N/A		

Sample Information			
	Date	N/A	
		Concentration	N/A
	Sample Source	N/A	Sample Data Type
			N/A

Location Data			
	Field GPS Northing	N/A	Field XY Coordinate System
			N/A
	Field GPS Easting	N/A	Field XY Datum
			N/A
	Field GPS Method	N/A	Update GIS with New Data?
			N/A

Sample Details						
Date	Time	method	Monitor	Depth	Color	Notes

Laboratory Analysis										
Coll.	Date	Time	Description	Analysis	Preservative	No.	Type	Vol.	COC Notes	Chain No.
✘	N/A	N/A	SVOCs (low level)/Metals/TRPH	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A
✘	N/A	N/A	VOCs	SW846 8260B	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	None	N/A
✘	N/A	N/A	PCBs/Pesticides	SW846 8082A/8081B	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	None	N/A

Field Analysis											
USCS	Date	Time	Ambient Air Temp.	Water Bath Temp.	Gas Tech Tube Type	GasTech Tube Series	Tube Lot QC Number	Tube Lab Tracking	50 Purge	100 Purge	200 Purge

General Notes
None

**APPENDIX E**

**CHAIN OF CUSTODIES**



## CHAIN OF CUSTODY LOG

### Preliminary Site Investigation and Inspection - Site 25 - KEY WEST NAS

#### Project Information

<b>Facility Name</b>	KEY WEST NAS	<b>Project Manager (PM)</b>	Shauna Stotler-Hardy	<b>Created By</b>	Gary Braganza
<b>TtNUS Project #</b>	112G02608	<b>PM Telephone</b>		<b>Created Date</b>	12/9/10
<b>Task/Contract #</b>	JM17	<b>Field Op Leader (FOL)</b>	Gary Braganza	<b>Modified By</b>	
<b>WBS Code #</b>	FI.FK	<b>FOL Phone</b>		<b>Modified Date</b>	
<b>Chain of Custody ID</b>	ED00000143-1	<b>Carrier</b>	Federal Express	<b>Printed By</b>	Derrick Haltiwanger
		<b>Carrier/Waybill No.</b>		<b>Printed Date</b>	4/20/11

#### Chain of Custody Information

<b>Chain of Custody #</b>	<b>ED00000143-1</b>	<b>Lab Name</b>	Empirical Laboratories, LLC	<b>Relinquished By</b>	Gary Braganza
<b>Carrier</b>	Federal Express	<b>Address</b>	621 Mainstream Drive	<b>Date</b>	12/09/2010
<b>Carrier/Waybill No.</b>		<b>City, State, Zip</b>	Nashville, TN 37228	<b>Time</b>	17:04
		<b>Lab Contact</b>	Kim Kostzer	<b>Received By:</b>	Federal Express
		<b>Lab Telephone</b>	(615) 345-1115	<b>Date</b>	12/9/10
				<b>Time</b>	18:04

#### Sample Records

Date	Sample ID#	Time	Analysis	Description	Loc ID	Matrix	Preservative	No.	Type	Requirements	Comments
12/8/10	BCHMS-GW-021-1210	10:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW021	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/8/10	BCHMS-GW-021-1210	10:00	SW846 6020A	Metals	BCHMS-GW021	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/8/10	BCHMS-GW-021-1210	10:00	FL PRO	TRPH	BCHMS-GW021	GW	4°C/HCL	2	Glass - Amber	1L	
12/8/10	BCHMS-GW-021-1210	10:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW021	GW	4°C	2	Glass - Amber	1L	
12/8/10	BCHMS-GW-022-1210	10:50	SW846 6020A	Metals	BCHMS-GW022	GW	4°C/HNO3	2	Plastic - PE	125ml	

12/8/10	BCHMS-GW-022-1210	10:50	SW846 8260B	VOCs (low level analysis)	BCHMS-GW022	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/8/10	BCHMS-GW-022-1210	10:50	FL PRO	TRPH	BCHMS-GW022	GW	4°C/HCL	2	Glass - Amber	1L	
12/8/10	BCHMS-GW-022-1210	10:50	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW022	GW	4°C	2	Glass - Amber	1L	

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## Preliminary Site Investigation and Inspection - Site 25 - KEY WEST NAS

## Sample Records

Date	Sample ID#	Time	Analysis	Description	Loc ID	Matrix	Preservative	No.	Type	Requirements	Comments
12/8/10	BCHMS-GW-023D-1210	15:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW023D	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/8/10	BCHMS-GW-023D-1210	15:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW023D	GW	4°C	2	Glass - Amber	1L	
12/8/10	BCHMS-GW-023D-1210	15:00	SW846 6020A	Metals	BCHMS-GW023D	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/8/10	BCHMS-GW-023D-1210	15:00	FL PRO	TRPH	BCHMS-GW023D	GW	4°C/HCL	2	Glass - Amber	1L	
12/8/10	BCHMS-GW-024-1210	14:30	SW846 6020A	Metals	BCHMS-GW024	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/8/10	BCHMS-GW-024-1210	14:30	SW846 8260B	VOCs (low level analysis)	BCHMS-GW024	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/8/10	BCHMS-GW-024-1210	14:30	SW846 8082A/8081B	PCBs/Pesticides	BCHMS-GW024	GW	4°C	3	Glass - Amber	1L	
12/8/10	BCHMS-GW-024-1210	14:30	FL PRO	TRPH	BCHMS-GW024	GW	4°C/HCL	2	Glass - Amber	1L	
12/8/10	BCHMS-GW-024-1210	14:30	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW024	GW	4°C	2	Glass - Amber	1L	
12/8/10	BCHMS-GW-027-1210	13:30	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW027	GW	4°C	2	Glass - Amber	1L	
12/8/10	BCHMS-GW-027-1210	13:30	SW846 6020A	Metals	BCHMS-GW027	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/8/10	BCHMS-GW-027-1210	13:30	FL PRO	TRPH	BCHMS-GW027	GW	4°C/HCL	2	Glass - Amber	1L	
12/8/10	BCHMS-GW-027-1210	13:30	SW846 8260B	VOCs (low level analysis)	BCHMS-GW027	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/9/10	BCHMS-GW-017-1210	14:00	FL PRO	TRPH	BCHMS-GW017	GW	4°C/HCL	2	Glass - Amber	1L	

12/9/10	BCHMS-GW-017-1210	14:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW017	GW	4°C	2	Glass - Amber	1L	
12/9/10	BCHMS-GW-017-1210	14:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW017	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/9/10	BCHMS-GW-017-1210	14:00	SW846 6020A	Metals	BCHMS-GW017	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/9/10	BCHMS-GW-018-1210	15:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW018	GW	4°C	2	Glass - Amber	1L	
12/9/10	BCHMS-GW-018-1210	15:00	SW846 6020A	Metals	BCHMS-GW018	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/9/10	BCHMS-GW-018-1210	15:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW018	GW	4°C/HCL	3	Glass - Clear	40ml vials	

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## Preliminary Site Investigation and Inspection - Site 25 - KEY WEST NAS

## Sample Records

Date	Sample ID#	Time	Analysis	Description	Loc ID	Matrix	Preservative	No.	Type	Requirements	Comments
12/9/10	BCHMS-GW-018-1210	15:00	FL PRO	TRPH	BCHMS-GW018	GW	4°C/HCL	2	Glass - Amber	1L	
12/9/10	BCHMS-GW-020D-1210	10:40	FL PRO	TRPH	BCHMS-GW020D	GW	4°C/HCL	2	Glass - Amber	1L	
12/9/10	BCHMS-GW-020D-1210	10:40	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW020D	GW	4°C	2	Glass - Amber	1L	
12/9/10	BCHMS-GW-020D-1210	10:40	SW846 8260B	VOCs (low level analysis)	BCHMS-GW020D	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/9/10	BCHMS-GW-020D-1210	10:40	SW846 6020A	Metals	BCHMS-GW020D	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/9/10	BCHMS-GW-025-1210	09:00	SW846 8082A/8081B	PCBs/Pesticides	BCHMS-GW025	GW	4°C	3	Glass - Amber	1L	
12/9/10	BCHMS-GW-025-1210	09:00	FL PRO	TRPH	BCHMS-GW025	GW	4°C/HCL	2	Glass - Amber	1L	
12/9/10	BCHMS-GW-025-1210	09:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW025	GW	4°C	2	Glass - Amber	1L	
12/9/10	BCHMS-GW-025-1210	09:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW025	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/9/10	BCHMS-GW-025-1210	09:00	SW846 6020A	Metals	BCHMS-GW025	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/9/10	BCHMS-GW-026-1210	09:50	SW846 8260B	VOCs (low level analysis)	BCHMS-GW026	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/9/10	BCHMS-GW-026-1210	09:50	FL PRO	TRPH	BCHMS-GW026	GW	4°C/HCL	2	Glass - Amber	1L	

12/9/10	BCHMS-GW-026-1210	09:50	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW026	GW	4°C	2	Glass - Amber	1L	
12/9/10	BCHMS-GW-026-1210	09:50	SW846 6020A	Metals	BCHMS-GW026	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/9/10	BCHMS-TB01-1210	00:00	SW846 8260B	VOCs (low level analysis)	QC	AQ	4°C/HCL	2	Glass - Clear	40ml vials	Trip Blank

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## General Observations and Notes

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No Notes

- End of Report -



## CHAIN OF CUSTODY LOG

### Preliminary Site Investigation and Inspection - Site 25 - KEY WEST NAS

#### Project Information

<b>Facility Name</b>	KEY WEST NAS	<b>Project Manager (PM)</b>	Shauna Stotler-Hardy	<b>Created By</b>	Gary Braganza
<b>TtNUS Project #</b>	112G02608	<b>PM Telephone</b>		<b>Created Date</b>	12/14/10
<b>Task/Contract #</b>	JM17	<b>Field Op Leader (FOL)</b>	Gary Braganza	<b>Modified By</b>	
<b>WBS Code #</b>	FI.FK	<b>FOL Phone</b>		<b>Modified Date</b>	
<b>Chain of Custody ID</b>	ED00000143-3	<b>Carrier</b>	Federal Express	<b>Printed By</b>	Derrick Haltiwanger
		<b>Carrier/Waybill No.</b>	874183383409	<b>Printed Date</b>	4/20/11

#### Chain of Custody Information

<b>Chain of Custody #</b>	<b>ED00000143-3</b>	<b>Lab Name</b>	Empirical Laboratories, LLC	<b>Relinquished By</b>	Gary Braganza
<b>Carrier</b>	Federal Express	<b>Address</b>	621 Mainstream Drive	<b>Date</b>	12/14/2010
<b>Carrier/Waybill No.</b>	874183383409	<b>City, State, Zip</b>	Nashville, TN 37228	<b>Time</b>	17:17
		<b>Lab Contact</b>	Kim Kostzer	<b>Received By:</b>	Federal Express
		<b>Lab Telephone</b>	(615) 345-1115	<b>Date</b>	12/14/10
				<b>Time</b>	17:17

#### Sample Records

Date	Sample ID#	Time	Analysis	Description	Loc ID	Matrix	Preservative	No.	Type	Requirements	Comments
12/12/10	BCHMS-FD001-1210	00:00	SW846 6020A	Metals	QC	GW	4° C/HNO3	2	Plastic - PE	125ml	
12/12/10	BCHMS-FD001-1210	00:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	QC	GW	4°C	2	Glass - Amber	1L	
12/12/10	BCHMS-FD001-1210	00:00	FL PRO	TRPH	QC	GW	4°C/HCL	2	Glass - Amber	1L	
12/12/10	BCHMS-FD001-1210	00:00	SW846 8260B	VOCs (low level analysis)	QC	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/12/10	BCHMS-FD001-1210	00:00	SW846 8082A/8081B	PCBs/Pesticides	QC	GW	4°C	3	Glass - Amber	1L	
12/12/10	BCHMS-GW-004-1210	10:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW004	GW	4°C	2	Glass - Amber	1L	
12/12/10	BCHMS-GW-004-1210	10:00	FL PRO	TRPH	BCHMS-GW004	GW	4°C/HCL	2	Glass - Amber	1L	

12/12/10	BCHMS-GW-004-1210	10:00	SW846 8082A/8081B	PCBs/Pesticides	BCHMS-GW004	GW	4°C	3	Glass - Amber	1L	
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## Preliminary Site Investigation and Inspection - Site 25 - KEY WEST NAS

## Sample Records

Date	Sample ID#	Time	Analysis	Description	Loc ID	Matrix	Preservative	No.	Type	Requirements	Comments
12/12/10	BCHMS-GW-004-1210	10:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW004	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/12/10	BCHMS-GW-004-1210	10:00	SW846 6020A	Metals	BCHMS-GW004	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/12/10	BCHMS-GW-005-1210	10:50	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW005	GW	4°C	2	Glass - Amber	1L	
12/12/10	BCHMS-GW-005-1210	10:50	FL PRO	TRPH	BCHMS-GW005	GW	4°C/HCL	2	Glass - Amber	1L	
12/12/10	BCHMS-GW-005-1210	10:50	SW846 6020A	Metals	BCHMS-GW005	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/12/10	BCHMS-GW-005-1210	10:50	SW846 8260B	VOCs (low level analysis)	BCHMS-GW005	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/12/10	BCHMS-GW-006-1210	13:30	FL PRO	TRPH	BCHMS-GW006	GW	4°C/HCL	2	Glass - Amber	1L	
12/12/10	BCHMS-GW-006-1210	13:30	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW006	GW	4°C	2	Glass - Amber	1L	
12/12/10	BCHMS-GW-006-1210	13:30	SW846 8260B	VOCs (low level analysis)	BCHMS-GW006	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/12/10	BCHMS-GW-006-1210	13:30	SW846 6020A	Metals	BCHMS-GW006	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/12/10	BCHMS-GW-007-1210	14:30	SW846 8260B	VOCs (low level analysis)	BCHMS-GW007	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/12/10	BCHMS-GW-007-1210	14:30	FL PRO	TRPH	BCHMS-GW007	GW	4°C/HCL	2	Glass - Amber	1L	
12/12/10	BCHMS-GW-007-	14:30	SW846 8720D/8270DSI	SVOCs (low level)	BCHMS-GW007	GW	4°C	2	Glass - Amber	1L	

	1210		M	and SIM PAHs							
12/12/10	BCHMS- GW-007- 1210	14:30	SW846 6020A	Metals	BCHMS- GW007	GW	4° C/HNO3	2	Plastic - PE	125ml	
12/13/10	BCHMS- FD002- 1210	00:00	SW846 6020A	Metals	QC	GW	4° C/HNO3	2	Plastic - PE	125ml	
12/13/10	BCHMS- FD002- 1210	00:00	FL PRO	TRPH	QC	GW	4°C/HCL	2	Glass - Amber	1L	
12/13/10	BCHMS- FD002- 1210	00:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	QC	GW	4°C	2	Glass - Amber	1L	
12/13/10	BCHMS- FD002- 1210	00:00	SW846 8260B	VOCs (low level analysis)	QC	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/13/10	BCHMS- GW-008- 1210	09:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS- GW008	GW	4°C	2	Glass - Amber	1L	
12/13/10	BCHMS- GW-008- 1210	09:00	FL PRO	TRPH	BCHMS- GW008	GW	4°C/HCL	2	Glass - Amber	1L	

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## Preliminary Site Investigation and Inspection - Site 25 - KEY WEST NAS

## Sample Records

Date	Sample ID#	Time	Analysis	Description	Loc ID	Matrix	Preservative	No.	Type	Requirements	Comments
12/13/10	BCHMS-GW-008-1210	09:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW008	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/13/10	BCHMS-GW-008-1210	09:00	SW846 6020A	Metals	BCHMS-GW008	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/13/10	BCHMS-GW-009D-1210	10:00	SW846 6020A	Metals	BCHMS-GW009D	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/13/10	BCHMS-GW-009D-1210	10:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW009D	GW	4°C	2	Glass - Amber	1L	
12/13/10	BCHMS-GW-009D-1210	10:00	FL PRO	TRPH	BCHMS-GW009D	GW	4°C/HCL	2	Glass - Amber	1L	
12/13/10	BCHMS-GW-009D-1210	10:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW009D	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/13/10	BCHMS-GW-010-1210	11:00	FL PRO	TRPH	BCHMS-GW010	GW	4°C/HCL	2	Glass - Amber	1L	
12/13/10	BCHMS-GW-010-1210	11:00	SW846 8082A/8081B	PCBs/Pesticides	BCHMS-GW010	GW	4°C	3	Glass - Amber	1L	
12/13/10	BCHMS-GW-010-1210	11:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW010	GW	4°C	2	Glass - Amber	1L	
12/13/10	BCHMS-GW-010-1210	11:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW010	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/13/10	BCHMS-GW-010-1210	11:00	SW846 6020A	Metals	BCHMS-GW010	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/13/10	BCHMS-GW-011-1210	15:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW011	GW	4°C	2	Glass - Amber	1L	
12/13/10	BCHMS-GW-011-1210	15:00	FL PRO	TRPH	BCHMS-GW011	GW	4°C/HCL	2	Glass - Amber	1L	
12/13/10	BCHMS-GW-011-1210	15:00	SW846 6020A	Metals	BCHMS-GW011	GW	4°C/HNO3	2	Plastic - PE	125ml	

12/13/10	BCHMS-GW-011-1210	15:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW011	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/13/10	BCHMS-GW-012-1210	14:00	SW846 8082A/8081B	PCBs/Pesticides	BCHMS-GW012	GW	4°C	3	Glass - Amber	1L	
12/13/10	BCHMS-GW-012-1210	14:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW012	GW	4°C	2	Glass - Amber	1L	
12/13/10	BCHMS-GW-012-1210	14:00	FL PRO	TRPH	BCHMS-GW012	GW	4°C/HCL	2	Glass - Amber	1L	
12/13/10	BCHMS-GW-012-1210	14:00	SW846 6020A	Metals	BCHMS-GW012	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/13/10	BCHMS-GW-012-1210	14:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW012	GW	4°C/HCL	3	Glass - Clear	40ml vials	

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## Preliminary Site Investigation and Inspection - Site 25 - KEY WEST NAS

## Sample Records

Date	Sample ID#	Time	Analysis	Description	Loc ID	Matrix	Preservative	No.	Type	Requirements	Comments
12/13/10	BCHMS-TB02-1210	00:00	SW846 8260B	VOCs (low level analysis)	QC	AQ	4°C/HCL	2	Glass - Clear	40ml vials	Trip Blank
12/14/10	BCHMS-SO-002-1210	08:00	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO002	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-002-1210	08:00	SW846 8260B	VOCs	BCHMS-SO002	SO	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	
12/14/10	BCHMS-SO-004-1210	08:20	SW846 8260B	VOCs	BCHMS-SO004	SO	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	
12/14/10	BCHMS-SO-004-1210	08:20	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO004	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-004-1210	08:20	SW846 8082A/8081B	PCBs/Pesticides	BCHMS-SO004	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-007-1210	08:40	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO007	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-007-1210	08:40	SW846 8260B	VOCs	BCHMS-SO007	SO	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	
12/14/10	BCHMS-SO-010-1210	09:00	SW846 8260B	VOCs	BCHMS-SO010	SO	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	
12/14/10	BCHMS-SO-010-1210	09:00	SW846 8082A/8081B	PCBs/Pesticides	BCHMS-SO010	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-010-1210	09:00	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO010	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	

12/14/10	BCHMS-SO-012-1210	09:20	SW846 8260B	VOCs	BCHMS-SO012	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)
12/14/10	BCHMS-SO-012-1210	09:20	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO012	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap
12/14/10	BCHMS-SO-012-1210	09:20	SW846 8082A/8081B	PCBs/Pesticides	BCHMS-SO012	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap
12/14/10	BCHMS-SO-013-1210	09:40	SW846 8260B	VOCs	BCHMS-SO013	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)
12/14/10	BCHMS-SO-013-1210	09:40	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO013	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap
12/14/10	BCHMS-SO-014-1210	10:00	SW846 8260B	VOCs	BCHMS-SO014	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)
12/14/10	BCHMS-SO-014-1210	10:00	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO014	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap
12/14/10	BCHMS-SO-015-1210	10:20	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO015	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap
12/14/10	BCHMS-SO-015-1210	10:20	SW846 8260B	VOCs	BCHMS-SO015	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)



## CHAIN OF CUSTODY LOG

### Preliminary Site Investigation and Inspection - Site 25 - KEY WEST NAS

#### Sample Records

Date	Sample ID#	Time	Analysis	Description	Loc ID	Matrix	Preservative	No.	Type	Requirements	Comments
12/14/10	BCHMS-SO-016-1210	10:40	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO016	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-016-1210	10:40	SW846 8260B	VOCs	BCHMS-SO016	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	
12/14/10	BCHMS-SO-017-1210	11:00	SW846 8260B	VOCs	BCHMS-SO017	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	
12/14/10	BCHMS-SO-017-1210	11:00	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO017	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-018-1210	11:20	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO018	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-018-1210	11:20	SW846 8260B	VOCs	BCHMS-SO018	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	
12/14/10	BCHMS-SO-019-1210	11:40	SW846 8260B	VOCs	BCHMS-SO019	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	
12/14/10	BCHMS-SO-019-1210	11:40	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO019	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-020-1210	12:00	SW846 8260B	VOCs	BCHMS-SO020	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	
12/14/10	BCHMS-SO-020-1210	12:00	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO020	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-021-1210	12:20	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO021	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-021-1210	12:20	SW846 8260B	VOCs	BCHMS-SO021	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	

12/14/10	BCHMS-SO-022-1210	12:40	SW846 8260B	VOCs	BCHMS-SO022	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre- tared)	
12/14/10	BCHMS-SO-022-1210	12:40	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO022	SO	4°C	1	Glass - Amber	4 oz. wide- mouth w/Teflon cap	
12/14/10	BCHMS-SO-023-1210	13:00	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO023	SO	4°C	1	Glass - Amber	4 oz. wide- mouth w/Teflon cap	
12/14/10	BCHMS-SO-023-1210	13:00	SW846 8260B	VOCs	BCHMS-SO023	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre- tared)	
12/14/10	BCHMS-SO-024-1210	13:20	SW846 8260B	VOCs	BCHMS-SO024	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre- tared)	
12/14/10	BCHMS-SO-024-1210	13:20	SW846 8082A/8081B	PCBs/Pesticides	BCHMS-SO024	SO	4°C	1	Glass - Amber	4 oz. wide- mouth w/Teflon cap	
12/14/10	BCHMS-SO-024-1210	13:20	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO024	SO	4°C	1	Glass - Amber	4 oz. wide- mouth w/Teflon cap	
12/14/10	BCHMS-SO-025-1210	13:40	SW846 8260B	VOCs	BCHMS-SO025	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre- tared)	



## CHAIN OF CUSTODY LOG

### Preliminary Site Investigation and Inspection - Site 25 - KEY WEST NAS

#### Sample Records

Date	Sample ID#	Time	Analysis	Description	Loc ID	Matrix	Preservative	No.	Type	Requirements	Comments
12/14/10	BCHMS-SO-025-1210	13:40	SW846 8082A/8081B	PCBs/Pesticides	BCHMS-SO025	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-025-1210	13:40	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO025	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-026-1210	14:00	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO026	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-026-1210	14:00	SW846 8260B	VOCs	BCHMS-SO026	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	
12/14/10	BCHMS-SO-028-1210	14:20	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	BCHMS-SO028	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-028-1210	14:20	SW846 8082A/8081B	PCBs/Pesticides	BCHMS-SO028	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-028-1210	14:20	SW846 8260B	VOCs	BCHMS-SO028	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	
12/14/10	BCHMS-SO-FD01-1210	00:00	SW846 8260B	VOCs	QC	SO	4° C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	
12/14/10	BCHMS-SO-FD01-1210	00:00	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	QC	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-SO-FD02-1210	00:00	SW846 8270D/8270DSI M/SW846 6020A/FL PRO	SVOCs (low level)/Metals/TR PH	QC	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
	BCHMS-SO-						4°		Glass -	40 mL	

12/14/10	FD02-1210	00:00	SW846 8260B	VOCs	QC	SO	C/MeOH+DI Combo	3	Clear	vial (pre-tared)	
12/14/10	BCHMS-SO-FD02-1210	00:00	SW846 8082A/8081B	PCBs/Pesticides	QC	SO	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/10	BCHMS-TB03-1210	00:00	SW846 8260B	VOCs (low level analysis)	QC	AQ	4°C/HCL	2	Glass - Clear	40ml vials	TRIP BLANK

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General Observations and Notes

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No Notes

- End of Report -



## CHAIN OF CUSTODY LOG

### Preliminary Site Investigation and Inspection - Site 25 - KEY WEST NAS

#### Project Information

<b>Facility Name</b>	KEY WEST NAS	<b>Project Manager (PM)</b>	Shauna Stotler-Hardy	<b>Created By</b>	Gary Braganza
<b>TtNUS Project #</b>	112G02608	<b>PM Telephone</b>		<b>Created Date</b>	12/13/10
<b>Task/Contract #</b>	JM17	<b>Field Op Leader (FOL)</b>	Gary Braganza	<b>Modified By</b>	
<b>WBS Code #</b>	FI.FK	<b>FOL Phone</b>		<b>Modified Date</b>	
<b>Chain of Custody ID</b>	ED00000143-2	<b>Carrier</b>	Federal Express	<b>Printed By</b>	Derrick Haltiwanger
		<b>Carrier/Waybill No.</b>		<b>Printed Date</b>	4/20/11

#### Chain of Custody Information

<b>Chain of Custody #</b>	<b>ED00000143-2</b>	<b>Lab Name</b>	Empirical Laboratories, LLC	<b>Relinquished By</b>	Gary Braganza
<b>Carrier</b>	Federal Express	<b>Address</b>	621 Mainstream Drive	<b>Date</b>	12/13/2010
<b>Carrier/Waybill No.</b>		<b>City, State, Zip</b>	Nashville, TN 37228	<b>Time</b>	16:13
		<b>Lab Contact</b>	Kim Kostzer	<b>Received By:</b>	Federal Express
		<b>Lab Telephone</b>	(615) 345-1115	<b>Date</b>	12/13/10
				<b>Time</b>	17:13

#### Sample Records

Date	Sample ID#	Time	Analysis	Description	Loc ID	Matrix	Preservative	No.	Type	Requirements	Comments
12/10/10	BCHMS-GW-013-1210	14:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW013	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/10/10	BCHMS-GW-013-1210	14:00	SW846 6020A	Metals	BCHMS-GW013	GW	4° C/HNO3	2	Plastic - PE	125ml	
12/10/10	BCHMS-GW-013-1210	14:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW013	GW	4°C	2	Glass - Amber	1L	
12/10/10	BCHMS-GW-013-1210	14:00	FL PRO	TRPH	BCHMS-GW013	GW	4°C/HCL	2	Glass - Amber	1L	
12/10/10	BCHMS-GW-014-1210	15:00	FL PRO	TRPH	BCHMS-GW014	GW	4°C/HCL	2	Glass - Amber	1L	
12/10/10	BCHMS-GW-014-1210	15:00	SW846 6020A	Metals	BCHMS-GW014	GW	4° C/HNO3	2	Plastic - PE	125ml	
				SVOCs							

12/10/10	BCHMS-GW-014-1210	15:00	SW846 8720D/8270DSI M	(low level) and SIM PAHs	BCHMS-GW014	GW	4°C	2	Glass - Amber	1L	
12/10/10	BCHMS-GW-014-1210	15:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW014	GW	4°C/HCL	3	Glass - Clear	40ml vials	

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## Preliminary Site Investigation and Inspection - Site 25 - KEY WEST NAS

## Sample Records

Date	Sample ID#	Time	Analysis	Description	Loc ID	Matrix	Preservative	No.	Type	Requirements	Comments
12/10/10	BCHMS-GW-015-1210	10:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW015	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/10/10	BCHMS-GW-015-1210	10:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW015	GW	4°C	2	Glass - Amber	1L	
12/10/10	BCHMS-GW-015-1210	10:00	SW846 6020A	Metals	BCHMS-GW015	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/10/10	BCHMS-GW-015-1210	10:00	FL PRO	TRPH	BCHMS-GW015	GW	4°C/HCL	2	Glass - Amber	1L	
12/10/10	BCHMS-GW-016-1210	11:00	SW846 6020A	Metals	BCHMS-GW016	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/10/10	BCHMS-GW-016-1210	11:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW016	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/10/10	BCHMS-GW-016-1210	11:00	FL PRO	TRPH	BCHMS-GW016	GW	4°C/HCL	2	Glass - Amber	1L	
12/10/10	BCHMS-GW-016-1210	11:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW016	GW	4°C	2	Glass - Amber	1L	
12/10/10	BCHMS-GW-019-1210	09:20	FL PRO	TRPH	BCHMS-GW019	GW	4°C/HCL	2	Glass - Amber	1L	
12/10/10	BCHMS-GW-019-1210	09:20	SW846 8260B	VOCs (low level analysis)	BCHMS-GW019	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/10/10	BCHMS-GW-019-1210	09:20	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW019	GW	4°C	2	Glass - Amber	1L	
12/10/10	BCHMS-GW-019-1210	09:20	SW846 6020A	Metals	BCHMS-GW019	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/11/10	BCHMS-GW-001-	09:30	SW846 8260B	VOCs (low	BCHMS-	GW	4°C/HCL	3	Glass -	40ml	

	1210			level analysis)	GW001				Clear	vials	
12/11/10	BCHMS-GW-001-1210	09:30	SW846 6020A	Metals	BCHMS-GW001	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/11/10	BCHMS-GW-001-1210	09:30	FL PRO	TRPH	BCHMS-GW001	GW	4°C/HCL	2	Glass - Amber	1L	
12/11/10	BCHMS-GW-001-1210	09:30	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW001	GW	4°C	2	Glass - Amber	1L	
12/11/10	BCHMS-GW-002-1210	10:30	FL PRO	TRPH	BCHMS-GW002	GW	4°C/HCL	2	Glass - Amber	1L	
12/11/10	BCHMS-GW-002-1210	10:30	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW002	GW	4°C	2	Glass - Amber	1L	
12/11/10	BCHMS-GW-002-1210	10:30	SW846 8260B	VOCs (low level analysis)	BCHMS-GW002	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/11/10	BCHMS-GW-002-1210	10:30	SW846 6020A	Metals	BCHMS-GW002	GW	4°C/HNO3	2	Plastic - PE	125ml	

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## Preliminary Site Investigation and Inspection - Site 25 - KEY WEST NAS

## Sample Records

Date	Sample ID#	Time	Analysis	Description	Loc ID	Matrix	Preservative	No.	Type	Requirements	Comments
12/11/10	BCHMS-GW-003-1210	12:30	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW003	GW	4°C	2	Glass - Amber	1L	
12/11/10	BCHMS-GW-003-1210	12:30	SW846 6020A	Metals	BCHMS-GW003	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/11/10	BCHMS-GW-003-1210	12:30	FL PRO	TRPH	BCHMS-GW003	GW	4°C/HCL	2	Glass - Amber	1L	
12/11/10	BCHMS-GW-003-1210	12:30	SW846 8260B	VOCs (low level analysis)	BCHMS-GW003	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/11/10	BCHMS-GW-028-1210	15:00	FL PRO	TRPH	BCHMS-GW028	GW	4°C/HCL	2	Glass - Amber	1L	
12/11/10	BCHMS-GW-028-1210	15:00	SW846 8082A/8081B	PCBs/Pesticides	BCHMS-GW028	GW	4°C	3	Glass - Amber	1L	
12/11/10	BCHMS-GW-028-1210	15:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW028	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/11/10	BCHMS-GW-028-1210	15:00	SW846 6020A	Metals	BCHMS-GW028	GW	4°C/HNO3	2	Plastic - PE	125ml	
12/11/10	BCHMS-GW-028-1210	15:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW028	GW	4°C	2	Glass - Amber	1L	
12/11/10	BCHMS-GW-029D-1210	14:00	SW846 8260B	VOCs (low level analysis)	BCHMS-GW029D	GW	4°C/HCL	3	Glass - Clear	40ml vials	
12/11/10	BCHMS-GW-029D-1210	14:00	FL PRO	TRPH	BCHMS-GW029D	GW	4°C/HCL	2	Glass - Amber	1L	
12/11/10	BCHMS-GW-029D-1210	14:00	SW846 8720D/8270DSI M	SVOCs (low level) and SIM PAHs	BCHMS-GW029D	GW	4°C	2	Glass - Amber	1L	
12/11/10	BCHMS-GW-029D-1210	14:00	SW846 6020A	Metals	BCHMS-GW029D	GW	4°C/HNO3	2	Plastic - PE	125ml	

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General Observations and Notes

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No Notes

- End of Report -

**APPENDIX F**

**BORING LOGS**





# BORING LOG

PROJECT NAME: BCHMS -NAS Key West  
 PROJECT NUMBER: 112G02608  
 DRILLING COMPANY: Wombat Env  
 DRILLING RIG: Geoprobe

BORING No.: BCHMS-GW020D  
 DATE: 12/12/2010  
 GEOLOGIST: Gary Braganza  
 DRILLER: Paul Poorbaugh

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION			U S C S *	Remarks	PID/FID Reading (ppm)							
					Soil Density/ Consistency or Rock Hardness	Color	Material Classification			Sample	Sampler BZ	Borehole**	Driller BZ**				
	0.5						Asphalt, fill material										
	1						oolitic limestone, beige, well consolidated,		water table at 2.5 ft	1							
	4									0							
	10						oolitic limestone, minor clay lens moderately consolidated										
	20						bivalve shell fragments										
	25						↓		boring terminated								

\* When rock coring, enter rock brokeness.

\*\* Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: \_\_\_\_\_

Drilling Area Background (ppm):

Converted to Well: Yes \_\_\_\_\_ No x \_\_\_\_\_ Well I.D. #: \_\_\_\_\_

**APPENDIX G**

**FIELD SCREENING RESULTS**

## SOIL HEADSPACE SCREENING RESULTS

LOCATION NO.	SAMPLE INTERVAL (feet bls)	Gas Tec Results 122 Tube* (ppm)	Gas Tec Results 133 Tube** (ppm)	PID READING (ppm)	COMMENTS
BCHMS-SO001	0-2	ND	ND	2	"
BCHMS-SO002	0-2	ND	ND	1	Metallic odor
BCHMS-SO003	0-2	ND	ND	1	
BCHMS-SO004	0-2	ND	ND	0	
BCHMS-SO005	0-2	ND	ND	0	
BCHMS-SO006	0-2	ND	ND	2	Metallic odor
BCHMS-SO007	0-2	ND	ND	1	
BCHMS-SO008	0-2	ND	ND	3	
BCHMS-SO009	0-2	ND	ND	1	
BCHMS-SO010	0-2	ND	ND	4	Organic odor
BCHMS-SO011	0-2	ND	ND	1	
BCHMS-SO012	0-2	ND	ND	0	
BCHMS-SO013	0-2	ND	ND	2	Organic odor
BCHMS-SO014	0-2	ND	ND	1	
BCHMS-SO015	0-2	ND	ND	0	
BCHMS-SO016	0-2	ND	ND	3	
BCHMS-SO017	0-2	ND	ND	1	
BCHMS-SO018	0-2	ND	ND	1	Organic odor
BCHMS-SO019	0-2	ND	ND	5	
BCHMS-SO020	0-2	ND	ND	10	
GKHMS-SO021	0-2	ND	ND	12	Slight petroleum odor
BCHMS-SO022	0-2	ND	ND	10	
BCHMS-SO023	0-2	ND	ND	15	
BCHMS-SO024	0-2	ND	ND	30	Petroleum odor
BCHMS-SO025	0-2	ND	ND	5	
BCHMS-SO026	0-2	ND	ND	10	Metallic odor
BCHMS-SO027	0-2	ND	ND	5	
BCHMS-SO028	0-2	ND	ND	1	
BCHMS-SO029	0-2	ND	ND	1	

\*Gas Tec 122 Tube – Petroleum product screening

\*\*Gas Tec 133 Tube – Chlorinated product screening

**APPENDIX H**

**VALIDATION REPORTS**



**Tetra Tech NUS**

**INTERNAL CORRESPONDENCE**

**TO:** S. STOTLER-HARDY **DATE:** March 4, 2011  
**FROM:** MEGAN CARSON **COPIES:** DV FILE  
**SUBJECT:** INORGANIC DATA VALIDATION – TAL METALS  
CTO JM17 NAS KEY WEST  
SAMPLE DELIVERY GROUP (SDG) – CTOJM17KW\_1

**SAMPLES:** 10/Water/  
BCHMS-GW-017-1210 BCHMS-GW-018-1210  
BCHMS-GW-021-1210 BCHMS-GW-022-1210  
BCHMS-GW-023D-1210 BCHMS-GW-024-1210  
BCHMS-GW-025-1210 BCHMS-GW-026-1210  
BCHMS-GW-027-1210 BCHMS-GW-20D-1210

Overview

The sample set for NAS Key West, CTO JM17, SDG CTOJM17KW\_1, consists of ten (10) water environmental samples. This SDG contained no field duplicates.

All samples were analyzed for metals. The samples were collected by Tetra Tech NUS on December 8<sup>th</sup> and 9<sup>th</sup>, 2010 and analyzed by Empirical Laboratories LLC under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals analyses were conducted using SW-846 method 6010B. Mercury analyses were conducted using SW-846 method 7470A.

These data were evaluated based on the following parameters:

- \* • Data Completeness
- \* • Holding Times
- Initial and Continuing Calibrations
- \* • Laboratory Method / Preparation Blank Analyses
- \* • Detection Limits

\* - All quality control criteria were met for this parameter.

**METALS:**

The continuing calibration analyzed on 1/3/11 at 16:51 had a percent recovery >110% for sodium and potassium. All samples were affected. Positive results were qualified as estimated (J). Sodium results for samples BCHMS-GW-023D-1210 and BCHMS-GW-20D-1210 were not qualified as the results were not affected by this non-compliance.

TO: S. Stotler-Hardy  
DATE: 2/9/2011  
Page 2 of 2

Notes:

Non-detected lead results for samples BCHMS-GW-018-1210, BCHMS-GW-022-1210, and BCHMS-GW-027-1210 had elevated reporting limits due to interference.

Sample BCHMS-GW-023D-1210 was analyzed at a 5X dilution for sodium due to its high concentration in the sample.

Sample BCHMS-GW-20D-1210 was analyzed at a 2X dilution for sodium due to its high concentration in the sample.

Executive Summary

**Laboratory Performance:** Continuing calibration non-compliances for sodium and potassium resulted in the qualification of sample results.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to "National Functional Guidelines for Inorganic Review", October 2004 and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories", January 2006.

The text of this report has been formulated to address only those problem areas affecting data quality.

  
Tetra Tech NUS  
Megan Carson  
Chemist/Data Validator

  
Tetra Tech NUS  
Joseph A. Samchuck  
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**APPENDIX A**

**QUALIFIED ANALYTICAL RESULTS**

**Data Validation Qualifier Codes:**

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS - GFAA MSA's  $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ( $< 2 \times$  IDL for inorganics and  $< CRQL$  for organics)  
Other problems (can be any number of issues; e.g. poor chromatography, interferences, etc.)
- Q = etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin  
% Difference between columns/detectors  $> 25\%$  for positive results determined via
- U = GC/HPLC
- V = Non-linear calibrations; correlation coefficient  $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids  $< 30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 02608 SDG: CTOJM17KW_1 FRACTION: M MEDIA: WATER	NSAMPLE		BCHMS-GW-017-1210		BCHMS-GW-018-1210		BCHMS-GW-021-1210		BCHMS-GW-022-1210								
	LAB_ID	SAMP_DATE	QC_TYPE	UNITS	PCT_SOLIDS	DUP_OF	RESULT	QLCD	VQL	RESULT	QLCD	VQL	RESULT	QLCD	VQL	RESULT	QLCD
	1012118-06	12/9/2010	NM	UG/L	0.0		189 J	P	143 J	P	82.7 J	128 J	1012118-01	12/8/2010	NM	UG/L	0.0
							5 U		5 U		5 U						
							3 U		3 U		3 U						
							6.14 J	P	6.48 J	P	5 U	5 U					
							1 U		1 U		1 U						
							3.06 J	P	2.55 J	P	1.48 J	1.16 J					
							246000		253000		80200	119000					
							2 U		2 U		2 U						
							5 U		5 U		5 U						
							4 U		4 U		4 U						
							177		155		78 J	46.6 J					
							1.5 U		2 U		1.5 U						
							72500		71800		48700	21200					
							5.85 J	P	6.23 J	P	3 U	3.8 J					
							0.08 U		0.08 U		0.08 U	0.08 U					
							3 U		3 U		3 U						
							13800 J	C	9890 J	C	11400 J	2120 J					
							3 U		3 U		3 U						
							1 U		1 U		1 U						
							416000 J	C	333000 J	C	268000 J	23100 J					
							3 U		3 U		3 U						
							5 U		5 U		5 U						
							5 U		5 U		5 U						

PROJ_NO: 02608 SDG: CTOJM17KW_1 FRACTION: M MEDIA: WATER	NSAMPLE		BCHMS-GW-023D-1210		BCHMS-GW-024-1210		BCHMS-GW-025-1210		BCHMS-GW-026-1210						
	LAB_ID	SAMP_DATE	QC_TYPE	UNITS	PCT_SOLIDS	DUP_OF	RESULT	QLCD	VQL	RESULT	QLCD	VQL	RESULT	QLCD	VQL
ALUMINUM	1012118-03	12/8/2010	NM	UG/L	0.0		127 J	P	363			119 J	P	749	
ANTIMONY							5 U		5 U			5 U		5 U	
ARSENIC							3 U		3 U			3 U		3 U	
BARIUM							15.1 J	P	7.83 J	P		5 U		12.5 J	P
BERYLLIUM							1 U		1 U			1 U		1 U	
CADMIUM							3.45 J	P	3.15 J	P		1.69 J	P	2.1 J	P
CALCIUM							145000		158000			104000		283000	
CHROMIUM							2 U		2 U			2 U		3.14 J	P
COBALT							5 U		5 U			5 U		5 U	
COPPER							4 U		4 U			4 U		4.83 J	P
IRON							1380		133			68.8 J	P	709	
LEAD							1.5 U		1.5 U			1.5 U		3.8	
MAGNESIUM							215000		86900			25900		22100	
MANGANESE							13.3 J	P	8.44 J	P		3.37 J	P	14 J	P
MERCURY							0.08 U		0.08 U			0.08 U		0.08 U	
NICKEL							3 U		3 U			3 U		3 U	
POTASSIUM							83100 J	C	21800 J	C		3040 J	CP	1330 J	CP
SELENIUM							3 U		3.18 J	P		3 U		3 U	
SILVER							1 U		1 U			1 U		1 U	
SODIUM							1690000		459000 J	C		94500 J	C	47000 J	C
THALLIUM							3 U		3 U			3 U		3 U	
VANADIUM							5 U		5 U			5 U		5 U	
ZINC							5 U		5 U			5 U		5.91 J	P

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-027-1210	BCHMS-GW-20D-1210			
SDG: CTOJM17KW_1	LAB_ID	1012118-05	1012118-08			
FRACTION: M	SAMP_DATE	12/8/2010	12/9/2010			
MEDIA: WATER	QC_TYPE	NM	NM			
	UNITS	UG/L	UG/L			
	PCT_SOLIDS	0.0	0.0			
	DUP_OF					
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALUMINUM	110 J	P		108 J	P	
ANTIMONY	5 U			5 U		
ARSENIC	3 U			3 U		
BARIUM	5 U			8.33 J	P	
BERYLLIUM	1 U			1 U		
CADMIUM	2.17 J	P		2.9 J	P	
CALCIUM	120000			105000		
CHROMIUM	2 U			2 U		
COBALT	5 U			5 U		
COPPER	4 U			4 U		
IRON	69.4 J	P		1180		
LEAD	2 U			1.5 U		
MAGNESIUM	40700			143000		
MANGANESE	7.08 J	P		13.4 J	P	
MERCURY	0.08 U			0.08 U		
NICKEL	3 U			3 U		
POTASSIUM	5400 J	C		49900 J	C	
SELENIUM	3 U			3 U		
SILVER	1 U			1 U		
SODIUM	154000 J	C		893000		
THALLIUM	3 U			3 U		
VANADIUM	5 U			5 U		
ZINC	5 U			5 U		

**APPENDIX B**

**RESULTS AS REPORTED BY THE LABORATORY**

# ANALYSIS DATA SHEET

**BCHMS-GW-021-1210**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Ground Water  
 Sampled: 12/08/10 10:00  
 % Solids: 0.00

SDG: CTOJM17KW\_001  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012118-01  
 Received: 12/10/10 08:15

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17016	12/20/10 13:07
7429-90-5	Aluminum	82.7	50.0	100	200	1	I	SW6010C	0L28001	01/03/11 15:45
7440-36-0	Antimony		5.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 15:45
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	0L28001	01/03/11 15:45
7440-39-3	Barium		5.00	10.0	40.0	1	U	SW6010C	0L28001	12/29/10 16:20
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	01/03/11 15:45
7440-43-9	Cadmium	1.48	1.00	2.00	5.00	1	I	SW6010C	0L28001	01/03/11 15:45
7440-70-2	Calcium	80200	1000	2000	5000	1		SW6010C	0L28001	01/03/11 15:45
7440-47-3	Chromium		2.00	4.00	10.0	1	U	SW6010C	0L28001	01/03/11 15:45
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 16:20
7440-50-8	Copper		4.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 15:45
7439-89-6	Iron	78.0	30.0	60.0	100	1	I	SW6010C	0L28001	01/03/11 15:45
7439-92-1	Lead		1.50	3.00	3.00	1	U	SW6010C	0L28001	12/29/10 16:20
7439-95-4	Magnesium	48700	1000	3000	5000	1		SW6010C	0L28001	01/03/11 15:45
7439-96-5	Manganese		3.00	6.00	15.0	1	U	SW6010C	0L28001	01/03/11 15:45
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:20
7440-09-7	Potassium	11400	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 15:45
7782-49-2	Selenium		3.00	5.00	10.0	1	U	SW6010C	0L28001	01/03/11 15:45
7440-22-4	Silver		1.00	2.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:20
7440-23-5	Sodium	268000	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 15:45
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	01/03/11 15:45
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	01/03/11 15:45
7440-66-6	Zinc		5.00	10.0	20.0	1	U	SW6010C	0L28001	01/03/11 15:45

# ANALYSIS DATA SHEET

BCHMS-GW-022-1210

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Ground Water  
 Sampled: 12/08/10 10:50  
 % Solids: 0.00

SDG: CTOJM17KW\_001  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012118-02  
 Received: 12/10/10 08:15

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17016	12/20/10 13:08
7429-90-5	Aluminum	128	50.0	100	200	1	I	SW6010C	0L28001	01/03/11 15:50
7440-36-0	Antimony		5.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 15:50
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	0L28001	01/03/11 15:50
7440-39-3	Barium		5.00	10.0	40.0	1	U	SW6010C	0L28001	12/29/10 16:25
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	01/03/11 15:50
7440-43-9	Cadmium	1.16	1.00	2.00	5.00	1	I	SW6010C	0L28001	01/03/11 15:50
7440-70-2	Calcium	119000	1000	2000	5000	1		SW6010C	0L28001	01/03/11 15:50
7440-47-3	Chromium		2.00	4.00	10.0	1	U	SW6010C	0L28001	01/03/11 15:50
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 16:25
7440-50-8	Copper		4.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 15:50
7439-89-6	Iron	46.6	30.0	60.0	100	1	I	SW6010C	0L28001	01/03/11 15:50
7439-92-1	Lead		3.00	3.00	3.00	1	M U	SW6010C	0L28001	12/29/10 16:25
7439-95-4	Magnesium	21200	1000	3000	5000	1		SW6010C	0L28001	01/03/11 15:50
7439-96-5	Manganese	3.80	3.00	6.00	15.0	1	I	SW6010C	0L28001	01/03/11 15:50
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:25
7440-09-7	Potassium	2120	200	3000	5000	1	X I	SW6010C	0L28001	01/03/11 15:50
7782-49-2	Selenium		3.00	5.00	10.0	1	U	SW6010C	0L28001	01/03/11 15:50
7440-22-4	Silver		1.00	2.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:25
7440-23-5	Sodium	23100	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 15:50
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	01/03/11 15:50
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	01/03/11 15:50
7440-66-6	Zinc		5.00	10.0	20.0	1	U	SW6010C	0L28001	01/03/11 15:50

# ANALYSIS DATA SHEET

**BCHMS-GW-023D-1210**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Ground Water  
 Sampled: 12/08/10 15:00  
 % Solids: 0.00

SDG: CTOJM17KW\_001  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012118-03  
 Received: 12/10/10 08:15

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17016	12/20/10 13:10
7429-90-5	Aluminum	127	50.0	100	200	1	I	SW6010C	0L28001	01/03/11 15:55
7440-36-0	Antimony		5.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 15:55
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	0L28001	01/03/11 15:55
7440-39-3	Barium	15.1	5.00	10.0	40.0	1	I	SW6010C	0L28001	12/29/10 16:29
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	01/03/11 15:55
7440-43-9	Cadmium	3.45	1.00	2.00	5.00	1	I	SW6010C	0L28001	01/03/11 15:55
7440-70-2	Calcium	145000	1000	2000	5000	1		SW6010C	0L28001	01/03/11 15:55
7440-47-3	Chromium		2.00	4.00	10.0	1	U	SW6010C	0L28001	01/03/11 15:55
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 16:29
7440-50-8	Copper		4.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 15:55
7439-89-6	Iron	1380	30.0	60.0	100	1		SW6010C	0L28001	01/03/11 15:55
7439-92-1	Lead		1.50	3.00	3.00	1	U	SW6010C	0L28001	12/29/10 16:29
7439-95-4	Magnesium	215000	1000	3000	5000	1		SW6010C	0L28001	01/03/11 15:55
7439-96-5	Manganese	13.3	3.00	6.00	15.0	1	I	SW6010C	0L28001	01/03/11 15:55
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:29
7440-09-7	Potassium	83100	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 15:55
7782-49-2	Selenium		3.00	5.00	10.0	1	U	SW6010C	0L28001	01/03/11 15:55
7440-22-4	Silver		1.00	2.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:29
7440-23-5	Sodium	1690000	1000	15000	25000	5	D	SW6010C	0L28001	01/04/11 11:56
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	01/03/11 15:55
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	01/03/11 15:55
7440-66-6	Zinc		5.00	10.0	20.0	1	U	SW6010C	0L28001	01/03/11 15:55

# ANALYSIS DATA SHEET

**BCHMS-GW-024-1210**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Ground Water  
 Sampled: 12/08/10 14:30  
 % Solids: 0.00

SDG: CTOJMI7KW\_001  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012118-04  
 Received: 12/10/10 08:15

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17016	12/20/10 13:12
7429-90-5	Aluminum	363	50.0	100	200	1		SW6010C	0L28001	01/03/11 16:00
7440-36-0	Antimony		5.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:00
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:00
7440-39-3	Barium	7.83	5.00	10.0	40.0	1	I	SW6010C	0L28001	12/29/10 16:34
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	01/03/11 16:00
7440-43-9	Cadmium	3.15	1.00	2.00	5.00	1	I	SW6010C	0L28001	01/03/11 16:00
7440-70-2	Calcium	158000	1000	2000	5000	1		SW6010C	0L28001	01/03/11 16:00
7440-47-3	Chromium		2.00	4.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:00
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 16:34
7440-50-8	Copper		4.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:00
7439-89-6	Iron	133	30.0	60.0	100	1		SW6010C	0L28001	01/03/11 16:00
7439-92-1	Lead		1.50	3.00	3.00	1	U	SW6010C	0L28001	12/29/10 16:34
7439-95-4	Magnesium	86900	1000	3000	5000	1		SW6010C	0L28001	01/03/11 16:00
7439-96-5	Manganese	8.44	3.00	6.00	15.0	1	I	SW6010C	0L28001	01/03/11 16:00
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:34
7440-09-7	Potassium	21800	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 16:00
7782-49-2	Selenium	3.18	3.00	5.00	10.0	1	I	SW6010C	0L28001	01/03/11 16:00
7440-22-4	Silver		1.00	2.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:34
7440-23-5	Sodium	459000	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 16:00
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	01/03/11 16:00
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	01/03/11 16:00
7440-66-6	Zinc		5.00	10.0	20.0	1	U	SW6010C	0L28001	01/03/11 16:00

# ANALYSIS DATA SHEET

**BCHMS-GW-027-1210**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Laboratory ID: 1012118-05

Sampled: 12/08/10 13:30

Received: 12/10/10 08:15

% Solids: 0.00

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17016	12/20/10 13:21
7429-90-5	Aluminum	110	50.0	100	200	1	I	SW6010C	0L28001	01/03/11 16:05
7440-36-0	Antimony		5.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:05
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:05
7440-39-3	Barium		5.00	10.0	40.0	1	U	SW6010C	0L28001	12/29/10 16:39
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	01/03/11 16:05
7440-43-9	Cadmium	2.17	1.00	2.00	5.00	1	I	SW6010C	0L28001	01/03/11 16:05
7440-70-2	Calcium	120000	1000	2000	5000	1		SW6010C	0L28001	01/03/11 16:05
7440-47-3	Chromium		2.00	4.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:05
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 16:39
7440-50-8	Copper		4.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:05
7439-89-6	Iron	69.4	30.0	60.0	100	1	I	SW6010C	0L28001	01/03/11 16:05
7439-92-1	Lead		2.00	3.00	3.00	1	M U	SW6010C	0L28001	12/29/10 16:39
7439-95-4	Magnesium	40700	1000	3000	5000	1		SW6010C	0L28001	01/03/11 16:05
7439-96-5	Manganese	7.08	3.00	6.00	15.0	1	I	SW6010C	0L28001	01/03/11 16:05
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:39
7440-09-7	Potassium	5400	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 16:05
7782-49-2	Selenium		3.00	5.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:05
7440-22-4	Silver		1.00	2.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:39
7440-23-5	Sodium	154000	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 16:05
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	01/03/11 16:05
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	01/03/11 16:05
7440-66-6	Zinc		5.00	10.0	20.0	1	U	SW6010C	0L28001	01/03/11 16:05

# ANALYSIS DATA SHEET

**BCHMS-GW-017-1210**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Water  
 Sampled: 12/09/10 14:00  
 % Solids: 0.00

SDG: CTOJM17KW\_001  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012118-06  
 Received: 12/10/10 08:15

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17016	12/20/10 13:23
7429-90-5	Aluminum	189	50.0	100	200	1	I	SW6010C	0L28001	01/03/11 16:10
7440-36-0	Antimony		5.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:10
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:10
7440-39-3	Barium	6.14	5.00	10.0	40.0	1	I	SW6010C	0L28001	12/29/10 16:44
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	01/03/11 16:10
7440-43-9	Cadmium	3.06	1.00	2.00	5.00	1	I	SW6010C	0L28001	01/03/11 16:10
7440-70-2	Calcium	246000	1000	2000	5000	1		SW6010C	0L28001	01/03/11 16:10
7440-47-3	Chromium		2.00	4.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:10
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 16:44
7440-50-8	Copper		4.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:10
7439-89-6	Iron	177	30.0	60.0	100	1		SW6010C	0L28001	01/03/11 16:10
7439-92-1	Lead		1.50	3.00	3.00	1	U	SW6010C	0L28001	12/29/10 16:44
7439-95-4	Magnesium	72500	1000	3000	5000	1		SW6010C	0L28001	01/03/11 16:10
7439-96-5	Manganese	5.85	3.00	6.00	15.0	1	I	SW6010C	0L28001	01/03/11 16:10
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:44
7440-09-7	Potassium	13800	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 16:10
7782-49-2	Selenium		3.00	5.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:10
7440-22-4	Silver		1.00	2.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:44
7440-23-5	Sodium	416000	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 16:10
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	01/03/11 16:10
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	01/03/11 16:10
7440-66-6	Zinc		5.00	10.0	20.0	1	U	SW6010C	0L28001	01/03/11 16:10

# ANALYSIS DATA SHEET

**BCHMS-GW-018-1210**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Water  
 Sampled: 12/09/10 15:00  
 % Solids: 0.00

SDG: CTOJM17KW\_001  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012118-07  
 Received: 12/10/10 08:15

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17016	12/20/10 13:25
7429-90-5	Aluminum	143	50.0	100	200	1	I	SW6010C	0L28001	01/03/11 16:15
7440-36-0	Antimony		5.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:15
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:15
7440-39-3	Barium	6.48	5.00	10.0	40.0	1	I	SW6010C	0L28001	12/29/10 16:49
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	01/03/11 16:15
7440-43-9	Cadmium	2.55	1.00	2.00	5.00	1	I	SW6010C	0L28001	01/03/11 16:15
7440-70-2	Calcium	253000	1000	2000	5000	1		SW6010C	0L28001	01/03/11 16:15
7440-47-3	Chromium		2.00	4.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:15
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 16:49
7440-50-8	Copper		4.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:15
7439-89-6	Iron	155	30.0	60.0	100	1		SW6010C	0L28001	01/03/11 16:15
7439-92-1	Lead		2.00	3.00	3.00	1	M U	SW6010C	0L28001	12/29/10 16:49
7439-95-4	Magnesium	71800	1000	3000	5000	1		SW6010C	0L28001	01/03/11 16:15
7439-96-5	Manganese	6.23	3.00	6.00	15.0	1	I	SW6010C	0L28001	01/03/11 16:15
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:49
7440-09-7	Potassium	9890	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 16:15
7782-49-2	Selenium		3.00	5.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:15
7440-22-4	Silver		1.00	2.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:49
7440-23-5	Sodium	333000	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 16:15
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	01/03/11 16:15
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	01/03/11 16:15
7440-66-6	Zinc		5.00	10.0	20.0	1	U	SW6010C	0L28001	01/03/11 16:15

# ANALYSIS DATA SHEET

BCHMS-GW-20D-1210

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Water  
 Sampled: 12/09/10 10:40  
 % Solids: 0.00

SDG: CTOJM17KW\_001  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012118-08  
 Received: 12/10/10 08:15

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17016	12/20/10 13:26
7429-90-5	Aluminum	108	50.0	100	200	1	I	SW6010C	0L28001	01/03/11 16:20
7440-36-0	Antimony		5.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:20
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:20
7440-39-3	Barium	8.33	5.00	10.0	40.0	1	I	SW6010C	0L28001	12/29/10 16:54
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	01/03/11 16:20
7440-43-9	Cadmium	2.90	1.00	2.00	5.00	1	I	SW6010C	0L28001	01/03/11 16:20
7440-70-2	Calcium	105000	1000	2000	5000	1		SW6010C	0L28001	01/03/11 16:20
7440-47-3	Chromium		2.00	4.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:20
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 16:54
7440-50-8	Copper		4.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:20
7439-89-6	Iron	1180	30.0	60.0	100	1		SW6010C	0L28001	01/03/11 16:20
7439-92-1	Lead		1.50	3.00	3.00	1	U	SW6010C	0L28001	12/29/10 16:54
7439-95-4	Magnesium	143000	1000	3000	5000	1		SW6010C	0L28001	01/03/11 16:20
7439-96-5	Manganese	13.4	3.00	6.00	15.0	1	I	SW6010C	0L28001	01/03/11 16:20
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:54
7440-09-7	Potassium	49900	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 16:20
7782-49-2	Selenium		3.00	5.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:20
7440-22-4	Silver		1.00	2.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:54
7440-23-5	Sodium	893000	400	6000	10000	2	D	SW6010C	0L28001	01/04/11 12:02
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	01/03/11 16:20
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	01/03/11 16:20
7440-66-6	Zinc		5.00	10.0	20.0	1	U	SW6010C	0L28001	01/03/11 16:20

# ANALYSIS DATA SHEET

BCHMS-GW-025-1210

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Ground Water  
 Sampled: 12/09/10 09:00  
 % Solids: 0.00

SDG: CTOJM17KW\_001  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012118-09  
 Received: 12/10/10 08:15

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17016	12/20/10 13:28
7429-90-5	Aluminum	119	50.0	100	200	1	I	SW6010C	0L28001	01/03/11 16:24
7440-36-0	Antimony		5.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:24
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:24
7440-39-3	Barium		5.00	10.0	40.0	1	U	SW6010C	0L28001	12/29/10 16:59
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	01/03/11 16:24
7440-43-9	Cadmium	1.69	1.00	2.00	5.00	1	I	SW6010C	0L28001	01/03/11 16:24
7440-70-2	Calcium	104000	1000	2000	5000	1		SW6010C	0L28001	01/03/11 16:24
7440-47-3	Chromium		2.00	4.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:24
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 16:59
7440-50-8	Copper		4.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:24
7439-89-6	Iron	68.8	30.0	60.0	100	1	I	SW6010C	0L28001	01/03/11 16:24
7439-92-1	Lead		1.50	3.00	3.00	1	U	SW6010C	0L28001	12/29/10 16:59
7439-95-4	Magnesium	25900	1000	3000	5000	1		SW6010C	0L28001	01/03/11 16:24
7439-96-5	Manganese	3.37	3.00	6.00	15.0	1	I	SW6010C	0L28001	01/03/11 16:24
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:59
7440-09-7	Potassium	3040	200	3000	5000	1	XI	SW6010C	0L28001	01/03/11 16:24
7782-49-2	Selenium		3.00	5.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:24
7440-22-4	Silver		1.00	2.00	10.0	1	U	SW6010C	0L28001	12/29/10 16:59
7440-23-5	Sodium	94500	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 16:24
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	01/03/11 16:24
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	01/03/11 16:24
7440-66-6	Zinc		5.00	10.0	20.0	1	U	SW6010C	0L28001	01/03/11 16:24

# ANALYSIS DATA SHEET

**BCHMS-GW-026-1210**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Water  
 Sampled: 12/09/10 09:50  
 % Solids: 0.00

SDG: CTOJM17KW\_001  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012118-10  
 Received: 12/10/10 08:15

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17016	12/20/10 13:30
7429-90-5	Aluminum	749	50.0	100	200	1		SW6010C	0L28001	01/03/11 16:29
7440-36-0	Antimony		5.00	8.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:29
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:29
7440-39-3	Barium	12.5	5.00	10.0	40.0	1	I	SW6010C	0L28001	12/29/10 17:03
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	01/03/11 16:29
7440-43-9	Cadmium	2.10	1.00	2.00	5.00	1	I	SW6010C	0L28001	01/03/11 16:29
7440-70-2	Calcium	283000	1000	2000	5000	1		SW6010C	0L28001	01/03/11 16:29
7440-47-3	Chromium	3.14	2.00	4.00	10.0	1	I	SW6010C	0L28001	01/03/11 16:29
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 17:03
7440-50-8	Copper	4.83	4.00	8.00	10.0	1	I	SW6010C	0L28001	01/03/11 16:29
7439-89-6	Iron	709	30.0	60.0	100	1		SW6010C	0L28001	01/03/11 16:29
7439-92-1	Lead	3.80	1.50	3.00	3.00	1		SW6010C	0L28001	12/29/10 17:03
7439-95-4	Magnesium	22100	1000	3000	5000	1		SW6010C	0L28001	01/03/11 16:29
7439-96-5	Manganese	14.0	3.00	6.00	15.0	1	I	SW6010C	0L28001	01/03/11 16:29
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 17:03
7440-09-7	Potassium	1330	200	3000	5000	1	X I	SW6010C	0L28001	01/03/11 16:29
7782-49-2	Selenium		3.00	5.00	10.0	1	U	SW6010C	0L28001	01/03/11 16:29
7440-22-4	Silver		1.00	2.00	10.0	1	U	SW6010C	0L28001	12/29/10 17:03
7440-23-5	Sodium	47000	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 16:29
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	01/03/11 16:29
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	01/03/11 16:29
7440-66-6	Zinc	5.91	5.00	10.0	20.0	1	I	SW6010C	0L28001	01/03/11 16:29

**APPENDIX C**

**SUPPORT DOCUMENTATION**

*Shauna Stotler*  
 12-10-10 08:15  
 CP 12-10-10

TETRA TECH NUS, INC

CHAIN OF CUSTODY  
 NUMBER: ED00000143-1



Project No: <b>112G02608</b>	Facility: <b>KEY WEST NAS</b>	Project Manager: <b>Shauna Stotler-Hardy</b>	Carrier: <b>Federal Express</b>	Laboratory Name: <b>Empirical Laboratories, LLC 621 Mainstream Drive Nashville, TN 37228</b>
Task No: <b>JM17</b>	Turn Around Time: <b>Standard</b>	Field Ops Leader: <b>Gary Braganza</b>	Carrier/Waybill No.	Point of Contact: <b>Kim Kostzer (615) 345-1115</b>

Date	Sample ID #	Time	Analysis	Loc ID	Matrix	Description	Preservative	Container Count	Container Type	Container Reqs	Comments
12/08/2010	BCHMS-GW-021-1210	10:00	SW846 8260B	BCHMS-GW021	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/08/2010	BCHMS-GW-021-1210	10:00	SW846 8720D/8270DSIM	BCHMS-GW021	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber 1L	1L	
12/08/2010	BCHMS-GW-021-1210	10:00	SW846 6020A	BCHMS-GW021	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml	
12/08/2010	BCHMS-GW-021-1210	10:00	FL PRO	BCHMS-GW021	GW	TRPH	4°C/HCL	2	Glass - Amber 1L	1L	
12/08/2010	BCHMS-GW-022-1210	10:50	SW846 8260B	BCHMS-GW022	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/08/2010	BCHMS-GW-022-1210	10:50	SW846 8720D/8270DSIM	BCHMS-GW022	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber 1L	1L	
12/08/2010	BCHMS-GW-022-1210	10:50	SW846 6020A	BCHMS-GW022	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml	
12/08/2010	BCHMS-GW-022-1210	10:50	FL PRO	BCHMS-GW022	GW	TRPH	4°C/HCL	2	Glass - Amber 1L	1L	
12/08/2010	BCHMS-GW-023D-1210	15:00	SW846 8260B	BCHMS-GW023D	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/08/2010	BCHMS-GW-023D-1210	15:00	SW846 8720D/8270DSIM	BCHMS-GW023D	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber 1L	1L	
12/08/2010	BCHMS-GW-023D-1210	15:00	SW846 6020A	BCHMS-GW023D	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml	
12/08/2010	BCHMS-GW-023D-1210	15:00	FL PRO	BCHMS-GW023D	GW	TRPH	4°C/HCL	2	Glass - Amber 1L	1L	
12/08/2010	BCHMS-GW-024-1210	14:30	SW846 8260B	BCHMS-GW024	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/08/2010	BCHMS-GW-024-1210	14:30	SW846 8720D/8270DSIM	BCHMS-GW024	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber 1L	1L	
12/08/2010	BCHMS-GW-024-1210	14:30	SW846 6020A	BCHMS-GW024	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml	
12/08/2010	BCHMS-GW-024-1210	14:30	FL PRO	BCHMS-GW024	GW	TRPH	4°C/HCL	2	Glass - Amber 1L	1L	
12/08/2010	BCHMS-GW-024-1210	14:30	SW846 8082A/8081B	BCHMS-GW024	GW	PCBs/Pesticides	4°C	3	Glass - Amber 1L	1L	
12/08/2010	BCHMS-GW-027-1210	13:30	SW846 8260B	BCHMS-GW027	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/08/2010	BCHMS-GW-027-1210	13:30	SW846 8720D/8270DSIM	BCHMS-GW027	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber 1L	1L	
12/08/2010	BCHMS-GW-027-1210	13:30	SW846 6020A	BCHMS-GW027	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml	
12/08/2010	BCHMS-GW-027-1210	13:30	FL PRO	BCHMS-GW027	GW	TRPH	4°C/HCL	2	Glass - Amber 1L	1L	
12/09/2010	BCHMS-GW-017-1210	14:00	SW846 8260B	BCHMS-GW017	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	

*10/12/18*

01 → -02 → -03 → -04 → -05 → -06

10/12/118

12/09/2010	BCHMS-GW-017-1210	14:00	SW846 8720D/8270DSIM	BCHMS-GW017	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-017-1210	14:00	SW846 6020A	BCHMS-GW017	GW	Metals	4°C/HNO3	2	Plastic - PE 125ml
12/09/2010	BCHMS-GW-017-1210	14:00	FL PRO	BCHMS-GW017	GW	TRPH	4°C/HCL	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-018-1210	15:00	SW846 8260B	BCHMS-GW018	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear 40ml vials
12/09/2010	BCHMS-GW-018-1210	15:00	SW846 8720D/8270DSIM	BCHMS-GW018	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-018-1210	15:00	SW846 6020A	BCHMS-GW018	GW	Metals	4°C/HNO3	2	Plastic - PE 125ml
12/09/2010	BCHMS-GW-018-1210	15:00	FL PRO	BCHMS-GW018	GW	TRPH	4°C/HCL	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-020D-1210	10:40	SW846 8260B	BCHMS-GW020D	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear 40ml vials
12/09/2010	BCHMS-GW-020D-1210	10:40	SW846 8720D/8270DSIM	BCHMS-GW020D	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-020D-1210	10:40	SW846 6020A	BCHMS-GW020D	GW	Metals	4°C/HNO3	2	Plastic - PE 125ml
12/09/2010	BCHMS-GW-020D-1210	10:40	FL PRO	BCHMS-GW020D	GW	TRPH	4°C/HCL	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-025-1210	09:00	SW846 8260B	BCHMS-GW025	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear 40ml vials
12/09/2010	BCHMS-GW-025-1210	09:00	SW846 8720D/8270DSIM	BCHMS-GW025	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-025-1210	09:00	SW846 6020A	BCHMS-GW025	GW	Metals	4°C/HNO3	2	Plastic - PE 125ml
12/09/2010	BCHMS-GW-025-1210	09:00	FL PRO	BCHMS-GW025	GW	TRPH	4°C/HCL	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-025-1210	09:00	SW846 8082A/8081B	BCHMS-GW025	GW	PCBs/Pesticides	4°C	3	Glass - Amber 1L
12/09/2010	BCHMS-GW-026-1210	09:50	SW846 8260B	BCHMS-GW026	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear 40ml vials
12/09/2010	BCHMS-GW-026-1210	09:50	SW846 8720D/8270DSIM	BCHMS-GW026	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-026-1210	09:50	SW846 6020A	BCHMS-GW026	GW	Metals	4°C/HNO3	2	Plastic - PE 125ml
12/09/2010	BCHMS-GW-026-1210	09:50	FL PRO	BCHMS-GW026	GW	TRPH	4°C/HCL	2	Glass - Amber 1L
12/09/2010	BCHMS-TB01-1210	00:00	SW846 8260B	QC	AQ	VOCs (low level analysis)	4°C/HCL	2	Glass - Clear 40ml vials Trip Blank

1. Relinquished By: <b>Gary Braganza</b>	Date: 12/09/2010	Time: 17:04	Received By: <b>Federal Express</b>	Date: 12/09/2010	Time: 18:04
2. Relinquished By:	Date:	Time:	Received By:	Date:	Time:
3. Relinquished By:	Date:	Time:	Received By: <i>[Signature]</i>	Date: 12-10-10	Time: 08:15

Comments:  
2.7°C

## Sample Delivery Group Case Narrative

### Receipt Information

The samples were received within the preservation guidelines for the associated methods. The information associated with sample receipt and the Sample Delivery Group (SDG) are included within section 4 of this package, which also provides information on the link between the client sample ID listed on the COC and laboratory's assigned unique sample ID or WorkOrder #. The sample is tracked through the laboratory for all analysis via the assigned WorkOrder #.

All samples that were received were analyzed and none of the samples were placed on hold without analyses. There were no subcontracted analyses for this SDG.

As per the client, SIM PAH that is listed on the CoC is not required but SW7470 for Mercury that is not listed is required.

### Changes to the Revision

This is an original submittal of the final report package.

### Analytical Information

All samples were prepped (where applicable) and analyzed within the standard allowed holding times, unless noted within the exceptions listed below. The laboratory analyzed all samples within the program and method guidelines. The following information is provided specific to individual methods:

#### Chromatographic Flags for Manual Integration:

The following letters are used to denote manual integrations on the laboratory's raw data in association with chromatographic integrations:

- A:** The peak was manually integrated as it was not integrated in the original chromatogram.
- B:** The peak was manually integrated due to resolution or coelution issues in the original chromatogram.
- C:** The peak was manually integrated to correct the baseline from the original chromatogram.
- D:** The peak was manually integrated to identify the correct peak as the wrong peak was identified in the original chromatogram.
- E:** The peak was manually integrated to include the entire peak as the original chromatogram only integrated part of the peak.

#### SW8260B:

The batch spike associated to batch 0L16012 exceeded criteria with a positive bias for Bromodichloromethane. The batch spike associated to batch 0L17010 exceeded criteria with a positive bias for Bromodichloromethane and 1,2-Dichloroethane.

The continuing calibration verifications exceeded criteria in 0L35101-CCV1 with a positive bias for Bromodichloromethane and Dibromochloromethane and with a

negative bias for Bromomethane and in 0L35202-CCV1 with a negative bias for Bromomethane and with a positive bias for Acetone, Bromodichloromethane, Carbon Disulfide, Carbon Tetrachloride, Chloroform, Dibromochloromethane, Dichlorodifluoromethane, 1,2-Dichloroethane, Methyl Acetate, 1,1,1-Trichloroethane, Trichlorofluoromethane and 1,1,2-Trichloro-1,2,2-trifluoroethane.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8270C:**

The surrogate Terphenyl-d14 exceeded criteria with a negative bias in sample 1012118-01. The surrogate Nitrobenzene-d5 exceeded criteria with a positive bias in sample 1012118-04. The surrogates 2-Fluorobiphenyl and 2-Fluorophenol exceeded criteria with a negative bias in sample 1012118-06. All surrogates recovered low in samples 1012118-03 but when this was discovered, the sample was already two times outside the EPA recommended holding time.

The batch spikes associated to batch 0L13015 exceeded recovery criteria with a positive bias for 3,3'-Dichlorobenzidine, Atrazine, 4-Bromophenyl-phenyl ether, Butylbenzylphthalate, Carbazole, Di-n-butylphthalate, Diethylphthalate, 4,6-Dinitro-2-methylphenol, 2,4-Dinitrophenol, 2,4-Dinitrotolene, 2,6-Dinitrotoluene, Di-n-octylphthalate, Bis(2-ethylhexyl)phthalate, Hexachlorobenzene, 4-Nitro-3-chlorophenol, 2-Nitroaniline, Pentachlorophenol, 2,4,6-Trichlorophenol, 2,4,5-Trichlorophenol and Dimethyl phthalate and exceeded the relative percent difference criteria for 4-Nitroaniline.

The internal standards Acenaphthene-d10 and Phenanthrene-d10 exceeded criteria in sample 1012118-04. Compounds associated to these internal standards are qualified with an "S".

The continuing calibration verification 0L36407-CCV1 exceeded criteria with a negative bias for Benzaldehyde and 1,1'-Biphenyl and with a positive bias for Caprolactam, 4-Chloro-3-methylphenol, 2,4-Dinitrophenol, Di-n-octylphthalate, 2-Nitroaniline and 2-Nitrophenol.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8081B:**

The surrogate Decachlorobiphenyl exceeded criteria on both columns with a negative bias in samples 1012118-04 and -09.

The continuing calibration verification 0L36218-CCV4 exceeded criteria with a positive bias on column 1 for 4,4'-DDT, Alpha-BHC, Delta-BHC, Gamma-BHC and Heptachlor.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8082A:**

The surrogate Decachlorobiphenyl exceeded criteria on both columns with a negative bias in samples 1012118-04 and -09.

The continuing calibration verification 0L36218-CCV3 exceeded criteria with a positive bias on column 2 for Aroclor-1260.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**FL-PRO:**

The surrogate o-Terphenyl exceeded criteria with a negative bias in 0L13001-BLK1, -BS1, 1012118-01, -02, -03, -05, -06, -07, -08, -09 and -10. The surrogates 2-Fluorobiphenyl and o-Terphenyl exceeded criteria with a positive bias in sample 1012118-04.

The continuing calibration verifications exceeded criteria in 0L35103-CCV3 with a positive bias for Petroleum Range Organics and 2-Fluorobiphenyl and in 0L35103-CCV4 and -CCV5 with a positive bias for 2-Fluorobiphenyl.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW6010B/SW7470A:**

Samples 1012118-02, -05 and -07 are qualified with an M for Lead to indicate that the DL was raised due to interference.

The continuing calibration verification 1A00414-CCV3 exceeded criteria with a positive bias for Potassium and Sodium.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012118 Number of Coolers: 1 of 6

Client: TTNUS Project: Key West NAS

Date/Time Received: 12/10/10 08:15 Date cooler(s) opened: 12/10/10

Opened By (print): Will Schwarz (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 2069

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
How many: 1 Seal date: 12/9/10 Seal Initials: ?

- 3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A
- 4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A
- 5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A
- 6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A
- 7. Was project identifiable from custody papers? .....  Yes  No  N/A
- 8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE

Temperature of Samples upon Receipt: Initial Value: 3.0 °C Correction Factor: -0.3 °C Final Value: 2.7 °C

Dates samples were logged-in: 12/10/10

9. Initial this form to acknowledge login of sample(s): (Name): Chris Powell (Initial): CP

- 10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A *ph 2*
- 11. Did all bottles arrive unbroken? .....  Yes  No  N/A *for 11*
- 12. Was all required bottle label information complete? .....  Yes  No  N/A *typed, & metals*
- 13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A *containers*
- 14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A
- 15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A
- 16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A
- 17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A
- 18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

*circled RCHMS-GWOZ7-1210 / Liter Amber Broken. Tagged and noted in element for the sample volume.*

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012118 Number of Coolers: 2 of 6

Client: TTNUS Project: Key West NAS

Date/Time Received: 12/10/10 08:15 Date cooler(s) opened: 12/10/10

Opened By (print): Will Schwed (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive? FedEx UPS DHL Hand Delivered  
EL Courier Other: \_\_\_\_\_

If applicable, enter airbill number here: 2220

2. Were custody seals on outside of cooler(s)? Yes No

How many: 1 Seal date: 12/9/10 Seal Initials: ?

- 3. Were custody seals unbroken and intact at the date and time of arrival? Yes No N/A
- 4. Were custody papers sealed in a plastic bag included in the sample cooler? Yes No N/A
- 5. Were custody papers filled out properly (ink, signed, etc.)? Yes No N/A
- 6. Did you sign custody papers in the appropriate place for acceptance? Yes No N/A
- 7. Was project identifiable from custody papers? Yes No N/A
- 8. If required, was enough ice present in the cooler(s)? Yes No N/A

Type of Coolant: (WET) DRY BLUE NONE -0.9  
Temperature of Samples upon Receipt: Initial Value: \_\_\_\_\_ °C Correction Factor: -0.3 °C Final Value: -1.2 °C

Dates samples were logged-in: 12/10/10

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
- 10. Were all bottle lids intact and sealed tightly? Yes No N/A
  - 11. Did all bottles arrive unbroken? Yes No N/A
  - 12. Was all required bottle label information complete? Yes No N/A
  - 13. Did all bottle labels agree with custody papers? Yes No N/A
  - 14. Were correct containers used for the analyses indicated? Yes No N/A
  - 15. Were preservative levels correct in all applicable sample containers? Yes No N/A
  - 16. Was residual chlorine present in any applicable sample containers? Yes No N/A
  - 17. Was sufficient amount of sample sent for the analyses required? Yes No N/A
  - 18. Was headspace present in any included VOA vials? Yes No N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

Direct Contact

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EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012118 Number of Coolers: 3 of 6

Client: TTNUS Project: Key West NAS

Date/Time Received: 12/10/10 08:15 Date cooler(s) opened: 12/10/10

Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 1934

2. Were custody seals on outside of cooler(s)?  Yes  No  
How many: 1 Seal date: 12/9/10 Seal Initials: ?

- 3. Were custody seals unbroken and intact at the date and time of arrival?  Yes  No  N/A
- 4. Were custody papers sealed in a plastic bag included in the sample cooler?  Yes  No  N/A
- 5. Were custody papers filled out properly (ink, signed, etc.)?  Yes  No  N/A
- 6. Did you sign custody papers in the appropriate place for acceptance?  Yes  No  N/A
- 7. Was project identifiable from custody papers?  Yes  No  N/A
- 8. If required, was enough ice present in the cooler(s)?  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE

Temperature of Samples upon Receipt: Initial Value: 1.9 °C Correction Factor: -0.3 °C Final Value: 1.6 °C

Dates samples were logged-in: 12/10/10

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
- 10. Were all bottle lids intact and sealed tightly?  Yes  No  N/A
  - 11. Did all bottles arrive unbroken?  Yes  No  N/A
  - 12. Was all required bottle label information complete?  Yes  No  N/A
  - 13. Did all bottle labels agree with custody papers?  Yes  No  N/A
  - 14. Were correct containers used for the analyses indicated?  Yes  No  N/A
  - 15. Were preservative levels correct in all applicable sample containers?  Yes  No  N/A
  - 16. Was residual chlorine present in any applicable sample containers?  Yes  No  N/A
  - 17. Was sufficient amount of sample sent for the analyses required?  Yes  No  N/A
  - 18. Was headspace present in any included VOA vials?  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

House TB

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EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012118 Number of Coolers: 4 of 6  
Client: TTNUS Project: Key West NAS  
Date/Time Received: 12/10/10 08:15 Date cooler(s) opened: 12/10/10  
Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive? FedEx UPS DHL Hand Delivered  
EL Courier Other: \_\_\_\_\_

If applicable, enter airbill number here: 1452

2. Were custody seals on outside of cooler(s)? .....  Yes No  
How many: 1 Seal date: 12/9/10 Seal Initials: ?

3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes No N/A  
4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes No N/A  
5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes No N/A  
6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes No N/A  
7. Was project identifiable from custody papers? .....  Yes No N/A  
8. If required, was enough ice present in the cooler(s)? .....  Yes No N/A

Type of Coolant:  WET DRY BLUE NONE  
Temperature of Samples upon Receipt: Initial Value: 4.8 °C Correction Factor: -0.3 °C Final Value: 4.5 °C

Dates samples were logged-in: 12/10/10

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_  
10. Were all bottle lids intact and sealed tightly? ..... Yes No N/A  
11. Did all bottles arrive unbroken? ..... Yes No N/A  
12. Was all required bottle label information complete? ..... Yes No N/A  
13. Did all bottle labels agree with custody papers? ..... Yes No N/A  
14. Were correct containers used for the analyses indicated? ..... Yes No N/A  
15. Were preservative levels correct in all applicable sample containers? ..... Yes No N/A  
16. Was residual chlorine present in any applicable sample containers? ..... Yes No N/A  
17. Was sufficient amount of sample sent for the analyses required? ..... Yes No N/A  
18. Was headspace present in any included VOA vials? ..... Yes No N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

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EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012118 Number of Coolers: 5 of 6

Client: TTNUS Project: Key West NAS

Date/Time Received: 12/10/10 08:15 Date cooler(s) opened: 12/10/10

Opened By (print): Will Schmid (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive? FedEx UPS DHL Hand Delivered  
EL Courier Other: \_\_\_\_\_

If applicable, enter airbill number here: 1740

2. Were custody seals on outside of cooler(s)? .....  Yes No  
How many: 1 Seal date: 12/9/10 Seal Initials: ?

3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes No N/A  
4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes No N/A  
5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes No N/A  
6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes No N/A  
7. Was project identifiable from custody papers? .....  Yes No N/A  
8. If required, was enough ice present in the cooler(s)? .....  Yes No N/A

Type of Coolant:  WET DRY BLUE NONE

Temperature of Samples upon Receipt: Initial Value: 3.9 °C Correction Factor: -0.3 °C Final Value: 3.6 °C

Dates samples were logged-in: 12/10/10

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
10. Were all bottle lids intact and sealed tightly? .....  Yes No N/A  
11. Did all bottles arrive unbroken? .....  Yes No N/A  
12. Was all required bottle label information complete? .....  Yes No N/A  
13. Did all bottle labels agree with custody papers? .....  Yes No N/A  
14. Were correct containers used for the analyses indicated? .....  Yes No N/A  
15. Were preservative levels correct in all applicable sample containers? .....  Yes No N/A  
16. Was residual chlorine present in any applicable sample containers? .....  Yes No N/A  
17. Was sufficient amount of sample sent for the analyses required? .....  Yes No N/A  
18. Was headspace present in any included VOA vials? .....  Yes No N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

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EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012118 Number of Coolers: 6 of 6  
Client: TTNUS Project: Key West NAS  
Date/Time Received: 12/10/10 08:15 Date cooler(s) opened: 12/10/10  
Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 1599

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
How many: 1 Seal date: 12/9/10 Seal Initials: ?
3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A
4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A
5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A
6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A
7. Was project identifiable from custody papers? .....  Yes  No  N/A
8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE

Temperature of Samples upon Receipt: Initial Value: 3.4 °C Correction Factor: -0.3 °C Final Value: 3.1 °C

Dates samples were logged-in: 12/10/10

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A
11. Did all bottles arrive unbroken? .....  Yes  No  N/A
12. Was all required bottle label information complete? .....  Yes  No  N/A
13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A
14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A
15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A
16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A
17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A
18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

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SDG CTOJMI7KW

<b>SORT</b>	<b>UNITS</b>	<b>NSAMPLE</b>	<b>LAB_ID</b>	<b>QC_TYPE</b>	<b>SAMP_DATE</b>	<b>EXTR_DATE</b>	<b>ANAL_DATE</b>	<b>SMP_EXTR</b>	<b>EXTR_ANL</b>	<b>SMP_ANL</b>
HG	MG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-021-1210	1012153-26	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	UG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-027-1210	1012118-05	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR_ANL	SMP_ANL
HG	UG/L	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-005-1210	1012153-03	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-006-1210	1012153-04	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR_ANL	SMP_ANL
HG	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
M	MG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-023-1210	1012153-28RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-021-1210	1012153-26RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-022-1210	1012153-27RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-022-1210	1012153-27RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-021-1210	1012153-26RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-020-1210	1012153-25RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-020-1210	1012153-25RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-019-1210	1012153-24RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-019-1210	1012153-24RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-023-1210	1012153-28RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-026-1210	1012153-31RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-018-1210	1012153-23RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-018-1210	1012153-23RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-019-1210	1012153-24RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-028-1210	1012153-32RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-026-1210	1012153-31RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-018-1210	1012153-23RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-FD02-1210	1012153-34RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-FD02-1210	1012153-34RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/28/2010	12/30/2010	14	2	16
M	MG/KG	BCHMS-SO-FD01-1210	1012153-33RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-FD01-1210	1012153-33RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-025-1210	1012153-30RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-028-1210	1012153-32RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-023-1210	1012153-28RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-025-1210	1012153-30RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-025-1210	1012153-30RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-024-1210	1012153-29RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-024-1210	1012153-29RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/28/2010	12/30/2010	14	2	16
M	MG/KG	BCHMS-SO-004-1210	1012153-14RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-010-1210	1012153-16RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-010-1210	1012153-16RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-010-1210	1012153-16RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-007-1210	1012153-15RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-007-1210	1012153-15RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-012-1210	1012153-17RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-007-1210	1012153-15RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-004-1210	1012153-14RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-002-1210	1012153-13RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-002-1210	1012153-13RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-002-1210	1012153-13RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-015-1210	1012153-20RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-017-1210	1012153-22RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-017-1210	1012153-22RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-004-1210	1012153-14RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-012-1210	1012153-17RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-016-1210	1012153-21RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-016-1210	1012153-21RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-015-1210	1012153-20RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-013-1210	1012153-18RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-013-1210	1012153-18RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB ID	GC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-013-1210	1012153-18RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-015-1210	1012153-20RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-014-1210	1012153-19RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-014-1210	1012153-19RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-014-1210	1012153-19RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	UG/L	BCHMS-GW-015-1210	1012134-03RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-012-1210	1012153-11RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-017-1210	1012118-06RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-016-1210	1012134-04RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-019-1210	1012134-05RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-018-1210	1012118-07RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-014-1210	1012134-02RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-013-1210	1012134-01RE4	NM	12/10/2010	12/28/2010	01/04/2011	18	7	25
M	UG/L	BCHMS-GW-013-1210	1012134-01RE3	NM	12/10/2010	12/28/2010	01/04/2011	18	7	25
M	UG/L	BCHMS-GW-013-1210	1012134-01RE2	NM	12/10/2010	12/28/2010	01/04/2011	18	7	25
M	UG/L	BCHMS-GW-013-1210	1012134-01RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-012-1210	1012153-11RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-021-1210	1012118-01RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-011-1210	1012153-10RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-012-1210	1012153-11RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-027-1210	1012118-05RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-20D-1210	1012118-08RE2	NM	12/09/2010	12/28/2010	01/04/2011	19	7	26
M	UG/L	BCHMS-GW-20D-1210	1012118-08RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE4	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24

SORT	UNITS	NSAMPLE	LAB ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-006-1210	1012153-04RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-011-1210	1012153-10RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-028-1210	1012134-09RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-028-1210	1012134-09RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-028-1210	1012134-09RE4	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-027-1210	1012118-05	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-026-1210	1012118-10RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-025-1210	1012118-09RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-024-1210	1012118-04RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-023D-1210	1012118-03RE2	NM	12/08/2010	12/28/2010	01/04/2011	20	7	27

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-023D-1210	1012118-03RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-022-1210	1012118-02RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-028-1210	1012134-09RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-011-1210	1012153-10RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-007-1210	1012153-05RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-GW-003-1210	1012134-08RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-003-1210	1012134-08RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-002-1210	1012134-07RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-002-1210	1012134-07RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-002-1210	1012134-07RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-004-1210	1012153-02RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-001-1210	1012134-06RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-004-1210	1012153-02RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-FD002-1210	1012153-06RE4	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-FD002-1210	1012153-06RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-FD002-1210	1012153-06RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-FD002-1210	1012153-06RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-FD001-1210	1012153-01RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-FD001-1210	1012153-01RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-FD001-1210	1012153-01RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-FD001-1210	1012153-01RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-001-1210	1012134-06RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-008-1210	1012153-07RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-010-1210	1012153-09RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-010-1210	1012153-09RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-010-1210	1012153-09RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-009D-1210	1012153-08RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-003-1210	1012134-08RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-008-1210	1012153-07RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-004-1210	1012153-02RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-007-1210	1012153-05RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-005-1210	1012153-03RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-004-1210	1012153-02RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-008-1210	1012153-07RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-005-1210	1012153-03RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-GW-007-1210	1012153-05RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-005-1210	1012153-03RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-005-1210	1012153-03RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-006-1210	1012153-04	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-006-1210	1012153-04RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-GW-006-1210	1012153-04RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-007-1210	1012153-05RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23

# METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Instrument: ME-FIMS

Analyte	MDL	MRL	Units	Method
Mercury	0.0800	0.200	ug/L	SW7470A

# METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Instrument: ME-ICP

Analyte	MDL	MRL	Units	Method
Aluminum	50.0	200	ug/L	SW6010C
Antimony	5.00	10.0	ug/L	SW6010C
Arsenic	3.00	10.0	ug/L	SW6010C
Barium	5.00	40.0	ug/L	SW6010C
Beryllium	1.00	5.00	ug/L	SW6010C
Cadmium	1.00	5.00	ug/L	SW6010C
Calcium	1000	5000	ug/L	SW6010C
Chromium	2.00	10.0	ug/L	SW6010C
Cobalt	5.00	12.5	ug/L	SW6010C
Copper	4.00	10.0	ug/L	SW6010C
Iron	30.0	100	ug/L	SW6010C
Lead	1.50	3.00	ug/L	SW6010C
Magnesium	1000	5000	ug/L	SW6010C
Manganese	3.00	15.0	ug/L	SW6010C
Nickel	3.00	10.0	ug/L	SW6010C
Potassium	200	5000	ug/L	SW6010C
Selenium	3.00	10.0	ug/L	SW6010C
Silver	1.00	10.0	ug/L	SW6010C
Sodium	200	5000	ug/L	SW6010C
Thallium	3.00	8.00	ug/L	SW6010C
Vanadium	5.00	12.5	ug/L	SW6010C
Zinc	5.00	20.0	ug/L	SW6010C

10A-IN  
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Empirical Laboratories, LLCContract: Tetra Tech NUS, Inc. (T010)SDG No.: CTOJM17KW\_001ICP-AES Instrument ID: Thermo Jarrell Ashe ICAPDate: 9/11/2009

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Al	Ca	Fe	Mg	Ag
Aluminum	396.1	0.0000000	0.0000000	-0.0000600	0.0000000	0.0000000
Antimony	206.8	0.0000000	0.0000000	0.0000300	0.0000000	0.0000000
Arsenic	189.0	0.0000120	0.0000000	0.0000020	0.0000000	0.0000000
Barium	233.5	0.0000000	0.0000000	0.0000090	0.0000000	0.0000000
Beryllium	313.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.8	0.0000000	0.0000000	-0.0000050	0.0021850	0.0000000
Calcium	317.9	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.7	0.0000000	0.0000000	0.0000040	0.0056080	0.0000000
Cobalt	228.6	0.0000000	0.0000000	0.0000340	0.0000000	0.0000000
Copper	224.7	0.0000000	0.0000000	0.0002930	0.0000000	0.0000000
Iron	261.1	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.3	0.0002980	0.0000000	0.0000080	0.0003250	0.0000000
Magnesium	279.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.6	0.0000000	0.0000000	0.0000140	0.0287450	0.0000000
Nickel	231.6	0.0000000	0.0000000	-0.0000040	0.0000000	0.0000000
Potassium	766.4	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	0.0000200	0.0000000	0.0000000
Silver	328.0	0.0000000	0.0000000	0.0000020	0.0000000	0.0000000
Sodium	330.2	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.8	0.0000000	0.0000000	0.0000080	0.0000000	0.0000000
Vanadium	292.4	0.0000000	0.0000000	-0.0000160	0.0000000	0.0000000
Zinc	206.2	0.0000000	0.0000000	0.0000000	0.0013660	0.0000000

Comments:

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10A-IN  
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Empirical Laboratories, LLCContract: Tetra Tech NUS, Inc. (T010)SDG No.: CTOJM17KW\_001ICP-AES Instrument ID: Thermo Jarrell Ashe ICAPDate: 9/11/2009

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		As	B	Ba	Be	Cd
Aluminum	396.1	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.8	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	233.5	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.8	0.0045780	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.9	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.7	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.6	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.7	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	261.1	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.3	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.6	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.6	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.4	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	330.2	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.8	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.4	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	206.2	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

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## ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Empirical Laboratories, LLCContract: Tetra Tech NUS, Inc. (T010)SDG No.: CTOJM17KW\_001ICP-AES Instrument ID: Thermo Jarrell Ashe ICAPDate: 9/11/2009

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Co	Cr	Cu	K	Mn
Aluminum	396.1	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.8	0.0000000	0.0060190	0.0000000	0.0000000	0.0000000
Arsenic	189.0	0.0000000	-0.0126310	0.0000000	0.0000000	0.0000000
Barium	233.5	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.8	-0.0025320	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.9	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.7	0.0000000	0.0000000	0.0000000	0.0000000	0.0002500
Cobalt	228.6	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.7	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	261.1	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.3	0.0000000	0.0000000	0.0022600	0.0000000	0.0000990
Magnesium	279.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.6	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.6	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.4	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0009430
Silver	328.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000650
Sodium	330.2	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.8	0.0040870	0.0002110	0.0000000	0.0000000	0.0014070
Vanadium	292.4	0.0000000	-0.0023860	0.0000000	0.0000000	-0.0003500
Zinc	206.2	0.0000000	-0.0003020	0.0000000	0.0000000	0.0000000

Comments:

10A-IN  
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Empirical Laboratories, LLCContract: Tetra Tech NUS, Inc. (T010)SDG No.: CTOJM17KW\_001ICP-AES Instrument ID: Thermo Jarrell Ashe ICAPDate: 9/11/2009

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Mo	Na	Ni	Pb	Sb
Aluminum	396.1	0.0317300	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.8	-0.0012790	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.0	-0.0001200	0.0000000	0.0000000	0.0000000	0.0000000
Barium	233.5	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.0	-0.0000250	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.8	0.0000000	0.0000000	-0.0000880	0.0000000	0.0000000
Calcium	317.9	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.7	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.6	-0.0012520	0.0000000	0.0001940	0.0000000	0.0000000
Copper	224.7	0.0018210	0.0000000	-0.0088250	0.0030200	0.0000000
Iron	261.1	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.3	-0.0026440	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.6	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.6	-0.0000220	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.4	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000830	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.0	-0.0000590	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	330.2	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.8	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.4	-0.0001060	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	206.2	0.0001730	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

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## ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Empirical Laboratories, LLCContract: Tetra Tech NUS, Inc. (T010)SDG No.: CTOJM17KW\_001ICP-AES Instrument ID: Thermo Jarrell Ashe ICAPDate: 9/11/2009

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Se	Sn	Ti	Tl	V
Aluminum	396.1	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.8	0.0000000	0.0000000	0.0004790	0.0000000	-0.0017000
Arsenic	189.0	0.0000000	0.0000000	0.0000750	0.0000000	0.0000000
Barium	233.5	0.0000000	0.0000000	0.0000000	0.0000000	-0.0017020
Beryllium	313.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0001050
Cadmium	228.8	0.0000000	0.0000000	0.0000000	0.0000000	0.0000560
Calcium	317.9	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.7	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000700
Cobalt	228.6	0.0000000	0.0000000	0.0021640	0.0000000	0.0000000
Copper	224.7	0.0000000	0.0000000	0.0002300	0.0000000	0.0000000
Iron	261.1	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.3	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000360
Magnesium	279.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.6	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000300
Nickel	231.6	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.4	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	0.0000220	0.0000000	0.0000540
Silver	328.0	0.0000000	0.0000000	0.0000000	0.0000000	-0.0064060
Sodium	330.2	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.8	0.0000000	0.0000000	-0.0012830	0.0000000	0.0004040
Vanadium	292.4	0.0000000	0.0000000	0.0006540	0.0000000	0.0000000
Zinc	206.2	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

10A-IN  
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Empirical Laboratories, LLCContract: Tetra Tech NUS, Inc. (T010)SDG No.: CTOJM17KW\_001ICP-AES Instrument ID: Thermo Jarrell Ashe ICAPDate: 9/11/2009

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Zn				
Aluminum	396.1	0.0000000				
Antimony	206.8	0.0000000				
Arsenic	189.0	0.0000000				
Barium	233.5	0.0000000				
Beryllium	313.0	0.0000000				
Cadmium	228.8	0.0000000				
Calcium	317.9	0.0000000				
Chromium	267.7	0.0000000				
Cobalt	228.6	0.0000000				
Copper	224.7	0.0000000				
Iron	261.1	0.0000000				
Lead	220.3	0.0000000				
Magnesium	279.0	0.0000000				
Manganese	257.6	0.0000000				
Nickel	231.6	0.0000000				
Potassium	766.4	0.0000000				
Selenium	196.0	0.0000000				
Silver	328.0	0.0000000				
Sodium	330.2	0.0000000				
Thallium	190.8	0.0000000				
Vanadium	292.4	0.0000000				
Zinc	206.2	0.0000000				

Comments:

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# ICP-AES AND ICP-MS LINEAR RANGES (QUARTERLY)

Lab Name: Empirical Laboratories, LLC

Client: Tetra Tech NUS, Inc. (T010)

SDG: CTOJM17KW\_001

Project: NAS Key West CTO JM17

ICP Instrument ID: ME-ICP Date: 09/11/2009

Analyte	Integ. Time (Sec.)	Concentration ug/L	M
Aluminum	15	500000	P
Antimony	15	10000	P
Arsenic	15	10000	P
Barium	15	5000	P
Beryllium	15	10000	P
Cadmium	15	10000	P
Calcium	15	500000	P
Chromium	15	10000	P
Cobalt	15	10000	P
Copper	15	10000	P
Iron	15	500000	P
Lead	15	10000	P
Magnesium	15	500000	P
Manganese	15	10000	P
Nickel	15	10000	P
Potassium	15	100000	P
Selenium	15	10000	P
Silver	15	2000	P
Sodium	15	500000	P
Thallium	15	10000	P
Vanadium	15	10000	P
Zinc	15	10000	P

# PREPARATION BATCH SUMMARY

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L17016 Batch Matrix: Water

Preparation: pMercury-W SW 7470A

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L17016-BLK1	12/17/10 13:50	30.00	30.00
LCS	0L17016-BS1	12/17/10 13:50	30.00	30.00
BCHMS-GW-021-1210	1012118-01	12/17/10 13:50	30.00	30.00
BCHMS-GW-022-1210	1012118-02	12/17/10 13:50	30.00	30.00
BCHMS-GW-023D-1210	1012118-03	12/17/10 13:50	30.00	30.00
BCHMS-GW-024-1210	1012118-04	12/17/10 13:50	30.00	30.00
BCHMS-GW-027-1210	1012118-05	12/17/10 13:50	30.00	30.00
BCHMS-GW-017-1210	1012118-06	12/17/10 13:50	30.00	30.00
BCHMS-GW-018-1210	1012118-07	12/17/10 13:50	30.00	30.00
BCHMS-GW-20D-1210	1012118-08	12/17/10 13:50	30.00	30.00
BCHMS-GW-025-1210	1012118-09	12/17/10 13:50	30.00	30.00
BCHMS-GW-026-1210	1012118-10	12/17/10 13:50	30.00	30.00

# LCS / LCS DUPLICATE RECOVERY

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Batch: 0L17016

Laboratory ID: 0L17016-BS1

Preparation: pMercury-W SW 7470A

Initial/Final: 30 mL / 30 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Mercury	2.000	1.615	80.7	80 - 120

# PREPARATION BATCH SUMMARY

**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L28001      Batch Matrix: Water

Preparation: MET 3005A

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L28001-BLK1	12/28/10 11:18	50.00	50.00
Blank	0L28001-BLK2	12/28/10 11:18	50.00	50.00
LCS	0L28001-BS1	12/28/10 11:18	50.00	50.00
LCS	0L28001-BS2	12/28/10 11:18	50.00	50.00
BCHMS-GW-021-1210	1012118-01	12/28/10 11:18	50.00	50.00
BCHMS-GW-021-1210	1012118-01RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-022-1210	1012118-02	12/28/10 11:18	50.00	50.00
BCHMS-GW-022-1210	1012118-02RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-023D-1210	1012118-03	12/28/10 11:18	50.00	50.00
BCHMS-GW-023D-1210	1012118-03RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-023D-1210	1012118-03RE2	12/28/10 11:18	50.00	50.00
BCHMS-GW-024-1210	1012118-04	12/28/10 11:18	50.00	50.00
BCHMS-GW-024-1210	1012118-04RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-027-1210	1012118-05	12/28/10 11:18	50.00	50.00
BCHMS-GW-027-1210	1012118-05RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-017-1210	1012118-06	12/28/10 11:18	50.00	50.00
BCHMS-GW-017-1210	1012118-06RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-018-1210	1012118-07	12/28/10 11:18	50.00	50.00
BCHMS-GW-018-1210	1012118-07RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-20D-1210	1012118-08	12/28/10 11:18	50.00	50.00
BCHMS-GW-20D-1210	1012118-08RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-20D-1210	1012118-08RE2	12/28/10 11:18	50.00	50.00
BCHMS-GW-025-1210	1012118-09	12/28/10 11:18	50.00	50.00
BCHMS-GW-025-1210	1012118-09RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-026-1210	1012118-10	12/28/10 11:18	50.00	50.00
BCHMS-GW-026-1210	1012118-10RE1	12/28/10 11:18	50.00	50.00

# LCS / LCS DUPLICATE RECOVERY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Batch: 0L28001

Laboratory ID: 0L28001-BS1

Preparation: MET\_3005A

Initial/Final: 50 mL / 50 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Barium	2000	2026	101	80 - 120
Cobalt	500.0	516.1	103	80 - 120
Lead	250.0	260.8	104	80 - 120
Nickel	500.0	517.3	103	80 - 120
Silver	250.0	252.4	101	80 - 120

# LCS / LCS DUPLICATE RECOVERY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Batch: 0L28001

Laboratory ID: 0L28001-BS2

Preparation: MET\_3005A

Initial/Final: 50 mL / 50 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Aluminum	2000	2063	103	80 - 120
Antimony	250.0	245.5	98.2	80 - 120
Arsenic	250.0	238.1	95.3	80 - 120
Beryllium	50.00	55.53	111	80 - 120
Cadmium	125.0	129.0	103	80 - 120
Calcium	5000	4877	97.5	80 - 120
Chromium	200.0	205.4	103	80 - 120
Copper	250.0	257.6	103	80 - 120
Iron	1000	1078	108	80 - 120
Magnesium	5000	5192	104	80 - 120
Manganese	500.0	541.4	108	80 - 120
Potassium	5000	5591	112	80 - 120
Selenium	250.0	239.6	95.8	80 - 120
Sodium	5000	5619	112	80 - 120
Thallium	250.0	248.2	99.3	80 - 120
Vanadium	500.0	506.3	101	80 - 120
Zinc	500.0	495.3	99.1	80 - 120

# ANALYSIS SEQUENCE SUMMARY

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35509

Instrument: ME-FIMS

Calibration: 0355003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0L35509-CAL1	122010w-002	12/20/10 11:28
Cal Standard	0L35509-CAL2	122010w-003	12/20/10 11:29
Cal Standard	0L35509-CAL3	122010w-004	12/20/10 11:31
Cal Standard	0L35509-CAL4	122010w-005	12/20/10 11:33
Cal Standard	0L35509-CAL5	122010w-006	12/20/10 11:35
Cal Standard	0L35509-CAL6	122010w-007	12/20/10 11:37
Cal Standard	0L35509-CAL7	122010w-008	12/20/10 11:39
Initial Cal Check	0L35509-ICV1	122010w-010	12/20/10 11:48
Initial Cal Blank	0L35509-ICB1	122010w-011	12/20/10 11:49
Instrument RL Check	0L35509-CRL1	122010w-012	12/20/10 11:51
Calibration Check	0L35509-CCV1	122010w-022	12/20/10 12:09
Calibration Blank	0L35509-CCB1	122010w-023	12/20/10 12:10
Calibration Check	0L35509-CCV2	122010w-034	12/20/10 12:31
Calibration Blank	0L35509-CCB2	122010w-035	12/20/10 12:33
LCS	0L17016-BS1	122010w-041	12/20/10 12:44
Blank	0L17016-BLK1	122010w-042	12/20/10 12:46
Calibration Check	0L35509-CCV3	122010w-046	12/20/10 12:52
Calibration Blank	0L35509-CCB3	122010w-047	12/20/10 12:54
BCHMS-GW-021-1210	1012118-01	122010w-054	12/20/10 13:07
BCHMS-GW-022-1210	1012118-02	122010w-055	12/20/10 13:08
BCHMS-GW-023D-1210	1012118-03	122010w-056	12/20/10 13:10
BCHMS-GW-024-1210	1012118-04	122010w-057	12/20/10 13:12
Calibration Check	0L35509-CCV4	122010w-058	12/20/10 13:13
Calibration Blank	0L35509-CCB4	122010w-059	12/20/10 13:19
BCHMS-GW-027-1210	1012118-05	122010w-060	12/20/10 13:21
BCHMS-GW-017-1210	1012118-06	122010w-061	12/20/10 13:23
BCHMS-GW-018-1210	1012118-07	122010w-062	12/20/10 13:25
BCHMS-GW-20D-1210	1012118-08	122010w-063	12/20/10 13:26
BCHMS-GW-025-1210	1012118-09	122010w-064	12/20/10 13:28
BCHMS-GW-026-1210	1012118-10	122010w-065	12/20/10 13:30
Calibration Check	0L35509-CCV5	122010w-070	12/20/10 13:38
Calibration Blank	0L35509-CCB5	122010w-071	12/20/10 13:40

# ANALYSIS SEQUENCE SUMMARY

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35509

Instrument: ME-FIMS

Calibration: 0355003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	0L35509-CCV7	122010w-094	12/20/10 14:21
Calibration Blank	0L35509-CCB7	122010w-095	12/20/10 14:23
Instrument RL Check	0L35509-CRL2	122010w-097	12/20/10 14:47
Calibration Check	0L35509-CCV8	122010w-098	12/20/10 14:48
Calibration Blank	0L35509-CCB8	122010w-099	12/20/10 14:50

# INITIAL AND CONTINUING CALIBRATION CHECK

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-FIMS

Calibration: 0355003

Sequence: 0L35509

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
0L35509-ICV1	Mercury	4.000	4.282	107	ug/L	+/- 15.00%
0L35509-CCV1	Mercury	4.000	4.055	101	ug/L	+/- 15.00%
0L35509-CCV2	Mercury	4.000	4.103	103	ug/L	+/- 15.00%
0L35509-CCV3	Mercury	2.000	1.960	98.0	ug/L	+/- 15.00%
0L35509-CCV4	Mercury	2.000	2.002	100	ug/L	+/- 15.00%
0L35509-CCV5	Mercury	4.000	4.277	107	ug/L	+/- 15.00%
0L35509-CCV7	Mercury	2.000	2.101	105	ug/L	+/- 15.00%
0L35509-CCV8	Mercury	2.000	2.136	107	ug/L	+/- 15.00%

# CRDL STANDARD

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-FIMS

Calibration: 0355003

Sequence: 0L35509

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
0L35509-CRL1	Mercury	0.2000	0.2314	116	ug/L	70 - 130
0L35509-CRL2	Mercury	0.2000	0.2337	117	ug/L	70 - 130

**BLANKS**  
**SW7470A**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 001

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-FIMS

Project: NAS Key West CTO JM17

Sequence: 0L35509

Calibration: 0355003

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L35509-ICB1	Mercury	0.04751	0.0800	0.200	ug/L	U	SW7470A
0L35509-CCB1	Mercury	0.0513	0.0800	0.200	ug/L	U	SW7470A
0L35509-CCB2	Mercury	0.0542	0.0800	0.200	ug/L	U	SW7470A
0L17016-BLK1	Mercury	0.0507	0.0800	0.200	ug/L	U	SW7470A
0L35509-CCB3	Mercury	0.0592	0.0800	0.200	ug/L	U	SW7470A
0L35509-CCB4	Mercury	0.0612	0.0800	0.200	ug/L	U	SW7470A
0L35509-CCB5	Mercury	0.0558	0.0800	0.200	ug/L	U	SW7470A
0L35509-CCB7	Mercury	0.0603	0.0800	0.200	ug/L	U	SW7470A
0L35509-CCB8	Mercury	0.0632	0.0800	0.200	ug/L	U	SW7470A

# ANALYSIS SEQUENCE SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36404

Instrument: ME-ICP

Calibration: 1004002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0L36404-CAL1	122910A-001	12/29/10 12:07
Cal Standard	0L36404-CAL2	122910A-002	12/29/10 12:12
Cal Standard	0L36404-CAL3	122910A-003	12/29/10 12:19
Cal Standard	0L36404-CAL4	122910A-004	12/29/10 12:26
Cal Standard	0L36404-CAL6	122910A-007	12/29/10 12:51
Initial Cal Check	0L36404-ICV1	122910B-001	12/29/10 13:43
Initial Cal Blank	0L36404-ICB1	122910B-002	12/29/10 13:50
Instrument RL Check	0L36404-CRL1	122910B-003	12/29/10 13:55
Instrument RL Check	0L36404-CRL4	122910B-007	12/29/10 14:31
Interference Check A	0L36404-IFA1	122910B-008	12/29/10 14:36
Interference Check B	0L36404-IFB1	122910B-013	12/29/10 15:09
Calibration Check	0L36404-CCV1	122910B-017	12/29/10 15:45
Calibration Blank	0L36404-CCB1	122910B-018	12/29/10 16:04
Blank	0L28001-BLK1	122910B-019	12/29/10 16:09
LCS	0L28001-BS1	122910B-020	12/29/10 16:14
BCHMS-GW-021-1210	1012118-01	122910B-021	12/29/10 16:20
BCHMS-GW-022-1210	1012118-02	122910B-022	12/29/10 16:25
BCHMS-GW-023D-1210	1012118-03	122910B-023	12/29/10 16:29
BCHMS-GW-024-1210	1012118-04	122910B-024	12/29/10 16:34
BCHMS-GW-027-1210	1012118-05	122910B-025	12/29/10 16:39
BCHMS-GW-017-1210	1012118-06	122910B-026	12/29/10 16:44
BCHMS-GW-018-1210	1012118-07	122910B-027	12/29/10 16:49
BCHMS-GW-20D-1210	1012118-08	122910B-028	12/29/10 16:54
BCHMS-GW-025-1210	1012118-09	122910B-029	12/29/10 16:59
BCHMS-GW-026-1210	1012118-10	122910B-030	12/29/10 17:03
Calibration Check	0L36404-CCV2	122910B-031	12/29/10 17:09
Calibration Blank	0L36404-CCB2	122910B-032	12/29/10 17:17

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 0L36404

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
0L36404-ICV1	Barium	1000	994.9	99.5	ug/L	+/- 10.00%
	Cobalt	1000	1014	101	ug/L	+/- 10.00%
	Lead	1000	1011	101	ug/L	+/- 10.00%
	Nickel	1000	1005	100	ug/L	+/- 10.00%
	Silver	500.0	507.5	102	ug/L	+/- 10.00%
0L36404-CCV1	Barium	1000	930.5	93.0	ug/L	+/- 10.00%
	Cobalt	1000	943.9	94.4	ug/L	+/- 10.00%
	Lead	1000	949.5	95.0	ug/L	+/- 10.00%
	Nickel	1000	943.2	94.3	ug/L	+/- 10.00%
	Silver	500.0	503.6	101	ug/L	+/- 10.00%
0L36404-CCV2	Barium	1000	972.3	97.2	ug/L	+/- 10.00%
	Cobalt	1000	1021	102	ug/L	+/- 10.00%
	Lead	1000	1013	101	ug/L	+/- 10.00%
	Nickel	1000	1003	100	ug/L	+/- 10.00%
	Silver	500.0	478.0	95.6	ug/L	+/- 10.00%

# CRDL STANDARD

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 0L36404

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limits
0L36404-CRL1	Barium	10.00	10.45	105	ug/L	80 - 120
	Cobalt	10.00	9.754	97.5	ug/L	80 - 120
	Nickel	6.000	5.594	93.2	ug/L	80 - 120
	Silver	2.000	1.920	96.0	ug/L	80 - 120
0L36404-CRL4	Lead	3.000	3.347	112	ug/L	80 - 120

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 0L36404

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L36404-ICB1	Barium	-0.05657	5.00	40.0	ug/L	U	SW6010C
	Cobalt	-0.3159	5.00	12.5	ug/L	U	SW6010C
	Lead	-0.9668	1.50	3.00	ug/L	U	SW6010C
	Nickel	-0.4580	3.00	10.0	ug/L	U	SW6010C
	Silver	0.004240	1.00	10.0	ug/L	U	SW6010C
0L36404-CCB1	Barium	-0.0925	5.00	40.0	ug/L	U	SW6010C
	Cobalt	-0.253	5.00	12.5	ug/L	U	SW6010C
	Lead	-1.42	1.50	3.00	ug/L	U	SW6010C
	Nickel	-0.138	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.0981	1.00	10.0	ug/L	U	SW6010C
0L28001-BLK1	Barium	-0.0950	5.00	40.0	ug/L	U	SW6010C
	Cobalt	-0.263	5.00	12.5	ug/L	U	SW6010C
	Lead	0.312	1.50	3.00	ug/L	U	SW6010C
	Nickel	-0.828	3.00	10.0	ug/L	U	SW6010C
	Silver	0.0796	1.00	10.0	ug/L	U	SW6010C
0L36404-CCB2	Barium	0.179	5.00	40.0	ug/L	U	SW6010C
	Cobalt	-0.126	5.00	12.5	ug/L	U	SW6010C
	Lead	0.291	1.50	3.00	ug/L	U	SW6010C
	Nickel	0.648	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.0848	1.00	10.0	ug/L	U	SW6010C

# ICP INTERFERENCE CHECK SAMPLE

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 0L36404

Lab Sample ID	Analyte	True	Found	%R	Units
0L36404-IFA1	Barium		-0.06		ug/L
	Cobalt		-2.84		ug/L
	Lead		-2.43		ug/L
	Nickel		-3.55		ug/L
	Silver		-0.31		ug/L
0L36404-IFB1	Barium	500.0	432.67	86.5	ug/L
	Cobalt	500.0	410.18	82.0	ug/L
	Lead	50.00	40.07	80.1	ug/L
	Nickel	1000	814.72	81.5	ug/L
	Silver	200.0	190.07	95.0	ug/L

# ANALYSIS SEQUENCE SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 1A00414

Instrument: ME-ICP

Calibration: 1004002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	1A00414-CAL1	1-03-11A-001	01/03/11 12:26
Cal Standard	1A00414-CAL2	1-03-11A-002	01/03/11 12:30
Cal Standard	1A00414-CAL3	1-03-11A-003	01/03/11 12:35
Cal Standard	1A00414-CAL4	1-03-11A-004	01/03/11 12:40
Cal Standard	1A00414-CAL5	1-03-11A-005	01/03/11 12:45
Cal Standard	1A00414-CAL6	1-03-11A-006	01/03/11 12:50
Cal Standard	1A00414-CAL7	1-03-11A-007	01/03/11 12:55
Cal Standard	1A00414-CAL8	1-03-11A-008	01/03/11 13:00
Initial Cal Check	1A00414-ICV1	1-03-11B-001	01/03/11 13:52
Initial Cal Blank	1A00414-ICB1	1-03-11B-002	01/03/11 13:59
Instrument RL Check	1A00414-CRL1	1-03-11B-003	01/03/11 14:04
Instrument RL Check	1A00414-CRL2	1-03-11B-005	01/03/11 14:14
Interference Check A	1A00414-IFA1	1-03-11B-006	01/03/11 14:19
Interference Check B	1A00414-IFB1	1-03-11B-007	01/03/11 14:25
Interference Check B	1A00414-IFB2	1-03-11B-008	01/03/11 14:33
Calibration Check	1A00414-CCV1	1-03-11B-010	01/03/11 14:44
Calibration Blank	1A00414-CCB1	1-03-11B-011	01/03/11 14:51
Calibration Check	1A00414-CCV2	1-03-11B-017	01/03/11 15:22
Calibration Blank	1A00414-CCB2	1-03-11B-018	01/03/11 15:29
Blank	0L28001-BLK2	1-03-11B-019	01/03/11 15:34
LCS	0L28001-BS2	1-03-11B-020	01/03/11 15:39
BCHMS-GW-021-1210	1012118-01RE1 ✓	1-03-11B-021	01/03/11 15:45
BCHMS-GW-022-1210	1012118-02RE1 ✓	1-03-11B-022	01/03/11 15:50
BCHMS-GW-023D-1210	1012118-03RE1 ✓ <i>No Na</i>	1-03-11B-023	01/03/11 15:55
BCHMS-GW-024-1210	1012118-04RE1 ✓	1-03-11B-024	01/03/11 16:00
BCHMS-GW-027-1210	1012118-05RE1 ✓	1-03-11B-025	01/03/11 16:05
BCHMS-GW-017-1210	1012118-06RE1 ✓	1-03-11B-026	01/03/11 16:10
BCHMS-GW-018-1210	1012118-07RE1 ✓	1-03-11B-027	01/03/11 16:15
BCHMS-GW-20D-1210	1012118-08RE1 ✓ <i>No Na</i>	1-03-11B-028	01/03/11 16:20
BCHMS-GW-025-1210	1012118-09RE1 ✓	1-03-11B-029	01/03/11 16:24
BCHMS-GW-026-1210	1012118-10RE1 ✓	1-03-11B-030	01/03/11 16:29
Calibration Check	1A00414-CCV3	1-03-11C-001	01/03/11 16:51

# ANALYSIS SEQUENCE SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 1A00414

Instrument: ME-ICP

Calibration: 1004002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	1A00414-CCB3	1-03-11C-002	01/03/11 16:58

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 1A00414

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00414-ICV1	Aluminum	10000	9742	97.4	ug/L	+/- 10.00%
	Antimony	1000	1018	102	ug/L	+/- 10.00%
	Arsenic	1000	1004	100	ug/L	+/- 10.00%
	Beryllium	1000	988.2	98.8	ug/L	+/- 10.00%
	Cadmium	1000	1084	108	ug/L	+/- 10.00%
	Calcium	50000	49900	99.8	ug/L	+/- 10.00%
	Chromium	1000	941.3	94.1	ug/L	+/- 10.00%
	Copper	1000	984.6	98.5	ug/L	+/- 10.00%
	Iron	10000	10340	103	ug/L	+/- 10.00%
	Magnesium	50000	50770	102	ug/L	+/- 10.00%
	Manganese	1000	1019	102	ug/L	+/- 10.00%
	Potassium	10000	10070	101	ug/L	+/- 10.00%
	Selenium	1000	992.9	99.3	ug/L	+/- 10.00%
	Sodium	50000	50730	101	ug/L	+/- 10.00%
	Thallium	1000	954.1	95.4	ug/L	+/- 10.00%
	Vanadium	1000	966.3	96.6	ug/L	+/- 10.00%
	Zinc	1000	1029	103	ug/L	+/- 10.00%
1A00414-CCV1	Aluminum	10000	9631	96.3	ug/L	+/- 10.00%
	Antimony	1000	1008	101	ug/L	+/- 10.00%
	Arsenic	1000	986.3	98.6	ug/L	+/- 10.00%
	Beryllium	1000	995.0	99.5	ug/L	+/- 10.00%
	Cadmium	1000	1061	106	ug/L	+/- 10.00%
	Calcium	50000	49750	99.5	ug/L	+/- 10.00%
	Chromium	1000	963.2	96.3	ug/L	+/- 10.00%
	Copper	1000	990.5	99.0	ug/L	+/- 10.00%
	Iron	10000	10220	102	ug/L	+/- 10.00%
	Magnesium	50000	50520	101	ug/L	+/- 10.00%
	Manganese	1000	1011	101	ug/L	+/- 10.00%
	Potassium	10000	10450	104	ug/L	+/- 10.00%
	Selenium	1000	991.5	99.2	ug/L	+/- 10.00%
	Sodium	50000	50230	100	ug/L	+/- 10.00%
	Thallium	1000	970.2	97.0	ug/L	+/- 10.00%
	Vanadium	1000	959.3	95.9	ug/L	+/- 10.00%
	Zinc	1000	1024	102	ug/L	+/- 10.00%
1A00414-CCV2	Aluminum	10000	9619	96.2	ug/L	+/- 10.00%
	Antimony	1000	1017	102	ug/L	+/- 10.00%
	Arsenic	1000	995.4	99.5	ug/L	+/- 10.00%
	Beryllium	1000	995.1	99.5	ug/L	+/- 10.00%

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 1A00414

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00414-CCV2	Cadmium	1000	1052	105	ug/L	+/- 10.00%
	Calcium	50000	48660	97.3	ug/L	+/- 10.00%
	Chromium	1000	961.4	96.1	ug/L	+/- 10.00%
	Copper	1000	998.1	99.8	ug/L	+/- 10.00%
	Iron	10000	10270	103	ug/L	+/- 10.00%
	Magnesium	50000	50290	101	ug/L	+/- 10.00%
	Manganese	1000	1006	101	ug/L	+/- 10.00%
	Potassium	10000	10450	105	ug/L	+/- 10.00%
	Selenium	1000	1003	100	ug/L	+/- 10.00%
	Sodium	50000	50830	102	ug/L	+/- 10.00%
	Thallium	1000	972.1	97.2	ug/L	+/- 10.00%
	Vanadium	1000	959.6	96.0	ug/L	+/- 10.00%
	Zinc	1000	1015	102	ug/L	+/- 10.00%
1A00414-CCV3	Aluminum	10000	10270	103	ug/L	+/- 10.00%
	Antimony	1000	1064	106	ug/L	+/- 10.00%
	Arsenic	1000	1029	103	ug/L	+/- 10.00%
	Beryllium	1000	1021	102	ug/L	+/- 10.00%
	Cadmium	1000	1064	106	ug/L	+/- 10.00%
	Calcium	50000	45340	90.7	ug/L	+/- 10.00%
	Chromium	1000	929.9	93.0	ug/L	+/- 10.00%
	Copper	1000	1044	104	ug/L	+/- 10.00%
	Iron	10000	9768	97.7	ug/L	+/- 10.00%
	Magnesium	50000	52660	105	ug/L	+/- 10.00%
	Manganese	1000	977.2	97.7	ug/L	+/- 10.00%
	<b>Potassium</b>	<b>10000</b>	<b>11910</b>	<b>119</b>	<b>ug/L</b>	+/- 10.00%
	Selenium	1000	1054	105	ug/L	+/- 10.00%
	<b>Sodium</b>	<b>50000</b>	<b>58270</b>	<b>117</b>	<b>ug/L</b>	+/- 10.00%
	Thallium	1000	1014	101	ug/L	+/- 10.00%
	Vanadium	1000	953.9	95.4	ug/L	+/- 10.00%
	Zinc	1000	968.5	96.9	ug/L	+/- 10.00%

# CRDL STANDARD

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 1A00414

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limits
1A00414-CRL1	Aluminum	100.0	97.88	97.9	ug/L	80 - 120
	Antimony	8.000	7.071	88.4	ug/L	80 - 120
	Beryllium	2.000	2.076	104	ug/L	80 - 120
	Cadmium	2.000	2.077	104	ug/L	80 - 120
	Calcium	2000	1893	94.6	ug/L	80 - 120
	Chromium	4.000	4.298	107	ug/L	80 - 120
	Copper	8.000	7.854	98.2	ug/L	80 - 120
	Iron	60.00	62.18	104	ug/L	80 - 120
	Magnesium	3000	2995	99.8	ug/L	80 - 120
	Manganese	6.000	6.533	109	ug/L	80 - 120
	Potassium	3000	3108	104	ug/L	80 - 120
	Sodium	3000	3150	105	ug/L	80 - 120
	Thallium	4.000	3.457	86.4	ug/L	80 - 120
	Vanadium	10.00	9.908	99.1	ug/L	80 - 120
	Zinc	10.00	9.630	96.3	ug/L	80 - 120
1A00414-CRL2	Arsenic	5.000	4.124	82.5	ug/L	80 - 120
	Selenium	5.000	4.101	82.0	ug/L	80 - 120

**BLANKS  
SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00414

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00414-ICB1	Aluminum	0.4080	50.0	200	ug/L	U	SW6010C
	Antimony	0.1885	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-0.6468	3.00	10.0	ug/L	U	SW6010C
	Beryllium	0.1775	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.02031	1.00	5.00	ug/L	U	SW6010C
	Calcium	8.860	1000	5000	ug/L	U	SW6010C
	Chromium	0.2311	2.00	10.0	ug/L	U	SW6010C
	Copper	-0.09508	4.00	10.0	ug/L	U	SW6010C
	Iron	1.816	30.0	100	ug/L	U	SW6010C
	Magnesium	7.800	1000	5000	ug/L	U	SW6010C
	Manganese	0.1006	3.00	15.0	ug/L	U	SW6010C
	Potassium	-9.870	200	5000	ug/L	U	SW6010C
	Selenium	-0.4994	3.00	10.0	ug/L	U	SW6010C
	Sodium	-9.650	200	5000	ug/L	U	SW6010C
Thallium	-0.2009	3.00	8.00	ug/L	U	SW6010C	
1A00414-CCB1	Vanadium	0.2025	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.08228	5.00	20.0	ug/L	U	SW6010C
	Aluminum	2.36	50.0	200	ug/L	U	SW6010C
	Antimony	-0.319	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-1.54	3.00	10.0	ug/L	U	SW6010C
	Beryllium	0.178	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.0544	1.00	5.00	ug/L	U	SW6010C
	Calcium	19.2	1000	5000	ug/L	U	SW6010C
	Chromium	0.192	2.00	10.0	ug/L	U	SW6010C
	Copper	-0.192	4.00	10.0	ug/L	U	SW6010C
	Iron	1.37	30.0	100	ug/L	U	SW6010C
	Magnesium	6.74	1000	5000	ug/L	U	SW6010C
	Manganese	0.0766	3.00	15.0	ug/L	U	SW6010C
	Potassium	-6.15	200	5000	ug/L	U	SW6010C
Selenium	-1.01	3.00	10.0	ug/L	U	SW6010C	
Sodium	-14.4	200	5000	ug/L	U	SW6010C	
Thallium	0.0951	3.00	8.00	ug/L	U	SW6010C	
Vanadium	-0.00197	5.00	12.5	ug/L	U	SW6010C	

**BLANKS  
SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 001

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00414

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00414-CCB1	Zinc	0.159	5.00	20.0	ug/L	U	SW6010C
1A00414-CCB2	Aluminum	1.08	50.0	200	ug/L	U	SW6010C
	Antimony	-0.414	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-0.640	3.00	10.0	ug/L	U	SW6010C
	Beryllium	0.123	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.153	1.00	5.00	ug/L	U	SW6010C
	Calcium	4.88	1000	5000	ug/L	U	SW6010C
	Chromium	0.274	2.00	10.0	ug/L	U	SW6010C
	Copper	0.107	4.00	10.0	ug/L	U	SW6010C
	Iron	0.270	30.0	100	ug/L	U	SW6010C
	Magnesium	2.49	1000	5000	ug/L	U	SW6010C
	Manganese	0.119	3.00	15.0	ug/L	U	SW6010C
	Potassium	-14.1	200	5000	ug/L	U	SW6010C
	Selenium	-1.52	3.00	10.0	ug/L	U	SW6010C
	Sodium	-18.3	200	5000	ug/L	U	SW6010C
	Thallium	0.360	3.00	8.00	ug/L	U	SW6010C
	Vanadium	0.201	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.0780	5.00	20.0	ug/L	U	SW6010C
0L28001-BLK2	Aluminum	-1.68	50.0	200	ug/L	U	SW6010C
	Antimony	-0.158	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-0.874	3.00	10.0	ug/L	U	SW6010C
	Beryllium	0.0446	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.243	1.00	5.00	ug/L	U	SW6010C
	Calcium	2.33	1000	5000	ug/L	U	SW6010C
	Chromium	0.104	2.00	10.0	ug/L	U	SW6010C
	Copper	0.326	4.00	10.0	ug/L	U	SW6010C
	Iron	-2.37	30.0	100	ug/L	U	SW6010C
	Magnesium	0.900	1000	5000	ug/L	U	SW6010C
	Manganese	0.0357	3.00	15.0	ug/L	U	SW6010C
	Potassium	-10.7	200	5000	ug/L	U	SW6010C
	Selenium	0.657	3.00	10.0	ug/L	U	SW6010C
	Sodium	-25.6	200	5000	ug/L	U	SW6010C
	Thallium	-0.542	3.00	8.00	ug/L	U	SW6010C

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 001

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00414

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L28001-BLK2	Vanadium	0.0302	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.0573	5.00	20.0	ug/L	U	SW6010C
1A00414-CCB3	Aluminum	1.06	50.0	200	ug/L	U	SW6010C
	Antimony	0.137	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-1.09	3.00	10.0	ug/L	U	SW6010C
	Beryllium	0.0480	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.688	1.00	5.00	ug/L	U	SW6010C
	Calcium	0.120	1000	5000	ug/L	U	SW6010C
	Chromium	0.185	2.00	10.0	ug/L	U	SW6010C
	Copper	0.718	4.00	10.0	ug/L	U	SW6010C
	Iron	-1.63	30.0	100	ug/L	U	SW6010C
	Magnesium	-2.54	1000	5000	ug/L	U	SW6010C
	Manganese	0.0895	3.00	15.0	ug/L	U	SW6010C
	Potassium	-10.8	200	5000	ug/L	U	SW6010C
	Selenium	0.252	3.00	10.0	ug/L	U	SW6010C
	Sodium	22.4	200	5000	ug/L	U	SW6010C
	Thallium	0.861	3.00	8.00	ug/L	U	SW6010C
	Vanadium	0.208	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.185	5.00	20.0	ug/L	U	SW6010C

# ICP INTERFERENCE CHECK SAMPLE

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 1A00414

Lab Sample ID	Analyte	True	Found	%R	Units
1A00414-IFA1	Aluminum	500000	520,840.00	104	ug/L
	Antimony		-0.39		ug/L
	Arsenic		-2.22		ug/L
	Beryllium		0.03		ug/L
	Cadmium		-1.04		ug/L
	Calcium	500000	494,380.00	98.9	ug/L
	Chromium		-1.33		ug/L
	Copper		-3.95		ug/L
	Iron	200000	200,640.00	100	ug/L
	Magnesium	500000	508,720.00	102	ug/L
	Manganese		3.65		ug/L
	Potassium		-64.59		ug/L
	Selenium		1.59		ug/L
	Sodium		15.54		ug/L
	Thallium		1.61		ug/L
	Vanadium		0.98		ug/L
	Zinc		6.95		ug/L
1A00414-IFB1	Aluminum	500000	480,110.00	96.0	ug/L
	Antimony	600.0	666.54	111	ug/L
	Arsenic	100.0	112.77	113	ug/L
	Beryllium	500.0	434.53	86.9	ug/L
	Calcium	500000	444,060.00	88.8	ug/L
	Chromium	500.0	407.99	81.6	ug/L
	Copper	500.0	499.49	99.9	ug/L
	Iron	200000	182,620.00	91.3	ug/L
	Magnesium	500000	452,050.00	90.4	ug/L
	Manganese	500.0	433.47	86.7	ug/L
Potassium		-44.44		ug/L	
Selenium	50.00	54.23	108	ug/L	

# ICP INTERFERENCE CHECK SAMPLE

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 1A00414

Lab Sample ID	Analyte	True	Found	%R	Units
1A00414-IFB1	Sodium		1.61		ug/L
	Thallium	100.0	80.69	80.7	ug/L
	Vanadium	500.0	417.87	83.6	ug/L
	Zinc	1000	966.43	96.6	ug/L
1A00414-IFB2	Cadmium	1000	1,162.20	116	ug/L

# ANALYSIS SEQUENCE SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 1A00503

Instrument: ME-ICP

Calibration: 1005001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	1A00503-CAL1	010411A-001	01/04/11 09:29
Cal Standard	1A00503-CAL2	010411A-002	01/04/11 09:34
Cal Standard	1A00503-CAL3	010411A-003	01/04/11 09:39
Cal Standard	1A00503-CAL7	010411A-007	01/04/11 09:58
Cal Standard	1A00503-CAL8	010411A-008	01/04/11 10:03
Initial Cal Check	1A00503-ICV1	010411B-001	01/04/11 10:35
Initial Cal Blank	1A00503-ICB1	010411B-002	01/04/11 10:42
Instrument RL Check	1A00503-CRL1	010411B-003	01/04/11 10:47
Interference Check A	1A00503-IFA1	010411B-006	01/04/11 11:03
Interference Check B	1A00503-IFB1	010411B-007	01/04/11 11:09
Calibration Check	1A00503-CCV1	010411B-012	01/04/11 11:43
Calibration Blank	1A00503-CCB1	010411B-013	01/04/11 11:51
BCHMS-GW-023D-1210	1012118-03RE2	010411B-014	01/04/11 11:56
BCHMS-GW-20D-1210	1012118-08RE2	010411B-015	01/04/11 12:02
Calibration Check	1A00503-CCV2	010411B-016	01/04/11 12:07
Calibration Blank	1A00503-CCB2	010411B-017	01/04/11 12:14

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1005001

Sequence: 1A00503

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00503-ICV1	Sodium	50000	49220	98.4	ug/L	+/- 10.00%
1A00503-CCV1	Sodium	50000	51000	102	ug/L	+/- 10.00%
1A00503-CCV2	Sodium	50000	53350	107	ug/L	+/- 10.00%

# CRDL STANDARD

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1005001

Sequence: 1A00503

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limits
1A00503-CRL1	Sodium	3000	2986	99.5	ug/L	80 - 120

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00503

Calibration: 1005001

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00503-ICB1	Sodium	-24.68	200	5000	ug/L	U	SW6010C
1A00503-CCB1	Sodium	-40.6	200	5000	ug/L	U	SW6010C
1A00503-CCB2	Sodium	-17.1	200	5000	ug/L	U	SW6010C

# ICP INTERFERENCE CHECK SAMPLE

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1005001

Sequence: 1A00503

Lab Sample ID	Analyte	True	Found	%R	Units
1A00503-IFA1	Sodium		6.42		ug/L
1A00503-IFB1	Sodium		23.93		ug/L



TO: S. Stotler-Hardy  
FROM: A. Cognetti  
SDG: CTOJM17KW\_2  
DATE: February 8, 2011

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### VOC

The continuing calibration percent difference (%D) for bromomethane was greater than the 20% quality control limit on December 16, 2010 @ 12:36 on instrument MS-VOA5 affecting all samples. The nondetected bromomethane results in the affected samples were qualified as estimated (UJ).

### SVOC

The continuing calibration %Ds for several SVOC analytes were greater than the 20% quality control limit on December 30, 2010 @ 15:53 on instrument MS-BNA1 affecting all samples. The analytes were 3,3'-dichlorobenzidine, benzaldehyde, 4-chlorophenyl phenyl ether and 1,2,4,5-tetrachlorobenzene. The nondetected results of the aforementioned compounds were qualified as estimated (UJ) in the affected samples.

### ADDITIONAL COMMENTS

The chain of custody has several samples listed to be analyzed for SIM PAHs. The project manager via an email informed the laboratory per the SAP, PAHs are not to be analyzed. (See attached memo dated 12/13/2010).

The trip blank, BCHMS-TB02-1210, contained the contaminant methylene chloride.

<u>Contaminant</u>	<u>Maximum Concentration (ug/L)</u>
Methylene chloride	1.52

No action was taken on the nondetected methylene chloride results in the associated samples.

The continuing calibration verification (CCV) CCV-4 on December 23, 2010 @ 20:20 had %Ds for 4,4'-DDT, alpha-BHC, delta-BHC, gamma-BHC and heptachlor greater than the 20% quality control limit on column 1. No action was taken on the nondetected 4,4'-DDT, alpha-BHC, delta-BHC, gamma-BHC and heptachlor results in sample BCHMS-GW-028-1210.

The CCV-3 on December 23, 2010 @ 14:46 had a %D for Aroclor 1260 greater than the quality control limit on column 2. No action was taken on the nondetected Aroclor 1260 result in sample BCHMS-GW-028-1210.

Nondetected results were reported to the method detection limit (MDL).

Positive results less than the reporting limit (RL) and greater than the MDL were qualified as estimated (J).

### EXECUTIVE SUMMARY

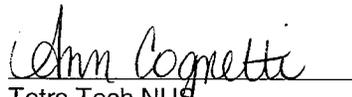
**Laboratory Performance Issues:** The continuing calibration %D for several compounds exceeded quality control limits in the VOC and SVOC fractions.

**Other factors affecting data quality:** None.

TO: S. Stotler-Hardy  
FROM: A. Cognetti  
SDG: CTOJM17KW\_2  
DATE: February 8, 2011

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The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (October 1999) and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (January 2006). The text of this report has been formulated to address only those problem areas affecting data quality.

  
Tetra Tech NUS  
Ann Cognetti  
Chemist/Data Validator

  
TetraTech NUS  
Joseph A. Samchuck  
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results  
Appendix B – Results as Reported by the Laboratory  
Appendix C – Support Documentation

**APPENDIX A**

**QUALIFIED ANALYTICAL RESULTS**

**Data Validation Qualifier Codes:**

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS - GFAA MSA's  $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ( $< 2 \times$  IDL for inorganics and  $< CRQL$  for organics)
- Q = Other problems (can be any number of issues; e.g. poor chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = % Difference between columns/detectors  $> 25\%$  for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient  $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids  $< 30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

PARAMETER	RESULT	VAL	QLCD	RESULT	VAL	QLCD	RESULT	VAL	QLCD	RESULT	VAL	QLCD
PROJ_NO: 02608	NSAMPLE	BCHMS-GW-001-1210		BCHMS-GW-002-1210		BCHMS-GW-003-1210		BCHMS-GW-013-1210				
SDG: CTQJM17KW_2	LAB_ID	1012134-06		1012134-07		1012134-08		1012134-01				
FRACTION: OV	SAMP_DATE	12/1/2010		12/1/2010		12/1/2010		12/10/2010				
MEDIA: WATER	QC_TYPE	NM		NM		NM		NM				
	UNITS	UG/L		UG/L		UG/L		UG/L				
	PCT_SOLIDS	0.0		0.0		0.0		0.0				
	DUP_OF											
1,1,1-TRICHLOROETHANE	0.25 U			0.25 U		0.25 U		0.25 U				
1,1,2,2-TETRACHLOROETHANE	0.2 U			0.2 U		0.2 U		0.2 U				
1,1,2-TRICHLOROETHANE	0.25 U			0.25 U		0.25 U		0.25 U				
1,1,2-TRICHLOROTRIFLUOROETHANE	0.5 U			0.5 U		0.5 U		0.5 U				
1,1-DICHLOROETHANE	0.25 U			0.25 U		0.25 U		0.25 U				
1,1-DICHLOROETHENE	0.25 U			0.25 U		0.25 U		0.25 U				
1,2,3-TRICHLOROETHENE	0.25 U			0.25 U		0.25 U		0.25 U				
1,2,4-TRICHLOROETHENE	0.25 U			0.25 U		0.25 U		0.25 U				
1,2-DIBROMO-3-CHLOROPROPANE	0.2 U			0.2 U		0.2 U		0.2 U				
1,2-DIBROMOETHANE	0.25 U			0.25 U		0.25 U		0.25 U				
1,2-DICHLOROETHENE	0.25 U			0.25 U		0.25 U		0.25 U				
1,2-DICHLOROETHANE	0.25 U			0.25 U		0.25 U		0.25 U				
1,2-DICHLOROPROPANE	0.25 U			0.25 U		0.25 U		0.25 U				
1,3-DICHLOROETHENE	0.25 U			0.25 U		0.25 U		0.25 U				
1,4-DICHLOROETHENE	0.25 U			0.25 U		0.25 U		0.25 U				
2-BUTANONE	2.5 U			2.5 U		2.5 U		2.5 U				
2-HEXANONE	1.25 U			1.25 U		1.25 U		1.25 U				
4-METHYL-2-PENTANONE	1.25 U			1.25 U		1.25 U		1.25 U				
ACETONE	4.56 J	P		3.15 J	P	4.4 J	P	3.21 J	P			
BENZENE	0.25 U			0.25 U		0.25 U		0.25 U				
BROMOCHLOROMETHANE	0.25 U			0.25 U		0.25 U		0.25 U				
BROMODICHLOROMETHANE	0.25 U			0.25 U		0.25 U		0.25 U				
BROMOFORM	0.25 U			0.25 U		0.25 U		0.25 U				
BROMOMETHANE	0.5 UJ	C		0.5 UJ	C	0.5 UJ	C	0.5 UJ	C			
CARBON DISULFIDE	0.263 J	P		0.25 U		0.25 U		0.25 U				
CARBON TETRACHLORIDE	0.25 U			0.25 U		0.25 U		0.25 U				
CHLOROBENZENE	0.25 U			0.25 U		0.25 U		0.25 U				
CHLORODIBROMOMETHANE	0.25 U			0.25 U		0.25 U		0.25 U				
CHLOROETHANE	0.5 U			0.5 U		0.5 U		0.5 U				
CHLOROFORM	0.25 U			0.25 U		0.25 U		0.25 U				
CHLOROMETHANE	0.25 U			0.25 U		0.25 U		0.25 U				
CIS-1,2-DICHLOROETHENE	0.25 U			0.25 U		0.25 U		0.25 U				
CIS-1,3-DICHLOROPROPENE	0.25 U			0.25 U		0.25 U		0.25 U				
CYCLOHEXANE	0.25 U			0.25 U		0.25 U		0.25 U				
DICHLORODIFLUOROMETHANE	0.5 U			0.5 U		0.5 U		0.5 U				

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-014-1210	BCHMS-GW-015-1210	BCHMS-GW-016-1210	BCHMS-GW-019-1210
SDG: CT0JM17KW_2	LAB_ID	1012134-02	1012134-03	1012134-04	1012134-05
FRACTION: OV	SAMP_DATE	12/10/2010	12/10/2010	12/10/2010	12/10/2010
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM
	UNITS	UG/L	UG/L	UG/L	UG/L
	PCT_SOLIDS	0.0	0.0	0.0	0.0
	DUP_OF				
PARAMETER	RESULT	RESULT	RESULT	RESULT	RESULT
1,1,1-TRICHLOROETHANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2,2-TETRACHLOROETHANE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-TRICHLOROETHANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-DICHLOROETHANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-DICHLOROETHENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2,3-TRICHLOROENZENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2,4-TRICHLOROENZENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-DIBROMO-3-CHLOROPROPANE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-DIBROMOETHANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-DICHLOROENZENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-DICHLOROETHANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-DICHLOROPROPANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-DICHLOROENZENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,4-DICHLOROENZENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2-BUTANONE	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
2-HEXANONE	1.25 U	1.25 U	1.25 U	1.25 U	1.25 U
4-METHYL-2-PENTANONE	1.25 U	1.25 U	1.25 U	1.25 U	1.25 U
ACETONE	3.57 J	5.76 J	2.66 J	3.13 J	
BENZENE	0.25 U	0.25 U	0.25 U	0.25 U	
BROMOCHLOROMETHANE	0.25 U	0.25 U	0.25 U	0.25 U	
BROMODICHLOROMETHANE	0.25 U	0.25 U	0.25 U	0.25 U	
BROMOFORM	0.25 U	0.25 U	0.25 U	0.25 U	
BROMOMETHANE	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	
CARBON DISULFIDE	0.25 U	0.25 U	0.25 U	0.25 U	
CARBON TETRACHLORIDE	0.25 U	0.25 U	0.25 U	0.25 U	
CHLOROBENZENE	0.25 U	0.25 U	0.25 U	0.25 U	
CHLORODIBROMOMETHANE	0.25 U	0.25 U	0.25 U	0.25 U	
CHLOROETHANE	0.5 U	0.5 U	0.5 U	0.5 U	
CHLOROFORM	0.25 U	0.25 U	0.25 U	0.25 U	
CHLOROMETHANE	0.25 U	0.25 U	0.25 U	0.25 U	
CIS-1,2-DICHLOROETHENE	0.25 U	0.25 U	0.25 U	0.25 U	
CIS-1,3-DICHLOROPROPENE	0.25 U	0.25 U	0.25 U	0.25 U	
CYCLOHEXANE	0.25 U	0.25 U	0.25 U	0.25 U	
DICHLORODIFLUOROMETHANE	0.5 U	0.5 U	0.5 U	0.5 U	

PARAMETER	RESULT	UQL	QLCD	RESULT	UQL	QLCD	RESULT	UQL	QLCD
PROJ_NO: 02608	NSAMPLE	BCHMS-GW-028-1210		BCHMS-GW-029D-1210		BCHMS-TB02-1210			
SDG: CTOJM17KW_2	LAB_ID	1012134-09		1012134-10		1012134-11			
FRACTION: OV	SAMP_DATE	12/11/2010		12/11/2010		12/13/2010			
MEDIA: WATER	QC_TYPE	NM		NM		NM			
	UNITS	UG/L		UG/L		UG/L			
	PCT_SOLIDS	0.0		0.0		0.0			
	DUP_OF								
1,1,1-TRICHLOROETHANE	0.25 U			0.25 U		0.25 U			
1,1,2,2-TETRACHLOROETHANE	0.2 U			0.2 U		0.2 U			
1,1,2-TRICHLOROETHANE	0.25 U			0.25 U		0.25 U			
1,1,2-TRICHLOROTRIFLUOROETHANE	0.5 U			0.5 U		0.5 U			
1,1-DICHLOROETHANE	0.25 U			0.25 U		0.25 U			
1,1-DICHLOROETHENE	0.25 U			0.25 U		0.25 U			
1,2,3-TRICHLOROETHENE	0.25 U			0.25 U		0.25 U			
1,2,4-TRICHLOROETHENE	0.25 U			0.25 U		0.25 U			
1,2-DIBROMO-3-CHLOROPROPANE	0.2 U			0.2 U		0.2 U			
1,2-DIBROMOETHANE	0.25 U			0.25 U		0.25 U			
1,2-DICHLOROETHENE	0.25 U			0.25 U		0.25 U			
1,2-DICHLOROETHANE	0.25 U			0.25 U		0.25 U			
1,2-DICHLOROPROPANE	0.25 U			0.25 U		0.25 U			
1,3-DICHLOROETHENE	0.25 U			0.25 U		0.25 U			
1,4-DICHLOROETHENE	0.25 U			0.25 U		0.25 U			
2-BUTANONE	2.5 U			2.5 U		2.5 U			
2-HEXANONE	1.25 U			1.25 U		1.25 U			
4-METHYL-2-PENTANONE	1.25 U			1.25 U		1.25 U			
ACETONE	7.56 J		P	3.15 J		2.5 U			
BENZENE	0.25 U			0.25 U		0.25 U			
BROMOCHLOROMETHANE	0.25 U			0.25 U		0.25 U			
BROMODICHLOROMETHANE	0.25 U			0.25 U		0.25 U			
BROMOFORM	0.25 U			0.25 U		0.25 U			
BROMOMETHANE	0.5 UJ		C	0.5 UJ		0.5 UJ		C	
CARBON DISULFIDE	0.25 U			0.412 J		0.25 U			
CARBON TETRACHLORIDE	0.25 U			0.25 U		0.25 U			
CHLOROBENZENE	0.25 U			0.25 U		0.25 U			
CHLORODIBROMOMETHANE	0.25 U			0.25 U		0.25 U			
CHLOROETHANE	0.5 U			0.5 U		0.5 U			
CHLOROFORM	0.25 U			0.25 U		0.25 U			
CHLOROMETHANE	0.25 U			0.25 U		0.25 U			
CIS-1,2-DICHLOROETHENE	0.381 J		P	0.55 J		0.25 U			
CIS-1,3-DICHLOROPROPENE	0.25 U			0.25 U		0.25 U			
CYCLOHEXANE	0.25 U			0.25 U		0.25 U			
DICHLORODIFLUOROMETHANE	0.5 U			0.5 U		0.5 U			

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-001-1210	BCHMS-GW-002-1210	BCHMS-GW-003-1210	BCHMS-GW-013-1210				
SDG: CTOJIM17KW_2	LAB_ID	1012134-06	1012134-07	1012134-08	1012134-01				
FRACTION: OV	SAMP_DATE	12/11/2010	12/11/2010	12/11/2010	12/10/2010				
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/L	UG/L	UG/L	UG/L				
	PCT_SOLIDS	0.0	0.0	0.0	0.0				
	DUP_OF								
PARAMETER	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD
ETHYLBENZENE	0.25 U			0.25 U			0.25 U		
ISOPROPYLBENZENE	0.25 U			0.25 U			0.25 U		
M+P-XYLENES	0.5 U			0.5 U			0.5 U		
METHYL ACETATE	0.5 U			0.5 U			0.5 U		
METHYL CYCLOHEXANE	0.25 U			0.25 U			0.25 U		
METHYL TERT-BUTYL ETHER	0.25 U			0.25 U			0.25 U		
METHYLENE CHLORIDE	0.5 U			0.5 U			0.5 U		
O-XYLENE	0.25 U			0.25 U			0.25 U		
STYRENE	0.25 U			0.25 U			0.25 U		
TETRACHLOROETHENE	0.25 U			0.25 U			0.25 U		
TOLUENE	0.25 U			0.25 U			0.25 U		
TRANS-1,2-DICHLOROETHENE	0.25 U			0.25 U			0.25 U		
TRANS-1,3-DICHLOROPROPENE	0.25 U			0.25 U			0.25 U		
TRICHLOROETHENE	0.25 U			0.25 U			0.25 U		
TRICHLOROFLUOROMETHANE	0.5 U			0.5 U			0.5 U		
VINYL CHLORIDE	0.25 U			0.25 U			0.25 U		

PARAMETER	NSAMPLE	RESULT	VOL	QLCD												
ETHYLBENZENE	BCHMS-GW-014-1210	0.25	U		BCHMS-GW-015-1210	0.25	U		BCHMS-GW-016-1210	0.25	U		BCHMS-GW-019-1210	0.25	U	
ISOPROPYLBENZENE	1012134-02	0.25	U		1012134-03	0.25	U		1012134-04	0.25	U		1012134-05	0.25	U	
M+P-XYLENES	12/10/2010	0.5	U													
METHYL ACETATE	NM	0.5	U													
METHYL CYCLOHEXANE	UG/L	0.25	U													
METHYL TERT-BUTYL ETHER	0.0	0.25	U													
METHYLENE CHLORIDE		0.5	U													
O-XYLENE		0.25	U													
STYRENE		0.25	U													
TETRACHLOROETHENE		0.25	U													
TOLUENE		0.25	U													
TRANS-1,2-DICHLOROETHENE		0.25	U													
TRANS-1,3-DICHLOROPROPENE		0.25	U													
TRICHLOROETHENE		0.25	U													
TRICHLOROFLUOROMETHANE		0.5	U													
VINYL CHLORIDE		0.25	U													

PROJ\_NO: 02608  
SDG: CTOJMI17KW\_2  
FRACTION: OV  
MEDIA: WATER

PARAMETER	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD
PROJ_NO: 02608	NSAMPLE	BCHMS-GW-028-1210		BCHMS-GW-029D-1210		BCHMS-TB02-1210			
SDG: CTOJM17KW_2	LAB_ID	1012134-09		1012134-10		1012134-11			
FRACTION: OV	SAMP_DATE	12/11/2010		12/11/2010		12/13/2010			
MEDIA: WATER	QC_TYPE	NM		NM		NM			
	UNITS	UG/L		UG/L		UG/L			
	PCT_SOLIDS	0.0		0.0		0.0			
	DUP_OF								
ETHYLBENZENE	0.25 U			0.25 U		0.25 U			
ISOPROPYLBENZENE	0.25 U			0.25 U		0.25 U			
M+P-XYLENES	0.5 U			0.5 U		0.5 U			
METHYL ACETATE	0.5 U			0.5 U		0.5 U			
METHYL CYCLOHEXANE	0.25 U			0.25 U		0.25 U			
METHYL TERT-BUTYL ETHER	0.25 U			0.25 U		0.25 U			
METHYLENE CHLORIDE	0.5 U			0.5 U		1.52 U	P		
O-XYLENE	0.25 U			0.25 U		0.25 U			
STYRENE	0.25 U			0.25 U		0.25 U			
TETRACHLOROETHENE	0.25 U			0.25 U		0.25 U			
TOLUENE	0.25 U			0.25 U		0.25 U			
TRANS-1,2-DICHLOROETHENE	0.25 U			0.25 U		0.25 U			
TRANS-1,3-DICHLOROPROPENE	0.25 U			0.25 U		0.25 U			
TRICHLOROETHENE	0.25 U			0.25 U		0.25 U			
TRICHLOROFLUOROMETHANE	0.5 U			0.5 U		0.5 U			
VINYL CHLORIDE	0.25 U			0.25 U		0.25 U			

PARAMETER	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD
PROJ_NO: 02608	NSAMPLE	BCHMS-GW-001-1210		BCHMS-GW-002-1210		BCHMS-GW-003-1210		BCHMS-GW-013-1210				
SDG: CTOJMI17KW_2	LAB_ID	1012134-06		1012134-07		1012134-08		1012134-01				
FRACTION: PAH	SAMP_DATE	12/11/2010		12/11/2010		12/11/2010		12/10/2010				
MEDIA: WATER	QC_TYPE	NM		NM		NM		NM				
	UNITS	UG/L		UG/L		UG/L		UG/L				
	PCT_SOLIDS	0.0		0.0		0.0		0.0				
	DUP_OF											
1,1-BIPHENYL	0.467	U		0.467	U	0.467	U	0.472	U			
1,2,4,5-TETRACHLOROBENZENE	0.584	UJ	C	0.584	UJ	0.584	UJ	0.59	UJ			C
1,4-DIOXANE	0.584	U		0.584	U	0.584	U	0.59	U			
2,2-OXYBIS(1-CHLOROPROPANE)	0.467	U		0.467	U	0.467	U	0.472	U			
2,3,4,6-TETRACHLOROPHENOL	0.584	U		0.584	U	0.584	U	0.59	U			
2,4,5-TRICHLOROPHENOL	0.584	U		0.584	U	0.584	U	0.59	U			
2,4,6-TRICHLOROPHENOL	0.584	U		0.584	U	0.584	U	0.59	U			
2,4-DICHLOROPHENOL	0.28	U		0.28	U	0.28	U	0.283	U			
2,4-DIMETHYLPHENOL	2.34	U		2.34	U	2.34	U	2.36	U			
2,4-DINITROPHENOL	5.84	U		5.84	U	5.84	U	5.9	U			
2,4-DINITROTOLUENE	0.584	U		0.584	U	0.584	U	0.59	U			
2,6-DINITROTOLUENE	0.584	U		0.584	U	0.584	U	0.59	U			
2-CHLORONAPHTHALENE	0.584	U		0.584	U	0.584	U	0.59	U			
2-CHLOROPHENOL	0.584	U		0.584	U	0.584	U	0.59	U			
2-METHYLPHENOL	0.584	U		0.584	U	0.584	U	0.59	U			
2-NITROANILINE	2.34	U		2.34	U	2.34	U	2.36	U			
2-NITROPHENOL	0.584	U		0.584	U	0.584	U	0.59	U			
3,3-DICHLOROBENZIDINE	0.467	UJ	C	0.467	UJ	0.467	UJ	0.472	UJ			C
3-NITROANILINE	1.4	U		1.4	U	1.4	U	1.42	U			
4,6-DINITRO-2-METHYLPHENOL	2.34	U		2.34	U	2.34	U	2.36	U			
4-BROMOPHENYL PHENYL ETHER	0.584	U		0.584	U	0.584	U	0.59	U			
4-CHLORO-3-METHYLPHENOL	0.584	U		0.584	U	0.584	U	0.59	U			
4-CHLOROANILINE	0.584	U		0.584	U	0.584	U	0.59	U			
4-CHLOROPHENYL PHENYL ETHER	0.584	UJ	C	0.584	UJ	0.584	UJ	0.59	UJ			C
4-METHYLPHENOL	0.584	U		0.584	U	0.584	U	0.59	U			
4-NITROANILINE	1.4	U		1.4	U	1.4	U	1.42	U			
4-NITROPHENOL	2.34	U		2.34	U	2.34	U	2.36	U			
ACETOPHENONE	0.584	U		0.584	U	0.584	U	0.59	U			
ATRAZINE	0.584	U		0.584	U	0.584	U	0.59	U			
BENZALDEHYDE	0.584	UJ	C	0.584	UJ	0.584	UJ	0.59	UJ			C
BIS(2-CHLOROETHOXY)METHANE	0.584	U		0.584	U	0.584	U	0.59	U			
BIS(2-CHLOROETHYL)ETHER	0.584	U		0.584	U	0.584	U	0.59	U			
BIS(2-ETHYLHEXYL)PHTHALATE	0.584	U		0.584	U	0.584	U	0.59	U			
BUTYL BENZYL PHTHALATE	0.584	U		0.584	U	0.584	U	0.59	U			
CAPROLACTAM	0.584	U		0.584	U	0.584	U	0.59	U			

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-014-1210	BCHMS-GW-015-1210	BCHMS-GW-016-1210	BCHMS-GW-019-1210				
SDG: CTOJM17KW_2	LAB_ID	1012134-02	1012134-03	1012134-04	1012134-05				
FRACTION: PAH	SAMP DATE	12/10/2010	12/10/2010	12/10/2010	12/10/2010				
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/L	UG/L	UG/L	UG/L				
	PCT_SOLIDS	0.0	0.0	0.0	0.0				
	DUP_OF								
PARAMETER	RESULT	VOL	QC/D	RESULT	VOL	QC/D	RESULT	VOL	QC/D
1,1-BIPHENYL	0.467 U			0.467 U			0.463 U		
1,2,4,5-TETRACHLORO BENZENE	0.584 UJ		C	0.584 UJ		C	0.579 UJ		C
1,4-DIOXANE	0.584 U			0.584 U			0.579 U		
2,2-OXYBIS(1-CHLOROPROPANE)	0.467 U			0.467 U			0.463 U		
2,3,4,6-TETRACHLOROPHENOL	0.584 U			0.584 U			0.579 U		
2,4,5-TRICHLOROPHENOL	0.584 U			0.584 U			0.579 U		
2,4,6-TRICHLOROPHENOL	0.584 U			0.584 U			0.579 U		
2,4-DICHLOROPHENOL	0.28 U			0.28 U			0.278 U		
2,4-DIMETHYLPHENOL	2.34 U			2.34 U			2.31 U		
2,4-DINITROPHENOL	5.84 U			5.84 U			5.79 U		
2,4-DINITROTOLUENE	0.584 U			0.584 U			0.579 U		
2,6-DINITROTOLUENE	0.584 U			0.584 U			0.579 U		
2-CHLORONAPHTHALENE	0.584 U			0.584 U			0.579 U		
2-CHLOROPHENOL	0.584 U			0.584 U			0.579 U		
2-METHYLPHENOL	0.584 U			0.584 U			0.579 U		
2-NITROANILINE	2.34 U			2.34 U			2.31 U		
2-NITROPHENOL	0.584 U			0.584 U			0.579 U		
3,3-DICHLOROBENZIDINE	0.467 UJ		C	0.467 UJ		C	0.463 UJ		C
3-NITROANILINE	1.4 U			1.4 U			1.39 U		
4,6-DINITRO-2-METHYLPHENOL	2.34 U			2.34 U			2.31 U		
4-BROMOPHENYL PHENYL ETHER	0.584 U			0.584 U			0.579 U		
4-CHLORO-3-METHYLPHENOL	0.584 U			0.584 U			0.579 U		
4-CHLOROANILINE	0.584 U			0.584 U			0.579 U		
4-CHLOROPHENYL PHENYL ETHER	0.584 UJ		C	0.584 UJ		C	0.579 UJ		C
4-METHYLPHENOL	0.584 U			0.584 U			0.579 U		
4-NITROANILINE	1.4 U			1.4 U			1.39 U		
4-NITROPHENOL	2.34 U			2.34 U			2.31 U		
ACETOPHENONE	0.584 U			0.584 U			0.579 U		
ATRAZINE	0.584 U			0.584 U			0.579 U		
BENZALDEHYDE	0.584 UJ		C	0.584 UJ		C	0.579 UJ		C
BIS(2-CHLOROETHOXY)METHANE	0.584 U			0.584 U			0.579 U		
BIS(2-CHLOROETHYL)ETHER	0.584 U			0.584 U			0.579 U		
BIS(2-ETHYLHEXYL)PHTHALATE	0.584 U			0.584 U			0.579 U		
BUTYL BENZYL PHTHALATE	0.584 U			0.584 U			0.579 U		
CAPROLACTAM	0.584 U			0.584 U			0.579 U		

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-028-1210	BCHMS-GW-029D-1210			
SDG: CTOJM17KW_2	LAB_ID	1012134-09	1012134-10			
FRACTION: PAH	SAMP_DATE	12/11/2010	12/11/2010			
MEDIA: WATER	QC_TYPE	NM	NM			
	UNITS	UG/L	UG/L			
	PCT_SOLIDS	0.0	0.0			
	DUP_OF					
PARAMETER	RESULT	VOL	QLCD	RESULT	VOL	QLCD
1.1-BIPHENYL	0.467 U			0.463 U		
1.2,4,5-TETRACHLORO BENZENE	0.584 UJ		C	0.579 UJ		C
1.4-DIOXANE	0.584 U			0.579 U		
2.2-OXYBIS(1-CHLOROPROPANE)	0.467 U			0.463 U		
2.3,4,6-TETRACHLOROPHENOL	0.584 U			0.579 U		
2.4,5-TRICHLOROPHENOL	0.584 U			0.579 U		
2.4,6-TRICHLOROPHENOL	0.584 U			0.579 U		
2.4-DICHLOROPHENOL	0.28 U			0.278 U		
2.4-DIMETHYLPHENOL	2.34 U			2.31 U		
2.4-DINITROPHENOL	5.84 U			5.79 U		
2.4-DINITROTOLUENE	0.584 U			0.579 U		
2.6-DINITROTOLUENE	0.584 U			0.579 U		
2-CHLORONAPHTHALENE	0.584 U			0.579 U		
2-CHLOROPHENOL	0.584 U			0.579 U		
2-METHYLPHENOL	0.584 U			0.579 U		
2-NITROANILINE	2.34 U			2.31 U		
2-NITROPHENOL	0.584 U			0.579 U		
3,3-DICHLOROBENZIDINE	0.467 UJ		C	0.463 UJ		C
3-NITROANILINE	1.4 U			1.39 U		
4,6-DINITRO-2-METHYLPHENOL	2.34 U			2.31 U		
4-BROMOPHENYL PHENYL ETHER	0.584 U			0.579 U		
4-CHLORO-3-METHYLPHENOL	0.584 U			0.579 U		
4-CHLOROANILINE	0.584 U			0.579 U		
4-CHLOROPHENYL PHENYL ETHER	0.584 UJ		C	0.579 UJ		C
4-METHYLPHENOL	0.584 U			0.579 U		
4-NITROANILINE	1.4 U			1.39 U		
4-NITROPHENOL	2.34 U			2.31 U		
ACETOPHENONE	0.584 U			0.579 U		
ATRAZINE	0.584 U			0.579 U		
BENZALDEHYDE	0.584 UJ		C	0.579 UJ		C
BIS(2-CHLOROETHOXY)METHANE	0.584 U			0.579 U		
BIS(2-CHLOROETHYL)ETHER	0.584 U			0.579 U		
BIS(2-ETHYLHEXYL)PHTHALATE	0.584 U			0.579 U		
BUTYL BENZYL PHTHALATE	0.584 U			0.579 U		
CAPROLACTAM	0.584 U			0.579 U		

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-001-1210	BCHMS-GW-002-1210	BCHMS-GW-003-1210	BCHMS-GW-013-1210							
SDG: CTOJM17KW_2	LAB_ID	1012134-06	1012134-07	1012134-08	1012134-01							
FRACTION: PAH	SAMP_DATE	12/1/2010	12/1/2010	12/1/2010	12/10/2010							
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM							
	UNITS	UG/L	UG/L	UG/L	UG/L							
	PCT_SOLIDS	0.0	0.0	0.0	0.0							
	DUP_OF											
PARAMETER	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD
CARBAZOLE	0.584	U		0.584	U		0.584	U		0.59	U	
DIBENZOFURAN	0.584	U		0.584	U		0.584	U		0.59	U	
DIETHYL PHTHALATE	0.584	U		0.584	U		0.584	U		0.59	U	
DIMETHYL PHTHALATE	0.584	U		0.584	U		0.584	U		0.59	U	
D-I-N-BUTYL PHTHALATE	0.584	U		0.584	U		0.584	U		0.59	U	
D-I-N-OCTYL PHTHALATE	0.584	U		0.584	U		0.584	U		0.59	U	
HEXACHLOROBENZENE	0.584	U		0.584	U		0.584	U		0.59	U	
HEXACHLOROBUTADIENE	0.584	U		0.584	U		0.584	U		0.59	U	
HEXACHLOROCYCLOPENTADIENE	0.584	U		0.584	U		0.584	U		0.59	U	
HEXACHLOROETHANE	0.584	U		0.584	U		0.584	U		0.59	U	
ISOPHORONE	0.584	U		0.584	U		0.584	U		0.59	U	
NAPHTHALENE	0.584	U		0.584	U		0.584	U		0.59	U	
NITROBENZENE	0.584	U		0.584	U		0.584	U		0.59	U	
N-NITROSO-D-I-N-PROPYLAMINE	0.467	U		0.467	U		0.467	U		0.472	U	
N-NITROSODIPHENYLAMINE	0.584	U		0.584	U		0.584	U		0.59	U	
PENTACHLOROPHENOL	0.935	U		0.935	U		0.935	U		0.943	U	
PHENOL	0.584	U		0.584	U		0.584	U		0.59	U	

PARAMETER	NSAMPLE	RESULT	VOL	QLCD	BCHMS-GW-015-1210	RESULT	VOL	QLCD	BCHMS-GW-016-1210	RESULT	VOL	QLCD	BCHMS-GW-019-1210	RESULT	VOL	QLCD
PROJ_NO: 02608	NSAMPLE	BCHMS-GW-014-1210			BCHMS-GW-015-1210				BCHMS-GW-016-1210				BCHMS-GW-019-1210			
SDG: CTOJMW17KW_2	LAB_ID	1012134-02			1012134-03				1012134-04				1012134-05			
FRACTION: PAH	SAMP_DATE	12/10/2010			12/10/2010				12/10/2010				12/10/2010			
MEDIA: WATER	QC_TYPE	NM			NM				NM				NM			
	UNITS	UG/L			UG/L				UG/L				UG/L			
	PCT_SOLIDS	0.0			0.0				0.0				0.0			
	DUP_OF															
CARBAZOLE		0.584 U			0.584 U				0.579 U				0.579 U			
DIBENZOFURAN		0.584 U			0.584 U				0.579 U				0.579 U			
DIETHYL PHTHALATE		0.584 U			0.584 U				0.579 U				0.579 U			
DIMETHYL PHTHALATE		0.584 U			0.584 U				0.579 U				0.579 U			
DI-N-BUTYL PHTHALATE		0.584 U			0.584 U				0.579 U				0.579 U			
DI-N-OCTYL PHTHALATE		0.584 U			0.584 U				0.579 U				0.579 U			
HEXACHLOROBENZENE		0.584 U			0.584 U				0.579 U				0.579 U			
HEXACHLOROBUTADIENE		0.584 U			0.584 U				0.579 U				0.579 U			
HEXACHLOROCYCLOPENTADIENE		0.584 U			0.584 U				0.579 U				0.579 U			
HEXACHLOROETHANE		0.584 U			0.584 U				0.579 U				0.579 U			
ISOPHORONE		0.584 U			0.584 U				0.579 U				0.579 U			
NAPHTHALENE		0.584 U			0.584 U				0.579 U				0.579 U			
NITROBENZENE		0.584 U			0.584 U				0.579 U				0.579 U			
N-NITROSO-DI-N-PROPYLAMINE		0.467 U			0.584 U				0.463 U				0.579 U			
N-NITROSODIPHENYLAMINE		0.584 U			0.584 U				0.579 U				0.579 U			
PENTACHLOROPHENOL		0.935 U			0.935 U				0.926 U				0.926 U			
PHENOL		0.584 U			0.584 U				0.579 U				0.579 U			

PARAMETER	NSAMPLE	RESULT	VOL	QLCD	RESULT	VOL	QLCD
PROJ_NO: 02608	BCHMS-GW-028-1210				BCHMS-GW-029D-1210		
SDG: CTOJM17KW_2	LAB_ID 1012134-09				LAB_ID 1012134-10		
FRACTION: PAH	SAMP_DATE 12/1/2010				SAMP_DATE 12/1/2010		
MEDIA: WATER	QC_TYPE NM				QC_TYPE NM		
	UNITS UG/L				UNITS UG/L		
	PCT_SOLIDS 0.0				PCT_SOLIDS 0.0		
	DUP_OF						
CARBAZOLE		0.584 U			0.579 U		
DIBENZOFURAN		0.584 U			0.579 U		
DIETHYL PHTHALATE		0.584 U			0.579 U		
DIMETHYL PHTHALATE		0.584 U			0.579 U		
DI-N-BUTYL PHTHALATE		0.584 U			0.579 U		
DI-N-OCTYL PHTHALATE		0.584 U			0.579 U		
HEXACHLORO BENZENE		0.584 U			0.579 U		
HEXACHLOROBUTADIENE		0.584 U			0.579 U		
HEXACHLOROCYCLOPENTADIENE		0.584 U			0.579 U		
HEXACHLOROETHANE		0.584 U			0.579 U		
ISOPHORONE		0.584 U			0.579 U		
NAPHTHALENE		0.584 U			0.579 U		
NITROBENZENE		0.584 U			0.579 U		
N-NITROSO-DI-N-PROPYLAMINE		0.467 U			0.463 U		
N-NITROSODIPHENYLAMINE		0.584 U			0.579 U		
PENTACHLOROPHENOL		0.935 U			0.926 U		
PHENOL		0.584 U			0.579 U		

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-028-1210		
SDG: CTOJM17KW_2	LAB_ID	1012134-09		
FRACTION: PCB	SAMP_DATE	12/11/2010		
MEDIA: WATER	QC_TYPE	NM		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER	RESULT	VQL	QLCD	
AROCLOR-1016	0.0588	U		
AROCLOR-1221	0.0588	U		
AROCLOR-1232	0.0588	U		
AROCLOR-1242	0.0588	U		
AROCLOR-1248	0.0588	U		
AROCLOR-1254	0.0588	U		
AROCLOR-1260	0.0588	U		

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-028-1210		
SDG: CTOJM17KW_2	LAB_ID	1012134-09		
FRACTION: PEST	SAMP_DATE	12/11/2010		
MEDIA: WATER	QC_TYPE	NM		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER	RESULT	VAL	QLCD	
4,4-DDD	0.00245	U		
4,4-DDE	0.00245	U		
4,4-DDT	0.00245	U		
ALDRIN	0.00521	J	P	
ALPHA-BHC	0.00162	U		
ALPHA-CHLORDANE	0.00162	U		
BETA-BHC	0.00162	U		
DELTA-BHC	0.00162	U		
DIELDRIN	0.00245	U		
ENDOSULFAN I	0.00162	U		
ENDOSULFAN II	0.00249	J	P	
ENDOSULFAN SULFATE	0.00245	U		
ENDRIN	0.00245	U		
ENDRIN ALDEHYDE	0.00245	U		
ENDRIN KETONE	0.00245	U		
GAMMA-BHC (LINDANE)	0.00162	U		
GAMMA-CHLORDANE	0.00162	U		
HEPTACHLOR	0.00162	U		
HEPTACHLOR EPOXIDE	0.00162	U		
METHOXYCHLOR	0.00162	U		
TOXAPHENE	0.162	U		

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-001-1210	BCHMS-GW-002-1210	BCHMS-GW-003-1210	BCHMS-GW-013-1210	
SDG: CTOJMI17KW_2	LAB_ID	1012134-06	1012134-07	1012134-08	1012134-01	
FRACTION: PET	SAMP_DATE	12/11/2010	12/11/2010	12/11/2010	12/10/2010	
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM	
	UNITS	MG/L	MG/L	MG/L	MG/L	
	PCT_SOLIDS	0.0	0.0	0.0	0.0	
	DUP_OF					
PARAMETER	RESULT	VOL	QLCD	RESULT	VOL	QLCD
TPH (C08-C40)	0.16	U		0.157	U	
	0.158	U		0.157	U	

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-014-1210	BCHMS-GW-015-1210	BCHMS-GW-016-1210	BCHMS-GW-019-1210	
SDG: CTOJM17KW_2	LAB_ID	1012134-02	1012134-03	1012134-04	1012134-05	
FRACTION: PET	SAMP_DATE	12/10/2010	12/10/2010	12/10/2010	12/10/2010	
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM	
	UNITS	MG/L	MG/L	MG/L	MG/L	
	PCT_SOLIDS	0.0	0.0	0.0	0.0	
	DUP_OF					
PARAMETER	RESULT	VOL	QC/D	RESULT	VOL	QC/D
TPH (C08-C40)	0.159	U		0.157	U	
	RESULT	VOL	QC/D	RESULT	VOL	QC/D
	0.159	U		0.157	U	

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-028-1210		BCHMS-GW-029D-1210	
SDG: CTQJM17KW_2	LAB_ID	1012134-09		1012134-10	
FRACTION: PET	SAMP_DATE	12/11/2010		12/11/2010	
MEDIA: WATER	QC_TYPE	NM		NM	
	UNITS	MG/L		MG/L	
	PCT_SOLIDS	0.0		0.0	
	DUP_OF				
PARAMETER	RESULT	VOL	QLCD	RESULT	QLCD
TPH (C08-C40)	0.16	U		0.159	U

**APPENDIX B**

**RESULTS AS REPORTED BY THE LABORATORY**























# ANALYSIS DATA SHEET

<b>BCHMS-GW-015-1210</b>
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Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_002</u>	
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>	
Matrix: <u>Ground Water</u>	Laboratory ID: <u>1012134-03</u>	File ID: <u>1213403.D</u>
Sampled: <u>12/10/10 10:00</u>	Prepared: <u>12/16/10 10:00</u>	Analyzed: <u>12/16/10 19:49</u>
Solids:	Preparation: <u>5030B</u>	Dilution: <u>1</u>
Batch: <u>0L16019</u>	Sequence: <u>0L35116</u>	Calibration: <u>0349002</u>
		Instrument: <u>MS-VOA5</u>

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U
SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q	
Bromofluorobenzene	30.00	29.29	97.6	75 - 120		
Dibromofluoromethane	30.00	31.48	105	85 - 115		
1,2-Dichloroethane-d4	30.00	30.35	101	70 - 120		
Toluene-d8	30.00	29.24	97.5	85 - 120		

## ANALYSIS DATA SHEET

**BCHMS-GW-016-1210**

Laboratory:	<u>Empirical Laboratories, LLC</u>	SDG:	<u>CTOJM17KW_002</u>
Client:	<u>Tetra Tech NUS, Inc. (T010)</u>	Project:	<u>NAS Key West CTO JM17</u>
Matrix:	<u>Ground Water</u>	Laboratory ID:	<u>1012134-04</u>
		File ID:	<u>1213404.D</u>
Sampled:	<u>12/10/10 11:00</u>	Prepared:	<u>12/16/10 10:00</u>
		Analyzed:	<u>12/16/10 20:20</u>
Solids:		Preparation:	<u>5030B</u>
		Dilution:	<u>1</u>
Batch:	<u>0L16019</u>	Sequence:	<u>0L35116</u>
		Calibration:	<u>0349002</u>
		Instrument:	<u>MS-VOA5</u>

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	2.66	2.50	5.00	10.0	Q I
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	Y, Q U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	Q U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	Q U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.200	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U















# ANALYSIS DATA SHEET

**BCHMS-TB02-1210**

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_002</u>	
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>	
Matrix: <u>Water</u>	Laboratory ID: <u>1012134-11</u>	File ID: <u>1213411.D</u>
Sampled: <u>12/13/10 00:00</u>	Prepared: <u>12/16/10 10:00</u>	Analyzed: <u>12/16/10 16:18</u>
Solids:	Preparation: <u>5030B</u>	Dilution: <u>1</u>
Batch: <u>0L16019</u>	Sequence: <u>0L35116</u>	Calibration: <u>0349002</u>
		Instrument: <u>MS-VOA5</u>

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	Q U
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	Y, Q U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	Q U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	Q U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.200	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	1.52	0.500	1.00	2.00	I
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U



## ANALYSIS DATA SHEET

BCHMS-GW-001-1210

Laboratory: Empirical Laboratories, LLCSDG: CTOJM17KW\_002Client: Tetra Tech NUS, Inc. (T010)Project: NAS Key West CTO JM17Matrix: Ground WaterLaboratory ID: 1012134-06File ID: 1213406.DSampled: 12/11/10 09:30Prepared: 12/16/10 12:55Analyzed: 12/30/10 20:07Solids: Preparation: EXT 3510Dilution: 1Batch: 0L16008Sequence: 1A00304Calibration: 0362004Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
91-94-1	3,3'-Dichlorobenzidine		0.467	1.17	2.34	Y U
98-86-2	Acetophenone		0.584	1.17	2.34	U
1912-24-9	Atrazine		0.584	1.17	2.34	U
100-52-7	Benzaldehyde		0.584	1.17	2.34	Y U
92-52-4	1,1-Biphenyl		0.467	1.17	2.34	U
101-55-3	4-Bromophenyl-phenylether		0.584	1.17	2.34	U
85-68-7	Butylbenzylphthalate		0.584	1.17	2.34	Q U
105-60-2	Caprolactam		0.584	1.17	2.34	Q U
86-74-8	Carbazole		0.584	1.17	2.34	U
59-50-7	4-Chloro-3-methylphenol		0.584	1.17	2.34	U
106-47-8	4-Chloroaniline		0.584	1.17	2.34	U
111-91-1	Bis(2-chloroethoxy)methane		0.584	1.17	2.34	U
111-44-4	Bis(2-chloroethyl)ether		0.584	1.17	2.34	U
108-60-1	2,2'-Oxybis-1-chloropropane		0.467	1.17	2.34	U
91-58-7	2-Chloronaphthalene		0.584	1.17	2.34	U
95-57-8	2-Chlorophenol		0.584	1.17	2.34	U
7005-72-3	4-Chlorophenyl phenyl ether		0.584	1.17	2.34	Y U
132-64-9	Dibenzofuran		0.584	1.17	2.34	U
84-74-2	Di-n-butylphthalate		0.584	1.17	2.34	U
120-83-2	2,4-Dichlorophenol		0.280	1.17	2.34	U
84-66-2	Diethylphthalate		0.584	1.17	2.34	U
105-67-9	2,4-Dimethylphenol		2.34	4.67	9.35	U
131-11-3	Dimethyl phthalate		0.584	1.17	2.34	U
534-52-1	4,6-Dinitro-2-methylphenol		2.34	4.67	9.35	U
51-28-5	2,4-Dinitrophenol		5.84	11.7	23.4	U
121-14-2	2,4-Dinitrotoluene		0.584	1.17	2.34	U
606-20-2	2,6-Dinitrotoluene		0.584	1.17	2.34	U
117-84-0	Di-n-octylphthalate		0.584	1.17	2.34	Q U
123-91-1	1,4-Dioxane		0.584	1.17	2.34	U
117-81-7	Bis(2-ethylhexyl)phthalate		0.584	1.17	2.34	U
118-74-1	Hexachlorobenzene		0.584	1.17	2.34	U
87-68-3	Hexachlorobutadiene		0.584	1.17	2.34	Q U
77-47-4	Hexachlorocyclopentadiene		0.584	1.17	2.34	U
67-72-1	Hexachloroethane		0.584	1.17	2.34	Q U
78-59-1	Isophorone		0.584	1.17	2.34	U
95-48-7	2-Methylphenol		0.584	1.17	2.34	U
106-44-5	4-Methylphenol		0.584	1.17	2.34	U
91-20-3	Naphthalene		0.584	1.17	2.34	U
100-01-6	4-Nitroaniline		1.40	4.67	9.35	U































## ANALYSIS DATA SHEET

BCHMS-GW-028-1210

Laboratory: Empirical Laboratories, LLC SDG: CTOJM17KW\_002  
 Client: Tetra Tech NUS, Inc. (T010) Project: NAS Key West CTO JM17  
 Matrix: Ground Water Laboratory ID: 1012134-09 File ID: 1213409.D  
 Sampled: 12/11/10 15:00 Prepared: 12/16/10 12:55 Analyzed: 12/30/10 21:30  
 Solids: Preparation: EXT 3510 Dilution: 1  
 Batch: 0L16008 Sequence: 1A00304 Calibration: 0362004 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
91-94-1	3,3'-Dichlorobenzidine		0.467	1.17	2.34	Y U
98-86-2	Acetophenone		0.584	1.17	2.34	U
1912-24-9	Atrazine		0.584	1.17	2.34	U
100-52-7	Benzaldehyde		0.584	1.17	2.34	Y U
92-52-4	1,1-Biphenyl		0.467	1.17	2.34	U
101-55-3	4-Bromophenyl-phenylether		0.584	1.17	2.34	U
85-68-7	Butylbenzylphthalate		0.584	1.17	2.34	Q U
105-60-2	Caprolactam		0.584	1.17	2.34	Q U
86-74-8	Carbazole		0.584	1.17	2.34	U
59-50-7	4-Chloro-3-methylphenol		0.584	1.17	2.34	U
106-47-8	4-Chloroaniline		0.584	1.17	2.34	U
111-91-1	Bis(2-chloroethoxy)methane		0.584	1.17	2.34	U
111-44-4	Bis(2-chloroethyl)ether		0.584	1.17	2.34	U
108-60-1	2,2'-Oxybis-1-chloropropane		0.467	1.17	2.34	U
91-58-7	2-Chloronaphthalene		0.584	1.17	2.34	U
95-57-8	2-Chlorophenol		0.584	1.17	2.34	U
7005-72-3	4-Chlorophenyl phenyl ether		0.584	1.17	2.34	Y U
132-64-9	Dibenzofuran		0.584	1.17	2.34	U
84-74-2	Di-n-butylphthalate		0.584	1.17	2.34	U
120-83-2	2,4-Dichlorophenol		0.280	1.17	2.34	U
84-66-2	Diethylphthalate		0.584	1.17	2.34	U
105-67-9	2,4-Dimethylphenol		2.34	4.67	9.35	U
131-11-3	Dimethyl phthalate		0.584	1.17	2.34	U
534-52-1	4,6-Dinitro-2-methylphenol		2.34	4.67	9.35	U
51-28-5	2,4-Dinitrophenol		5.84	11.7	23.4	U
121-14-2	2,4-Dinitrotoluene		0.584	1.17	2.34	U
606-20-2	2,6-Dinitrotoluene		0.584	1.17	2.34	U
117-84-0	Di-n-octylphthalate		0.584	1.17	2.34	Q U
123-91-1	1,4-Dioxane		0.584	1.17	2.34	U
117-81-7	Bis(2-ethylhexyl)phthalate		0.584	1.17	2.34	Q U
118-74-1	Hexachlorobenzene		0.584	1.17	2.34	U
87-68-3	Hexachlorobutadiene		0.584	1.17	2.34	Q U
77-47-4	Hexachlorocyclopentadiene		0.584	1.17	2.34	U
67-72-1	Hexachloroethane		0.584	1.17	2.34	Q U
78-59-1	Isophorone		0.584	1.17	2.34	U
95-48-7	2-Methylphenol		0.584	1.17	2.34	U
106-44-5	4-Methylphenol		0.584	1.17	2.34	U
91-20-3	Naphthalene		0.584	1.17	2.34	U
100-01-6	4-Nitroaniline		1.40	4.67	9.35	U



# ANALYSIS DATA SHEET

BCHMS-GW-029D-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Ground Water

Laboratory ID: 1012134-10

File ID: 1213410.D

Sampled: 12/11/10 14:00

Prepared: 12/16/10 12:55

Analyzed: 12/30/10 21:57

Solids:

Preparation: EXT 3510

Dilution: 1

Batch: 0L16008

Sequence: 1A00304

Calibration: 0362004

Instrument: MS-BNAI

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
91-94-1	3,3'-Dichlorobenzidine		0.463	1.16	2.31	Y U
98-86-2	Acetophenone		0.579	1.16	2.31	U
1912-24-9	Atrazine		0.579	1.16	2.31	U
100-52-7	Benzaldehyde		0.579	1.16	2.31	Y U
92-52-4	1,1-Biphenyl		0.463	1.16	2.31	U
101-55-3	4-Bromophenyl-phenylether		0.579	1.16	2.31	U
85-68-7	Butylbenzylphthalate		0.579	1.16	2.31	Q U
105-60-2	Caprolactam		0.579	1.16	2.31	Q U
86-74-8	Carbazole		0.579	1.16	2.31	U
59-50-7	4-Chloro-3-methylphenol		0.579	1.16	2.31	U
106-47-8	4-Chloroaniline		0.579	1.16	2.31	U
111-91-1	Bis(2-chloroethoxy)methane		0.579	1.16	2.31	U
111-44-4	Bis(2-chloroethyl)ether		0.579	1.16	2.31	U
108-60-1	2,2'-Oxybis-1-chloropropane		0.463	1.16	2.31	U
91-58-7	2-Chloronaphthalene		0.579	1.16	2.31	U
95-57-8	2-Chlorophenol		0.579	1.16	2.31	U
7005-72-3	4-Chlorophenyl phenyl ether		0.579	1.16	2.31	Y U
132-64-9	Dibenzofuran		0.579	1.16	2.31	U
84-74-2	Di-n-butylphthalate		0.579	1.16	2.31	U
120-83-2	2,4-Dichlorophenol		0.278	1.16	2.31	U
84-66-2	Diethylphthalate		0.579	1.16	2.31	U
105-67-9	2,4-Dimethylphenol		2.31	4.63	9.26	U
131-11-3	Dimethyl phthalate		0.579	1.16	2.31	U
534-52-1	4,6-Dinitro-2-methylphenol		2.31	4.63	9.26	U
51-28-5	2,4-Dinitrophenol		5.79	11.6	23.1	U
121-14-2	2,4-Dinitrotoluene		0.579	1.16	2.31	U
606-20-2	2,6-Dinitrotoluene		0.579	1.16	2.31	U
117-84-0	Di-n-octylphthalate		0.579	1.16	2.31	Q U
123-91-1	1,4-Dioxane		0.579	1.16	2.31	U
117-81-7	Bis(2-ethylhexyl)phthalate		0.579	1.16	2.31	Q U
118-74-1	Hexachlorobenzene		0.579	1.16	2.31	U
87-68-3	Hexachlorobutadiene		0.579	1.16	2.31	Q U
77-47-4	Hexachlorocyclopentadiene		0.579	1.16	2.31	U
67-72-1	Hexachloroethane		0.579	1.16	2.31	Q U
78-59-1	Isophorone		0.579	1.16	2.31	U
95-48-7	2-Methylphenol		0.579	1.16	2.31	U
106-44-5	4-Methylphenol		0.579	1.16	2.31	U
91-20-3	Naphthalene		0.579	1.16	2.31	U
100-01-6	4-Nitroaniline		1.39	4.63	9.26	U











# ANALYSIS DATA SHEET

BCHMS-GW-003-1210
-------------------

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_002</u>	
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>	
Matrix: <u>Ground Water</u>	Laboratory ID: <u>1012134-08</u>	File ID: <u>026F2701.D</u>
Sampled: <u>12/11/10 12:30</u>	Prepared: <u>12/15/10 12:30</u>	Analyzed: <u>12/18/10 08:42</u>
Solids:	Preparation: <u>EXT 3510</u>	Dilution: <u>1</u>
Batch: <u>0L14021</u>	Sequence: <u>0L35502</u>	Calibration: <u>0354003</u>
		Instrument: <u>GL-GCFID2</u>

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
	Petroleum Range Organics		0.158	0.316	0.633	U
SYSTEM MONITORING COMPOUND		ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
	2-Fluorobiphenyl	0.04651	0.04097	88.1	50 - 150	
	o-Terphenyl	0.04651	0.03896	83.8	82 - 142	





# ANALYSIS DATA SHEET

<b>BCHMS-GW-015-1210</b>
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Laboratory:	<u>Empirical Laboratories, LLC</u>	SDG:	<u>CTOJM17KW 002</u>
Client:	<u>Tetra Tech NUS, Inc. (T010)</u>	Project:	<u>NAS Key West CTO JM17</u>
Matrix:	<u>Ground Water</u>	Laboratory ID:	<u>1012134-03</u>
		File ID:	<u>020F2101.D</u>
Sampled:	<u>12/10/10 10:00</u>	Prepared:	<u>12/15/10 12:30</u>
		Analyzed:	<u>12/18/10 04:30</u>
Solids:		Preparation:	<u>EXT 3510</u>
		Dilution:	<u>1</u>
Batch:	<u>0L14021</u>	Sequence:	<u>0L35502</u>
		Calibration:	<u>0354003</u>
		Instrument:	<u>GL-GCFID2</u>

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
	Petroleum Range Organics		0.157	0.315	0.630	U
SYSTEM MONITORING COMPOUND		ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
	2-Fluorobiphenyl	0.04630	0.04181	90.3	50 - 150	
	o-Terphenyl	0.04630	0.04511	97.4	82 - 142	









**APPENDIX C**

**SUPPORT DOCUMENTATION**

## Sample Delivery Group Case Narrative

### Receipt Information

The samples were received within the preservation guidelines for the associated methods. The information associated with sample receipt and the Sample Delivery Group (SDG) are included within section 4 of this package, which also provides information on the link between the client sample ID listed on the COC and laboratory's assigned unique sample ID or WorkOrder #. The sample is tracked through the laboratory for all analysis via the assigned WorkOrder #.

All samples that were received were analyzed and none of the samples were placed on hold without analyses. There were no subcontracted analyses for this SDG.

As per the client, SIM PAH that is listed on the CoC is not required but SW7470 for Mercury that is not listed is required. One of two SW6010C containers were received with a pH of 7 and both FL-PRO containers were received with a pH of 7 for sample BCHMS-GW-029D-12-10. The sample containers for BCHMS-GW-029D-12-10 that were received with a pH of 7 were preserved upon receipt to the laboratory.

### Changes to the Revision

This is an original submittal of the final report package.

### Analytical Information

All samples were prepped (where applicable) and analyzed within the standard allowed holding times, unless noted within the exceptions listed below. The laboratory analyzed all samples within the program and method guidelines. The following information is provided specific to individual methods:

#### Chromatographic Flags for Manual Integration:

The following letters are used to denote manual integrations on the laboratory's raw data in association with chromatographic integrations:

- A:** The peak was manually integrated as it was not integrated in the original chromatogram.
- B:** The peak was manually integrated due to resolution or coelution issues in the original chromatogram.
- C:** The peak was manually integrated to correct the baseline from the original chromatogram.
- D:** The peak was manually integrated to identify the correct peak as the wrong peak was identified in the original chromatogram.
- E:** The peak was manually integrated to include the entire peak as the original chromatogram only integrated part of the peak.

#### SW8260B:

The batch spikes associated to batch 0L16019 exceeded recovery criteria with a positive bias for Acetone, Chloroethane and Chloromethane and exceeded relative percent difference criteria for Bromomethane. The batch spike duplicate

0L16019-BSD1 was analyzed 12 hours 15 minutes after the associated tune standard.

The continuing calibration verification 0L35116-CCV1 exceeded criteria with a negative bias for Bromomethane.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8270C:**

The surrogate 2-Fluorophenol exceeded criteria with a negative bias in samples 1012134-03, -06 and -07. The surrogate 2-Fluorobiphenyl exceeded criteria with a negative bias in samples 1012134-06, -07 and -09. The surrogates Nitrobenzene-d5 and Phenol-d6 exceeded criteria with a negative bias in sample 1012134-06. 4 out of 6 surrogates exceeded criteria with a negative bias in sample 1012134 but the sample was not able to be re-extracted due to the EPA recommended holding time being exceeded by two times.

The batch spikes associated to batch 0L16008 exceeded recovery criteria with a positive bias for Butylbenzylphthalate, Di-n-octylphthalate, Bis(2-ethylhexyl)phthalate and Pentachlorophenol and with a negative bias for Hexachlorobutadiene, Hexachloroethane and Caprolactam.

The continuing calibration verification 1A00304-CCV1 exceeded criteria with a negative bias for 3,3'-Dichlorobenzidine, Benzaldehyde, 4-Chlorophenyl phenyl ether and 1,2,4,5-Tetrachlorobenzene.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8081B:**

The surrogate Decachlorobiphenyl exceeded criteria on column 2 with a negative bias in sample 1012134-09.

The continuing calibration verification 0L36218-CCV4 exceeded criteria with a positive bias on column 1 for 4,4'-DDT, Alpha-BHC, Delta-BHC, Gamma-BHC and Heptachlor.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8082A:**

The surrogate Decachlorobiphenyl exceeded criteria on column 2 with a negative bias in sample 1012134-09.

The continuing calibration verification 0L36218-CCV3 exceeded criteria with a positive bias on column 2 for Aroclor-1260.

No additional anomalies or deviations are noted and the proper data qualifiers have

been applied.

**FL-PRO:**

The surrogate o-Terphenyl exceeded criteria with a negative bias in sample 1012134-09.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW6010B/SW7470A:**

The following samples are qualified with an M for the compound indicated to indicate that the LOD and/or DL were raised due to interference: 1012134-01 and -09 (Thallium), 1012134-03, -05, -06, -07 and -08 (Lead), 1012134-07 (Chromium), 1012134-08, -09 and -10 (Copper).

The continuing calibration blanks 1A00414 and 1A00503 have positive results for Sodium.

The continuing calibration verifications exceeded criteria in 0L36404-CCV1 with a positive bias for Beryllium, Chromium, Magnesium, Manganese, Vanadium and Zinc and with a negative bias for Aluminum, Arsenic, Copper, Selenium and Thallium, in 1A00414-CCV3 with a positive result for Potassium and Sodium and in 1A00414-CCV4 with a positive result for Potassium and in 1A00503-CCV5 with a positive result for Sodium.

The matrix spikes associated to sample 1012134-10 exceeded criteria with a positive bias for Arsenic, Copper Selenium, Silver and Antimony. The post spike associated to sample 1012134-10 exceeded criteria with a positive bias for Arsenic, Copper, Selenium and Silver and with a negative bias for Thallium.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.



TETRA TECH NUS, INC

CHAIN OF CUSTODY  
NUMBER: ED00000143-2

Project No: <b>112G02608</b>	Facility: <b>KEY WEST NAS</b>	Project Manager: <b>Shauna Stotler-Hardy</b>	Carrier: <b>Federal Express</b>	Laboratory Name: <b>Empirical Laboratories, LLC 621 Mainstream Drive Nashville, TN 37228</b>
Task No: <b>JM17</b>	Turn Around Time: <b>Standard 24hr.</b>	Field Ops Leader: <b>Gary Braganza</b>	Carrier/Waybill No.	Point of Contact: <b>Kim Kostzer (615) 345-1115</b>

10/21/34  
-01  
-02  
-03  
-04  
-05  
-06

Date	Sample ID #	Time	Analysis	Loc ID	Matrix	Description	Preservative	Container Count	Container Type	Container Reqs	Comments
12/10/2010	BCHMS-GW-013-1210	14:00	SW846 8260B	BCHMS-GW013	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/10/2010	BCHMS-GW-013-1210	14:00	SW846 8720D/8270DSIM	BCHMS-GW013	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-013-1210	14:00	SW846 6020A	BCHMS-GW013	GW	Metals	4° C/HNO3	2	Plastic - PE	125ml	
12/10/2010	BCHMS-GW-013-1210	14:00	FL PRO	BCHMS-GW013	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-014-1210	15:00	SW846 8260B	BCHMS-GW014	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/10/2010	BCHMS-GW-014-1210	15:00	SW846 8720D/8270DSIM	BCHMS-GW014	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-014-1210	15:00	SW846 6020A	BCHMS-GW014	GW	Metals	4° C/HNO3	2	Plastic - PE	125ml	
12/10/2010	BCHMS-GW-014-1210	15:00	FL PRO	BCHMS-GW014	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-015-1210	10:00	SW846 8260B	BCHMS-GW015	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/10/2010	BCHMS-GW-015-1210	10:00	SW846 8720D/8270DSIM	BCHMS-GW015	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-015-1210	10:00	SW846 6020A	BCHMS-GW015	GW	Metals	4° C/HNO3	2	Plastic - PE	125ml	
12/10/2010	BCHMS-GW-015-1210	10:00	FL PRO	BCHMS-GW015	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-016-1210	11:00	SW846 8260B	BCHMS-GW016	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/10/2010	BCHMS-GW-016-1210	11:00	SW846 8720D/8270DSIM	BCHMS-GW016	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-016-1210	11:00	SW846 6020A	BCHMS-GW016	GW	Metals	4° C/HNO3	2	Plastic - PE	125ml	
12/10/2010	BCHMS-GW-016-1210	11:00	FL PRO	BCHMS-GW016	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-019-1210	09:20	SW846 8260B	BCHMS-GW019	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/10/2010	BCHMS-GW-019-1210	09:20	SW846 8720D/8270DSIM	BCHMS-GW019	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-019-1210	09:20	SW846 6020A	BCHMS-GW019	GW	Metals	4° C/HNO3	2	Plastic - PE	125ml	
12/10/2010	BCHMS-GW-019-1210	09:20	FL PRO	BCHMS-GW019	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/11/2010	BCHMS-GW-001-1210	09:30	SW846 8260B	BCHMS-GW001	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/11/2010	BCHMS-GW-001-1210	09:30	SW846 8720D/8270DSIM	BCHMS-GW001	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L	
12/11/2010	BCHMS-GW-001-1210	09:30	SW846 6020A	BCHMS-GW001	GW	Metals	4° C/HNO3	2	Plastic - PE	125ml	

10/2134

-06  
-07  
-08  
-09  
-10  
-11

12/11/2010	BCHMS-GW-001-1210	09:30	FL PRO	BCHMS-GW001	GW	TRPH	4°C/HCL	2	Glass - Amber	1L
12/11/2010	BCHMS-GW-002-1210	10:30	SW846 8260B	BCHMS-GW002	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials
12/11/2010	BCHMS-GW-002-1210	10:30	SW846 8720D/8270DSIM	BCHMS-GW002	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L
12/11/2010	BCHMS-GW-002-1210	10:30	SW846 6020A	BCHMS-GW002	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml
12/11/2010	BCHMS-GW-002-1210	10:30	FL PRO	BCHMS-GW002	GW	TRPH	4°C/HCL	2	Glass - Amber	1L
12/11/2010	BCHMS-GW-003-1210	12:30	SW846 8260B	BCHMS-GW003	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials
12/11/2010	BCHMS-GW-003-1210	12:30	SW846 8720D/8270DSIM	BCHMS-GW003	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L
12/11/2010	BCHMS-GW-003-1210	12:30	SW846 6020A	BCHMS-GW003	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml
12/11/2010	BCHMS-GW-003-1210	12:30	FL PRO	BCHMS-GW003	GW	TRPH	4°C/HCL	2	Glass - Amber	1L
12/11/2010	BCHMS-GW-028-1210	15:00	SW846 8260B	BCHMS-GW028	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials
12/11/2010	BCHMS-GW-028-1210	15:00	SW846 8720D/8270DSIM	BCHMS-GW028	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L
12/11/2010	BCHMS-GW-028-1210	15:00	SW846 6020A	BCHMS-GW028	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml
12/11/2010	BCHMS-GW-028-1210	15:00	FL PRO	BCHMS-GW028	GW	TRPH	4°C/HCL	2	Glass - Amber	1L
12/11/2010	BCHMS-GW-028-1210	15:00	SW846 8082A/8081B	BCHMS-GW028	GW	PCBs/Pesticides	4°C	3	Glass - Amber	1L
12/11/2010	BCHMS-GW-029D-1210	14:00	SW846 8260B	BCHMS-GW029D	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials
12/11/2010	BCHMS-GW-029D-1210	14:00	SW846 8720D/8270DSIM	BCHMS-GW029D	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L
12/11/2010	BCHMS-GW-029D-1210	14:00	SW846 6020A	BCHMS-GW029D	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml
12/11/2010	BCHMS-GW-029D-1210	14:00	FL PRO	BCHMS-GW029D	GW	TRPH	4°C/HCL	2	Glass - Amber	1L
12/13/2010	BCHMS-TB 02-1210			BCHMS-TB 02	GW	VOC (low level)	4°C/HCL	2	Glass - Clear	40 ml vials

1. Relinquished By: <b>Gary Braganza</b>	Date: 12/13/2010	Time: 16:13	Received By: <b>Federal Express</b>	Date: 12/13/2010	Time: 17:13
2. Relinquished By:	Date:	Time:	Received By: <i>[Signature]</i>	Date: 12-14-10	Time: 07:5
3. Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Comments:  <span style="float: right;">3.00c</span>					

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012134 Number of Coolers: 1 of 6  
 Client: TTNUS Project: Key West NAS  
 Date/Time Received: 12/14/10 08:50 Date cooler(s) opened: 12/14/10  
 Opened By (print): Will Schwarz (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 5665

2. Were custody seals on outside of cooler(s)?  Yes  No  
 How many: 1 Seal date: 12/13/10 Seal Initials: KS

3. Were custody seals unbroken and intact at the date and time of arrival?  Yes  No  N/A  
 4. Were custody papers sealed in a plastic bag included in the sample cooler?  Yes  No  N/A  
 5. Were custody papers filled out properly (ink, signed, etc.)?  Yes  No  N/A  
 6. Did you sign custody papers in the appropriate place for acceptance?  Yes  No  N/A  
 7. Was project identifiable from custody papers?  Yes  No  N/A  
 8. If required, was enough ice present in the cooler(s)?  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
 Temperature of Samples upon Receipt: Initial Value: 3.3 °C Correction Factor: -0.3 °C Final Value: 3.0 °C

Dates samples were logged-in: 12/14/10  
 9. Initial this form to acknowledge login of sample(s): Chris Dow (Initial): CD

10. Were all bottle lids intact and sealed tightly?  Yes  No  N/A  
 11. Did all bottles arrive unbroken?  Yes  No  N/A  
 12. Was all required bottle label information complete?  Yes  No  N/A  
 13. Did all bottle labels agree with custody papers?  Yes  No  N/A  
 14. Were correct containers used for the analyses indicated?  Yes  No  N/A  
 15. Were preservative levels correct in all applicable sample containers?  Yes  No  N/A  
 16. Was residual chlorine present in any applicable sample containers?  Yes  No  N/A  
 17. Was sufficient amount of sample sent for the analyses required?  Yes  No  N/A  
 18. Was headspace present in any included VOA vials?  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

*• BCHMS - GLW-029D - 12-10 1 of 2 metals containers received with a ph of 7, also Both FLPRO containers received with a ph of 7.  
 • All other metals & flopro containers ph < 2.*

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012134 Number of Coolers: 2 of 6  
Client: TTNUS Project: Key West NAS  
Date/Time Received: 12/14/10 08:50 Date cooler(s) opened: 12/14/10  
Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 4643

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
How many: 1 Seal date: 12/13/10 Seal Initials: KFB
3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A  
4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A  
5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A  
6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A  
7. Was project identifiable from custody papers? .....  Yes  No  N/A  
8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
Temperature of Samples upon Receipt: Initial Value: 2.0 °C Correction Factor: -0.3 °C Final Value: 1.7 °C

Dates samples were logged-in: 12/14/10  
9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_

10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A  
11. Did all bottles arrive unbroken? .....  Yes  No  N/A  
12. Was all required bottle label information complete? .....  Yes  No  N/A  
13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A  
14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A  
15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A  
16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A  
17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A  
18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

see  
page  
10 of 6

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012134 Number of Coolers: 3 of 6

Client: TTNUS Project: Key West NAS

Date/Time Received: 12/14/10 08:50 Date cooler(s) opened: 12/14/10

Opened By (print): Will Schwed (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 5580

2. Were custody seals on outside of cooler(s)?  Yes  No  
How many: 1 Seal date: 12/13/10 Seal Initials: KS

3. Were custody seals unbroken and intact at the date and time of arrival?  Yes  No  N/A  
4. Were custody papers sealed in a plastic bag included in the sample cooler?  Yes  No  N/A  
5. Were custody papers filled out properly (ink, signed, etc.)?  Yes  No  N/A  
6. Did you sign custody papers in the appropriate place for acceptance?  Yes  No  N/A  
7. Was project identifiable from custody papers?  Yes  No  N/A  
8. If required, was enough ice present in the cooler(s)?  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE

Temperature of Samples upon Receipt: Initial Value: 1.8 °C Correction Factor: -0.3 °C Final Value: 1.5 °C

Dates samples were logged-in: 12/14/10

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_

10. Were all bottle lids intact and sealed tightly?  Yes  No  N/A  
11. Did all bottles arrive unbroken?  Yes  No  N/A  
12. Was all required bottle label information complete?  Yes  No  N/A  
13. Did all bottle labels agree with custody papers?  Yes  No  N/A  
14. Were correct containers used for the analyses indicated?  Yes  No  N/A  
15. Were preservative levels correct in all applicable sample containers?  Yes  No  N/A  
16. Was residual chlorine present in any applicable sample containers?  Yes  No  N/A  
17. Was sufficient amount of sample sent for the analyses required?  Yes  No  N/A  
18. Was headspace present in any included VOA vials?  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

see  
page  
1 off

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012134 Number of Coolers: 4 of 6  
Client: TTNUS Project: Key West NAS  
Date/Time Received: 12/14/10 08:50 Date cooler(s) opened: 12/14/10  
Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive? FedEx UPS DHL Hand Delivered  
EL Courier Other: \_\_\_\_\_

If applicable, enter airbill number here: 4860

2. Were custody seals on outside of cooler(s)? .....  Yes No  
How many: 1 Seal date: 12/13/10 Seal Initials: KB  
3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes No N/A  
4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes No N/A  
5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes No N/A  
6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes No N/A  
7. Was project identifiable from custody papers? .....  Yes No N/A  
8. If required, was enough ice present in the cooler(s)? .....  Yes No N/A

Type of Coolant:  WET DRY BLUE NONE  
Temperature of Samples upon Receipt: Initial Value: 2.6 °C Correction Factor: -0.3 °C Final Value: 2.3 °C

Dates samples were logged-in: 12/14/10  
9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_  
10. Were all bottle lids intact and sealed tightly? ..... Yes No N/A  
11. Did all bottles arrive unbroken? ..... Yes No N/A  
12. Was all required bottle label information complete? ..... Yes No N/A  
13. Did all bottle labels agree with custody papers? ..... Yes No N/A  
14. Were correct containers used for the analyses indicated? ..... Yes No N/A  
15. Were preservative levels correct in all applicable sample containers? ..... Yes No N/A  
16. Was residual chlorine present in any applicable sample containers? ..... Yes No N/A  
17. Was sufficient amount of sample sent for the analyses required? ..... Yes No N/A  
18. Was headspace present in any included VOA vials? ..... Yes No N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

see  
page  
10 of 6

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012134 Number of Coolers: 5 of 6

Client: TTNUS Project: Key West NAS

Date/Time Received: 12/14/10 08:50 Date cooler(s) opened: 12/14/10

Opened By (print): Will Schwarz (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 5180

2. Were custody seals on outside of cooler(s)?  Yes  No  
How many: 1 Seal date: 12/13/10 Seal Initials: KRS

- 3. Were custody seals unbroken and intact at the date and time of arrival?  Yes  No  N/A
- 4. Were custody papers sealed in a plastic bag included in the sample cooler?  Yes  No  N/A
- 5. Were custody papers filled out properly (ink, signed, etc.)?  Yes  No  N/A
- 6. Did you sign custody papers in the appropriate place for acceptance?  Yes  No  N/A
- 7. Was project identifiable from custody papers?  Yes  No  N/A
- 8. If required, was enough ice present in the cooler(s)?  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE

Temperature of Samples upon Receipt: Initial Value: 4.6 °C Correction Factor: -0.3 °C Final Value: 4.3 °C

Dates samples were logged-in: 12/14/10

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_

- 10. Were all bottle lids intact and sealed tightly?  Yes  No  N/A
- 11. Did all bottles arrive unbroken?  Yes  No  N/A
- 12. Was all required bottle label information complete?  Yes  No  N/A
- 13. Did all bottle labels agree with custody papers?  Yes  No  N/A
- 14. Were correct containers used for the analyses indicated?  Yes  No  N/A
- 15. Were preservative levels correct in all applicable sample containers?  Yes  No  N/A
- 16. Was residual chlorine present in any applicable sample containers?  Yes  No  N/A
- 17. Was sufficient amount of sample sent for the analyses required?  Yes  No  N/A
- 18. Was headspace present in any included VOA vials?  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

*Contained  
Trip  
Blanks*

*see  
page  
1 of 6*

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 102134 Number of Coolers: 6 of 6  
Client: TTNUS Project: Key West NAS  
Date/Time Received: 12/14/10 08:50 Date cooler(s) opened: 12/14/10  
Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 5352

2. Were custody seals on outside of cooler(s)?  Yes  No  
How many: 1 Seal date: 12/13/10 Seal Initials: KFB

- 3. Were custody seals unbroken and intact at the date and time of arrival?  Yes  No  N/A
- 4. Were custody papers sealed in a plastic bag included in the sample cooler?  Yes  No  N/A
- 5. Were custody papers filled out properly (ink, signed, etc.)?  Yes  No  N/A
- 6. Did you sign custody papers in the appropriate place for acceptance?  Yes  No  N/A
- 7. Was project identifiable from custody papers?  Yes  No  N/A
- 8. If required, was enough ice present in the cooler(s)?  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE

Temperature of Samples upon Receipt: Initial Value: 1.9 °C Correction Factor: -0.3 °C Final Value: 1.6 °C

Dates samples were logged-in: 12/14/10

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_

- 10. Were all bottle lids intact and sealed tightly?  Yes  No  N/A
- 11. Did all bottles arrive unbroken?  Yes  No  N/A
- 12. Was all required bottle label information complete?  Yes  No  N/A
- 13. Did all bottle labels agree with custody papers?  Yes  No  N/A
- 14. Were correct containers used for the analyses indicated?  Yes  No  N/A
- 15. Were preservative levels correct in all applicable sample containers?  Yes  No  N/A
- 16. Was residual chlorine present in any applicable sample containers?  Yes  No  N/A
- 17. Was sufficient amount of sample sent for the analyses required?  Yes  No  N/A
- 18. Was headspace present in any included VOA vials?  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

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1 of 6

## HOLDING TIME SUMMARY

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-GW-013-1210	12/10/10 14:00	12/14/10 08:50	12/16/10 10:00	N/A	14.00	12/16/10 18:49	6.24	14.00	
BCHMS-GW-014-1210	12/10/10 15:00	12/14/10 08:50	12/16/10 10:00	N/A	14.00	12/16/10 19:19	6.22	14.00	
BCHMS-GW-015-1210	12/10/10 10:00	12/14/10 08:50	12/16/10 10:00	N/A	14.00	12/16/10 19:49	6.45	14.00	
BCHMS-GW-016-1210	12/10/10 11:00	12/14/10 08:50	12/16/10 10:00	N/A	14.00	12/16/10 20:20	6.43	14.00	
BCHMS-GW-019-1210	12/10/10 09:20	12/14/10 08:50	12/16/10 10:00	N/A	14.00	12/16/10 20:50	6.52	14.00	
BCHMS-GW-001-1210	12/11/10 09:30	12/14/10 08:50	12/16/10 10:00	N/A	14.00	12/16/10 21:20	5.53	14.00	
BCHMS-GW-002-1210	12/11/10 10:30	12/14/10 08:50	12/16/10 10:00	N/A	14.00	12/16/10 21:50	5.51	14.00	
BCHMS-GW-003-1210	12/11/10 12:30	12/14/10 08:50	12/16/10 10:00	N/A	14.00	12/16/10 22:20	5.45	14.00	
BCHMS-GW-028-1210	12/11/10 15:00	12/14/10 08:50	12/16/10 10:00	N/A	14.00	12/16/10 22:50	5.37	14.00	
BCHMS-GW-029D-1210	12/11/10 14:00	12/14/10 08:50	12/16/10 10:00	N/A	14.00	12/16/10 23:20	5.43	14.00	
BCHMS-TB02-1210	12/13/10 00:00	12/14/10 08:50	12/16/10 10:00	N/A	14.00	12/16/10 16:18	3.68	14.00	

# HOLDING TIME SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-GW-013-1210	12/10/10 14:00	12/14/10 08:50	12/16/10 12:55	6.00	7.00	12/30/10 17:49	14.20	40.00	
BCHMS-GW-014-1210	12/10/10 15:00	12/14/10 08:50	12/16/10 12:55	5.95	7.00	12/30/10 18:17	14.22	40.00	
BCHMS-GW-015-1210	12/10/10 10:00	12/14/10 08:50	12/16/10 12:55	6.16	7.00	12/30/10 18:44	14.24	40.00	
BCHMS-GW-016-1210	12/10/10 11:00	12/14/10 08:50	12/16/10 12:55	6.12	7.00	12/30/10 19:12	14.26	40.00	
BCHMS-GW-019-1210	12/10/10 09:20	12/14/10 08:50	12/16/10 12:55	6.19	7.00	12/30/10 19:39	14.28	40.00	
BCHMS-GW-001-1210	12/11/10 09:30	12/14/10 08:50	12/16/10 12:55	5.18	7.00	12/30/10 20:07	14.30	40.00	
BCHMS-GW-002-1210	12/11/10 10:30	12/14/10 08:50	12/16/10 12:55	5.14	7.00	12/30/10 20:35	14.32	40.00	
BCHMS-GW-003-1210	12/11/10 12:30	12/14/10 08:50	12/16/10 12:55	5.06	7.00	12/30/10 21:02	14.34	40.00	
BCHMS-GW-028-1210	12/11/10 15:00	12/14/10 08:50	12/16/10 12:55	4.95	7.00	12/30/10 21:30	14.36	40.00	
BCHMS-GW-029D-1210	12/11/10 14:00	12/14/10 08:50	12/16/10 12:55	5.00	7.00	12/30/10 21:57	14.38	40.00	

# HOLDING TIME SUMMARY

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-GW-028-1210	12/11/10 15:00	12/14/10 08:50	12/15/10 09:35	3.82	7.00	12/23/10 17:14	8.32	40.00	

# HOLDING TIME SUMMARY

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-GW-028-1210	12/11/10 15:00	12/14/10 08:50	12/15/10 09:35	3.82	7.00	12/23/10 17:14	8.32	40.00	

**HOLDING TIME SUMMARY**  
**FLPRO**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-GW-013-1210	12/10/10 14:00	12/14/10 08:50	12/15/10 12:30	4.98	7.00	12/18/10 03:07	2.61	40.00	
BCHMS-GW-014-1210	12/10/10 15:00	12/14/10 08:50	12/15/10 12:30	4.94	7.00	12/18/10 03:49	2.64	40.00	
BCHMS-GW-015-1210	12/10/10 10:00	12/14/10 08:50	12/15/10 12:30	5.15	7.00	12/18/10 04:30	2.67	40.00	
BCHMS-GW-016-1210	12/10/10 11:00	12/14/10 08:50	12/15/10 12:30	5.10	7.00	12/18/10 05:12	2.70	40.00	
BCHMS-GW-019-1210	12/10/10 09:20	12/14/10 08:50	12/15/10 12:30	5.17	7.00	12/18/10 05:54	2.73	40.00	
BCHMS-GW-001-1210	12/11/10 09:30	12/14/10 08:50	12/15/10 12:30	4.17	7.00	12/18/10 06:36	2.75	40.00	
BCHMS-GW-002-1210	12/11/10 10:30	12/14/10 08:50	12/15/10 12:30	4.13	7.00	12/18/10 08:00	2.81	40.00	
BCHMS-GW-003-1210	12/11/10 12:30	12/14/10 08:50	12/15/10 12:30	4.04	7.00	12/18/10 08:42	2.84	40.00	
BCHMS-GW-028-1210	12/11/10 15:00	12/14/10 08:50	12/15/10 12:30	3.94	7.00	12/18/10 09:24	2.87	40.00	
BCHMS-GW-029D-1210	12/11/10 14:00	12/14/10 08:50	12/15/10 12:30	3.98	7.00	12/18/10 10:06	2.90	40.00	

SDG CTOJMI7KW

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
HG	MG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-021-1210	1012153-26	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20

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SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	UG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12

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SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	UG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-027-1210	1012118-05	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-099D-1210	1012153-08	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-006-1210	1012153-04	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-005-1210	1012153-03	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10

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SORT	UNITS	NSAMPLE	LAB ID	QC_TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	UG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
M	MG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-002-1210	1012153-13RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-014-1210	1012153-19RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-014-1210	1012153-19RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-015-1210	1012153-20RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-013-1210	1012153-18RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-015-1210	1012153-20RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-013-1210	1012153-18RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-016-1210	1012153-21RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-016-1210	1012153-21RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-017-1210	1012153-22RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-017-1210	1012153-22RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-018-1210	1012153-23RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
M	MG/KG	BCHMS-SO-015-1210	1012153-20RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-004-1210	1012153-14RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-004-1210	1012153-14RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-004-1210	1012153-14RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-007-1210	1012153-15RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-007-1210	1012153-15RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-010-1210	1012153-16RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-010-1210	1012153-16RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-010-1210	1012153-16RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-012-1210	1012153-17RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-012-1210	1012153-17RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15

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SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-007-1210	1012153-13RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-028-1210	1012153-32RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-025-1210	1012153-30RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-025-1210	1012153-30RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-025-1210	1012153-30RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-026-1210	1012153-31RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-018-1210	1012153-23RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-028-1210	1012153-32RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/28/2010	12/30/2010	14	2	16
M	MG/KG	BCHMS-SO-FD01-1210	1012153-33RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-FD01-1210	1012153-33RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/28/2010	12/30/2010	14	2	16
M	MG/KG	BCHMS-SO-FD02-1210	1012153-34RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-FD02-1210	1012153-34RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

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SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-026-1210	1012153-31RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-013-1210	1012153-18RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-019-1210	1012153-24RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-019-1210	1012153-24RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-019-1210	1012153-24RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-020-1210	1012153-25RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-020-1210	1012153-25RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-021-1210	1012153-26RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-024-1210	1012153-29RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-022-1210	1012153-27RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-022-1210	1012153-27RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-023-1210	1012153-28RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-023-1210	1012153-28RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-023-1210	1012153-28RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

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SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-018-1210	1012153-23RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-021-1210	1012153-26RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-002-1210	1012153-13RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-014-1210	1012153-19RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-002-1210	1012153-13RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	UG/L	BCHMS-FD001-1210	1012153-01RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-014-1210	1012134-02RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-013-1210	1012134-01RE4	NM	12/10/2010	12/28/2010	01/04/2011	18	7	25
M	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-FD001-1210	1012153-01RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-FD001-1210	1012153-01RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-016-1210	1012134-04RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-FD002-1210	1012153-06RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-FD002-1210	1012153-06RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-FD001-1210	1012153-01RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-017-1210	1012118-06RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-018-1210	1012118-07RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-019-1210	1012134-05RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-021-1210	1012118-01RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-013-1210	1012134-01RE2	NM	12/10/2010	12/28/2010	01/04/2011	18	7	25
M	UG/L	BCHMS-GW-015-1210	1012134-03RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-FD002-1210	1012153-06RE4	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-20D-1210	1012118-08RE2	NM	12/09/2010	12/28/2010	01/04/2011	19	7	26
M	UG/L	BCHMS-GW-20D-1210	1012118-08RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE4	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-028-1210	1012134-09RE4	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-028-1210	1012134-09RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-FD002-1210	1012153-06RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-028-1210	1012134-09RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-022-1210	1012118-02RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-027-1210	1012118-05RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-027-1210	1012118-05	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-026-1210	1012118-10RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-025-1210	1012118-09RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-024-1210	1012118-04RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
M	UG/L	BCHMS-GW-023D-1210	1012118-03RE2	NM	12/08/2010	12/29/2010	01/04/2011	20	7	27
M	UG/L	BCHMS-GW-023D-1210	1012118-03RE1	NM	12/08/2010	12/29/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-013-1210	1012134-01RE1	NM	12/10/2010	12/29/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-028-1210	1012134-03RE2	NM	12/11/2010	12/29/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-003-1210	1012134-08RE3	NM	12/11/2010	12/29/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/29/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-005-1210	1012153-03RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-005-1210	1012153-03RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-005-1210	1012153-03RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-GW-005-1210	1012153-03	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-004-1210	1012153-02RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-004-1210	1012153-02RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-013-1210	1012134-01RE3	NM	12/10/2010	12/28/2010	01/04/2011	18	7	25
M	UG/L	BCHMS-GW-004-1210	1012153-02RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-006-1210	1012153-04RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-006-1210	1012153-04	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-003-1210	1012134-08RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-003-1210	1012134-08RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-002-1210	1012134-07RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-002-1210	1012134-07RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-002-1210	1012134-07RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-001-1210	1012134-06RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-001-1210	1012134-06RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-010-1210	1012153-09RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-010-1210	1012153-09RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-GW-012-1210	1012153-11RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-012-1210	1012153-11RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-012-1210	1012153-11RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-011-1210	1012153-10RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-011-1210	1012153-10RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
M	UG/L	BCHMS-GW-011-1210	1012153-10RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-005-1210	1012153-03RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-010-1210	1012153-09RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-006-1210	1012153-04RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-010-1210	1012153-09RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-007-1210	1012153-05RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-006-1210	1012153-04RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-007-1210	1012153-05RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-GW-009D-1210	1012153-08RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-007-1210	1012153-05RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-007-1210	1012153-05RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-008-1210	1012153-07RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-008-1210	1012153-07RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-008-1210	1012153-07RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22

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SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
OV	UG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/17/2010	12/18/2010	3	1	4
OV	UG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/17/2010	12/18/2010	3	1	4
OV	UG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/17/2010	12/18/2010	3	1	4
OV	UG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-020-1210	1012153-25RE1	NM	12/14/2010	12/22/2010	12/22/2010	8	0	8
OV	UG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-021-1210	1012153-26	NM	12/14/2010	12/17/2010	12/18/2010	3	1	4
OV	UG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/16/2010	12/16/2010	8	0	8
OV	UG/L	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/16/2010	12/16/2010	8	0	8
OV	UG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/16/2010	12/16/2010	6	0	6
OV	UG/L	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7
OV	UG/L	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/16/2010	12/16/2010	8	0	8
OV	UG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/16/2010	12/16/2010	6	0	6
OV	UG/L	BCHMS-TB01-1210	1012118-11	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7
OV	UG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7
OV	UG/L	BCHMS-GW-024-1210	1012118-04RE1	NM	12/08/2010	12/17/2010	12/17/2010	9	0	9
OV	UG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7
OV	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/16/2010	12/16/2010	5	0	5
OV	UG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7

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SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/L	BCHMS-TB02-1210	1012134-11	NM	12/13/2010	12/16/2010	12/16/2010	3	0	3
OV	UG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/16/2010	12/16/2010	6	0	6
OV	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7
OV	UG/L	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/16/2010	12/16/2010	5	0	5
OV	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/17/2010	12/17/2010	5	0	5
OV	UG/L	BCHMS-GW-027-1210	1012118-05RE1	NM	12/08/2010	12/17/2010	12/17/2010	9	0	9
OV	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/17/2010	12/17/2010	5	0	5
OV	UG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/16/2010	12/16/2010	5	0	5
OV	UG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/16/2010	12/16/2010	5	0	5
OV	UG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/16/2010	12/16/2010	6	0	6
OV	UG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/16/2010	12/16/2010	5	0	5
OV	UG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/17/2010	12/18/2010	4	1	5
OV	UG/L	BCHMS-GW-005-1210	1012153-03	NM	12/12/2010	12/17/2010	12/17/2010	5	0	5
OV	UG/L	BCHMS-GW-006-1210	1012153-04RE1	NM	12/12/2010	12/21/2010	12/21/2010	9	0	9
OV	UG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/17/2010	12/18/2010	5	1	6
OV	UG/L	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/17/2010	12/18/2010	4	1	5
OV	UG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/17/2010	12/18/2010	4	1	5
OV	UG/L	BCHMS-GW-010-1210	1012153-09RE1	NM	12/13/2010	12/21/2010	12/21/2010	8	0	8

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
OV	UG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/17/2010	12/18/2010	4	1	5
OV	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/17/2010	12/18/2010	4	1	5
OV	UG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/16/2010	12/16/2010	6	0	6
SIM	UG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-018-1210	1012153-23	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-017-1210	1012153-22	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-019-1210	1012153-24	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-016-1210	1012153-21	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-015-1210	1012153-20	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-014-1210	1012153-19	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-020-1210	1012153-25	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-013-1210	1012153-18	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-025-1210	1012153-30	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
SIM	UG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-012-1210	1012153-17	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-028-1210	1012153-32	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-FD02-1210	1012153-34	SUR	12/14/2010	12/20/2010	12/29/2010	6	9	15
SIM	UG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/20/2010	12/29/2010	6	9	15
SIM	UG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-024-1210	1012153-29	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-026-1210	1012153-31	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-021-1210	1012153-26	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-023-1210	1012153-28	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-022-1210	1012153-27	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
SIM	UG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-021-1210	1012153-26	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-026-1210	1012153-31HE1	NM	12/14/2010	01/04/2011	01/05/2011	21	1	22
SIM	UG/KG	BCHMS-SO-010-1210	1012153-16	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-007-1210	1012153-15	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-004-1210	1012153-14	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-002-1210	1012153-13	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-FD01-1210	1012153-33	SUR	12/14/2010	12/20/2010	12/29/2010	6	9	15
SIM	UG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-014-1210	1012134-02	SUR	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-015-1210	1012134-03	SUR	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-016-1210	1012134-04	SUR	12/10/2010	12/16/2010	12/30/2010	6	14	20

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
SIM	UG/L	BCHMS-GW-013-1210	1012134-01	SUR	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-017-1210	1012118-06	SUR	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-012-1210	1012153-11	SUR	12/13/2010	12/16/2010	12/24/2010	3	8	11
SIM	UG/L	BCHMS-GW-011-1210	1012153-10	SUR	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-010-1210	1012153-09	SUR	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-010-1210	1012153-09	SUR	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-009D-1210	1012153-08	SUR	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-008-1210	1012153-07	SUR	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/16/2010	12/24/2010	3	8	11
SIM	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-20D-1210	1012118-08	SUR	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/14/2010	12/28/2010	5	14	19

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
SIM	UGL	BCHMS-GW-029D-1210	1012134-10	SUR	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UGL	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UGL	BCHMS-GW-028-1210	1012134-09	SUR	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UGL	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UGL	BCHMS-GW-027-1210	1012118-05	SUR	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UGL	BCHMS-GW-027-1210	1012118-05	NM	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UGL	BCHMS-GW-026-1210	1012118-10	SUR	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UGL	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UGL	BCHMS-GW-025-1210	1012118-09	SUR	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UGL	BCHMS-GW-018-1210	1012118-07	SUR	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UGL	BCHMS-GW-024-1210	1012118-04	SUR	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UGL	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UGL	BCHMS-GW-023D-1210	1012118-03	SUR	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UGL	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UGL	BCHMS-GW-022-1210	1012118-02	SUR	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UGL	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UGL	BCHMS-GW-021-1210	1012118-01	SUR	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UGL	BCHMS-GW-007-1210	1012153-05	SUR	12/12/2010	12/16/2010	12/31/2010	4	15	19

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
SIM	UG/L	BCHMS-GW-019-1210	1012134-05	SUR	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-FD002-1210	1012153-06	SUR	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/16/2010	12/31/2010	4	15	19
SIM	UG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-001-1210	1012134-06	SUR	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-003-1210	1012134-08	SUR	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-004-1210	1012153-02	SUR	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-006-1210	1012153-04	SUR	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-005-1210	1012153-03	NM	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-005-1210	1012153-03	SUR	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/16/2010	12/30/2010	5	14	19

Wednesday, January 26, 2011

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
SIM	UG/L	BCHMS-FD001-1210	1012153-01	SUR	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-006-1210	1012153-04	NM	12/12/2010	12/16/2010	12/30/2010	4	14	18
PCB	UG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/14/2010	12/23/2010	5	9	14
PCB	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/17/2010	12/23/2010	4	6	10
PCB	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/15/2010	12/23/2010	4	8	12
PCB	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/17/2010	12/23/2010	5	6	11
PCB	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/17/2010	12/23/2010	5	6	11
PCB	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/14/2010	12/23/2010	6	9	15
PCB	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/17/2010	12/23/2010	4	6	10
PEST	UG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15

Wednesday, January 26, 2011

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
PEST	UG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/17/2010	12/23/2010	4	6	10
PEST	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/15/2010	12/23/2010	4	8	12
PEST	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/14/2010	12/23/2010	5	9	14
PEST	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/17/2010	12/23/2010	4	6	10
PEST	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/17/2010	12/23/2010	5	6	11
PEST	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/17/2010	12/23/2010	5	6	11
PEST	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/14/2010	12/23/2010	6	9	15
TPH	MG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/23/2010	12/30/2010	9	7	16
TPH	MG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/23/2010	12/30/2010	9	7	16

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
TPH	MG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-021-1210	1012153-26	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/L	BCHMS-GW-027-1210	1012118-05	NM	12/08/2010	12/14/2010	12/16/2010	6	2	8
TPH	MG/L	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/14/2010	12/16/2010	6	2	8

Wednesday, January 26, 2011

SORT	UNITS	NSAMPLE	LAB ID	GC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
TPH	MGL	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/15/2010	12/18/2010	5	3	8
TPH	MGL	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/14/2010	12/16/2010	5	2	7
TPH	MGL	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/14/2010	12/16/2010	5	2	7
TPH	MGL	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/15/2010	12/18/2010	5	3	8
TPH	MGL	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/14/2010	12/16/2010	6	2	8
TPH	MGL	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/14/2010	12/16/2010	6	2	8
TPH	MGL	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/14/2010	12/21/2010	6	7	13
TPH	MGL	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/15/2010	12/18/2010	5	3	8
TPH	MGL	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/14/2010	12/16/2010	5	2	7
TPH	MGL	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	MGL	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/15/2010	12/18/2010	4	3	7
TPH	MGL	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/15/2010	12/18/2010	4	3	7
TPH	MGL	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/14/2010	12/16/2010	5	2	7
TPH	MGL	BCHMS-GW-005-1210	1012153-03	NM	12/12/2010	12/17/2010	12/21/2010	5	4	9
TPH	MGL	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/14/2010	12/16/2010	5	2	7
TPH	MGL	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/17/2010	12/21/2010	5	4	9
TPH	MGL	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	MGL	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/15/2010	12/18/2010	4	3	7

Wednesday, January 26, 2011

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
TPH	MG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/15/2010	12/18/2010	4	3	7
TPH	MG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	MG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/17/2010	12/21/2010	5	4	9
TPH	MG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/15/2010	12/18/2010	5	3	8
TPH	MG/L	BCHMS-GW-006-1210	1012153-04	NM	12/12/2010	12/17/2010	12/21/2010	5	4	9
TPH	MG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/17/2010	12/21/2010	5	4	9
TPH	MG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	MG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	MG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	MG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/15/2010	12/18/2010	5	3	8
TPH	MG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/15/2010	12/18/2010	4	3	7

# ANALYSIS SEQUENCE SUMMARY

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L34902

Instrument: MS-VOA5

Calibration: 0349002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L34902-TUN1	1213TU1.D	12/13/10 14:13
Cal Standard	0L34902-CAL1	SEQ-CAL1.D	12/13/10 14:43
Cal Standard	0L34902-CAL2	SEQ-CAL2.D	12/13/10 15:13
Cal Standard	0L34902-CAL3	SEQ-CAL3.D	12/13/10 15:43
Cal Standard	0L34902-CAL4	SEQ-CAL4.D	12/13/10 16:14
Cal Standard	0L34902-CAL5	SEQ-CAL5.D	12/13/10 16:44
Cal Standard	0L34902-CAL6	SEQ-CAL6.D	12/13/10 17:14
Cal Standard	0L34902-CAL7	SEQ-CAL7.D	12/13/10 17:44
Cal Standard	0L34902-CAL8	SEQ-CAL8.D	12/13/10 18:14
Cal Standard	0L34902-CAL9	SEQ-CAL9.D	12/13/10 18:44
Initial Cal Check	0L34902-ICV1	SEQ-ICV1.D	12/13/10 19:14
Cal Standard	0L34902-CALA	SEQ-CALA.D	12/13/10 20:14
Cal Standard	0L34902-CALB	SEQ-CALB.D	12/13/10 20:44
Cal Standard	0L34902-CALC	SEQ-CALC.D	12/13/10 21:15
Cal Standard	0L34902-CALD	SEQ-CALD.D	12/13/10 21:45
Cal Standard	0L34902-CALE	SEQ-CALE.D	12/13/10 22:15
Cal Standard	0L34902-CALF	SEQ-CALF.D	12/13/10 22:45
Cal Standard	0L34902-CALG	SEQ-CALG.D	12/13/10 23:15
MS Tune	0L34902-TUN2	1213TU2.D	12/14/10 08:57
Cal Standard	0L34902-CALH	SEQ-CALH.D	12/14/10 09:27
Cal Standard	0L34902-CALI	SEQ-CALI.D	12/14/10 09:57
Initial Cal Check	0L34902-ICV2	SEQ-ICV3.D	12/14/10 10:27

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_002</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Lab File ID: <u>1213TU1.D</u>	Injection Date: <u>12/13/10</u>
Instrument ID: <u>MS-VOA5</u>	Injection Time: <u>14:13</u>
Sequence: <u>0L34902</u>	Lab Sample ID: <u>0L34902-TUN1</u>

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	24.4	PASS
75	30 - 60% of 95	54.7	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.36	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	64.1	PASS
175	5 - 9% of 174	7.1	PASS
176	95 - 101% of 174	96	PASS
177	5 - 9% of 176	7.18	PASS

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: 1213TU2.D

Injection Date: 12/14/10

Instrument ID: MS-VOA5

Injection Time: 08:57

Sequence: 0L34902

Lab Sample ID: 0L34902-TUN2

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	23.1	PASS
75	30 - 60% of 95	51.6	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.89	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	69.4	PASS
175	5 - 9% of 174	7.71	PASS
176	95 - 101% of 174	100	PASS
177	5 - 9% of 176	6.09	PASS

## INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0349002

Instrument: MS-VOA5

Matrix: Water

Calibration Date: 12/13/2010 9:01:55AM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acetone	9.490153E-02	35.11874	6.444778	7.760536E-02	0.9962118		0.995	
Acrolein	4.050212E-02	11.66847	6.258667	9.437477E-02			15	
Acrylonitrile	7.995309E-02	8.658338	7.252778	9.125197E-02			15	
Benzene	0.8446166	3.664116	13.05667	1.589406E-02			15	
Bromobenzene	0.6204208	6.899589	18.00311	1.924119E-02			15	
Bromochloromethane	0.1224323	11.09981	11.11556	1.970505E-02			15	
Tert-Amyl Methyl Ether	0.789344	15.52968	13.34812	5.009477E-02	0.9990325		0.995	
Bromodichloromethane	0.3700131	7.358442	13.972	1.995359E-02			15	
Bromoform	0.3580188	10.33213	17.27078	2.718296E-02			SPCC (0.1)	
Bromomethane	0.1720739	28.28296	5.274333	0.1246216	0.9991085		0.995	
Bromofluorobenzene	0.8788963	6.739097	17.81833	1.483661E-02			15	
n-Butylbenzene	1.598974	5.569195	19.22844	2.286585E-02			15	
2-Butanone	0.1122502	34.73114	10.50111	0.1547187	0.9977852		0.995	
sec-Butylbenzene	2.053309	4.166657	18.75544	1.897686E-02			15	
tert-Butylbenzene	1.63694	4.685218	18.88344	2.463795E-02			15	
Carbon disulfide	0.740979	5.080183	7.879111	5.470964E-02			15	
Carbon tetrachloride	0.3202351	5.101441	13.02378	3.460528E-02			15	
Chlorobenzene	1.220943	8.778402	16.85467	0.0230222			SPCC (0.3)	
Chloroethane	0.1624884	9.928626	5.469222	0.1098749			15	
Chloroform	0.4766249	3.471597	11.21956	4.506429E-02			CCC (20)	
2-Chloroethyl vinyl ether	0.1485168	13.86846	14.50733	1.998157E-02			15	
Chloromethane	0.3346068	6.864147	4.501333	9.992679E-02			SPCC (0.1)	
1-Chlorohexane	1.188505	10.56141	16.79667	2.801282E-02			15	
2-Chlorotoluene	1.714444	2.587337	18.22233	1.820615E-02			15	
4-Chlorotoluene	1.808579	2.168035	18.28244	2.250717E-02			15	
Cyclohexane	0.3349071	8.859817	12.92533	3.469135E-02			15	
Dibromochloromethane	0.5285393	6.523615	15.86844	1.945299E-02			15	
1,2-Dibromo-3-chloropropane	0.1257405	14.50957	19.63	1.043451E-02			15	
1,2-Dibromoethane (EDB)	0.4888881	6.870215	16.09711	2.927393E-02			15	
Dibromomethane	0.1899021	6.669569	13.811	3.487788E-02			15	
1,2-Dichlorobenzene	1.057762	3.835274	19.22289	2.075924E-02			15	
1,3-Dichlorobenzene	1.134514	3.453945	18.85289	1.935345E-02			15	

## INITIAL CALIBRATION DATA (Continued)

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0349002

Instrument: MS-VOA5

Matrix: Water

Calibration Date: 12/13/2010 9:01:55AM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,4-Dichlorobenzene	1.202795	4.819416	18.90456	2.053349E-02			15	
Dichlorodifluoromethane	0.3200111	8.175819	4.247333	8.114501E-02			15	
1,1-Dichloroethane	0.4470751	4.771398	9.410889	8.676498E-02			SPCC (0.1)	
1,2-Dichloroethane	0.4169138	5.052933	12.32422	0.0374402			15	
1,1-Dichloroethene	0.1854158	5.496992	7.196	0.1042799			CCC (20)	
cis-1,2-Dichloroethene	0.2319594	9.084585	10.82756	5.739556E-02			15	
trans-1,2-Dichloroethene	0.2207055	5.009181	8.807556	6.191007E-02			15	
1,2-Dichloroethene (total)	0.2263324	6.102083	0	0			15	
1,2-Dichloropropane	0.2489638	6.382973	13.86356	5.219406E-02			CCC (20)	
1,3-Dichloropropane	0.8026791	7.291224	15.623	2.647444E-02			15	
2,2-Dichloropropane	0.3707689	3.5969	11.38489	4.647936E-02			15	
1,1-Dichloropropene	0.3237741	7.092263	12.79167	2.414198E-02			15	
cis-1,3-Dichloropropene	0.4124454	9.205903	14.75367	0.0185918			15	
trans-1,3-Dichloropropene	0.7158689	7.591687	15.22011	3.309427E-02			15	
Diisopropyl Ether	0.8439326	8.500125	10.62278	4.151538E-02			15	
Ethylbenzene	2.007809	8.927793	17.00811	1.805769E-02			CCC (20)	
Ethyl tert-Butyl Ether	0.7305473	9.162288	11.41556	5.227118E-02			15	
Ethyl Methacrylate	0.5685535	11.08372	15.66144	2.984729E-02			15	
Hexachlorobutadiene	0.2687676	11.01457	21.325	1.935315E-02			15	
2-Hexanone	0.36419	34.70086	15.77833	3.425747E-02	0.9969121		0.995	
Iodomethane	0.2447362	29.72528	7.25	5.559583E-02	0.9993686		0.995	
Isopropylbenzene	1.566413	9.09391	17.77767	1.866152E-02			15	
p-Isopropyltoluene	1.324729	6.671375	18.577	1.302539E-02			15	
Methylene chloride	0.2617562	7.716747	7.451111	6.731063E-02			15	
Methyl Acetate	0.1965983	5.62942	7.501333	6.414553E-02			15	
Methylcyclohexane	0.2957545	8.279769	14.56322	3.038008E-02			15	
Naphthalene	1.415562	11.77932	21.29878	2.340518E-02			15	
Methyl Methacrylate	0.2238203	14.29097	14.197	3.587692E-02			15	
4-Methyl-2-pentanone	0.2489881	34.48075	14.88256	3.876822E-02	0.9973122		0.995	
Methyl t-Butyl Ether	0.5979716	9.385891	9.119667	0.1432835			15	
n-Propylbenzene	2.594076	3.792861	18.12478	0.0225021			15	
Styrene	1.204421	10.08127	17.42844	2.425388E-02			15	

# INITIAL CALIBRATION DATA (Continued)

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0349002

Instrument: MS-VOAS

Matrix: Water

Calibration Date: 12/13/2010 9:01:55AM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,1,2,2-Tetrachloroethane	0.7277649	3.387486	17.50067	1.931054E-02			SPCC (0.3)	
1,1,1,2-Tetrachloroethane	0.4510822	6.834532	16.79667	2.801282E-02			15	
tert-Butyl alcohol	2.327698E-02	9.532707	7.205778	0.1024445			15	
Tetrachloroethene	0.471928	3.948895	16.27244	2.373135E-02			15	
Toluene	1.049879	6.942362	15.56067	1.745815E-02			CCC (20)	
1,2,3-Trichlorobenzene	0.5841777	7.413424	21.56625	2.862758E-02			15	
1,2,4-Trichlorobenzene	0.6562098	9.896622	21.001	2.452696E-02			15	
1,1,2-Trichloroethane	0.3903573	6.159439	15.37567	2.739238E-02			15	
1,1,1-Trichloroethane	0.3663266	7.22728	12.49844	0.0358237			15	
Tetrahydrofuran	5.972225E-02	11.70861	11.82475	0.1139163			15	
Trichloroethene	0.246407	3.817773	13.93467	0.0212948			15	
Trichlorofluoromethane	0.4122274	6.130862	6.301444	9.080712E-02			15	
1,2,3-Trichloropropane	0.1661066	8.430506	17.61244	2.391162E-02			15	
1,3,5-Trimethylbenzene	1.696793	4.132945	18.33167	2.167581E-02			15	
1,2,4-Trimethylbenzene	1.726979	5.706479	18.65689	1.854308E-02			15	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2267979	3.552182	7.568111	9.178277E-02			15	
Vinyl chloride	0.305846	3.734151	4.731333	0.1367484			CCC (20)	
m,p-Xylene	1.54219	12.88011	17.16233	2.624017E-02			15	
o-Xylene	1.656056	10.36993	17.491	1.445182E-02			15	
Vinyl acetate	0.284899	12.27004	9.73825	5.344834E-02			15	
Xylenes (total)	1.580145	11.92563	0	0			15	
Dibromofluoromethane	0.3260638	2.526002	11.42756	0.0353478			15	
1,2-Dichloroethane-d4	6.495731E-02	3.537328	12.20267	3.612929E-02			15	
Toluene-d8	1.870203	3.473583	15.48944	1.871955E-02			15	
tert-Amyl alcohol	1.394119E-02	15.08696	12.066	5.701451E-02	0.9971839		0.995	
tert-Amyl ethyl ether	0.6187794	10.65214	14.43178	3.505809E-02			15	

# INITIAL CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA5

Calibration: 0349002

Lab File ID: SEQ-ICV1.D

Calibration Date: 12/13/10 09:01

Sequence: 0L34902

Injection Date: 12/13/10

Lab Sample ID: 0L34902-ICV1

Injection Time: 19:14

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Benzene	A	50.00	50.47	0.8446166	0.8525389		0.9	20
Bromochloromethane	A	50.00	53.82	0.1224323	0.1317814		7.6	20
Bromodichloromethane	A	50.00	50.08	0.3700131	0.3705788		0.2	20
Bromoform	A	50.00	55.44	0.3580188	0.3969678	0.1	10.9	20
Bromomethane	L	50.00	42.68	0.1720739	0.1828664		-14.6	20
Carbon disulfide	A	50.00	51.96	0.740979	0.7700032		3.9	20
Carbon tetrachloride	A	50.00	48.47	0.3202351	0.3104302		-3.1	20
Chlorobenzene	A	50.00	51.95	1.220943	1.26847	0.3	3.9	20
Chloroethane	A	50.00	49.55	0.1624884	0.1610407		-0.9	20
Chloroform	A	50.00	46.61	0.4766249	0.4443466		-6.8	20
Chloromethane	A	50.00	49.31	0.3346068	0.3299584	0.1	-1.4	20
Cyclohexane	A	50.00	55.14	0.3349071	0.3693443		10.3	20
Dibromochloromethane	A	50.00	53.57	0.5285393	0.5663252		7.1	20
1,2-Dibromo-3-chloropropane	A	50.00	54.70	0.1257405	0.1375679		9.4	20
1,2-Dibromoethane (EDB)	A	50.00	53.02	0.4888881	0.5184059		6.0	20
1,2-Dichlorobenzene	A	50.00	51.40	1.057762	1.087484		2.8	20
1,3-Dichlorobenzene	A	50.00	48.94	1.134514	1.110547		-2.1	20
1,4-Dichlorobenzene	A	50.00	51.22	1.202795	1.232139		2.4	20
Dichlorodifluoromethane	A	50.00	51.31	0.3200111	0.3284131		2.6	20
1,1-Dichloroethane	A	50.00	49.05	0.4470751	0.4385539	0.1	-1.9	20
1,2-Dichloroethane	A	50.00	46.34	0.4169138	0.3864328		-7.3	20
1,1-Dichloroethene	A	50.00	55.80	0.1854158	0.2069069		11.6	20
cis-1,2-Dichloroethene	A	50.00	52.42	0.2319594	0.2431796		4.8	20
trans-1,2-Dichloroethene	A	50.00	52.73	0.2207055	0.2327379		5.5	20
1,2-Dichloropropane	A	50.00	49.79	0.2489638	0.2479107		-0.4	20
cis-1,3-Dichloropropene	A	50.00	48.27	0.4124454	0.3981959		-3.5	20
trans-1,3-Dichloropropene	A	50.00	58.67	0.7158689	0.8400282		17.3	20
Ethylbenzene	A	50.00	52.17	2.007809	2.094992		4.3	20
Isopropylbenzene	A	50.00	56.51	1.566413	1.770488		13.0	20

# INITIAL CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA5

Calibration: 0349002

Lab File ID: SEQ-ICV1.D

Calibration Date: 12/13/10 09:01

Sequence: 0L34902

Injection Date: 12/13/10

Lab Sample ID: 0L34902-ICV1

Injection Time: 19:14

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Methylene chloride	A	50.00	49.52	0.2617562	0.2592243		-1.0	20
Methyl Acetate	A	50.00	48.76	0.1965983	0.1917229		-2.5	20
Methylcyclohexane	A	50.00	52.35	0.2957545	0.3096431		4.7	20
Methyl t-Butyl Ether	A	50.00	52.54	0.5979716	0.6283221		5.1	20
Styrene	A	50.00	55.50	1.204421	1.337017		11.0	20
1,1,2,2-Tetrachloroethane	A	50.00	51.52	0.7277649	0.749886	0.3	3.0	20
Tetrachloroethene	A	50.00	53.15	0.471928	0.501621		6.3	20
Toluene	A	50.00	51.58	1.049879	1.083057		3.2	20
1,2,3-Trichlorobenzene	A	50.00	52.33	0.5841777	0.6113597		4.7	20
1,2,4-Trichlorobenzene	A	50.00	51.81	0.6562098	0.6799097		3.6	20
1,1,2-Trichloroethane	A	50.00	51.70	0.3903573	0.4036473		3.4	20
1,1,1-Trichloroethane	A	50.00	47.63	0.3663266	0.348945		-4.7	20
Trichloroethene	A	50.00	50.38	0.246407	0.2482574		0.8	20
Trichlorofluoromethane	A	50.00	47.66	0.4122274	0.3929249		-4.7	20
1,1,2-Trichloro-1,2,2-trifluoroethane	A	50.00	50.43	0.2267979	0.2287369		0.9	20
Vinyl chloride	A	50.00	49.87	0.305846	0.3050633		-0.3	20
m,p-Xylene	A	100.0	103.3	1.54219	1.593317		3.3	20
o-Xylene	A	50.00	51.96	1.656056	1.721054		3.9	20
Bromofluorobenzene	A	30.00	29.29	0.8788963	0.8581073		-2.4	20
Dibromofluoromethane	A	30.00	29.02	0.3260638	0.3154123		-3.3	20
1,2-Dichloroethane-d4	A	30.00	29.96	6.495731E-02	6.486496E-02		-0.1	20
Toluene-d8	A	30.00	32.06	1.870203	1.998743		6.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# INITIAL CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA5

Calibration: 0349002

Lab File ID: SEQ-ICV3.D

Calibration Date: 12/13/10 09:01

Sequence: 0L34902

Injection Date: 12/14/10

Lab Sample ID: 0L34902-ICV2

Injection Time: 10:27

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Acetone	L	200.0	206.8	9.490153E-02	9.360305E-02		3.4	20
2-Butanone	L	200.0	209.9	0.1122502	0.1278963		4.9	20
2-Hexanone	L	200.0	210.9	0.36419	0.3970769		5.4	20
4-Methyl-2-pentanone	L	200.0	211.4	0.2489881	0.2775549		5.7	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## ANALYSIS SEQUENCE SUMMARY

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35116

Instrument: MS-VOA5

Calibration: 0349002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L35116-TUNI	1216TU1.D	12/16/10 12:06
Calibration Check	0L35116-CCV1	1216CC1.D	12/16/10 12:36
LCS	0L16019-BS1	1216LS1.D	12/16/10 13:20
Blank	0L16019-BLK1	1216BL1.D	12/16/10 14:48
BCHMS-TB02-1210	1012134-11	1213411.D	12/16/10 16:18
BCHMS-GW-013-1210	1012134-01	1213401.D	12/16/10 18:49
BCHMS-GW-014-1210	1012134-02	1213402.D	12/16/10 19:19
BCHMS-GW-015-1210	1012134-03	1213403.D	12/16/10 19:49
BCHMS-GW-016-1210	1012134-04	1213404.D	12/16/10 20:20
BCHMS-GW-019-1210	1012134-05	1213405.D	12/16/10 20:50
BCHMS-GW-001-1210	1012134-06	1213406.D	12/16/10 21:20
BCHMS-GW-002-1210	1012134-07	1213407.D	12/16/10 21:50
BCHMS-GW-003-1210	1012134-08	1213408.D	12/16/10 22:20
BCHMS-GW-028-1210	1012134-09	1213409.D	12/16/10 22:50
BCHMS-GW-029D-1210	1012134-10	1213410.D	12/16/10 23:20
LCS Dup	0L16019-BSD1	1216LD1.D	12/17/10 00:21

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: 1216TUI.D

Injection Date: 12/16/10

Instrument ID: MS-VOA5

Injection Time: 12:06

Sequence: 0L35116

Lab Sample ID: 0L35116-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	24.2	PASS
75	30 - 60% of 95	50.8	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.81	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	64.3	PASS
175	5 - 9% of 174	6.42	PASS
176	95 - 101% of 174	96	PASS
177	5 - 9% of 176	7.61	PASS

# CONTINUING CALIBRATION CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA5

Calibration: 0349002

Lab File ID: 1216CC1.D

Calibration Date: 12/13/10 09:01

Sequence: 0L35116

Injection Date: 12/16/10

Lab Sample ID: 0L35116-CCV1

Injection Time: 12:36

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	L	200.0	192.6	9.490153E-02	0.0871395		-3.7	20
Benzene	A	100.0	99.92	0.8446166	0.8439033		-0.08	20
Bromochloromethane	A	100.0	103.8	0.1224323	0.1270794		3.8	20
Bromodichloromethane	A	100.0	102.4	0.3700131	0.3787554		2.4	20
Bromoform	A	100.0	106.7	0.3580188	0.3818714	0.1	6.7	20
Bromomethane	L	100.0	56.47	0.1720739	0.1221046		-43.5	20 *
2-Butanone	L	200.0	189.5	0.1122502	0.1153718		-5.2	20
Carbon disulfide	A	100.0	96.87	0.740979	0.7178091		-3.1	20
Carbon tetrachloride	A	100.0	104.4	0.3202351	0.3343906		4.4	20
Chlorobenzene	A	100.0	94.47	1.220943	1.153446	0.3	-5.5	20
Chloroethane	A	100.0	115.0	0.1624884	0.1869108		15.0	20
Chloroform	A	100.0	97.83	0.4766249	0.466289		-2.2	20
Chloromethane	A	100.0	105.6	0.3346068	0.3533365	0.1	5.6	20
Cyclohexane	A	100.0	107.6	0.3349071	0.3603038		7.6	20
Dibromochloromethane	A	100.0	99.31	0.5285393	0.5249188		-0.7	20
1,2-Dibromo-3-chloropropane	A	100.0	110.8	0.1257405	0.1393115		10.8	20
1,2-Dibromoethane (EDB)	A	100.0	99.91	0.4888881	0.4884672		-0.09	20
1,2-Dichlorobenzene	A	100.0	100.9	1.057762	1.06757		0.9	20
1,3-Dichlorobenzene	A	100.0	98.02	1.134514	1.111997		-2.0	20
1,4-Dichlorobenzene	A	100.0	100.3	1.202795	1.206156		0.3	20
Dichlorodifluoromethane	A	100.0	101.8	0.3200111	0.3257208		1.8	20
1,1-Dichloroethane	A	100.0	100.7	0.4470751	0.4501098	0.1	0.7	20
1,2-Dichloroethane	A	100.0	98.77	0.4169138	0.4117797		-1.2	20
1,1-Dichloroethene	A	100.0	99.08	0.1854158	0.1837147		-0.9	20
cis-1,2-Dichloroethene	A	100.0	104.6	0.2319594	0.2425367		4.6	20
trans-1,2-Dichloroethene	A	100.0	100.1	0.2207055	0.2209235		0.1	20
1,2-Dichloropropane	A	100.0	104.6	0.2489638	0.2602959		4.6	20
cis-1,3-Dichloropropene	A	100.0	109.3	0.4124454	0.4509011		9.3	20
trans-1,3-Dichloropropene	A	100.0	102.2	0.7158689	0.7314101		2.2	20

## CONTINUING CALIBRATION CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA5

Calibration: 0349002

Lab File ID: 1216CC1.D

Calibration Date: 12/13/10 09:01

Sequence: 0L35116

Injection Date: 12/16/10

Lab Sample ID: 0L35116-CCV1

Injection Time: 12:36

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Ethylbenzene	A	100.0	94.80	2.007809	1.903336		-5.2	20
2-Hexanone	L	200.0	191.3	0.36419	0.3603078		-4.4	20
Isopropylbenzene	A	100.0	99.91	1.566413	1.564941		-0.09	20
Methylene chloride	A	100.0	97.03	0.2617562	0.2539853		-3.0	20
Methyl Acetate	A	100.0	104.8	0.1965983	0.2060455		4.8	20
Methylcyclohexane	A	100.0	103.8	0.2957545	0.3069439		3.8	20
4-Methyl-2-pentanone	L	200.0	213.9	0.2489881	0.2808681		7.0	20
Methyl t-Butyl Ether	A	100.0	105.8	0.5979716	0.63295		5.8	20
Styrene	A	100.0	103.9	1.204421	1.251121		3.9	20
1,1,2,2-Tetrachloroethane	A	100.0	98.75	0.7277649	0.7186508	0.3	-1.3	20
Tetrachloroethene	A	100.0	96.38	0.471928	0.4548706		-3.6	20
Toluene	A	100.0	94.04	1.049879	0.9873079		-6.0	20
1,2,3-Trichlorobenzene	A	100.0	102.5	0.5841777	0.5989311		2.5	20
1,2,4-Trichlorobenzene	A	100.0	101.8	0.6562098	0.6679136		1.8	20
1,1,2-Trichloroethane	A	100.0	94.40	0.3903573	0.3685126		-5.6	20
1,1,1-Trichloroethane	A	100.0	104.3	0.3663266	0.382091		4.3	20
Trichloroethene	A	100.0	102.4	0.246407	0.2523348		2.4	20
Trichlorofluoromethane	A	100.0	96.80	0.4122274	0.3990307		-3.2	20
1,1,2-Trichloro-1,2,2-trifluoroethane	A	100.0	99.16	0.2267979	0.2249035		-0.8	20
Vinyl chloride	A	100.0	105.9	0.305846	0.3240088		5.9	20
m,p-Xylene	A	200.0	188.1	1.54219	1.450385		-6.0	20
o-Xylene	A	100.0	95.25	1.656056	1.577372		-4.8	20
Bromofluorobenzene	A	30.00	28.90	0.8788963	0.8467193		-3.7	20
Dibromofluoromethane	A	30.00	29.08	0.3260638	0.3160453		-3.1	20
1,2-Dichloroethane-d4	A	30.00	29.17	6.495731E-02	6.315698E-02		-2.8	20
Toluene-d8	A	30.00	28.31	1.870203	1.765122		-5.6	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits







# ANALYSIS SEQUENCE SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Sequence: 0L35702  
 Calibration: 0362004

SDG: CTOJM17KW\_002  
 Project: NAS Key West CTO JM17  
 Instrument: MS-BNA1

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L35702-TUN1	SEQ-TUN1.D	12/18/10 18:01
Cal Standard	0L35702-CAL1	SEQ-CAL1.D	12/18/10 18:25
Cal Standard	0L35702-CAL2	SEQ-CAL2.D	12/18/10 18:53
Cal Standard	0L35702-CAL3	SEQ-CAL3.D	12/18/10 19:21
Cal Standard	0L35702-CAL4	SEQ-CAL4.D	12/18/10 19:49
Cal Standard	0L35702-CAL5	SEQ-CAL5.D	12/18/10 20:17
Cal Standard	0L35702-CAL6	SEQ-CAL6.D	12/18/10 20:45
Cal Standard	0L35702-CAL7	SEQ-CAL7.D	12/18/10 21:12
Cal Standard	0L35702-CAL8	SEQ-CAL8.D	12/18/10 21:40
Cal Standard	0L35702-CAL9	SEQ-CAL9.D	12/18/10 22:08
Cal Standard	0L35702-CALA	SEQ-CALA.D	12/18/10 22:36
Cal Standard	0L35702-CALB	SEQ-CALB.D	12/18/10 23:03
Cal Standard	0L35702-CALC	SEQ-CALC.D	12/18/10 23:31
Cal Standard	0L35702-CALD	SEQ-CALD.D	12/18/10 23:59
Cal Standard	0L35702-CALE	SEQ-CALE.D	12/19/10 00:26
Cal Standard	0L35702-CALF	SEQ-CALF.D	12/19/10 00:54
Cal Standard	0L35702-CALG	SEQ-CALG.D	12/19/10 01:21
Cal Standard	0L35702-CALH	SEQ-CALH.D	12/19/10 01:49
Cal Standard	0L35702-CALI	SEQ-CALI.D	12/19/10 02:16
Cal Standard	0L35702-CALJ	SEQ-CALJ.D	12/19/10 02:43
Cal Standard	0L35702-CALK	SEQ-CALK.D	12/19/10 03:11
Initial Cal Check	0L35702-ICV1	SEQ-ICV1.D	12/19/10 03:38
Initial Cal Check	0L35702-ICV2	SEQ-ICV2.D	12/19/10 04:05
MS Tune	0L35702-TUN2	SEQ-TUN1.D	12/22/10 15:21
Initial Cal Check	0L35702-ICV3	SEQ-ICV3.D	12/22/10 17:47

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: SEQ-TUN1.D

Injection Date: 12/18/10

Instrument ID: MS-BNA1

Injection Time: 18:01

Sequence: 0L35702

Lab Sample ID: 0L35702-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	32.2	PASS
68	Less than 2% of 69	0	PASS
69	Less than 200% of 198	53.3	PASS
70	Less than 2% of 69	0.467	PASS
127	40 - 60% of 198	41.1	PASS
197	Less than 1% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.15	PASS
275	10 - 30% of 198	17.1	PASS
365	1 - 200% of 198	2.04	PASS
441	0.001 - 100% of 443	73	PASS
442	40 - 200% of 198	48.8	PASS
443	17 - 23% of 442	19.6	PASS

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: SEQ-TUN1.D

Injection Date: 12/22/10

Instrument ID: MS-BNA1

Injection Time: 15:21

Sequence: 0L35702

Lab Sample ID: 0L35702-TUN2

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	35.4	PASS
68	Less than 2% of 69	0	PASS
69	Less than 200% of 198	58.2	PASS
70	Less than 2% of 69	0.498	PASS
127	40 - 60% of 198	42.2	PASS
197	Less than 1% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.78	PASS
275	10 - 30% of 198	17.9	PASS
365	1 - 200% of 198	1.91	PASS
441	0.001 - 100% of 443	72.5	PASS
442	40 - 200% of 198	51.3	PASS
443	17 - 23% of 442	21.8	PASS

## INITIAL CALIBRATION DATA (Continued)

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362004

Instrument: MS-BNA1

Matrix: Water

Calibration Date: 12/18/2010 6:01:14PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
3,3'-Dichlorobenzidine	0.3561386	13.74607	14.00913	1.853712E-02			15	
Acenaphthene	1.158212	14.29994	9.0893	6.863698E-02			CCC (30)	
Acenaphthylene	1.891103	11.23367	8.8751	5.824126E-02			15	
Acetophenone	1.491383	10.09705	5.9345	3.533817E-02			15	
Aniline	1.814495	8.712649	5.0947	0.1061016			15	
Anthracene	1.061887	11.50453	10.9213	4.956257E-02			15	
Atrazine	0.2180254	7.203989	10.55367	8.976036E-02			15	
Benzaldehyde	1.030353	13.61947	4.9567	3.368076E-02			15	
Benzydine	0.5252211	18.55429	12.485	2.056556E-02		0.9933875	0.99	
Benzo(a)anthracene	1.118893	3.791406	14.0132	2.141849E-02			15	
Benzo(a)pyrene	1.004932	13.00593	15.629	4.329081E-02			CCC (30)	
Benzo(b)fluoranthene	1.095916	8.306519	15.26688	3.715737E-02			15	
Benzo(g,h,i)perylene	0.7554867	8.063221	17.10713	0.0522402			15	
Benzoic acid	0.1412433	53.15864	6.784714	0.7332219		0.9914056	0.99	
Benzo(k)fluoranthene	1.257887	9.666064	15.29933	5.295254E-02			15	
Benzyl alcohol	0.7414899	10.21932	5.6468	0.1073651			15	
1,1-Biphenyl	1.474029	14.84233	8.37475	5.904494E-02			15	
4-Bromophenyl-phenylether	0.2483237	5.338416	10.3185	3.246559E-02			15	
Butylbenzylphthalate	0.6249408	8.167292	13.416	1.919134E-02			15	
Caprolactam	0.1169195	11.68998	7.443	0.305151			15	
Carbazole	0.9724047	9.694398	11.1316	0.0413017			15	
4-Chloro-3-methylphenol	0.2456948	8.186533	7.667444	6.040722E-02			CCC (30)	
4-Chloroaniline	0.4601545	4.713541	7.0595	5.065824E-02			15	
Bis(2-chloroethoxy)methane	0.4619607	7.81565	6.7025	0.1092234			15	
Bis(2-chloroethyl)ether	1.28714	6.76312	5.1907	0.1134156			15	
2,2'-Oxybis-1-chloropropane	2.042516	9.79913	5.8131	7.244105E-02			15	
2-Chloronaphthalene	1.215542	11.50754	8.3821	6.350785E-02			15	
2-Chlorophenol	1.374726	6.133877	5.2255	4.223994E-02			15	
4-Chlorophenyl phenyl ether	0.6417793	9.286445	9.7325	3.644994E-02			15	
Chrysene	1.17179	10.57778	14.054	5.595642E-02			15	
Dibenz(a,h)anthracene	0.6639614	17.30742	16.8445	4.159269E-02	0.9971858		0.995	
Dibenzofuran	1.589755	11.16221	9.2984	5.427527E-02			15	

# INITIAL CALIBRATION DATA (Continued)

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362004

Instrument: MS-BNA1

Matrix: Water

Calibration Date: 12/18/2010 6:01:14PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Di-n-butylphthalate	1.363182	9.847762	11.615	3.805597E-02			15	
1,4-Dichlorobenzene	1.479315	6.637054	5.482	5.867455E-02			CCC (30)	
1,3-Dichlorobenzene	1.504545	7.519585	5.3966	3.201965E-02			15	
1,2-Dichlorobenzene	1.412773	12.37593	5.6559	2.437379E-02			15	
2,6-Dichlorophenol	0.3126971	8.052077	7.060778	3.303276E-02			15	
2,4-Dichlorophenol	0.3078656	5.011903	6.8009	7.686769E-02			CCC (30)	
Diethylphthalate	1.341364	11.18514	9.635286	5.717583E-02			15	
2,4-Dimethylphenol	0.3101379	4.520934	6.601222	0.1065945			15	
Dimethyl phthalate	1.287341	10.51153	8.78025	0.1342213			15	
4,6-Dinitro-2-methylphenol	0.1397071	34.78978	9.802286	0.1288307	0.9974412		0.995	
2,4-Dinitrophenol	0.1320693	45.30627	9.150857	8.498765E-02		0.9967507	SPCC (0.05)	
2,4-Dinitrotoluene	0.3776842	15.36291	9.312125	0.1020181	0.9956458		0.995	
2,6-Dinitrotoluene	0.3424953	11.08749	8.831625	0.1060668			15	
Di-n-octylphthalate	1.294711	22.16871	14.90171	1.483539E-02	0.9968773		CCC (30)	
1,4-Dioxane	0.5733591	6.453446	2.0327	0.2131685			15	
1,2-Diphenylhydrazine	0.8207919	9.68715	9.922	5.045649E-02			15	
Bis(2-ethylhexyl)phthalate	0.7833096	11.84578	14.13843	2.094629E-02			15	
Fluoranthene	1.101978	10.57929	12.2919	4.765323E-02			CCC (30)	
Fluorene	1.2694	10.2778	9.71	4.731986E-02			15	
2-Fluorobiphenyl	1.335882	12.27071	8.2631	3.988867E-02			15	
2-Fluorophenol	1.268175	6.87474	4.0035	8.664369E-02			15	
Hexachlorobenzene	0.2933641	7.288823	10.3804	0.0528239			15	
Hexachlorobutadiene	0.2005462	5.992858	7.151111	4.343702E-02			CCC (30)	
Hexachlorocyclopentadiene	0.3593771	12.41399	8.011125	1.441213E-02			SPCC (0.05)	
Hexachloroethane	0.5747469	8.915124	6.0437	3.935189E-02			15	
Indeno(1,2,3-cd)pyrene	0.842443	13.64429	16.82237	3.707439E-02			15	
Isophorone	0.7029211	4.306087	6.425375	0.119834			15	
1-Methylnaphthalene	0.5420947	8.67814	7.9182	5.411778E-02			15	
2-Methylnaphthalene	0.5291538	8.531085	7.8047	0.0352344			15	
2-Methylphenol	1.091088	9.197364	5.7956	0.0658841			15	
3-Methylphenol	1.084733	9.91475	5.9863	0.1342931			15	
4-Methylphenol	1.084733	9.91475	5.9863	0.1342931			15	

## INITIAL CALIBRATION DATA (Continued)

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362004

Instrument: MS-BNA1

Matrix: Water

Calibration Date: 12/18/2010 6:01:14PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Naphthalene	0.9686374	11.16622	6.971667	6.066103E-02			15	
4-Nitroaniline	0.274633	9.568577	9.758375	0.1446812			15	
3-Nitroaniline	0.3791395	9.873316	9.024375	0.1126044			15	
2-Nitroaniline	0.2983051	14.13219	8.5225	7.053652E-02			15	
Nitrobenzene	0.3472915	3.633122	6.13175	9.818485E-02			15	
Nitrobenzene-d5	0.3378513	6.332655	6.1091	7.110683E-02			15	
4-Nitrophenol	0.1686802	19.4349	9.266571	0.1040449	0.9970496		SPCC (0.05)	
2-Nitrophenol	0.2082983	14.5601	6.50725	0.0466271			CCC (30)	
N-Nitrosodimethylamine	0.5404532	9.072787	2.409222	0.188559			15	
N-Nitrosodiphenylamine	0.6683254	8.697682	9.8824	8.152393E-02			CCC (30)	
N-Nitroso-di-n-propylamine	0.8216103	11.46883	5.965444	0.1554278			SPCC (0.05)	
Pentachlorophenol	0.1576577	25.81916	10.62586	3.551647E-02	0.9974932		CCC (30)	
Phenanthrene	1.079608	13.62309	10.8597	5.063865E-02			15	
Phenol	1.69783	8.697325	5.1152	0.2175782			CCC (30)	
Phenol-d6	1.469798	9.364761	5.1008	0.2206916			15	
Pyrene	1.346	12.31461	12.5586	4.906139E-02			15	
Pyridine	1.496743	12.09185	2.411	0.3967962			15	
Terphenyl-d14	0.8665087	7.049283	12.79067	3.376688E-02			15	
1,2,4,5-Tetrachlorobenzene	0.3428869	12.96305	8.011125	2.979072E-02			15	
2,3,4,6-Tetrachlorophenol	0.3542598	13.64632	9.464375	4.771478E-02			15	
2,4,6-Tribromophenol	0.153572	11.17439	10.00625	0.0738055			15	
1,2,4-Trichlorobenzene	0.3787939	9.82728	6.8905	5.750424E-02			15	
2,4,6-Trichlorophenol	0.3935328	13.39547	8.159555	4.247603E-02			CCC (30)	
2,4,5-Trichlorophenol	0.4280447	8.85813	8.197625	5.860378E-02			15	

# INITIAL CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-ICV1.D

Calibration Date: 12/18/10 18:01

Sequence: 0L35702

Injection Date: 12/19/10

Lab Sample ID: 0L35702-ICV1

Injection Time: 03:38

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Acetophenone	A	50.00	48.29	1.491383	1.440482		-3.4	20
Atrazine	A	50.00	43.66	0.2180254	0.1903756		-12.7	20
Benzaldehyde	A	50.00	43.80	1.030353	0.9025793		-12.4	20
1,1-Biphenyl	A	50.00	41.87	1.474029	1.234423		-16.3	20
4-Bromophenyl-phenylether	A	50.00	52.00	0.2483237	0.2582525		4.0	20
Butylbenzylphthalate	A	50.00	55.16	0.6249408	0.6894927		10.3	20
Carbazole	A	50.00	50.47	0.9724047	0.9816045		0.9	20
4-Chloro-3-methylphenol	A	50.00	55.48	0.2456948	0.2726439		11.0	20
4-Chloroaniline	A	50.00	48.94	0.4601545	0.4504155		-2.1	20
Bis(2-chloroethoxy)methane	A	50.00	47.74	0.4619607	0.441091		-4.5	20
Bis(2-chloroethyl)ether	A	50.00	51.32	1.28714	1.321147		2.6	20
2,2'-Oxybis-1-chloropropane	A	50.00	47.57	2.042516	1.94344		-4.9	20
2-Chloronaphthalene	A	50.00	54.25	1.215542	1.318904		8.5	20
2-Chlorophenol	A	50.00	49.73	1.374726	1.3673		-0.5	20
4-Chlorophenyl phenyl ether	A	50.00	46.50	0.6417793	0.5968565		-7.0	20
Dibenzofuran	A	50.00	47.75	1.589755	1.518321		-4.5	20
Di-n-butylphthalate	A	50.00	54.83	1.363182	1.494901		9.7	20
2,4-Dichlorophenol	A	50.00	54.75	0.3078656	0.3371061		9.5	20
Diethylphthalate	A	50.00	49.32	1.341364	1.323204		-1.4	20
2,4-Dimethylphenol	A	50.00	49.35	0.3101379	0.3060793		-1.3	20
Dimethyl phthalate	A	50.00	52.04	1.287341	1.339882		4.1	20
4,6-Dinitro-2-methylphenol	L	50.00	51.10	0.1397071	0.165349		2.2	20
2,4-Dinitrophenol	Q	50.00	54.92	0.1320693	0.1707222	0.05	9.8	20
2,4-Dinitrotoluene	L	50.00	51.53	0.3776842	0.4129243		3.1	20
2,6-Dinitrotoluene	A	50.00	52.01	0.3424953	0.3562346		4.0	20
Di-n-octylphthalate	L	50.00	57.02	1.294711	1.608453		14.0	20
1,4-Dioxane	A	50.00	0.000	0.5733591				20
Bis(2-ethylhexyl)phthalate	A	50.00	57.09	0.7833096	0.8943582		14.2	20
Hexachlorobenzene	A	50.00	48.70	0.2933641	0.2857311		-2.6	20

# INITIAL CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-ICV1.D

Calibration Date: 12/18/10 18:01

Sequence: 0L35702

Injection Date: 12/19/10

Lab Sample ID: 0L35702-ICV1

Injection Time: 03:38

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Hexachlorobutadiene	A	50.00	51.47	0.2005462	0.2064304		2.9	20
Hexachlorocyclopentadiene	A	50.00	54.18	0.3593771	0.389443	0.05	8.4	20
Hexachloroethane	A	50.00	51.46	0.5747469	0.5915205		2.9	20
Isophorone	A	50.00	53.56	0.7029211	0.7529099		7.1	20
2-Methylphenol	A	50.00	49.81	1.091088	1.086859		-0.4	20
4-Methylphenol	A	50.00	53.59	1.084733	1.162538		7.2	20
Naphthalene	A	50.00	49.60	0.9686374	0.9609029		-0.8	20
4-Nitroaniline	A	50.00	41.61	0.274633	0.2285265		-16.8	20
3-Nitroaniline	A	50.00	45.94	0.3791395	0.3483779		-8.1	20
Nitrobenzene	A	50.00	53.85	0.3472915	0.3740237		7.7	20
4-Nitrophenol	L	50.00	50.26	0.1686802	0.1824608	0.05	0.5	20
N-Nitrosodiphenylamine	A	50.00	47.07	0.6683254	0.6291773		-5.9	20
N-Nitroso-di-n-propylamine	A	50.00	53.45	0.8216103	0.8782842	0.05	6.9	20
Pentachlorophenol	L	50.00	51.10	0.1576577	0.1778665		2.2	20
Phenol	A	50.00	48.02	1.69783	1.630678		-4.0	20
1,2,4,5-Tetrachlorobenzene	A	50.00	45.13	0.3428869	0.3094861		-9.7	20
2,3,4,6-Tetrachlorophenol	A	50.00	51.52	0.3542598	0.3650355		3.0	20
2,4,6-Trichlorophenol	A	50.00	56.73	0.3935328	0.4465026		13.5	20
2,4,5-Trichlorophenol	A	50.00	54.52	0.4280447	0.4667338		9.0	20
2-Fluorobiphenyl	A	50.00	45.32	1.335882	1.21073		-9.4	20
2-Fluorophenol	A	100.0	95.12	1.268175	1.206292		-4.9	20
Nitrobenzene-d5	A	50.00	54.60	0.3378513	0.3689055		9.2	20
Phenol-d6	A	100.0	92.37	1.469798	1.357598		-7.6	20
Terphenyl-d14	A	50.00	48.13	0.8665087	0.8340641		-3.7	20
2,4,6-Tribromophenol	A	100.0	103.4	0.153572	0.1587617		3.4	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# INITIAL CALIBRATION CHECK

SW8270C

Laboratory:	<u>Empirical Laboratories, LLC</u>	SDG:	<u>CTOJM17KW_002</u>
Client:	<u>Tetra Tech NUS, Inc. (T010)</u>	Project:	<u>NAS Key West CTO JM17</u>
Instrument ID:	<u>MS-BNA1</u>	Calibration:	<u>0362004</u>
Lab File ID:	<u>SEQ-ICV2.D</u>	Calibration Date:	<u>12/18/10 18:01</u>
Sequence:	<u>0L35702</u>	Injection Date:	<u>12/19/10</u>
Lab Sample ID:	<u>0L35702-ICV2</u>	Injection Time:	<u>04:05</u>

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
3,3'-Dichlorobenzidine	A	50.00	52.75	0.3561386	0.3757319		5.5	20
1,4-Dioxane	A	50.00	52.44	0.5733591	0.60133		4.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# INITIAL CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-ICV3.D

Calibration Date: 12/18/10 18:01

Sequence: 0L35702

Injection Date: 12/22/10

Lab Sample ID: 0L35702-ICV3

Injection Time: 17:47

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Caprolactam	A	50.00	58.27	0.1169195	0.1362487		16.5	20
2-Nitroaniline	A	50.00	52.06	0.2983051	0.3106067		4.1	20
2-Nitrophenol	A	50.00	53.21	0.2082983	0.22166		6.4	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits



# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: SEQ-TUN1.D

Injection Date: 12/30/10

Instrument ID: MS-BNA1

Injection Time: 15:30

Sequence: 1A00304

Lab Sample ID: 1A00304-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	42	PASS
68	Less than 2% of 69	0	PASS
69	Less than 200% of 198	63.9	PASS
70	Less than 2% of 69	0	PASS
127	40 - 60% of 198	43.4	PASS
197	Less than 1% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.81	PASS
275	10 - 30% of 198	18	PASS
365	1 - 200% of 198	1.59	PASS
441	0.001 - 100% of 443	73.3	PASS
442	40 - 200% of 198	43	PASS
443	17 - 23% of 442	20	PASS

# CONTINUING CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-CCV1.D

Calibration Date: 12/18/10 18:01

Sequence: 1A00304

Injection Date: 12/30/10

Lab Sample ID: 1A00304-CCV1

Injection Time: 15:53

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
3,3'-Dichlorobenzidine	A	50.00	39.73	0.3561386	0.2829973		-20.5	20 *
Acetophenone	A	50.00	42.57	1.491383	1.269801		-14.9	20
Atrazine	A	50.00	45.11	0.2180254	0.1967218		-9.8	20
Benzaldehyde	A	50.00	8.997	1.030353	0.1854088		-82.0	20 *
1,1-Biphenyl	A	50.00	42.85	1.474029	1.263352		-14.3	20
4-Bromophenyl-phenylether	A	50.00	52.91	0.2483237	0.2627674		5.8	20
Butylbenzylphthalate	A	50.00	56.28	0.6249408	0.7034642		12.6	20
Caprolactam	A	50.00	44.98	0.1169195	0.1051929		-10.0	20
Carbazole	A	50.00	43.03	0.9724047	0.836819		-13.9	20
4-Chloro-3-methylphenol	A	50.00	52.08	0.2456948	0.2559214		4.2	20
4-Chloroaniline	A	50.00	43.68	0.4601545	0.4019665		-12.6	20
Bis(2-chloroethoxy)methane	A	50.00	43.17	0.4619607	0.3988686		-13.7	20
Bis(2-chloroethyl)ether	A	50.00	41.13	1.28714	1.058866		-17.7	20
2,2'-Oxybis-1-chloropropane	A	50.00	44.26	2.042516	1.808073		-11.5	20
2-Chloronaphthalene	A	50.00	40.72	1.215542	0.9898713		-18.6	20
2-Chlorophenol	A	50.00	42.78	1.374726	1.176153		-14.4	20
4-Chlorophenyl phenyl ether	A	50.00	39.62	0.6417793	0.5085707		-20.8	20 *
Dibenzofuran	A	50.00	46.29	1.589755	1.471942		-7.4	20
Di-n-butylphthalate	A	50.00	48.13	1.363182	1.312193		-3.7	20
2,4-Dichlorophenol	A	50.00	54.46	0.3078656	0.3353261		8.9	20
Diethylphthalate	A	50.00	43.95	1.341364	1.17905		-12.1	20
2,4-Dimethylphenol	A	50.00	45.16	0.3101379	0.280094		-9.7	20
Dimethyl phthalate	A	50.00	49.85	1.287341	1.283395		-0.3	20
4,6-Dinitro-2-methylphenol	L	50.00	49.53	0.1397071	0.1591728		-0.9	20
2,4-Dinitrophenol	Q	50.00	50.20	0.1320693	0.1508463	0.05	0.4	20
2,4-Dinitrotoluene	L	50.00	48.68	0.3776842	0.3896376		-2.6	20
2,6-Dinitrotoluene	A	50.00	47.57	0.3424953	0.3258529		-4.9	20
Di-n-octylphthalate	L	50.00	58.68	1.294711	1.658451		17.4	20
1,4-Dioxane	A	50.00	50.43	0.5733591	0.5782533		0.9	20

# CONTINUING CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-CCV1.D

Calibration Date: 12/18/10 18:01

Sequence: 1A00304

Injection Date: 12/30/10

Lab Sample ID: 1A00304-CCV1

Injection Time: 15:53

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Bis(2-ethylhexyl)phthalate	A	50.00	55.88	0.7833096	0.8754116		11.8	20
Hexachlorobenzene	A	50.00	46.01	0.2933641	0.2699737		-8.0	20
Hexachlorobutadiene	A	50.00	46.95	0.2005462	0.1883136		-6.1	20
Hexachlorocyclopentadiene	A	50.00	41.72	0.3593771	0.299876	0.05	-16.6	20
Hexachloroethane	A	50.00	47.85	0.5747469	0.5499899		-4.3	20
Isophorone	A	50.00	49.08	0.7029211	0.6899288		-1.8	20
2-Methylphenol	A	50.00	43.76	1.091088	0.9549251		-12.5	20
4-Methylphenol	A	50.00	45.10	1.084733	0.9783726		-9.8	20
Naphthalene	A	50.00	48.92	0.9686374	0.9476538		-2.2	20
4-Nitroaniline	A	50.00	46.68	0.274633	0.256375		-6.6	20
3-Nitroaniline	A	50.00	43.31	0.3791395	0.328448		-13.4	20
2-Nitroaniline	A	50.00	57.19	0.2983051	0.3412004		14.4	20
Nitrobenzene	A	50.00	52.50	0.3472915	0.3646928		5.0	20
4-Nitrophenol	L	50.00	42.99	0.1686802	0.1532793	0.05	-14.0	20
2-Nitrophenol	A	50.00	55.75	0.2082983	0.2322692		11.5	20
N-Nitrosodiphenylamine	A	50.00	42.23	0.6683254	0.5644591		-15.5	20
N-Nitroso-di-n-propylamine	A	50.00	50.46	0.8216103	0.8290903	0.05	0.9	20
Pentachlorophenol	L	50.00	59.97	0.1576577	0.2126781		19.9	20
Phenol	A	50.00	41.44	1.69783	1.407254		-17.1	20
1,2,4,5-Tetrachlorobenzene	A	50.00	38.14	0.3428869	0.2615531		-23.7	20 *
2,3,4,6-Tetrachlorophenol	A	50.00	43.58	0.3542598	0.3088032		-12.8	20
2,4,6-Trichlorophenol	A	50.00	47.62	0.3935328	0.3747908		-4.8	20
2,4,5-Trichlorophenol	A	50.00	48.49	0.4280447	0.4151556		-3.0	20
2-Fluorobiphenyl	A	50.00	46.75	1.335882	1.24904		-6.5	20
2-Fluorophenol	A	100.0	92.17	1.268175	1.168896		-7.8	20
Nitrobenzene-d5	A	50.00	52.57	0.3378513	0.3552115		5.1	20
Phenol-d6	A	100.0	87.10	1.469798	1.280241		-12.9	20
Terphenyl-d14	A	50.00	43.39	0.8665087	0.751981		-13.2	20
2,4,6-Tribromophenol	A	100.0	97.63	0.153572	0.1499296		-2.4	20

## PREPARATION BATCH SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L16008

Batch Matrix: Water

Preparation: EXT\_3510

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L16008-BLK1	12/16/10 12:55	1,000.00	0.50
LCS	0L16008-BS1	12/16/10 12:55	1,000.00	0.50
LCS Dup	0L16008-BS1	12/16/10 12:55	1,000.00	0.50
BCHMS-GW-013-1210	1012134-01	12/16/10 12:55	1,060.00	0.50
BCHMS-GW-014-1210	1012134-02	12/16/10 12:55	1,070.00	0.50
BCHMS-GW-015-1210	1012134-03	12/16/10 12:55	1,070.00	0.50
BCHMS-GW-016-1210	1012134-04	12/16/10 12:55	1,080.00	0.50
BCHMS-GW-019-1210	1012134-05	12/16/10 12:55	1,080.00	0.50
BCHMS-GW-001-1210	1012134-06	12/16/10 12:55	1,070.00	0.50
BCHMS-GW-002-1210	1012134-07	12/16/10 12:55	1,070.00	0.50
BCHMS-GW-003-1210	1012134-08	12/16/10 12:55	1,070.00	0.50
BCHMS-GW-028-1210	1012134-09	12/16/10 12:55	1,070.00	0.50
BCHMS-GW-029D-1210	1012134-10	12/16/10 12:55	1,080.00	0.50

## ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG: CTOJM17KW\_002  
 Client: Tetra Tech NUS, Inc. (T010) Project: NAS Key West CTO JM17  
 Matrix: Laboratory ID: OL16008-BLK1 File ID: L16008B1.D  
 Sampled: Prepared: Analyzed: 12/30/10 16:26  
 Solids: Preparation: EXT 3510 Dilution:  
 Batch: OL16008 Sequence: 1A00304 Calibration: 0362004 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
91-94-1	3,3'-Dichlorobenzidine		0.500	1.25	2.50	Y U
98-86-2	Acetophenone		0.625	1.25	2.50	U
1912-24-9	Atrazine		0.625	1.25	2.50	U
100-52-7	Benzaldehyde		0.625	1.25	2.50	Y U
92-52-4	1,1-Biphenyl		0.500	1.25	2.50	U
101-55-3	4-Bromophenyl-phenylether		0.625	1.25	2.50	U
85-68-7	Butylbenzylphthalate		0.625	1.25	2.50	Q U
105-60-2	Caprolactam		0.625	1.25	2.50	Q U
86-74-8	Carbazole		0.625	1.25	2.50	U
59-50-7	4-Chloro-3-methylphenol		0.625	1.25	2.50	U
106-47-8	4-Chloroaniline		0.625	1.25	2.50	U
111-91-1	Bis(2-chloroethoxy)methane		0.625	1.25	2.50	U
111-44-4	Bis(2-chloroethyl)ether		0.625	1.25	2.50	U
108-60-1	2,2'-Oxybis-1-chloropropane		0.500	1.25	2.50	U
91-58-7	2-Chloronaphthalene		0.625	1.25	2.50	U
95-57-8	2-Chlorophenol		0.625	1.25	2.50	U
7005-72-3	4-Chlorophenyl phenyl ether		0.625	1.25	2.50	Y U
132-64-9	Dibenzofuran		0.625	1.25	2.50	U
84-74-2	Di-n-butylphthalate		0.625	1.25	2.50	U
120-83-2	2,4-Dichlorophenol		0.300	1.25	2.50	U
84-66-2	Diethylphthalate		0.625	1.25	2.50	U
105-67-9	2,4-Dimethylphenol		2.50	5.00	10.0	U
131-11-3	Dimethyl phthalate		0.625	1.25	2.50	U
534-52-1	4,6-Dinitro-2-methylphenol		2.50	5.00	10.0	U
51-28-5	2,4-Dinitrophenol		6.25	12.5	25.0	U
121-14-2	2,4-Dinitrotoluene		0.625	1.25	2.50	U
606-20-2	2,6-Dinitrotoluene		0.625	1.25	2.50	U
117-84-0	Di-n-octylphthalate		0.625	1.25	2.50	Q U
123-91-1	1,4-Dioxane		0.625	1.25	2.50	U
117-81-7	Bis(2-ethylhexyl)phthalate		0.625	1.25	2.50	Q U
118-74-1	Hexachlorobenzene		0.625	1.25	2.50	U
87-68-3	Hexachlorobutadiene		0.625	1.25	2.50	Q U
77-47-4	Hexachlorocyclopentadiene		0.625	1.25	2.50	U
67-72-1	Hexachloroethane		0.625	1.25	2.50	Q U
78-59-1	Isophorone		0.625	1.25	2.50	U
95-48-7	2-Methylphenol		0.625	1.25	2.50	U
106-44-5	4-Methylphenol		0.625	1.25	2.50	U
91-20-3	Naphthalene		0.625	1.25	2.50	U
100-01-6	4-Nitroaniline		1.50	5.00	10.0	U
99-09-2	3-Nitroaniline		1.50	5.00	10.0	U



## ANALYSIS SEQUENCE SUMMARY

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35607

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0L35607-CAL1	010R0901.D	12/21/10 15:58
Cal Standard	0L35607-CAL1	010F0901.D	12/21/10 15:58
Cal Standard	0L35607-CAL2	011R1001.D	12/21/10 16:17
Cal Standard	0L35607-CAL2	011F1001.D	12/21/10 16:17
Cal Standard	0L35607-CAL3	012R1101.D	12/21/10 16:36
Cal Standard	0L35607-CAL3	012F1101.D	12/21/10 16:36
Cal Standard	0L35607-CAL4	013R1201.D	12/21/10 16:54
Cal Standard	0L35607-CAL4	013F1201.D	12/21/10 16:54
Cal Standard	0L35607-CAL5	014R1301.D	12/21/10 17:13
Cal Standard	0L35607-CAL5	014F1301.D	12/21/10 17:13
Cal Standard	0L35607-CAL6	015R1401.D	12/21/10 17:31
Cal Standard	0L35607-CAL6	015F1401.D	12/21/10 17:31
Initial Cal Check	0L35607-ICV1	016R1501.D	12/21/10 17:50
Initial Cal Check	0L35607-ICV1	016F1501.D	12/21/10 17:50

**ANALYSIS SEQUENCE SUMMARY**  
**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36212

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Performance Mix	0L36212-PEM1	002F0201.D	12/23/10 10:39
Performance Mix	0L36212-PEM1	002R0201.D	12/23/10 10:39
Cal Standard	0L36212-CAL1	003R0301.D	12/23/10 11:01
Cal Standard	0L36212-CAL1	003F0301.D	12/23/10 11:01
Cal Standard	0L36212-CAL2	004F0401.D	12/23/10 11:20
Cal Standard	0L36212-CAL2	004R0401.D	12/23/10 11:20
Cal Standard	0L36212-CAL3	005F0501.D	12/23/10 11:39
Cal Standard	0L36212-CAL3	005R0501.D	12/23/10 11:39
Cal Standard	0L36212-CAL4	006R0601.D	12/23/10 11:58
Cal Standard	0L36212-CAL4	006F0601.D	12/23/10 11:58
Cal Standard	0L36212-CAL5	007R0701.D	12/23/10 12:16
Cal Standard	0L36212-CAL5	007F0701.D	12/23/10 12:16
Cal Standard	0L36212-CAL6	008F0801.D	12/23/10 12:35
Cal Standard	0L36212-CAL6	008R0801.D	12/23/10 12:35
Cal Standard	0L36212-CAL7	009F0901.D	12/23/10 12:54
Cal Standard	0L36212-CAL7	009R0901.D	12/23/10 12:54
Initial Cal Check	0L36212-ICV1	010F1001.D	12/23/10 13:12
Initial Cal Check	0L36212-ICV1	010R1001.D	12/23/10 13:12

## INITIAL CALIBRATION STANDARDS

SW8081B

Laboratory:	Empirical Laboratories, LLC	SDG:	CTOJM17KW_002
Client:	Tetra Tech NUS, Inc. (T010)	Project:	NAS Key West CTO JM17
Sequence:	0L35607	Instrument:	GL-ECD3
Calibration:	0362003		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
10L0486	Toxaphene CAL1 @2000ppb	0L35607-CAL1	010F0901.D	12/21/10 15:58
10L0486	Toxaphene CAL1 @2000ppb	0L35607-CAL1	010R0901.D	12/21/10 15:58
10L0487	Toxaphene CAL2 @1000ppb	0L35607-CAL2	011F1001.D	12/21/10 16:17
10L0487	Toxaphene CAL2 @1000ppb	0L35607-CAL2	011R1001.D	12/21/10 16:17
10L0488	Toxaphene CAL3 @750ppb	0L35607-CAL3	012R1101.D	12/21/10 16:36
10L0488	Toxaphene CAL3 @750ppb	0L35607-CAL3	012F1101.D	12/21/10 16:36
10L0489	Toxaphene CAL4 @500ppb	0L35607-CAL4	013F1201.D	12/21/10 16:54
10L0489	Toxaphene CAL4 @500ppb	0L35607-CAL4	013R1201.D	12/21/10 16:54
10L0490	Toxaphene CAL5 @250ppb	0L35607-CAL5	014F1301.D	12/21/10 17:13
10L0490	Toxaphene CAL5 @250ppb	0L35607-CAL5	014R1301.D	12/21/10 17:13
10L0491	Toxaphene CAL6 @100ppb	0L35607-CAL6	015F1401.D	12/21/10 17:31
10L0491	Toxaphene CAL6 @100ppb	0L35607-CAL6	015R1401.D	12/21/10 17:31

## INITIAL CALIBRATION STANDARDS

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36212

Instrument: GL-ECD3

Calibration: 0362003

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
10I0162	Pest_ICAL7@1ppb	0L36212-CAL1	003F0301.D	12/23/10 11:01
10I0162	Pest_ICAL7@1ppb	0L36212-CAL1	003R0301.D	12/23/10 11:01
10I0161	Pest_ICAL6@5ppb	0L36212-CAL2	004F0401.D	12/23/10 11:20
10I0161	Pest_ICAL6@5ppb	0L36212-CAL2	004R0401.D	12/23/10 11:20
10I0160	Pest_ICAL5@10ppb	0L36212-CAL3	005R0501.D	12/23/10 11:39
10I0160	Pest_ICAL5@10ppb	0L36212-CAL3	005F0501.D	12/23/10 11:39
10I0159	Pest_ICAL4@25ppb	0L36212-CAL4	006F0601.D	12/23/10 11:58
10I0159	Pest_ICAL4@25ppb	0L36212-CAL4	006R0601.D	12/23/10 11:58
10I0158	Pest_ICAL3@50ppb	0L36212-CAL5	007F0701.D	12/23/10 12:16
10I0158	Pest_ICAL3@50ppb	0L36212-CAL5	007R0701.D	12/23/10 12:16
10I0157	Pest. AB/Sur CCV @ 100ppb	0L36212-CAL6	008F0801.D	12/23/10 12:35
10I0157	Pest. AB/Sur CCV @ 100ppb	0L36212-CAL6	008R0801.D	12/23/10 12:35
10I0155	Pest_ICAL1@200ppb	0L36212-CAL7	009R0901.D	12/23/10 12:54
10I0155	Pest_ICAL1@200ppb	0L36212-CAL7	009F0901.D	12/23/10 12:54

# INITIAL CALIBRATION DATA (Continued)

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362003

Instrument: GL-ECD3

Matrix: Water

Calibration Date: 12/23/2010 3:56:36PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
4,4'-DDE	32487.67	3.4341	8.387	2.074454E-02			20	
4,4'-DDE [2C]	26340.12	12.49006	7.008857	2.738972E-02			20	
4,4'-DDD	27017.65	5.01139	9.020857	9.781635E-03			20	
4,4'-DDD [2C]	23386.3	11.67646	7.631571	1.725168E-02			20	
4,4'-DDT	22729.73	8.948656	9.402714	1.156269E-02			20	
4,4'-DDT [2C]	19739.9	10.33025	7.918429	1.767381E-02			20	
Aldrin	35385.12	3.960454	7.323	0.0140873			20	
Aldrin [2C]	29075.31	12.43675	5.993429	1.491937E-02			20	
alpha-BHC	37461.78	9.180577	6.005429	2.456044E-02			20	
alpha-BHC [2C]	33203.06	7.431464	5.124286	1.066946E-02			20	
alpha-Chlordane	32028.89	1.957585	8.191857	2.547424E-02			20	
alpha-Chlordane [2C]	27010.77	14.56833	6.814572	2.367613E-02			20	
beta-BHC	14540.77	1.342717	6.556143	2.689054E-02			20	
beta-BHC [2C]	13100.81	16.8622	5.701	2.629542E-02			20	
delta-BHC	29594.3	13.05101	6.820571	0.028336			20	
delta-BHC [2C]	26517.58	7.979185	5.918714	1.875432E-02			20	
Dieldrin	33539.54	3.62564	8.585571	2.450331E-02			20	
Dieldrin [2C]	28037.98	12.79026	7.164429	1.017671E-02			20	
Endosulfan I	30042.71	2.728627	8.257571	1.945018E-02			20	
Endosulfan I [2C]	25435.04	15.44957	6.880857	2.508662E-03			20	
Endosulfan II	28085.93	2.834552	9.143	1.221745E-02			20	
Endosulfan II [2C]	23959.83	16.19936	7.814286	1.54268E-03			20	
Endosulfan sulfate	23222.1	5.558567	9.594857	0.0127251			20	
Endosulfan sulfate [2C]	20348.02	14.11604	8.286	6.351399E-03			20	
Endrin	25585.52	3.881781	8.866	8.771973E-03			20	
Endrin [2C]	22655.16	14.5884	7.473286	1.710032E-02			20	
Endrin aldehyde	22673.51	6.844148	9.303857	2.943207E-03			20	
Endrin aldehyde [2C]	20614.57	18.62793	8.023429	1.785149E-02			20	
Endrin ketone	31625.1	4.355536	10.20814	1.408748E-02			20	
Endrin ketone [2C]	26909.9	14.8903	8.897286	1.618363E-02			20	
gamma-BHC (Lindane)	32719.69	8.117297	6.343857	4.258502E-03			20	
gamma-BHC (Lindane) [2C]	29406.27	8.18205	5.422571	1.048786E-02			20	

# INITIAL CALIBRATION DATA (Continued)

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362003

Instrument: GL-ECD3

Matrix: Water

Calibration Date: 12/23/2010 3:56:36PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
gamma-Chlordane	33690.5	5.070707	8.102286	2.684738E-02			20	
gamma-Chlordane [2C]	27718.95	13.69303	6.749286	1.868481E-02			20	
Heptachlor	28021.52	10.2639	6.949143	1.927336E-02			20	
Heptachlor [2C]	26505.56	14.8275	5.727572	6.113767E-03			20	
Heptachlor epoxide	32114.34	4.310704	7.806857	1.672935E-02			20	
Heptachlor epoxide [2C]	27492.98	16.02793	6.493571	1.584557E-02			20	
Methoxychlor	12736.61	4.878609	10.00386	0.0206292			20	
Methoxychlor [2C]	11247.63	19.13666	8.613143	1.657359E-02			20	
Chlordane (tech)	2265.814	2.036435	9.007667	7.207414E-03			20	
Chlordane (1)	4560.136	2.206321	7.989	1.416297E-02			20	
Chlordane (2)	1011.213	4.748592	6.536	1.188001E-02			20	
Chlordane (3)	1003.996	8.624511	6.760834	8.797502E-03			20	
Chlordane (4)	3753.811	2.957383	7.897833	8.880134E-03			20	
Chlordane (5)	999.9125	4.559042	9.007667	7.207414E-03			20	
Chlordane (tech) [2C]	1234.277	10.59888	7.605	3.28691E-03			20	
Chlordane (1) [2C]	2188.726	14.89601	6.6265	1.838167E-02			20	
Chlordane (2) [2C]	750.7542	8.135717	5.401333	1.394675E-02			20	
Chlordane (3) [2C]	797.21	5.579656	5.56	3.498735E-03			20	
Chlordane (4) [2C]	1630.041	13.84368	6.581167	8.453161E-03			20	
Chlordane (5) [2C]	804.6533	7.142321	7.605	3.28691E-03			20	
Toxaphene (1)	1185.298	17.60246	10.15483	1.163139E-02			20	
Toxaphene (2)	484.1924	16.99113	8.840667	9.882717E-03			20	
Toxaphene (3)	980.2943	10.31703	9.5105	1.633135E-02			20	
Toxaphene (4)	1118.753	18.26761	9.6235	0.0199586			20	
Toxaphene (5)	593.4394	16.38404	10.60983	1.414172E-02			20	
Toxaphene (1) [2C]	1792.252	12.55136	8.7885	1.583008E-02			20	
Toxaphene (2) [2C]	569.9496	12.09974	7.845833	1.217741E-02			20	
Toxaphene (3) [2C]	982.375	13.04506	8.191834	1.640441E-02			20	
Toxaphene (4) [2C]	898.0156	12.24894	9.1715	1.758355E-02			20	
Toxaphene (5) [2C]	501.7398	14.1256	9.3375	1.331971E-02			20	
Tetrachloro-m-xylene	28756.09	6.436385	5.549333	1.124923E-02			20	
Tetrachloro-m-xylene [2C]	28081.79	12.60113	4.667286	3.784695E-02			20	

**INITIAL CALIBRATION DATA (Continued)**

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362003

Instrument: GL-ECD3

Matrix: Water

Calibration Date: 12/23/2010 3:56:36PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Decachlorobiphenyl	28655.66	7.832286	11.845	9.537063E-03			20	
Decachlorobiphenyl [2C]	20853.67	18.98494	10.21386	3.150825E-03			20	

# INITIAL CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 016F1501.D

Calibration Date: 12/23/10 15:56

Sequence: 0L35607

Injection Date: 12/21/10

Lab Sample ID: 0L35607-ICV1

Injection Time: 17:50

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Toxaphene (1)	A	1000	1071	1185.298	1268.998		7.1	20
Toxaphene (2)	A	1000	1050	484.1924	508.485		5.0	20
Toxaphene (3)	A	1000	1039	980.2943	1018.5		3.9	20
Toxaphene (4)	A	1000	1053	1118.753	1177.873		5.3	20
Toxaphene (5)	A	1000	1036	593.4394	614.842		3.6	20
Toxaphene (1) [2C]	A	1000	1058	1792.252	1895.322		5.8	20
Toxaphene (2) [2C]	A	1000	1033	569.9496	588.834		3.3	20
Toxaphene (3) [2C]	A	1000	990.0	982.375	972.543		-1.0	20
Toxaphene (4) [2C]	A	1000	1069	898.0156	960.209		6.9	20
Toxaphene (5) [2C]	A	1000	1089	501.7398	546.571		8.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# INITIAL CALIBRATION CHECK

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 010F1001.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36212

Injection Date: 12/23/10

Lab Sample ID: 0L36212-ICV1

Injection Time: 13:12

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
4,4'-DDE	A	100.0	111.5	32487.67	36236.25		11.5	20
4,4'-DDE [2C]	A	100.0	97.60	26340.12	25707.42		-2.4	20
4,4'-DDD	A	100.0	109.4	27017.65	29549.77		9.4	20
4,4'-DDD [2C]	A	100.0	97.16	23386.3	22721.31		-2.8	20
4,4'-DDT	A	100.0	113.8	22729.73	25868.11		13.8	20
4,4'-DDT [2C]	A	100.0	98.18	19739.9	19380.89		-1.8	20
Aldrin	A	100.0	112.7	35385.12	39869.4		12.7	20
Aldrin [2C]	A	100.0	97.52	29075.31	28353.53		-2.5	20
alpha-BHC	A	100.0	119.2	37461.78	44657.16		19.2	20
alpha-BHC [2C]	A	100.0	104.1	33203.06	34559.06		4.1	20
alpha-Chlordane	A	100.0	111.0	32028.89	35552.09		11.0	20
alpha-Chlordane [2C]	A	100.0	97.58	27010.77	26355.97		-2.4	20
beta-BHC	A	100.0	112.6	14540.77	16376.48		12.6	20
beta-BHC [2C]	A	100.0	99.79	13100.81	13072.9		-0.2	20
delta-BHC	A	100.0	119.2	29594.3	35284.3		19.2	20
delta-BHC [2C]	A	100.0	104.6	26517.58	27734.09		4.6	20
Dieldrin	A	100.0	110.4	33539.54	37043.24		10.4	20
Dieldrin [2C]	A	100.0	96.17	28037.98	26963.3		-3.8	20
Endosulfan I	A	100.0	112.5	30042.71	33798		12.5	20
Endosulfan I [2C]	A	100.0	96.35	25435.04	24507.63		-3.6	20
Endosulfan II	A	100.0	107.9	28085.93	30318.26		7.9	20
Endosulfan II [2C]	A	100.0	92.94	23959.83	22268.47		-7.1	20
Endosulfan sulfate	A	100.0	110.0	23222.1	25544.17		10.0	20
Endosulfan sulfate [2C]	A	100.0	96.56	20348.02	19647.45		-3.4	20
Endrin	A	100.0	112.4	25585.52	28750.05		12.4	20
Endrin [2C]	A	100.0	96.05	22655.16	21760.26		-4.0	20
Endrin aldehyde	A	100.0	99.69	22673.51	22604.24		-0.3	20
Endrin aldehyde [2C]	A	100.0	89.11	20614.57	18370.21		-10.9	20
Endrin ketone	A	100.0	109.2	31625.1	34536.53		9.2	20

# INITIAL CALIBRATION CHECK

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 010R1001.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36212

Injection Date: 12/23/10

Lab Sample ID: 0L36212-ICV1

Injection Time: 13:12

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Endrin ketone [2C]	A	100.0	95.68	26909.9	25746.32		-4.3	20
gamma-BHC (Lindane)	A	100.0	118.0	32719.69	38595.94		18.0	20
gamma-BHC (Lindane) [2C]	A	100.0	103.2	29406.27	30349.35		3.2	20
gamma-Chlordane	A	100.0	109.1	33690.5	36764.93		9.1	20
gamma-Chlordane [2C]	A	100.0	98.24	27718.95	27229.94		-1.8	20
Heptachlor	A	100.0	117.0	28021.52	32788.96		17.0	20
Heptachlor [2C]	A	100.0	96.85	26505.56	25671.91		-3.1	20
Heptachlor epoxide	A	100.0	113.3	32114.34	36396.72		13.3	20
Heptachlor epoxide [2C]	A	100.0	95.96	27492.98	26383.23		-4.0	20
Methoxychlor	A	100.0	109.2	12736.61	13908.66		9.2	20
Methoxychlor [2C]	A	100.0	94.91	11247.63	10675.47		-5.1	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# ANALYSIS SEQUENCE SUMMARY

**SW8081B**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Sequence: 0L36218  
 Calibration: 0362003

SDG: CTOJM17KW\_002  
 Project: NAS Key West CTO JM17  
 Instrument: GL-ECD3

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Performance Mix	0L36218-PEM1	002F0201.D	12/23/10 10:39
Performance Mix	0L36218-PEM1	002R0201.D	12/23/10 10:39
Calibration Check	0L36218-CCV1	012R1201.D	12/23/10 13:49
Calibration Check	0L36218-CCV1	012F1201.D	12/23/10 13:49
Calibration Check	0L36218-CCV2	014R1401.D	12/23/10 14:27
Calibration Check	0L36218-CCV2	014F1401.D	12/23/10 14:27
Blank	0L13014-BLK1	016R1601.D	12/23/10 15:04
Blank	0L13014-BLK1	016F1601.D	12/23/10 15:04
LCS	0L13014-BS1	017R1701.D	12/23/10 15:23
LCS	0L13014-BS1	017F1701.D	12/23/10 15:23
LCS Dup	0L13014-BSD1	018F1801.D	12/23/10 15:41
LCS Dup	0L13014-BSD1	018R1801.D	12/23/10 15:41
BCHMS-GW-028-1210	1012134-09	023F2301.D	12/23/10 17:14
BCHMS-GW-028-1210	1012134-09	023R2301.D	12/23/10 17:14
Calibration Check	0L36218-CCV4	033R3301.D	12/23/10 20:20
Calibration Check	0L36218-CCV4	033F3301.D	12/23/10 20:20
Calibration Check	0L36218-CCV5	035F3501.D	12/23/10 20:57
Calibration Check	0L36218-CCV5	035R3501.D	12/23/10 20:57

## BREAKDOWN REPORT

Lab Sample ID: 0L36218-PEM1 Analyzed: 12/23/2010

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Column Number: 1

Analyte	% Breakdown
4.4'-DDT	4.67
Endrin	9.94

---

Column Number: 2

Analyte	% Breakdown
4.4'-DDT	7.59
Endrin	9.39

---

## BREAKDOWN REPORT

Lab Sample ID: 0L36212-PEM1 Analyzed: 12/23/2010

---

Column Number: 1

Analyte	% Breakdown
4.4'-DDT	4.67
Endrin	9.94

---

Column Number: 2

Analyte	% Breakdown
4.4'-DDT	7.59
Endrin	9.39

---

# CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 012F1201.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV1

Injection Time: 13:49

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDE	A	100.0	107.2	32487.67	34819.64		7.2	20
4,4'-DDE [2C]	A	100.0	93.01	26340.12	24498.39		-7.0	20
4,4'-DDD	A	100.0	108.4	27017.65	29290.98		8.4	20
4,4'-DDD [2C]	A	100.0	93.01	23386.3	21751.34		-7.0	20
4,4'-DDT	A	100.0	115.0	22729.73	26148.27		15.0	20
4,4'-DDT [2C]	A	100.0	98.71	19739.9	19485.38		-1.3	20
Aldrin	A	100.0	107.3	35385.12	37982.73		7.3	20
Aldrin [2C]	A	100.0	92.53	29075.31	26903.94		-7.5	20
alpha-BHC	A	100.0	111.3	37461.78	41703.58		11.3	20
alpha-BHC [2C]	A	100.0	97.86	33203.06	32494.14		-2.1	20
alpha-Chlordane	A	100.0	105.1	32028.89	33672.58		5.1	20
alpha-Chlordane [2C]	A	100.0	93.01	27010.77	25123.12		-7.0	20
beta-BHC	A	100.0	104.3	14540.77	15165.84		4.3	20
beta-BHC [2C]	A	100.0	94.08	13100.81	12325.83		-5.9	20
delta-BHC	A	100.0	114.4	29594.3	33865.2		14.4	20
delta-BHC [2C]	A	100.0	99.65	26517.58	26424.31		-0.4	20
Dieldrin	A	100.0	107.0	33539.54	35888.93		7.0	20
Dieldrin [2C]	A	100.0	94.04	28037.98	26366.09		-6.0	20
Endosulfan I	A	100.0	106.3	30042.71	31942.54		6.3	20
Endosulfan I [2C]	A	100.0	92.01	25435.04	23402.06		-8.0	20
Endosulfan II	A	100.0	107.2	28085.93	30107.79		7.2	20
Endosulfan II [2C]	A	100.0	91.84	23959.83	22004.68		-8.2	20
Endosulfan sulfate	A	100.0	106.7	23222.1	24777.08		6.7	20
Endosulfan sulfate [2C]	A	100.0	93.94	20348.02	19116.09		-6.1	20
Endrin	A	100.0	108.4	25585.52	27743.21		8.4	20
Endrin [2C]	A	100.0	92.78	22655.16	21019.56		-7.2	20
Endrin aldehyde	A	100.0	104.5	22673.51	23689		4.5	20
Endrin aldehyde [2C]	A	100.0	90.98	20614.57	18754.38		-9.0	20
Endrin ketone	A	100.0	106.1	31625.1	33567.12		6.1	20

# CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 012R1201.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV1

Injection Time: 13:49

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Endrin ketone [2C]	A	100.0	94.20	26909.9	25348.05		-5.8	20
gamma-BHC (Lindane)	A	100.0	110.9	32719.69	36278.39		10.9	20
gamma-BHC (Lindane) [2C]	A	100.0	97.49	29406.27	28667.93		-2.5	20
gamma-Chlordane	A	100.0	103.8	33690.5	34981.39		3.8	20
gamma-Chlordane [2C]	A	100.0	93.18	27718.95	25828		-6.8	20
Heptachlor	A	100.0	112.8	28021.52	31601.78		12.8	20
Heptachlor [2C]	A	100.0	90.95	26505.56	24107.14		-9.0	20
Heptachlor epoxide	A	100.0	107.7	32114.34	34602.29		7.7	20
Heptachlor epoxide [2C]	A	100.0	89.99	27492.98	24739.89		-10.0	20
Methoxychlor	A	100.0	106.2	12736.61	13526.52		6.2	20
Methoxychlor [2C]	A	100.0	90.01	11247.63	10124.08		-10.0	20
Tetrachloro-m-xylene	A	100.0	98.58	28756.09	28347.21		-1.4	20
Tetrachloro-m-xylene [2C]	A	100.0	91.96	28081.79	25825.3		-8.0	20
Decachlorobiphenyl	A	100.0	101.1	28655.66	28966.29		1.1	20
Decachlorobiphenyl [2C]	A	100.0	93.06	20853.67	19406.62		-6.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 014F1401.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV2

Injection Time: 14:27

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Toxaphene (1)	A	1000	976.7	1185.298	1157.703		-2.3	20
Toxaphene (2)	A	1000	996.5	484.1924	482.489		-0.4	20
Toxaphene (3)	A	1000	956.3	980.2943	937.493		-4.4	20
Toxaphene (4)	A	1000	956.6	1118.753	1070.227		-4.3	20
Toxaphene (5)	A	1000	876.4	593.4394	520.061		-12.4	20
Toxaphene (1) [2C]	A	1000	953.7	1792.252	1709.248		-4.6	20
Toxaphene (2) [2C]	A	1000	962.3	569.9496	548.44		-3.8	20
Toxaphene (3) [2C]	A	1000	1174	982.375	1152.882		17.4	20
Toxaphene (4) [2C]	A	1000	913.2	898.0156	820.079		-8.7	20
Toxaphene (5) [2C]	A	1000	918.8	501.7398	461		-8.1	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 033F3301.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV4

Injection Time: 20:20

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDE	A	100.0	113.8	32487.67	36975.47		13.8	20
4,4'-DDE [2C]	A	100.0	87.88	26340.12	23146.76		-12.1	20
4,4'-DDD	A	100.0	116.3	27017.65	31417.27		16.3	20
4,4'-DDD [2C]	A	100.0	89.48	23386.3	20927.32		-10.5	20
4,4'-DDT	A	100.0	126.7	22729.73	28802.16		26.7	20 *
4,4'-DDT [2C]	A	100.0	96.87	19739.9	19121.32		-3.1	20
Aldrin	A	100.0	113.6	35385.12	40198.37		13.6	20
Aldrin [2C]	A	100.0	89.24	29075.31	25947.69		-10.8	20
alpha-BHC	A	100.0	120.4	37461.78	45124.31		20.5	20 *
alpha-BHC [2C]	A	100.0	94.13	33203.06	31255.4		-5.9	20
alpha-Chlordane	A	100.0	111.6	32028.89	35753.62		11.6	20
alpha-Chlordane [2C]	A	100.0	86.37	27010.77	23328.84		-13.6	20
beta-BHC	A	100.0	110.0	14540.77	15999.85		10.0	20
beta-BHC [2C]	A	100.0	87.53	13100.81	11467.47		-12.5	20
delta-BHC	A	100.0	126.6	29594.3	37464.97		26.6	20 *
delta-BHC [2C]	A	100.0	99.64	26517.58	26422.2		-0.4	20
Dieldrin	A	100.0	113.5	33539.54	38064.1		13.5	20
Dieldrin [2C]	A	100.0	88.54	28037.98	24825.27		-11.5	20
Endosulfan I	A	100.0	113.0	30042.71	33943.23		13.0	20
Endosulfan I [2C]	A	100.0	87.04	25435.04	22138.27		-13.0	20
Endosulfan II	A	100.0	113.4	28085.93	31851.36		13.4	20
Endosulfan II [2C]	A	100.0	87.82	23959.83	21042.67		-12.2	20
Endosulfan sulfate	A	100.0	117.6	23222.1	27322.14		17.7	20
Endosulfan sulfate [2C]	A	100.0	91.11	20348.02	18539.52		-8.9	20
Endrin	A	100.0	113.9	25585.52	29140.72		13.9	20
Endrin [2C]	A	100.0	88.17	22655.16	19976.01		-11.8	20
Endrin aldehyde	A	100.0	110.9	22673.51	25151.87		10.9	20
Endrin aldehyde [2C]	A	100.0	86.93	20614.57	17920.51		-13.1	20
Endrin ketone	A	100.0	117.2	31625.1	37054.7		17.2	20

# CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 033R3301.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV4

Injection Time: 20:20

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Endrin ketone [2C]	A	100.0	90.70	26909.9	24406.52		-9.3	20
gamma-BHC (Lindane)	A	100.0	120.6	32719.69	39460.68		20.6	20 *
gamma-BHC (Lindane) [2C]	A	100.0	94.78	29406.27	27870.66		-5.2	20
gamma-Chlordane	A	100.0	109.8	33690.5	36985.46		9.8	20
gamma-Chlordane [2C]	A	100.0	86.52	27718.95	23982.93		-13.5	20
Heptachlor	A	100.0	126.4	28021.52	35428.15		26.4	20 *
Heptachlor [2C]	A	100.0	93.27	26505.56	24722.3		-6.7	20
Heptachlor epoxide	A	100.0	114.1	32114.34	36655.53		14.1	20
Heptachlor epoxide [2C]	A	100.0	85.03	27492.98	23376.32		-15.0	20
Methoxychlor	A	100.0	114.7	12736.61	14604.25		14.7	20
Methoxychlor [2C]	A	100.0	86.34	11247.63	9711.27		-13.7	20
Tetrachloro-m-xylene	A	100.0	102.8	28756.09	29567.04		2.8	20
Tetrachloro-m-xylene [2C]	A	100.0	86.10	28081.79	24177.35		-13.9	20
Decachlorobiphenyl	A	100.0	107.6	28655.66	30834.86		7.6	20
Decachlorobiphenyl [2C]	A	100.0	86.14	20853.67	17962.47		-13.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 035F3501.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV5

Injection Time: 20:57

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Toxaphene (1)	A	1000	951.0	1185.298	1127.259		-4.9	20
Toxaphene (2)	A	1000	1024	484.1924	495.842		2.4	20
Toxaphene (3)	A	1000	943.6	980.2943	924.983		-5.6	20
Toxaphene (4)	A	1000	980.0	1118.753	1096.363		-2.0	20
Toxaphene (5)	A	1000	892.9	593.4394	529.871		-10.7	20
Toxaphene (1) [2C]	A	1000	797.5	1792.252	1429.361		-20.2	20 *
Toxaphene (2) [2C]	A	1000	864.2	569.9496	492.556		-13.6	20
Toxaphene (3) [2C]	A	1000	1127	982.375	1107.037		12.7	20
Toxaphene (4) [2C]	A	1000	792.6	898.0156	711.805		-20.7	20 *
Toxaphene (5) [2C]	A	1000	784.8	501.7398	393.793		-21.5	20 *

} 17.74

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# PREPARATION BATCH SUMMARY

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L13014

Batch Matrix: Water

Preparation: EXT\_3510

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L13014-BLK1	12/14/10 10:00	1,000.00	5.00
LCS	0L13014-BS1	12/14/10 10:00	1,000.00	5.00
LCS Dup	0L13014-BSD1	12/14/10 10:00	1,000.00	5.00
BCHMS-GW-028-1210	1012134-09	12/15/10 09:35	1,020.00	5.00



FORM X  
IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES

BCHMS-GW-028-1210

Lab Name: Empirical Laboratories, LLC

Lab Sample ID: 1012134-09

Date(s) Analyzed: 12/23/2010 12/23/2010

Instrument ID (1): GL-ECD3

Instrument ID (2): GL-ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aldrin	1	7.31	7.29	7.35	0.00220	
	2	6.01	5.96	6.02	0.00521	81
Endosulfan II	1	9.15	9.11	9.17	0.00964	
	2	7.82	7.78	7.84	0.00249	118

## METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Instrument: GL-ECD3

Analyte	MDL	MRL	Units	Method
4,4'-DDD	0.00500	0.0200	ug/L	SW8081B
4,4'-DDE	0.00500	0.0200	ug/L	SW8081B
4,4'-DDT	0.00500	0.0200	ug/L	SW8081B
Aldrin [2C]	0.00330	0.0200	ug/L	SW8081B
alpha-BHC [2C]	0.00330	0.0200	ug/L	SW8081B
alpha-Chlordane	0.00330	0.0200	ug/L	SW8081B
beta-BHC [2C]	0.00330	0.0200	ug/L	SW8081B
delta-BHC	0.00330	0.0200	ug/L	SW8081B
Dieldrin [2C]	0.00500	0.0200	ug/L	SW8081B
Endosulfan I	0.00330	0.0200	ug/L	SW8081B
Endosulfan II [2C]	0.00500	0.0200	ug/L	SW8081B
Endosulfan sulfate	0.00500	0.0200	ug/L	SW8081B
Endrin	0.00500	0.0200	ug/L	SW8081B
Endrin aldehyde	0.00500	0.0200	ug/L	SW8081B
Endrin ketone	0.00500	0.0200	ug/L	SW8081B
gamma-BHC (Lindane)	0.00330	0.0200	ug/L	SW8081B
gamma-Chlordane [2C]	0.00330	0.0200	ug/L	SW8081B
Heptachlor	0.00330	0.0200	ug/L	SW8081B
Heptachlor epoxide	0.00330	0.0200	ug/L	SW8081B
Methoxychlor	0.00330	0.0200	ug/L	SW8081B
Toxaphene	0.330	1.00	ug/L	SW8081B

# ANALYSIS SEQUENCE SUMMARY

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0K32606

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0K32606-CAL1	001R0101.D	11/18/10 12:48
Cal Standard	0K32606-CAL1	001F0101.D	11/18/10 12:48
Cal Standard	0K32606-CAL2	002R0201.D	11/18/10 13:07
Cal Standard	0K32606-CAL2	002F0201.D	11/18/10 13:07
Cal Standard	0K32606-CAL3	003R0301.D	11/18/10 13:25
Cal Standard	0K32606-CAL3	003F0301.D	11/18/10 13:25
Cal Standard	0K32606-CAL4	004R0401.D	11/18/10 13:44
Cal Standard	0K32606-CAL4	004F0401.D	11/18/10 13:44
Cal Standard	0K32606-CAL5	005R0501.D	11/18/10 14:03
Cal Standard	0K32606-CAL5	005F0501.D	11/18/10 14:03
Cal Standard	0K32606-CAL6	006R0601.D	11/18/10 14:22
Cal Standard	0K32606-CAL6	006F0601.D	11/18/10 14:22
Initial Cal Check	0K32606-ICV1	007R0701.D	11/18/10 14:40
Initial Cal Check	0K32606-ICV1	007F0701.D	11/18/10 14:40

# INITIAL CALIBRATION STANDARDS

SW8082A

Laboratory:	Empirical Laboratories, LLC	SDG:	CTOJM17KW_002
Client:	Tetra Tech NUS, Inc. (T010)	Project:	NAS Key West CTO JM17
Sequence:	0K32606	Instrument:	GL-ECD3
Calibration:	0362003		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
10G0158	Aro-1660 Cal1@2500/125	0K32606-CAL1	001R0101.D	11/18/10 12:48
10G0158	Aro-1660 Cal1@2500/125	0K32606-CAL1	001F0101.D	11/18/10 12:48
10G0159	Aro-1660 Cal2@1000/50 (CCV)	0K32606-CAL2	002F0201.D	11/18/10 13:07
10G0159	Aro-1660 Cal2@1000/50 (CCV)	0K32606-CAL2	002R0201.D	11/18/10 13:07
10G0160	Aro-1660 Cal3@750/37.5	0K32606-CAL3	003F0301.D	11/18/10 13:25
10G0160	Aro-1660 Cal3@750/37.5	0K32606-CAL3	003R0301.D	11/18/10 13:25
10G0161	Aro-1660 Cal4@500/25	0K32606-CAL4	004F0401.D	11/18/10 13:44
10G0161	Aro-1660 Cal4@500/25	0K32606-CAL4	004R0401.D	11/18/10 13:44
10G0162	Aro-1660 Cal5@100/5	0K32606-CAL5	005F0501.D	11/18/10 14:03
10G0162	Aro-1660 Cal5@100/5	0K32606-CAL5	005R0501.D	11/18/10 14:03
10G0163	Aro-1660 Cal6@50/2.5	0K32606-CAL6	006R0601.D	11/18/10 14:22
10G0163	Aro-1660 Cal6@50/2.5	0K32606-CAL6	006F0601.D	11/18/10 14:22

# INITIAL CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 007F0701.D

Calibration Date: 12/23/10 15:56

Sequence: 0K32606

Injection Date: 11/18/10

Lab Sample ID: 0K32606-ICV1

Injection Time: 14:40

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Aroclor-1016 (1)	A	1000	965.8	1377.504	1330.475		-3.4	20
Aroclor-1016 (2)	A	1000	954.1	444.0847	423.696		-4.6	20
Aroclor-1016 (3)	A	1000	990.4	649.9719	643.709		-1.0	20
Aroclor-1016 (4)	A	1000	1001	648.8554	649.524		0.1	20
Aroclor-1016 (5)	A	1000	1007	518.3258	521.878		0.7	20
Aroclor-1016 (1) [2C]	A	1000	770.6	1116.305	860.241		-22.9	20 *
Aroclor-1016 (2) [2C]	A	1000	955.3	482.1738	460.605		-4.5	20
Aroclor-1016 (3) [2C]	A	1000	884.8	538.2843	476.271		-11.5	20
Aroclor-1016 (4) [2C]	A	1000	869.8	685.3173	596.06		-13.0	20
Aroclor-1016 (5) [2C]	A	1000	893.4	518.0925	462.882		-10.7	20
Aroclor-1260 (1)	A	1000	914.4	3707.263	3390.072		-8.6	20
Aroclor-1260 (2)	A	1000	999.0	1987.077	1985.004		-0.1	20
Aroclor-1260 (3)	A	1000	1044	2134.259	2227.99		4.4	20
Aroclor-1260 (4)	A	1000	845.2	1615.479	1365.422		-15.5	20
Aroclor-1260 (5)	A	1000	819.7	907.6331	744.024		-18.0	20
Aroclor-1260 (1) [2C]	A	1000	848.7	2013.278	1708.677		-15.1	20
Aroclor-1260 (2) [2C]	A	1000	914.8	1028.947	941.29		-8.5	20
Aroclor-1260 (3) [2C]	A	1000	939.9	1227.66	1153.839		-6.0	20
Aroclor-1260 (4) [2C]	A	1000	917.8	1169.368	1073.231		-8.2	20
Aroclor-1260 (5) [2C]	A	1000	816.1	921.5547	752.068		-18.4	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# ANALYSIS SEQUENCE SUMMARY

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36212

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0L36212-CAL1	003R0301.D	12/23/10 11:01
Cal Standard	0L36212-CAL1	003F0301.D	12/23/10 11:01
Cal Standard	0L36212-CAL2	004R0401.D	12/23/10 11:20
Cal Standard	0L36212-CAL2	004F0401.D	12/23/10 11:20
Cal Standard	0L36212-CAL3	005R0501.D	12/23/10 11:39
Cal Standard	0L36212-CAL3	005F0501.D	12/23/10 11:39
Cal Standard	0L36212-CAL4	006R0601.D	12/23/10 11:58
Cal Standard	0L36212-CAL4	006F0601.D	12/23/10 11:58
Cal Standard	0L36212-CAL5	007R0701.D	12/23/10 12:16
Cal Standard	0L36212-CAL5	007F0701.D	12/23/10 12:16
Cal Standard	0L36212-CAL6	008R0801.D	12/23/10 12:35
Cal Standard	0L36212-CAL6	008F0801.D	12/23/10 12:35
Cal Standard	0L36212-CAL7	009R0901.D	12/23/10 12:54
Cal Standard	0L36212-CAL7	009F0901.D	12/23/10 12:54

## INITIAL CALIBRATION STANDARDS

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36212

Instrument: GL-ECD3

Calibration: 0362003

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
10I0162	Pest_ICAL7@1ppb	0L36212-CAL1	003R0301.D	12/23/10 11:01
10I0162	Pest_ICAL7@1ppb	0L36212-CAL1	003F0301.D	12/23/10 11:01
10I0161	Pest_ICAL6@5ppb	0L36212-CAL2	004F0401.D	12/23/10 11:20
10I0161	Pest_ICAL6@5ppb	0L36212-CAL2	004R0401.D	12/23/10 11:20
10I0160	Pest_ICAL5@10ppb	0L36212-CAL3	005F0501.D	12/23/10 11:39
10I0160	Pest_ICAL5@10ppb	0L36212-CAL3	005R0501.D	12/23/10 11:39
10I0159	Pest_ICAL4@25ppb	0L36212-CAL4	006F0601.D	12/23/10 11:58
10I0159	Pest_ICAL4@25ppb	0L36212-CAL4	006R0601.D	12/23/10 11:58
10I0158	Pest_ICAL3@50ppb	0L36212-CAL5	007F0701.D	12/23/10 12:16
10I0158	Pest_ICAL3@50ppb	0L36212-CAL5	007R0701.D	12/23/10 12:16
10I0157	Pest. AB/Sur CCV @ 100ppb	0L36212-CAL6	008F0801.D	12/23/10 12:35
10I0157	Pest. AB/Sur CCV @ 100ppb	0L36212-CAL6	008R0801.D	12/23/10 12:35
10I0155	Pest_ICAL1@200ppb	0L36212-CAL7	009R0901.D	12/23/10 12:54
10I0155	Pest_ICAL1@200ppb	0L36212-CAL7	009F0901.D	12/23/10 12:54

## INITIAL CALIBRATION DATA (Continued)

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362003

Instrument: GL-ECD3

Matrix: Water

Calibration Date: 12/23/2010 3:56:36PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Aroclor-1016 (1)	1377.504	4.536308	6.700333	3.426844E-02			20	
Aroclor-1016 (2)	444.0847	4.44248	5.826833	3.181603E-02			20	
Aroclor-1016 (3)	649.9719	4.621188	6.179167	3.737598E-02			20	
Aroclor-1016 (4)	648.8554	3.928386	6.382333	4.135933E-02			20	
Aroclor-1016 (5)	518.3258	5.712167	6.986333	4.281168E-02			20	
Aroclor-1016 (1) [2C]	1116.305	22.05288	5.6205	8.742721E-02			20	*
Aroclor-1016 (2) [2C]	482.1738	15.65584	5.207667	6.233316E-02			20	
Aroclor-1016 (3) [2C]	538.2843	19.29511	5.3845	6.561467E-02			20	
Aroclor-1016 (4) [2C]	685.3173	23.96236	5.673333	7.372141E-02			20	*
Aroclor-1016 (5) [2C]	518.0925	18.33539	6.050167	3.093481E-02			20	
Aroclor-1260 (1)	3707.263	5.739381	9.985833	4.225337E-02			20	
Aroclor-1260 (2)	1987.077	5.271371	8.871167	0.0462616			20	
Aroclor-1260 (3)	2134.259	6.546249	9.215667	0.0358565			20	
Aroclor-1260 (4)	1615.479	6.430938	9.3155	3.563058E-02			20	
Aroclor-1260 (5)	907.6331	8.228581	11.0785	2.856956E-02			20	
Aroclor-1260 (1) [2C]	2013.278	16.31731	8.419	8.340063E-03			20	
Aroclor-1260 (2) [2C]	1028.947	20.55875	7.164667	1.777219E-02			20	*
Aroclor-1260 (3) [2C]	1227.66	19.18172	7.3915	0.0314888			20	
Aroclor-1260 (4) [2C]	1169.368	18.45489	7.554333	1.416947E-02			20	
Aroclor-1260 (5) [2C]	921.5547	18.06768	8.109833	0.0215561			20	
Tetrachloro-m-xylene	28756.09	6.436385	5.549333	1.124923E-02			20	
Tetrachloro-m-xylene [2C]	28081.79	12.60113	4.667286	3.784695E-02			20	
Decachlorobiphenyl	28655.66	7.832286	11.845	9.537063E-03			20	
Decachlorobiphenyl [2C]	20853.67	18.98494	10.21386	3.150825E-03			20	

19.9 }

# ANALYSIS SEQUENCE SUMMARY

SW8082A

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Sequence: 0L36218  
 Calibration: 0362003

SDG: CTOJM17KW\_002  
 Project: NAS Key West CTO JM17  
 Instrument: GL-ECD3

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	0L36218-CCV1	012F1201.D	12/23/10 13:49
Calibration Check	0L36218-CCV1	012R1201.D	12/23/10 13:49
Calibration Check	0L36218-CCV3	015R1501.D	12/23/10 14:46
Calibration Check	0L36218-CCV3	015F1501.D	12/23/10 14:46
Blank	0L13014-BLK1	016F1601.D	12/23/10 15:04
Blank	0L13014-BLK1	016R1601.D	12/23/10 15:04
LCS	0L13014-BS2	019F1901.D	12/23/10 16:00
LCS	0L13014-BS2	019R1901.D	12/23/10 16:00
LCS Dup	0L13014-BSD2	020R2001.D	12/23/10 16:18
LCS Dup	0L13014-BSD2	020F2001.D	12/23/10 16:18
BCHMS-GW-028-1210	1012134-09	023F2301.D	12/23/10 17:14
BCHMS-GW-028-1210	1012134-09	023R2301.D	12/23/10 17:14
Calibration Check	0L36218-CCV4	033F3301.D	12/23/10 20:20
Calibration Check	0L36218-CCV4	033R3301.D	12/23/10 20:20
Calibration Check	0L36218-CCV6	036R3601.D	12/23/10 21:16
Calibration Check	0L36218-CCV6	036F3601.D	12/23/10 21:16

# CONTINUING CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 012F1201.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV1

Injection Time: 13:49

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Tetrachloro-m-xylene	A	100.0	98.58	28756.09	28347.21		-1.4	20
Tetrachloro-m-xylene [2C]	A	100.0	91.96	28081.79	25825.3		-8.0	20
Decachlorobiphenyl	A	100.0	101.1	28655.66	28966.29		1.1	20
Decachlorobiphenyl [2C]	A	100.0	93.06	20853.67	19406.62		-6.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 015F1501.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV3

Injection Time: 14:46

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor-1016 (1)	A	1000	988.4	1377.504	1361.566		-1.2	20
Aroclor-1016 (2)	A	1000	1018	444.0847	452.034		1.8	20
Aroclor-1016 (3)	A	1000	1002	649.9719	651.285		0.2	20
Aroclor-1016 (4)	A	1000	999.9	648.8554	648.801		-0.008	20
Aroclor-1016 (5)	A	1000	1003	518.3258	520.106		0.3	20
Aroclor-1016 (1) [2C]	A	1000	1076	1116.305	1201.189		7.6	20
Aroclor-1016 (2) [2C]	A	1000	1216	482.1738	586.564		21.6	20 *
Aroclor-1016 (3) [2C]	A	1000	1135	538.2843	611.142		13.5	20
Aroclor-1016 (4) [2C]	A	1000	1093	685.3173	749.238		9.3	20
Aroclor-1016 (5) [2C]	A	1000	1244	518.0925	644.572		24.4	20 *
Aroclor-1260 (1)	A	1000	1103	3707.263	4089.587		10.3	20
Aroclor-1260 (2)	A	1000	1069	1987.077	2124.085		6.9	20
Aroclor-1260 (3)	A	1000	1045	2134.259	2230.917		4.5	20
Aroclor-1260 (4)	A	1000	1068	1615.479	1725.094		6.8	20
Aroclor-1260 (5)	A	1000	1122	907.6331	1017.991		12.2	20
Aroclor-1260 (1) [2C]	A	1000	1312	2013.278	2640.902		31.2	20 *
Aroclor-1260 (2) [2C]	A	1000	1236	1028.947	1271.271		23.6	20 *
Aroclor-1260 (3) [2C]	A	1000	1260	1227.66	1547.022		26.0	20 *
Aroclor-1260 (4) [2C]	A	1000	1258	1169.368	1471.273		25.8	20 *
Aroclor-1260 (5) [2C]	A	1000	1275	921.5547	1175.058		27.5	20 *

} 15.3

} 26.8

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 033F3301.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV4

Injection Time: 20:20

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Tetrachloro-m-xylene	A	100.0	102.8	28756.09	29567.04		2.8	20
Tetrachloro-m-xylene [2C]	A	100.0	86.10	28081.79	24177.35		-13.9	20
Decachlorobiphenyl	A	100.0	107.6	28655.66	30834.86		7.6	20
Decachlorobiphenyl [2C]	A	100.0	86.14	20853.67	17962.47		-13.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 036F3601.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV6

Injection Time: 21:16

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor-1016 (1)	A	1000	982.0	1377.504	1352.642		-1.8	20
Aroclor-1016 (2)	A	1000	1020	444.0847	453.099		2.0	20
Aroclor-1016 (3)	A	1000	1004	649.9719	652.838		0.4	20
Aroclor-1016 (4)	A	1000	1012	648.8554	656.811		1.2	20
Aroclor-1016 (5)	A	1000	1017	518.3258	526.997		1.7	20
Aroclor-1016 (1) [2C]	A	1000	970.0	1116.305	1082.86		-3.0	20
Aroclor-1016 (2) [2C]	A	1000	1214	482.1738	585.202		21.4	20 *
Aroclor-1016 (3) [2C]	A	1000	1116	538.2843	600.787		11.6	20
Aroclor-1016 (4) [2C]	A	1000	1096	685.3173	751.135		9.6	20
Aroclor-1016 (5) [2C]	A	1000	1170	518.0925	606.071		17.0	20
Aroclor-1260 (1)	A	1000	1065	3707.263	3948.096		6.5	20
Aroclor-1260 (2)	A	1000	1054	1987.077	2095.547		5.5	20
Aroclor-1260 (3)	A	1000	1030	2134.259	2199.215		3.0	20
Aroclor-1260 (4)	A	1000	1053	1615.479	1701.398		5.3	20
Aroclor-1260 (5)	A	1000	1064	907.6331	966.245		6.5	20
Aroclor-1260 (1) [2C]	A	1000	1182	2013.278	2378.81		18.2	20
Aroclor-1260 (2) [2C]	A	1000	1140	1028.947	1172.568		14.0	20
Aroclor-1260 (3) [2C]	A	1000	1163	1227.66	1427.768		16.3	20
Aroclor-1260 (4) [2C]	A	1000	1152	1169.368	1346.53		15.2	20
Aroclor-1260 (5) [2C]	A	1000	1168	921.5547	1076.398		16.8	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# PREPARATION BATCH SUMMARY

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L13014

Batch Matrix: Water

Preparation: EXT 3510

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L13014-BLK1	12/14/10 10:00	1,000.00	5.00
LCS	0L13014-BS2	12/14/10 10:00	1,000.00	5.00
LCS Dup	0L13014-BSD2	12/14/10 10:00	1,000.00	5.00
BCHMS-GW-028-1210	1012134-09	12/15/10 09:35	1,020.00	5.00



# METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Instrument: GL-ECD3

Analyte	MDL	MRL	Units	Method
Aroclor-1016	0.120	0.500	ug/L	SW8082A
Aroclor-1221	0.120	0.500	ug/L	SW8082A
Aroclor-1232	0.120	0.500	ug/L	SW8082A
Aroclor-1242	0.120	0.500	ug/L	SW8082A
Aroclor-1248	0.120	0.500	ug/L	SW8082A
Aroclor-1254	0.120	0.500	ug/L	SW8082A
Aroclor-1260	0.120	0.500	ug/L	SW8082A
Aroclor-1262	0.120	0.500	ug/L	SW8082A
Aroclor-1268	0.120	0.500	ug/L	SW8082A

# ANALYSIS SEQUENCE SUMMARY

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35416

Instrument: GL-GCFID2

Calibration: 0354003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0L35416-CAL6	003F0401.D	12/17/10 16:36
Cal Standard	0L35416-CAL5	004F0501.D	12/17/10 17:18
Cal Standard	0L35416-CAL4	005F0601.D	12/17/10 18:00
Cal Standard	0L35416-CAL3	006F0701.D	12/17/10 18:42
Cal Standard	0L35416-CAL2	007F0801.D	12/17/10 19:24
Cal Standard	0L35416-CAL1	008F0901.D	12/17/10 20:07
Initial Cal Check	0L35416-ICV1	009F1001.D	12/17/10 20:49

# INITIAL CALIBRATION STANDARDS

## FLPRO

Laboratory: Empirical Laboratories, LLC  
Client: Tetra Tech NUS, Inc. (T010)  
Sequence: 0L35416  
Calibration: 0354003

SDG: CTOJM17KW\_002  
Project: NAS Key West CTO JM17  
Instrument: GL-GCFID2

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
10K0198	FLPRO CAL6 85ppm	0L35416-CAL6	003F0401.D	12/17/10 16:36
10K0199	FLPRO CAL5 850ppm	0L35416-CAL5	004F0501.D	12/17/10 17:18
10K0200	FLPRO CAL4 2550ppm	0L35416-CAL4	005F0601.D	12/17/10 18:00
10L0688	FLPRO CAL3 4250ppm	0L35416-CAL3	006F0701.D	12/17/10 18:42
10K0202	FLPRO CAL2 5950ppm	0L35416-CAL2	007F0801.D	12/17/10 19:24
10K0203	FLPRO CAL1 8500ppm	0L35416-CAL1	008F0901.D	12/17/10 20:07

# INITIAL CALIBRATION DATA (Continued)

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0354003

Instrument: GL-GCFID2

Matrix: Water

Calibration Date: 12/17/2010 12:00:26AM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Petroleum Range Organics	1161.673	7.581268	2.9	1.880959E-02			20	
2-Fluorobiphenyl	1907.535	7.252165	11.5235	0.0596244			20	
o-Terphenyl	2029.693	5.729139	17.02467	2.901856E-02			20	

# INITIAL CALIBRATION CHECK

## FLPRO

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW 002</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Instrument ID: <u>GL-GCFID2</u>	Calibration: <u>0354003</u>
Lab File ID: <u>009F1001.D</u>	Calibration Date: <u>12/17/10 00:00</u>
Sequence: <u>0L35416</u>	Injection Date: <u>12/17/10</u>
Lab Sample ID: <u>0L35416-ICV1</u>	Injection Time: <u>20:49</u>

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Petroleum Range Organics	A	4000	4535	1161.673	1316.997		13.4	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# ANALYSIS SEQUENCE SUMMARY

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35502

Instrument: GL-GCFID2

Calibration: 0354003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	0L35502-CCV1	010F1101.D	12/17/10 21:31
Blank	0L14021-BLK1	011F1201.D	12/17/10 22:13
LCS	0L14021-BS1	012F1301.D	12/17/10 22:55
LCS Dup	0L14021-BSD1	013F1401.D	12/17/10 23:37
BCHMS-GW-013-1210	1012134-01	018F1901.D	12/18/10 03:07
BCHMS-GW-014-1210	1012134-02	019F2001.D	12/18/10 03:49
BCHMS-GW-015-1210	1012134-03	020F2101.D	12/18/10 04:30
BCHMS-GW-016-1210	1012134-04	021F2201.D	12/18/10 05:12
BCHMS-GW-019-1210	1012134-05	022F2301.D	12/18/10 05:54
BCHMS-GW-001-1210	1012134-06	023F2401.D	12/18/10 06:36
Calibration Check	0L35502-CCV2	024F2501.D	12/18/10 07:18
BCHMS-GW-002-1210	1012134-07	025F2601.D	12/18/10 08:00
BCHMS-GW-003-1210	1012134-08	026F2701.D	12/18/10 08:42
BCHMS-GW-028-1210	1012134-09	027F2801.D	12/18/10 09:24
BCHMS-GW-029D-1210	1012134-10	028F2901.D	12/18/10 10:06
Calibration Check	0L35502-CCV3	029F3001.D	12/18/10 10:48

# CONTINUING CALIBRATION CHECK

## FLPRO

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_002</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Instrument ID: <u>GL-GCFID2</u>	Calibration: <u>0354003</u>
Lab File ID: <u>010F1101.D</u>	Calibration Date: <u>12/17/10 00:00</u>
Sequence: <u>0L35502</u>	Injection Date: <u>12/17/10</u>
Lab Sample ID: <u>0L35502-CCV1</u>	Injection Time: <u>21:31</u>

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	3652	1161.673	998.2633		-14.1	25
2-Fluorobiphenyl	A	25.00	22.42	1907.535	1711.04		-10.3	25
o-Terphenyl	A	25.00	22.91	2029.693	1859.96		-8.4	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-GCFID2

Calibration: 0354003

Lab File ID: 024F2501.D

Calibration Date: 12/17/10 00:00

Sequence: 0L35502

Injection Date: 12/18/10

Lab Sample ID: 0L35502-CCV2

Injection Time: 07:18

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	4136	1161.673	1130.484		-2.7	25
2-Fluorobiphenyl	A	25.00	24.11	1907.535	1839.56		-3.6	25
o-Terphenyl	A	25.00	23.99	2029.693	1948		-4.0	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-GCFID2

Calibration: 0354003

Lab File ID: 029F3001.D

Calibration Date: 12/17/10 00:00

Sequence: 0L35502

Injection Date: 12/18/10

Lab Sample ID: 0L35502-CCV3

Injection Time: 10:48

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	3850	1161.673	1052.406		-9.4	25
2-Fluorobiphenyl	A	25.00	23.02	1907.535	1756.56		-7.9	25
o-Terphenyl	A	25.00	23.27	2029.693	1889		-6.9	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## PREPARATION BATCH SUMMARY

### FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L14021      Batch Matrix: Water

Preparation: EXT 3510

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L14021-BLK1	12/15/10 12:30	1,000.00	2.00
LCS	0L14021-BS1	12/15/10 12:30	1,000.00	2.00
LCS Dup	0L14021-BSD1	12/15/10 12:30	1,000.00	2.00
BCHMS-GW-013-1210	1012134-01	12/15/10 12:30	1,080.00	2.00
BCHMS-GW-014-1210	1012134-02	12/15/10 12:30	1,070.00	2.00
BCHMS-GW-015-1210	1012134-03	12/15/10 12:30	1,080.00	2.00
BCHMS-GW-016-1210	1012134-04	12/15/10 12:30	1,080.00	2.00
BCHMS-GW-019-1210	1012134-05	12/15/10 12:30	1,070.00	2.00
BCHMS-GW-001-1210	1012134-06	12/15/10 12:30	1,060.00	2.00
BCHMS-GW-002-1210	1012134-07	12/15/10 12:30	1,080.00	2.00
BCHMS-GW-003-1210	1012134-08	12/15/10 12:30	1,075.00	2.00
BCHMS-GW-028-1210	1012134-09	12/15/10 12:30	1,065.00	2.00
BCHMS-GW-029D-1210	1012134-10	12/15/10 12:30	1,070.00	2.00



## METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Instrument: GL-GCFID2

Analyte	MDL	MRL	Units	Method
Petroleum Range Organics	0.170	0.680	mg/L	FLPRO



**MEMO TO: S. STOTLER-HARDY - PAGE 2**  
**DATE: FEBRUARY 8, 2011**

Metals

The continuing calibration percent recoveries for potassium were > 110% quality control limit on 01/03/11 at 16:51 and 18:14 affecting samples BCHMS-GW-014-1210, BCHMS-GW-015-1210, BCHMS-GW-016-1210, BCHMS-GW-019-1210 and BCHMS-GW-001-1210. The positive results reported for potassium in the affected samples were qualified as estimated, "J".

The continuing calibration percent recovery for sodium was > 110% quality control limit on 01/03/11 at 16:51 affecting samples BCHMS-GW-014-1210, BCHMS-GW-015-1210, BCHMS-GW-016-1210 and BCHMS-GW-019-1210. The positive results reported for sodium in the affected samples were qualified as estimated, "J".

The continuing calibration percent recovery for calcium was < 90% quality control limit and the continuing calibration percent recovery for potassium was > 110% quality control limit on 01/04/11 at 16:30 affecting sample BCHMS-GW-029D-1210. The positive results reported for calcium and potassium in the affected sample were qualified as estimated, "J".

Positive results reported below the limit of quantitation (LOQ) but above the detection limit (DL) were qualified as estimated, "J".

Notes

The following contaminants were detected in the method blanks at the following maximum concentrations:

<u>Analyte</u>	<u>Maximum Concentration</u>	<u>Action Level</u>
Sodium <sup>(1)</sup>	1540 ug/L	7700 ug/L
Sodium <sup>(2)</sup>	573 ug/L	2865 ug/L

(1) Maximum concentration present in a method blank affecting samples BCHMS-GW-014-1210, BCHMS-GW-015-1210, BCHMS-GW-016-1210 and BCHMS-GW-019-1210.

(2) Maximum concentration present in a method blank affecting sample BCHMS-GW-029D-1210.

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. No validation actions were warranted as all sample results were greater than the action level.

Executive Summary

**Laboratory Performance:** Several continuing calibrations were outside the 90-110% quality control limits.

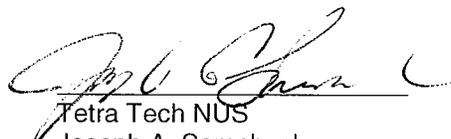
**Other Factors Affecting Data Quality:** Positive results reported below the LOQ but above the DL were qualified as estimated.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", October 2004, and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories", January 2006.

The text of this report has been formulated to address only those problem areas affecting data quality.

MEMO TO: S. STOTLER-HARDY - PAGE 3  
DATE: FEBRUARY 8, 2011

  
Tetra Tech NUS  
Terri L. Solomon  
Environmental Scientist

  
Tetra Tech NUS  
Joseph A. Samchuck  
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**APPENDIX A**  
**QUALIFIED ANALYTICAL RESULTS**

#### Data Validation Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS-GFAA MSA's  $r < 0.995$  / ICP PDS Recovery Noncompliance
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O - Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ( $< 2 \times$  IDL for inorganics and  $<$ CRQL for organics)
- Q = Other problems (can encompass a number of issues; e.g. chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DOT and Endrin
- U = % Difference between columns/detectors  $>25\%$  for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient  $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids  $<30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 02608 SDG: CTOJM17KW_2 FRACTION: M MEDIA: WATER	NSAMPLE		BCHMS-GW-001-1210		BCHMS-GW-002-1210		BCHMS-GW-003-1210		BCHMS-GW-013-1210									
	LAB_ID	SAMP_DATE	QC_TYPE	UNITS	PCT_SOLIDS	DUP_OF	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
	1012134-06	12/11/2010	NM	UG/L	0.0		135 J	118 J	P	1210	1790							
							5 U	5 U		5 U	5 U							
							3 U	3 U		3.3 J	3 U	P						
							5 U	5.73 J	P	19.4 J	10.6 J	P						
							1 U	1 U		1 U	1 U							
							1.72 J	1.41 J	P	12.5 J	5.29 J	P						
							126000	200000		524000	338000							
							2 U	3 U		10 U	4 U							
							5 U	5 U		5 U	5 U							
							4 U	4 U		10 U	4 U							
							30 U	30 U		357	500							
							3 U	3 U		15 U	3 U							
							212000	370000		1230000	575000							
							24.2	6.16 J	P	19.2	23.5							
							0.08 U	0.08 U		0.0878 J	0.08 U	P						
							3 U	3 U		3 U	3 U							
							93400 J	115000	C	438000	187000							
							3 U	3 U		3 U	4.95 J	P						
							1 U	1 U		1 U	1 U							
							1630000	2800000		9430000	4540000							
							3 U	3 U		3 U	4 U							
							5 U	5 U		5 U	5 U							
							5 U	5 U		25 U	10 U							

PROJ_NO: 02608 SDG: CTOJM17KW_2 FRACTION: M MEDIA: WATER	NSAMPLE		BCHMS-GW-014-1210		BCHMS-GW-015-1210		BCHMS-GW-016-1210		BCHMS-GW-019-1210			
	LAB_ID	1012134-02	1012134-03	1012134-04	1012134-04	1012134-05	1012134-05	1012134-05	1012134-05	1012134-05		
SAMP_DATE	12/10/2010	12/10/2010	12/10/2010	12/10/2010	12/10/2010	12/10/2010	12/10/2010	12/10/2010	12/10/2010	12/10/2010		
QC_TYPE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM		
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L		
PCT_SOLIDS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALUMINUM	148 J	5 U	P	4090	5 U		156 J	5 U	P	124 J	5 U	P
ANTIMONY	5 U	3 U		5 U	3.76 J	P	5 U	3 U		5 U	3.82 J	P
ARSENIC	3 U	5.75 J	P	3.76 J	7.47 J	P	3 U	5 U		3.82 J	5 U	P
BARIUM	5.75 J	1 U	P	7.47 J	1 U		5 U	1 U		5 U	1 U	
BERYLLIUM	1 U	1.05 J	P	1 U	1 U		1 U	1 U		1 U	1.3 J	P
CADMIUM	1.05 J	192000		1 U	216000		1 U	116000		1.3 J	131000	
CALCIUM	192000	2 U		216000	6.46 J	P	116000	2 U		131000	2 U	
CHROMIUM	2 U	5 U		6.46 J	5 U		2 U	5 U		2 U	5 U	
COBALT	5 U	4 U		5 U	4 U		5 U	4 U		5 U	4 U	
COPPER	4 U	76.9 J	P	4 U	1540		4 U	4 U		4 U	30 U	
IRON	76.9 J	3.55		1540	2 U		103	3 U		30 U	3 U	
LEAD	3.55	82300		2 U	57100		3.54	3 U		3 U	64600	
MAGNESIUM	82300	13.7 J	P	57100	18.8		35700	4.49 J	P	64600	3 U	
MANGANESE	13.7 J	0.08 U		18.8	0.08 U		4.49 J	0.08 U		3 U	0.08 U	
MERCURY	0.08 U	3 U		0.08 U	3 U		0.08 U	3 U		0.08 U	3 U	
NICKEL	3 U	18800 J	C	3 U	8150 J	C	3 U	5180 J	C	3 U	18000 J	C
POTASSIUM	18800 J	3 U		8150 J	3 U		5180 J	3 U		18000 J	3.19 J	P
SELENIUM	3 U	1 U		3 U	1 U		3 U	1 U		3.19 J	1 U	
SILVER	1 U	393000 J	C	1 U	156000 J	C	1 U	108000 J	C	1 U	399000 J	C
SODIUM	393000 J	3 U		156000 J	3 U		108000 J	3 U		399000 J	3 U	
THALLIUM	3 U	5 U		3 U	5 U		3 U	5 U		3 U	5 U	
VANADIUM	5 U	5.1 J	P	5 U	5 U		5 U	5 U		5 U	5 U	
ZINC	5.1 J			5 U			5 U			5 U		

PROJ_NO: 02608 SDG: CTOJM17KW_2 FRACTION: M MEDIA: WATER	NSAMPLE		BCHMS-GW-028-1210		BCHMS-GW-029D-1210	
	LAB_ID	SAMP_DATE	QC_TYPE	UNITS	PCT_SOLIDS	DUP_OF
	1012134-09	12/11/2010	NM	UG/L	0.0	
	1012134-10	12/11/2010	NM	UG/L	0.0	
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALUMINUM	830			575 J		P
ANTIMONY	5 U			5 U		
ARSENIC	3 U			3.01 J		P
BARIIUM	26 J		P	42		
BERYLLIUM	1 U			1 U		
CADMIUM	6.67 J		P	13.3 J		P
CALCIUM	396000			571000 J		C
CHROMIUM	4 U			10 U		
COBALT	5 U			5 U		
COPPER	5 U			9 U		
IRON	764			2320		
LEAD	3 U			7.5 U		
MAGNESIUM	601000			1200000		
MANGANESE	35.4			32.2		
MERCURY	0.08 U			0.08 U		
NICKEL	3 U			3.59 J		P
POTASSIUM	201000			430000 J		C
SELENIUM	3 U			3 U		
SILVER	1 U			1 U		
SODIUM	4940000			9760000		
THALLIUM	6 U			3 U		
VANADIUM	5 U			5 U		
ZINC	10 U			25 U		

**APPENDIX B**  
**RESULTS AS REPORTED BY THE LABORATORY**

## ANALYSIS DATA SHEET

BCHMS-GW-001-1210

Laboratory: Empirical Laboratories, LLCSDG: CTOJM17KW\_002Client: Tetra Tech NUS, Inc. (T010)Project: NAS Key West CTO JM17Matrix: Ground WaterLaboratory ID: 1012134-06Sampled: 12/11/10 09:30Received: 12/14/10 08:50% Solids: 0.00

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17017	12/20/10 13:56
7429-90-5	Aluminum	135	50.0	100	200	1	I	SW6010C	0L28001	12/29/10 17:45
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L28001	01/03/11 17:27
7440-38-2	Arsenic		3.00	6.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:45
7440-39-3	Barium		5.00	10.0	40.0	1	U	SW6010C	0L28001	12/29/10 17:45
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	12/29/10 17:45
7440-43-9	Cadmium	1.72	1.00	2.00	5.00	1	I	SW6010C	0L28001	12/29/10 17:45
7440-70-2	Calcium	126000	1000	2000	5000	1		SW6010C	0L28001	01/03/11 17:27
7440-47-3	Chromium		2.00	4.00	10.0	1	U	SW6010C	0L28001	12/29/10 17:45
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 17:45
7440-50-8	Copper		4.00	8.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:45
7439-89-6	Iron		30.0	60.0	100	1	U	SW6010C	0L28001	01/03/11 17:27
7439-92-1	Lead		3.00	3.00	3.00	1	M U	SW6010C	0L28001	12/29/10 17:45
7439-95-4	Magnesium	212000	1000	3000	5000	1		SW6010C	0L28001	12/29/10 17:45
7439-96-5	Manganese	24.2	3.00	6.00	15.0	1		SW6010C	0L28001	12/29/10 17:45
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 17:45
7440-09-7	Potassium	93400	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 17:27
7782-49-2	Selenium		3.00	5.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:45
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:45
7440-23-5	Sodium	1630000	5000	75000	125000	25	D	SW6010C	0L28001	01/04/11 14:27
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	12/29/10 17:45
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 17:45
7440-66-6	Zinc		5.00	10.0	20.0	1	U	SW6010C	0L28001	12/29/10 17:45

ANALYSIS DATA SHEET

BCHMS-GW-002-1210

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Ground Water  
 Sampled: 12/11/10 10:30  
 % Solids: 0.00

SDG: CTOJM17KW\_002  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012134-07  
 Received: 12/14/10 08:50

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17017	12/20/10 13:58
7429-90-5	Aluminum	118	50.0	100	200	1	1	SW6010C	0L28001	12/29/10 17:50
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L28001	01/03/11 17:32
7440-38-2	Arsenic		3.00	6.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:50
7440-39-3	Barium	5.73	5.00	10.0	40.0	1	1	SW6010C	0L28001	12/29/10 17:50
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	12/29/10 17:50
7440-43-9	Cadmium	1.41	1.00	2.00	5.00	1	1	SW6010C	0L28001	12/29/10 17:50
7440-70-2	Calcium	200000	1000	2000	5000	1		SW6010C	0L28001	01/03/11 17:32
7440-47-3	Chromium		3.00	4.00	10.0	1	M U	SW6010C	0L28001	12/29/10 17:50
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 17:50
7440-50-8	Copper		4.00	8.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:50
7439-89-6	Iron		30.0	60.0	100	1	U	SW6010C	0L28001	01/03/11 17:32
7439-92-1	Lead		3.00	3.00	3.00	1	M U	SW6010C	0L28001	12/29/10 17:50
7439-95-4	Magnesium	370000	1000	3000	5000	1		SW6010C	0L28001	12/29/10 17:50
7439-96-5	Manganese	6.16	3.00	6.00	15.0	1	1	SW6010C	0L28001	12/29/10 17:50
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 17:50
7440-09-7	Potassium	115000	1000	15000	25000	5	D	SW6010C	0L28001	01/04/11 14:32
7782-49-2	Selenium		3.00	5.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:50
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:50
7440-23-5	Sodium	2800000	5000	75000	125000	25	D	SW6010C	0L28001	01/04/11 14:37
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	12/29/10 17:50
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 17:50
7440-66-6	Zinc		5.00	10.0	20.0	1	U	SW6010C	0L28001	12/29/10 17:50

# ANALYSIS DATA SHEET

BCHMS-GW-003-1210

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Ground Water  
 Sampled: 12/11/10 12:30  
 % Solids: 0.00

SDG: CTOJM17KW\_002  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012134-08  
 Received: 12/14/10 08:50

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0878	0.0800	0.200	0.200	1	1	SW7470A	0L17017	12/20/10 14:03
7429-90-5	Aluminum	1210	250	500	1000	5	D	SW6010C	0L28001	01/04/11 14:42
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L28001	01/03/11 17:37
7440-38-2	Arsenic	3.30	3.00	6.00	10.0	1	IN	SW6010C	0L28001	12/29/10 17:55
7440-39-3	Barium	19.4	5.00	10.0	40.0	1	1	SW6010C	0L28001	12/29/10 17:55
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	12/29/10 17:55
7440-43-9	Cadmium	12.5	5.00	10.0	25.0	5	D1	SW6010C	0L28001	01/04/11 14:42
7440-70-2	Calcium	524000	5000	10000	25000	5	D	SW6010C	0L28001	01/04/11 14:42
7440-47-3	Chromium		10.0	20.0	50.0	5	U	SW6010C	0L28001	01/04/11 14:42
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 17:55
7440-50-8	Copper		10.0	10.0	10.0	1	M UN	SW6010C	0L28001	12/29/10 17:55
7439-89-6	Iron	357	30.0	60.0	100	1		SW6010C	0L28001	01/03/11 17:37
7439-92-1	Lead		15.0	15.0	15.0	5	M U	SW6010C	0L28001	01/04/11 14:42
7439-95-4	Magnesium	1230000	5000	15000	25000	5	D	SW6010C	0L28001	01/04/11 14:42
7439-96-5	Manganese	19.2	3.00	6.00	15.0	1		SW6010C	0L28001	12/29/10 17:55
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 17:55
7440-09-7	Potassium	438000	1000	15000	25000	5	D	SW6010C	0L28001	01/04/11 14:42
7782-49-2	Selenium		3.00	5.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:55
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:55
7440-23-5	Sodium	9430000	5000	75000	125000	25	D	SW6010C	0L28001	01/04/11 14:46
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	12/29/10 17:55
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 17:55
7440-66-6	Zinc		25.0	50.0	100	5	U	SW6010C	0L28001	01/04/11 14:42

**ANALYSIS DATA SHEET**

BCHMS-GW-013-1210

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Ground Water  
 Sampled: 12/10/10 14:00  
 % Solids: 0.00

SDG: CTOJM17KW\_002  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012134-01  
 Received: 12/14/10 08:50

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17017	12/20/10 13:47
7429-90-5	Aluminum	1790	50.0	100	200	1		SW6010C	0L28001	12/29/10 17:21
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L28001	01/03/11 17:03
7440-38-2	Arsenic		3.00	6.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:21
7440-39-3	Barium	10.6	5.00	10.0	40.0	1	I	SW6010C	0L28001	12/29/10 17:21
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	12/29/10 17:21
7440-43-9	Cadmium	5.29	2.00	4.00	10.0	2	D1	SW6010C	0L28001	01/04/11 14:13
7440-70-2	Calcium	338000	1000	2000	5000	1		SW6010C	0L28001	01/03/11 17:03
7440-47-3	Chromium		4.00	8.00	20.0	2	U	SW6010C	0L28001	01/04/11 14:13
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 17:21
7440-50-8	Copper		4.00	8.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:21
7439-89-6	Iron	500	30.0	60.0	100	1		SW6010C	0L28001	01/03/11 17:03
7439-92-1	Lead		3.00	6.00	6.00	2	U	SW6010C	0L28001	01/04/11 14:13
7439-95-4	Magnesium	575000	2000	6000	10000	2	D	SW6010C	0L28001	01/04/11 14:13
7439-96-5	Manganese	23.5	3.00	6.00	15.0	1		SW6010C	0L28001	12/29/10 17:21
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 17:21
7440-09-7	Potassium	187000	1000	15000	25000	5	D	SW6010C	0L28001	01/04/11 14:18
7782-49-2	Selenium	4.95	3.00	5.00	10.0	1	IN	SW6010C	0L28001	12/29/10 17:21
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:21
7440-23-5	Sodium	4540000	5000	75000	125000	25	D	SW6010C	0L28001	01/04/11 14:23
7440-28-0	Thallium		4.00	4.00	8.00	1	M U	SW6010C	0L28001	12/29/10 17:21
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 17:21
7440-66-6	Zinc		10.0	20.0	40.0	2	U	SW6010C	0L28001	01/04/11 14:13

**ANALYSIS DATA SHEET**

BCHMS-GW-014-1210

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Ground Water  
 Sampled: 12/10/10 15:00  
 % Solids: 0.00

SDG: CTOJM17KW\_002  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012134-02  
 Received: 12/14/10 08:50

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17017	12/20/10 13:49
7429-90-5	Aluminum	148	50.0	100	200	1	I	SW6010C	0L28001	12/29/10 17:26
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L28001	01/03/11 17:07
7440-38-2	Arsenic		3.00	6.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:26
7440-39-3	Barium	5.75	5.00	10.0	40.0	1	I	SW6010C	0L28001	12/29/10 17:26
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	12/29/10 17:26
7440-43-9	Cadmium	1.05	1.00	2.00	5.00	1	I	SW6010C	0L28001	12/29/10 17:26
7440-70-2	Calcium	192000	1000	2000	5000	1		SW6010C	0L28001	01/03/11 17:07
7440-47-3	Chromium		2.00	4.00	10.0	1	U	SW6010C	0L28001	12/29/10 17:26
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 17:26
7440-50-8	Copper		4.00	8.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:26
7439-89-6	Iron	76.9	30.0	60.0	100	1	I	SW6010C	0L28001	01/03/11 17:07
7439-92-1	Lead	3.55	1.50	3.00	3.00	1		SW6010C	0L28001	12/29/10 17:26
7439-95-4	Magnesium	82300	1000	3000	5000	1		SW6010C	0L28001	12/29/10 17:26
7439-96-5	Manganese	13.7	3.00	6.00	15.0	1	I	SW6010C	0L28001	12/29/10 17:26
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 17:26
7440-09-7	Potassium	18800	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 17:07
7782-49-2	Selenium		3.00	5.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:26
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:26
7440-23-5	Sodium	393000	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 17:07
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	12/29/10 17:26
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 17:26
7440-66-6	Zinc	5.10	5.00	10.0	20.0	1	I	SW6010C	0L28001	12/29/10 17:26

# ANALYSIS DATA SHEET

BCHMS-GW-015-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Ground Water

Laboratory ID: 1012134-03

Sampled: 12/10/10 10:00

Received: 12/14/10 08:50

% Solids: 0.00

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17017	12/20/10 13:51
7429-90-5	Aluminum	4090	50.0	100	200	1		SW6010C	0L28001	12/29/10 17:31
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L28001	01/03/11 17:12
7440-38-2	Arsenic	3.76	3.00	6.00	10.0	1	IN	SW6010C	0L28001	12/29/10 17:31
7440-39-3	Barium	7.47	5.00	10.0	40.0	1	I	SW6010C	0L28001	12/29/10 17:31
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	12/29/10 17:31
7440-43-9	Cadmium		1.00	2.00	5.00	1	U	SW6010C	0L28001	12/29/10 17:31
7440-70-2	Calcium	216000	1000	2000	5000	1		SW6010C	0L28001	01/03/11 17:12
7440-47-3	Chromium	6.46	2.00	4.00	10.0	1	I	SW6010C	0L28001	12/29/10 17:31
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 17:31
7440-50-8	Copper		4.00	8.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:31
7439-89-6	Iron	1540	30.0	60.0	100	1		SW6010C	0L28001	01/03/11 17:12
7439-92-1	Lead		2.00	3.00	3.00	1	M U	SW6010C	0L28001	12/29/10 17:31
7439-95-4	Magnesium	57100	1000	3000	5000	1		SW6010C	0L28001	12/29/10 17:31
7439-96-5	Manganese	18.8	3.00	6.00	15.0	1		SW6010C	0L28001	12/29/10 17:31
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 17:31
7440-09-7	Potassium	8150	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 17:12
7782-49-2	Selenium		3.00	5.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:31
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:31
7440-23-5	Sodium	156000	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 17:12
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	12/29/10 17:31
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 17:31
7440-66-6	Zinc		5.00	10.0	20.0	1	U	SW6010C	0L28001	12/29/10 17:31

# ANALYSIS DATA SHEET

**BCHMS-GW-016-1210**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Ground Water

Laboratory ID: 1012134-04

Sampled: 12/10/10 11:00

Received: 12/14/10 08:50

% Solids: 0.00

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	I	U	SW7470A	0L17017	12/20/10 13:52
7429-90-5	Aluminum	156	50.0	100	200	I	I	SW6010C	0L28001	12/29/10 17:36
7440-36-0	Antimony		5.00	8.00	10.0	I	UN	SW6010C	0L28001	01/03/11 17:18
7440-38-2	Arsenic		3.00	6.00	10.0	I	UN	SW6010C	0L28001	12/29/10 17:36
7440-39-3	Barium		5.00	10.0	40.0	I	U	SW6010C	0L28001	12/29/10 17:36
7440-41-7	Beryllium		1.00	2.00	5.00	I	U	SW6010C	0L28001	12/29/10 17:36
7440-43-9	Cadmium		1.00	2.00	5.00	I	U	SW6010C	0L28001	12/29/10 17:36
7440-70-2	Calcium	116000	1000	2000	5000	I		SW6010C	0L28001	01/03/11 17:18
7440-47-3	Chromium		2.00	4.00	10.0	I	U	SW6010C	0L28001	12/29/10 17:36
7440-48-4	Cobalt		5.00	10.0	12.5	I	U	SW6010C	0L28001	12/29/10 17:36
7440-50-8	Copper		4.00	8.00	10.0	I	UN	SW6010C	0L28001	12/29/10 17:36
7439-89-6	Iron	103	30.0	60.0	100	I		SW6010C	0L28001	01/03/11 17:18
7439-92-1	Lead	3.54	1.50	3.00	3.00	I		SW6010C	0L28001	12/29/10 17:36
7439-95-4	Magnesium	35700	1000	3000	5000	I		SW6010C	0L28001	12/29/10 17:36
7439-96-5	Manganese	4.49	3.00	6.00	15.0	I	I	SW6010C	0L28001	12/29/10 17:36
7440-02-0	Nickel		3.00	6.00	10.0	I	U	SW6010C	0L28001	12/29/10 17:36
7440-09-7	Potassium	5180	200	3000	5000	I	X	SW6010C	0L28001	01/03/11 17:18
7782-49-2	Selenium		3.00	5.00	10.0	I	UN	SW6010C	0L28001	12/29/10 17:36
7440-22-4	Silver		1.00	2.00	10.0	I	UN	SW6010C	0L28001	12/29/10 17:36
7440-23-5	Sodium	108000	200	3000	5000	I	X	SW6010C	0L28001	01/03/11 17:18
7440-28-0	Thallium		3.00	4.00	8.00	I	U	SW6010C	0L28001	12/29/10 17:36
7440-62-2	Vanadium		5.00	10.0	12.5	I	U	SW6010C	0L28001	12/29/10 17:36
7440-66-6	Zinc		5.00	10.0	20.0	I	U	SW6010C	0L28001	12/29/10 17:36

# ANALYSIS DATA SHEET

BCHMS-GW-019-1210

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Ground Water  
 Sampled: 12/10/10 09:20  
 % Solids: 0.00

SDG: CTOJM17KW\_002  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012134-05  
 Received: 12/14/10 08:50

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17017	12/20/10 13:54
7429-90-5	Aluminum	124	50.0	100	200	1	I	SW6010C	0L28001	12/29/10 17:41
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L28001	01/03/11 17:22
7440-38-2	Arsenic	3.82	3.00	6.00	10.0	1	IN	SW6010C	0L28001	12/29/10 17:41
7440-39-3	Barium		5.00	10.0	40.0	1	U	SW6010C	0L28001	12/29/10 17:41
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	12/29/10 17:41
7440-43-9	Cadmium	1.30	1.00	2.00	5.00	1	I	SW6010C	0L28001	12/29/10 17:41
7440-70-2	Calcium	131000	1000	2000	5000	1		SW6010C	0L28001	01/03/11 17:22
7440-47-3	Chromium		2.00	4.00	10.0	1	U	SW6010C	0L28001	12/29/10 17:41
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 17:41
7440-50-8	Copper		4.00	8.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:41
7439-89-6	Iron		30.0	60.0	100	1	U	SW6010C	0L28001	01/03/11 17:22
7439-92-1	Lead		3.00	3.00	3.00	1	M U	SW6010C	0L28001	12/29/10 17:41
7439-95-4	Magnesium	64600	1000	3000	5000	1		SW6010C	0L28001	12/29/10 17:41
7439-96-5	Manganese		3.00	6.00	15.0	1	U	SW6010C	0L28001	12/29/10 17:41
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 17:41
7440-09-7	Potassium	18000	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 17:22
7782-49-2	Selenium	3.19	3.00	5.00	10.0	1	IN	SW6010C	0L28001	12/29/10 17:41
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L28001	12/29/10 17:41
7440-23-5	Sodium	399000	200	3000	5000	1	X	SW6010C	0L28001	01/03/11 17:22
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	12/29/10 17:41
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 17:41
7440-66-6	Zinc		5.00	10.0	20.0	1	U	SW6010C	0L28001	12/29/10 17:41

# ANALYSIS DATA SHEET

BCHMS-GW-028-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Ground Water

Laboratory ID: 1012134-09

Sampled: 12/11/10 15:00

Received: 12/14/10 08:50

% Solids: 0.00

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17017	12/20/10 14:05
7429-90-5	Aluminum	830	50.0	100	200	1		SW6010C	0L28001	12/29/10 18:00
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L28001	01/03/11 17:42
7440-38-2	Arsenic		3.00	6.00	10.0	1	UN	SW6010C	0L28001	12/29/10 18:00
7440-39-3	Barium	26.0	5.00	10.0	40.0	1	I	SW6010C	0L28001	12/29/10 18:00
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	12/29/10 18:00
7440-43-9	Cadmium	6.67	2.00	4.00	10.0	2	DI	SW6010C	0L28001	01/04/11 14:51
7440-70-2	Calcium	396000	1000	2000	5000	1		SW6010C	0L28001	01/03/11 17:42
7440-47-3	Chromium		4.00	8.00	20.0	2	U	SW6010C	0L28001	01/04/11 14:51
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 18:00
7440-50-8	Copper		5.00	8.00	10.0	1	M UN	SW6010C	0L28001	12/29/10 18:00
7439-89-6	Iron	764	30.0	60.0	100	1		SW6010C	0L28001	01/03/11 17:42
7439-92-1	Lead		3.00	6.00	6.00	2	U	SW6010C	0L28001	01/04/11 14:51
7439-95-4	Magnesium	601000	2000	6000	10000	2	D	SW6010C	0L28001	01/04/11 14:51
7439-96-5	Manganese	35.4	3.00	6.00	15.0	1		SW6010C	0L28001	12/29/10 18:00
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L28001	12/29/10 18:00
7440-09-7	Potassium	201000	1000	15000	25000	5	D	SW6010C	0L28001	01/04/11 14:56
7782-49-2	Selenium		3.00	5.00	10.0	1	UN	SW6010C	0L28001	12/29/10 18:00
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L28001	12/29/10 18:00
7440-23-5	Sodium	4940000	5000	75000	125000	25	D	SW6010C	0L28001	01/04/11 15:01
7440-28-0	Thallium		6.00	6.00	8.00	1	M U	SW6010C	0L28001	12/29/10 18:00
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 18:00
7440-66-6	Zinc		10.0	20.0	40.0	2	U	SW6010C	0L28001	01/04/11 14:51

**ANALYSIS DATA SHEET**

**BCHMS-GW-029D-1210**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Ground Water  
 Sampled: 12/11/10 14:00  
 % Solids: 0.00

SDG: CTOJM17KW\_002  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012134-10  
 Received: 12/14/10 08:50

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L17017	12/20/10 14:07
7429-90-5	Aluminum	575	250	500	1000	5	X D I	SW6010C	0L28001	01/04/11 15:26
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L28001	01/03/11 17:47
7440-38-2	Arsenic	3.01	3.00	6.00	10.0	1	IN	SW6010C	0L28001	12/29/10 18:05
7440-39-3	Barium	42.0	5.00	10.0	40.0	1		SW6010C	0L28001	12/29/10 18:05
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L28001	12/29/10 18:05
7440-43-9	Cadmium	13.3	5.00	10.0	25.0	5	D I	SW6010C	0L28001	01/04/11 15:26
7440-70-2	Calcium	571000	5000	10000	25000	5	Y D	SW6010C	0L28001	01/04/11 15:26
7440-47-3	Chromium		10.0	20.0	50.0	5	U	SW6010C	0L28001	01/04/11 15:26
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 18:05
7440-50-8	Copper		9.00	9.00	10.0	1	M UN	SW6010C	0L28001	12/29/10 18:05
7439-89-6	Iron	2320	30.0	60.0	100	1		SW6010C	0L28001	01/03/11 17:47
7439-92-1	Lead		7.50	15.0	15.0	5	U	SW6010C	0L28001	01/04/11 15:26
7439-95-4	Magnesium	1200000	5000	15000	25000	5	D	SW6010C	0L28001	01/04/11 15:26
7439-96-5	Manganese	32.2	3.00	6.00	15.0	1		SW6010C	0L28001	12/29/10 18:05
7440-02-0	Nickel	3.59	3.00	6.00	10.0	1	I	SW6010C	0L28001	12/29/10 18:05
7440-09-7	Potassium	430000	2000	30000	50000	10	X D	SW6010C	0L28001	01/04/11 15:31
7782-49-2	Selenium		3.00	5.00	10.0	1	UN	SW6010C	0L28001	12/29/10 18:05
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L28001	12/29/10 18:05
7440-23-5	Sodium	9760000	5000	75000	125000	25	D	SW6010C	0L28001	01/04/11 15:35
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L28001	12/29/10 18:05
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L28001	12/29/10 18:05
7440-66-6	Zinc		25.0	50.0	100	5	U	SW6010C	0L28001	01/04/11 15:26

**APPENDIX C**  
**SUPPORT DOCUMENTATION**

## Sample Delivery Group Case Narrative

### Receipt Information

The samples were received within the preservation guidelines for the associated methods. The information associated with sample receipt and the Sample Delivery Group (SDG) are included within section 4 of this package, which also provides information on the link between the client sample ID listed on the COC and laboratory's assigned unique sample ID or WorkOrder #. The sample is tracked through the laboratory for all analysis via the assigned WorkOrder #.

All samples that were received were analyzed and none of the samples were placed on hold without analyses. There were no subcontracted analyses for this SDG.

As per the client, SIM PAH that is listed on the CoC is not required but SW7470 for Mercury that is not listed is required. One of two SW6010C containers were received with a pH of 7 and both FL-PRO containers were received with a pH of 7 for sample BCHMS-GW-029D-12-10. The sample containers for BCHMS-GW-029D-12-10 that were received with a pH of 7 were preserved upon receipt to the laboratory.

### Changes to the Revision

This is an original submittal of the final report package.

### Analytical Information

All samples were prepped (where applicable) and analyzed within the standard allowed holding times, unless noted within the exceptions listed below. The laboratory analyzed all samples within the program and method guidelines. The following information is provided specific to individual methods:

### Chromatographic Flags for Manual Integration:

The following letters are used to denote manual integrations on the laboratory's raw data in association with chromatographic integrations:

- A:** The peak was manually integrated as it was not integrated in the original chromatogram.
- B:** The peak was manually integrated due to resolution or coelution issues in the original chromatogram.
- C:** The peak was manually integrated to correct the baseline from the original chromatogram.
- D:** The peak was manually integrated to identify the correct peak as the wrong peak was identified in the original chromatogram.
- E:** The peak was manually integrated to include the entire peak as the original chromatogram only integrated part of the peak.

### SW8260B:

The batch spikes associated to batch 0L16019 exceeded recovery criteria with a positive bias for Acetone, Chloroethane and Chloromethane and exceeded relative percent difference criteria for Bromomethane. The batch spike duplicate

0L16019-BSD1 was analyzed 12 hours 15 minutes after the associated tune standard.

The continuing calibration verification 0L35116-CCV1 exceeded criteria with a negative bias for Bromomethane.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8270C:**

The surrogate 2-Fluorophenol exceeded criteria with a negative bias in samples 1012134-03, -06 and -07. The surrogate 2-Fluorobiphenyl exceeded criteria with a negative bias in samples 1012134-06, -07 and -09. The surrogates Nitrobenzene-d5 and Phenol-d6 exceeded criteria with a negative bias in sample 1012134-06. 4 out of 6 surrogates exceeded criteria with a negative bias in sample 1012134 but the sample was not able to be re-extracted due to the EPA recommended holding time being exceeded by two times.

The batch spikes associated to batch 0L16008 exceeded recovery criteria with a positive bias for Butylbenzylphthalate, Di-n-octylphthalate, Bis(2-ethylhexyl)phthalate and Pentachlorophenol and with a negative bias for Hexachlorobutadiene, Hexachloroethane and Caprolactam.

The continuing calibration verification 1A00304-CCV1 exceeded criteria with a negative bias for 3,3'-Dichlorobenzidine, Benzaldehyde, 4-Chlorophenyl phenyl ether and 1,2,4,5-Tetrachlorobenzene.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8081B:**

The surrogate Decachlorobiphenyl exceeded criteria on column 2 with a negative bias in sample 1012134-09.

The continuing calibration verification 0L36218-CCV4 exceeded criteria with a positive bias on column 1 for 4,4'-DDT, Alpha-BHC, Delta-BHC, Gamma-BHC and Heptachlor.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8082A:**

The surrogate Decachlorobiphenyl exceeded criteria on column 2 with a negative bias in sample 1012134-09.

The continuing calibration verification 0L36218-CCV3 exceeded criteria with a positive bias on column 2 for Aroclor-1260.

No additional anomalies or deviations are noted and the proper data qualifiers have

been applied.

**FL-PRO:**

The surrogate o-Terphenyl exceeded criteria with a negative bias in sample 1012134-09.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW6010B/SW7470A:**

The following samples are qualified with an M for the compound indicated to indicate that the LOD and/or DL were raised due to interference: 1012134-01 and -09 (Thallium), 1012134-03, -05, -06, -07 and -08 (Lead), 1012134-07 (Chromium), 1012134-08, -09 and -10 (Copper).

The continuing calibration blanks 1A00414 and 1A00503 have positive results for Sodium.

The continuing calibration verifications exceeded criteria in 0L36404-CCV1 with a positive bias for Beryllium, Chromium, Magnesium, Manganese, Vanadium and Zinc and with a negative bias for Aluminum, Arsenic, Copper, Selenium and Thallium, in 1A00414-CCV3 with a positive result for Potassium and Sodium and in 1A00414-CCV4 with a positive result for Potassium and in 1A00503-CCV5 with a positive result for Sodium.

The matrix spikes associated to sample 1012134-10 exceeded criteria with a positive bias for Arsenic, Copper Selenium, Silver and Antimony. The post spike associated to sample 1012134-10 exceeded criteria with a positive bias for Arsenic, Copper, Selenium and Silver and with a negative bias for Thallium.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.



TETRA TECH NUS, INC

CHAIN OF CUSTODY  
NUMBER: ED00000143-2

Project No: <b>112G02608</b>	Facility: <b>KEY WEST NAS</b>	Project Manager: <b>Sauna Stotler-Hardy</b>	Carrier: <b>Federal Express</b>	Laboratory Name: <b>Empirical Laboratories, LLC 621 Mainstream Drive Nashville, TN 37228</b>
Task No: <b>JM17</b>	Turn Around Time: <b>Standard 24hr.</b>	Field Ops Leader: <b>Gary Braganza</b>	Carrier/Waybill No.	Point of Contact: <b>Kim Kostzer (615) 345-1115</b>

1012134  
-01  
-02  
-03  
-04  
-05  
-06

Date	Sample ID #	Time	Analysis	Loc ID	Matrix	Description	Preservative	Container Count	Container Type	Container Reqs	Comments
12/10/2010	BCHMS-GW-013-1210	14:00	SW846 8260B	BCHMS-GW013	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/10/2010	BCHMS-GW-013-1210	14:00	SW846 8720D/8270DSIM	BCHMS-GW013	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-013-1210	14:00	SW846 6020A	BCHMS-GW013	GW	Metals ✓	4° C/HNO3	2	Plastic - PE	125ml	
12/10/2010	BCHMS-GW-013-1210	14:00	FL PRO	BCHMS-GW013	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-014-1210	15:00	SW846 8260B	BCHMS-GW014	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/10/2010	BCHMS-GW-014-1210	15:00	SW846 8720D/8270DSIM	BCHMS-GW014	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-014-1210	15:00	SW846 6020A	BCHMS-GW014	GW	Metals ✓	4° C/HNO3	2	Plastic - PE	125ml	
12/10/2010	BCHMS-GW-014-1210	15:00	FL PRO	BCHMS-GW014	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-015-1210	10:00	SW846 8260B	BCHMS-GW015	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/10/2010	BCHMS-GW-015-1210	10:00	SW846 8720D/8270DSIM	BCHMS-GW015	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-015-1210	10:00	SW846 6020A	BCHMS-GW015	GW	Metals ✓	4° C/HNO3	2	Plastic - PE	125ml	
12/10/2010	BCHMS-GW-015-1210	10:00	FL PRO	BCHMS-GW015	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-016-1210	11:00	SW846 8260B	BCHMS-GW016	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/10/2010	BCHMS-GW-016-1210	11:00	SW846 8720D/8270DSIM	BCHMS-GW016	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-016-1210	11:00	SW846 6020A	BCHMS-GW016	GW	Metals ✓	4° C/HNO3	2	Plastic - PE	125ml	
12/10/2010	BCHMS-GW-016-1210	11:00	FL PRO	BCHMS-GW016	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-019-1210	09:20	SW846 8260B	BCHMS-GW019	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/10/2010	BCHMS-GW-019-1210	09:20	SW846 8720D/8270DSIM	BCHMS-GW019	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L	
12/10/2010	BCHMS-GW-019-1210	09:20	SW846 6020A	BCHMS-GW019	GW	Metals ✓	4° C/HNO3	2	Plastic - PE	125ml	
12/10/2010	BCHMS-GW-019-1210	09:20	FL PRO	BCHMS-GW019	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/11/2010	BCHMS-GW-001-1210	09:30	SW846 8260B	BCHMS-GW001	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/11/2010	BCHMS-GW-001-1210	09:30	SW846 8720D/8270DSIM	BCHMS-GW001	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L	
12/11/2010	BCHMS-GW-001-1210	09:30	SW846 6020A	BCHMS-GW001	GW	Metals ✓	4° C/HNO3	2	Plastic - PE	125ml	

http://www.terragen.com/customer/tnus/fieldforms.nsf/cae27b76b37e0a008525746c005... 12/13/2010

10/2134

-06  
-07  
-08  
-09  
-10  
-11

12/11/2010	BCHMS-GW-001-1210	09:30	FL PRO	BCHMS-GW001	GW	TRPH	4°C/HCL	2	Glass - Amber	1L
12/11/2010	BCHMS-GW-002-1210	10:30	SW846 8260B	BCHMS-GW002	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials
12/11/2010	BCHMS-GW-002-1210	10:30	SW846 8720D/8270DSIM	BCHMS-GW002	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L
12/11/2010	BCHMS-GW-002-1210	10:30	SW846 6020A	BCHMS-GW002	GW	Metals ✓	4°C/HNO3	2	Plastic - PE	125ml
12/11/2010	BCHMS-GW-002-1210	10:30	FL PRO	BCHMS-GW002	GW	TRPH	4°C/HCL	2	Glass - Amber	1L
12/11/2010	BCHMS-GW-003-1210	12:30	SW846 8260B	BCHMS-GW003	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials
12/11/2010	BCHMS-GW-003-1210	12:30	SW846 8720D/8270DSIM	BCHMS-GW003	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L
12/11/2010	BCHMS-GW-003-1210	12:30	SW846 6020A	BCHMS-GW003	GW	Metals ✓	4°C/HNO3	2	Plastic - PE	125ml
12/11/2010	BCHMS-GW-003-1210	12:30	FL PRO	BCHMS-GW003	GW	TRPH	4°C/HCL	2	Glass - Amber	1L
12/11/2010	BCHMS-GW-028-1210	15:00	SW846 8260B	BCHMS-GW028	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials
12/11/2010	BCHMS-GW-028-1210	15:00	SW846 8720D/8270DSIM	BCHMS-GW028	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L
12/11/2010	BCHMS-GW-028-1210	15:00	SW846 6020A	BCHMS-GW028	GW	Metals ✓	4°C/HNO3	2	Plastic - PE	125ml
12/11/2010	BCHMS-GW-028-1210	15:00	FL PRO	BCHMS-GW028	GW	TRPH	4°C/HCL	2	Glass - Amber	1L
12/11/2010	BCHMS-GW-028-1210	15:00	SW846 8082A/8081B	BCHMS-GW028	GW	PCBs/Pesticides	4°C	3	Glass - Amber	1L
12/11/2010	BCHMS-GW-029D-1210	14:00	SW846 8260B	BCHMS-GW029D	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials
12/11/2010	BCHMS-GW-029D-1210	14:00	SW846 8720D/8270DSIM	BCHMS-GW029D	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L
12/11/2010	BCHMS-GW-029D-1210	14:00	SW846 6020A	BCHMS-GW029D	GW	Metals ✓	4°C/HNO3	2	Plastic - PE	125ml
12/11/2010	BCHMS-GW-029D-1210	14:00	FL PRO	BCHMS-GW029D	GW	TRPH	4°C/HCL	2	Glass - Amber	1L
12/13/2010	BCHMS-TB 02-1210			BCHMS-TB 02	GW	VOC (low level)	4°C/HCL	2	Glass - Clear	40 ml vials

1. Relinquished By: <b>Gary Braganza</b>	Date: 12/13/2010	Time: 16:13	Received By: <b>Federal Express</b>	Date: 12/13/2010	Time: 17:13
2. Relinquished By:	Date:	Time:	Received By: <i>[Signature]</i>	Date: 12-14-10	Time: 07:5
3. Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Comments: <p style="text-align: right;">3.00c</p>					

SDG CTOIM17KW

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-021-1210	1012153-26	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	UG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-023D-1210	1012118-03	NM	12/09/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-027-1210	1012118-05	NM	12/09/2010	12/17/2010	12/20/2010	9	3	12

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	UG/L	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-005-1210	1012153-03	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-006-1210	1012153-04	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR_ANL	SMP_ANL
HG	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
M	MG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-023-1210	1012153-28RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-021-1210	1012153-26RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-022-1210	1012153-27RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-022-1210	1012153-27RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-021-1210	1012153-26RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-020-1210	1012153-25RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-020-1210	1012153-25RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-019-1210	1012153-24RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-019-1210	1012153-24RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-023-1210	1012153-28RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-026-1210	1012153-31RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-018-1210	1012153-23RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-018-1210	1012153-23RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-019-1210	1012153-24RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-028-1210	1012153-32RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-026-1210	1012153-31RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-018-1210	1012153-23RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-FD02-1210	1012153-34RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-FD02-1210	1012153-34RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/28/2010	12/30/2010	14	2	16
M	MG/KG	BCHMS-SO-FD01-1210	1012153-33RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-FD01-1210	1012153-33RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-025-1210	1012153-30RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-028-1210	1012153-32RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-023-1210	1012153-28RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-025-1210	1012153-30RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-025-1210	1012153-30RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-024-1210	1012153-29RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-024-1210	1012153-29RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/28/2010	12/30/2010	14	2	16
M	MG/KG	BCHMS-SO-004-1210	1012153-14RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-010-1210	1012153-16RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-010-1210	1012153-16RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-010-1210	1012153-16RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-007-1210	1012153-15RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-007-1210	1012153-15RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-012-1210	1012153-17RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-007-1210	1012153-15RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-004-1210	1012153-14RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-002-1210	1012153-13RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-002-1210	1012153-13RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-002-1210	1012153-13RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-015-1210	1012153-20RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-017-1210	1012153-22RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-017-1210	1012153-22RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-004-1210	1012153-14RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-012-1210	1012153-17RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-016-1210	1012153-21RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-016-1210	1012153-21RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-015-1210	1012153-20RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-013-1210	1012153-18RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-013-1210	1012153-18RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-013-1210	1012153-18RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-015-1210	1012153-20RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-014-1210	1012153-19RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-014-1210	1012153-19RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-014-1210	1012153-19RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	UG/L	BCHMS-GW-015-1210	1012134-03RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-012-1210	1012153-11RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-017-1210	1012118-06RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-016-1210	1012134-04RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-019-1210	1012134-05RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-018-1210	1012118-07RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-014-1210	1012134-02RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-013-1210	1012134-01RE4	NM	12/10/2010	12/28/2010	01/04/2011	18	7	25
M	UG/L	BCHMS-GW-013-1210	1012134-01RE3	NM	12/10/2010	12/28/2010	01/04/2011	18	7	25
M	UG/L	BCHMS-GW-013-1210	1012134-01RE2	NM	12/10/2010	12/28/2010	01/04/2011	18	7	25
M	UG/L	BCHMS-GW-013-1210	1012134-01RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-012-1210	1012153-11RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-021-1210	1012118-01RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-011-1210	1012153-10RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-012-1210	1012153-11RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-027-1210	1012118-05RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-20D-1210	1012118-08RE2	NM	12/09/2010	12/28/2010	01/04/2011	19	7	26
M	UG/L	BCHMS-GW-20D-1210	1012118-08RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE4	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-006-1210	1012153-04RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-011-1210	1012153-10RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-028-1210	1012134-09RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-028-1210	1012134-09RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-028-1210	1012134-09RE4	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-027-1210	1012118-05	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-026-1210	1012118-10RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-025-1210	1012118-09RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-024-1210	1012118-04RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-023D-1210	1012118-03RE2	NM	12/08/2010	12/28/2010	01/04/2011	20	7	27

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-023D-1210	1012118-03RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-022-1210	1012118-02RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-028-1210	1012134-09RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-011-1210	1012153-10RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-007-1210	1012153-05RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-GW-003-1210	1012134-08RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-003-1210	1012134-08RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-002-1210	1012134-07RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-002-1210	1012134-07RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-002-1210	1012134-07RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-004-1210	1012153-02RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-001-1210	1012134-06RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-004-1210	1012153-02RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-FD002-1210	1012153-06RE4	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-FD002-1210	1012153-06RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-FD002-1210	1012153-06RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-FD002-1210	1012153-06RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-FD001-1210	1012153-01RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-FD001-1210	1012153-01RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-FD001-1210	1012153-01RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-FD001-1210	1012153-01RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-001-1210	1012134-06RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-008-1210	1012153-07RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-010-1210	1012153-09RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-010-1210	1012153-09RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-010-1210	1012153-09RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-009D-1210	1012153-08RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-003-1210	1012134-08RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-008-1210	1012153-07RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-004-1210	1012153-02RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-007-1210	1012153-05RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-005-1210	1012153-03RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-004-1210	1012153-02RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-008-1210	1012153-07RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-005-1210	1012153-03RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-GW-007-1210	1012153-05RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-005-1210	1012153-03RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-005-1210	1012153-03RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-006-1210	1012153-04	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-006-1210	1012153-04RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-GW-006-1210	1012153-04RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-007-1210	1012153-05RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23

# INITIAL AND CONTINUING CALIBRATION CHECK

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-FIMS

Calibration: 0355003

Sequence: 0L35509

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
0L35509-ICV1	Mercury	4.000	4.282	107	ug/L	+/- 15.00%
0L35509-CCV1	Mercury	4.000	4.055	101	ug/L	+/- 15.00%
0L35509-CCV5	Mercury	4.000	4.277	107	ug/L	+/- 15.00%
0L35509-CCV6	Mercury	4.000	4.381	110	ug/L	+/- 15.00%
0L35509-CCV7	Mercury	2.000	2.101	105	ug/L	+/- 15.00%
0L35509-CCV8	Mercury	2.000	2.136	107	ug/L	+/- 15.00%

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 0L36404

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
0L36404-ICV1	Aluminum	10000	9888	98.9	ug/L	+/- 10.00%
	Arsenic	1000	996.3	99.6	ug/L	+/- 10.00%
	Barium	1000	994.9	99.5	ug/L	+/- 10.00%
	Beryllium	1000	1066	107	ug/L	+/- 10.00%
	Cadmium	1000	1051	105	ug/L	+/- 10.00%
	Chromium	1000	960.9	96.1	ug/L	+/- 10.00%
	Cobalt	1000	1014	101	ug/L	+/- 10.00%
	Copper	1000	1022	102	ug/L	+/- 10.00%
	Lead	1000	1011	101	ug/L	+/- 10.00%
	Magnesium	50000	50480	101	ug/L	+/- 10.00%
	Manganese	1000	1060	106	ug/L	+/- 10.00%
	Nickel	1000	1005	100	ug/L	+/- 10.00%
	Selenium	1000	998.7	99.9	ug/L	+/- 10.00%
	Silver	500.0	507.5	102	ug/L	+/- 10.00%
	Thallium	1000	967.2	96.7	ug/L	+/- 10.00%
	Vanadium	1000	1032	103	ug/L	+/- 10.00%
	Zinc	1000	1020	102	ug/L	+/- 10.00%
0L36404-CCV1	Aluminum	10000	8636	86.4	ug/L	+/- 10.00%
	Arsenic	1000	808.9	80.9	ug/L	+/- 10.00%
	Barium	1000	930.5	93.0	ug/L	+/- 10.00%
	Beryllium	1000	1120	112	ug/L	+/- 10.00%
	Cadmium	1000	918.8	91.9	ug/L	+/- 10.00%
	Chromium	1000	1160	116	ug/L	+/- 10.00%
	Cobalt	1000	943.9	94.4	ug/L	+/- 10.00%
	Copper	1000	845.3	84.5	ug/L	+/- 10.00%
	Lead	1000	949.5	95.0	ug/L	+/- 10.00%
	Magnesium	50000	55540	111	ug/L	+/- 10.00%
	Manganese	1000	1231	123	ug/L	+/- 10.00%
	Nickel	1000	943.2	94.3	ug/L	+/- 10.00%
	Selenium	1000	768.7	76.9	ug/L	+/- 10.00%
	Silver	500.0	503.6	101	ug/L	+/- 10.00%
	Thallium	1000	860.3	86.0	ug/L	+/- 10.00%
	Vanadium	1000	1126	113	ug/L	+/- 10.00%
	Zinc	1000	1158	116	ug/L	+/- 10.00%
0L36404-CCV2	Aluminum	10000	10160	102	ug/L	+/- 10.00%
	Arsenic	1000	1022	102	ug/L	+/- 10.00%
	Barium	1000	972.3	97.2	ug/L	+/- 10.00%
	Beryllium	1000	1028	103	ug/L	+/- 10.00%

*710  
5 samples  
Affected*

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 0L36404

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
0L36404-CCV2	Cadmium	1000	1047	105	ug/L	+/- 10.00%
	Chromium	1000	921.3	92.1	ug/L	+/- 10.00%
	Cobalt	1000	1021	102	ug/L	+/- 10.00%
	Copper	1000	1040	104	ug/L	+/- 10.00%
	Lead	1000	1013	101	ug/L	+/- 10.00%
	Magnesium	50000	47190	94.4	ug/L	+/- 10.00%
	Manganese	1000	981.9	98.2	ug/L	+/- 10.00%
	Nickel	1000	1003	100	ug/L	+/- 10.00%
	Selenium	1000	1051	105	ug/L	+/- 10.00%
	Silver	500.0	478.0	95.6	ug/L	+/- 10.00%
	Thallium	1000	1003	100	ug/L	+/- 10.00%
	Vanadium	1000	973.0	97.3	ug/L	+/- 10.00%
	Zinc	1000	981.2	98.1	ug/L	+/- 10.00%
0L36404-CCV3	Aluminum	10000	10730	107	ug/L	+/- 10.00%
	Arsenic	1000	1053	105	ug/L	+/- 10.00%
	Barium	1000	987.8	98.8	ug/L	+/- 10.00%
	Beryllium	1000	998.2	99.8	ug/L	+/- 10.00%
	Cadmium	1000	1075	108	ug/L	+/- 10.00%
	Chromium	1000	927.8	92.8	ug/L	+/- 10.00%
	Cobalt	1000	1040	104	ug/L	+/- 10.00%
	Copper	1000	1087	109	ug/L	+/- 10.00%
	Lead	1000	1036	104	ug/L	+/- 10.00%
	Magnesium	50000	46570	93.1	ug/L	+/- 10.00%
	Manganese	1000	982.2	98.2	ug/L	+/- 10.00%
	Nickel	1000	1018	102	ug/L	+/- 10.00%
	Selenium	1000	1083	108	ug/L	+/- 10.00%
	Silver	500.0	490.7	98.1	ug/L	+/- 10.00%
	Thallium	1000	1030	103	ug/L	+/- 10.00%
Vanadium	1000	975.3	97.5	ug/L	+/- 10.00%	
Zinc	1000	982.6	98.3	ug/L	+/- 10.00%	

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 1A00414

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00414-ICV1	Aluminum	10000	9742	97.4	ug/L	+/- 10.00%
	Antimony	1000	1018	102	ug/L	+/- 10.00%
	Arsenic	1000	1004	100	ug/L	+/- 10.00%
	Beryllium	1000	988.2	98.8	ug/L	+/- 10.00%
	Cadmium	1000	1084	108	ug/L	+/- 10.00%
	Calcium	50000	49900	99.8	ug/L	+/- 10.00%
	Chromium	1000	941.3	94.1	ug/L	+/- 10.00%
	Copper	1000	984.6	98.5	ug/L	+/- 10.00%
	Iron	10000	10340	103	ug/L	+/- 10.00%
	Magnesium	50000	50770	102	ug/L	+/- 10.00%
	Manganese	1000	1019	102	ug/L	+/- 10.00%
	Potassium	10000	10070	101	ug/L	+/- 10.00%
	Selenium	1000	992.9	99.3	ug/L	+/- 10.00%
	Sodium	50000	50730	101	ug/L	+/- 10.00%
	Thallium	1000	954.1	95.4	ug/L	+/- 10.00%
	Vanadium	1000	966.3	96.6	ug/L	+/- 10.00%
Zinc	1000	1029	103	ug/L	+/- 10.00%	
1A00414-CCV1	Aluminum	10000	9631	96.3	ug/L	+/- 10.00%
	Antimony	1000	1008	101	ug/L	+/- 10.00%
	Arsenic	1000	986.3	98.6	ug/L	+/- 10.00%
	Beryllium	1000	995.0	99.5	ug/L	+/- 10.00%
	Cadmium	1000	1061	106	ug/L	+/- 10.00%
	Calcium	50000	49750	99.5	ug/L	+/- 10.00%
	Chromium	1000	963.2	96.3	ug/L	+/- 10.00%
	Copper	1000	990.5	99.0	ug/L	+/- 10.00%
	Iron	10000	10220	102	ug/L	+/- 10.00%
	Magnesium	50000	50520	101	ug/L	+/- 10.00%
	Manganese	1000	1011	101	ug/L	+/- 10.00%
	Potassium	10000	10450	104	ug/L	+/- 10.00%
	Selenium	1000	991.5	99.2	ug/L	+/- 10.00%
	Sodium	50000	50230	100	ug/L	+/- 10.00%
	Thallium	1000	970.2	97.0	ug/L	+/- 10.00%
	Vanadium	1000	959.3	95.9	ug/L	+/- 10.00%
Zinc	1000	1024	102	ug/L	+/- 10.00%	
1A00414-CCV2	Aluminum	10000	9619	96.2	ug/L	+/- 10.00%
	Antimony	1000	1017	102	ug/L	+/- 10.00%
	Arsenic	1000	995.4	99.5	ug/L	+/- 10.00%
	Beryllium	1000	995.1	99.5	ug/L	+/- 10.00%

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 1A00414

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00414-CCV2	Cadmium	1000	1052	105	ug/L	+/- 10.00%
	Calcium	50000	48660	97.3	ug/L	+/- 10.00%
	Chromium	1000	961.4	96.1	ug/L	+/- 10.00%
	Copper	1000	998.1	99.8	ug/L	+/- 10.00%
	Iron	10000	10270	103	ug/L	+/- 10.00%
	Magnesium	50000	50290	101	ug/L	+/- 10.00%
	Manganese	1000	1006	101	ug/L	+/- 10.00%
	Potassium	10000	10450	105	ug/L	+/- 10.00%
	Selenium	1000	1003	100	ug/L	+/- 10.00%
	Sodium	50000	50830	102	ug/L	+/- 10.00%
	Thallium	1000	972.1	97.2	ug/L	+/- 10.00%
	Vanadium	1000	959.6	96.0	ug/L	+/- 10.00%
	Zinc	1000	1015	102	ug/L	+/- 10.00%
1A00414-CCV3	Aluminum	10000	10270	103	ug/L	+/- 10.00%
	Antimony	1000	1064	106	ug/L	+/- 10.00%
	Arsenic	1000	1029	103	ug/L	+/- 10.00%
	Beryllium	1000	1021	102	ug/L	+/- 10.00%
	Cadmium	1000	1064	106	ug/L	+/- 10.00%
	Calcium	50000	45340	90.7	ug/L	+/- 10.00%
	Chromium	1000	929.9	93.0	ug/L	+/- 10.00%
	Copper	1000	1044	104	ug/L	+/- 10.00%
	Iron	10000	9768	97.7	ug/L	+/- 10.00%
	Magnesium	50000	52660	105	ug/L	+/- 10.00%
	Manganese	1000	977.2	97.7	ug/L	+/- 10.00%
	<b>Potassium</b>	<b>10000</b>	<b>11910</b>	<b>119</b>	<b>ug/L</b>	+/- 10.00%
	Selenium	1000	1054	105	ug/L	+/- 10.00%
<b>Sodium</b>	<b>50000</b>	<b>58270</b>	<b>117</b>	<b>ug/L</b>	+/- 10.00%	
Thallium	1000	1014	101	ug/L	+/- 10.00%	
Vanadium	1000	953.9	95.4	ug/L	+/- 10.00%	
Zinc	1000	968.5	96.9	ug/L	+/- 10.00%	
1A00414-CCV4	Aluminum	10000	10450	104	ug/L	+/- 10.00%
	Antimony	1000	1085	109	ug/L	+/- 10.00%
	Arsenic	1000	1028	103	ug/L	+/- 10.00%
	Beryllium	1000	1045	105	ug/L	+/- 10.00%
	Cadmium	1000	1070	107	ug/L	+/- 10.00%
	Calcium	50000	45020	90.0	ug/L	+/- 10.00%
	Chromium	1000	942.4	94.2	ug/L	+/- 10.00%
	Copper	1000	1073	107	ug/L	+/- 10.00%

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 1A00414

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00414-CCV4	Iron	10000	9917	99.2	ug/L	+/- 10.00%
	Magnesium	50000	53630	107	ug/L	+/- 10.00%
	Manganese	1000	978.6	97.9	ug/L	+/- 10.00%
	<b>Potassium</b>	<b>10000</b>	<b>11880</b>	<b>119</b>	ug/L	+/- 10.00%
	Selenium	1000	1057	106	ug/L	+/- 10.00%
	Sodium	50000	46910	93.8	ug/L	+/- 10.00%
	Thallium	1000	1017	102	ug/L	+/- 10.00%
	Vanadium	1000	957.1	95.7	ug/L	+/- 10.00%
	Zinc	1000	960.4	96.0	ug/L	+/- 10.00%

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1005001

Sequence: 1A00503

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00503-ICV1	Aluminum	10000	9989	99.9	ug/L	+/- 10.00%
	Cadmium	1000	1065	106	ug/L	+/- 10.00%
	Calcium	50000	50460	101	ug/L	+/- 10.00%
	Chromium	1000	933.9	93.4	ug/L	+/- 10.00%
	Lead	1000	985.6	98.6	ug/L	+/- 10.00%
	Magnesium	50000	50040	100	ug/L	+/- 10.00%
	Potassium	10000	9450	94.5	ug/L	+/- 10.00%
	Sodium	50000	49220	98.4	ug/L	+/- 10.00%
	Zinc	1000	1007	101	ug/L	+/- 10.00%
	1A00503-CCV1	Aluminum	10000	10010	100	ug/L
Cadmium		1000	1064	106	ug/L	+/- 10.00%
Calcium		50000	49060	98.1	ug/L	+/- 10.00%
Chromium		1000	989.7	99.0	ug/L	+/- 10.00%
Lead		1000	993.2	99.3	ug/L	+/- 10.00%
Magnesium		50000	50130	100	ug/L	+/- 10.00%
Potassium		10000	10060	101	ug/L	+/- 10.00%
Sodium		50000	51000	102	ug/L	+/- 10.00%
Zinc		1000	1005	100	ug/L	+/- 10.00%
1A00503-CCV3		Aluminum	10000	9994	99.9	ug/L
	Cadmium	1000	1071	107	ug/L	+/- 10.00%
	Calcium	50000	49820	99.6	ug/L	+/- 10.00%
	Chromium	1000	1009	101	ug/L	+/- 10.00%
	Lead	1000	998.1	99.8	ug/L	+/- 10.00%
	Magnesium	50000	50100	100	ug/L	+/- 10.00%
	Potassium	10000	9949	99.5	ug/L	+/- 10.00%
	Sodium	50000	49780	99.6	ug/L	+/- 10.00%
	Zinc	1000	1011	101	ug/L	+/- 10.00%
	1A00503-CCV4	Aluminum	10000	10460	105	ug/L
Cadmium		1000	1086	109	ug/L	+/- 10.00%
Calcium		50000	47000	94.0	ug/L	+/- 10.00%
Chromium		1000	943.8	94.4	ug/L	+/- 10.00%
Lead		1000	1017	102	ug/L	+/- 10.00%
Magnesium		50000	50110	100	ug/L	+/- 10.00%
Potassium		10000	10840	108	ug/L	+/- 10.00%
Sodium		50000	51800	104	ug/L	+/- 10.00%
Zinc		1000	997.9	99.8	ug/L	+/- 10.00%
1A00503-CCV5		Aluminum	10000	11070	111	ug/L
	Cadmium	1000	1102	110	ug/L	+/- 10.00%

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1005001

Sequence: 1A00503

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00503-CCV5	Calcium	50000	42120	84.2	ug/L	+/- 10.00%
	Chromium	1000	918.0	91.8	ug/L	+/- 10.00%
	Lead	1000	1052	105	ug/L	+/- 10.00%
	Magnesium	50000	51990	104	ug/L	+/- 10.00%
	Potassium	10000	12070	121	ug/L	+/- 10.00%
	Sodium	50000	51180	102	ug/L	+/- 10.00%
	Zinc	1000	972.1	97.2	ug/L	+/- 10.00%

# CRDL STANDARD

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-FIMS

Calibration: 0355003

Sequence: 0L35509

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limits
0L35509-CRL1	Mercury	0.2000	0.2314	116	ug/L	70 - 130
0L35509-CRL2	Mercury	0.2000	0.2337	117	ug/L	70 - 130

# CRDL STANDARD

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 0L36404

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limits
0L36404-CRL1	Barium	10.00	10.45	105	ug/L	80 - 120
	Beryllium	2.000	2.054	103	ug/L	80 - 120
	Cadmium	2.000	1.849	92.5	ug/L	80 - 120
	Chromium	4.000	3.653	91.3	ug/L	80 - 120
	Cobalt	10.00	9.754	97.5	ug/L	80 - 120
	Copper	8.000	7.582	94.8	ug/L	80 - 120
	Magnesium	3000	2944	98.1	ug/L	80 - 120
	Manganese	6.000	6.502	108	ug/L	80 - 120
	Nickel	6.000	5.594	93.2	ug/L	80 - 120
	Silver	2.000	1.920	96.0	ug/L	80 - 120
	Thallium	4.000	3.476	86.9	ug/L	80 - 120
	Vanadium	10.00	10.08	101	ug/L	80 - 120
	Zinc	10.00	10.86	109	ug/L	80 - 120
0L36404-CRL2	Arsenic	5.000	4.512	90.2	ug/L	80 - 120
	Selenium	5.000	5.282	106	ug/L	80 - 120
0L36404-CRL4	Aluminum	100.0	94.12	94.1	ug/L	80 - 120
	Lead	3.000	3.347	112	ug/L	80 - 120

**CRDL STANDARD**

**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 1A00414

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limits
1A00414-CRL1	Aluminum	100.0	97.88	97.9	ug/L	80 - 120
	Antimony	8.000	7.071	88.4	ug/L	80 - 120
	Beryllium	2.000	2.076	104	ug/L	80 - 120
	Cadmium	2.000	2.077	104	ug/L	80 - 120
	Calcium	2000	1893	94.6	ug/L	80 - 120
	Chromium	4.000	4.298	107	ug/L	80 - 120
	Copper	8.000	7.854	98.2	ug/L	80 - 120
	Iron	60.00	62.18	104	ug/L	80 - 120
	Magnesium	3000	2995	99.8	ug/L	80 - 120
	Manganese	6.000	6.533	109	ug/L	80 - 120
	Potassium	3000	3108	104	ug/L	80 - 120
	Sodium	3000	3150	105	ug/L	80 - 120
	Thallium	4.000	3.457	86.4	ug/L	80 - 120
	Vanadium	10.00	9.908	99.1	ug/L	80 - 120
	Zinc	10.00	9.630	96.3	ug/L	80 - 120
1A00414-CRL2	Arsenic	5.000	4.124	82.5	ug/L	80 - 120
	Selenium	5.000	4.101	82.0	ug/L	80 - 120

# CRDL STANDARD

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1005001

Sequence: 1A00503

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limits
1A00503-CRL1	Aluminum	100.0	105.7	106	ug/L	80 - 120
	Cadmium	2.000	2.156	108	ug/L	80 - 120
	Calcium	2000	1952	97.6	ug/L	80 - 120
	Chromium	4.000	3.895	97.4	ug/L	80 - 120
	Lead	3.000	2.836	94.5	ug/L	80 - 120
	Magnesium	3000	2942	98.1	ug/L	80 - 120
	Potassium	3000	2952	98.4	ug/L	80 - 120
	Sodium	3000	2986	99.5	ug/L	80 - 120
	Zinc	10.00	9.532	95.3	ug/L	80 - 120

**BLANKS**  
**SW7470A**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-FIMS

Project: NAS Key West CTO JM17

Sequence: 0L35509

Calibration: 0355003

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L35509-ICB1	Mercury	0.04751	0.0800	0.200	ug/L	U	SW7470A
0L35509-CCB1	Mercury	0.0513	0.0800	0.200	ug/L	U	SW7470A
0L35509-CCB5	Mercury	0.0558	0.0800	0.200	ug/L	U	SW7470A
0L17017-BLK1	Mercury	0.0537	0.0800	0.200	ug/L	U	SW7470A
0L35509-CCB6	Mercury	0.0631	0.0800	0.200	ug/L	U	SW7470A
0L35509-CCB7	Mercury	0.0603	0.0800	0.200	ug/L	U	SW7470A
0L35509-CCB8	Mercury	0.0632	0.0800	0.200	ug/L	U	SW7470A

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 0L36404

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L36404-ICB1	Aluminum	-0.3340	50.0	200	ug/L	U	SW6010C
	Arsenic	0.9005	3.00	10.0	ug/L	U	SW6010C
	Barium	-0.05657	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.09495	1.00	5.00	ug/L	U	SW6010C
	Cadmium	-0.2199	1.00	5.00	ug/L	U	SW6010C
	Chromium	-0.1117	2.00	10.0	ug/L	U	SW6010C
	Cobalt	-0.3159	5.00	12.5	ug/L	U	SW6010C
	Copper	-0.1964	4.00	10.0	ug/L	U	SW6010C
	Lead	-0.9668	1.50	3.00	ug/L	U	SW6010C
	Magnesium	1.350	1000	5000	ug/L	U	SW6010C
	Manganese	0.08480	3.00	15.0	ug/L	U	SW6010C
	Nickel	-0.4580	3.00	10.0	ug/L	U	SW6010C
	Selenium	1.117	3.00	10.0	ug/L	U	SW6010C
	Silver	0.004240	1.00	10.0	ug/L	U	SW6010C
	Thallium	0.5833	3.00	8.00	ug/L	U	SW6010C
	Vanadium	-0.01490	5.00	12.5	ug/L	U	SW6010C
Zinc	0.2647	5.00	20.0	ug/L	U	SW6010C	
0L36404-CCB1	Aluminum	-0.801	50.0	200	ug/L	U	SW6010C
	Arsenic	-0.158	3.00	10.0	ug/L	U	SW6010C
	Barium	-0.0925	5.00	40.0	ug/L	U	SW6010C
	Beryllium	-0.0133	1.00	5.00	ug/L	U	SW6010C
	Cadmium	-0.326	1.00	5.00	ug/L	U	SW6010C
	Chromium	-0.203	2.00	10.0	ug/L	U	SW6010C
	Cobalt	-0.253	5.00	12.5	ug/L	U	SW6010C
	Copper	-0.335	4.00	10.0	ug/L	U	SW6010C
	Lead	-1.42	1.50	3.00	ug/L	U	SW6010C
	Magnesium	-0.990	1000	5000	ug/L	U	SW6010C
	Manganese	0.000730	3.00	15.0	ug/L	U	SW6010C
	Nickel	-0.138	3.00	10.0	ug/L	U	SW6010C
	Selenium	0.368	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.0981	1.00	10.0	ug/L	U	SW6010C
	Thallium	1.26	3.00	8.00	ug/L	U	SW6010C
	Vanadium	0.0681	5.00	12.5	ug/L	U	SW6010C

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 0L36404

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L36404-CCB1	Zinc	0.254	5.00	20.0	ug/L	U	SW6010C
0L28001-BLK1	Barium	-0.0950	5.00	40.0	ug/L	U	SW6010C
	Cobalt	-0.263	5.00	12.5	ug/L	U	SW6010C
	Lead	0.312	1.50	3.00	ug/L	U	SW6010C
	Nickel	-0.828	3.00	10.0	ug/L	U	SW6010C
	Silver	0.0796	1.00	10.0	ug/L	U	SW6010C
0L36404-CCB2	Aluminum	-0.600	50.0	200	ug/L	U	SW6010C
	Arsenic	0.179	3.00	10.0	ug/L	U	SW6010C
	Barium	0.179	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.0564	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.329	1.00	5.00	ug/L	U	SW6010C
	Chromium	-0.134	2.00	10.0	ug/L	U	SW6010C
	Cobalt	-0.126	5.00	12.5	ug/L	U	SW6010C
	Copper	-0.184	4.00	10.0	ug/L	U	SW6010C
	Lead	0.291	1.50	3.00	ug/L	U	SW6010C
	Magnesium	5.55	1000	5000	ug/L	U	SW6010C
	Manganese	0.123	3.00	15.0	ug/L	U	SW6010C
	Nickel	0.648	3.00	10.0	ug/L	U	SW6010C
	Selenium	2.10	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.0848	1.00	10.0	ug/L	U	SW6010C
	Thallium	0.496	3.00	8.00	ug/L	U	SW6010C
	Vanadium	-0.0953	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.341	5.00	20.0	ug/L	U	SW6010C
0L36404-CCB3	Aluminum	3.21	50.0	200	ug/L	U	SW6010C
	Arsenic	0.448	3.00	10.0	ug/L	U	SW6010C
	Barium	0.101	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.138	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.180	1.00	5.00	ug/L	U	SW6010C
	Chromium	-0.0672	2.00	10.0	ug/L	U	SW6010C
	Cobalt	-0.0637	5.00	12.5	ug/L	U	SW6010C
	Copper	-0.249	4.00	10.0	ug/L	U	SW6010C
	Lead	-0.784	1.50	3.00	ug/L	U	SW6010C
	Magnesium	83.0	1000	5000	ug/L	U	SW6010C

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 0L36404

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L36404-CCB3	Manganese	0.0796	3.00	15.0	ug/L	U	SW6010C
	Nickel	0.514	3.00	10.0	ug/L	U	SW6010C
	Selenium	1.08	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.00779	1.00	10.0	ug/L	U	SW6010C
	Thallium	0.731	3.00	8.00	ug/L	U	SW6010C
	Vanadium	0.0347	5.00	12.5	ug/L	U	SW6010C
	Zinc	-0.0123	5.00	20.0	ug/L	U	SW6010C

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00414

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00414-ICB1	Aluminum	0.4080	50.0	200	ug/L	U	SW6010C
	Antimony	0.1885	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-0.6468	3.00	10.0	ug/L	U	SW6010C
	Beryllium	0.1775	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.02031	1.00	5.00	ug/L	U	SW6010C
	Calcium	8.860	1000	5000	ug/L	U	SW6010C
	Chromium	0.2311	2.00	10.0	ug/L	U	SW6010C
	Copper	-0.09508	4.00	10.0	ug/L	U	SW6010C
	Iron	1.816	30.0	100	ug/L	U	SW6010C
	Magnesium	7.800	1000	5000	ug/L	U	SW6010C
	Manganese	0.1006	3.00	15.0	ug/L	U	SW6010C
	Potassium	-9.870	200	5000	ug/L	U	SW6010C
	Selenium	-0.4994	3.00	10.0	ug/L	U	SW6010C
	Sodium	-9.650	200	5000	ug/L	U	SW6010C
Thallium	-0.2009	3.00	8.00	ug/L	U	SW6010C	
Vanadium	0.2025	5.00	12.5	ug/L	U	SW6010C	
Zinc	0.08228	5.00	20.0	ug/L	U	SW6010C	
1A00414-CCB1	Aluminum	2.36	50.0	200	ug/L	U	SW6010C
	Antimony	-0.319	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-1.54	3.00	10.0	ug/L	U	SW6010C
	Beryllium	0.178	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.0544	1.00	5.00	ug/L	U	SW6010C
	Calcium	19.2	1000	5000	ug/L	U	SW6010C
	Chromium	0.192	2.00	10.0	ug/L	U	SW6010C
	Copper	-0.192	4.00	10.0	ug/L	U	SW6010C
	Iron	1.37	30.0	100	ug/L	U	SW6010C
	Magnesium	6.74	1000	5000	ug/L	U	SW6010C
	Manganese	0.0766	3.00	15.0	ug/L	U	SW6010C
	Potassium	-6.15	200	5000	ug/L	U	SW6010C
	Selenium	-1.01	3.00	10.0	ug/L	U	SW6010C
	Sodium	-14.4	200	5000	ug/L	U	SW6010C
Thallium	0.0951	3.00	8.00	ug/L	U	SW6010C	
Vanadium	-0.00197	5.00	12.5	ug/L	U	SW6010C	

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00414

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00414-CCB1	Zinc	0.159	5.00	20.0	ug/L	U	SW6010C
1A00414-CCB2	Aluminum	1.08	50.0	200	ug/L	U	SW6010C
	Antimony	-0.414	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-0.640	3.00	10.0	ug/L	U	SW6010C
	Beryllium	0.123	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.153	1.00	5.00	ug/L	U	SW6010C
	Calcium	4.88	1000	5000	ug/L	U	SW6010C
	Chromium	0.274	2.00	10.0	ug/L	U	SW6010C
	Copper	0.107	4.00	10.0	ug/L	U	SW6010C
	Iron	0.270	30.0	100	ug/L	U	SW6010C
	Magnesium	2.49	1000	5000	ug/L	U	SW6010C
	Manganese	0.119	3.00	15.0	ug/L	U	SW6010C
	Potassium	-14.1	200	5000	ug/L	U	SW6010C
	Selenium	-1.52	3.00	10.0	ug/L	U	SW6010C
	Sodium	-18.3	200	5000	ug/L	U	SW6010C
	Thallium	0.360	3.00	8.00	ug/L	U	SW6010C
	Vanadium	0.201	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.0780	5.00	20.0	ug/L	U	SW6010C
0L28001-BLK2	Aluminum	-1.68	50.0	200	ug/L	U	SW6010C
	Antimony	-0.158	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-0.874	3.00	10.0	ug/L	U	SW6010C
	Beryllium	0.0446	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.243	1.00	5.00	ug/L	U	SW6010C
	Calcium	2.33	1000	5000	ug/L	U	SW6010C
	Chromium	0.104	2.00	10.0	ug/L	U	SW6010C
	Copper	0.326	4.00	10.0	ug/L	U	SW6010C
	Iron	-2.37	30.0	100	ug/L	U	SW6010C
	Magnesium	0.900	1000	5000	ug/L	U	SW6010C
	Manganese	0.0357	3.00	15.0	ug/L	U	SW6010C
	Potassium	-10.7	200	5000	ug/L	U	SW6010C
	Selenium	0.657	3.00	10.0	ug/L	U	SW6010C
	Sodium	-25.6	200	5000	ug/L	U	SW6010C
	Thallium	-0.542	3.00	8.00	ug/L	U	SW6010C

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00414

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L28001-BLK2	Vanadium	0.0302	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.0573	5.00	20.0	ug/L	U	SW6010C
1A00414-CCB3	Aluminum	1.06	50.0	200	ug/L	U	SW6010C
	Antimony	0.137	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-1.09	3.00	10.0	ug/L	U	SW6010C
	Beryllium	0.0480	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.688	1.00	5.00	ug/L	U	SW6010C
	Calcium	0.120	1000	5000	ug/L	U	SW6010C
	Chromium	0.185	2.00	10.0	ug/L	U	SW6010C
	Copper	0.718	4.00	10.0	ug/L	U	SW6010C
	Iron	-1.63	30.0	100	ug/L	U	SW6010C
	Magnesium	-2.54	1000	5000	ug/L	U	SW6010C
	Manganese	0.0895	3.00	15.0	ug/L	U	SW6010C
	Potassium	-10.8	200	5000	ug/L	U	SW6010C
	Selenium	0.252	3.00	10.0	ug/L	U	SW6010C
	Sodium	22.4	200	5000	ug/L	U	SW6010C
Thallium	0.861	3.00	8.00	ug/L	U	SW6010C	
	Vanadium	0.208	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.185	5.00	20.0	ug/L	U	SW6010C
1A00414-CCB4	Aluminum	2.69	50.0	200	ug/L	U	SW6010C
	Antimony	0.206	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-0.0342	3.00	10.0	ug/L	U	SW6010C
	Beryllium	0.196	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.675	1.00	5.00	ug/L	U	SW6010C
	Calcium	17.1	1000	5000	ug/L	U	SW6010C
	Chromium	0.403	2.00	10.0	ug/L	U	SW6010C
	Copper	0.805	4.00	10.0	ug/L	U	SW6010C
	Iron	0.622	30.0	100	ug/L	U	SW6010C
	Magnesium	36.3	1000	5000	ug/L	U	SW6010C
	Manganese	0.238	3.00	15.0	ug/L	U	SW6010C
	Potassium	124	200	5000	ug/L	U	SW6010C
	Selenium	-0.151	3.00	10.0	ug/L	U	SW6010C
Sodium	1540	200	5000	ug/L	I	SW6010C	

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00414

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00414-CCB4	Thallium	-0.298	3.00	8.00	ug/L	U	SW6010C
	Vanadium	0.148	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.171	5.00	20.0	ug/L	U	SW6010C

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00503

Calibration: 1005001

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00503-ICB1	Aluminum	0.4040	50.0	200	ug/L	U	SW6010C
	Cadmium	-0.03761	1.00	5.00	ug/L	U	SW6010C
	Calcium	6.140	1000	5000	ug/L	U	SW6010C
	Chromium	-0.04553	2.00	10.0	ug/L	U	SW6010C
	Lead	-0.1000	1.50	3.00	ug/L	U	SW6010C
	Magnesium	9.440	1000	5000	ug/L	U	SW6010C
	Potassium	-13.12	200	5000	ug/L	U	SW6010C
	Sodium	-24.68	200	5000	ug/L	U	SW6010C
	Zinc	0.1072	5.00	20.0	ug/L	U	SW6010C
	1A00503-CCB1	Aluminum	1.31	50.0	200	ug/L	U
Cadmium		0.0967	1.00	5.00	ug/L	U	SW6010C
Calcium		5.56	1000	5000	ug/L	U	SW6010C
Chromium		-0.0631	2.00	10.0	ug/L	U	SW6010C
Lead		0.0517	1.50	3.00	ug/L	U	SW6010C
Magnesium		7.05	1000	5000	ug/L	U	SW6010C
Potassium		-12.4	200	5000	ug/L	U	SW6010C
Sodium		-40.6	200	5000	ug/L	U	SW6010C
Zinc		0.121	5.00	20.0	ug/L	U	SW6010C
1A00503-CCB3		Aluminum	-0.112	50.0	200	ug/L	U
	Cadmium	0.286	1.00	5.00	ug/L	U	SW6010C
	Calcium	5.82	1000	5000	ug/L	U	SW6010C
	Chromium	0.0565	2.00	10.0	ug/L	U	SW6010C
	Lead	-0.125	1.50	3.00	ug/L	U	SW6010C
	Magnesium	1.41	1000	5000	ug/L	U	SW6010C
	Potassium	-7.25	200	5000	ug/L	U	SW6010C
	Sodium	12.6	200	5000	ug/L	U	SW6010C
	Zinc	0.169	5.00	20.0	ug/L	U	SW6010C
	1A00503-CCB4	Aluminum	1.26	50.0	200	ug/L	U
Cadmium		0.326	1.00	5.00	ug/L	U	SW6010C
Calcium		6.71	1000	5000	ug/L	U	SW6010C
Chromium		0.0568	2.00	10.0	ug/L	U	SW6010C
Lead		-0.533	1.50	3.00	ug/L	U	SW6010C
Magnesium		8.60	1000	5000	ug/L	U	SW6010C

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00503

Calibration: 1005001

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00503-CCB4	Potassium	6.26	200	5000	ug/L	U	SW6010C
	Sodium	138	200	5000	ug/L	U	SW6010C
	Zinc	0.0793	5.00	20.0	ug/L	U	SW6010C
1A00503-CCB5	Aluminum	1.42	50.0	200	ug/L	U	SW6010C
	Cadmium	0.732	1.00	5.00	ug/L	U	SW6010C
	Calcium	7.33	1000	5000	ug/L	U	SW6010C
	Chromium	-0.00125	2.00	10.0	ug/L	U	SW6010C
	Lead	-0.320	1.50	3.00	ug/L	U	SW6010C
	Magnesium	13.4	1000	5000	ug/L	U	SW6010C
	Potassium	67.0	200	5000	ug/L	U	SW6010C
	Sodium	573	200	5000	ug/L	I	SW6010C
Zinc	0.136	5.00	20.0	ug/L	U	SW6010C	

## METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Instrument: ME-FIMS

Analyte	MDL	MRL	Units	Method
Mercury	0.0800	0.200	ug/L	SW7470A

## METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Instrument: ME-ICP

Analyte	MDL	MRL	Units	Method
Aluminum	50.0	200	ug/L	SW6010C
Antimony	5.00	10.0	ug/L	SW6010C
Arsenic	3.00	10.0	ug/L	SW6010C
Barium	5.00	40.0	ug/L	SW6010C
Beryllium	1.00	5.00	ug/L	SW6010C
Cadmium	1.00	5.00	ug/L	SW6010C
Calcium	1000	5000	ug/L	SW6010C
Chromium	2.00	10.0	ug/L	SW6010C
Cobalt	5.00	12.5	ug/L	SW6010C
Copper	4.00	10.0	ug/L	SW6010C
Iron	30.0	100	ug/L	SW6010C
Lead	1.50	3.00	ug/L	SW6010C
Magnesium	1000	5000	ug/L	SW6010C
Manganese	3.00	15.0	ug/L	SW6010C
Nickel	3.00	10.0	ug/L	SW6010C
Potassium	200	5000	ug/L	SW6010C
Selenium	3.00	10.0	ug/L	SW6010C
Silver	1.00	10.0	ug/L	SW6010C
Sodium	200	5000	ug/L	SW6010C
Thallium	3.00	8.00	ug/L	SW6010C
Vanadium	5.00	12.5	ug/L	SW6010C
Zinc	5.00	20.0	ug/L	SW6010C

## PREPARATION BATCH SUMMARY

**SW7470A**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L17017      Batch Matrix: Water

Preparation: pMercury-W SW 7470A

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L17017-BLK1	12/17/10 14:05	30.00	30.00
LCS	0L17017-BS1	12/17/10 14:05	30.00	30.00
BCHMS-GW-029D-1210	0L17017-MS1	12/17/10 14:05	30.00	30.00
BCHMS-GW-029D-1210	0L17017-MSD1	12/17/10 14:05	30.00	30.00
BCHMS-GW-013-1210	1012134-01	12/17/10 14:05	30.00	30.00
BCHMS-GW-014-1210	1012134-02	12/17/10 14:05	30.00	30.00
BCHMS-GW-015-1210	1012134-03	12/17/10 14:05	30.00	30.00
BCHMS-GW-016-1210	1012134-04	12/17/10 14:05	30.00	30.00
BCHMS-GW-019-1210	1012134-05	12/17/10 14:05	30.00	30.00
BCHMS-GW-001-1210	1012134-06	12/17/10 14:05	30.00	30.00
BCHMS-GW-002-1210	1012134-07	12/17/10 14:05	30.00	30.00
BCHMS-GW-003-1210	1012134-08	12/17/10 14:05	30.00	30.00
BCHMS-GW-028-1210	1012134-09	12/17/10 14:05	30.00	30.00
BCHMS-GW-029D-1210	1012134-10	12/17/10 14:05	30.00	30.00

# PREPARATION BATCH SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L28001      Batch Matrix: Water

Preparation: MET\_3005A

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L28001-BLK1	12/28/10 11:18	50.00	50.00
Blank	0L28001-BLK2	12/28/10 11:18	50.00	50.00
LCS	0L28001-BS1	12/28/10 11:18	50.00	50.00
LCS	0L28001-BS2	12/28/10 11:18	50.00	50.00
BCHMS-GW-029D-1210	0L28001-DUP1	12/28/10 08:18	50.00	50.00
BCHMS-GW-029D-1210	0L28001-DUP2	12/28/10 11:18	50.00	50.00
BCHMS-GW-029D-1210	0L28001-DUP3	12/28/10 11:18	50.00	50.00
BCHMS-GW-029D-1210	0L28001-DUP4	12/28/10 11:18	50.00	50.00
BCHMS-GW-029D-1210	0L28001-DUP5	12/28/10 11:18	50.00	50.00
BCHMS-GW-029D-1210	0L28001-MS1	12/28/10 11:18	50.00	50.00
BCHMS-GW-029D-1210	0L28001-MS2	12/28/10 11:18	50.00	50.00
BCHMS-GW-029D-1210	0L28001-MSD1	12/28/10 11:18	50.00	50.00
BCHMS-GW-029D-1210	0L28001-MSD2	12/28/10 11:18	50.00	50.00
BCHMS-GW-029D-1210	0L28001-PS1	12/28/10 11:18	20.00	20.00
BCHMS-GW-029D-1210	0L28001-PS2	12/28/10 11:18	20.00	20.00
BCHMS-GW-013-1210	1012134-01	12/28/10 11:18	50.00	50.00
BCHMS-GW-013-1210	1012134-01RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-013-1210	1012134-01RE2	12/28/10 11:18	50.00	50.00
BCHMS-GW-013-1210	1012134-01RE3	12/28/10 11:18	50.00	50.00
BCHMS-GW-013-1210	1012134-01RE4	12/28/10 11:18	50.00	50.00
BCHMS-GW-014-1210	1012134-02	12/28/10 11:18	50.00	50.00
BCHMS-GW-014-1210	1012134-02RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-015-1210	1012134-03	12/28/10 11:18	50.00	50.00
BCHMS-GW-015-1210	1012134-03RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-016-1210	1012134-04	12/28/10 11:18	50.00	50.00
BCHMS-GW-016-1210	1012134-04RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-019-1210	1012134-05	12/28/10 11:18	50.00	50.00
BCHMS-GW-019-1210	1012134-05RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-001-1210	1012134-06	12/28/10 11:18	50.00	50.00
BCHMS-GW-001-1210	1012134-06RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-001-1210	1012134-06RE2	12/28/10 11:18	50.00	50.00
BCHMS-GW-002-1210	1012134-07	12/28/10 11:18	50.00	50.00
BCHMS-GW-002-1210	1012134-07RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-002-1210	1012134-07RE2	12/28/10 11:18	50.00	50.00
BCHMS-GW-002-1210	1012134-07RE3	12/28/10 11:18	50.00	50.00
BCHMS-GW-003-1210	1012134-08	12/28/10 11:18	50.00	50.00
BCHMS-GW-003-1210	1012134-08RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-003-1210	1012134-08RE2	12/28/10 11:18	50.00	50.00
BCHMS-GW-003-1210	1012134-08RE3	12/28/10 11:18	50.00	50.00
BCHMS-GW-028-1210	1012134-09	12/28/10 11:18	50.00	50.00
BCHMS-GW-028-1210	1012134-09RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-028-1210	1012134-09RE2	12/28/10 11:18	50.00	50.00

# PREPARATION BATCH SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L28001      Batch Matrix: Water

Preparation: MET 3005A

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
BCHMS-GW-028-1210	1012134-09RE3	12/28/10 11:18	50.00	50.00
BCHMS-GW-028-1210	1012134-09RE4	12/28/10 11:18	50.00	50.00
BCHMS-GW-029D-1210	1012134-10	12/28/10 11:18	50.00	50.00
BCHMS-GW-029D-1210	1012134-10RE1	12/28/10 11:18	50.00	50.00
BCHMS-GW-029D-1210	1012134-10RE2	12/28/10 11:18	50.00	50.00
BCHMS-GW-029D-1210	1012134-10RE3	12/28/10 11:18	50.00	50.00
BCHMS-GW-029D-1210	1012134-10RE4	12/28/10 11:18	50.00	50.00

# ANALYSIS SEQUENCE SUMMARY

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35509

Instrument: ME-FIMS

Calibration: 0355003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0L35509-CAL1	122010w-002	12/20/10 11:28
Cal Standard	0L35509-CAL2	122010w-003	12/20/10 11:29
Cal Standard	0L35509-CAL3	122010w-004	12/20/10 11:31
Cal Standard	0L35509-CAL4	122010w-005	12/20/10 11:33
Cal Standard	0L35509-CAL5	122010w-006	12/20/10 11:35
Cal Standard	0L35509-CAL6	122010w-007	12/20/10 11:37
Cal Standard	0L35509-CAL7	122010w-008	12/20/10 11:39
Initial Cal Check	0L35509-ICV1	122010w-010	12/20/10 11:48
Initial Cal Blank	0L35509-ICB1	122010w-011	12/20/10 11:49
Instrument RL Check	0L35509-CRL1	122010w-012	12/20/10 11:51
Calibration Check	0L35509-CCV1	122010w-022	12/20/10 12:09
Calibration Blank	0L35509-CCB1	122010w-023	12/20/10 12:10
Calibration Check	0L35509-CCV5	122010w-070	12/20/10 13:38
Calibration Blank	0L35509-CCB5	122010w-071	12/20/10 13:40
LCS	0L17017-BS1	122010w-073	12/20/10 13:44
Blank	0L17017-BLK1	122010w-074	12/20/10 13:46
BCHMS-GW-013-1210	1012134-01	122010w-075	12/20/10 13:47
BCHMS-GW-014-1210	1012134-02	122010w-076	12/20/10 13:49
BCHMS-GW-015-1210	1012134-03	122010w-077	12/20/10 13:51
BCHMS-GW-016-1210	1012134-04	122010w-078	12/20/10 13:52
BCHMS-GW-019-1210	1012134-05	122010w-079	12/20/10 13:54
BCHMS-GW-001-1210	1012134-06	122010w-080	12/20/10 13:56
BCHMS-GW-002-1210	1012134-07	122010w-081	12/20/10 13:58
Calibration Check	0L35509-CCV6	122010w-082	12/20/10 14:00
Calibration Blank	0L35509-CCB6	122010w-083	12/20/10 14:02
BCHMS-GW-003-1210	1012134-08	122010w-084	12/20/10 14:03
BCHMS-GW-028-1210	1012134-09	122010w-085	12/20/10 14:05
BCHMS-GW-029D-1210	1012134-10	122010w-086	12/20/10 14:07
BCHMS-GW-029D-1210	0L17017-MS1	122010w-087	12/20/10 14:08
BCHMS-GW-029D-1210	0L17017-MSD1	122010w-088	12/20/10 14:10
Calibration Check	0L35509-CCV7	122010w-094	12/20/10 14:21
Calibration Blank	0L35509-CCB7	122010w-095	12/20/10 14:23

# ANALYSIS SEQUENCE SUMMARY

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35509

Instrument: ME-FIMS

Calibration: 0355003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Instrument RL Check	0L35509-CRL2	122010w-097	12/20/10 14:47
Calibration Check	0L35509-CCV8	122010w-098	12/20/10 14:48
Calibration Blank	0L35509-CCB8	122010w-099	12/20/10 14:50

**ANALYSIS SEQUENCE SUMMARY**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36404

Instrument: ME-ICP

Calibration: 1004002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0L36404-CAL1	122910A-001	12/29/10 12:07
Cal Standard	0L36404-CAL2	122910A-002	12/29/10 12:12
Cal Standard	0L36404-CAL3	122910A-003	12/29/10 12:19
Cal Standard	0L36404-CAL4	122910A-004	12/29/10 12:26
Cal Standard	0L36404-CAL5	122910A-005	12/29/10 12:37
Cal Standard	0L36404-CAL6	122910A-007	12/29/10 12:51
Cal Standard	0L36404-CAL8	122910A-009	12/29/10 13:06
Initial Cal Check	0L36404-ICV1	122910B-001	12/29/10 13:43
Initial Cal Blank	0L36404-ICB1	122910B-002	12/29/10 13:50
Instrument RL Check	0L36404-CRL1	122910B-003	12/29/10 13:55
Instrument RL Check	0L36404-CRL2	122910B-004	12/29/10 13:59
Instrument RL Check	0L36404-CRL4	122910B-007	12/29/10 14:31
Interference Check A	0L36404-IFA1	122910B-008	12/29/10 14:36
Interference Check B	0L36404-IFB1	122910B-013	12/29/10 15:09
Calibration Check	0L36404-CCV1	122910B-017	12/29/10 15:45
Calibration Blank	0L36404-CCB1	122910B-018	12/29/10 16:04
Blank	0L28001-BLK1	122910B-019	12/29/10 16:09
LCS	0L28001-BS1	122910B-020	12/29/10 16:14
Calibration Check	0L36404-CCV2	122910B-031	12/29/10 17:09
Calibration Blank	0L36404-CCB2	122910B-032	12/29/10 17:17
BCHMS-GW-013-1210	1012134-01	122910B-033	12/29/10 17:21
BCHMS-GW-014-1210	1012134-02	122910B-034	12/29/10 17:26
BCHMS-GW-015-1210	1012134-03	122910B-035	12/29/10 17:31
BCHMS-GW-016-1210	1012134-04	122910B-036	12/29/10 17:36
BCHMS-GW-019-1210	1012134-05	122910B-037	12/29/10 17:41
BCHMS-GW-001-1210	1012134-06	122910B-038	12/29/10 17:45
BCHMS-GW-002-1210	1012134-07	122910B-039	12/29/10 17:50
BCHMS-GW-003-1210	1012134-08	122910B-040	12/29/10 17:55
BCHMS-GW-028-1210	1012134-09	122910B-041	12/29/10 18:00
BCHMS-GW-029D-1210	1012134-10	122910B-042	12/29/10 18:05
BCHMS-GW-029D-1210	0L28001-MS1	122910B-043	12/29/10 18:10
BCHMS-GW-029D-1210	0L28001-MSD1	122910B-044	12/29/10 18:14

# ANALYSIS SEQUENCE SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36404

Instrument: ME-ICP

Calibration: 1004002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
BCHMS-GW-029D-1210	0L28001-PS1	122910B-045	12/29/10 18:19
BCHMS-GW-029D-1210	0L28001-DUP1	122910B-046	12/29/10 18:25
Calibration Check	0L36404-CCV3	122910B-047	12/29/10 18:30
Calibration Blank	0L36404-CCB3	122910B-048	12/29/10 18:38

**ANALYSIS SEQUENCE SUMMARY**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 1A00414

Instrument: ME-ICP

Calibration: 1004002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	1A00414-CAL1	1-03-11A-001	01/03/11 12:26
Cal Standard	1A00414-CAL2	1-03-11A-002	01/03/11 12:30
Cal Standard	1A00414-CAL3	1-03-11A-003	01/03/11 12:35
Cal Standard	1A00414-CAL4	1-03-11A-004	01/03/11 12:40
Cal Standard	1A00414-CAL5	1-03-11A-005	01/03/11 12:45
Cal Standard	1A00414-CAL6	1-03-11A-006	01/03/11 12:50
Cal Standard	1A00414-CAL7	1-03-11A-007	01/03/11 12:55
Cal Standard	1A00414-CAL8	1-03-11A-008	01/03/11 13:00
Initial Cal Check	1A00414-ICV1	1-03-11B-001	01/03/11 13:52
Initial Cal Blank	1A00414-ICB1	1-03-11B-002	01/03/11 13:59
Instrument RL Check	1A00414-CRL1	1-03-11B-003	01/03/11 14:04
Instrument RL Check	1A00414-CRL2	1-03-11B-005	01/03/11 14:14
Interference Check A	1A00414-IFA1	1-03-11B-006	01/03/11 14:19
Interference Check B	1A00414-IFB1	1-03-11B-007	01/03/11 14:25
Interference Check B	1A00414-IFB2	1-03-11B-008	01/03/11 14:33
Calibration Check	1A00414-CCV1	1-03-11B-010	01/03/11 14:44
Calibration Blank	1A00414-CCB1	1-03-11B-011	01/03/11 14:51
Calibration Check	1A00414-CCV2	1-03-11B-017	01/03/11 15:22
Calibration Blank	1A00414-CCB2	1-03-11B-018	01/03/11 15:29
Blank	0L28001-BLK2	1-03-11B-019	01/03/11 15:34
LCS	0L28001-BS2	1-03-11B-020	01/03/11 15:39
Calibration Check	1A00414-CCV3 ✓	1-03-11C-001	01/03/11 16:51
Calibration Blank	1A00414-CCB3	1-03-11C-002	01/03/11 16:58
BCHMS-GW-013-1210	1012134-01RE1	1-03-11C-003	01/03/11 17:03
BCHMS-GW-014-1210	1012134-02RE1	1-03-11C-004	01/03/11 17:07
BCHMS-GW-015-1210	1012134-03RE1	1-03-11C-005	01/03/11 17:12
BCHMS-GW-016-1210	1012134-04RE1	1-03-11C-006	01/03/11 17:18
BCHMS-GW-019-1210	1012134-05RE1	1-03-11C-007	01/03/11 17:22
BCHMS-GW-001-1210	1012134-06RE1	1-03-11C-008	01/03/11 17:27
BCHMS-GW-002-1210	1012134-07RE1	1-03-11C-009	01/03/11 17:32
BCHMS-GW-003-1210	1012134-08RE1	1-03-11C-010	01/03/11 17:37
BCHMS-GW-028-1210	1012134-09RE1	1-03-11C-011	01/03/11 17:42

# ANALYSIS SEQUENCE SUMMARY

**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 1A00414

Instrument: ME-ICP

Calibration: 1004002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
BCHMS-GW-029D-1210	1012134-10RE1	1-03-11C-012	01/03/11 17:47
BCHMS-GW-029D-1210	0L28001-MS2	1-03-11C-013	01/03/11 17:52
BCHMS-GW-029D-1210	0L28001-MSD2	1-03-11C-014	01/03/11 17:57
BCHMS-GW-029D-1210	0L28001-PS2	1-03-11C-015	01/03/11 18:02
BCHMS-GW-029D-1210	0L28001-DUP2	1-03-11C-016	01/03/11 18:08
Calibration Check	1A00414-CCV4 ✓	1-03-11C-017	01/03/11 18:14
Calibration Blank	1A00414-CCB4 /	1-03-11C-018	01/03/11 18:21

# ANALYSIS SEQUENCE SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 1A00503

Instrument: ME-ICP

Calibration: 1005001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	1A00503-CAL1	010411A-001	01/04/11 09:29
Cal Standard	1A00503-CAL2	010411A-002	01/04/11 09:34
Cal Standard	1A00503-CAL3	010411A-003	01/04/11 09:39
Cal Standard	1A00503-CAL5	010411A-005	01/04/11 09:48
Cal Standard	1A00503-CAL6	010411A-006	01/04/11 09:53
Cal Standard	1A00503-CAL7	010411A-007	01/04/11 09:58
Cal Standard	1A00503-CAL8	010411A-008	01/04/11 10:03
Initial Cal Check	1A00503-ICV1	010411B-001	01/04/11 10:35
Initial Cal Blank	1A00503-ICB1	010411B-002	01/04/11 10:42
Instrument RL Check	1A00503-CRL1	010411B-003	01/04/11 10:47
Interference Check A	1A00503-IFA1	010411B-006	01/04/11 11:03
Interference Check B	1A00503-IFB1	010411B-007	01/04/11 11:09
Interference Check B	1A00503-IFB2	010411B-010	01/04/11 11:32
Calibration Check	1A00503-CCV1	010411B-012	01/04/11 11:43
Calibration Blank	1A00503-CCB1	010411B-013	01/04/11 11:51
Calibration Check	1A00503-CCV3	010411C-020	01/04/11 13:59
Calibration Blank	1A00503-CCB3	010411C-021	01/04/11 14:06
BCHMS-GW-013-1210	1012134-01RE2	010411D-001	01/04/11 14:13
BCHMS-GW-013-1210	1012134-01RE3	010411D-002	01/04/11 14:18
BCHMS-GW-013-1210	1012134-01RE4	010411D-003	01/04/11 14:23
BCHMS-GW-001-1210	1012134-06RE2	010411D-004	01/04/11 14:27
BCHMS-GW-002-1210	1012134-07RE2	010411D-005	01/04/11 14:32
BCHMS-GW-002-1210	1012134-07RE3	010411D-006	01/04/11 14:37
BCHMS-GW-003-1210	1012134-08RE2	010411D-007	01/04/11 14:42
BCHMS-GW-003-1210	1012134-08RE3	010411D-008	01/04/11 14:46
BCHMS-GW-028-1210	1012134-09RE2	010411D-009	01/04/11 14:51
BCHMS-GW-028-1210	1012134-09RE3	010411D-010	01/04/11 14:56
BCHMS-GW-028-1210	1012134-09RE4	010411D-011	01/04/11 15:01
Calibration Check	1A00503-CCV4	010411D-012	01/04/11 15:08
Calibration Blank	1A00503-CCB4	010411D-013	01/04/11 15:15
BCHMS-GW-029D-1210	1012134-10RE2	010411E-001	01/04/11 15:26
BCHMS-GW-029D-1210	1012134-10RE3	010411E-002	01/04/11 15:31

**ANALYSIS SEQUENCE SUMMARY**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Sequence: 1A00503  
 Calibration: 1005001

SDG: CTOJM17KW\_002  
 Project: NAS Key West CTO JM17  
 Instrument: ME-ICP

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
BCHMS-GW-029D-1210	1012134-10RE4	010411E-003	01/04/11 15:35
BCHMS-GW-029D-1210	0L28001-DUP3	010411E-004	01/04/11 15:40
BCHMS-GW-029D-1210	0L28001-DUP4	010411E-005	01/04/11 15:45
BCHMS-GW-029D-1210	0L28001-DUP5	010411E-006	01/04/11 15:50
Calibration Check	1A00503-CCV5 ✓	010411E-014	01/04/11 16:30
Calibration Blank	1A00503-CCB5	010411E-015	01/04/11 16:37



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The sample data in this SDG were validated with regard to the following list of parameters.

- \*     •     Data Completeness
- \*     •     Holding Times
- Initial and Continuing Calibration
- Laboratory Method Blank
- \*     •     Field Duplicate Precision
- \*     •     Detection Limits

The symbol (\*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

### VOC

The soil laboratory method blank associated with batch 0L17021 analyzed on December 17, 2010 contained contamination.

<u>Contaminant</u>	<u>Maximum Concentration (ug/kg)</u>	<u>Action Level (ug/kg)</u>
Methylene chloride	4.97	49.7

An action level of 10X the maximum concentration of common laboratory contaminant methylene chloride was established in order to evaluate samples for blank contamination. Percent solids, dilution factors and sample aliquot were taken into consideration when applying the action level. Positive methylene chloride results less than the action level were qualified as (U) due to blank contamination in the affected soil samples BCHMS-SO-002-1210, BCHMS-SO-004-1210, BCHMS-SO-007-1210, BCHMS-SO-010-1210, BCHMS-SO-012-1210, BCHMS-SO-013-1210, BCHMS-SO-014-1210, BCHMS-SO-015-1210, BCHMS-SO-016-1210, BCHMS-SO-017-1210, BCHMS-SO-018-1210, BCHMS-SO-019-1210, BCHMS-SO-020-1210, BCHMS-SO-021-1210, BCHMS-SO-022-1210, BCHMS-SO-023-1210 and BCHMS-SO-024-1210.

The continuing calibration percent difference (%D) for vinyl chloride was greater than the 20% quality control limit on December 17, 2010 @ 14:39 on instrument MS-VOA4. The nondetected vinyl chloride results were qualified as estimated (UJ) in the affected soil samples BCHMS-SO-002-1210, BCHMS-SO-004-1210, BCHMS-SO-007-1210, BCHMS-SO-010-1210, BCHMS-SO-012-1210, BCHMS-SO-013-1210, BCHMS-SO-014-1210, BCHMS-SO-015-1210, BCHMS-SO-016-1210, BCHMS-SO-017-1210, BCHMS-SO-018-1210, BCHMS-SO-019-1210, BCHMS-SO-020-1210, BCHMS-SO-021-1210, BCHMS-SO-022-1210, BCHMS-SO-023-1210 and BCHMS-SO-024-1210.

The continuing calibration %Ds for several analytes were greater than the 20% quality control limit on December 20, 2010 @ 10:03 on instrument MS-VOA4. The analytes were bromochloromethane, bromodichloromethane, bromoform, bromomethane, dibromochloromethane, 1,2-dibromo-3-chloropropane, 1,2-dibromomethane, dichlorodifluoromethane, 1,2-dichloroethane, cis-1,3-dichloropropene, trans-1,3-dichloropropene, methyl acetate, methyl tert-butyl ether, styrene, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene and 1,1,2-trichloroethane. This calibration noncompliance affects soil samples BCHMS-SO-025-1210, BCHMS-SO-026-1210, BCHMS-SO-028-1210, BCHMS-SO-FD01-1210 and BCHMS-SO-FD02-1210. The positive methyl acetate result in sample BCHMS-SO-025-1210 was qualified as estimated (J). The nondetected results of the aforementioned analytes in the affected samples were qualified as estimated (UJ).

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The continuing calibration %Ds for several analytes were greater than the 20% quality control limit on December 17, 2010 @ 13:42 on instrument MS-VOA3. The analytes were acetone, bromodichloromethane, bromomethane, carbon disulfide, carbon tetrachloride, chloroform, dibromochloromethane, dichlorodifluoromethane, 1,2-dichloroethane, methyl acetate, 1,1,1-trichloroethane, trichlorofluoromethane and 1,1,2-trichlorotrifluoroethane. This calibration noncompliance affects aqueous samples BCHMS-FD001-1210, BCHMS-GW-004-1210 and BCHMS-GW-005-1210. The positive acetone result in sample BCHMS-GW-005-1210 was qualified as estimated (J). The nondetected results of the aforementioned analytes in the affected samples were qualified as estimated (UJ).

The continuing calibration %D for bromomethane was greater than the 20% quality control limit on December 18, 2010 @ 1:32 on instrument MS-VOA3. The nondetected bromomethane results were qualified as estimated (UJ) in the affected samples BCHMS-FD002-1210, BCHMS-GW-007-1210, BCHMS-GW-008-1210, BCHMS-GW-009D-1210, BCHMS-GW011-1210 and BCHMS-GW-012-1210.

The continuing calibration %Ds for bromomethane and dibromochloromethane were greater than the 20% quality control limit on December 21, 2010 @ 9:41 on instrument MS-VOA3. The nondetected bromomethane and dibromochloromethane results were qualified as estimated (UJ) in the affected samples BCHMS-GW-006-1210 and BCHMS-GW-010-1210.

### **SVOC**

Soil sample BCHMS-SO-026-1210 had two acid surrogates less than the lower quality control limit. The surrogate 2,4,6-tribromophenol had a percent recovery (%R) less than 10%. The sample was re-extracted outside of hold time and reanalyzed. The reanalysis had similar surrogate recoveries. The original sample was used for validation and reporting purposes. The acid fraction nondetected results were qualified as rejected (UR) due to the less than 10% R of surrogate 2,4,6-tribromophenol.

The continuing calibration %Ds for several SVOC analytes were greater than the 20% quality control limit on December 24, 2010 @ 0:05 on instrument MS-BNA1 affecting sample BCHMS-GW-012-1210. The analytes were benzaldehyde, 1,1-biphenyl, butylbenzylphthalate, 4-chloro-3-methylphenol, di-n-octylphthalate, bis(2-ethylhexyl)phthalate, 4-nitroaniline, 2-nitroaniline and 1,2,4,5-tetrachlorobenzene. The nondetected results of the aforementioned compounds were qualified as estimated (UJ) in the affected sample BCHMS-GW-012-1210.

The continuing calibration %Ds for several SVOC analytes were greater than the 20% quality control limit on December 30, 2010 @ 15:53 on instrument MS-BNA1. The analytes were 3,3'-dichlorobenzidine, benzaldehyde, 4-chlorophenyl phenyl ether and 1,2,4,5-tetrachlorobenzene. The nondetected results of the aforementioned analytes were qualified as estimated (UJ) in the affected samples BCHMS-FD001-1210, BCHMS-FD002-1210, BCHMS-GW-004-1210, BCHMS-GW-005-1210, BCHMS-GW-006-1210, BCHMS-GW-007-1210, BCHMS-GW-008-1210, BCHMS-GW-009D-1210, BCHMS-GW-010-1210 and BCHMS-GW-011-1210.

The continuing calibration %Ds for several SVOC analytes were greater than the 20% quality control limit on December 31, 2010 @ 3:29 on instrument MS-BNA1. The analytes were benzaldehyde, butylbenzylphthalate, bis(2-ethylhexyl)phthalate, hexachlorocyclopentadiene and 1,2,4,5-tetrachlorobenzene. The nondetected results of the aforementioned analytes were qualified as estimated (UJ) in the affected soil samples BCHMS-SO-002-1210, BCHMS-SO-004-1210, BCHMS-SO-007-1210, BCHMS-SO-010-1210, BCHMS-SO-012-1210, BCHMS-SO-013-1210, BCHMS-SO-014-1210, BCHMS-SO-015-1210, BCHMS-SO-016-1210, BCHMS-SO-017-1210, BCHMS-SO-018-1210, BCHMS-SO-019-1210, BCHMS-SO-020-1210, BCHMS-SO-021-1210, BCHMS-SO-022-1210, BCHMS-SO-023-1210, BCHMS-SO-024-1210, BCHMS-SO-025-1210, BCHMS-SO-026-1210 and BCHMS-SO-028-1210.

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The continuing calibration %Ds for several SVOC analytes were greater than the 20% quality control limit on December 29, 2010 @ 17:32 on instrument MS-BNA1. The analytes were benzaldehyde, butylbenzylphthalate, 2,4-dinitrophenol and bis(2-ethylhexyl)phthalate. The nondetected results of the aforementioned analytes were qualified as estimated (UJ) in the affected soil samples BCHMS-SO-FD01-1210 and BCHMS-SO-FD02-1210.

### **ADDITIONAL COMMENTS**

The chain of custody has several samples listed to be analyzed for SIM PAHs. The project manager via an email informed the laboratory per the SAP, PAHs are not to be analyzed. (See attached memo dated 12/13/2010).

The continuing calibration verification (CCV) CCV-4 on December 23, 2010 @ 20:20 had %Ds for 4,4'-DDT, alpha-BHC, delta-BHC, gamma-BHC and heptachlor greater than the 20% quality control limit on column 1. The positive alpha-BHC result in the affected sample BCHMS-GW-012-1210 was taken from column 2. No action was taken on the nondetected 4,4'-DDT, alpha-BHC, delta-BHC, gamma-BHC and heptachlor results in the affected aqueous samples BCHMS-FD001-1210, BCHMS-GW-004-1210, BCHMS-GW-010-1210 and BCHMS-GW-012-1210.

The closing CCV4 on December 30, 2010 @ 0:18 had a %D for delta-BHC greater than the 20% quality control limit on column 1. No action was taken on the nondetected delta-BHC results in the affected soil samples BCHMS-SO-004-1210, BCHMS-SO-010-1210, BCHMS-SO-012-1210, BCHMS-SO-024-1210, BCHMS-SO-025-1210, BCHMS-SO-028-1210 and BCHMS-SO-FD02-1210.

The closing CCV-3 on December 23, 2010 @ 14:46 had a %D for Aroclor 1260 greater than the quality control limit on column 2. No action was taken on the nondetected Aroclor 1260 results in samples BCHMS-FD001-1210, BCHMS-GW-004-1210, BCHMS-GW-010-1210 and BCHMS-GW-012-1210.

The relative percent differences (RPDs) for acetone was greater than the 50% quality control limit in field duplicate pairs BCHMS-SO-014-1210/BCHMS-SO-FD01-1210 and BCHMS-SO-024-1210/BCHMS-SO-FD02-1210. The RPDs for aldrin were greater than the 50% quality control limit in field duplicate pairs BCHMS-GW-004-1210/BCHMS-FD001-1210 and BCHMS-SO-024-1210/BCHMS-SO-FD02-1210. No action was required.

Nondetected results were reported to the method detection limit (MDL).

Positive results less than the reporting limit (RL) and greater than the MDL were qualified as estimated (J).

### **EXECUTIVE SUMMARY**

**Laboratory Performance Issues:** Methylene chloride was detected in the laboratory method blank. The continuing calibration %Ds for several compounds exceeded quality control limits in the VOC and SVOC fractions. Soil sample BCHMS-SO-026-1210 had %R of surrogate 2,4,6-tribromophenol less than 10%.

**Other factors affecting data quality:** None.

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The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (October 1999) and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (January 2006). The text of this report has been formulated to address only those problem areas affecting data quality.

  
Tetra Tech NUS  
Ann Cognetti  
Chemist/Data Validator

  
TetraTech NUS  
Joseph A. Samchuck  
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results  
Appendix B – Results as Reported by the Laboratory  
Appendix C – Support Documentation

**APPENDIX A**

**QUALIFIED ANALYTICAL RESULTS**

**Data Validation Qualifier Codes:**

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS - GFAA MSA's  $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ( $< 2 \times$  IDL for inorganics and  $<$ CRQL for organics)
- Q = Other problems (can be any number of issues; e.g. poor chromatography,interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = % Difference between columns/detectors  $>25\%$  for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient  $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids  $<30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 02608 SDG: CTOJM17KW_3 FRACTION: OV MEDIA: SOIL	NSAMPLE		BCHMS-SO-002-1210		BCHMS-SO-004-1210		BCHMS-SO-007-1210		BCHMS-SO-010-1210																
	LAB_ID	SAMP_DATE	QC_TYPE	UNITS	PCT_SOLIDS	DUP_OF	1012153-13	12/14/2010	NM	UG/KG	87.5	1012153-14	12/14/2010	NM	UG/KG	86.3	1012153-15	12/14/2010	NM	UG/KG	88.3	1012153-16	12/14/2010	NM	UG/KG
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
1,1,1-TRICHLOROETHANE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
1,1,2,2-TETRACHLOROETHANE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
1,1,2-TRICHLOROETHANE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
1,1,2-TRICHLOROTRIFLUOROETHANE	2.98	U		3.83	U		3.32	U		3.1	U		3.32	U		3.1	U		3.32	U		3.1	U		
1,1-DICHLOROETHANE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
1,1-DICHLOROETHENE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
1,2,3-TRICHLOROBENZENE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
1,2,4-TRICHLOROBENZENE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
1,2-DIBROMO-3-CHLOROPROPANE	2.98	U		3.83	U		3.32	U		3.1	U		3.32	U		3.1	U		3.32	U		3.1	U		
1,2-DIBROMOETHANE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
1,2-DICHLOROBENZENE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
1,2-DICHLOROETHANE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
1,2-DICHLOROPROPANE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
1,3-DICHLOROBENZENE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
1,4-DICHLOROBENZENE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
2-BUTANONE	2.98	U		3.83	U		3.32	U		3.1	U		3.32	U		3.1	U		3.32	U		3.1	U		
2-HEXANONE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
4-METHYL-2-PENTANONE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
ACETONE	5.96	U		9.59	J	P	8.53	J	P	21.3	J	P	8.53	J	P	21.3	J	P	8.53	J	P	21.3	J	P	
BENZENE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
BROMOCHLOROMETHANE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
BROMODICHLOROMETHANE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
BROMOFORM	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
BROMOMETHANE	2.98	U		3.83	U		3.32	U		3.1	U		3.32	U		3.1	U		3.32	U		3.1	U		
CARBON DISULFIDE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
CARBON TETRACHLORIDE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
CHLOROBENZENE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
CHLORODIBROMOMETHANE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
CHLOROETHANE	2.98	U		3.83	U		3.32	U		3.1	U		3.32	U		3.1	U		3.32	U		3.1	U		
CHLOROFORM	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
CHLOROMETHANE	2.98	U		3.83	U		3.32	U		3.1	U		3.32	U		3.1	U		3.32	U		3.1	U		
CIS-1,2-DICHLOROETHENE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
CIS-1,3-DICHLOROPROPENE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
CYCLOHEXANE	1.49	U		1.92	U		1.66	U		1.55	U		1.66	U		1.55	U		1.66	U		1.55	U		
DICHLORODIFLUOROMETHANE	2.98	U		3.83	U		3.32	U		3.1	U		3.32	U		3.1	U		3.32	U		3.1	U		

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-012-1210	BCHMS-SO-013-1210	BCHMS-SO-014-1210	BCHMS-SO-015-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-17	1012153-18	1012153-19	1012153-20				
FRACTION: OV	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	77.7	80.5	86.5	85.8				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
1,1,2,2-TETRACHLOROETHANE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
1,1,2-TRICHLOROETHANE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
1,1,2-TRICHLOROTRIFLUOROETHANE	3.29 U			2.62 U	2.62 U		2.84 U	2.61 U	2.61 U
1,1-DICHLOROETHANE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
1,1-DICHLOROETHENE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
1,2,3-TRICHLOROBENZENE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
1,2,4-TRICHLOROBENZENE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
1,2-DIBROMO-3-CHLOROPROPANE	3.29 U			2.62 U	2.62 U		2.84 U	2.61 U	2.61 U
1,2-DIBROMOETHANE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
1,2-DICHLOROBENZENE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
1,2-DICHLOROETHANE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
1,2-DICHLOROPROPANE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
1,3-DICHLOROBENZENE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
1,4-DICHLOROBENZENE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
2-BUTANONE	3.29 U			2.62 U	2.62 U		2.84 U	2.61 U	2.61 U
2-HEXANONE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
4-METHYL-2-PENTANONE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
ACETONE	10.3 J	P		12.2 J	12.2 J	P	6.8 J	5.22 U	
BENZENE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
BROMOCHLOROMETHANE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
BROMODICHLOROMETHANE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
BROMOFORM	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
BROMOMETHANE	3.29 U			2.62 U	2.62 U		2.84 U	2.61 U	2.61 U
CARBON DISULFIDE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
CARBON TETRACHLORIDE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
CHLOROBENZENE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
CHLORODIBROMOMETHANE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
CHLOROETHANE	3.29 U			2.62 U	2.62 U		2.84 U	2.61 U	2.61 U
CHLOROFORM	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
CHLOROMETHANE	3.29 U			2.62 U	2.62 U		2.84 U	2.61 U	2.61 U
CIS-1,2-DICHLOROETHENE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
CIS-1,3-DICHLOROPROPENE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
CYCLOHEXANE	1.65 U			1.31 U	1.31 U		1.42 U	1.31 U	1.31 U
DICHLORODIFLUOROMETHANE	3.29 U			2.62 U	2.62 U		2.84 U	2.61 U	2.61 U

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-016-1210	BCHMS-SO-017-1210	BCHMS-SO-018-1210	BCHMS-SO-019-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-21	1012153-22	1012153-23	1012153-24				
FRACTION: OV	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	86.7	88.1	87.9	84.8				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE	1.45 U			1.26 U			1.47 U		
1,1,2,2-TETRACHLOROETHANE	1.45 U			1.26 U			1.47 U		
1,1,2-TRICHLOROETHANE	1.45 U			1.26 U			1.47 U		
1,1,2-TRICHLOROTRIFLUOROETHANE	2.91 U			2.51 U			2.94 U		
1,1-DICHLOROETHANE	1.45 U			1.26 U			1.47 U		
1,1-DICHLOROETHENE	1.45 U			1.26 U			1.47 U		
1,2,3-TRICHLOROBENZENE	1.45 U			1.26 U			1.47 U		
1,2,4-TRICHLOROBENZENE	1.45 U			1.26 U			1.47 U		
1,2-DIBROMO-3-CHLOROPROPANE	2.91 U			2.51 U			2.94 U		
1,2-DIBROMOETHANE	1.45 U			1.26 U			1.47 U		
1,2-DICHLOROBENZENE	1.45 U			1.26 U			1.47 U		
1,2-DICHLOROETHANE	1.45 U			1.26 U			1.47 U		
1,2-DICHLOROPROPANE	1.45 U			1.26 U			1.47 U		
1,3-DICHLOROBENZENE	1.45 U			1.26 U			1.47 U		
1,4-DICHLOROBENZENE	1.45 U			1.26 U			1.47 U		
2-BUTANONE	2.91 U			2.51 U			2.94 U		
2-HEXANONE	1.45 U			1.26 U			1.47 U		
4-METHYL-2-PENTANONE	1.45 U			1.26 U			1.47 U		
ACETONE	14.4 J	P		5.75 J	P		5.89 U	J	P
BENZENE	1.45 U			1.26 U			1.47 U		
BROMOCHLOROMETHANE	1.45 U			1.26 U			1.47 U		
BROMODICHLOROMETHANE	1.45 U			1.26 U			1.47 U		
BROMOFORM	1.45 U			1.26 U			1.47 U		
BROMOMETHANE	2.91 U			2.51 U			2.94 U		
CARBON DISULFIDE	1.45 U			1.26 U			1.47 U		
CARBON TETRACHLORIDE	1.45 U			1.26 U			1.47 U		
CHLOROBENZENE	1.45 U			1.26 U			1.47 U		
CHLORODIBROMOMETHANE	1.45 U			1.26 U			1.47 U		
CHLOROETHANE	2.91 U			2.51 U			2.94 U		
CHLOROFORM	1.45 U			1.26 U			1.47 U		
CHLOROMETHANE	2.91 U			2.51 U			2.94 U		
CIS-1,2-DICHLOROETHENE	1.45 U			1.26 U			1.47 U		
CIS-1,3-DICHLOROPROPENE	1.45 U			1.26 U			1.47 U		
CYCLOHEXANE	1.45 U			1.26 U			1.47 U		
DICHLORODIFLUOROMETHANE	2.91 U			2.51 U			2.94 U		

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-020-1210	BCHMS-SO-021-1210	BCHMS-SO-022-1210	BCHMS-SO-023-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-25	1012153-26	1012153-27	1012153-28				
FRACTION: OV	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	87.5	86.1	88.1	86.0				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
1,1,2,2-TETRACHLOROETHANE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
1,1,2-TRICHLOROETHANE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
1,1,2-TRICHLOROTRIFLUOROETHANE	2.4 U	2.6 U		2.6 U	2.6 U		2.6 U	2.59 U	
1,1-DICHLOROETHANE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
1,1-DICHLOROETHENE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
1,2,3-TRICHLOROBENZENE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
1,2,4-TRICHLOROBENZENE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
1,2-DIBROMO-3-CHLOROPROPANE	2.4 U	2.6 U		2.6 U	2.6 U		2.6 U	2.59 U	
1,2-DIBROMOETHANE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
1,2-DICHLOROBENZENE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
1,2-DICHLOROETHANE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
1,2-DICHLOROPROPANE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
1,3-DICHLOROBENZENE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
1,4-DICHLOROBENZENE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
2-BUTANONE	2.4 U	2.6 U		2.6 U	2.6 U		2.6 U	2.59 U	
2-HEXANONE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
4-METHYL-2-PENTANONE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
ACETONE	53.5	5.2 U		5.2 U	5.71 J	P	5.71 J	7.42 J	P
BENZENE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
BROMOCHLOROMETHANE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
BROMODICHLOROMETHANE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
BROMOFORM	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
BROMOMETHANE	2.4 U	2.6 U		2.6 U	2.6 U		2.6 U	2.59 U	
CARBON DISULFIDE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
CARBON TETRACHLORIDE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
CHLOROBENZENE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
CHLORODIBROMOMETHANE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
CHLOROETHANE	2.4 U	2.6 U		2.6 U	2.6 U		2.6 U	2.59 U	
CHLOROFORM	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
CHLOROMETHANE	2.4 U	2.6 U		2.6 U	2.6 U		2.6 U	2.59 U	
CIS-1,2-DICHLOROETHENE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
CIS-1,3-DICHLOROPROPENE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
CYCLOHEXANE	1.2 U	1.3 U		1.3 U	1.3 U		1.3 U	1.3 U	
DICHLORODIFLUOROMETHANE	2.4 U	2.6 U		2.6 U	2.6 U		2.6 U	2.59 U	

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-024-1210	BCHMS-SO-025-1210	BCHMS-SO-026-1210	BCHMS-SO-028-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-29	1012153-30	1012153-31	1012153-32				
FRACTION: OV	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	88.3	84.6	88.5	87.4				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
1,1,2,2-TETRACHLOROETHANE	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
1,1,2-TRICHLOROETHANE	1.4 U			1.36 UJ	1.36 UJ	C	1.45 UJ	1.39 UJ	C
1,1,2-TRICHLOROTRIFLUOROETHANE	2.8 U			2.72 U	2.72 U		2.89 U	2.78 U	
1,1-DICHLOROETHANE	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
1,1-DICHLOROETHENE	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
1,2,3-TRICHLOROBENZENE	1.4 U			1.36 UJ	1.36 UJ	C	1.45 UJ	1.39 UJ	C
1,2,4-TRICHLOROBENZENE	1.4 U			1.36 UJ	1.36 UJ	C	1.45 UJ	1.39 UJ	C
1,2-DIBROMO-3-CHLOROPROPANE	2.8 U			2.72 UJ	2.72 UJ	C	2.89 UJ	2.78 UJ	C
1,2-DIBROMOETHANE	1.4 U			1.36 UJ	1.36 UJ	C	1.45 UJ	1.39 UJ	C
1,2-DICHLOROBENZENE	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
1,2-DICHLOROETHANE	1.4 U			1.36 UJ	1.36 UJ	C	1.45 UJ	1.39 UJ	C
1,2-DICHLOROPROPANE	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
1,3-DICHLOROBENZENE	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
1,4-DICHLOROBENZENE	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
2-BUTANONE	2.8 U			2.72 U	2.72 U		2.89 U	2.78 U	
2-HEXANONE	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
4-METHYL-2-PENTANONE	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
ACETONE	6.97 J	P		10.5 J	10.5 J	P	51	7.4 J	P
BENZENE	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
BROMOCHLOROMETHANE	1.4 U			1.36 UJ	1.36 UJ	C	1.45 UJ	1.39 UJ	C
BROMODICHLOROMETHANE	1.4 U			1.36 UJ	1.36 UJ	C	1.45 UJ	1.39 UJ	C
BROMOFORM	1.4 U			1.36 UJ	1.36 UJ	C	1.45 UJ	1.39 UJ	C
BROMOMETHANE	2.8 U			2.72 UJ	2.72 UJ	C	2.89 UJ	2.78 UJ	C
CARBON DISULFIDE	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
CARBON TETRACHLORIDE	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
CHLOROBENZENE	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
CHLORODIBROMOMETHANE	1.4 U			1.36 UJ	1.36 UJ	C	1.45 UJ	1.39 UJ	C
CHLOROETHANE	2.8 U			2.72 U	2.72 U		2.89 U	2.78 U	
CHLOROFORM	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
CHLOROMETHANE	2.8 U			2.72 U	2.72 U		2.89 U	2.78 U	
CIS-1,2-DICHLOROETHENE	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
CIS-1,3-DICHLOROPROPENE	1.4 U			1.36 UJ	1.36 UJ	C	1.45 UJ	1.39 UJ	C
CYCLOHEXANE	1.4 U			1.36 U	1.36 U		1.45 U	1.39 U	
DICHLORODIFLUOROMETHANE	2.8 U			2.72 UJ	2.72 UJ	C	2.89 UJ	2.78 UJ	C

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-FD01-1210	BCHMS-SO-FD02-1210
SDG: CTOJM17KW_3	LAB_ID	1012153-33	1012153-34
FRACTION: OV	SAMP_DATE	12/14/2010	12/14/2010
MEDIA: SOIL	QC_TYPE	NM	NM
	UNITS	UG/KG	UG/KG
	PCT_SOLIDS	87.9	86.8
	DUP_OF	BCHMS-SO-014-1210	BCHMS-SO-024-1210
PARAMETER	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE	1.27 U		
1,1,2,2-TETRACHLOROETHANE	1.27 U		
1,1,2-TRICHLOROETHANE	1.27 UJ	C	C
1,1,2-TRICHLOROTRIFLUOROETHANE	2.54 U		
1,1-DICHLOROETHANE	1.27 U		
1,1-DICHLOROETHENE	1.27 U		
1,2,3-TRICHLOROBENZENE	1.27 UJ	C	C
1,2,4-TRICHLOROBENZENE	1.27 UJ	C	C
1,2-DIBROMO-3-CHLOROPROPANE	2.54 UJ	C	C
1,2-DIBROMOETHANE	1.27 UJ	C	C
1,2-DICHLOROBENZENE	1.27 U		
1,2-DICHLOROETHANE	1.27 UJ	C	C
1,2-DICHLOROPROPANE	1.27 U		
1,3-DICHLOROBENZENE	1.27 U		
1,4-DICHLOROBENZENE	1.27 U		
2-BUTANONE	2.54 U		
2-HEXANONE	1.27 U		
4-METHYL-2-PENTANONE	1.27 U		
ACETONE	13.6 J	P	
BENZENE	1.27 U		
BROMOCHLOROMETHANE	1.27 UJ	C	C
BROMODICHLOROMETHANE	1.27 UJ	C	C
BROMOFORM	1.27 UJ	C	C
BROMOMETHANE	2.54 UJ	C	C
CARBON DISULFIDE	1.27 U		
CARBON TETRACHLORIDE	1.27 U		
CHLOROBENZENE	1.27 U		
CHLORODIBROMOMETHANE	1.27 UJ	C	C
CHLOROETHANE	2.54 U		
CHLOROFORM	1.27 U		
CHLOROMETHANE	2.54 U		
CIS-1,2-DICHLOROETHENE	1.27 U		
CIS-1,3-DICHLOROPROPENE	1.27 UJ	C	C
CYCLOHEXANE	1.27 U		
DICHLORODIFLUOROMETHANE	2.54 UJ	C	C

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-002-1210	BCHMS-SO-004-1210	BCHMS-SO-007-1210	BCHMS-SO-010-1210						
SDG: CTOJM17KW_3	LAB_ID	1012153-13	1012153-14	1012153-15	1012153-16						
FRACTION: OV	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010						
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM						
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG						
	PCT_SOLIDS	87.5	86.3	88.3	73.2						
	DUP_OF										
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD		
ETHYLBENZENE	1.49 U			1.92 U			1.66 U			1.55 U	
ISOPROPYLBENZENE	1.49 U			1.92 U			1.66 U			1.55 U	
M+P-XYLENES	2.98 U			3.83 U			3.32 U			3.1 U	
METHYL ACETATE	2.98 U			3.83 U			3.32 U			3.1 U	
METHYL CYCLOHEXANE	1.49 U			1.92 U			1.66 U			1.55 U	
METHYL TERT-BUTYL ETHER	1.49 U			1.92 U			1.66 U			1.55 U	
METHYLENE CHLORIDE	2.98 U			3.83 U		A	4.8 U			3.1 U	
O-XYLENE	1.49 U			1.92 U			1.66 U			1.55 U	
STYRENE	1.49 U			1.92 U			1.66 U			1.55 U	
TETRACHLOROETHENE	1.49 U			1.92 U			1.66 U			1.55 U	
TOLUENE	1.49 U			1.92 U			1.66 U			1.55 U	
TRANS-1,2-DICHLOROETHENE	1.49 U			1.92 U			1.66 U			1.55 U	
TRANS-1,3-DICHLOROPROPENE	1.49 U			1.92 U			1.66 U			1.55 U	
TRICHLOROETHENE	1.49 U			1.92 U			1.66 U			1.55 U	
TRICHLOROFLUOROMETHANE	2.98 U			3.83 U			3.32 U			3.1 U	
VINYL CHLORIDE	1.49 UJ		C	1.92 UJ		C	1.66 UJ		C	1.55 UJ	C



PROJ_NO: 02608	NSAMPLE	BCHMS-SO-016-1210	BCHMS-SO-017-1210	BCHMS-SO-018-1210	BCHMS-SO-019-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-21	1012153-22	1012153-23	1012153-24				
FRACTION: OV	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	86.7	88.1	87.9	84.8				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ETHYLBENZENE	1.45 U			1.26 U	1.47 U		1.35 U	1.35 U	
ISOPROPYLBENZENE	1.45 U			1.26 U	1.47 U		1.35 U	1.35 U	
M+P-XYLENES	2.91 U			2.51 U	2.94 U		2.69 U	2.69 U	
METHYL ACETATE	2.91 U			2.51 U	2.94 U		2.69 U	2.69 U	
METHYL CYCLOHEXANE	1.45 U			1.26 U	1.47 U		1.35 U	1.35 U	
METHYL TERT-BUTYL ETHER	1.45 U			1.26 U	1.47 U		1.35 U	1.35 U	
METHYLENE CHLORIDE	2.91 U		A	2.89 U	2.94 U		3.33 U	3.33 U	A
O-XYLENE	1.45 U			1.26 U	1.47 U		1.35 U	1.35 U	
STYRENE	1.45 U			1.26 U	1.47 U		1.35 U	1.35 U	
TETRACHLOROETHENE	1.45 U			1.26 U	1.47 U		1.35 U	1.35 U	
TOLUENE	1.45 U			1.26 U	1.47 U		1.35 U	1.35 U	
TRANS-1,2-DICHLOROETHENE	1.45 U			1.26 U	1.47 U		1.35 U	1.35 U	
TRANS-1,3-DICHLOROPROPENE	1.45 U			1.26 U	1.47 U		1.35 U	1.35 U	
TRICHLOROETHENE	1.45 U			1.26 U	1.47 U		1.35 U	1.35 U	
TRICHLOROFLUOROMETHANE	2.91 U			2.51 U	2.94 U		2.69 U	2.69 U	
VINYL CHLORIDE	1.45 UJ	C	C	1.26 UJ	1.47 UJ	C	1.35 UJ	1.35 UJ	C

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-020-1210	BCHMS-SO-021-1210	BCHMS-SO-022-1210	BCHMS-SO-023-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-25	1012153-26	1012153-27	1012153-28				
FRACTION: OV	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	87.5	86.1	88.1	86.0				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ETHYLBENZENE	1.2 U			1.3 U	1.3 U		1.3 U	1.3 U	
ISOPROPYLBENZENE	1.2 U			1.3 U	1.3 U		1.3 U	1.3 U	
M+P-XYLENES	2.4 U			2.6 U	2.6 U		2.61 U	2.59 U	
METHYL ACETATE	2.4 U			2.6 U	2.6 U		2.61 U	2.59 U	
METHYL CYCLOHEXANE	1.2 U			1.3 U	1.3 U		1.3 U	1.3 U	
METHYL TERT-BUTYL ETHER	1.2 U			1.3 U	1.3 U		1.3 U	1.3 U	
METHYLENE CHLORIDE	2.4 U			3.08 U	3.08 U	A	3.21 U	3.17 U	A
O-XYLENE	1.2 U			1.3 U	1.3 U		1.3 U	1.3 U	
STYRENE	1.2 U			1.3 U	1.3 U		1.3 U	1.3 U	
TETRACHLOROETHENE	1.2 U			1.3 U	1.3 U		1.3 U	1.3 U	
TOLUENE	1.2 U			1.3 U	1.3 U		1.3 U	1.3 U	
TRANS-1,2-DICHLOROETHENE	1.2 U			1.3 U	1.3 U		1.3 U	1.3 U	
TRANS-1,3-DICHLOROPROPENE	1.2 U			1.3 U	1.3 U		1.3 U	1.3 U	
TRICHLOROETHENE	1.2 U			1.3 U	1.3 U		1.3 U	1.3 U	
TRICHLOROFLUOROMETHANE	2.4 U			2.6 U	2.6 U		2.61 U	2.59 U	
VINYL CHLORIDE	1.2 UJ	C	C	1.3 UJ	1.3 UJ	C	1.3 UJ	1.3 UJ	C

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-024-1210	BCHMS-SO-025-1210	BCHMS-SO-026-1210	BCHMS-SO-028-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-29	1012153-30	1012153-31	1012153-32				
FRACTION: OV	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	88.3	84.6	88.5	87.4				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ETHYLBENZENE	1.4 U			1.36 U	1.45 U		1.39 U	1.39 U	
ISOPROPYLBENZENE	1.4 U			1.36 U	1.45 U		1.39 U	1.39 U	
M+P-XYLENES	2.8 U			2.72 U	2.89 U		2.78 U	2.78 U	
METHYL ACETATE	2.8 U			5.75 J	2.89 UJ	CP	2.78 UJ	2.78 UJ	C
METHYL CYCLOHEXANE	1.4 U			1.36 U	1.45 U		1.39 U	1.39 U	
METHYL TERT-BUTYL ETHER	1.4 U			1.36 UJ	1.45 UJ	C	1.39 UJ	1.39 UJ	C
METHYLENE CHLORIDE	3.05 U		A	2.72 U	2.89 U		2.78 U	2.78 U	
O-XYLENE	1.4 U			1.36 U	1.45 U		1.39 U	1.39 U	
STYRENE	1.4 U			1.36 UJ	1.45 UJ	C	1.39 UJ	1.39 UJ	C
TETRACHLOROETHENE	1.4 U			1.36 U	1.45 U		1.39 U	1.39 U	
TOLUENE	1.4 U			1.36 U	1.45 U		1.39 U	1.39 U	
TRANS-1,2-DICHLOROETHENE	1.4 U			1.36 U	1.45 U		1.39 U	1.39 U	
TRANS-1,3-DICHLOROPROPENE	1.4 U			1.36 UJ	1.45 UJ	C	1.39 UJ	1.39 UJ	C
TRICHLOROETHENE	1.4 U			1.36 U	1.45 U		1.39 U	1.39 U	
TRICHLOROFLUOROMETHANE	2.8 U			2.72 U	2.89 U		2.78 U	2.78 U	
VINYL CHLORIDE	1.4 UJ		C	1.36 U	1.45 U		1.39 U	1.39 U	

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-FD01-1210	BCHMS-SO-FD02-1210
SDG: CTOJM17KW_3	LAB_ID	1012153-33	1012153-34
FRACTION: OV	SAMP_DATE	12/14/2010	12/14/2010
MEDIA: SOIL	QC_TYPE	NM	NM
	UNITS	UG/KG	UG/KG
	PCT_SOLIDS	87.9	86.8
	DUP_OF	BCHMS-SO-014-1210	BCHMS-SO-024-1210
PARAMETER	RESULT	VQL	QLCD
ETHYLBENZENE	1.27 U	1.41 U	
ISOPROPYLBENZENE	1.27 U	1.41 U	
M+P-XYLENES	2.54 U	2.83 U	
METHYL ACETATE	2.54 UJ	2.83 UJ	C
METHYL CYCLOHEXANE	1.27 U	1.41 U	
METHYL TERT-BUTYL ETHER	1.27 UJ	1.41 UJ	C
METHYLENE CHLORIDE	2.54 U	2.83 U	
O-XYLENE	1.27 U	1.41 U	
STYRENE	1.27 UJ	1.41 UJ	C
TETRACHLOROETHENE	1.27 U	1.41 U	
TOLUENE	1.27 U	1.41 U	
TRANS-1,2-DICHLOROETHENE	1.27 U	1.41 U	
TRANS-1,3-DICHLOROPROPENE	1.27 UJ	1.41 UJ	C
TRICHLOROETHENE	1.27 U	1.41 U	
TRICHLOROFLUOROMETHANE	2.54 U	2.83 U	
VINYL CHLORIDE	1.27 U	1.41 U	

PROJ_NO: 02608	NSAMPLE	BCHMS-FD001-1210	BCHMS-FD002-1210	BCHMS-GW-004-1210	BCHMS-GW-005-1210
SDG: CTOJM17KW_3	LAB_ID	1012153-01	1012153-06	1012153-02	1012153-03
FRACTION: OV	SAMP_DATE	12/12/2010	12/13/2010	12/12/2010	12/12/2010
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM
	UNITS	UG/L	UG/L	UG/L	UG/L
	PCT_SOLIDS	0.0	0.0	0.0	0.0
	DUP_OF	BCHMS-GW-004-1210	BCHMS-GW-011-1210		
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL
1,1,1-TRICHLOROETHANE	0.25 UJ	U	C	0.25 UJ	UJ
1,1,2,2-TETRACHLOROETHANE	0.2 U	U		0.2 U	U
1,1,2-TRICHLOROETHANE	0.25 U	U		0.25 U	U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.5 UJ	U	C	0.5 UJ	UJ
1,1-DICHLOROETHANE	0.25 U	U		0.25 U	U
1,1-DICHLOROETHENE	0.25 U	U		0.25 U	U
1,2,3-TRICHLOROBENZENE	0.25 U	U		0.25 U	U
1,2,4-TRICHLOROBENZENE	0.25 U	U		0.25 U	U
1,2-DIBROMO-3-CHLOROPROPANE	0.2 U	U		0.2 U	U
1,2-DIBROMOETHANE	0.25 U	U		0.25 U	U
1,2-DICHLOROBENZENE	0.25 U	U		0.25 U	U
1,2-DICHLOROETHANE	0.25 UJ	U	C	0.25 UJ	UJ
1,2-DICHLOROPROPANE	0.25 U	U		0.25 U	U
1,3-DICHLOROBENZENE	0.25 U	U		0.25 U	U
1,4-DICHLOROBENZENE	0.25 U	U		0.25 U	U
2-BUTANONE	2.5 U	U		2.5 U	U
2-HEXANONE	1.25 U	U		1.25 U	U
4-METHYL-2-PENTANONE	1.25 U	U		1.25 U	U
ACETONE	2.5 UJ	U	C	2.5 UJ	J
BENZENE	0.25 U	U		0.25 U	U
BROMOCHLOROMETHANE	0.25 U	U		0.25 U	U
BROMODICHLOROMETHANE	0.25 UJ	U	C	0.25 UJ	UJ
BROMOFORM	0.25 U	U		0.25 U	U
BROMOMETHANE	0.5 UJ	U	C	0.5 UJ	UJ
CARBON DISULFIDE	0.25 UJ	U	C	0.25 UJ	UJ
CARBON TETRACHLORIDE	0.25 UJ	U	C	0.25 UJ	UJ
CHLOROBENZENE	0.25 U	U		0.25 U	U
CHLORODIBROMOMETHANE	0.25 UJ	U	C	0.25 UJ	UJ
CHLOROETHANE	0.5 U	U		0.5 U	U
CHLOROFORM	0.25 UJ	U	C	0.25 UJ	UJ
CHLOROMETHANE	0.25 U	U		0.25 U	U
CIS-1,2-DICHLOROETHENE	0.25 U	U		0.25 U	U
CIS-1,3-DICHLOROPROPENE	0.25 U	U		0.25 U	U
CYCLOHEXANE	0.25 U	U		0.25 U	U
DICHLORODIFLUOROMETHANE	0.5 UJ	U	C	0.5 UJ	UJ

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-006-1210	BCHMS-GW-007-1210	BCHMS-GW-008-1210	BCHMS-GW-009D-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-04RE1	1012153-06	1012153-07	1012153-08				
FRACTION: OV	SAMP_DATE	12/12/2010	12/12/2010	12/13/2010	12/13/2010				
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/L	UG/L	UG/L	UG/L				
	PCT_SOLIDS	0.0	0.0	0.0	0.0				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE	0.25 U			0.25 U			0.25 U		
1,1,2,2-TETRACHLOROETHANE	0.2 U			0.2 U			0.2 U		
1,1,2-TRICHLOROETHANE	0.25 U			0.25 U			0.25 U		
1,1,2-TRICHLOROTRIFLUOROETHANE	0.5 U			0.5 U			0.5 U		
1,1-DICHLOROETHANE	0.25 U			0.25 U			0.25 U		
1,1-DICHLOROETHENE	0.25 U			0.25 U			0.25 U		
1,2,3-TRICHLOROBENZENE	0.25 U			0.25 U			0.25 U		
1,2,4-TRICHLOROBENZENE	0.25 U			0.25 U			0.25 U		
1,2-DIBROMO-3-CHLOROPROPANE	0.2 U			0.2 U			0.2 U		
1,2-DIBROMOETHANE	0.25 U			0.25 U			0.25 U		
1,2-DICHLOROBENZENE	0.25 U			0.25 U			0.25 U		
1,2-DICHLOROETHANE	0.25 U			0.25 U			0.25 U		
1,2-DICHLOROPROPANE	0.25 U			0.25 U			0.25 U		
1,3-DICHLOROBENZENE	0.25 U			0.25 U			0.25 U		
1,4-DICHLOROBENZENE	0.25 U			0.25 U			0.25 U		
2-BUTANONE	2.5 U			2.5 U			2.5 U		
2-HEXANONE	1.25 U			1.25 U			1.25 U		
4-METHYL-2-PENTANONE	1.25 U			1.25 U			1.25 U		
ACETONE	7.18 J		P	2.5 U			2.5 U		
BENZENE	0.25 U			0.25 U			0.25 U		
BROMOCHLOROMETHANE	0.25 U			0.25 U			0.25 U		
BROMODICHLOROMETHANE	0.25 U			0.25 U			0.25 U		
BROMOFORM	0.25 U			0.25 U			0.25 U		
BROMOMETHANE	0.5 UJ		C	0.5 UJ		C	0.5 UJ		C
CARBON DISULFIDE	0.25 U			0.25 U			0.25 U		
CARBON TETRACHLORIDE	0.25 U			0.25 U			0.25 U		
CHLOROBENZENE	0.25 U			0.25 U			0.25 U		
CHLORODIBROMOMETHANE	0.25 UJ		C	0.25 U			0.25 U		
CHLOROETHANE	0.5 U			0.5 U			0.5 U		
CHLOROFORM	0.25 U			0.25 U			0.25 U		
CHLOROMETHANE	0.25 U			0.25 U			0.25 U		
CIS-1,2-DICHLOROETHENE	0.25 U			0.25 U			0.25 U		
CIS-1,3-DICHLOROPROPENE	0.25 U			0.25 U			0.25 U		
CYCLOHEXANE	0.25 U			0.25 U			0.25 U		
DICHLORODIFLUOROMETHANE	0.5 U			0.5 U			0.5 U		

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-010-1210	BCHMS-GW-011-1210	BCHMS-GW-012-1210					
SDG: CTOJM17KW_3	LAB_ID	1012153-09RE1	1012153-10	1012153-11					
FRACTION: OV	SAMP_DATE	12/13/2010	12/13/2010	12/13/2010					
MEDIA: WATER	QC_TYPE	NM	NM	NM					
	UNITS	UG/L	UG/L	UG/L					
	PCT_SOLIDS	0.0	0.0	0.0					
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
1,1,2,2-TETRACHLOROETHANE	0.2 U	0.2 U			0.2 U		0.2 U	0.2 U	
1,1,2-TRICHLOROETHANE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
1,1,2-TRICHLOROTRIFLUOROETHANE	0.5 U	0.5 U			0.5 U		0.5 U	0.5 U	
1,1-DICHLOROETHANE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
1,1-DICHLOROETHENE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
1,2,3-TRICHLOROBENZENE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
1,2,4-TRICHLOROBENZENE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
1,2-DIBROMO-3-CHLOROPROPANE	0.2 U	0.2 U			0.2 U		0.2 U	0.2 U	
1,2-DIBROMOETHANE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
1,2-DICHLOROBENZENE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
1,2-DICHLOROETHANE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
1,2-DICHLOROPROPANE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
1,3-DICHLOROBENZENE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
1,4-DICHLOROBENZENE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
2-BUTANONE	2.5 U	2.5 U			2.5 U		2.5 U	2.5 U	
2-HEXANONE	1.25 U	1.25 U			1.25 U		1.25 U	1.25 U	
4-METHYL-2-PENTANONE	1.25 U	1.25 U			1.25 U		1.25 U	1.25 U	
ACETONE	4.71 J	J	P		2.5 U		2.5 U	2.5 U	
BENZENE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
BROMOCHLOROMETHANE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
BROMODICHLOROMETHANE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
BROMOFORM	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
BROMOMETHANE	0.5 UJ	0.5 UJ	C		0.5 UJ	C	0.5 UJ	0.5 UJ	C
CARBON DISULFIDE	0.624 J	J	P		0.25 U		0.25 U	0.25 U	
CARBON TETRACHLORIDE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
CHLOROBENZENE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
CHLORODIBROMOMETHANE	0.25 UJ	0.25 UJ	C		0.25 U		0.25 U	0.25 U	
CHLOROETHANE	0.5 U	0.5 U			0.5 U		0.5 U	0.5 U	
CHLOROFORM	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
CHLOROMETHANE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
CIS-1,2-DICHLOROETHENE	2.5				0.25 U		0.25 U	0.25 U	
CIS-1,3-DICHLOROPROPENE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
CYCLOHEXANE	0.25 U	0.25 U			0.25 U		0.25 U	0.25 U	
DICHLORODIFLUOROMETHANE	0.5 U	0.5 U			0.5 U		0.5 U	0.5 U	

PROJ_NO: 02608	NSAMPLE	BCHMS-FD001-1210	BCHMS-FD002-1210	BCHMS-GW-004-1210	BCHMS-GW-005-1210
SDG: CTOJM17KW_3	LAB_ID	1012153-01	1012153-06	1012153-02	1012153-03
FRACTION: OV	SAMP_DATE	12/12/2010	12/13/2010	12/12/2010	12/12/2010
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM
	UNITS	UG/L	UG/L	UG/L	UG/L
	PCT_SOLIDS	0.0	0.0	0.0	0.0
	DUP_OF	BCHMS-GW-004-1210	BCHMS-GW-011-1210		
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL
ETHYLBENZENE	0.25 U	0.25 U		0.25 U	0.25 U
ISOPROPYLBENZENE	0.25 U	0.25 U		0.25 U	0.25 U
M+P-XYLENES	0.5 U	0.5 U		0.5 U	0.5 U
METHYL ACETATE	0.5 UJ	0.5 UJ	C	0.5 UJ	0.5 UJ
METHYL CYCLOHEXANE	0.25 U	0.25 U		0.25 U	0.25 U
METHYL TERT-BUTYL ETHER	0.25 U	0.25 U		0.25 U	0.25 U
METHYLENE CHLORIDE	0.5 U	0.5 U		0.5 U	0.5 U
O-XYLENE	0.25 U	0.25 U		0.25 U	0.25 U
STYRENE	0.25 U	0.25 U		0.25 U	0.25 U
TETRACHLOROETHENE	0.25 U	0.25 U		0.25 U	0.25 U
TOLUENE	0.25 U	0.25 U		0.25 U	0.25 U
TRANS-1,2-DICHLOROETHENE	0.25 U	0.25 U		0.25 U	0.25 U
TRANS-1,3-DICHLOROPROPENE	0.25 U	0.25 U		0.25 U	0.25 U
TRICHLOROETHENE	0.25 U	0.25 U		0.25 U	0.25 U
TRICHLOROFLUOROMETHANE	0.5 UJ	0.5 UJ	C	0.5 UJ	0.5 UJ
VINYL CHLORIDE	0.25 U	0.25 U		0.25 U	0.25 U

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-006-1210	BCHMS-GW-007-1210	BCHMS-GW-008-1210	BCHMS-GW-009D-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-04RE1	1012153-05	1012153-07	1012153-08				
FRACTION: OV	SAMP_DATE	12/12/2010	12/12/2010	12/13/2010	12/13/2010				
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/L	UG/L	UG/L	UG/L				
	PCT_SOLIDS	0.0	0.0	0.0	0.0				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ETHYLBENZENE	0.25 U	0.25 U		0.25 U	0.25 U		0.25 U	0.25 U	
ISOPROPYLBENZENE	0.25 U	0.25 U		0.25 U	0.25 U		0.25 U	0.25 U	
M+P-XYLENES	0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U	
METHYL ACETATE	0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U	
METHYL CYCLOHEXANE	0.25 U	0.25 U		0.25 U	0.25 U		0.25 U	0.25 U	
METHYL TERT-BUTYL ETHER	0.25 U	0.25 U		0.25 U	0.25 U		0.25 U	0.25 U	
METHYLENE CHLORIDE	0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U	
O-XYLENE	0.25 U	0.25 U		0.25 U	0.25 U		0.25 U	0.25 U	
STYRENE	0.25 U	0.25 U		0.25 U	0.25 U		0.25 U	0.25 U	
TETRACHLOROETHENE	0.25 U	0.25 U		0.25 U	0.25 U		0.25 U	0.25 U	
TOLUENE	0.25 U	0.25 U		0.25 U	0.25 U		0.25 U	0.25 U	
TRANS-1,2-DICHLOROETHENE	0.25 U	0.25 U		0.25 U	0.25 U		0.25 U	0.25 U	
TRANS-1,3-DICHLOROPROPENE	0.25 U	0.25 U		0.25 U	0.25 U		0.25 U	0.25 U	
TRICHLOROETHENE	0.25 U	0.25 U		0.25 U	0.25 U		0.25 U	0.25 U	
TRICHLOROFLUOROMETHANE	0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U	
VINYL CHLORIDE	0.25 U	0.25 U		0.25 U	0.25 U		0.25 U	0.25 U	

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-010-1210	BCHMS-GW-011-1210	BCHMS-GW-012-1210					
SDG: CTOJM17KW_3	LAB_ID	1012153-09RE1	1012153-10	1012153-11					
FRACTION: OV	SAMP_DATE	12/13/2010	12/13/2010	12/13/2010					
MEDIA: WATER	QC_TYPE	NM	NM	NM					
	UNITS	UG/L	UG/L	UG/L					
	PCT_SOLIDS	0.0	0.0	0.0					
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ETHYLBENZENE	0.25 U				0.25 U			0.25 U	
ISOPROPYLBENZENE	0.25 U				0.25 U			0.25 U	
M+P-XYLENES	0.5 U				0.5 U			0.5 U	
METHYL ACETATE	0.5 U				0.5 U			0.5 U	
METHYL CYCLOHEXANE	0.25 U				0.25 U			0.25 U	
METHYL TERT-BUTYL ETHER	0.25 U				0.25 U			0.25 U	
METHYLENE CHLORIDE	0.5 U				0.5 U			0.5 U	
O-XYLENE	0.25 U				0.25 U			0.25 U	
STYRENE	0.25 U				0.25 U			0.25 U	
TETRACHLOROETHENE	0.25 U				0.25 U			0.25 U	
TOLUENE	0.565 J		P		1.83			0.25 U	
TRANS-1,2-DICHLOROETHENE	0.25 U				0.25 U			0.25 U	
TRANS-1,3-DICHLOROPROPENE	0.25 U				0.25 U			0.25 U	
TRICHLOROETHENE	0.25 U				0.25 U			0.25 U	
TRICHLOROFLUOROMETHANE	0.5 U				0.5 U			0.5 U	
VINYL CHLORIDE	0.25 U				0.25 U			0.25 U	



PROJ_NO: 02608	NSAMPLE	BCHMS-SO-012-1210	BCHMS-SO-013-1210	BCHMS-SO-014-1210	BCHMS-SO-015-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-17	1012153-18	1012153-19	1012153-20				
FRACTION: PAH	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	77.7	80.5	86.5	85.8				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
1,2,4,5-TETRACHLOROBENZENE	107 UJ	107 UJ	C	102 UJ	102 UJ	C	96.3 UJ	96.3 UJ	C
1,4-DIOXANE	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
2,2'-OXYBIS(1-CHLOROPROPANE)	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
2,3,4,6-TETRACHLOROPHENOL	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
2,4,5-TRICHLOROPHENOL	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
2,4,6-TRICHLOROPHENOL	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
2,4-DICHLOROPHENOL	426 U	426 U		408 U	408 U		385 U	381 U	
2,4-DIMETHYLPHENOL	1070 U	1070 U		1020 U	1020 U		963 U	952 U	
2,4-DINITROPHENOL	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
2,4-DINITROTOLUENE	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
2,6-DINITROTOLUENE	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
2-CHLORONAPHTHALENE	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
2-CHLOROPHENOL	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
2-METHYLPHENOL	426 U	426 U		408 U	408 U		385 U	381 U	
2-NITROANILINE	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
2-NITROPHENOL	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
3,3'-DICHLOROBENZIDINE	426 U	426 U		408 U	408 U		385 U	381 U	
3-NITROANILINE	1070 U	1070 U		1020 U	1020 U		963 U	952 U	
4,6-DINITRO-2-METHYLPHENOL	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
4-BROMOPHENYL PHENYL ETHER	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
4-CHLORO-3-METHYLPHENOL	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
4-CHLOROANILINE	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
4-CHLOROPHENYL PHENYL ETHER	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
4-METHYLPHENOL	426 U	426 U		408 U	408 U		385 U	381 U	
4-NITROANILINE	426 U	426 U		408 U	408 U		385 U	381 U	
4-NITROPHENOL	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
ACETOPHENONE	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
ATRAZINE	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
BENZALDEHYDE	107 UJ	107 UJ	C	102 UJ	102 UJ	C	96.3 UJ	95.2 UJ	C
BIS(2-CHLOROETHOXYMETHANE	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
BIS(2-CHLOROETHYL)ETHER	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
BIS(2-ETHYLHEXYL)PHTHALATE	107 UJ	107 UJ	C	102 UJ	102 UJ	C	96.3 UJ	95.2 UJ	C
BUTYL BENZYL PHTHALATE	107 UJ	107 UJ	C	102 UJ	102 UJ	C	96.3 UJ	95.2 UJ	C
CAPROLACTAM	107 U	107 U		102 U	102 U		96.3 U	95.2 U	

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-016-1210	BCHMS-SO-017-1210	BCHMS-SO-018-1210	BCHMS-SO-019-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-21	1012153-22	1012153-23	1012153-24				
FRACTION: PAH	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	86.7	88.1	87.9	84.8				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL	94.8 U			93.9 U	94.1 U		97.6 U		
1,2,4,5-TETRACHLOROBENZENE	94.8 UJ		C	93.9 UJ	94.1 UJ	C	97.6 UJ		C
1,4-DIOXANE	94.8 U			93.9 U	94.1 U		97.6 U		
2,2'-OXYBIS(1-CHLOROPROPANE)	94.8 U			93.9 U	94.1 U		97.6 U		
2,3,4,6-TETRACHLOROPHENOL	94.8 U			93.9 U	94.1 U		97.6 U		
2,4,5-TRICHLOROPHENOL	94.8 U			93.9 U	94.1 U		97.6 U		
2,4,6-TRICHLOROPHENOL	94.8 U			93.9 U	94.1 U		97.6 U		
2,4-DICHLOROPHENOL	94.8 U			93.9 U	94.1 U		97.6 U		
2,4-DIMETHYLPHENOL	379 U			375 U	376 U		390 U		
2,4-DINITROPHENOL	948 U			939 U	941 U		976 U		
2,4-DINITROTOLUENE	94.8 U			93.9 U	94.1 U		97.6 U		
2,6-DINITROTOLUENE	94.8 U			93.9 U	94.1 U		97.6 U		
2-CHLORONAPHTHALENE	94.8 U			93.9 U	94.1 U		97.6 U		
2-CHLOROPHENOL	94.8 U			93.9 U	94.1 U		97.6 U		
2-METHYLPHENOL	94.8 U			93.9 U	94.1 U		97.6 U		
2-NITROANILINE	379 U			375 U	376 U		390 U		
2-NITROPHENOL	94.8 U			93.9 U	94.1 U		97.6 U		
3,3'-DICHLOROBENZIDINE	94.8 U			93.9 U	94.1 U		97.6 U		
3-NITROANILINE	379 U			375 U	376 U		390 U		
4,6-DINITRO-2-METHYLPHENOL	948 U			939 U	941 U		976 U		
4-BROMOPHENYL PHENYL ETHER	94.8 U			93.9 U	94.1 U		97.6 U		
4-CHLORO-3-METHYLPHENOL	94.8 U			93.9 U	94.1 U		97.6 U		
4-CHLOROANILINE	94.8 U			93.9 U	94.1 U		97.6 U		
4-CHLOROPHENYL PHENYL ETHER	94.8 U			93.9 U	94.1 U		97.6 U		
4-METHYLPHENOL	94.8 U			93.9 U	94.1 U		97.6 U		
4-NITROANILINE	379 U			375 U	376 U		390 U		
4-NITROPHENOL	379 U			375 U	376 U		390 U		
ACETOPHENONE	94.8 U			93.9 U	94.1 U		97.6 U		
ATRAZINE	94.8 U			93.9 U	94.1 U		97.6 U		
BENZALDEHYDE	94.8 UJ		C	93.9 UJ	94.1 UJ	C	97.6 UJ		C
BIS(2-CHLOROETHOXYMETHANE	94.8 U			93.9 U	94.1 U		97.6 U		
BIS(2-CHLOROETHYL)ETHER	94.8 U			93.9 U	94.1 U		97.6 U		
BIS(2-ETHYLHEXYL)PHTHALATE	94.8 UJ		C	93.9 UJ	94.1 UJ	C	97.6 UJ		C
BUTYL BENZYL PHTHALATE	94.8 UJ		C	93.9 UJ	94.1 UJ	C	97.6 UJ		C
CAPROLACTAM	94.8 U			93.9 U	94.1 U		97.6 U		

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-020-1210	BCHMS-SO-021-1210	BCHMS-SO-022-1210	BCHMS-SO-023-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-25	1012153-26	1012153-27	1012153-28				
FRACTION: PAH	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	87.5	86.1	88.1	86.0				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
1,2,4,5-TETRACHLOROBENZENE	94.6 UJ	C		95.5 UJ	92.1 UJ	C	95.5 UJ	92.1 UJ	C
1,4-DIOXANE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2,2'-OXYBIS(1-CHLOROPROPANE)	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2,3,4,6-TETRACHLOROPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2,4,5-TRICHLOROPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2,4,6-TRICHLOROPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2,4-DICHLOROPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2,4-DIMETHYLPHENOL	378 U			382 U	368 U		382 U	368 U	
2,4-DINITROPHENOL	946 U			955 U	921 U		955 U	921 U	
2,4-DINITROTOLUENE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2,6-DINITROTOLUENE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2-CHLORONAPHTHALENE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2-CHLOROPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2-METHYLPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2-NITROANILINE	378 U			382 U	368 U		382 U	368 U	
2-NITROPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
3,3'-DICHLOROBENZIDINE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
3-NITROANILINE	378 U			382 U	368 U		382 U	368 U	
4,6-DINITRO-2-METHYLPHENOL	946 U			955 U	921 U		955 U	921 U	
4-BROMOPHENYL PHENYL ETHER	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
4-CHLORO-3-METHYLPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
4-CHLOROANILINE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
4-CHLOROPHENYL PHENYL ETHER	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
4-METHYLPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
4-NITROANILINE	378 U			382 U	368 U		382 U	368 U	
4-NITROPHENOL	378 U			382 U	368 U		382 U	368 U	
ACETOPHENONE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
ATRAZINE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
BENZALDEHYDE	94.6 UJ	C		95.5 UJ	92.1 UJ	C	95.5 UJ	92.1 UJ	C
BIS(2-CHLOROETHOXY)METHANE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
BIS(2-CHLOROETHYL)ETHER	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
BIS(2-ETHYLHEXYL)PHTHALATE	94.6 UJ	C		95.5 UJ	92.1 UJ	C	95.5 UJ	92.1 UJ	C
BUTYL BENZYL PHTHALATE	94.6 UJ	C		95.5 UJ	92.1 UJ	C	95.5 UJ	92.1 UJ	C
CAPROLACTAM	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	

PROJ_NO: 02608 SDG: CTOJM17KW_3 FRACTION: PAH MEDIA: SOIL	NSAMPLE		BCHMS-SO-024-1210		BCHMS-SO-025-1210		BCHMS-SO-026-1210		BCHMS-SO-028-1210																			
	LAB_ID	SAMP_DATE	QC_TYPE	UNITS	PCT_SOLIDS	DUP_OF	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD													
	1012153-29	12/14/2010	NM	UG/KG	88.3		92.5 U			1012153-30	12/14/2010	NM	UG/KG	84.6		1012153-31	12/14/2010	NM	UG/KG	88.5		1012153-32	12/14/2010	NM	UG/KG	87.4		
							RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
PARAMETER																												
1,1-BIPHENYL							92.5 U			98.5 U			93.5 U			92.8 U												
1,2,4,5-TETRACHLOROBENZENE							92.5 UJ	C		98.5 UJ		C	93.5 UJ		C	92.8 UJ		C										
1,4-DIOXANE							92.5 U			98.5 U			93.5 U			92.8 U												
2,2'-OXYBIS(1-CHLOROPROPANE)							92.5 U			98.5 U			93.5 U			92.8 U												
2,3,4,6-TETRACHLOROPHENOL							92.5 U			98.5 U			93.5 UR		R	92.8 U												
2,4,5-TRICHLOROPHENOL							92.5 U			98.5 U			93.5 UR		R	92.8 U												
2,4,6-TRICHLOROPHENOL							92.5 U			98.5 U			93.5 UR		R	92.8 U												
2,4-DICHLOROPHENOL							92.5 U			98.5 U			93.5 UR		R	92.8 U												
2,4-DIMETHYLPHENOL							370 U			394 U			374 UR		R	371 U												
2,4-DINITROPHENOL							925 U			985 U			935 UR		R	928 U												
2,4-DINITROTOLUENE							92.5 U			98.5 U			93.5 U			92.8 U												
2,6-DINITROTOLUENE							92.5 U			98.5 U			93.5 U			92.8 U												
2-CHLORONAPHTHALENE							92.5 U			98.5 U			93.5 U			92.8 U												
2-CHLOROPHENOL							92.5 U			98.5 U			93.5 UR		R	92.8 U												
2-METHYLPHENOL							92.5 U			98.5 U			93.5 UR		R	92.8 U												
2-NITROANILINE							370 U			394 U			374 U			371 U												
2-NITROPHENOL							92.5 U			98.5 U			93.5 UR		R	92.8 U												
3,3'-DICHLOROBENZIDINE							92.5 U			98.5 U			93.5 U			92.8 U												
3-NITROANILINE							370 U			394 U			374 U			371 U												
4,6-DINITRO-2-METHYLPHENOL							925 U			985 U			935 UR		R	928 U												
4-BROMOPHENYL PHENYL ETHER							92.5 U			98.5 U			93.5 U			92.8 U												
4-CHLORO-3-METHYLPHENOL							92.5 U			98.5 U			93.5 UR		R	92.8 U												
4-CHLOROANILINE							92.5 U			98.5 U			93.5 U			92.8 U												
4-CHLOROPHENYL PHENYL ETHER							92.5 U			98.5 U			93.5 U			92.8 U												
4-METHYLPHENOL							92.5 U			98.5 U			93.5 UR		R	92.8 U												
4-NITROANILINE							370 U			394 U			374 U			371 U												
4-NITROPHENOL							370 U			394 U			374 UR		R	371 U												
ACETOPHENONE							92.5 U			98.5 U			93.5 U			92.8 U												
ATRAZINE							92.5 U			98.5 U			93.5 U			92.8 U												
BENZALDEHYDE							92.5 UJ			98.5 UJ		C	93.5 UJ		C	92.8 UJ												
BIS(2-CHLOROETHOXY)METHANE							92.5 U			98.5 U			93.5 U			92.8 U												
BIS(2-CHLOROETHYL)ETHER							92.5 U			98.5 U			93.5 U			92.8 U												
BIS(2-ETHYLHEXYL)PHTHALATE							92.5 UJ			98.5 UJ		C	93.5 UJ		C	92.8 UJ												
BUTYL BENZYL PHTHALATE							92.5 UJ			98.5 UJ		C	93.5 UJ		C	92.8 UJ												
CAPROLACTAM							92.5 U			98.5 U			93.5 U			92.8 U												



PROJ_NO: 02608	NSAMPLE	BCHMS-SO-002-1210	BCHMS-SO-004-1210	BCHMS-SO-007-1210	BCHMS-SO-010-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-13	1012153-14	1012153-15	1012153-16				
FRACTION: PAH	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	87.5	86.3	88.3	73.2				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
1,2,4,5-TETRACHLOROBENZENE	93.3 UJ	93.3 UJ	C	96.6 UJ	93 UJ	C	96.6 UJ	93 UJ	C
1,4-DIOXANE	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
2,2'-OXYBIS(1-CHLOROPROPANE)	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
2,3,4,6-TETRACHLOROPHENOL	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
2,4,5-TRICHLOROPHENOL	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
2,4,6-TRICHLOROPHENOL	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
2,4-DICHLOROPHENOL	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
2,4-DIMETHYLPHENOL	373 U	373 U		386 U	372 U		386 U	372 U	
2,4-DINITROPHENOL	933 U	933 U		966 U	930 U		966 U	930 U	
2,4-DINITROTOLUENE	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
2,6-DINITROTOLUENE	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
2-CHLORONAPHTHALENE	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
2-CHLOROPHENOL	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
2-METHYLPHENOL	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
2-NITROANILINE	373 U	373 U		386 U	372 U		386 U	372 U	
2-NITROPHENOL	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
3,3'-DICHLOROBENZIDINE	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
3-NITROANILINE	373 U	373 U		386 U	372 U		386 U	372 U	
4,6-DINITRO-2-METHYLPHENOL	933 U	933 U		966 U	930 U		966 U	930 U	
4-BROMOPHENYL PHENYL ETHER	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
4-CHLORO-3-METHYLPHENOL	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
4-CHLOROANILINE	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
4-CHLOROPHENYL PHENYL ETHER	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
4-METHYLPHENOL	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
4-NITROANILINE	373 U	373 U		386 U	372 U		386 U	372 U	
4-NITROPHENOL	373 U	373 U		386 U	372 U		386 U	372 U	
ACETOPHENONE	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
ATRAZINE	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
BENZALDEHYDE	93.3 UJ	93.3 UJ	C	96.6 UJ	93 UJ	C	96.6 UJ	93 UJ	C
BIS(2-CHLOROETHOXY)METHANE	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
BIS(2-CHLOROETHYL)ETHER	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	
BIS(2-ETHYLHEXYL)PHTHALATE	93.3 UJ	93.3 UJ	C	96.6 UJ	93 UJ	C	96.6 UJ	93 UJ	C
BUTYL BENZYL PHTHALATE	93.3 UJ	93.3 UJ	C	96.6 UJ	93 UJ	C	96.6 UJ	93 UJ	C
CAPROLACTAM	93.3 U	93.3 U		96.6 U	93 U		96.6 U	93 U	

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-012-1210	BCHMS-SO-013-1210	BCHMS-SO-014-1210	BCHMS-SO-015-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-17	1012153-18	1012153-19	1012153-20				
FRACTION: PAH	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	77.7	80.5	86.5	85.8				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
1,2,4,5-TETRACHLOROBENZENE	107 UJ	107 UJ	C	102 UJ	102 UJ	C	96.3 UJ	96.3 UJ	C
1,4-DIOXANE	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
2,2'-OXYBIS(1-CHLOROPROPANE)	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
2,3,4,6-TETRACHLOROPHENOL	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
2,4,5-TRICHLOROPHENOL	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
2,4,6-TRICHLOROPHENOL	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
2,4-DICHLOROPHENOL	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
2,4-DIMETHYLPHENOL	426 U	426 U		408 U	408 U		385 U	381 U	
2,4-DINITROPHENOL	1070 U	1070 U		1020 U	1020 U		963 U	952 U	
2,4-DINITROTOLUENE	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
2,6-DINITROTOLUENE	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
2-CHLORONAPHTHALENE	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
2-CHLOROPHENOL	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
2-METHYLPHENOL	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
2-NITROANILINE	426 U	426 U		408 U	408 U		385 U	381 U	
2-NITROPHENOL	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
3,3'-DICHLOROBENZIDINE	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
3-NITROANILINE	426 U	426 U		408 U	408 U		385 U	381 U	
4,6-DINITRO-2-METHYLPHENOL	1070 U	1070 U		1020 U	1020 U		963 U	952 U	
4-BROMOPHENYL PHENYL ETHER	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
4-CHLORO-3-METHYLPHENOL	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
4-CHLOROANILINE	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
4-CHLOROPHENYL PHENYL ETHER	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
4-METHYLPHENOL	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
4-NITROANILINE	426 U	426 U		408 U	408 U		385 U	381 U	
4-NITROPHENOL	426 U	426 U		408 U	408 U		385 U	381 U	
ACETOPHENONE	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
ATRAZINE	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
BENZALDEHYDE	107 UJ	107 UJ	C	102 UJ	102 UJ	C	96.3 UJ	95.2 UJ	C
BIS(2-CHLOROETHOXY)METHANE	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
BIS(2-CHLOROETHYL)ETHER	107 U	107 U		102 U	102 U		96.3 U	95.2 U	
BIS(2-ETHYLHEXYL)PHTHALATE	107 UJ	107 UJ	C	102 UJ	102 UJ	C	96.3 UJ	95.2 UJ	C
BUTYL BENZYL PHTHALATE	107 UJ	107 UJ	C	102 UJ	102 UJ	C	96.3 UJ	95.2 UJ	C
CAPROLACTAM	107 U	107 U		102 U	102 U		96.3 U	95.2 U	

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-016-1210	BCHMS-SO-017-1210	BCHMS-SO-018-1210	BCHMS-SO-019-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-21	1012153-22	1012153-23	1012153-24				
FRACTION: PAH	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	86.7	88.1	87.9	84.8				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
1,2,4,5-TETRACHLOROBENZENE	94.8 UJ		C	93.9 UJ	93.9 UJ		94.1 UJ	94.1 UJ	C
1,4-DIOXANE	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
2,2'-OXYBIS(1-CHLOROPROPANE)	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
2,3,4,6-TETRACHLOROPHENOL	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
2,4,5-TRICHLOROPHENOL	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
2,4,6-TRICHLOROPHENOL	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
2,4-DICHLOROPHENOL	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
2,4-DIMETHYLPHENOL	379 U			375 U	375 U		376 U	376 U	
2,4-DINITROPHENOL	948 U			939 U	939 U		941 U	941 U	
2,4-DINITROTOLUENE	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
2,6-DINITROTOLUENE	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
2-CHLORONAPHTHALENE	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
2-CHLOROPHENOL	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
2-METHYLPHENOL	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
2-NITROANILINE	379 U			375 U	375 U		376 U	376 U	
2-NITROPHENOL	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
3,3'-DICHLOROBENZIDINE	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
3-NITROANILINE	379 U			375 U	375 U		376 U	376 U	
4,6-DINITRO-2-METHYLPHENOL	948 U			939 U	939 U		941 U	941 U	
4-BROMOPHENYL PHENYL ETHER	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
4-CHLORO-3-METHYLPHENOL	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
4-CHLOROANILINE	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
4-CHLOROPHENYL PHENYL ETHER	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
4-METHYLPHENOL	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
4-NITROANILINE	379 U			375 U	375 U		376 U	376 U	
4-NITROPHENOL	379 U			375 U	375 U		376 U	376 U	
ACETOPHENONE	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
ATRAZINE	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
BENZALDEHYDE	94.8 UJ		C	93.9 UJ	93.9 UJ		94.1 UJ	94.1 UJ	C
BIS(2-CHLOROETHOXY)METHANE	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
BIS(2-CHLOROETHYL)ETHER	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	
BIS(2-ETHYLHEXYL)PHTHALATE	94.8 UJ		C	93.9 UJ	93.9 UJ		94.1 UJ	94.1 UJ	C
BUTYL BENZYL PHTHALATE	94.8 UJ		C	93.9 UJ	93.9 UJ		94.1 UJ	94.1 UJ	C
CAPROLACTAM	94.8 U			93.9 U	93.9 U		94.1 U	94.1 U	

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-020-1210	BCHMS-SO-021-1210	BCHMS-SO-022-1210	BCHMS-SO-023-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-25	1012153-26	1012153-27	1012153-28				
FRACTION: PAH	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	87.5	86.1	88.1	86.0				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
1,2,4,5-TETRACHLOROBENZENE	94.6 UJ	C		95.5 UJ	92.1 UJ	C	95.5 UJ	92.1 UJ	C
1,4-DIOXANE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2,2'-OXYBIS(1-CHLOROPROPANE)	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2,3,4,6-TETRACHLOROPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2,4,5-TRICHLOROPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2,4,6-TRICHLOROPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2,4-DICHLOROPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2,4-DIMETHYLPHENOL	378 U			382 U	368 U		382 U	368 U	
2,4-DINITROPHENOL	946 U			955 U	921 U		955 U	921 U	
2,4-DINITROTOLUENE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2,6-DINITROTOLUENE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2-CHLORONAPHTHALENE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2-CHLOROPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2-METHYLPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
2-NITROANILINE	378 U			382 U	368 U		382 U	368 U	
2-NITROPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
3,3'-DICHLOROBENZIDINE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
3-NITROANILINE	378 U			382 U	368 U		382 U	368 U	
4,6-DINITRO-2-METHYLPHENOL	946 U			955 U	921 U		955 U	921 U	
4-BROMOPHENYL PHENYL ETHER	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
4-CHLORO-3-METHYLPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
4-CHLOROANILINE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
4-CHLOROPHENYL PHENYL ETHER	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
4-METHYLPHENOL	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
4-NITROANILINE	378 U			382 U	368 U		382 U	368 U	
4-NITROPHENOL	378 U			382 U	368 U		382 U	368 U	
ACETOPHENONE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
ATRAZINE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
BENZALDEHYDE	94.6 UJ	C		95.5 UJ	92.1 UJ	C	95.5 UJ	92.1 UJ	C
BIS(2-CHLOROETHOXY)METHANE	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
BIS(2-CHLOROETHYL)ETHER	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	
BIS(2-ETHYLHEXYL)PHTHALATE	94.6 UJ	C		95.5 UJ	92.1 UJ	C	95.5 UJ	92.1 UJ	C
BUTYL BENZYL PHTHALATE	94.6 UJ	C		95.5 UJ	92.1 UJ	C	95.5 UJ	92.1 UJ	C
CAPROLACTAM	94.6 U			95.5 U	92.1 U		95.5 U	92.1 U	





PROJ_NO: 02608	NSAMPLE	BCHMS-SO-002-1210	BCHMS-SO-004-1210	BCHMS-SO-007-1210	BCHMS-SO-010-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-13	1012153-14	1012153-15	1012153-16				
FRACTION: PAH	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	87.5	86.3	88.3	73.2				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBAZOLE	93.3 U			96.6 U	93 U			93 U	112 U
DIBENZOFURAN	93.3 U			96.6 U	93 U			93 U	112 U
DIETHYL PHTHALATE	93.3 U			96.6 U	93 U			93 U	112 U
DIMETHYL PHTHALATE	93.3 U			96.6 U	93 U			93 U	112 U
DI-N-BUTYL PHTHALATE	93.3 U			96.6 U	93 U			93 U	112 U
DI-N-OCTYL PHTHALATE	93.3 U			96.6 U	93 U			93 U	112 U
HEXACHLOROBENZENE	93.3 U			96.6 U	93 U			93 U	112 U
HEXACHLOROBUTADIENE	93.3 U			96.6 U	93 U			93 U	112 U
HEXACHLOROCYCLOPENTADIENE	93.3 UJ		C	96.6 UJ	93 UJ		C	93 UJ	112 UJ
HEXACHLOROETHANE	93.3 U			96.6 U	93 U			93 U	112 U
ISOPHORONE	93.3 U			96.6 U	93 U			93 U	112 U
NAPHTHALENE	93.3 U			96.6 U	93 U			93 U	112 U
NITROBENZENE	93.3 U			96.6 U	93 U			93 U	112 U
N-NITROSO-DI-N-PROPYLAMINE	93.3 U			96.6 U	93 U			93 U	112 U
N-NITROSDIPHENYLAMINE	93.3 U			96.6 U	93 U			93 U	112 U
PENTACHLOROPHENOL	373 U			386 U	372 U			372 U	449 U
PHENOL	93.3 U			96.6 U	93 U			93 U	112 U

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-012-1210	BCHMS-SO-013-1210	BCHMS-SO-014-1210	BCHMS-SO-015-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-17	1012153-18	1012153-19	1012153-20				
FRACTION: PAH	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	77.7	80.5	86.5	85.8				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBAZOLE	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
DIBENZOFURAN	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
DIETHYL PHTHALATE	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
DIMETHYL PHTHALATE	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
DI-N-BUTYL PHTHALATE	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
DI-N-OCTYL PHTHALATE	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
HEXACHLOROBENZENE	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
HEXACHLOROBUTADIENE	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
HEXACHLOROCYCLOPENTADIENE	107 UJ	107 UJ	C	102 UJ	102 UJ	C	96.3 UJ	96.3 UJ	C
HEXACHLOROETHANE	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
ISOPHORONE	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
NAPHTHALENE	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
NITROBENZENE	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
N-NITROSO-DI-N-PROPYLAMINE	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
N-NITROSODIPHENYLAMINE	107 U	107 U		102 U	102 U		96.3 U	96.3 U	
PENTACHLOROPHENOL	426 U	426 U		408 U	408 U		385 U	385 U	
PHENOL	107 U	107 U		102 U	102 U		96.3 U	96.3 U	





PROJ_NO: 02608	NSAMPLE		BCHMS-SO-024-1210		BCHMS-SO-025-1210		BCHMS-SO-026-1210		BCHMS-SO-028-1210			
	SDG: CTOJM17KW_3	LAB_ID	1012153-29	1012153-30	1012153-31	1012153-32	1012153-33	1012153-34	1012153-35	1012153-36		
FRACTION: PAH	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010	12/14/2010	12/14/2010	12/14/2010	12/14/2010	12/14/2010		
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM	NM	NM	NM	NM	NM		
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG		
	PCT_SOLIDS	88.3	84.6	88.5	87.4							
	DUP_OF											
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBAZOLE	92.5 U			98.5 U	98.5 U		93.5 U	93.5 U		92.8 U	92.8 U	
DIBENZOFURAN	92.5 U			98.5 U	98.5 U		93.5 U	93.5 U		92.8 U	92.8 U	
DIETHYL PHTHALATE	92.5 U			98.5 U	98.5 U		93.5 U	93.5 U		92.8 U	92.8 U	
DIMETHYL PHTHALATE	92.5 U			98.5 U	98.5 U		93.5 U	93.5 U		92.8 U	92.8 U	
DI-N-BUTYL PHTHALATE	92.5 U			98.5 U	98.5 U		93.5 U	93.5 U		92.8 U	92.8 U	
DI-N-OCTYL PHTHALATE	92.5 U			98.5 U	98.5 U		93.5 U	93.5 U		92.8 U	92.8 U	
HEXACHLOROBENZENE	92.5 U			98.5 U	98.5 U		93.5 U	93.5 U		92.8 U	92.8 U	
HEXACHLOROBUTADIENE	92.5 U			98.5 U	98.5 U		93.5 U	93.5 U		92.8 U	92.8 U	
HEXACHLOROCYCLOPENTADIENE	92.5 U		C	98.5 U	98.5 U	C	93.5 U	93.5 U	C	92.8 U	92.8 U	C
HEXACHLOROETHANE	92.5 U			98.5 U	98.5 U		93.5 U	93.5 U		92.8 U	92.8 U	
ISOPHORONE	92.5 U			98.5 U	98.5 U		93.5 U	93.5 U		92.8 U	92.8 U	
NAPHTHALENE	92.5 U			98.5 U	98.5 U		93.5 U	93.5 U		92.8 U	92.8 U	
NITROBENZENE	92.5 U			98.5 U	98.5 U		93.5 U	93.5 U		92.8 U	92.8 U	
N-NITROSO-DI-N-PROPYLAMINE	92.5 U			98.5 U	98.5 U		93.5 U	93.5 U		92.8 U	92.8 U	
N-NITROSODIPHENYLAMINE	92.5 U			98.5 U	98.5 U		93.5 U	93.5 U		92.8 U	92.8 U	
PENTACHLOROPHENOL	370 U			394 U	394 U		374 UR	374 UR	R	371 U	371 U	
PHENOL	92.5 U			98.5 U	98.5 U		93.5 U	93.5 U	R	92.8 U	92.8 U	

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-FD01-1210	BCHMS-SO-FD02-1210
SDG: CTOJM17KW_3	LAB_ID	1012153-33	1012153-34
FRACTION: PAH	SAMP_DATE	12/14/2010	12/14/2010
MEDIA: SOIL	QC_TYPE	NM	NM
	UNITS	UG/KG	UG/KG
	PCT_SOLIDS	87.9	86.8
	DUP_OF	BCHMS-SO-014-1210	BCHMS-SO-024-1210
PARAMETER	RESULT	VQL	QLCD
CARBAZOLE	94.7 U	95.9 U	95.9 U
DIBENZOFURAN	94.7 U	95.9 U	95.9 U
DIETHYL PHTHALATE	94.7 U	95.9 U	95.9 U
DIMETHYL PHTHALATE	94.7 U	95.9 U	95.9 U
DI-N-BUTYL PHTHALATE	94.7 U	95.9 U	95.9 U
DI-N-OCTYL PHTHALATE	94.7 U	95.9 U	95.9 U
HEXACHLOROBENZENE	94.7 U	95.9 U	95.9 U
HEXACHLOROBUTADIENE	94.7 U	95.9 U	95.9 U
HEXACHLOROCYCLOPENTADIENE	94.7 U	95.9 U	95.9 U
HEXACHLOROETHANE	94.7 U	95.9 U	95.9 U
ISOPHORONE	94.7 U	95.9 U	95.9 U
NAPHTHALENE	94.7 U	95.9 U	95.9 U
NITROBENZENE	94.7 U	95.9 U	95.9 U
N-NITROSO-DI-N-PROPYLAMINE	94.7 U	95.9 U	95.9 U
N-NITROSODIPHENYLAMINE	94.7 U	95.9 U	95.9 U
PENTACHLOROPHENOL	379 U	383 U	383 U
PHENOL	94.7 U	95.9 U	95.9 U

PROJ_NO: 02608	NSAMPLE	BCHMS-FD001-1210	BCHMS-FD002-1210	BCHMS-GW-004-1210	BCHMS-GW-005-1210
SDG: CTOJM17KW_3	LAB_ID	1012153-01	1012153-06	1012153-02	1012153-03
FRACTION: PAH	SAMP_DATE	12/12/2010	12/13/2010	12/12/2010	12/12/2010
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM
	UNITS	UG/L	UG/L	UG/L	UG/L
	PCT_SOLIDS	0.0	0.0	0.0	0.0
	DUP_OF	BCHMS-GW-004-1210	BCHMS-GW-011-1210		
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL
1,1-BIPHENYL	0.472	U		0.463	U
1,2,4,5-TETRACHLOROBENZENE	0.59	UJ	C	0.579	UJ
1,4-DIOXANE	0.59	U		0.579	U
2,2'-OXYBIS(1-CHLOROPROPANE)	0.472	U		0.463	U
2,3,4,6-TETRACHLOROPHENOL	0.59	U		0.579	U
2,4,5-TRICHLOROPHENOL	0.59	U		0.579	U
2,4,6-TRICHLOROPHENOL	0.59	U		0.579	U
2,4-DICHLOROPHENOL	0.283	U		0.278	U
2,4-DIMETHYLPHENOL	2.36	U		2.31	U
2,4-DINITROPHENOL	5.9	U		5.79	U
2,4-DINITROTOLUENE	0.59	U		0.579	U
2,6-DINITROTOLUENE	0.59	U		0.579	U
2-CHLORONAPHTHALENE	0.59	U		0.579	U
2-CHLOROPHENOL	0.59	U		0.579	U
2-METHYLPHENOL	0.59	U		0.579	U
2-NITROANILINE	2.36	U		2.31	U
2-NITROPHENOL	0.59	U		0.579	U
3,3'-DICHLOROBENZIDINE	0.472	UJ	C	0.463	UJ
3-NITROANILINE	1.42	U		1.39	U
4,6-DINITRO-2-METHYLPHENOL	2.36	U		2.31	U
4-BROMOPHENYL PHENYL ETHER	0.59	U		0.579	U
4-CHLORO-3-METHYLPHENOL	0.59	U		0.579	U
4-CHLOROANILINE	0.59	U		0.579	U
4-CHLOROPHENYL PHENYL ETHER	0.59	UJ	C	0.579	UJ
4-METHYLPHENOL	0.59	U		0.579	U
4-NITROANILINE	1.42	U		1.39	U
4-NITROPHENOL	2.36	U		2.31	U
ACETOPHENONE	0.59	U		0.579	U
ATRAZINE	0.59	U		0.579	U
BENZALDEHYDE	0.59	UJ	C	0.579	UJ
BIS(2-CHLOROETHOXY)METHANE	0.59	U		0.579	U
BIS(2-CHLOROETHYL)ETHER	0.59	U		0.579	U
BIS(2-ETHYLHEXYL)PHTHALATE	0.59	U		0.579	U
BUTYL BENZYL PHTHALATE	0.59	U		0.579	U
CAPROLACTAM	0.59	U		0.579	U

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-006-1210	BCHMS-GW-007-1210	BCHMS-GW-008-1210	BCHMS-GW-009D-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-04	1012153-05	1012153-07	1012153-08				
FRACTION: PAH	SAMP_DATE	12/12/2010	12/12/2010	12/13/2010	12/13/2010				
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/L	UG/L	UG/L	UG/L				
	PCT_SOLIDS	0.0	0.0	0.0	0.0				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL	0.467 U			0.472 U			0.481 U		
1,2,4,5-TETRACHLOROBENZENE	0.584 UJ	C		0.59 UJ	C		0.601 UJ	C	
1,4-DIOXANE	0.584 U			0.59 U			0.601 U		
2,2'-OXYBIS(1-CHLOROPROPANE)	0.467 U			0.472 U			0.481 U		
2,3,4,6-TETRACHLOROPHENOL	0.584 U			0.59 U			0.601 U		
2,4,5-TRICHLOROPHENOL	0.584 U			0.59 U			0.601 U		
2,4,6-TRICHLOROPHENOL	0.584 U			0.59 U			0.601 U		
2,4-DICHLOROPHENOL	0.28 U			0.283 U			0.288 U		
2,4-DIMETHYLPHENOL	2.34 U			2.36 U			2.4 U		
2,4-DINITROPHENOL	5.84 U			5.9 U			6.01 U		
2,4-DINITROTOLUENE	0.584 U			0.59 U			0.601 U		
2,6-DINITROTOLUENE	0.584 U			0.59 U			0.601 U		
2-CHLORONAPHTHALENE	0.584 U			0.59 U			0.601 U		
2-CHLOROPHENOL	0.584 U			0.59 U			0.601 U		
2-METHYLPHENOL	0.584 U			0.59 U			0.601 U		
2-NITROANILINE	2.34 U			2.36 U			2.4 U		
2-NITROPHENOL	0.584 U			0.59 U			0.601 U		
3,3-DICHLOROBENZIDINE	0.467 UJ	C		0.472 UJ	C		0.481 UJ	C	
3-NITROANILINE	1.4 U			1.42 U			1.44 U		
4,6-DINITRO-2-METHYLPHENOL	2.34 U			2.36 U			2.4 U		
4-BROMOPHENYL PHENYL ETHER	0.584 U			0.59 U			0.601 U		
4-CHLORO-3-METHYLPHENOL	0.584 U			0.59 U			0.601 U		
4-CHLOROANILINE	0.584 U			0.59 U			0.601 U		
4-CHLOROPHENYL PHENYL ETHER	0.584 UJ	C		0.59 UJ	C		0.601 UJ	C	
4-METHYLPHENOL	0.584 U			0.59 U			0.601 U		
4-NITROANILINE	1.4 U			1.42 U			1.44 U		
4-NITROPHENOL	2.34 U			2.36 U			2.4 U		
ACETOPHENONE	0.584 U			0.59 U			0.601 U		
ATRAZINE	0.584 U			0.59 U			0.601 U		
BENZALDEHYDE	0.584 UJ	C		0.59 UJ	C		0.601 UJ	C	
BIS(2-CHLOROETHOXY)METHANE	0.584 U			0.59 U			0.601 U		
BIS(2-CHLOROETHYL)ETHER	0.584 U			0.59 U			0.601 U		
BIS(2-ETHYLHEXYL)PHTHALATE	0.584 U			0.59 U			0.601 U		
BUTYL BENZYL PHTHALATE	0.584 U			0.59 U			0.601 U		
CAPROLACTAM	0.584 U			0.59 U			0.601 U		

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-010-1210	BCHMS-GW-011-1210	BCHMS-GW-012-1210					
SDG: CTOJM17KW_3	LAB_ID	1012153-09	1012153-10	1012153-11					
FRACTION: PAH	SAMP_DATE	12/13/2010	12/13/2010	12/13/2010					
MEDIA: WATER	QC_TYPE	NM	NM	NM					
	UNITS	UG/L	UG/L	UG/L					
	PCT_SOLIDS	0.0	0.0	0.0					
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL	0.467 U			0.467 U			0.467 UJ		
1,2,4,5-TETRACHLOROBENZENE	0.584 UJ		C	0.584 UJ		C	0.584 UJ		C
1,4-DIOXANE	0.584 U			0.584 U			0.584 U		
2,2'-OXYBIS(1-CHLOROPROPANE)	0.467 U			0.467 U			0.467 U		
2,3,4,6-TETRACHLOROPHENOL	0.584 U			0.584 U			0.584 U		
2,4,5-TRICHLOROPHENOL	0.584 U			0.584 U			0.584 U		
2,4,6-TRICHLOROPHENOL	0.584 U			0.584 U			0.584 U		
2,4-DICHLOROPHENOL	0.28 U			0.28 U			0.28 U		
2,4-DIMETHYLPHENOL	2.34 U			2.34 U			2.34 U		
2,4-DINITROPHENOL	5.84 U			5.84 U			5.84 U		
2,4-DINITROTOLUENE	0.584 U			0.584 U			0.584 U		
2,6-DINITROTOLUENE	0.584 U			0.584 U			0.584 U		
2-CHLORONAPHTHALENE	0.584 U			0.584 U			0.584 U		
2-CHLOROPHENOL	0.584 U			0.584 U			0.584 U		
2-METHYLPHENOL	0.584 U			0.584 U			0.584 U		
2-NITROANILINE	2.34 U			2.34 U			2.34 UJ		C
2-NITROPHENOL	0.584 U			0.584 U			0.584 U		
3,3'-DICHLOROBENZIDINE	0.467 UJ		C	0.467 UJ		C	0.467 U		
3-NITROANILINE	1.4 U			1.4 U			1.4 U		
4,6-DINITRO-2-METHYLPHENOL	2.34 U			2.34 U			2.34 U		
4-BROMOPHENYL PHENYL ETHER	0.584 U			0.584 U			0.584 U		
4-CHLORO-3-METHYLPHENOL	0.584 U			0.584 U			0.584 UJ		C
4-CHLOROANILINE	0.584 U			0.584 U			0.584 U		
4-CHLOROPHENYL PHENYL ETHER	0.584 UJ		C	0.584 UJ		C	0.584 U		
4-METHYLPHENOL	0.584 U			0.584 U			0.584 U		
4-NITROANILINE	1.4 U			1.4 U			1.4 UJ		C
4-NITROPHENOL	2.34 U			2.34 U			2.34 U		
ACETOPHENONE	0.584 U			0.584 U			0.584 U		
ATRAZINE	0.584 U			0.584 U			0.584 U		
BENZALDEHYDE	0.584 UJ		C	0.584 UJ		C	0.584 UJ		C
BIS(2-CHLOROETHOXY)METHANE	0.584 U			0.584 U			0.584 U		
BIS(2-CHLOROETHYL)ETHER	0.584 U			0.584 U			0.584 U		
BIS(2-ETHYLHEXYL)PHTHALATE	0.584 U			0.584 U			0.584 UJ		C
BUTYL BENZYL PHTHALATE	0.584 U			0.584 U			0.584 UJ		C
CAPROLACTAM	0.584 U			0.584 U			0.584 U		

PROJ_NO: 02608	NSAMPLE	BCHMS-FD001-1210	BCHMS-FD002-1210	BCHMS-GW-004-1210	BCHMS-GW-005-1210
SDG: CTOJM17KW_3	LAB_ID	1012153-01	1012153-06	1012153-02	1012153-03
FRACTION: PAH	SAMP_DATE	12/12/2010	12/13/2010	12/12/2010	12/12/2010
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM
	UNITS	UG/L	UG/L	UG/L	UG/L
	PCT_SOLIDS	0.0	0.0	0.0	0.0
	DUP_OF	BCHMS-GW-004-1210	BCHMS-GW-011-1210		
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL
CARBAZOLE	0.59 U	U		0.579 U	U
DIBENZOFURAN	0.59 U	U		0.579 U	U
DIETHYL PHTHALATE	0.59 U	U		0.579 U	U
DIMETHYL PHTHALATE	0.59 U	U		0.579 U	U
DI-N-BUTYL PHTHALATE	0.59 U	U		0.579 U	U
DI-N-OCTYL PHTHALATE	0.59 U	U		0.579 U	U
HEXACHLOROBENZENE	0.59 U	U		0.579 U	U
HEXACHLOROBUTADIENE	0.59 U	U		0.579 U	U
HEXACHLOROCYCLOPENTADIENE	0.59 U	U		0.579 U	U
HEXACHLOROETHANE	0.59 U	U		0.579 U	U
ISOPHORONE	0.59 U	U		0.579 U	U
NAPHTHALENE	0.59 U	U		0.579 U	U
NITROBENZENE	0.59 U	U		0.579 U	U
N-NITROSO-DI-N-PROPYLAMINE	0.472 U	U		0.463 U	U
N-NITROSODIPHENYLAMINE	0.59 U	U		0.579 U	U
PENTACHLOROPHENOL	0.943 U	U		0.926 U	U
PHENOL	0.59 U	U		0.579 U	U

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-006-1210	BCHMS-GW-007-1210	BCHMS-GW-008-1210	BCHMS-GW-009D-1210						
SDG: CTOJM17KW_3	LAB_ID	1012153-04	1012153-05	1012153-07	1012153-08						
FRACTION: PAH	SAMP_DATE	12/12/2010	12/12/2010	12/13/2010	12/13/2010						
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM						
	UNITS	UG/L	UG/L	UG/L	UG/L						
	PCT_SOLIDS	0.0	0.0	0.0	0.0						
	DUP_OF										
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD		
CARBAZOLE	0.584 U	U		0.59 U	U		0.601 U	U		0.613 U	
DIBENZOFURAN	0.584 U	U		0.59 U	U		0.601 U	U		0.613 U	
DIETHYL PHTHALATE	0.584 U	U		0.59 U	U		0.601 U	U		0.613 U	
DIMETHYL PHTHALATE	0.584 U	U		0.59 U	U		0.601 U	U		0.613 U	
DI-N-BUTYL PHTHALATE	0.584 U	U		0.59 U	U		0.601 U	U		0.613 U	
DI-N-OCTYL PHTHALATE	0.584 U	U		0.59 U	U		0.601 U	U		0.613 U	
HEXACHLOROBENZENE	0.584 U	U		0.59 U	U		0.601 U	U		0.613 U	
HEXACHLOROBUTADIENE	0.584 U	U		0.59 U	U		0.601 U	U		0.613 U	
HEXACHLOROCYCLOPENTADIENE	0.584 U	U		0.59 U	U		0.601 U	U		0.613 U	
HEXACHLOROETHANE	0.584 U	U		0.59 U	U		0.601 U	U		0.613 U	
ISOPHORONE	0.584 U	U		0.59 U	U		0.601 U	U		0.613 U	
NAPHTHALENE	0.584 U	U		0.59 U	U		0.601 U	U		0.613 U	
NITROBENZENE	0.584 U	U		0.59 U	U		0.601 U	U		0.613 U	
N-NITROSO-DI-N-PROPYLAMINE	0.467 U	U		0.472 U	U		0.481 U	U		0.49 U	
N-NITROSODIPHENYLAMINE	0.584 U	U		0.59 U	U		0.601 U	U		0.613 U	
PENTACHLOROPHENOL	0.935 U	U		0.943 U	U		0.962 U	U		0.98 U	
PHENOL	0.584 U	U		0.59 U	U		0.601 U	U		0.613 U	

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-010-1210	BCHMS-GW-011-1210	BCHMS-GW-012-1210					
SDG: CTOJM17KW_3	LAB_ID	1012153-09	1012153-10	1012153-11					
FRACTION: PAH	SAMP_DATE	12/13/2010	12/13/2010	12/13/2010					
MEDIA: WATER	QC_TYPE	NM	NM	NM					
	UNITS	UG/L	UG/L	UG/L					
	PCT_SOLIDS	0.0	0.0	0.0					
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBAZOLE	0.584 U			0.584 U			0.584 U		
DIBENZOFURAN	0.584 U			0.584 U			0.584 U		
DIETHYL PHTHALATE	0.584 U			0.584 U			0.584 U		
DIMETHYL PHTHALATE	0.584 U			0.584 U			0.584 U		
DI-N-BUTYL PHTHALATE	0.584 U			0.584 U			0.584 U		
DI-N-OCTYL PHTHALATE	0.584 U			0.584 U			0.584 U		
HEXACHLOROBENZENE	0.584 U			0.584 U			0.584 U		C
HEXACHLOROBUTADIENE	0.584 U			0.584 U			0.584 U		
HEXACHLOROCYCLOPENTADIENE	0.584 U			0.584 U			0.584 U		
HEXACHLOROETHANE	0.584 U			0.584 U			0.584 U		
ISOPHORONE	0.584 U			0.584 U			0.584 U		
NAPHTHALENE	0.584 U			0.584 U			0.584 U		
NITROBENZENE	0.584 U			0.584 U			0.584 U		
N-NITROSO-DI-N-PROPYLAMINE	0.467 U			0.467 U			0.467 U		
N-NITROSODIPHENYLAMINE	0.584 U			0.584 U			0.584 U		
PENTACHLOROPHENOL	0.935 U			0.935 U			0.935 U		
PHENOL	0.584 U			0.584 U			0.584 U		

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-004-1210	BCHMS-SO-010-1210	BCHMS-SO-012-1210	BCHMS-SO-024-1210	
SDG: CTOJM17KW_3	LAB_ID	1012153-14	1012153-16	1012153-17	1012153-29	
FRACTION: PCB	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010	
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM	
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG	
	PCT_SOLIDS	86.3	73.2	77.7	88.3	
	DUP_OF					
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD
AROCLOR-1016	4.8 U	4.8 U		5.17 U	4.67 U	
AROCLOR-1221	4.8 U	4.8 U		5.17 U	4.67 U	
AROCLOR-1232	4.8 U	4.8 U		5.17 U	4.67 U	
AROCLOR-1242	4.8 U	4.8 U		5.17 U	4.67 U	
AROCLOR-1248	4.8 U	4.8 U		5.17 U	4.67 U	
AROCLOR-1254	4.8 U	4.8 U		5.17 U	4.67 U	
AROCLOR-1260	4.8 U	4.8 U		5.17 U	4.67 U	

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-025-1210	BCHMS-SO-028-1210	BCHMS-SO-FD02-1210		
SDG: CTOJM17KW_3	LAB_ID	1012153-30	1012153-32	1012153-34		
FRACTION: PCB	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010		
MEDIA: SOIL	QC_TYPE	NM	NM	NM		
	UNITS	UG/KG	UG/KG	UG/KG		
	PCT_SOLIDS	84.6	87.4	86.8		
	DUP_OF			BCHMS-SO-024-1210		
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD
AROCOR-1016	4.84	U		4.62	U	
AROCOR-1221	4.84	U		4.62	U	
AROCOR-1232	4.84	U		4.62	U	
AROCOR-1242	4.84	U		4.62	U	
AROCOR-1248	4.84	U		4.62	U	
AROCOR-1254	4.84	U		4.62	U	
AROCOR-1260	4.84	U		4.62	U	
				4.65	U	
				4.65	U	
				4.65	U	
				4.65	U	
				4.65	U	
				4.65	U	
				4.65	U	

PROJ_NO: 02608	NSAMPLE	BCHMS-FD001-1210	BCHMS-GW-004-1210	BCHMS-GW-010-1210	BCHMS-GW-012-1210
SDG: CTOJIM17KW_3	LAB_ID	1012153-01	1012153-02	1012153-09	1012153-11
FRACTION: PCB	SAMP_DATE	12/12/2010	12/12/2010	12/13/2010	12/13/2010
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM
	UNITS	UG/L	UG/L	UG/L	UG/L
	PCT_SOLIDS	0.0	0.0	0.0	0.0
	DUP_OF	BCHMS-GW-004-1210			
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL
AROCOR-1016	0.0556	U		0.0561	U
AROCOR-1221	0.0556	U		0.0561	U
AROCOR-1232	0.0556	U		0.0561	U
AROCOR-1242	0.0556	U		0.0561	U
AROCOR-1248	0.0556	U		0.0561	U
AROCOR-1254	0.0556	U		0.0561	U
AROCOR-1260	0.0556	U		0.0561	U

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-004-1210	BCHMS-SO-010-1210	BCHMS-SO-012-1210	BCHMS-SO-024-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-14	1012153-16	1012153-17	1012153-29				
FRACTION: PEST	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/KG	UG/KG	UG/KG	UG/KG				
	PCT_SOLIDS	86.3	73.2	77.7	88.3				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
4,4'-DDD	0.194 U			2.6 P			0.209 U		
4,4'-DDE	0.194 U			6.05			0.209 U		
4,4'-DDT	0.194 U			6.23			0.209 U		
ALDRIN	0.126 U			0.144 U			0.135 U		
ALPHA-BHC	0.126 U			0.304 J	P		0.135 U		
ALPHA-CHLORDANE	0.126 U			0.144 U			0.135 U		
BETA-BHC	0.126 U			0.144 U			0.135 U		
DELTA-BHC	0.126 U			0.144 U			0.135 U		
DIELDRIN	0.194 U			0.223 U			0.209 U		
ENDOSULFAN I	0.126 U			0.144 U			0.135 U		
ENDOSULFAN II	0.194 U			0.223 U			0.328 J	P	
ENDOSULFAN SULFATE	0.194 U			0.223 U			0.209 U		
ENDRIN	0.194 U			0.223 U			0.209 U		
ENDRIN ALDEHYDE	0.194 U			0.223 U			0.209 U		
ENDRIN KETONE	0.194 U			0.223 U			0.209 U		
GAMMA-BHC (LINDANE)	0.126 U			0.144 U			0.135 U		
GAMMA-CHLORDANE	0.126 U			0.144 U			0.135 U		
HEPTACHLOR	0.126 U			0.144 U			0.135 U		
HEPTACHLOR EPOXIDE	0.126 U			0.144 U			0.135 U		
METHOXYCHLOR	0.126 U			0.144 U			0.135 U		
TOXAPHENE	12.6 U			14.4 U			13.5 U		12.2 U

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-025-1210	BCHMS-SO-028-1210	BCHMS-SO-FD02-1210		
SDG: CTOJM17KW_3	LAB_ID	1012153-30	1012153-32	1012153-34		
FRACTION: PEST	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010		
MEDIA: SOIL	QC_TYPE	NM	NM	NM		
	UNITS	UG/KG	UG/KG	UG/KG		
	PCT_SOLIDS	84.6	87.4	86.8		
	DUP_OF					
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD
4,4'-DDD	0.196 U	0.187 U		0.188 U		
4,4'-DDE	0.196 U	0.187 U		0.188 U		
4,4'-DDT	0.196 U	0.187 U		0.188 U		
ALDRIN	0.127 U	0.51 J	P	0.592 J		P
ALPHA-BHC	0.127 U	0.121 U		0.122 U		
ALPHA-CHLORDANE	0.127 U	0.121 U		0.122 U		
BETA-BHC	0.127 U	0.121 U		0.122 U		
DELTA-BHC	0.127 U	0.121 U		0.122 U		
DIELDRIN	0.196 U	0.187 U		0.188 U		
ENDOSULFAN I	0.127 U	0.121 U		0.122 U		
ENDOSULFAN II	0.196 U	0.187 U		0.188 U		
ENDOSULFAN SULFATE	0.196 U	0.187 U		0.188 U		
ENDRIN	0.196 U	0.187 U		0.188 U		
ENDRIN ALDEHYDE	0.196 U	0.187 U		0.188 U		
ENDRIN KETONE	0.196 U	0.187 U		0.188 U		
GAMMA-BHC (LINDANE)	0.127 U	0.121 U		0.122 U		
GAMMA-CHLORDANE	0.127 U	0.121 U		0.122 U		
HEPTACHLOR	0.127 U	0.121 U		0.122 U		
HEPTACHLOR EPOXIDE	0.127 U	0.121 U		0.122 U		
METHOXYCHLOR	2.32	0.121 U		0.122 U		
TOXAPHENE	12.7 U	12.1 U		12.2 U		

PROJ_NO: 02608	NSAMPLE	BCHMS-FD001-1210	BCHMS-GW-004-1210	BCHMS-GW-010-1210	BCHMS-GW-012-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-01	1012153-02	1012153-09	1012153-11				
FRACTION: PEST	SAMP_DATE	12/12/2010	12/12/2010	12/13/2010	12/13/2010				
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/L	UG/L	UG/L	UG/L				
	PCT_SOLIDS	0.0	0.0	0.0	0.0				
	DUP_OF	BCHMS-GW-004-1210							
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
4,4'-DDD	0.00231	U		0.00231	U		0.00234	U	
4,4'-DDE	0.00231	U		0.00231	U		0.00234	U	
4,4'-DDT	0.00231	U		0.00231	U		0.00234	U	
ALDRIN	0.00154	J	P	0.00153	U		0.00382	J	P
ALPHA-BHC	0.00153	U		0.00153	U		0.00154	U	
ALPHA-CHLORDANE	0.00153	U		0.00153	U		0.00154	U	
BETA-BHC	0.00153	U		0.00153	U		0.00384	J	P
DELTA-BHC	0.00153	U		0.00153	U		0.00154	U	
DIELDRIN	0.00231	U		0.00231	U		0.00234	U	
ENDOSULFAN I	0.00153	U		0.00153	U		0.00154	U	
ENDOSULFAN II	0.00231	U		0.00231	U		0.00234	U	
ENDOSULFAN SULFATE	0.00231	U		0.00231	U		0.00234	U	
ENDRIN	0.00231	U		0.00231	U		0.00234	U	
ENDRIN ALDEHYDE	0.00231	U		0.00231	U		0.00234	U	
ENDRIN KETONE	0.00231	U		0.00231	U		0.00234	U	
GAMMA-BHC (LINDANE)	0.00153	U		0.00153	U		0.00154	U	
GAMMA-CHLORDANE	0.00153	U		0.00153	U		0.00154	U	
HEPTACHLOR	0.00153	U		0.00153	U		0.00154	U	
HEPTACHLOR EPOXIDE	0.00153	U		0.00153	U		0.00154	U	
METHOXYCHLOR	0.00153	U		0.00153	U		0.00154	U	
TOXAPHENE	0.153	U		0.153	U		0.154	U	

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-002-1210	BCHMS-SO-004-1210	BCHMS-SO-007-1210	BCHMS-SO-010-1210
SDG: CTOJM17KW_3	LAB_ID	1012153-13	1012153-14	1012153-15	1012153-16
FRACTION: PET	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM
	UNITS	MG/KG	MG/KG	MG/KG	MG/KG
	PCT_SOLIDS	87.5	86.3	88.3	73.2
	DUP_OF				
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL
TPH (C08-C40)	12.8	U		13.1	U
				12.8	U
				69.9	
					QLCD

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-012-1210	BCHMS-SO-013-1210	BCHMS-SO-014-1210	BCHMS-SO-015-1210
SDG: CTOJM17KW_3	LAB_ID	1012153-17	1012153-18	1012153-19	1012153-20
FRACTION: PET	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM
	UNITS	MG/KG	MG/KG	MG/KG	MG/KG
	PCT_SOLIDS	77.7	80.5	86.5	85.8
PARAMETER	DUP_OF				
TPH (C08-C40)	RESULT	VQL	QLCD	RESULT	VQL
	14.5 U			13 U	13.2 U
	RESULT	VQL	QLCD	RESULT	VQL
	14 U				
	RESULT	VQL	QLCD	RESULT	VQL
	13 U				
	RESULT	VQL	QLCD	RESULT	VQL
	13.2 U				

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-016-1210	BCHMS-SO-017-1210	BCHMS-SO-018-1210	BCHMS-SO-019-1210
SDG: CTOJM17KW_3	LAB_ID	1012153-21	1012153-22	1012153-23	1012153-24
FRACTION: PET	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM
	UNITS	MG/KG	MG/KG	MG/KG	MG/KG
	PCT_SOLIDS	86.7	88.1	87.9	84.8
	DUP_OF				
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL
TPH (C08-C40)	13 U	12.8 U	12.9 U	13.3 U	13.3 U



PROJ_NO: 02608	NSAMPLE	BCHMS-SO-024-1210	BCHMS-SO-025-1210	BCHMS-SO-026-1210	BCHMS-SO-028-1210
SDG: CTOJM17KW_3	LAB_ID	1012153-29	1012153-30	1012153-31	1012153-32
FRACTION: PET	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM
	UNITS	MG/KG	MG/KG	MG/KG	MG/KG
	PCT_SOLIDS	88.3	84.6	88.5	87.4
	DUP_OF				
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL
TPH (C08-C40)	12.8	U		12.8	U
	13.4	U		15	J
					P

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-FD01-1210	BCHMS-SO-FD02-1210
SDG: CTOJM17KW_3	LAB_ID	1012153-33	1012153-34
FRACTION: PET	SAMP_DATE	12/14/2010	12/14/2010
MEDIA: SOIL	QC_TYPE	NM	NM
	UNITS	MG/KG	MG/KG
	PCT_SOLIDS	87.9	86.8
	DUP_OF	BCHMS-SO-014-1210	BCHMS-SO-024-1210
PARAMETER	RESULT	VQL	QLCD
TPH (C08-C40)	12.6 U	12.8 U	
	RESULT	VQL	QLCD
		12.8 U	

PROJ_NO: 02608	NSAMPLE	BCHMS-FD001-1210	BCHMS-FD002-1210	BCHMS-GW-004-1210	BCHMS-GW-005-1210
SDG: CTOJM17KW_3	LAB_ID	1012153-01	1012153-06	1012153-02	1012153-03
FRACTION: PET	SAMP_DATE	12/12/2010	12/13/2010	12/12/2010	12/12/2010
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM
	UNITS	MG/L	MG/L	MG/L	MG/L
	PCT_SOLIDS	0.0	0.0	0.0	0.0
	DUP_OF	BCHMS-GW-004-1210	BCHMS-GW-011-1210		
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL
TPH (C08-C40)	0.159	U		0.159	U
	RESULT	VQL	QLCD	RESULT	VQL
				0.159	U
	RESULT	VQL	QLCD	RESULT	VQL
				0.159	U

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-006-1210	BCHMS-GW-007-1210	BCHMS-GW-008-1210	BCHMS-GW-009D-1210
SDG: CTOJM17KW_3	LAB_ID	1012153-04	1012153-05	1012153-07	1012153-08
FRACTION: PET	SAMP_DATE	12/12/2010	12/12/2010	12/13/2010	12/13/2010
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM
	UNITS	MG/L	MG/L	MG/L	MG/L
	PCT_SOLIDS	0.0	0.0	0.0	0.0
	DUP_OF				
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL
TPH (C08-C40)	0.16	U		0.157	U
	RESULT	VQL	QLCD	RESULT	VQL
	0.16	U		0.159	U

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-010-1210	BCHMS-GW-011-1210	BCHMS-GW-012-1210		
SDG: CTOJM17KW_3	LAB_ID	1012153-09	1012153-10	1012153-11		
FRACTION: PET	SAMP_DATE	12/13/2010	12/13/2010	12/13/2010		
MEDIA: WATER	QC_TYPE	NM	NM	NM		
	UNITS	MG/L	MG/L	MG/L		
	PCT_SOLIDS	0.0	0.0	0.0		
	DUP_OF					
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD
TPH (C08-C40)	0.157	U		0.159	U	
				0.163	U	

**APPENDIX B**

**RESULTS AS REPORTED BY THE LABORATORY**





















## ANALYSIS DATA SHEET

BCHMS-SO-013-1210

Laboratory: Empirical Laboratories, LLC SDG: CTOJM17KW\_003  
 Client: Tetra Tech NUS, Inc. (T010) Project: NAS Key West CTO JM17  
 Matrix: Solid Laboratory ID: 1012153-18 File ID: 1215318A.D  
 Sampled: 12/14/10 09:40 Prepared: 12/17/10 00:00 Analyzed: 12/17/10 19:59  
 Solids: 80.49 Preparation: 5035 Dilution: 1  
 Batch: 0L17021 Sequence: 0L35201 Calibration: 0344001 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
67-64-1	Acetone	12.2	5.25	10.5	21.0	I
71-43-2	Benzene		1.31	2.62	5.25	U
74-97-5	Bromochloromethane		1.31	2.62	5.25	U
75-27-4	Bromodichloromethane		1.31	2.62	5.25	U
75-25-2	Bromoform		1.31	2.62	5.25	U
74-83-9	Bromomethane		2.62	5.25	10.5	U
78-93-3	2-Butanone		2.62	5.25	10.5	U
75-15-0	Carbon disulfide		1.31	2.62	5.25	U
56-23-5	Carbon tetrachloride		1.31	2.62	5.25	U
108-90-7	Chlorobenzene		1.31	2.62	5.25	U
75-00-3	Chloroethane		2.62	5.25	10.5	U
67-66-3	Chloroform		1.31	2.62	5.25	U
74-87-3	Chloromethane		2.62	5.25	10.5	U
110-82-7	Cyclohexane		1.31	2.62	5.25	U
124-48-1	Dibromochloromethane		1.31	2.62	5.25	U
96-12-8	1,2-Dibromo-3-chloropropane		2.62	5.25	10.5	Q U
106-93-4	1,2-Dibromoethane (EDB)		1.31	2.62	5.25	U
95-50-1	1,2-Dichlorobenzene		1.31	2.62	5.25	U
541-73-1	1,3-Dichlorobenzene		1.31	2.62	5.25	U
106-46-7	1,4-Dichlorobenzene		1.31	2.62	5.25	U
75-71-8	Dichlorodifluoromethane		2.62	5.25	10.5	U
75-34-3	1,1-Dichloroethane		1.31	2.62	5.25	U
107-06-2	1,2-Dichloroethane		1.31	2.62	5.25	U
75-35-4	1,1-Dichloroethene		1.31	2.62	5.25	U
156-59-2	cis-1,2-Dichloroethene		1.31	2.62	5.25	U
156-60-5	trans-1,2-Dichloroethene		1.31	2.62	5.25	U
78-87-5	1,2-Dichloropropane		1.31	2.62	5.25	U
10061-01-5	cis-1,3-Dichloropropene		1.31	2.62	5.25	U
10061-02-6	trans-1,3-Dichloropropene		1.31	2.62	5.25	Q U
100-41-4	Ethylbenzene		1.31	2.62	5.25	U
591-78-6	2-Hexanone		1.31	2.62	5.25	U
98-82-8	Isopropylbenzene		1.31	2.62	5.25	U
75-09-2	Methylene chloride	3.55	2.62	5.25	10.5	IV
79-20-9	Methyl Acetate		2.62	5.25	10.5	U
108-87-2	Methylcyclohexane		1.31	2.62	5.25	U
108-10-1	4-Methyl-2-pentanone		1.31	2.62	5.25	U
1634-04-4	Methyl t-Butyl Ether		1.31	2.62	5.25	U
100-42-5	Styrene		1.31	2.62	5.25	U
79-34-5	1,1,2,2-Tetrachloroethane		1.31	2.62	5.25	U







































































































































































































## ANALYSIS DATA SHEET

BCHMS-SO-026-1210

Laboratory: Empirical Laboratories, LLC SDG: CTOJM17KW\_003  
 Client: Tetra Tech NUS, Inc. (T010) Project: NAS Key West CTO JM17  
 Matrix: Solid Laboratory ID: 1012153-31RE1 File ID: 1215331R.D  
 Sampled: 12/14/10 14:00 Prepared: 01/04/11 11:00 Analyzed: 01/05/11 21:35  
 Solids: 88.50 Preparation: EXT 3546 Dilution: 1  
 Batch: 1A04005 Sequence: 1A00601 Calibration: 0362004 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/Kg dry)	DL	LOD	LOQ	Q
91-94-1	3,3'-Dichlorobenzidine		92.9	186	371	U
98-86-2	Acetophenone		92.9	186	371	U
1912-24-9	Atrazine		92.9	186	371	U
100-52-7	Benzaldehyde		92.9	186	371	U
92-52-4	1,1-Biphenyl		92.9	186	371	U
101-55-3	4-Bromophenyl-phenylether		92.9	186	371	U
85-68-7	Butylbenzylphthalate		92.9	186	371	Q, X, N U
105-60-2	Caprolactam		92.9	186	371	U
86-74-8	Carbazole		92.9	186	371	U
59-50-7	4-Chloro-3-methylphenol		92.9	186	371	U
106-47-8	4-Chloroaniline		92.9	186	371	U
111-91-1	Bis(2-chloroethoxy)methane		92.9	186	371	U
111-44-4	Bis(2-chloroethyl)ether		92.9	186	371	U
108-60-1	2,2'-Oxybis-1-chloropropane		92.9	186	371	X, N U
91-58-7	2-Chloronaphthalene		92.9	186	371	U
95-57-8	2-Chlorophenol		92.9	186	371	N U
7005-72-3	4-Chlorophenyl phenyl ether		92.9	186	371	U
132-64-9	Dibenzofuran		92.9	186	371	U
84-74-2	Di-n-butylphthalate		92.9	186	371	Q, N U
120-83-2	2,4-Dichlorophenol		92.9	186	371	N U
84-66-2	Diethylphthalate		92.9	186	371	U
105-67-9	2,4-Dimethylphenol		371	744	1450	N U
131-11-3	Dimethyl phthalate		92.9	186	371	U
534-52-1	4,6-Dinitro-2-methylphenol		929	1860	3680	N U
51-28-5	2,4-Dinitrophenol		929	1860	3680	Q, X, N U
121-14-2	2,4-Dinitrotoluene		92.9	186	371	U
606-20-2	2,6-Dinitrotoluene		92.9	186	371	U
117-84-0	Di-n-octylphthalate		92.9	186	371	Q, X, N U
123-91-1	1,4-Dioxane		92.9	186	371	X U
117-81-7	Bis(2-ethylhexyl)phthalate		92.9	186	371	Q, X, N U
118-74-1	Hexachlorobenzene		92.9	186	371	U
87-68-3	Hexachlorobutadiene		92.9	186	371	U
77-47-4	Hexachlorocyclopentadiene		92.9	186	371	N U
67-72-1	Hexachloroethane		92.9	186	371	U
78-59-1	Isophorone		92.9	186	371	U
95-48-7	2-Methylphenol		92.9	186	371	U
106-44-5	4-Methylphenol		92.9	186	371	U
91-20-3	Naphthalene		92.9	186	371	U
100-01-6	4-Nitroaniline		371	744	1450	Q, X, N U



















## ANALYSIS DATA SHEET

BCHMS-GW-005-1210

Laboratory: Empirical Laboratories, LLC SDG: CTOJM17KW\_003  
 Client: Tetra Tech NUS, Inc. (T010) Project: NAS Key West CTO JM17  
 Matrix: Ground Water Laboratory ID: 1012153-03 File ID: 1215303.D  
 Sampled: 12/12/10 10:50 Prepared: 12/16/10 12:55 Analyzed: 12/30/10 23:21  
 Solids: Preparation: EXT 3510 Dilution: 1  
 Batch: 0L16008 Sequence: 1A00304 Calibration: 0362004 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
91-94-1	3,3'-Dichlorobenzidine		0.463	1.16	2.31	Y U
98-86-2	Acetophenone		0.579	1.16	2.31	U
1912-24-9	Atrazine		0.579	1.16	2.31	U
100-52-7	Benzaldehyde		0.579	1.16	2.31	Y U
92-52-4	1,1-Biphenyl		0.463	1.16	2.31	U
101-55-3	4-Bromophenyl-phenylether		0.579	1.16	2.31	U
85-68-7	Butylbenzylphthalate		0.579	1.16	2.31	Q U
105-60-2	Caprolactam		0.579	1.16	2.31	Q U
86-74-8	Carbazole		0.579	1.16	2.31	U
59-50-7	4-Chloro-3-methylphenol		0.579	1.16	2.31	U
106-47-8	4-Chloroaniline		0.579	1.16	2.31	U
111-91-1	Bis(2-chloroethoxy)methane		0.579	1.16	2.31	U
111-44-4	Bis(2-chloroethyl)ether		0.579	1.16	2.31	U
108-60-1	2,2'-Oxybis-1-chloropropane		0.463	1.16	2.31	U
91-58-7	2-Chloronaphthalene		0.579	1.16	2.31	U
95-57-8	2-Chlorophenol		0.579	1.16	2.31	U
7005-72-3	4-Chlorophenyl phenyl ether		0.579	1.16	2.31	Y U
132-64-9	Dibenzofuran		0.579	1.16	2.31	U
84-74-2	Di-n-butylphthalate		0.579	1.16	2.31	U
120-83-2	2,4-Dichlorophenol		0.278	1.16	2.31	U
84-66-2	Diethylphthalate		0.579	1.16	2.31	U
105-67-9	2,4-Dimethylphenol		2.31	4.63	9.26	U
131-11-3	Dimethyl phthalate		0.579	1.16	2.31	U
534-52-1	4,6-Dinitro-2-methylphenol		2.31	4.63	9.26	U
51-28-5	2,4-Dinitrophenol		5.79	11.6	23.1	U
121-14-2	2,4-Dinitrotoluene		0.579	1.16	2.31	U
606-20-2	2,6-Dinitrotoluene		0.579	1.16	2.31	U
117-84-0	Di-n-octylphthalate		0.579	1.16	2.31	Q U
123-91-1	1,4-Dioxane		0.579	1.16	2.31	U
117-81-7	Bis(2-ethylhexyl)phthalate		0.579	1.16	2.31	Q U
118-74-1	Hexachlorobenzene		0.579	1.16	2.31	U
87-68-3	Hexachlorobutadiene		0.579	1.16	2.31	Q U
77-47-4	Hexachlorocyclopentadiene		0.579	1.16	2.31	U
67-72-1	Hexachloroethane		0.579	1.16	2.31	Q U
78-59-1	Isophorone		0.579	1.16	2.31	U
95-48-7	2-Methylphenol		0.579	1.16	2.31	U
106-44-5	4-Methylphenol		0.579	1.16	2.31	U
91-20-3	Naphthalene		0.579	1.16	2.31	U
100-01-6	4-Nitroaniline		1.39	4.63	9.26	U



















## ANALYSIS DATA SHEET

BCHMS-GW-010-1210

Laboratory: Empirical Laboratories, LLC SDG: CTOJM17KW\_003  
 Client: Tetra Tech NUS, Inc. (T010) Project: NAS Key West CTO JM17  
 Matrix: Ground Water Laboratory ID: 1012153-09 File ID: 1215309.D  
 Sampled: 12/13/10 11:00 Prepared: 12/16/10 12:55 Analyzed: 12/31/10 02:09  
 Solids: Preparation: EXT 3510 Dilution: 1  
 Batch: 0L16008 Sequence: 1A00304 Calibration: 0362004 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
91-94-1	3,3'-Dichlorobenzidine		0.467	1.17	2.34	Y U
98-86-2	Acetophenone		0.584	1.17	2.34	U
1912-24-9	Atrazine		0.584	1.17	2.34	U
100-52-7	Benzaldehyde		0.584	1.17	2.34	Y U
92-52-4	1,1-Biphenyl		0.467	1.17	2.34	U
101-55-3	4-Bromophenyl-phenylether		0.584	1.17	2.34	U
85-68-7	Butylbenzylphthalate		0.584	1.17	2.34	Q U
105-60-2	Caprolactam		0.584	1.17	2.34	Q U
86-74-8	Carbazole		0.584	1.17	2.34	U
59-50-7	4-Chloro-3-methylphenol		0.584	1.17	2.34	U
106-47-8	4-Chloroaniline		0.584	1.17	2.34	U
111-91-1	Bis(2-chloroethoxy)methane		0.584	1.17	2.34	U
111-44-4	Bis(2-chloroethyl)ether		0.584	1.17	2.34	U
108-60-1	2,2'-Oxybis-1-chloropropane		0.467	1.17	2.34	U
91-58-7	2-Chloronaphthalene		0.584	1.17	2.34	U
95-57-8	2-Chlorophenol		0.584	1.17	2.34	U
7005-72-3	4-Chlorophenyl phenyl ether		0.584	1.17	2.34	Y U
132-64-9	Dibenzofuran		0.584	1.17	2.34	U
84-74-2	Di-n-butylphthalate		0.584	1.17	2.34	U
120-83-2	2,4-Dichlorophenol		0.280	1.17	2.34	U
84-66-2	Diethylphthalate		0.584	1.17	2.34	U
105-67-9	2,4-Dimethylphenol		2.34	4.67	9.35	U
131-11-3	Dimethyl phthalate		0.584	1.17	2.34	U
534-52-1	4,6-Dinitro-2-methylphenol		2.34	4.67	9.35	U
51-28-5	2,4-Dinitrophenol		5.84	11.7	23.4	U
121-14-2	2,4-Dinitrotoluene		0.584	1.17	2.34	U
606-20-2	2,6-Dinitrotoluene		0.584	1.17	2.34	U
117-84-0	Di-n-octylphthalate		0.584	1.17	2.34	Q U
123-91-1	1,4-Dioxane		0.584	1.17	2.34	U
117-81-7	Bis(2-ethylhexyl)phthalate		0.584	1.17	2.34	Q U
118-74-1	Hexachlorobenzene		0.584	1.17	2.34	U
87-68-3	Hexachlorobutadiene		0.584	1.17	2.34	Q U
77-47-4	Hexachlorocyclopentadiene		0.584	1.17	2.34	U
67-72-1	Hexachloroethane		0.584	1.17	2.34	Q U
78-59-1	Isophorone		0.584	1.17	2.34	U
95-48-7	2-Methylphenol		0.584	1.17	2.34	U
106-44-5	4-Methylphenol		0.584	1.17	2.34	U
91-20-3	Naphthalene		0.584	1.17	2.34	U
100-01-6	4-Nitroaniline		1.40	4.67	9.35	U







# ANALYSIS DATA SHEET

**BCHMS-GW-012-1210**

Laboratory:	<u>Empirical Laboratories, LLC</u>	SDG:	<u>CTOJM17KW_003</u>
Client:	<u>Tetra Tech NUS, Inc. (T010)</u>	Project:	<u>NAS Key West CTO JM17</u>
Matrix:	<u>Ground Water</u>	Laboratory ID:	<u>1012153-11</u>
		File ID:	<u>1215311.D</u>
Sampled:	<u>12/13/10 14:00</u>	Prepared:	<u>12/16/10 17:40</u>
		Analyzed:	<u>12/24/10 01:00</u>
Solids:		Preparation:	<u>EXT_3510</u>
		Dilution:	<u>1</u>
Batch:	<u>0L16011</u>	Sequence:	<u>0L36204</u>
		Calibration:	<u>0362004</u>
		Instrument:	<u>MS-BNAI</u>

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
91-94-1	3,3'-Dichlorobenzidine		0.467	1.17	2.34	U
98-86-2	Acetophenone		0.584	1.17	2.34	U
1912-24-9	Atrazine		0.584	1.17	2.34	U
100-52-7	Benzaldehyde		0.584	1.17	2.34	Y U
92-52-4	1,1-Biphenyl		0.467	1.17	2.34	Y U
101-55-3	4-Bromophenyl-phenylether		0.584	1.17	2.34	U
85-68-7	Butylbenzylphthalate		0.584	1.17	2.34	Q, X U
105-60-2	Caprolactam		0.584	1.17	2.34	U
86-74-8	Carbazole		0.584	1.17	2.34	Q U
59-50-7	4-Chloro-3-methylphenol		0.584	1.17	2.34	X U
106-47-8	4-Chloroaniline		0.584	1.17	2.34	U
111-91-1	Bis(2-chloroethoxy)methane		0.584	1.17	2.34	U
111-44-4	Bis(2-chloroethyl)ether		0.584	1.17	2.34	U
108-60-1	2,2'-Oxybis-1-chloropropane		0.467	1.17	2.34	U
91-58-7	2-Chloronaphthalene		0.584	1.17	2.34	U
95-57-8	2-Chlorophenol		0.584	1.17	2.34	U
7005-72-3	4-Chlorophenyl phenyl ether		0.584	1.17	2.34	U
132-64-9	Dibenzofuran		0.584	1.17	2.34	U
84-74-2	Di-n-butylphthalate		0.584	1.17	2.34	Q U
120-83-2	2,4-Dichlorophenol		0.280	1.17	2.34	U
84-66-2	Diethylphthalate		0.584	1.17	2.34	U
105-67-9	2,4-Dimethylphenol		2.34	4.67	9.35	Q U
131-11-3	Dimethyl phthalate		0.584	1.17	2.34	U
534-52-1	4,6-Dinitro-2-methylphenol		2.34	4.67	9.35	U
51-28-5	2,4-Dinitrophenol		5.84	11.7	23.4	U
121-14-2	2,4-Dinitrotoluene		0.584	1.17	2.34	U
606-20-2	2,6-Dinitrotoluene		0.584	1.17	2.34	U
117-84-0	Di-n-octylphthalate		0.584	1.17	2.34	Q, X U
123-91-1	1,4-Dioxane		0.584	1.17	2.34	U
117-81-7	Bis(2-ethylhexyl)phthalate		0.584	1.17	2.34	Q, X U
118-74-1	Hexachlorobenzene		0.584	1.17	2.34	U
87-68-3	Hexachlorobutadiene		0.584	1.17	2.34	U
77-47-4	Hexachlorocyclopentadiene		0.584	1.17	2.34	U
67-72-1	Hexachloroethane		0.584	1.17	2.34	U
78-59-1	Isophorone		0.584	1.17	2.34	U
95-48-7	2-Methylphenol		0.584	1.17	2.34	U
106-44-5	4-Methylphenol		0.584	1.17	2.34	U
91-20-3	Naphthalene		0.584	1.17	2.34	U
100-01-6	4-Nitroaniline		1.40	4.67	9.35	X U























































# ANALYSIS DATA SHEET

<b>BCHMS-SO-012-1210</b>
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Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_003</u>	
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>	
Matrix: <u>Solid</u>	Laboratory ID: <u>1012153-17</u>	File ID: <u>019F2501.D</u>
Sampled: <u>12/14/10 09:20</u>	Prepared: <u>12/22/10 09:50</u>	Analyzed: <u>12/30/10 05:28</u>
Solids: <u>77.68</u>	Preparation: <u>EXT_3546</u>	Dilution: <u>1</u>
Batch: <u>0L21018</u>	Sequence: <u>1A00404</u>	Calibration: <u>0364001</u>
		Instrument: <u>GL-GCFID2</u>

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
	Petroleum Range Organics		14.5	28.9	57.8	U
SYSTEM MONITORING COMPOUND		ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
	2-Fluorobiphenyl	4.263	3.781	88.7	50 - 150	
	o-Terphenyl	4.263	4.077	95.6	35 - 140	































# ANALYSIS DATA SHEET

BCHMS-SO-FD01-1210
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Laboratory:	<u>Empirical Laboratories, LLC</u>	SDG:	<u>CTOJM17KW 003</u>
Client:	<u>Tetra Tech NUS, Inc. (T010)</u>	Project:	<u>NAS Key West CTO JM17</u>
Matrix:	<u>Solid</u>	Laboratory ID:	<u>1012153-33</u>
		File ID:	<u>040F4701.D</u>
Sampled:	<u>12/14/10 00:00</u>	Prepared:	<u>12/23/10 13:38</u>
		Analyzed:	<u>12/30/10 20:55</u>
Solids:	<u>87.95</u>	Preparation:	<u>EXT 3546</u>
		Dilution:	<u>1</u>
Batch:	<u>0L22009</u>	Sequence:	<u>1A00404</u>
		Calibration:	<u>0364001</u>
		Instrument:	<u>GL-GCFID2</u>

CAS NO.	COMPOUND	CONC. (mg/Kg dry)	DL	LOD	LOQ	Q
	Petroleum Range Organics		12.6	25.2	50.4	U
SYSTEM MONITORING COMPOUND		ADDED (mg/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q
	2-Fluorobiphenyl	3.716	3.419	92.0	50 - 150	X
	o-Terphenyl	3.716	3.512	94.5	35 - 140	

























**APPENDIX C**

**SUPPORT DOCUMENTATION**

## Sample Delivery Group Case Narrative

### Receipt Information

The samples were received within the preservation guidelines for the associated methods. The information associated with sample receipt and the Sample Delivery Group (SDG) are included within section 4 of this package, which also provides information on the link between the client sample ID listed on the COC and laboratory's assigned unique sample ID or WorkOrder #. The sample is tracked through the laboratory for all analysis via the assigned WorkOrder #.

All samples that were received were analyzed and none of the samples were placed on hold without analyses. There were no subcontracted analyses for this SDG.

As per the client, SIM PAH that is listed on the CoC is not required but SW7470 for Mercury that is not listed is required.

### Changes to the Revision

This is an original submittal of the final report package.

### Analytical Information

All samples were prepped (where applicable) and analyzed within the standard allowed holding times, unless noted within the exceptions listed below. The laboratory analyzed all samples within the program and method guidelines. The following information is provided specific to individual methods:

#### Chromatographic Flags for Manual Integration:

The following letters are used to denote manual integrations on the laboratory's raw data in association with chromatographic integrations:

- A:** The peak was manually integrated as it was not integrated in the original chromatogram.
- B:** The peak was manually integrated due to resolution or coelution issues in the original chromatogram.
- C:** The peak was manually integrated to correct the baseline from the original chromatogram.
- D:** The peak was manually integrated to identify the correct peak as the wrong peak was identified in the original chromatogram.
- E:** The peak was manually integrated to include the entire peak as the original chromatogram only integrated part of the peak.

#### SW8260B:

The batch spikes associated to batches 0L17010 and 0L21007 exceeded criteria with a positive bias for Bromodichloromethane and 1,2-Dichloroethane. The batch spikes associated to batch 0L17014 exceeded criteria with a positive bias for Bromodichloromethane. The batch spikes associated to batch 0L17021 exceeded recovery criteria with a positive bias for Trans-1,3-Dichloropropene and exceeded relative percent difference criteria for 1,2-Dibromo-3-chloropropane. The batch spikes

associated to batches 0L20010 and 0L2016 exceeded the relative percent difference for most of the compounds due to the batch spike being spiked at a different concentration than the batch spike duplicate, due to analyst error. No samples associated to the batch spikes for 0L20010 and 0L22016 were qualified with the "Q" flag since all recovery criteria were within acceptance limits and the relative percent differences would pass criteria if they were calculate based on the percent recovery versus the concentrations.

The method blank associated to batch 0L17021 has a positive result for Methylene Chloride.

The surrogate Dibromofluoromethane exceeded criteria with a negative bias in samples 1012153-25 and -31. Sample 1012153-25 was re-analyzed with Dibromofluoromethane exceeding criteria with a negative bias.

The continuing calibration verifications exceeded criteria in 0L35201-CCV1 with a negative bias for Vinyl Chloride, in 0L35202-CCV1 with a positive bias for Acetone, Bromodichloromethane, Carbon Disulfide, Carbon Tetrachloride, Chloroform, Dibromochloromethane, Dichlorodifluoromethane, 1,2-Dichloroethane, Methyl Acetate, 1,1,1-Trichloroethane, Trichlorofluoromethane and 1,1,2-Trichloro-1,2,2-trifluoroethane and with a negative bias for Bromomethane, in 0L35417-CCV1 with a negative bias for Bromomethane, in 0L35515-CCV1 with a positive bias for Bromochloromethane, Bromodichloromethane, Bromoform, Bromomethane, Dibromochloromethane, 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, Dichlorodifluoromethane, 1,2-Dichloroethane, Cis-1,3-Dichloropropene, Trans-1,3-Dichloropropene, Methyl Acetate, Methyl t-Butyl Ether, Styrene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene and 1,1,2-Trichloroethane, in 0L35605-CCV1 with a negative bias for Bromomethane and with a positive bias for Dibromochloromethane and in 0L36106-CCV1 with a positive bias for Bromoform, Bromomethane, 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, Trans-1,3-Dichloropropene, Methyl Acetate, Methyl t-Butyl Ether, 1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8270C:**

The surrogate 2-Fluorobiphenyl exceeded criteria with a negative bias in sample 1012153-05 and -10. The surrogate Terphenyl-d14 exceeded criteria with a negative bias in sample 1012153-06. The surrogate Nitrobenzene-d5 exceeded criteria with a positive bias in samples 1012153-21, -25, -34, -31MS, 0L16009-BLK1 and 1A04005-BLK1. The surrogates 2-Fluorophenol and 2,4,6-Tribromophenol exceeded criteria with a negative bias in 1012153-31, -31RE1, -31MS and -31MSD. Due to such low recovery of 2-Fluorophenol and 2,4,6-Tribromophenol in sample 1012153-31, it was re-extracted but, it was re-extracted out of the EPA recommended holding time. The low surrogate recovery in the re-extract for sample 1012153-31 confirmed; therefore, this is likely due to the matrix of the sample.

The batch spikes associated to batch 0L16008 exceeded criteria with a positive bias for Butylbenzylphthalate, Di-n-octylphthalate, Bis(2-ethylhexyl)phthalate and Pentachlorophenol and with a negative bias for Hexachlorobutadiene, Hexachloroethane and Caprolactam. The batch spike associated to batch 0L16009 exceeded criteria with a positive bias for Butylbenzylphthalate, Dibenzofuran, Di-n-butylphthalate, Diethylphthalate, 2,4-Dimethylphenol, Dimethyl phthalate, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Di-n-octylphthalate, Bis(2-ethylhexyl)phthalate, 4-Nitroaniline, 2-Nitrophenol and Pentachlorophenol. The batch spikes associated to batch 0L16011 exceeded criteria with a positive bias for Butylbenzylphthalate, Carbazole, Di-n-butylphthalate, 2,4-Dichlorophenol, Di-n-octylphthalate, Bis(2-ethylhexyl)phthalate and 4-Nitroaniline. The batch spike associated to batch 0L18006 exceeded criteria with a positive bias for Caprolactam. The batch spike associated to batch 1A04005 exceeded criteria with a positive bias for Butylbenzylphthalate, Di-n-butylphthalate, 2,4-Dinitrophenol, Di-n-octylphthalate, Bis(2-ethylhexyl)phthalate, 4-Nitroaniline, 2-Nitroaniline and 4-Nitrophenol.

The matrix spikes associated to sample 1012153-13 exceeded criteria with a positive bias for Butylbenzylphthalate, Di-n-octylphthalate and Bis(2-ethylhexyl)phthalate. The matrix spikes associated to sample 1012153-31 exceeded recovery criteria with a positive bias for Butylbenzylphthalate, 2,2'-Oxybis-1-chloropropane, Di-n-butylphthalate, 2,4-Dichlorophenol, 2,4-Dimethylphenol, Di-n-octylphthalate, Bis(2-ethylhexyl)phthalate, 2-Nitroaniline and 4-Nitroaniline and with a negative bias for 2-Chlorophenol, 4,6-Dinitro-2-methylphenol, 2,4-Dinitrophenol, Hexachlorocyclopentadiene, 2-Nitrophenol, Pentachlorophenol, 2,3,4,6-Tetrachlorophenol, 2,4,6-Trichlorophenol and 2,4,5-Trichlorophenol and exceeded the relative percent difference criteria for Hexachlorocyclopentadiene.

The continuing calibration verifications exceeded criteria in 0L35610-CCV1 with a negative bias for 3,3'-Dichlorobenzidine and Benzaldehyde and with a positive bias for 2,4-Dinitrotoluene, 4-Nitroaniline and 2-Nitroaniline, in 0L36204-CCV3 with a negative bias for Benzaldehyde, 1,1'-Biphenyl and 1,2,4,5-Tetrachlorobenzene and with a positive bias for Butylbenzylphthalate, 4-Chloro-3-methylphenol, Di-n-octylphthalate, Bis(2-ethylhexyl)phthalate, 4-Nitroaniline and 2-Nitroaniline, in 1A00304-CCV1 with a negative bias for 3,3'-Dichlorobenzidine, Benzaldehyde, 1,2,4,5-Tetrachlorobenzene and 4-Chlorophenyl phenyl ether, in 1A00305-CCV1 with a negative bias for Benzaldehyde, Hexachlorocyclopentadiene and 1,2,4,5-Tetrachlorobenzene and with a positive bias for Butylbenzylphthalate and Bis(2-ethylhexyl)phthalate, in 1A00401 with a negative bias for Benzaldehyde and with a positive bias for Butylbenzylphthalate 2,4-Dinitrophenol and Bis(2-ethylhexyl)phthalate and in 1A00601-CCV1 with a positive bias for Butylbenzylphthalate, 2,2'-Oxybis-1-chloropropane, 2,4-Dinitrophenol, Di-n-octylphthalate, 1,4-Dioxane, Bis(2-ethylhexyl)phthalate, 4-Nitroaniline 2-Nitroaniline, Nitrobenzene, 4-Nitrophenol, N-nitroso-di-n-propylamine and Nitrobenzene-d5.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8081B:**

The surrogate Decachlorobiphenyl exceeded criteria on both columns with a negative bias in sample 0L16023-BLK1, -BS1, -BSD1, 1012153-01 and -11 and exceeded criteria on column 2 with a negative bias in 1012153-02 and -09.

The continuing calibration verifications exceeded criteria in 0L36218-CCV4 with a positive bias on column 1 for 4,4'-DDT, Alpha-BHC, Delta-BHC, Gamma-BHC and Heptachlor and in 0L36408-CV4 with a positive bias on column 1 for Delta-BHC.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8082A:**

The surrogate Decachlorobiphenyl exceeded criteria on both columns with a negative bias in sample 0L16023-BLK1, -BSD2, 1012153-01 and -11 and exceeded criteria on column 2 with a negative bias in 0L16023-BS2, 1012153-02 and -09.

The continuing calibration verifications exceeded criteria with a positive bias on column 2 in 0L36218-CCV3 for Aroclor-1260 and in 0L36408-CCV6 for Aroclor-1016 and Aroclor-1260.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**FL-PRO:**

The surrogate o-Terphenyl exceeded criteria with a negative bias in 0L16024-BLK1 and samples 1012153-01, -03, -04, -05, -7 and -09

The continuing calibration verification 1A00404-CCV4 exceeded criteria with a positive bias for 2-Fluorobiphenyl.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW6010C/SW7470A/SW7471A:**

The following samples are qualified with an M, for the compounds indicated, to indicate that the LOD and /or DL were raised due to interference: 1012153-01, -02, -03, -04, -07, -08, -10 and -11 (Mercury), 1012153-01 (Antimony), 1012153-20 (Arsenic), 1012153-01, -02, -03, -04, -05 and -07 (Copper), 1012153-01, -02, -04, -04, -06, -08 and -11 (Lead), 1012153-06, -10, -13, -15, -16, -17, -19, -20, -21, -22, -25, -26, -27 -28, -29, -30, -31, -32 and -34 (Thallium), 1012153-13, -14, -15, -17, -19, -22, -23, -24, -25, -26, -28, -29 and -32 (Silver) and 1012153-33 (Selenium).

The batch spike 0L27010-BS2 exceeded criteria with a positive bias for Potassium and Sodium.

The matrix spikes associated to sample 1012153-11 exceeded criteria with a positive

bias for Silver, Aluminum, Antimony, Copper, Arsenic and Selenium. Calcium exceeded criteria but the parent sample concentration was greater than 4 times the amount spiked. The post spike associated to samples 1012153-11 exceeded criteria with a positive bias for Barium, Silver, Aluminum, Antimony, Arsenic, Calcium, Copper and Selenium. The matrix spikes associated to sample 1012153-32 exceeded criteria with a positive bias for Potassium. The post spike associated to sample 1012153-32 exceeded criteria with a positive bias for Potassium and Sodium.

The initial calibration blank 0L36110-ICB1, digestion blanks 0L21002-BLK1 and 0L21003-BLK1 and continuing calibration blank 0L36110-CCB1 have negative results for Mercury. The continuing calibration blanks 0L36404-CCB1, -CCB3, CCB6, 1A00414-CCB4, -CCB5, -CCB7 and 1A00503-CCB5 and digestion blank 0L27010-BLK2 have positive or negative results for Sodium. The continuing calibration blanks 0L36404-CCB4, -CCB5 and 1A00414-CCB6 have positive or negative results for Lead and Sodium. The continuing calibration blank 0L36404-CCB7 has positive or negative results for Cadmium and Sodium. The digestion blank 0L28005-BLK1 has positive or negative results for Chromium and Thallium. The continuing calibration blank 0L36404-CCB8 has positive or negative results for Cadmium, Copper and Nickel. The digestion blank 0L28005-BLK2 has positive or negative results for Iron and Zinc. The digestion blank 0L28004-BLK2 has positive or negative results for Chromium, Thallium and Zinc.

The continuing calibration verifications exceeded criteria in 0L36404-CCV1 with a negative bias for Aluminum, Antimony, Arsenic, Copper, Potassium, Thallium, Selenium and Sodium and with a positive bias for Beryllium, Chromium, Magnesium, Manganese, Vanadium and Zinc, in 0L36404-CCV3 with a positive bias for Antimony, Potassium and Sodium, in 0L36404-CCV4 with a negative bias for Chromium and with a positive bias for Aluminum, Antimony, Arsenic, Cadmium, Copper, Potassium, Sodium and Selenium, in 0L36404-CCV5 with a negative bias for Chromium and Magnesium and with a positive bias for Potassium and Sodium, in 0L36404-CCV6 with a negative bias for Magnesium, in 0L36404-CCV7 with a negative bias for Aluminum and Magnesium, in 0L36404-CCV8 with a negative bias for Beryllium, Magnesium and Vanadium and with a positive bias for Sodium and Potassium, in 1A00414-CCV4 with a positive bias for Potassium, in 1A00414-CCV5 with a negative bias for Calcium and Sodium and with a positive bias for Potassium, in 1A00503-CCV5 with a positive bias for Aluminum and Potassium and with a negative bias for Calcium and in 1A00505-CCV6 with a negative bias for Calcium and Chromium and with a positive bias for Potassium.

The serial dilution associated to sample 1012153-11 is out of the specification limits of  $\pm 10\%$  (when the concentration is greater than 50 X the MDL) for calcium at 11.4% and for sodium at 12.8%. The concentration of the post digestion spike was less than four times the concentration of the sample. No qualifier is required.

The serial dilution for sample 1012153-11 exceeded criteria for Calcium and Sodium. The concentration of the post digestion spike was less than four times the concentration of the sample. No flag is necessary.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.



TETRA TECH NUS, INC

CHAIN OF CUSTODY  
NUMBER: ED00000143-3

Project No: <b>112G02608</b>	Facility: <b>KEY WEST NAS</b>	Project Manager: <b>Shauna Stotler-Hardy</b>	Carrier: <b>Federal Express</b>	Laboratory Name: <b>Empirical Laboratories, LLC 621 Mainstream Drive Nashville, TN 37228</b>
Task No: <b>JM17</b>	Turn Around Time: <b>Standard</b>	Field Ops Leader: <b>Gary Braganza</b>	Carrier/Waybill No. <b>874183383409</b>	Point of Contact: <b>Kim Kostzer (615) 345-1115</b>

Date	Sample ID #	Time	Analysis	Loc ID	Matrix	Description	Preservative	Container Count	Container Type	Container Reqs	Comments
12/12/2010	BCHMS-FD001-1210	00:00	SW846 6020A	QC	GW Metals	4°C/HNO3	2	Plastic - PE	125ml		10/21/13
12/12/2010	BCHMS-FD001-1210	00:00	SW846 8720D/8270DSIM	QC	GW SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L		-01
12/12/2010	BCHMS-FD001-1210	00:00	FL PRO	QC	GW TRPH	4°C/HCL	2	Glass - Amber	1L		
12/12/2010	BCHMS-FD001-1210	00:00	SW846 8260B	QC	GW VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials		
12/12/2010	BCHMS-FD001-1210	00:00	SW846 8082A/8081B	QC	GW PCBs/Pesticides	4°C	3	Glass - Amber	1L		W/S 2/1/13
12/12/2010	BCHMS-GW-004-1210	10:00	SW846 8260B	BCHMS-GW004	GW VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials		
12/12/2010	BCHMS-GW-004-1210	10:00	SW846 8720D/8270DSIM	BCHMS-GW004	GW SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L		-02
12/12/2010	BCHMS-GW-004-1210	10:00	SW846 6020A	BCHMS-GW004	GW Metals	4°C/HNO3	2	Plastic - PE	125ml		
12/12/2010	BCHMS-GW-004-1210	10:00	FL PRO	BCHMS-GW004	GW TRPH	4°C/HCL	2	Glass - Amber	1L		
12/12/2010	BCHMS-GW-004-1210	10:00	SW846 8082A/8081B	BCHMS-GW004	GW PCBs/Pesticides	4°C	3	Glass - Amber	1L		
12/12/2010	BCHMS-GW-005-1210	10:50	SW846 8260B	BCHMS-GW005	GW VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials		-03
12/12/2010	BCHMS-GW-005-1210	10:50	SW846 8720D/8270DSIM	BCHMS-GW005	GW SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L		
12/12/2010	BCHMS-GW-005-1210	10:50	SW846 6020A	BCHMS-GW005	GW Metals	4°C/HNO3	2	Plastic - PE	125ml		
12/12/2010	BCHMS-GW-005-1210	10:50	FL PRO	BCHMS-GW005	GW TRPH	4°C/HCL	2	Glass - Amber	1L		
12/12/2010	BCHMS-GW-006-1210	13:30	SW846 8260B	BCHMS-GW006	GW VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials		-04
12/12/2010	BCHMS-GW-006-1210	13:30	SW846 8260B	BCHMS-GW006	GW SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L		
12/12/2010	BCHMS-GW-006-1210	13:30	SW846 6020A	BCHMS-GW006	GW Metals	4°C/HNO3	2	Plastic - PE	125ml		
12/12/2010	BCHMS-GW-006-1210	13:30	FL PRO	BCHMS-GW006	GW TRPH	4°C/HCL	2	Glass - Amber	1L		
12/12/2010	BCHMS-GW-007-1210	14:30	SW846 8260B	BCHMS-GW007	GW VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials		-05

Date	Sample ID	Time	Location	Matrix	Method	Temperature	Volume	Container	Notes
12/12/2010	BCHMS-GW-007-1210	14:30	SW846 8720D/8270DSIM	BCHMS-GW007	GW	SVOCs (low level) and SIM	1L	Glass - Amber	
12/12/2010	BCHMS-GW-007-1210	14:30	SW846 6020A	BCHMS-GW007	GW	PAHs	125ml	Plastic - PE	
12/12/2010	BCHMS-GW-007-1210	14:30	FL PRO	BCHMS-GW007	GW	TRPH	1L	Glass - Amber	
12/13/2010	BCHMS-FD002-1210	00:00	SW846 6020A	QC	GW	Metals	125ml	Plastic - PE	
12/13/2010	BCHMS-FD002-1210	00:00	FL PRO	QC	GW	TRPH	1L	Glass - Amber	
12/13/2010	BCHMS-FD002-1210	00:00	SW846 8720D/8270DSIM	QC	GW	SVOCs (low level) and SIM	1L	Glass - Amber	
12/13/2010	BCHMS-FD002-1210	00:00	SW846 8260B	QC	GW	VOCs (low level analysis)	40ml vials	Glass - Clear	
12/13/2010	BCHMS-GW-008-1210	09:00	SW846 8260B	BCHMS-GW008	GW	VOCs (low level analysis)	40ml vials	Glass - Clear	
12/13/2010	BCHMS-GW-008-1210	09:00	SW846 8720D/8270DSIM	BCHMS-GW008	GW	SVOCs (low level) and SIM	1L	Glass - Amber	
12/13/2010	BCHMS-GW-008-1210	09:00	SW846 6020A	BCHMS-GW008	GW	Metals	125ml	Plastic - PE	
12/13/2010	BCHMS-GW-008-1210	09:00	FL PRO	BCHMS-GW008	GW	TRPH	1L	Glass - Amber	
12/13/2010	BCHMS-GW-009D-1210	10:00	SW846 8260B	BCHMS-GW009D	GW	VOCs (low level analysis)	1L	Glass - Amber	
12/13/2010	BCHMS-GW-009D-1210	10:00	SW846 8720D/8270DSIM	BCHMS-GW009D	GW	SVOCs (low level) and SIM	1L	Glass - Amber	
12/13/2010	BCHMS-GW-009D-1210	10:00	SW846 6020A	BCHMS-GW009D	GW	Metals	125ml	Plastic - PE	
12/13/2010	BCHMS-GW-009D-1210	10:00	FL PRO	BCHMS-GW009D	GW	TRPH	1L	Glass - Amber	
12/13/2010	BCHMS-GW-010-1210	11:00	SW846 8260B	BCHMS-GW010	GW	VOCs (low level analysis)	40ml vials	Glass - Clear	
12/13/2010	BCHMS-GW-010-1210	11:00	SW846 8720D/8270DSIM	BCHMS-GW010	GW	SVOCs (low level) and SIM	1L	Glass - Amber	
12/13/2010	BCHMS-GW-010-1210	11:00	SW846 6020A	BCHMS-GW010	GW	Metals	125ml	Plastic - PE	
12/13/2010	BCHMS-GW-010-1210	11:00	FL PRO	BCHMS-GW010	GW	TRPH	1L	Glass - Amber	
12/13/2010	BCHMS-GW-010-1210	11:00	SW846 8082A/8081B	BCHMS-GW010	GW	PCBs/Pesticides	1L	Glass - Amber	
12/13/2010	BCHMS-GW-011-1210	15:00	SW846 8260B	BCHMS-GW011	GW	VOCs (low level analysis)	40ml vials	Glass - Clear	
12/13/2010	BCHMS-GW-011-1210	15:00	SW846 8720D/8270DSIM	BCHMS-GW011	GW	SVOCs (low level) and SIM	1L	Glass - Amber	
12/13/2010	BCHMS-GW-011-1210	15:00	SW846 6020A	BCHMS-GW011	GW	Metals	125ml	Plastic - PE	
12/13/2010	BCHMS-GW-011-1210	15:00	FL PRO	BCHMS-GW011	GW	TRPH	1L	Glass - Amber	
12/13/2010	BCHMS-GW-012-1210	14:00	SW846 8260B	BCHMS-GW012	GW	VOCs (low level analysis)	40ml vials	Glass - Clear	
12/13/2010	BCHMS-GW-012-1210	14:00	SW846 8720D/8270DSIM	BCHMS-GW012	GW	SVOCs (low level) and SIM	1L	Glass - Amber	
12/13/2010	BCHMS-GW-012-1210	14:00	SW846 6020A	BCHMS-GW012	GW	Metals	125ml	Plastic - PE	
12/13/2010	BCHMS-GW-012-1210	14:00	FL PRO	BCHMS-GW012	GW	TRPH	1L	Glass - Amber	
12/13/2010	BCHMS-GW-012-1210	14:00	SW846 8082A/8081B	BCHMS-GW012	GW	PCBs/Pesticides	1L	Glass - Amber	
12/13/2010	BCHMS-TB02-1210	00:00	SW846 8260B	QC	AQ	VOCs (low level analysis)	40ml vials	Glass - Clear	
12/14/2010	BCHMS-SO-002-1210	08:00	SW846 8260B	BCHMS-SO002	SO	VOCs	40ml vials	Glass - Clear	
12/14/2010	BCHMS-SO-002-1210	08:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO002	SO	SVOCs (low level)/Metals/TRPH	4 oz. wide-mouth w/ cap	Glass - Amber	

1012153 -05

-06

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-12

Trip Blank

-13

01453

12/14/2010	BCHMS-SO-004-1210	08:20	SW846 8260B		BCHMS-SO004	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-14
12/14/2010	BCHMS-SO-004-1210	08:20	SW846 8082A/8081B		BCHMS-SO004	SO	PCBs/Pesticides	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-004-1210	08:20	SW846 8270D/8270DSIM/SW846 6020A/FL PRO		BCHMS-SO004	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-007-1210	08:40	SW846 8260B		BCHMS-SO007	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-15
12/14/2010	BCHMS-SO-007-1210	08:40	SW846 8270D/8270DSIM/SW846 6020A/FL PRO		BCHMS-SO007	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-010-1210	09:00	SW846 8260B		BCHMS-SO010	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-16
12/14/2010	BCHMS-SO-010-1210	09:00	SW846 8082A/8081B		BCHMS-SO010	SO	PCBs/Pesticides	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-010-1210	09:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO		BCHMS-SO010	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-012-1210	09:20	SW846 8260B		BCHMS-SO012	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-17
12/14/2010	BCHMS-SO-012-1210	09:20	SW846 8082A/8081B		BCHMS-SO012	SO	PCBs/Pesticides	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-012-1210	09:20	SW846 8270D/8270DSIM/SW846 6020A/FL PRO		BCHMS-SO012	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-013-1210	09:40	SW846 8260B		BCHMS-SO013	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-18
12/14/2010	BCHMS-SO-013-1210	09:40	SW846 8270D/8270DSIM/SW846 6020A/FL PRO		BCHMS-SO013	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-014-1210	10:00	SW846 8260B		BCHMS-SO014	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-19
12/14/2010	BCHMS-SO-014-1210	10:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO		BCHMS-SO014	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-015-1210	10:20	SW846 8260B		BCHMS-SO015	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-20
12/14/2010	BCHMS-SO-015-1210	10:20	SW846 8270D/8270DSIM/SW846 6020A/FL PRO		BCHMS-SO015	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-016-1210	10:40	SW846 8260B		BCHMS-SO016	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-21
12/14/2010	BCHMS-SO-016-1210	10:40	SW846 8270D/8270DSIM/SW846 6020A/FL PRO		BCHMS-SO016	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-017-1210	11:00	SW846 8260B		BCHMS-SO017	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-22
12/14/2010	BCHMS-SO-017-1210	11:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO		BCHMS-SO017	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-018-1210	11:20	SW846 8260B		BCHMS-SO018	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-23
12/14/2010	BCHMS-SO-018-1210	11:20	SW846 8270D/8270DSIM/SW846 6020A/FL PRO		BCHMS-SO018	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-019-1210	11:40	SW846 8260B		BCHMS-SO019	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-24
12/14/2010	BCHMS-SO-019-1210	11:40	SW846 8270D/8270DSIM/SW846 6020A/FL PRO		BCHMS-SO019	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-020-1210	12:00	SW846 8260B		BCHMS-SO020	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-25
12/14/2010	BCHMS-SO-020-1210	12:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO		BCHMS-SO020	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-021-1210	12:20	SW846 8260B		BCHMS-SO021	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-26
12/14/2010	BCHMS-SO-021-1210	12:20	SW846 8270D/8270DSIM/SW846 6020A/FL PRO		BCHMS-SO021	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-022-1210	12:40	SW846 8260B		BCHMS-SO022	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-27
12/14/2010	BCHMS-SO-022-1210	12:40	SW846 8270D/8270DSIM/SW846 6020A/FL PRO		BCHMS-SO022	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	

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12/14/2010	BCHMS-SO-023-1210	13:00	SW846 8260B	BCHMS-SO023	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-28
12/14/2010	BCHMS-SO-023-1210	13:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO023	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-29
12/14/2010	BCHMS-SO-024-1210	13:20	SW846 8260B	BCHMS-SO024	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-29
12/14/2010	BCHMS-SO-024-1210	13:20	SW846 8082A/8081B	BCHMS-SO024	SO	PCBs/Pesticides	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-30
12/14/2010	BCHMS-SO-024-1210	13:20	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO024	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-30
12/14/2010	BCHMS-SO-025-1210	13:40	SW846 8260B	BCHMS-SO025	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-30
12/14/2010	BCHMS-SO-025-1210	13:40	SW846 8082A/8081B	BCHMS-SO025	SO	PCBs/Pesticides	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-31
12/14/2010	BCHMS-SO-025-1210	13:40	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO025	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-31
12/14/2010	BCHMS-SO-026-1210	14:00	SW846 8260B	BCHMS-SO026	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-31
12/14/2010	BCHMS-SO-026-1210	14:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO026	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-32
12/14/2010	BCHMS-SO-028-1210	14:20	SW846 8260B	BCHMS-SO028	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-32
12/14/2010	BCHMS-SO-028-1210	14:20	SW846 8082A/8081B	BCHMS-SO028	SO	PCBs/Pesticides	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-32
12/14/2010	BCHMS-SO-028-1210	14:20	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO028	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-32
12/14/2010	BCHMS-SO-FD01-1210	00:00	SW846 8260B	QC	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-33
12/14/2010	BCHMS-SO-FD01-1210	00:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	QC	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-33
12/14/2010	BCHMS-SO-FD02-1210	00:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	QC	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-34
12/14/2010	BCHMS-SO-FD02-1210	00:00	SW846 8260B	QC	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-34
12/14/2010	BCHMS-SO-FD02-1210	00:00	SW846 8082A/8081B	QC	SO	PCBs/Pesticides	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-34
12/14/2010	BCHMS-TB03-1210	00:00	SW846 8260B	QC	AQ	VOCs (low level analysis)	4°C/HCL	2	Glass - Clear	40ml vials	TRIP BLANK -35

1. Relinquished By: <b>Gary Braganza</b>	Date: 12/14/2010	Time: 17:17	Received By: <b>Federal Express</b>	Date: 12/14/2010	Time: 17:17
2. Relinquished By:	Date:	Time:	Received By:	Date:	Time:
3. Relinquished By:	Date:	Time:	Received By: <i>[Signature]</i>	Date: 12/15/10	Time: 08:30

Comments:  
4.5°C

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012153 Number of Coolers: 1 of 10  
 Client: TTNUS Project: Key West NAS JM17  
 Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
 Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9341

2. Were custody seals on outside of cooler(s)?  Yes  No  
 How many: 1 Seal date: 12/14/10 Seal Initials: ?

3. Were custody seals unbroken and intact at the date and time of arrival?  Yes  No  N/A  
 4. Were custody papers sealed in a plastic bag included in the sample cooler?  Yes  No  N/A  
 5. Were custody papers filled out properly (ink, signed, etc.)?  Yes  No  N/A  
 6. Did you sign custody papers in the appropriate place for acceptance?  Yes  No  N/A  
 7. Was project identifiable from custody papers?  Yes  No  N/A  
 8. If required, was enough ice present in the cooler(s)?  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
 Temperature of Samples upon Receipt: Initial Value: 28 °C Correction Factor: -0.3 °C Final Value: 2.5 °C

Dates samples were logged-in: 12/15/10

9. Initial this form to acknowledge login of sample(s): (Name): Will Schwab (Initial): WS

10. Were all bottle lids intact and sealed tightly?  Yes  No  N/A  
 11. Did all bottles arrive unbroken?  Yes  No  N/A  
 12. Was all required bottle label information complete?  Yes  No  N/A  
 13. Did all bottle labels agree with custody papers?  Yes  No  N/A  
 14. Were correct containers used for the analyses indicated?  Yes  No  N/A  
 15. Were preservative levels correct in all applicable sample containers?  Yes  No  N/A  
 16. Was residual chlorine present in any applicable sample containers?  Yes  No  N/A  
 17. Was sufficient amount of sample sent for the analyses required?  Yes  No  N/A  
 18. Was headspace present in any included VOA vials?  Yes  No  N/A

*Not trip  
Blanks  
rec'd in  
shipment.  
Could not  
tag!*

*pH 2 for  
all  
metals  
& FLPRO  
(not soils, H<sub>2</sub>O  
only)*

If Non-Conformance issues were present, list by sample ID: 1/1 Lamber broken in shipment for BCHMS - GW-011-1210

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012153 Number of Coolers: 2 of 10  
 Client: TTNUS Project: Key West WAS JM17  
 Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
 Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9352

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
 How many: 1 Seal date: 12/14/10 Seal Initials: ?
3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A  
 4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A  
 5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A  
 6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A  
 7. Was project identifiable from custody papers? .....  Yes  No  N/A  
 8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE

Temperature of Samples upon Receipt: Initial Value: 3.9 °C Correction Factor: -0.3 °C Final Value: 3.6 °C

Dates samples were logged-in:

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A  
 11. Did all bottles arrive unbroken? .....  Yes  No  N/A  
 12. Was all required bottle label information complete? .....  Yes  No  N/A  
 13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A  
 14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A  
 15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A  
 16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A  
 17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A  
 18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

*see  
1 of 10*

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012153 Number of Coolers: 3 of 10  
 Client: TTNUS Project: Key West NAs JM17  
 Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
 Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 3409

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
 How many: 1 Seal date: 12/14/10 Seal Initials: ?

3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A  
 4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A  
 5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A  
 6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A  
 7. Was project identifiable from custody papers? .....  Yes  No  N/A  
 8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
 Temperature of Samples upon Receipt: Initial Value: 4.2 °C Correction Factor: -0.3 °C Final Value: 3.9 °C

Dates samples were logged-in: \_\_\_\_\_

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_

10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A  
 11. Did all bottles arrive unbroken? .....  Yes  No  N/A  
 12. Was all required bottle label information complete? .....  Yes  No  N/A  
 13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A  
 14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A  
 15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A  
 16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A  
 17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A  
 18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

*See  
1 of 10*

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012153 Number of Coolers: 4 of 10  
 Client: TTNUS Project: Key West NAS J1417  
 Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
 Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9330

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
 How many: 1 Seal date: 12/14/10 Seal Initials: ?
3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A  
 4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A  
 5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A  
 6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A  
 7. Was project identifiable from custody papers? .....  Yes  No  N/A  
 8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
 Temperature of Samples upon Receipt: Initial Value: 5.6 °C Correction Factor: -0.3 °C Final Value: 5.3 °C

- Dates samples were logged-in: \_\_\_\_\_
9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A  
 11. Did all bottles arrive unbroken? .....  Yes  No  N/A  
 12. Was all required bottle label information complete? .....  Yes  No  N/A  
 13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A  
 14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A  
 15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A  
 16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A  
 17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A  
 18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

*see  
1 of 10*

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012153 Number of Coolers: 5 of 10  
Client: TTNUS Project: Key West NAs JM17  
Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
Opened By (print): Will Schwed (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9308

2. Were custody seals on outside of cooler(s)?  Yes  No  
How many: 1 Seal date: 12/14/10 Seal Initials: ?

- 3. Were custody seals unbroken and intact at the date and time of arrival?  Yes  No  N/A
- 4. Were custody papers sealed in a plastic bag included in the sample cooler?  Yes  No  N/A
- 5. Were custody papers filled out properly (ink, signed, etc.)?  Yes  No  N/A
- 6. Did you sign custody papers in the appropriate place for acceptance?  Yes  No  N/A
- 7. Was project identifiable from custody papers?  Yes  No  N/A
- 8. If required, was enough ice present in the cooler(s)?  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE

Temperature of Samples upon Receipt: Initial Value: 1.9 °C Correction Factor: -0.3 °C Final Value: 1.6 °C

Dates samples were logged-in:

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
- 10. Were all bottle lids intact and sealed tightly?  Yes  No  N/A
  - 11. Did all bottles arrive unbroken?  Yes  No  N/A
  - 12. Was all required bottle label information complete?  Yes  No  N/A
  - 13. Did all bottle labels agree with custody papers?  Yes  No  N/A
  - 14. Were correct containers used for the analyses indicated?  Yes  No  N/A
  - 15. Were preservative levels correct in all applicable sample containers?  Yes  No  N/A
  - 16. Was residual chlorine present in any applicable sample containers?  Yes  No  N/A
  - 17. Was sufficient amount of sample sent for the analyses required?  Yes  No  N/A
  - 18. Was headspace present in any included VOA vials?  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

see  
1 of 10

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012153 Number of Coolers: 6 of 10  
 Client: TTNUS Project: Key West NAS JM17  
 Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
 Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9320

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
 How many: 1 Seal date: 12/14/10 Seal Initials: ?

3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A  
 4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A  
 5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A  
 6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A  
 7. Was project identifiable from custody papers? .....  Yes  No  N/A  
 8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE

Temperature of Samples upon Receipt: Initial Value: 0.3 °C Correction Factor: -0.3 °C Final Value: 0.0 °C

Dates samples were logged-in:

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_  
 10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A  
 11. Did all bottles arrive unbroken? .....  Yes  No  N/A  
 12. Was all required bottle label information complete? .....  Yes  No  N/A  
 13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A  
 14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A  
 15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A  
 16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A  
 17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A  
 18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

*See  
1 of 10*

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012153 Number of Coolers: 7 of 10  
 Client: TTNUS Project: Key West DAS JM17  
 Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
 Opened By (print): Will Schwarz (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9271

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
 How many: 1 Seal date: 12/14/10 Seal Initials: ?
3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A  
 4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A  
 5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A  
 6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A  
 7. Was project identifiable from custody papers? .....  Yes  No  N/A  
 8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE

Temperature of Samples upon Receipt: Initial Value: 20 °C Correction Factor: -0.3 °C Final Value: 1.7 °C

Dates samples were logged-in:

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A  
 11. Did all bottles arrive unbroken? .....  Yes  No  N/A  
 12. Was all required bottle label information complete? .....  Yes  No  N/A  
 13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A  
 14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A  
 15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A  
 16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A  
 17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A  
 18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

*see  
1 of 10*

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012153 Number of Coolers: 8 of 10  
Client: TTNUS Project: Key West NAS JM17  
Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9282

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
How many: 1 Seal date: 12/14/10 Seal Initials: ?
3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A  
4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A  
5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A  
6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A  
7. Was project identifiable from custody papers? .....  Yes  No  N/A  
8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
Temperature of Samples upon Receipt: Initial Value: 4.8 °C Correction Factor: -0.3 °C Final Value: 4.5 °C

- Dates samples were logged-in: \_\_\_\_\_
9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A  
11. Did all bottles arrive unbroken? .....  Yes  No  N/A  
12. Was all required bottle label information complete? .....  Yes  No  N/A  
13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A  
14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A  
15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A  
16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A  
17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A  
18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

see  
1 of 10

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012153 Number of Coolers: 9 of 10  
 Client: TTNUS Project: Key West DAS JM17  
 Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
 Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9319

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
 How many: 1 Seal date: 12/14/10 Seal Initials: ?
3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A  
 4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A  
 5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A  
 6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A  
 7. Was project identifiable from custody papers? .....  Yes  No  N/A  
 8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
 Temperature of Samples upon Receipt: Initial Value: 2.0 °C Correction Factor: -0.3 °C Final Value: 1.7 °C

- Dates samples were logged-in: \_\_\_\_\_
9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A  
 11. Did all bottles arrive unbroken? .....  Yes  No  N/A  
 12. Was all required bottle label information complete? .....  Yes  No  N/A  
 13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A  
 14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A  
 15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A  
 16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A  
 17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A  
 18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

*See  
1 of 10*

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012153 Number of Coolers: 10 of 10  
 Client: TTNUS Project: Key West NAS J1417  
 Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
 Opened By (print): Willschwaab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9293

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
 How many: 1 Seal date: 12/14/10 Seal Initials: ?
3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A  
 4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A  
 5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A  
 6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A  
 7. Was project identifiable from custody papers? .....  Yes  No  N/A  
 8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
 Temperature of Samples upon Receipt: Initial Value: 4.8 °C Correction Factor: -0.3 °C Final Value: 4.5 °C

- Dates samples were logged-in:
9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A  
 11. Did all bottles arrive unbroken? .....  Yes  No  N/A  
 12. Was all required bottle label information complete? .....  Yes  No  N/A  
 13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A  
 14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A  
 15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A  
 16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A  
 17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A  
 18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

*See  
1 of 10*

## HOLDING TIME SUMMARY

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-FD001-1210	12/12/10 00:00	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/17/10 20:06	5.88	14.00	
BCHMS-GW-004-1210	12/12/10 10:00	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/17/10 20:36	5.48	14.00	
BCHMS-GW-005-1210	12/12/10 10:50	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/17/10 21:06	5.47	14.00	
BCHMS-GW-006-1210	12/12/10 13:30	12/15/10 08:30	12/21/10 00:00	N/A	14.00	12/21/10 13:54	9.06	14.00	
BCHMS-GW-007-1210	12/12/10 14:30	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/18/10 05:56	5.68	14.00	
BCHMS-FD002-1210	12/13/10 00:00	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/18/10 06:26	5.31	14.00	
BCHMS-GW-008-1210	12/13/10 09:00	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/18/10 06:56	4.96	14.00	
BCHMS-GW-009D-1210	12/13/10 10:00	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/18/10 07:25	4.93	14.00	
BCHMS-GW-010-1210	12/13/10 11:00	12/15/10 08:30	12/21/10 00:00	N/A	14.00	12/21/10 14:23	8.18	14.00	
BCHMS-GW-011-1210	12/13/10 15:00	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/18/10 08:24	4.77	14.00	
BCHMS-GW-012-1210	12/13/10 14:00	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/18/10 11:52	4.95	14.00	
BCHMS-SO-002-1210	12/14/10 08:00	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/17/10 17:25	3.43	14.00	
BCHMS-SO-004-1210	12/14/10 08:20	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/17/10 17:56	3.44	14.00	
BCHMS-SO-007-1210	12/14/10 08:40	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/17/10 18:27	3.45	14.00	
BCHMS-SO-010-1210	12/14/10 09:00	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/17/10 18:58	3.46	14.00	
BCHMS-SO-012-1210	12/14/10 09:20	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/17/10 19:28	3.46	14.00	
BCHMS-SO-013-1210	12/14/10 09:40	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/17/10 19:59	3.47	14.00	
BCHMS-SO-014-1210	12/14/10 10:00	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/17/10 20:30	3.48	14.00	
BCHMS-SO-015-1210	12/14/10 10:20	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/17/10 21:01	3.49	14.00	
BCHMS-SO-016-1210	12/14/10 10:40	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/17/10 21:32	3.49	14.00	
BCHMS-SO-017-1210	12/14/10 11:00	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/17/10 22:03	3.50	14.00	
BCHMS-SO-018-1210	12/14/10 11:20	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/17/10 22:34	3.51	14.00	
BCHMS-SO-019-1210	12/14/10 11:40	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/17/10 23:05	3.52	14.00	
BCHMS-SO-020-1210	12/14/10 12:00	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/17/10 23:35	3.52	14.00	

## HOLDING TIME SUMMARY

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-SO-020-1210	12/14/10 12:00	12/15/10 08:30	12/22/10 00:00	N/A	14.00	12/22/10 14:36	8.15	14.00	
BCHMS-SO-021-1210	12/14/10 12:20	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/18/10 00:06	3.53	14.00	
BCHMS-SO-022-1210	12/14/10 12:40	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/18/10 00:37	3.54	14.00	
BCHMS-SO-023-1210	12/14/10 13:00	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/18/10 01:08	3.55	14.00	
BCHMS-SO-024-1210	12/14/10 13:20	12/15/10 08:30	12/17/10 00:00	N/A	14.00	12/18/10 01:39	3.55	14.00	
BCHMS-SO-025-1210	12/14/10 13:40	12/15/10 08:30	12/20/10 00:00	N/A	14.00	12/20/10 13:32	6.04	14.00	
BCHMS-SO-026-1210	12/14/10 14:00	12/15/10 08:30	12/20/10 00:00	N/A	14.00	12/20/10 14:03	6.04	14.00	
BCHMS-SO-028-1210	12/14/10 14:20	12/15/10 08:30	12/20/10 00:00	N/A	14.00	12/20/10 14:33	6.05	14.00	
BCHMS-SO-FD01-1210	12/14/10 00:00	12/15/10 08:30	12/20/10 00:00	N/A	14.00	12/20/10 15:04	6.67	14.00	
BCHMS-SO-FD02-1210	12/14/10 00:00	12/15/10 08:30	12/20/10 00:00	N/A	14.00	12/20/10 15:35	6.69	14.00	

## HOLDING TIME SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-FD001-1210	12/12/10 00:00	12/15/10 08:30	12/16/10 12:55	4.58	7.00	12/30/10 22:25	14.40	40.00	
BCHMS-GW-004-1210	12/12/10 10:00	12/15/10 08:30	12/16/10 12:55	4.16	7.00	12/30/10 22:53	14.42	40.00	
BCHMS-GW-005-1210	12/12/10 10:50	12/15/10 08:30	12/16/10 12:55	4.13	7.00	12/30/10 23:21	14.43	40.00	
BCHMS-GW-006-1210	12/12/10 13:30	12/15/10 08:30	12/16/10 12:55	4.02	7.00	12/30/10 23:49	14.45	40.00	
BCHMS-GW-007-1210	12/12/10 14:30	12/15/10 08:30	12/16/10 12:55	3.98	7.00	12/31/10 00:17	14.47	40.00	
BCHMS-FD002-1210	12/13/10 00:00	12/15/10 08:30	12/16/10 12:55	3.58	7.00	12/31/10 00:45	14.49	40.00	
BCHMS-GW-008-1210	12/13/10 09:00	12/15/10 08:30	12/16/10 12:55	3.20	7.00	12/31/10 01:13	14.51	40.00	
BCHMS-GW-009D-1210	12/13/10 10:00	12/15/10 08:30	12/16/10 12:55	3.16	7.00	12/31/10 01:41	14.53	40.00	
BCHMS-GW-010-1210	12/13/10 11:00	12/15/10 08:30	12/16/10 12:55	3.12	7.00	12/31/10 02:09	14.55	40.00	
BCHMS-GW-011-1210	12/13/10 15:00	12/15/10 08:30	12/16/10 12:55	2.95	7.00	12/31/10 02:37	14.57	40.00	
BCHMS-GW-012-1210	12/13/10 14:00	12/15/10 08:30	12/16/10 17:40	3.19	7.00	12/24/10 01:00	7.31	40.00	
BCHMS-SO-002-1210	12/14/10 08:00	12/15/10 08:30	12/16/10 13:25	2.27	14.00	12/31/10 04:53	14.64	40.00	
BCHMS-SO-004-1210	12/14/10 08:20	12/15/10 08:30	12/16/10 13:25	2.25	14.00	12/31/10 05:20	14.66	40.00	
BCHMS-SO-007-1210	12/14/10 08:40	12/15/10 08:30	12/16/10 13:25	2.24	14.00	12/31/10 05:48	14.68	40.00	
BCHMS-SO-010-1210	12/14/10 09:00	12/15/10 08:30	12/16/10 13:25	2.23	14.00	12/31/10 13:43	15.01	40.00	
BCHMS-SO-012-1210	12/14/10 09:20	12/15/10 08:30	12/16/10 13:25	2.21	14.00	12/31/10 06:16	14.70	40.00	
BCHMS-SO-013-1210	12/14/10 09:40	12/15/10 08:30	12/16/10 13:25	2.20	14.00	12/31/10 06:44	14.72	40.00	
BCHMS-SO-014-1210	12/14/10 10:00	12/15/10 08:30	12/16/10 13:25	2.18	14.00	12/31/10 07:12	14.74	40.00	
BCHMS-SO-015-1210	12/14/10 10:20	12/15/10 08:30	12/16/10 13:25	2.17	14.00	12/31/10 07:40	14.76	40.00	
BCHMS-SO-016-1210	12/14/10 10:40	12/15/10 08:30	12/16/10 13:25	2.16	14.00	12/31/10 08:08	14.78	40.00	
BCHMS-SO-017-1210	12/14/10 11:00	12/15/10 08:30	12/16/10 13:25	2.14	14.00	12/31/10 08:36	14.80	40.00	
BCHMS-SO-018-1210	12/14/10 11:20	12/15/10 08:30	12/16/10 13:25	2.13	14.00	12/31/10 09:03	14.82	40.00	
BCHMS-SO-019-1210	12/14/10 11:40	12/15/10 08:30	12/16/10 13:25	2.11	14.00	12/31/10 09:31	14.84	40.00	
BCHMS-SO-020-1210	12/14/10 12:00	12/15/10 08:30	12/16/10 13:25	2.10	14.00	12/31/10 09:59	14.86	40.00	

## HOLDING TIME SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-SO-021-1210	12/14/10 12:20	12/15/10 08:30	12/16/10 13:25	2.09	14.00	12/31/10 10:27	14.88	40.00	
BCHMS-SO-022-1210	12/14/10 12:40	12/15/10 08:30	12/16/10 13:25	2.07	14.00	12/31/10 14:11	15.03	40.00	
BCHMS-SO-023-1210	12/14/10 13:00	12/15/10 08:30	12/16/10 13:25	2.06	14.00	12/31/10 12:47	14.97	40.00	
BCHMS-SO-024-1210	12/14/10 13:20	12/15/10 08:30	12/16/10 13:25	2.05	14.00	12/31/10 10:55	14.90	40.00	
BCHMS-SO-025-1210	12/14/10 13:40	12/15/10 08:30	12/16/10 13:25	2.03	14.00	12/31/10 13:15	14.99	40.00	
BCHMS-SO-026-1210	12/14/10 14:00	12/15/10 08:30	12/16/10 13:25	2.02	14.00	12/31/10 14:39	15.05	40.00	
BCHMS-SO-026-1210	12/14/10 14:00	12/15/10 08:30	01/04/11 11:00	20.92	14.00	01/05/11 21:35	1.44	40.00	*
BCHMS-SO-028-1210	12/14/10 14:20	12/15/10 08:30	12/16/10 13:25	2.00	14.00	12/31/10 11:23	14.92	40.00	
BCHMS-SO-FD01-1210	12/14/10 00:00	12/15/10 08:30	12/20/10 10:30	6.48	14.00	12/29/10 21:43	9.47	40.00	
BCHMS-SO-FD02-1210	12/14/10 00:00	12/15/10 08:30	12/20/10 10:30	6.48	14.00	12/29/10 22:11	9.49	40.00	

## HOLDING TIME SUMMARY

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-FD001-1210	12/12/10 00:00	12/15/10 08:30	12/17/10 14:10	5.63	7.00	12/23/10 19:06	6.21	40.00	
BCHMS-GW-004-1210	12/12/10 10:00	12/15/10 08:30	12/17/10 14:10	5.22	7.00	12/23/10 19:24	6.22	40.00	
BCHMS-GW-010-1210	12/13/10 11:00	12/15/10 08:30	12/17/10 14:10	4.17	7.00	12/23/10 19:43	6.23	40.00	
BCHMS-GW-012-1210	12/13/10 14:00	12/15/10 08:30	12/17/10 14:10	4.05	7.00	12/23/10 20:02	6.24	40.00	
BCHMS-SO-004-1210	12/14/10 08:20	12/15/10 08:30	12/22/10 14:30	8.30	14.00	12/29/10 21:13	7.28	40.00	
BCHMS-SO-010-1210	12/14/10 09:00	12/15/10 08:30	12/22/10 14:30	8.27	14.00	12/29/10 21:31	7.29	40.00	
BCHMS-SO-012-1210	12/14/10 09:20	12/15/10 08:30	12/22/10 14:30	8.26	14.00	12/29/10 21:50	7.31	40.00	
BCHMS-SO-024-1210	12/14/10 13:20	12/15/10 08:30	12/22/10 14:30	8.09	14.00	12/29/10 22:08	7.32	40.00	
BCHMS-SO-025-1210	12/14/10 13:40	12/15/10 08:30	12/22/10 14:30	8.08	14.00	12/29/10 22:27	7.33	40.00	
BCHMS-SO-028-1210	12/14/10 14:20	12/15/10 08:30	12/22/10 14:30	8.05	14.00	12/29/10 22:46	7.34	40.00	
BCHMS-SO-FD02-1210	12/14/10 00:00	12/15/10 08:30	12/22/10 14:30	8.65	14.00	12/29/10 23:04	7.36	40.00	

## HOLDING TIME SUMMARY

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-FD001-1210	12/12/10 00:00	12/15/10 08:30	12/17/10 14:10	5.63	7.00	12/23/10 19:06	6.21	40.00	
BCHMS-GW-004-1210	12/12/10 10:00	12/15/10 08:30	12/17/10 14:10	5.22	7.00	12/23/10 19:24	6.22	40.00	
BCHMS-GW-010-1210	12/13/10 11:00	12/15/10 08:30	12/17/10 14:10	4.17	7.00	12/23/10 19:43	6.23	40.00	
BCHMS-GW-012-1210	12/13/10 14:00	12/15/10 08:30	12/17/10 14:10	4.05	7.00	12/23/10 20:02	6.24	40.00	
BCHMS-SO-004-1210	12/14/10 08:20	12/15/10 08:30	12/22/10 14:30	8.30	14.00	12/29/10 21:13	7.28	40.00	
BCHMS-SO-010-1210	12/14/10 09:00	12/15/10 08:30	12/22/10 14:30	8.27	14.00	12/29/10 21:31	7.29	40.00	
BCHMS-SO-012-1210	12/14/10 09:20	12/15/10 08:30	12/22/10 14:30	8.26	14.00	12/29/10 21:50	7.31	40.00	
BCHMS-SO-024-1210	12/14/10 13:20	12/15/10 08:30	12/22/10 14:30	8.09	14.00	12/29/10 22:08	7.32	40.00	
BCHMS-SO-025-1210	12/14/10 13:40	12/15/10 08:30	12/22/10 14:30	8.08	14.00	12/29/10 22:27	7.33	40.00	
BCHMS-SO-028-1210	12/14/10 14:20	12/15/10 08:30	12/22/10 14:30	8.05	14.00	12/29/10 22:46	7.34	40.00	
BCHMS-SO-FD02-1210	12/14/10 00:00	12/15/10 08:30	12/22/10 14:30	8.65	14.00	12/29/10 23:04	7.36	40.00	

## HOLDING TIME SUMMARY

### FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-FD001-1210	12/12/10 00:00	12/15/10 08:30	12/17/10 11:20	5.51	7.00	12/21/10 11:50	4.02	40.00	
BCHMS-GW-004-1210	12/12/10 10:00	12/15/10 08:30	12/17/10 11:20	5.10	7.00	12/21/10 12:33	4.05	40.00	
BCHMS-GW-005-1210	12/12/10 10:50	12/15/10 08:30	12/17/10 11:20	5.06	7.00	12/21/10 13:15	4.08	40.00	
BCHMS-GW-006-1210	12/12/10 13:30	12/15/10 08:30	12/17/10 11:20	4.95	7.00	12/21/10 13:57	4.11	40.00	
BCHMS-GW-007-1210	12/12/10 14:30	12/15/10 08:30	12/17/10 11:20	4.91	7.00	12/21/10 16:03	4.20	40.00	
BCHMS-FD002-1210	12/13/10 00:00	12/15/10 08:30	12/17/10 11:20	4.51	7.00	12/21/10 16:45	4.23	40.00	
BCHMS-GW-008-1210	12/13/10 09:00	12/15/10 08:30	12/17/10 11:20	4.14	7.00	12/21/10 17:27	4.25	40.00	
BCHMS-GW-009D-1210	12/13/10 10:00	12/15/10 08:30	12/17/10 11:20	4.10	7.00	12/21/10 18:09	4.28	40.00	
BCHMS-GW-010-1210	12/13/10 11:00	12/15/10 08:30	12/17/10 11:20	4.06	7.00	12/21/10 18:52	4.31	40.00	
BCHMS-GW-011-1210	12/13/10 15:00	12/15/10 08:30	12/17/10 11:20	3.89	7.00	12/21/10 19:34	4.34	40.00	
BCHMS-GW-012-1210	12/13/10 14:00	12/15/10 08:30	12/17/10 11:20	3.93	7.00	12/21/10 20:16	4.37	40.00	
BCHMS-SO-002-1210	12/14/10 08:00	12/15/10 08:30	12/22/10 09:50	8.12	14.00	12/30/10 01:14	7.64	40.00	
BCHMS-SO-004-1210	12/14/10 08:20	12/15/10 08:30	12/22/10 09:50	8.10	14.00	12/30/10 03:21	7.73	40.00	
BCHMS-SO-007-1210	12/14/10 08:40	12/15/10 08:30	12/22/10 09:50	8.09	14.00	12/30/10 04:03	7.76	40.00	
BCHMS-SO-010-1210	12/14/10 09:00	12/15/10 08:30	12/22/10 09:50	8.08	14.00	12/30/10 04:45	7.79	40.00	
BCHMS-SO-012-1210	12/14/10 09:20	12/15/10 08:30	12/22/10 09:50	8.06	14.00	12/30/10 05:28	7.82	40.00	
BCHMS-SO-013-1210	12/14/10 09:40	12/15/10 08:30	12/22/10 09:50	8.05	14.00	12/30/10 06:10	7.85	40.00	
BCHMS-SO-014-1210	12/14/10 10:00	12/15/10 08:30	12/22/10 09:50	8.03	14.00	12/30/10 06:53	7.88	40.00	
BCHMS-SO-015-1210	12/14/10 10:20	12/15/10 08:30	12/22/10 09:50	8.02	14.00	12/30/10 07:35	7.91	40.00	
BCHMS-SO-016-1210	12/14/10 10:40	12/15/10 08:30	12/22/10 09:50	8.01	14.00	12/30/10 08:17	7.94	40.00	
BCHMS-SO-017-1210	12/14/10 11:00	12/15/10 08:30	12/22/10 09:50	7.99	14.00	12/30/10 09:41	7.99	40.00	
BCHMS-SO-018-1210	12/14/10 11:20	12/15/10 08:30	12/22/10 09:50	7.98	14.00	12/30/10 11:05	8.05	40.00	
BCHMS-SO-019-1210	12/14/10 11:40	12/15/10 08:30	12/22/10 09:50	7.97	14.00	12/30/10 11:47	8.08	40.00	
BCHMS-SO-020-1210	12/14/10 12:00	12/15/10 08:30	12/22/10 09:50	7.95	14.00	12/30/10 12:30	8.11	40.00	

**HOLDING TIME SUMMARY**  
**FLPRO**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-SO-021-1210	12/14/10 12:20	12/15/10 08:30	12/22/10 09:50	7.94	14.00	12/30/10 13:12	8.14	40.00	
BCHMS-SO-022-1210	12/14/10 12:40	12/15/10 08:30	12/22/10 09:50	7.92	14.00	12/30/10 13:54	8.17	40.00	
BCHMS-SO-023-1210	12/14/10 13:00	12/15/10 08:30	12/22/10 09:50	7.91	14.00	12/30/10 14:37	8.20	40.00	
BCHMS-SO-024-1210	12/14/10 13:20	12/15/10 08:30	12/22/10 09:50	7.90	14.00	12/30/10 15:19	8.23	40.00	
BCHMS-SO-025-1210	12/14/10 13:40	12/15/10 08:30	12/22/10 09:50	7.88	14.00	12/30/10 16:01	8.26	40.00	
BCHMS-SO-026-1210	12/14/10 14:00	12/15/10 08:30	12/22/10 09:50	7.87	14.00	12/30/10 16:43	8.29	40.00	
BCHMS-SO-028-1210	12/14/10 14:20	12/15/10 08:30	12/22/10 09:50	7.85	14.00	12/30/10 17:25	8.32	40.00	
BCHMS-SO-FD01-1210	12/14/10 00:00	12/15/10 08:30	12/23/10 13:38	9.61	14.00	12/30/10 20:55	7.30	40.00	
BCHMS-SO-FD02-1210	12/14/10 00:00	12/15/10 08:30	12/23/10 13:38	9.61	14.00	12/30/10 21:37	7.33	40.00	

SDG CTOJMI7KW

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-021-1210	1012153-26	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	UG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-021-1210	1012118-01	NM	12/09/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-027-1210	1012118-05	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	UG/L	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-005-1210	1012153-03	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-006-1210	1012153-04	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
M	MG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-023-1210	1012153-28RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-021-1210	1012153-26RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-022-1210	1012153-27RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-022-1210	1012153-27RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-021-1210	1012153-26RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-020-1210	1012153-25RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-020-1210	1012153-25RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-019-1210	1012153-24RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-019-1210	1012153-24RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-023-1210	1012153-28RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-026-1210	1012153-31RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-018-1210	1012153-23RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-018-1210	1012153-23RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-019-1210	1012153-24RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-028-1210	1012153-32RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-026-1210	1012153-31RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-018-1210	1012153-23RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-FD02-1210	1012153-34RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-FD02-1210	1012153-34RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/28/2010	12/30/2010	14	2	16
M	MG/KG	BCHMS-SO-FD01-1210	1012153-33RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-FD01-1210	1012153-33RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-025-1210	1012153-30RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-028-1210	1012153-32RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-023-1210	1012153-28RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-025-1210	1012153-30RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-025-1210	1012153-30RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-024-1210	1012153-29RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-024-1210	1012153-29RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/28/2010	12/30/2010	14	2	16
M	MG/KG	BCHMS-SO-004-1210	1012153-14RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-010-1210	1012153-16RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-010-1210	1012153-16RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-010-1210	1012153-16RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-007-1210	1012153-15RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-007-1210	1012153-15RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-012-1210	1012153-17RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-007-1210	1012153-15RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-004-1210	1012153-14RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-002-1210	1012153-13RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-002-1210	1012153-13RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-002-1210	1012153-13RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-015-1210	1012153-20RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-017-1210	1012153-22RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-017-1210	1012153-22RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-004-1210	1012153-14RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-012-1210	1012153-17RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-016-1210	1012153-21RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-016-1210	1012153-21RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-015-1210	1012153-20RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-013-1210	1012153-18RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-013-1210	1012153-18RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-013-1210	1012153-18RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-015-1210	1012153-20RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-014-1210	1012153-19RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-014-1210	1012153-19RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-014-1210	1012153-19RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	UG/L	BCHMS-GW-015-1210	1012134-03RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-012-1210	1012153-11RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-017-1210	1012118-06RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-016-1210	1012134-04RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-019-1210	1012134-05RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-018-1210	1012118-07RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-014-1210	1012134-02RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-013-1210	1012134-01RE4	NM	12/10/2010	12/28/2010	01/04/2011	18	7	25
M	UG/L	BCHMS-GW-013-1210	1012134-01RE3	NM	12/10/2010	12/28/2010	01/04/2011	18	7	25
M	UG/L	BCHMS-GW-013-1210	1012134-01RE2	NM	12/10/2010	12/28/2010	01/04/2011	18	7	25
M	UG/L	BCHMS-GW-013-1210	1012134-01RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-012-1210	1012153-11RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-021-1210	1012118-01RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-011-1210	1012153-10RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-012-1210	1012153-11RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-027-1210	1012118-05RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-20D-1210	1012118-08RE2	NM	12/09/2010	12/28/2010	01/04/2011	19	7	26
M	UG/L	BCHMS-GW-20D-1210	1012118-08RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE4	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24

SORT	UNITS	NSAMPLE	LAB ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-006-1210	1012153-04RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-011-1210	1012153-10RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-028-1210	1012134-09RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-028-1210	1012134-09RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-028-1210	1012134-09RE4	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-027-1210	1012118-05	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-026-1210	1012118-10RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-025-1210	1012118-09RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-024-1210	1012118-04RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-023D-1210	1012118-03RE2	NM	12/08/2010	12/28/2010	01/04/2011	20	7	27

SORT	UNITS	NSAMPLE	LAB ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-023D-1210	1012118-03RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-022-1210	1012118-02RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-028-1210	1012134-09RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-011-1210	1012153-10RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-007-1210	1012153-05RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-GW-003-1210	1012134-08RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-003-1210	1012134-08RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-002-1210	1012134-07RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-002-1210	1012134-07RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-002-1210	1012134-07RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-004-1210	1012153-02RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-001-1210	1012134-06RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-004-1210	1012153-02RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
M	UG/L	BCHMS-FD002-1210	1012153-06RE4	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-FD002-1210	1012153-06RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-FD002-1210	1012153-06RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-FD002-1210	1012153-06RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-FD001-1210	1012153-01RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-FD001-1210	1012153-01RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-FD001-1210	1012153-01RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-FD001-1210	1012153-01RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-001-1210	1012134-06RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-008-1210	1012153-07RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-010-1210	1012153-09RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-010-1210	1012153-09RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-010-1210	1012153-09RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-009D-1210	1012153-08RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-003-1210	1012134-08RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-008-1210	1012153-07RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-004-1210	1012153-02RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-007-1210	1012153-05RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-005-1210	1012153-03RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-004-1210	1012153-02RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-008-1210	1012153-07RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-005-1210	1012153-03RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-GW-007-1210	1012153-05RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-005-1210	1012153-03RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-005-1210	1012153-03RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-006-1210	1012153-04	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-006-1210	1012153-04RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-GW-006-1210	1012153-04RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-007-1210	1012153-05RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
M	UG/L	BCHMS-GW-005-1210	1012153-03	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
OV	UG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/17/2010	12/18/2010	3	1	4
OV	UG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/17/2010	12/18/2010	3	1	4
OV	UG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/17/2010	12/18/2010	3	1	4
OV	UG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-020-1210	1012153-25RE1	NM	12/14/2010	12/22/2010	12/22/2010	8	0	8
OV	UG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
OV	UG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-021-1210	1012153-26	NM	12/14/2010	12/17/2010	12/18/2010	3	1	4
OV	UG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/16/2010	12/16/2010	8	0	8
OV	UG/L	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/16/2010	12/16/2010	8	0	8
OV	UG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/16/2010	12/16/2010	6	0	6
OV	UG/L	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7
OV	UG/L	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/16/2010	12/16/2010	8	0	8
OV	UG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/16/2010	12/16/2010	6	0	6
OV	UG/L	BCHMS-TB01-1210	1012118-11	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7
OV	UG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7
OV	UG/L	BCHMS-GW-024-1210	1012118-04RE1	NM	12/08/2010	12/17/2010	12/17/2010	9	0	9
OV	UG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7
OV	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/16/2010	12/16/2010	5	0	5
OV	UG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
OV	UG/L	BCHMS-TB02-1210	1012134-11	NM	12/13/2010	12/16/2010	12/16/2010	3	0	3
OV	UG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/16/2010	12/16/2010	6	0	6
OV	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7
OV	UG/L	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/16/2010	12/16/2010	5	0	5
OV	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/17/2010	12/17/2010	5	0	5
OV	UG/L	BCHMS-GW-027-1210	1012118-05RE1	NM	12/08/2010	12/17/2010	12/17/2010	9	0	9
OV	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/17/2010	12/17/2010	5	0	5
OV	UG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/16/2010	12/16/2010	5	0	5
OV	UG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/16/2010	12/16/2010	5	0	5
OV	UG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/16/2010	12/16/2010	6	0	6
OV	UG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/16/2010	12/16/2010	5	0	5
OV	UG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/17/2010	12/18/2010	4	1	5
OV	UG/L	BCHMS-GW-005-1210	1012153-03	NM	12/12/2010	12/17/2010	12/17/2010	5	0	5
OV	UG/L	BCHMS-GW-006-1210	1012153-04RE1	NM	12/12/2010	12/21/2010	12/21/2010	9	0	9
OV	UG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/17/2010	12/18/2010	5	1	6
OV	UG/L	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/17/2010	12/18/2010	4	1	5
OV	UG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/17/2010	12/18/2010	4	1	5
OV	UG/L	BCHMS-GW-010-1210	1012153-09RE1	NM	12/13/2010	12/21/2010	12/21/2010	8	0	8

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/17/2010	12/18/2010	4	1	5
OV	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/17/2010	12/18/2010	4	1	5
OV	UG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/16/2010	12/16/2010	6	0	6
SIM	UG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-018-1210	1012153-23	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-017-1210	1012153-22	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-019-1210	1012153-24	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-016-1210	1012153-21	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-015-1210	1012153-20	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-014-1210	1012153-19	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-020-1210	1012153-25	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-013-1210	1012153-18	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-025-1210	1012153-30	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
SIM	UG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-012-1210	1012153-17	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-028-1210	1012153-32	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-FD02-1210	1012153-34	SUR	12/14/2010	12/20/2010	12/29/2010	6	9	15
SIM	UG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/20/2010	12/29/2010	6	9	15
SIM	UG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/20/2010	12/29/2010	6	9	15
SIM	UG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-024-1210	1012153-29	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-026-1210	1012153-31	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-021-1210	1012153-26	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-023-1210	1012153-28	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-022-1210	1012153-27	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
SIM	UG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-021-1210	1012153-26	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-026-1210	1012153-31RE1	NM	12/14/2010	01/04/2011	01/05/2011	21	1	22
SIM	UG/KG	BCHMS-SO-010-1210	1012153-16	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-007-1210	1012153-15	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-004-1210	1012153-14	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-002-1210	1012153-13	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-FD01-1210	1012153-33	SUR	12/14/2010	12/20/2010	12/29/2010	6	9	15
SIM	UG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-014-1210	1012134-02	SUR	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-015-1210	1012134-03	SUR	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-016-1210	1012134-04	SUR	12/10/2010	12/16/2010	12/30/2010	6	14	20

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
SIM	UG/L	BCHMS-GW-013-1210	1012134-01	SUR	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-017-1210	1012118-06	SUR	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-012-1210	1012153-11	SUR	12/13/2010	12/16/2010	12/24/2010	3	8	11
SIM	UG/L	BCHMS-GW-011-1210	1012153-10	SUR	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-010-1210	1012153-09	SUR	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-009D-1210	1012153-08	SUR	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-008-1210	1012153-07	SUR	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/16/2010	12/24/2010	3	8	11
SIM	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-20D-1210	1012118-08	SUR	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/14/2010	12/28/2010	5	14	19

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
SIM	UG/L	BCHMS-GW-029D-1210	1012134-10	SUR	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-028-1210	1012134-09	SUR	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-027-1210	1012118-05	SUR	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-027-1210	1012118-05	NM	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-026-1210	1012118-10	SUR	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-025-1210	1012118-09	SUR	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-018-1210	1012118-07	SUR	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-024-1210	1012118-04	SUR	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-023D-1210	1012118-03	SUR	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-022-1210	1012118-02	SUR	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-021-1210	1012118-01	SUR	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-007-1210	1012153-05	SUR	12/12/2010	12/16/2010	12/31/2010	4	15	19

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
SIM	UG/L	BCHMS-GW-019-1210	1012134-05	SUR	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-FD002-1210	1012153-06	SUR	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/16/2010	12/31/2010	4	15	19
SIM	UG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-001-1210	1012134-06	SUR	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-002-1210	1012134-07	SUR	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-003-1210	1012134-08	SUR	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-004-1210	1012153-02	SUR	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-006-1210	1012153-04	SUR	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-005-1210	1012153-03	NM	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-005-1210	1012153-03	SUR	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/16/2010	12/30/2010	5	14	19

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
SIM	UG/L	BCHMS-FD001-1210	1012153-01	SUR	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-006-1210	1012153-04	NM	12/12/2010	12/16/2010	12/30/2010	4	14	18
PCB	UG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/14/2010	12/23/2010	5	9	14
PCB	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/17/2010	12/23/2010	4	6	10
PCB	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/15/2010	12/23/2010	4	8	12
PCB	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/17/2010	12/23/2010	5	6	11
PCB	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/17/2010	12/23/2010	5	6	11
PCB	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/14/2010	12/23/2010	6	9	15
PCB	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/17/2010	12/23/2010	4	6	10
PEST	UG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15

SORT	UNITS	NSAMPLE	LAB_ID	QC TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
PEST	UG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/17/2010	12/23/2010	4	6	10
PEST	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/15/2010	12/23/2010	4	8	12
PEST	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/14/2010	12/23/2010	5	9	14
PEST	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/17/2010	12/23/2010	4	6	10
PEST	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/17/2010	12/23/2010	5	6	11
PEST	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/17/2010	12/23/2010	5	6	11
PEST	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/14/2010	12/23/2010	6	9	15
TPH	MG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/23/2010	12/30/2010	9	7	16
TPH	MG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/23/2010	12/30/2010	9	7	16

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
TPH	MG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-021-1210	1012153-26	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/L	BCHMS-GW-027-1210	1012118-05	NM	12/08/2010	12/14/2010	12/16/2010	6	2	8
TPH	MG/L	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/14/2010	12/16/2010	6	2	8

SORT	UNITS	NSAMPLE	LAB_ID	QC TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
TPH	MG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/15/2010	12/18/2010	5	3	8
TPH	MG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/14/2010	12/16/2010	5	2	7
TPH	MG/L	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/14/2010	12/16/2010	5	2	7
TPH	MG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/15/2010	12/18/2010	5	3	8
TPH	MG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/14/2010	12/16/2010	6	2	8
TPH	MG/L	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/14/2010	12/16/2010	6	2	8
TPH	MG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/14/2010	12/21/2010	6	7	13
TPH	MG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/15/2010	12/18/2010	5	3	8
TPH	MG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/14/2010	12/16/2010	5	2	7
TPH	MG/L	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	MG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/15/2010	12/18/2010	4	3	7
TPH	MG/L	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/15/2010	12/18/2010	4	3	7
TPH	MG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/14/2010	12/16/2010	5	2	7
TPH	MG/L	BCHMS-GW-005-1210	1012153-03	NM	12/12/2010	12/17/2010	12/21/2010	5	4	9
TPH	MG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/14/2010	12/16/2010	5	2	7
TPH	MG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/17/2010	12/21/2010	5	4	9
TPH	MG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	MG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/15/2010	12/18/2010	4	3	7

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
TPH	MG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/15/2010	12/18/2010	4	3	7
TPH	MG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	MG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/17/2010	12/21/2010	5	4	9
TPH	MG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/15/2010	12/18/2010	5	3	8
TPH	MG/L	BCHMS-GW-006-1210	1012153-04	NM	12/12/2010	12/17/2010	12/21/2010	5	4	9
TPH	MG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/17/2010	12/21/2010	5	4	9
TPH	MG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	MG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	MG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	MG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/15/2010	12/18/2010	5	3	8
TPH	MG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/15/2010	12/18/2010	4	3	7

**NAS KEY WEST**  
**WATER DATA**  
**CTOJM17KW\_3**

FRACTION	CHEMICAL	BCHMS-GW-011-1210	UNITS	BCHMS-FD002-1210	RPD	D
OV	TOLUENE	1.83	UG/L	2.02	9.87	0.19

Current RPD Quality Control Limit: 30 %.  
 Shaded cells indicate RPDs that exceed the applicable quality control limit.

NAS KEY WEST  
 SOIL DATA  
 CTOJM17KW\_3

FRACTION	CHEMICAL	BCHMS-SO-014-1210	UNITS	BCHMS-SO-FD01-1210	RPD	D
OV	ACETONE	6.8 J	UG/KG	13.6 J	66.67	6.80 ok

ok. saxpk

Current RPD Quality Control Limit: 50 %.  
 Shaded cells indicate RPDs that exceed the applicable quality control limit.

NAS KEY WEST  
 SOIL DATA  
 CTOJM17KW\_3

FRACTION	CHEMICAL	BCHMS-SO-024-1210	UNITS	BCHMS-SO-FD02-1210	RPD	D
OV	ACETONE	6.97 J	UG/KG	ND	200.00	6.97 <i>ck</i>

Current RPD Quality Control Limit: 50 %.  
 Shaded cells indicate RPDs that exceed the applicable quality control limit.

NAS KEY WEST  
 WATER DATA  
 CTOJM17KW\_3

FRACTION	CHEMICAL	BCHMS-GW-004-1210	UNITS	BCHMS-FD001-1210	RPD	D
PEST	ALDRIN	ND	UG/L	0.00154 J	200.00	0.00

Current RPD Quality Control Limit: 30 %.  
 Shaded cells indicate RPDs that exceed the applicable quality control limit.

NAS KEY WEST  
 SOIL DATA  
 CTOJM17KW\_3

FRACTION	CHEMICAL	BCHMS-SO-024-1210	UNITS	BCHMS-SO-FD02-1210	RPD	D
PEST	ALDRIN	ND	UG/KG	0.592 J	200.00	0.59 <i>OK</i>

Current RPD Quality Control Limit: 50 %.  
 Shaded cells indicate RPDs that exceed the applicable quality control limit.

# ANALYSIS SEQUENCE SUMMARY

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L34401

Instrument: MS-VOA4

Calibration: 0344001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L34401-TUN1	SEQ-TUN1.D	12/08/10 08:44
Cal Standard	0L34401-CAL1	SEQ-CAL1.D	12/08/10 09:28
Cal Standard	0L34401-CAL2	SEQ-CAL2.D	12/08/10 09:59
Cal Standard	0L34401-CAL3	SEQ-CAL3.D	12/08/10 10:30
Cal Standard	0L34401-CAL4	SEQ-CAL4.D	12/08/10 11:01
Cal Standard	0L34401-CAL5	SEQ-CAL5.D	12/08/10 11:32
Cal Standard	0L34401-CAL6	SEQ-CAL6.D	12/08/10 12:03
Cal Standard	0L34401-CAL7	SEQ-CAL7.D	12/08/10 12:34
Cal Standard	0L34401-CAL8	SEQ-CAL8.D	12/08/10 13:05
Initial Cal Check	0L34401-ICV1	SEQ-ICV1.D	12/08/10 13:36
Cal Standard	0L34401-CAL9	SEQ-CAL9.D	12/08/10 14:07
Cal Standard	0L34401-CALA	SEQ-CALA.D	12/08/10 14:38
Cal Standard	0L34401-CALB	SEQ-CALB.D	12/08/10 15:09
Cal Standard	0L34401-CALC	SEQ-CALC.D	12/08/10 15:40
Cal Standard	0L34401-CALD	SEQ-CALD.D	12/08/10 16:11
Cal Standard	0L34401-CALE	SEQ-CALE.D	12/08/10 16:42
Cal Standard	0L34401-CALF	SEQ-CALF.D	12/08/10 17:13
Cal Standard	0L34401-CALG	SEQ-CALG.D	12/08/10 17:44
Initial Cal Check	0L34401-ICV2	SEQ-ICV2.D	12/08/10 18:15

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: SEQ-TUN1.D

Injection Date: 12/08/10

Instrument ID: MS-VOA4

Injection Time: 08:44

Sequence: 0L34401

Lab Sample ID: 0L34401-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	18.9	PASS
75	30 - 60% of 95	45	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.1	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	90.2	PASS
175	5 - 9% of 174	7.58	PASS
176	95 - 101% of 174	98	PASS
177	5 - 9% of 176	6.98	PASS

## INITIAL CALIBRATION DATA (Continued)

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0344001

Instrument: MS-VOA4

Matrix: Water

Calibration Date: 12/8/2010 8:44:10AM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acetone	5.745115E-02	14.18112	4.8725	0.1815809			15	
Acrolein	<i>Not TC</i> 2.214758E-02	15.05427	4.731125	0.1673134	0.9981089		0.995	
Acrylonitrile	5.108292E-02	7.135296	5.482875	0.1485476			15	
Benzene	0.9838624	6.283985	11.43537	3.225647E-02			15	
Bromobenzene	0.8032398	5.2462	16.66812	2.276866E-02			15	
Bromochloromethane	0.154074	4.936377	8.58425	8.907694E-02			15	
Tert-Amyl Methyl Ether	0.5985678	5.305486	11.83238	4.583077E-02			15	
Bromodichloromethane	0.3539561	5.656018	12.5485	1.346142E-02			15	
Bromoform	0.475099	13.44362	15.9765	1.951596E-02			SPCC (0.1)	
Bromomethane	0.1674308	10.90368	3.990333	0.1033114			15	
Bromofluorobenzene	0.890123	3.420628	16.51275	1.820704E-02			15	
n-Butylbenzene	2.377963	9.573482	17.76525	1.801649E-02			15	
2-Butanone	7.734329E-02	18.49019	7.940625	0.2970141	0.9987959		0.995	
sec-Butylbenzene	3.115972	9.573129	17.351	6.482547E-03			15	
tert-Butylbenzene	1.975434	9.726267	17.19325	1.470325E-02			15	
Carbon disulfide	1.04151	6.769113	5.912	8.056861E-02			15	
Carbon tetrachloride	0.4188778	5.00027	11.37625	3.283109E-02			15	
Chlorobenzene	1.874759	4.823027	15.576	0.0155623			SPCC (0.3)	
Chloroethane	0.2297603	6.381258	4.12825	0.1598524			15	
Chloroform	0.5370399	3.378912	8.706375	8.008053E-02			CCC (20)	
2-Chloroethyl vinyl ether	0.1010137	11.82798	13.18938	1.900772E-02			15	
Chloromethane	0.2657139	4.463059	3.41325	0.211979			SPCC (0.1)	
1-Chlorohexane	1.871688	10.05538	15.54375	1.910541E-02			15	
2-Chlorotoluene	1.930786	6.996856	16.874	1.436333E-02			15	
4-Chlorotoluene	1.970683	6.367044	16.92825	1.290158E-02			15	
Cyclohexane	0.4363506	8.537141	11.22475	3.017479E-02			15	
Dibromochloromethane	0.7218878	8.263519	14.56763	0.023451			15	
1,2-Dibromo-3-chloropropane	0.1128452	13.09187	18.07825	2.046119E-02			15	
1,2-Dibromoethane (EDB)	0.5409699	6.468239	14.80075	2.772545E-02			15	
Dibromomethane	0.1552604	5.958965	12.355	3.313074E-02			15	
1,2-Dichlorobenzene	1.286745	6.098259	17.73563	1.633139E-02			15	
1,3-Dichlorobenzene	1.494033	5.90628	17.42125	1.030613E-02			15	

## INITIAL CALIBRATION DATA (Continued)

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0344001

Instrument: MS-VOA4

Matrix: Water

Calibration Date: 12/8/2010 8:44:10AM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,4-Dichlorobenzene	1.498181	13.02731	17.46675	2.426193E-02			15	
Dichlorodifluoromethane	0.341007	5.74255	3.2285	0.1065572			15	
1,1-Dichloroethane	0.5360738	3.05052	7.0645	4.795925E-02			SPCC (0.1)	
1,2-Dichloroethane	0.2985168	5.723761	10.44062	6.449671E-02			15	
1,1-Dichloroethene	0.2765103	9.2456	5.409	8.818367E-02			CCC (20)	
cis-1,2-Dichloroethene	0.3081736	8.143679	8.249	5.971654E-02			15	
trans-1,2-Dichloroethene	0.3072426	6.064188	6.605875	7.407242E-02			15	
1,2-Dichloroethene (total)	0.3077081	6.735705	0	0			15	
1,2-Dichloropropane	0.2562728	6.839298	12.4215	0.0310601			CCC (20)	
1,3-Dichloropropane	0.797682	3.192747	14.33575	2.521296E-02			15	
2,2-Dichloropropane	0.41857	4.942801	8.91475	8.168639E-02			15	
1,1-Dichloropropene	0.3759893	13.45614	11.09775	0.04541			15	
cis-1,3-Dichloropropene	0.3733427	10.08354	13.42625	2.315822E-02			15	
trans-1,3-Dichloropropene	0.7306193	13.31699	13.92913	2.084463E-02			15	
Diisopropyl Ether	0.8918266	11.74133	8.0035	8.618576E-02			15	
Ethylbenzene	2.950037	6.234094	15.74363	1.162505E-02			CCC (20)	
Ethyl tert-Butyl Ether	0.6589562	13.61674	8.947875	5.624886E-02			15	
Ethyl Methacrylate	0.5598079	16.33742	14.416	3.948535E-02	0.9993171		0.995	
Hexachlorobutadiene	0.652381	6.306365	19.44275	1.539843E-02			15	
2-Hexanone	0.3054043	21.21366	14.524	3.467713E-02	0.9987061		0.995	
Iodomethane	0.4280957	21.24586	5.453714	0.1188824	0.9950045		0.995	
Isopropylbenzene	2.527371	8.318558	16.48325	1.932938E-02			15	
p-Isopropyltoluene	2.412742	13.11796	17.4705	2.273625E-02			15	
Methylene chloride	0.371369	24.26541	5.608714	8.354026E-02	0.9970443		0.995	
Methyl Acetate	0.1288304	7.665579	5.64825	0.1637688			15	
Methylcyclohexane	0.4234553	7.859994	13.16975	1.896874E-02			15	
Naphthalene	1.271485	12.26161	19.41729	0.023437			15	
Methyl Methacrylate	0.1311086	22.80737	12.86038	3.209087E-02	0.9989981		0.995	
4-Methyl-2-pentanone	0.1706321	17.60613	13.58712	3.775225E-02	0.9986345		0.995	
Methyl t-Butyl Ether	0.513024	14.67945	6.817875	8.909575E-02			15	
n-Propylbenzene	3.220584	9.137201	16.79875	1.596826E-02			15	
Styrene	1.723591	12.89004	16.1565	1.580324E-02			15	

# INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0344001

Instrument: MS-VOA4

Matrix: Water

Calibration Date: 12/8/2010 8:44:10AM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,1,2,2-Tetrachloroethane	0.5316513	8.609754	16.22438	1.619948E-02			SPCC (0.3)	
1,1,1,2-Tetrachloroethane	0.7122147	3.126786	15.52175	0.0197001			15	
tert-Butyl alcohol	<i>NOT TC</i> 1.888317E-02	9.586985	5.413875	0.1181554			15	
Tetrachloroethene	0.9570532	3.545959	14.983	0.019035			15	
Toluene	1.613707	3.005333	14.2605	2.191445E-02			CCC (20)	
1,2,3-Trichlorobenzene	0.7636144	11.24339	19.624	1.557993E-02			15	
1,2,4-Trichlorobenzene	0.8849742	11.3799	19.18525	1.154749E-02			15	
1,1,2-Trichloroethane	0.4290105	5.327797	14.077	2.160843E-02			15	
1,1,1-Trichloroethane	0.4410892	5.083061	10.675	4.144443E-02			15	
Tetrahydrofuran	<i>NOT TC</i> 3.864711E-02	10.26913	9.559	0.1771562			15	
Trichloroethene	0.3013083	5.449779	12.49925	2.175682E-02			15	
Trichlorofluoromethane	0.5499461	4.653226	4.74325	9.642797E-02			15	
1,2,3-Trichloropropane	0.151063	5.768594	16.32525	1.998047E-02			15	
1,3,5-Trimethylbenzene	2.229887	8.038021	16.996	1.707058E-02			15	
1,2,4-Trimethylbenzene	2.183098	7.268876	17.272	1.384522E-02			15	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.3513592	4.78699	5.675125	8.735962E-02			15	
Vinyl chloride	0.225769	11.95291	3.58475	0.1329826			CCC (20)	
m,p-Xylene	2.197698	10.65147	15.90125	1.426669E-02			15	
o-Xylene	2.298493	7.29322	16.20825	1.972136E-02			15	
Vinyl acetate	0.2018944	23.27995	7.31825	0.120741	0.9992564		0.995	
Xylenes (total)	2.231297	9.285859	0	0			15	
Dibromofluoromethane	0.3200324	3.963209	8.991125	5.015507E-02			15	
1,2-Dichloroethane-d4	5.009168E-02	5.037556	10.23738	6.915922E-02			15	
Toluene-d8	2.384296	5.783139	14.18663	2.725107E-02			15	
tert-Amyl alcohol	0.0100413	29.66407	10.0265	0.112933	0.9991689		0.995	
tert-Amyl ethyl ether	0.532754	14.08169	13.08475	2.118263E-02			15	

# INITIAL CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA4

Calibration: 0344001

Lab File ID: SEQ-ICV1.D

Calibration Date: 12/08/10 08:44

Sequence: 0L34401

Injection Date: 12/08/10

Lab Sample ID: 0L34401-ICV1

Injection Time: 13:36

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Benzene	A	100.0	107.1	0.9838624	1.054096		7.1	20
Bromochloromethane	A	100.0	108.0	0.154074	0.1664467		8.0	20
Bromodichloromethane	A	100.0	103.0	0.3539561	0.3646806		3.0	20
Bromoform	A	100.0	116.1	0.475099	0.5514435	0.1	16.1	20
Bromomethane	A	100.0	105.0	0.1674308	0.1757923		5.0	20
Carbon disulfide	A	100.0	107.3	1.04151	1.117455		7.3	20
Carbon tetrachloride	A	100.0	100.7	0.4188778	0.4219724		0.7	20
Chlorobenzene	A	100.0	107.4	1.874759	2.012717	0.3	7.4	20
Chloroethane	A	100.0	88.66	0.2297603	0.2037164		-11.3	20
Chloroform	A	100.0	101.5	0.5370399	0.5450149		1.5	20
Chloromethane	A	100.0	95.48	0.2657139	0.2537151	0.1	-4.5	20
Cyclohexane	A	100.0	107.3	0.4363506	0.4683595		7.3	20
Dibromochloromethane	A	100.0	108.1	0.7218878	0.780022		8.1	20
1,2-Dibromo-3-chloropropane	A	100.0	118.6	0.1128452	0.1338093		18.6	20
1,2-Dibromoethane (EDB)	A	100.0	110.8	0.5409699	0.599126		10.8	20
1,2-Dichlorobenzene	A	100.0	103.2	1.286745	1.328402		3.2	20
1,3-Dichlorobenzene	A	100.0	102.5	1.494033	1.530781		2.5	20
1,4-Dichlorobenzene	A	100.0	96.35	1.498181	1.443458		-3.7	20
Dichlorodifluoromethane	A	100.0	95.14	0.341007	0.3244415		-4.9	20
1,1-Dichloroethane	A	100.0	103.0	0.5360738	0.5522046	0.1	3.0	20
1,2-Dichloroethane	A	100.0	99.98	0.2985168	0.2984468		-0.02	20
1,1-Dichloroethene	A	100.0	107.7	0.2765103	0.2977552		7.7	20
cis-1,2-Dichloroethene	A	100.0	111.8	0.3081736	0.3443941		11.8	20
trans-1,2-Dichloroethene	A	100.0	110.4	0.3072426	0.3392096		10.4	20
1,2-Dichloropropane	A	100.0	104.9	0.2562728	0.2687897		4.9	20
cis-1,3-Dichloropropene	A	100.0	106.9	0.3733427	0.3992337		6.9	20
trans-1,3-Dichloropropene	A	100.0	115.0	0.7306193	0.8402132		15.0	20
Ethylbenzene	A	100.0	104.2	2.950037	3.07367		4.2	20
Isopropylbenzene	A	100.0	105.5	2.527371	2.665577		5.5	20

# INITIAL CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA4

Calibration: 0344001

Lab File ID: SEQ-ICV1.D

Calibration Date: 12/08/10 08:44

Sequence: 0L34401

Injection Date: 12/08/10

Lab Sample ID: 0L34401-ICV1

Injection Time: 13:36

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Methylene chloride	L	100.0	100.7	0.371369	0.33223		0.7	20
Methyl Acetate	A	100.0	102.6	0.1288304	0.1321674		2.6	20
Methylcyclohexane	A	100.0	103.8	0.4234553	0.4393341		3.7	20
Methyl t-Butyl Ether	A	100.0	114.6	0.513024	0.5879451		14.6	20
Styrene	A	100.0	112.0	1.723591	1.931042		12.0	20
1,1,2,2-Tetrachloroethane	A	100.0	98.55	0.5316513	0.5239542	0.3	-1.4	20
Tetrachloroethene	A	100.0	110.7	0.9570532	1.059676		10.7	20
Toluene	A	100.0	108.6	1.613707	1.753093		8.6	20
1,2,3-Trichlorobenzene	A	100.0	116.8	0.7636144	0.891717		16.8	20
1,2,4-Trichlorobenzene	A	100.0	115.7	0.8849742	1.024296		15.7	20
1,1,2-Trichloroethane	A	100.0	107.0	0.4290105	0.4589166		7.0	20
1,1,1-Trichloroethane	A	100.0	104.2	0.4410892	0.4594767		4.2	20
Trichloroethene	A	100.0	110.3	0.3013083	0.3322559		10.3	20
Trichlorofluoromethane	A	100.0	95.82	0.5499461	0.5269807		-4.2	20
1,1,2-Trichloro-1,2,2-trifluoroethane	A	100.0	102.4	0.3513592	0.3596886		2.4	20
Vinyl chloride	A	100.0	96.91	0.225769	0.2256812		-0.04	20
m,p-Xylene	A	200.0	190.9	2.197698	2.098227		-4.5	20
o-Xylene	A	100.0	99.85	2.298493	2.295054		-0.1	20
Bromofluorobenzene	A	30.00	29.84	0.890123	0.8853008		-0.5	20
Dibromofluoromethane	A	30.00	29.10	0.3200324	0.3103967		-3.0	20
1,2-Dichloroethane-d4	A	30.00	33.35	5.009168E-02	5.567803E-02		11.2	20
Toluene-d8	A	30.00	30.98	2.384296	2.462394		3.3	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# INITIAL CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA4

Calibration: 0344001

Lab File ID: SEQ-ICV2.D

Calibration Date: 12/08/10 08:44

Sequence: 0L34401

Injection Date: 12/08/10

Lab Sample ID: 0L34401-ICV2

Injection Time: 18:15

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Acetone	A	200.0	191.5	5.745115E-02	5.501647E-02		-4.2	20
2-Butanone	L	200.0	217.2	7.734329E-02	9.855652E-02		8.6	20
2-Hexanone	L	200.0	207.0	0.3054043	0.3809348		3.5	20
4-Methyl-2-pentanone	L	200.0	211.0	0.1706321	0.2091712		5.5	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# ANALYSIS SEQUENCE SUMMARY

**SW8260B**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Sequence: 0L35201  
 Calibration: 0344001

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Instrument: MS-VOA4

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L35201-TUN1	1217TU1.D	12/17/10 14:08
Calibration Check	0L35201-CCV1	1217CC1.D	12/17/10 14:39
LCS	0L17021-BS1	1217LS1.D	12/17/10 15:21
Blank	0L17021-BLK1	1217BL1.D	12/17/10 16:54
BCHMS-SO-002-1210	1012153-13	1215313A.D	12/17/10 17:25
BCHMS-SO-004-1210	1012153-14	1215314A.D	12/17/10 17:56
BCHMS-SO-007-1210	1012153-15	1215315A.D	12/17/10 18:27
BCHMS-SO-010-1210	1012153-16	1215316A.D	12/17/10 18:58
BCHMS-SO-012-1210	1012153-17	1215317A.D	12/17/10 19:28
BCHMS-SO-013-1210	1012153-18	1215318A.D	12/17/10 19:59
BCHMS-SO-014-1210	1012153-19	1215319A.D	12/17/10 20:30
BCHMS-SO-015-1210	1012153-20	1215320A.D	12/17/10 21:01
BCHMS-SO-016-1210	1012153-21	1215321A.D	12/17/10 21:32
BCHMS-SO-017-1210	1012153-22	1215322A.D	12/17/10 22:03
BCHMS-SO-018-1210	1012153-23	1215323A.D	12/17/10 22:34
BCHMS-SO-019-1210	1012153-24	1215324A.D	12/17/10 23:05
BCHMS-SO-020-1210	1012153-25	1215325A.D	12/17/10 23:35
BCHMS-SO-021-1210	1012153-26	1215326A.D	12/18/10 00:06
BCHMS-SO-022-1210	1012153-27	1215327A.D	12/18/10 00:37
BCHMS-SO-023-1210	1012153-28	1215328A.D	12/18/10 01:08
BCHMS-SO-024-1210	1012153-29	1215329A.D	12/18/10 01:39
LCS Dup	0L17021-BS1	1217LD1.D	12/18/10 02:10

← 12hrs

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: 1217TUI.D

Injection Date: 12/17/10

Instrument ID: MS-VOA4

Injection Time: 14:08

Sequence: 0L35201

Lab Sample ID: 0L35201-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	23.7	PASS
75	30 - 60% of 95	49.1	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.3	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	57.8	PASS
175	5 - 9% of 174	7.82	PASS
176	95 - 101% of 174	98.1	PASS
177	5 - 9% of 176	7.18	PASS

# CONTINUING CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Instrument ID: MS-VOA4  
 Lab File ID: 1217CC1.D  
 Sequence: 0L35201  
 Lab Sample ID: 0L35201-CCV1

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Calibration: 0344001  
 Calibration Date: 12/08/10 08:44  
 Injection Date: 12/17/10  
 Injection Time: 14:39

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	200.0	235.3	5.745115E-02	6.760265E-02		17.7	20
Benzene	A	100.0	94.18	0.9838624	0.9265853		-5.8	20
Bromochloromethane	A	100.0	100.9	0.154074	0.1554503		0.9	20
Bromodichloromethane	A	100.0	100.8	0.3539561	0.3566542		0.8	20
Bromoform	A	100.0	109.8	0.475099	0.5218931	0.1	9.8	20
Bromomethane	A	100.0	104.2	0.1674308	0.1745062		4.2	20
2-Butanone	L	200.0	200.4	7.734329E-02	0.0907081		0.2	20
Carbon disulfide	A	100.0	94.58	1.04151	0.9850331		-5.4	20
Carbon tetrachloride	A	100.0	93.02	0.4188778	0.3896244		-7.0	20
Chlorobenzene	A	100.0	96.51	1.874759	1.809359	0.3	-3.5	20
Chloroethane	A	100.0	85.68	0.2297603	0.1968668		-14.3	20
Chloroform	A	100.0	91.30	0.5370399	0.4903084		-8.7	20
Chloromethane	A	100.0	82.63	0.2657139	0.2195719	0.1	-17.4	20
Cyclohexane	A	100.0	94.38	0.4363506	0.411815		-5.6	20
Dibromochloromethane	A	100.0	100.1	0.7218878	0.7224446		0.08	20
1,2-Dibromo-3-chloropropane	A	100.0	112.9	0.1128452	0.127397		12.9	20
1,2-Dibromoethane (EDB)	A	100.0	103.3	0.5409699	0.5588609		3.3	20
1,2-Dichlorobenzene	A	100.0	95.64	1.286745	1.230684		-4.4	20
1,3-Dichlorobenzene	A	100.0	93.58	1.494033	1.398109		-6.4	20
1,4-Dichlorobenzene	A	100.0	81.22	1.498181	1.216884		-18.8	20
Dichlorodifluoromethane	A	100.0	91.17	0.341007	0.3108947		-8.8	20
1,1-Dichloroethane	A	100.0	93.04	0.5360738	0.4987773	0.1	-7.0	20
1,2-Dichloroethane	A	100.0	101.4	0.2985168	0.3025935		1.4	20
1,1-Dichloroethene	A	100.0	97.31	0.2765103	0.2690634		-2.7	20
cis-1,2-Dichloroethene	A	100.0	96.36	0.3081736	0.2969417		-3.6	20
trans-1,2-Dichloroethene	A	100.0	96.60	0.3072426	0.296793		-3.4	20
1,2-Dichloropropane	A	100.0	98.10	0.2562728	0.251404		-1.9	20
cis-1,3-Dichloropropene	A	100.0	102.4	0.3733427	0.3823576		2.4	20
trans-1,3-Dichloropropene	A	100.0	106.0	0.7306193	0.7746148		6.0	20

## CONTINUING CALIBRATION CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA4

Calibration: 0344001

Lab File ID: 1217CC1.D

Calibration Date: 12/08/10 08:44

Sequence: 0L35201

Injection Date: 12/17/10

Lab Sample ID: 0L35201-CCV1

Injection Time: 14:39

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Ethylbenzene	A	100.0	95.29	2.950037	2.811161		-4.7	20
2-Hexanone	L	200.0	216.1	0.3054043	0.3982568		8.0	20
Isopropylbenzene	A	100.0	100.2	2.527371	2.533176		0.2	20
Methylene chloride	L	100.0	93.45	0.371369	0.3082923		-6.6	20
Methyl Acetate	A	100.0	105.3	0.1288304	0.1357078		5.3	20
Methylcyclohexane	A	100.0	91.02	0.4234553	0.3854295		-9.0	20
4-Methyl-2-pentanone	L	200.0	223.7	0.1706321	0.2220971		11.8	20
Methyl t-Butyl Ether	A	100.0	111.7	0.513024	0.5730694		11.7	20
Styrene	A	100.0	103.7	1.723591	1.788141		3.7	20
1,1,2,2-Tetrachloroethane	A	100.0	90.81	0.5316513	0.4827877	0.3	-9.2	20
Tetrachloroethene	A	100.0	96.91	0.9570532	0.9274897		-3.1	20
Toluene	A	100.0	92.81	1.613707	1.497707		-7.2	20
1,2,3-Trichlorobenzene	A	100.0	106.4	0.7636144	0.8122411		6.4	20
1,2,4-Trichlorobenzene	A	100.0	109.0	0.8849742	0.9642794		9.0	20
1,1,2-Trichloroethane	A	100.0	96.00	0.4290105	0.4118444		-4.0	20
1,1,1-Trichloroethane	A	100.0	96.25	0.4410892	0.4245441		-3.8	20
Trichloroethene	A	100.0	100.7	0.3013083	0.3033412		0.7	20
Trichlorofluoromethane	A	100.0	93.78	0.5499461	0.5157431		-6.2	20
1,1,2-Trichloro-1,2,2-trifluoroethane	A	100.0	93.89	0.3513592	0.3298918		-6.1	20
Vinyl chloride	A	100.0	72.42	0.225769	0.1635005		-27.6	20 *
m,p-Xylene	A	200.0	176.2	2.197698	1.936277		-11.9	20
o-Xylene	A	100.0	94.74	2.298493	2.177532		-5.3	20
Bromofluorobenzene	A	30.00	33.83	0.890123	1.003731		12.8	20
Dibromofluoromethane	A	30.00	30.61	0.3200324	0.3265592		2.0	20
1,2-Dichloroethane-d4	A	30.00	32.97	5.009168E-02	5.505255E-02		9.9	20
Toluene-d8	A	30.00	30.65	2.384296	2.43575		2.2	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## PREPARATION BATCH SUMMARY

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L17021      Batch Matrix: Solid

Preparation: 5035

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L17021-BLK1	12/17/10 00:00	5.00	5.00
LCS	0L17021-BS1	12/17/10 00:00	5.00	5.00
LCS Dup	0L17021-BSD1	12/17/10 00:00	5.00	5.00
BCHMS-SO-002-1210	1012153-13	12/17/10 00:00	4.79	5.00
BCHMS-SO-004-1210	1012153-14	12/17/10 00:00	3.78	5.00
BCHMS-SO-007-1210	1012153-15	12/17/10 00:00	4.26	5.00
BCHMS-SO-010-1210	1012153-16	12/17/10 00:00	5.51	5.00
BCHMS-SO-012-1210	1012153-17	12/17/10 00:00	4.89	5.00
BCHMS-SO-013-1210	1012153-18	12/17/10 00:00	5.92	5.00
BCHMS-SO-014-1210	1012153-19	12/17/10 00:00	5.09	5.00
BCHMS-SO-015-1210	1012153-20	12/17/10 00:00	5.58	5.00
BCHMS-SO-016-1210	1012153-21	12/17/10 00:00	4.96	5.00
BCHMS-SO-017-1210	1012153-22	12/17/10 00:00	5.64	5.00
BCHMS-SO-018-1210	1012153-23	12/17/10 00:00	4.83	5.00
BCHMS-SO-019-1210	1012153-24	12/17/10 00:00	5.48	5.00
BCHMS-SO-020-1210	1012153-25	12/17/10 00:00	5.95	5.00
BCHMS-SO-021-1210	1012153-26	12/17/10 00:00	5.59	5.00
BCHMS-SO-022-1210	1012153-27	12/17/10 00:00	5.44	5.00
BCHMS-SO-023-1210	1012153-28	12/17/10 00:00	5.60	5.00
BCHMS-SO-024-1210	1012153-29	12/17/10 00:00	5.06	5.00





# ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35515

Instrument: MS-VOA4

Calibration: 0344001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L35515-TUN1	1220TU1.D	12/20/10 09:32
Calibration Check	0L35515-CCV1	1220CC1.D	12/20/10 10:03
LCS	0L20010-BS1	1220LS1.D	12/20/10 10:57
Blank	0L20010-BLK1	1220BL1.D	12/20/10 12:30
BCHMS-SO-025-1210	1012153-30	1215330.D	12/20/10 13:32
BCHMS-SO-026-1210	1012153-31	1215331.D	12/20/10 14:03
BCHMS-SO-028-1210	1012153-32	1215332.D	12/20/10 14:33
BCHMS-SO-FD01-1210	1012153-33	1215333.D	12/20/10 15:04
BCHMS-SO-FD02-1210	1012153-34	1215334.D	12/20/10 15:35
LCS Dup	0L20010-BSD1	1220LD1.D	12/20/10 20:13

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: 1220TU1.D

Injection Date: 12/20/10

Instrument ID: MS-VOA4

Injection Time: 09:32

Sequence: 0L35515

Lab Sample ID: 0L35515-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	20.8	PASS
75	30 - 60% of 95	48.9	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.29	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	70.6	PASS
175	5 - 9% of 174	7.75	PASS
176	95 - 101% of 174	98	PASS
177	5 - 9% of 176	7.03	PASS

## CONTINUING CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA4

Calibration: 0344001

Lab File ID: 1220CC1.D

Calibration Date: 12/08/10 08:44

Sequence: 0L35515

Injection Date: 12/20/10

Lab Sample ID: 0L35515-CCV1

Injection Time: 10:03

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	200.0	208.6	5.745115E-02	5.992149E-02		4.3	20
Benzene	A	100.0	114.1	0.9838624	1.122344		14.1	20
Bromochloromethane	A	100.0	130.2	0.154074	0.2006753		30.2	20 *
Bromodichloromethane	A	100.0	126.9	0.3539561	0.4492778		26.9	20 *
Bromoform	A	100.0	147.4	0.475099	0.7000943	0.1	47.4	20 *
Bromomethane	A	100.0	181.6	0.1674308	0.3039727		81.6	20 *
2-Butanone	L	200.0	180.8	7.734329E-02	0.0815625		-9.6	20
Carbon disulfide	A	100.0	115.6	1.04151	1.20382		15.6	20
Carbon tetrachloride	A	100.0	116.4	0.4188778	0.487639		16.4	20
Chlorobenzene	A	100.0	110.3	1.874759	2.067159	0.3	10.3	20
Chloroethane	A	100.0	116.6	0.2297603	0.2680327		16.7	20
Chloroform	A	100.0	117.0	0.5370399	0.6281806		17.0	20
Chloromethane	A	100.0	112.3	0.2657139	0.2985259	0.1	12.3	20
Cyclohexane	A	100.0	107.4	0.4363506	0.4686207		7.4	20
Dibromochloromethane	A	100.0	125.3	0.7218878	0.9047765		25.3	20 *
1,2-Dibromo-3-chloropropane	A	100.0	159.2	0.1128452	0.1796453		59.2	20 *
1,2-Dibromoethane (EDB)	A	100.0	135.5	0.5409699	0.7331067		35.5	20 *
1,2-Dichlorobenzene	A	100.0	114.5	1.286745	1.47361		14.5	20
1,3-Dichlorobenzene	A	100.0	104.2	1.494033	1.556106		4.2	20
1,4-Dichlorobenzene	A	100.0	96.91	1.498181	1.451915		-3.1	20
Dichlorodifluoromethane	A	100.0	122.1	0.341007	0.4162877		22.1	20 *
1,1-Dichloroethane	A	100.0	111.4	0.5360738	0.5970369	0.1	11.4	20
1,2-Dichloroethane	A	100.0	132.9	0.2985168	0.3967939		32.9	20 *
1,1-Dichloroethene	A	100.0	115.9	0.2765103	0.3205028		15.9	20
cis-1,2-Dichloroethene	A	100.0	119.8	0.3081736	0.3690784		19.8	20
trans-1,2-Dichloroethene	A	100.0	112.5	0.3072426	0.3455711		12.5	20
1,2-Dichloropropane	A	100.0	110.5	0.2562728	0.2831491		10.5	20
cis-1,3-Dichloropropene	A	100.0	125.7	0.3733427	0.4692692		25.7	20 *
trans-1,3-Dichloropropene	A	100.0	136.1	0.7306193	0.9944705		36.1	20 *

## CONTINUING CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA4

Calibration: 0344001

Lab File ID: 1220CC1.D

Calibration Date: 12/08/10 08:44

Sequence: 0L35515

Injection Date: 12/20/10

Lab Sample ID: 0L35515-CCV1

Injection Time: 10:03

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Ethylbenzene	A	100.0	110.0	2.950037	3.245664		10.0	20
2-Hexanone	L	200.0	188.8	0.3054043	0.3462795		-5.6	20
Isopropylbenzene	A	100.0	110.9	2.527371	2.802612		10.9	20
Methylene chloride	L	100.0	111.4	0.371369	0.3678047		11.4	20
Methyl Acetate	A	100.0	137.4	0.1288304	0.1770283		37.4	20 *
Methylcyclohexane	A	100.0	114.2	0.4234553	0.4837764		14.2	20
4-Methyl-2-pentanone	L	200.0	189.4	0.1706321	0.1871088		-5.3	20
Methyl t-Butyl Ether	A	100.0	142.6	0.513024	0.7314434		42.6	20 *
Styrene	A	100.0	120.7	1.723591	2.081233		20.7	20 *
1,1,2,2-Tetrachloroethane	A	100.0	114.3	0.5316513	0.6078984	0.3	14.3	20
Tetrachloroethene	A	100.0	112.6	0.9570532	1.077187		12.6	20
Toluene	A	100.0	108.9	1.613707	1.75755		8.9	20
1,2,3-Trichlorobenzene	A	100.0	131.0	0.7636144	1.000236		31.0	20 *
1,2,4-Trichlorobenzene	A	100.0	128.5	0.8849742	1.137491		28.5	20 *
1,1,2-Trichloroethane	A	100.0	124.4	0.4290105	0.5336775		24.4	20 *
1,1,1-Trichloroethane	A	100.0	117.3	0.4410892	0.5174788		17.3	20
Trichloroethene	A	100.0	112.9	0.3013083	0.3402007		12.9	20
Trichlorofluoromethane	A	100.0	107.7	0.5499461	0.5923567		7.7	20
1,1,2-Trichloro-1,2,2-trifluoroethane	A	100.0	111.7	0.3513592	0.3923888		11.7	20
Vinyl chloride	A	100.0	100.0	0.225769	0.2258796		0.05	20
m,p-Xylene	A	200.0	200.5	2.197698	2.202824		0.2	20
o-Xylene	A	100.0	110.1	2.298493	2.530653		10.1	20
Bromofluorobenzene	A	30.00	34.28	0.890123	1.017191		14.3	20
Dibromofluoromethane	A	30.00	31.83	0.3200324	0.3395546		6.1	20
1,2-Dichloroethane-d4	A	30.00	35.01	5.009168E-02	5.845502E-02		16.7	20
Toluene-d8	A	30.00	31.08	2.384296	2.470493		3.6	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# PREPARATION BATCH SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L20010 Batch Matrix: Solid

Preparation: 5035

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L20010-BLK1	12/20/10 00:00	5.00	5.00
LCS	0L20010-BS1	12/20/10 00:00	5.00	5.00
LCS Dup	0L20010-BSD1	12/20/10 00:00	5.00	5.00
BCHMS-SO-025-1210	1012153-30	12/20/10 00:00	5.44	5.00
BCHMS-SO-026-1210	1012153-31	12/20/10 00:00	4.88	5.00
BCHMS-SO-028-1210	1012153-32	12/20/10 00:00	5.15	5.00
BCHMS-SO-FD01-1210	1012153-33	12/20/10 00:00	5.59	5.00
BCHMS-SO-FD02-1210	1012153-34	12/20/10 00:00	5.09	5.00





# ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36106

Instrument: MS-VOA4

Calibration: 0344001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L36106-TUN1	1222TU1.D	12/22/10 10:43
Calibration Check	0L36106-CCV1	1222CC1.D	12/22/10 11:13
LCS	0L22016-BS1	1222LS1.D	12/22/10 12:02
Blank	0L22016-BLK1	1222BL1.D	12/22/10 13:34
BCHMS-SO-020-1210	1012153-25RE1	1215325.D	12/22/10 14:36
LCS Dup	0L22016-BSD1	1222LD1.D	12/22/10 20:16

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: 1222TUI.D

Injection Date: 12/22/10

Instrument ID: MS-VOA4

Injection Time: 10:43

Sequence: 0L36106

Lab Sample ID: 0L36106-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	19.7	PASS
75	30 - 60% of 95	44.7	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.06	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	65.7	PASS
175	5 - 9% of 174	8.18	PASS
176	95 - 101% of 174	97.1	PASS
177	5 - 9% of 176	7.44	PASS

# CONTINUING CALIBRATION CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA4

Calibration: 0344001

Lab File ID: 1222CC1.D

Calibration Date: 12/08/10 08:44

Sequence: 0L36106

Injection Date: 12/22/10

Lab Sample ID: 0L36106-CCV1

Injection Time: 11:13

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	200.0	205.1	5.745115E-02	5.891564E-02		2.5	20
Benzene	A	100.0	107.5	0.9838624	1.057418		7.5	20
Bromochloromethane	A	100.0	114.5	0.154074	0.176433		14.5	20
Bromodichloromethane	A	100.0	102.4	0.3539561	0.3625126		2.4	20
Bromoform	A	100.0	133.3	0.475099	0.6334134	0.1	33.3	20 *
Bromomethane	A	100.0	134.0	0.1674308	0.2243315		34.0	20 *
2-Butanone	L	200.0	185.2	7.734329E-02	8.364544E-02		-7.4	20
Carbon disulfide	A	100.0	104.5	1.04151	1.088815		4.5	20
Carbon tetrachloride	A	100.0	89.90	0.4188778	0.3765544		-10.1	20
Chlorobenzene	A	100.0	103.6	1.874759	1.94235	0.3	3.6	20
Chloroethane	A	100.0	94.25	0.2297603	0.2165469		-5.8	20
Chloroform	A	100.0	97.27	0.5370399	0.5223986		-2.7	20
Chloromethane	A	100.0	107.4	0.2657139	0.2855065	0.1	7.4	20
Cyclohexane	A	100.0	105.0	0.4363506	0.4581505		5.0	20
Dibromochloromethane	A	100.0	113.8	0.7218878	0.8211913		13.8	20
1,2-Dibromo-3-chloropropane	A	100.0	145.0	0.1128452	0.1635769		45.0	20 *
1,2-Dibromoethane (EDB)	A	100.0	123.6	0.5409699	0.6685237		23.6	20 *
1,2-Dichlorobenzene	A	100.0	106.5	1.286745	1.370321		6.5	20
1,3-Dichlorobenzene	A	100.0	101.3	1.494033	1.513511		1.3	20
1,4-Dichlorobenzene	A	100.0	89.92	1.498181	1.347152		-10.1	20
Dichlorodifluoromethane	A	100.0	88.78	0.341007	0.3027344		-11.2	20
1,1-Dichloroethane	A	100.0	98.86	0.5360738	0.5299784	0.1	-1.1	20
1,2-Dichloroethane	A	100.0	100.9	0.2985168	0.3011783		0.9	20
1,1-Dichloroethene	A	100.0	103.9	0.2765103	0.2873281		3.9	20
cis-1,2-Dichloroethene	A	100.0	112.4	0.3081736	0.3462401		12.4	20
trans-1,2-Dichloroethene	A	100.0	106.3	0.3072426	0.3266439		6.3	20
1,2-Dichloropropane	A	100.0	105.5	0.2562728	0.2703249		5.5	20
cis-1,3-Dichloropropene	A	100.0	112.0	0.3733427	0.418348		12.1	20
trans-1,3-Dichloropropene	A	100.0	123.3	0.7306193	0.9010513		23.3	20 *

## CONTINUING CALIBRATION CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA4

Calibration: 0344001

Lab File ID: 1222CC1.D

Calibration Date: 12/08/10 08:44

Sequence: 0L36106

Injection Date: 12/22/10

Lab Sample ID: 0L36106-CCV1

Injection Time: 11:13

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Ethylbenzene	A	100.0	108.3	2.950037	3.19564		8.3	20
2-Hexanone	L	200.0	203.4	0.3054043	0.373942		1.7	20
Isopropylbenzene	A	100.0	105.4	2.527371	2.663956		5.4	20
Methylene chloride	L	100.0	100.6	0.371369	0.3319065		0.6	20
Methyl Acetate	A	100.0	126.1	0.1288304	0.1624261		26.1	20 *
Methylcyclohexane	A	100.0	108.4	0.4234553	0.4588293		8.4	20
4-Methyl-2-pentanone	L	200.0	193.6	0.1706321	0.1914239		-3.2	20
Methyl t-Butyl Ether	A	100.0	133.4	0.513024	0.6843367		33.4	20 *
Styrene	A	100.0	114.3	1.723591	1.969618		14.3	20
1,1,2,2-Tetrachloroethane	A	100.0	110.1	0.5316513	0.58516	0.3	10.1	20
Tetrachloroethene	A	100.0	109.1	0.9570532	1.044358		9.1	20
Toluene	A	100.0	107.8	1.613707	1.740107		7.8	20
1,2,3-Trichlorobenzene	A	100.0	123.6	0.7636144	0.9435047		23.6	20 *
1,2,4-Trichlorobenzene	A	100.0	121.0	0.8849742	1.071252		21.0	20 *
1,1,2-Trichloroethane	A	100.0	119.8	0.4290105	0.514149		19.8	20
1,1,1-Trichloroethane	A	100.0	97.19	0.4410892	0.4286919		-2.8	20
Trichloroethene	A	100.0	106.1	0.3013083	0.3196125		6.1	20
Trichlorofluoromethane	A	100.0	87.15	0.5499461	0.4792993		-12.8	20
1,1,2-Trichloro-1,2,2-trifluoroethane	A	100.0	97.25	0.3513592	0.3416858		-2.8	20
Vinyl chloride	A	100.0	87.19	0.225769	0.1968485		-12.8	20
m,p-Xylene	A	200.0	195.4	2.197698	2.146821		-2.3	20
o-Xylene	A	100.0	102.5	2.298493	2.356149		2.5	20
Bromofluorobenzene	A	30.00	33.21	0.890123	0.9853547		10.7	20
Dibromofluoromethane	A	30.00	28.32	0.3200324	0.3021483		-5.6	20
1,2-Dichloroethane-d4	A	30.00	32.98	5.009168E-02	5.507002E-02		9.9	20
Toluene-d8	A	30.00	31.78	2.384296	2.525781		5.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# PREPARATION BATCH SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L22016 Batch Matrix: Solid

Preparation: 5035

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L22016-BLK1	12/22/10 00:00	5.00	5.00
LCS	0L22016-BS1	12/22/10 00:00	5.00	5.00
LCS Dup	0L22016-BSD1	12/22/10 00:00	5.00	5.00
BCHMS-SO-020-1210	1012153-25RE1	12/22/10 00:00	6.12	5.00





## ANALYSIS SEQUENCE SUMMARY

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L34801

Instrument: MS-VOA3

Calibration: 0349001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L34801-TUN1	1213TU1.D	12/13/10 15:51
Cal Standard	0L34801-CAL1	SEQ-CAL1.D	12/13/10 16:19
Cal Standard	0L34801-CAL2	SEQ-CAL2.D	12/13/10 16:49
Cal Standard	0L34801-CAL3	SEQ-CAL3.D	12/13/10 17:18
Cal Standard	0L34801-CAL4	SEQ-CAL4.D	12/13/10 17:48
Cal Standard	0L34801-CAL5	SEQ-CAL5.D	12/13/10 18:18
Cal Standard	0L34801-CAL6	SEQ-CAL6.D	12/13/10 18:47
Cal Standard	0L34801-CAL7	SEQ-CAL7.D	12/13/10 19:17
Cal Standard	0L34801-CAL8	SEQ-CAL8.D	12/13/10 19:47
Cal Standard	0L34801-CAL9	SEQ-CAL9.D	12/13/10 20:16
Initial Cal Check	0L34801-ICV1	SEQ-ICV1.D	12/13/10 20:46
Cal Standard	0L34801-CALA	SEQ-CALA.D	12/13/10 21:46
Cal Standard	0L34801-CALB	SEQ-CALB.D	12/13/10 22:15
Cal Standard	0L34801-CALC	SEQ-CALC.D	12/13/10 22:45
Cal Standard	0L34801-CALD	SEQ-CALD.D	12/13/10 23:15
Cal Standard	0L34801-CALE	SEQ-CALE.D	12/13/10 23:44
Cal Standard	0L34801-CALF	SEQ-CALF.D	12/14/10 00:14
Cal Standard	0L34801-CALG	SEQ-CALG.D	12/14/10 00:44
Cal Standard	0L34801-CALH	SEQ-CALH.D	12/14/10 01:13
Cal Standard	0L34801-CALI	SEQ-CALI.D	12/14/10 01:43
Initial Cal Check	0L34801-ICV4	SEQ-ICV3x.D	12/14/10 02:13

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: 1213TU1.D

Injection Date: 12/13/10

Instrument ID: MS-VOA3

Injection Time: 15:51

Sequence: 0L34801

Lab Sample ID: 0L34801-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	19.9	PASS
75	30 - 60% of 95	47.4	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.48	PASS
173	Less than 2% of 174	0.696	PASS
174	50 - 200% of 95	80.7	PASS
175	5 - 9% of 174	7.13	PASS
176	95 - 101% of 174	96.3	PASS
177	5 - 9% of 176	7.31	PASS

## INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0349001

Instrument: MS-VOA3

Matrix: Water

Calibration Date: 12/13/2010 4:19:50PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acetone	7.141267E-02	2.283392	5.380222	0.1161561			15	
Acrolein	<u>3.837883E-02</u>	6.679093	5.221333	6.921031E-02			15	
Acrylonitrile	8.164535E-02	3.702574	6.065333	9.991203E-02			15	
Benzene	0.8693201	5.723872	12.115	3.879217E-02			15	
Bromobenzene	0.6203722	5.562394	17.223	2.639792E-02			15	
Bromochloromethane	0.1138001	5.402698	9.639	8.055648E-02			15	
Tert-Amyl Methyl Ether	0.7127696	9.54379	12.46114	1.033009E-02			15	
Bromodichloromethane	0.3079503	5.224727	13.11622	1.620503E-02			15	
Bromoform	0.293042	<u>20.56356</u>	16.51433	2.448315E-02	<u>0.9987915</u>		SPCC (0.1)	
Bromomethane	0.1212823	<u>15.88542</u>	4.390333	6.191229E-02	<u>0.9994355</u>		0.995	
Bromofluorobenzene	0.9798013	1.870278	17.055	2.105815E-02			15	
n-Butylbenzene	1.521531	8.125579	18.40633	1.570071E-02			15	
2-Butanone	9.313386E-02	<u>27.54904</u>	8.8875	0.2775983	<u>0.999558</u>		0.995	
sec-Butylbenzene	1.942098	7.067644	17.95633	1.042928E-02			15	
tert-Butylbenzene	1.517573	7.911336	18.08433	2.031522E-02			15	
Carbon disulfide	0.622022	6.829421	6.605667	4.366265E-02			15	
Carbon tetrachloride	0.297389	10.39837	12.07333	1.440845E-02			15	
Chlorobenzene	1.346299	8.860194	16.10867	1.499684E-02			SPCC (0.3)	
Chloroethane	0.1180991	14.87566	4.557667	0.1098222			15	
Chloroform	0.4195814	3.427673	9.799	0.1016528			CCC (20)	
2-Chloroethyl vinyl ether	0.1608573	4.686945	13.711	4.719969E-02			15	
Chloromethane	0.2231797	11.20807	3.729889	0.1126941			SPCC (0.1)	
1-Chlorohexane	1.123854	12.93171	16.06833	2.076101E-02			15	
2-Chlorotoluene	1.640755	6.330958	17.44133	2.088678E-02			15	
4-Chlorotoluene	1.644672	6.956288	17.49967	1.775187E-02			15	
Cyclohexane	0.3540904	4.974101	11.96367	0.0279755			15	
Dibromochloromethane	0.4234378	14.40268	15.09467	2.312328E-02			15	
1,2-Dibromo-3-chloropropane	0.1104092	<u>20.47113</u>	18.75733	2.486783E-02	<u>0.9987271</u>		0.995	
1,2-Dibromoethane (EDB)	0.4713652	5.069841	15.32833	1.248373E-02			15	
Dibromomethane	0.1573576	7.291752	12.938	4.494394E-02			15	
1,2-Dichlorobenzene	0.9980283	5.39051	18.38033	3.976783E-03			15	
1,3-Dichlorobenzene	0.9972267	4.614311	18.036	1.195149E-02			15	

# INITIAL CALIBRATION DATA (Continued)

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0349001

Instrument: MS-VOA3

Matrix: Water

Calibration Date: 12/13/2010 4:19:50PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,4-Dichlorobenzene	1.050547	10.70503	18.08433	2.031522E-02			15	
Dichlorodifluoromethane	0.196978	14.45822	3.521667	9.130799E-02	0.9996804		0.995	
1,1-Dichloroethane	0.3970346	2.173926	7.909	0.1001988			SPCC (0.1)	
1,2-Dichloroethane	0.3618399	3.117376	11.27444	5.922584E-02			15	
1,1-Dichloroethene	0.1848867	7.173388	6.027667	0.1119975			CCC (20)	
cis-1,2-Dichloroethene	0.2321957	6.51156	9.263333	0.1166118			15	
trans-1,2-Dichloroethene	0.2143621	6.699331	7.398667	6.897512E-02			15	
1,2-Dichloroethene (total)	0.2232789	3.538246	0	0			15	
1,2-Dichloropropane	0.2374431	4.113964	13.00033	3.669978E-02			CCC (20)	
1,3-Dichloropropane	0.6742105	13.69647	14.853	1.392896E-02			15	
2,2-Dichloropropane	0.3499551	3.946072	10.03344	0.0892213			15	
1,1-Dichloropropene	0.3096047	4.004482	11.82367	3.756467E-02			15	
cis-1,3-Dichloropropene	0.3885811	4.067808	13.95333	2.095492E-02			15	
trans-1,3-Dichloropropene	0.6394469	7.377868	14.443	3.121757E-02			15	
Diisopropyl Ether	0.8524412	5.59544	9.040222	0.1016453			15	
Ethylbenzene	2.227076	10.4301	16.27267	2.137116E-02			CCC (20)	
Ethyl tert-Butyl Ether	0.7641753	4.286409	10.1225	7.275247E-02			15	
Ethyl Methacrylate	0.5619364	7.945655	14.91922	3.445866E-02			15	
Hexachlorobutadiene	0.2918512	5.293205	20.315	1.883089E-02			15	
2-Hexanone	0.3017843	12.94959	15.0305	6.273039E-02			15	
Iodomethane	0.2521788	14.37537	6.07	4.826222E-02	0.9997996		0.995	
Isopropylbenzene	1.851838	9.416512	17.02478	2.088716E-02			15	
p-Isopropyltoluene	1.366312	5.016463	17.78767	5.717893E-03			15	
Methylene chloride	0.2407745	8.997654	6.24	0.1166582			15	
Methyl Acetate	0.1660347	6.750793	6.2855	0.1506604			15	
Methylcyclohexane	0.2943189	2.884429	13.74367	2.768822E-02			15	
Naphthalene	1.517986	3.801356	20.27433	2.092311E-02			15	
Methyl Methacrylate	0.2182298	14.6991	13.39375	6.718718E-02			15	
4-Methyl-2-pentanone	0.2314244	7.970874	14.0965	3.427182E-02			15	
Methyl t-Butyl Ether	0.6135292	4.639121	7.661333	0.1385543			15	
n-Propylbenzene	2.348363	8.559379	17.36033	0.0247832			15	
Styrene	1.518926	7.533105	16.68667	2.514641E-02			15	

## INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0349001

Instrument: MS-VOA3

Matrix: Water

Calibration Date: 12/13/2010 4:19:50PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,1,2,2-Tetrachloroethane	0.5410486	7.051772	16.752	1.727606E-02			SPCC (0.3)	
1,1,1,2-Tetrachloroethane	0.4179322	5.143498	16.05033	0.0131012			15	
tert-Butyl alcohol	<i>Not</i> <u>2.221799E-02</u>	4.415061	6.02425	0.1354799			15	
Tetrachloroethene	0.4850248	3.904585	15.51789	1.665171E-02			15	
Toluene	1.183272	5.857981	14.78989	2.991216E-02			CCC (20)	
1,2,3-Trichlorobenzene	0.5813175	2.795132	20.51667	5.221391E-03			15	
1,2,4-Trichlorobenzene	0.6601423	4.682353	20.00911	1.387888E-02			15	
1,1,2-Trichloroethane	0.3486098	6.477077	14.595	2.904031E-02			15	
1,1,1-Trichloroethane	0.3704875	5.232186	11.47467	4.130506E-02			15	
Tetrahydrofuran	6.159011E-02	8.996479	10.63586	0.1499273			15	
Trichloroethene	0.257347	9.517283	13.07867	2.338694E-02			15	
Trichlorofluoromethane	0.3662788	2.644332	5.268333	0.116333			15	
1,2,3-Trichloropropane	0.1678733	7.878045	16.85667	7.977424E-03			15	
1,3,5-Trimethylbenzene	1.752559	7.324779	17.56333	1.933134E-02			15	
1,2,4-Trimethylbenzene	1.817454	7.825182	17.86667	0.0186587			15	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.1889	5.13942	6.346556	9.148294E-02			15	
Vinyl chloride	0.1909905	8.770908	3.933778	0.1326098			CCC (20)	
m,p-Xylene	1.82297	13.41064	16.4295	2.639917E-02			15	
o-Xylene	1.885961	12.69374	16.745	7.701285E-03			15	
Vinyl acetate	0.2839432	6.688655	8.19775	0.1540793			15	
Xylenes (total)	1.862121	12.07325	0	0			15	
Dibromofluoromethane	0.2604259	1.982991	10.10711	7.492134E-02			15	
1,2-Dichloroethane-d4	5.522748E-02	2.834664	11.12567	3.965812E-02			15	
Toluene-d8	2.048621	1.787892	14.714	2.238763E-02			15	
tert-Amyl alcohol	0.0146775	12.62285	10.97786	7.327972E-02			15	
tert-Amyl ethyl ether	0.6842477	4.766204	13.63533	1.971528E-02			15	

# INITIAL CALIBRATION CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA3

Calibration: 0349001

Lab File ID: SEQ-ICV1.D

Calibration Date: 12/13/10 16:19

Sequence: 0L34801

Injection Date: 12/13/10

Lab Sample ID: 0L34801-ICV1

Injection Time: 20:46

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Benzene	A	50.00	51.43	0.8693201	0.8941339		2.9	20
Bromochloromethane	A	50.00	50.91	0.1138001	0.1158683		1.8	20
Bromodichloromethane	A	50.00	56.24	0.3079503	0.3463787		12.5	20
Bromoform	L	50.00	48.51	0.293042	0.3440534	0.1	-3.0	20
Bromomethane	L	50.00	47.02	0.1212823	0.130657		-6.0	20
Carbon disulfide	A	50.00	54.66	0.622022	0.6799749		9.3	20
Carbon tetrachloride	A	50.00	55.16	0.297389	0.3281006		10.3	20
Chlorobenzene	A	50.00	50.62	1.346299	1.363055	0.3	1.2	20
Chloroethane	A	50.00	50.21	0.1180991	0.118603		0.4	20
Chloroform	A	50.00	49.64	0.4195814	0.4165235		-0.7	20
Chloromethane	A	50.00	55.57	0.2231797	0.2480287	0.1	11.1	20
Cyclohexane	A	50.00	51.46	0.3540904	0.364431		2.9	20
Dibromochloromethane	A	50.00	57.97	0.4234378	0.4908968		15.9	20
1,2-Dibromo-3-chloropropane	L	50.00	47.54	0.1104092	0.1254699		-4.9	20
1,2-Dibromoethane (EDB)	A	50.00	51.46	0.4713652	0.4851486		2.9	20
1,2-Dichlorobenzene	A	50.00	49.90	0.9980283	0.9960596		-0.2	20
1,3-Dichlorobenzene	A	50.00	49.95	0.9972267	0.9962532		-0.1	20
1,4-Dichlorobenzene	A	50.00	47.84	1.050547	1.005097		-4.3	20
Dichlorodifluoromethane	L	50.00	58.50	0.196978	0.2561483		17.0	20
1,1-Dichloroethane	A	50.00	51.14	0.3970346	0.4061262	0.1	2.3	20
1,2-Dichloroethane	A	50.00	50.93	0.3618399	0.3685509		1.9	20
1,1-Dichloroethene	A	50.00	52.91	0.1848867	0.1956321		5.8	20
cis-1,2-Dichloroethene	A	50.00	50.70	0.2321957	0.2354322		1.4	20
trans-1,2-Dichloroethene	A	50.00	51.72	0.2143621	0.2217261		3.4	20
1,2-Dichloropropane	A	50.00	51.40	0.2374431	0.2440868		2.8	20
cis-1,3-Dichloropropene	A	50.00	50.31	0.3885811	0.3910017		0.6	20
trans-1,3-Dichloropropene	A	50.00	58.02	0.6394469	0.742055		16.0	20
Ethylbenzene	A	50.00	51.52	2.227076	2.29469		3.0	20
Isopropylbenzene	A	50.00	54.85	1.851838	2.031544		9.7	20

# INITIAL CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA3

Calibration: 0349001

Lab File ID: SEQ-ICV1.D

Calibration Date: 12/13/10 16:19

Sequence: 0L34801

Injection Date: 12/13/10

Lab Sample ID: 0L34801-ICV1

Injection Time: 20:46

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Methylene chloride	A	50.00	48.88	0.2407745	0.235388		-2.2	20
Methyl Acetate	A	50.00	49.37	0.1660347	0.1639309		-1.3	20
Methylcyclohexane	A	50.00	50.68	0.2943189	0.2983378		1.4	20
Methyl t-Butyl Ether	A	50.00	50.46	0.6135292	0.6192344		0.9	20
Styrene	A	50.00	50.98	1.518926	1.548676		2.0	20
1,1,2,2-Tetrachloroethane	A	50.00	48.92	0.5410486	0.5293168	0.3	-2.2	20
Tetrachloroethene	A	50.00	51.57	0.4850248	0.5002247		3.1	20
Toluene	A	50.00	50.57	1.183272	1.196834		1.1	20
1,2,3-Trichlorobenzene	A	50.00	50.02	0.5813175	0.5815979		0.05	20
1,2,4-Trichlorobenzene	A	50.00	48.77	0.6601423	0.6438994		-2.5	20
1,1,2-Trichloroethane	A	50.00	49.67	0.3486098	0.3462764		-0.7	20
1,1,1-Trichloroethane	A	50.00	52.03	0.3704875	0.3854951		4.1	20
Trichloroethene	A	50.00	49.96	0.257347	0.2571358		-0.08	20
Trichlorofluoromethane	A	50.00	53.48	0.3662788	0.3917564		7.0	20
1,1,2-Trichloro-1,2,2-trifluoroethane	A	50.00	54.12	0.1889	0.2044511		8.2	20
Vinyl chloride	A	50.00	55.27	0.1909905	0.2111267		10.5	20
m,p-Xylene	A	100.0	95.81	1.82297	1.746599		-4.2	20
o-Xylene	A	50.00	50.14	1.885961	1.891283		0.3	20
Bromofluorobenzene	A	30.00	30.31	0.9798013	0.9898197		1.0	20
Dibromofluoromethane	A	30.00	30.97	0.2604259	0.2688347		3.2	20
1,2-Dichloroethane-d4	A	30.00	31.16	5.522748E-02	5.736291E-02		3.9	20
Toluene-d8	A	30.00	30.80	2.048621	2.103532		2.7	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# INITIAL CALIBRATION CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA3

Calibration: 0349001

Lab File ID: SEQ-ICV3x.D

Calibration Date: 12/13/10 16:19

Sequence: 0L34801

Injection Date: 12/14/10

Lab Sample ID: 0L34801-ICV4

Injection Time: 02:13

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Acetone	A	200.0	203.4	7.141267E-02	7.264121E-02		1.7	20
2-Butanone	L	200.0	205.1	9.313386E-02	0.1091943		2.5	20
2-Hexanone	A	200.0	225.3	0.3017843	0.3400184		12.7	20
4-Methyl-2-pentanone	A	200.0	215.1	0.2314244	0.2488677		7.5	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35202

Instrument: MS-VOA3

Calibration: 0349001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L35202-TUN1	1217TU1.D	12/17/10 13:16
Calibration Check	0L35202-CCV1	1217CC1.D	12/17/10 13:42
LCS	0L17010-BS1	1217LS1.D	12/17/10 14:13
Blank	0L17010-BLK1	1217BL1.D	12/17/10 15:39
BCHMS-FD001-1210	1012153-01	1215301.D	12/17/10 20:06
BCHMS-GW-004-1210	1012153-02	1215302.D	12/17/10 20:36
BCHMS-GW-005-1210	1012153-03	1215303.D	12/17/10 21:06

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: 1217TU1.D

Injection Date: 12/17/10

Instrument ID: MS-VOA3

Injection Time: 13:16

Sequence: 0L35202

Lab Sample ID: 0L35202-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	17.9	PASS
75	30 - 60% of 95	51.5	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.05	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	86.2	PASS
175	5 - 9% of 174	6.73	PASS
176	95 - 101% of 174	99.5	PASS
177	5 - 9% of 176	6.62	PASS

# CONTINUING CALIBRATION CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA3

Calibration: 0349001

Lab File ID: 1217CC1.D

Calibration Date: 12/13/10 16:19

Sequence: 0L35202

Injection Date: 12/17/10

Lab Sample ID: 0L35202-CCV1

Injection Time: 13:42

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	200.0	242.9	7.141267E-02	8.672168E-02		21.4	20 *
Benzene	A	100.0	106.6	0.8693201	0.9263931		6.6	20
Bromochloromethane	A	100.0	115.8	0.1138001	0.1318008		15.8	20
Bromodichloromethane	A	100.0	131.4	0.3079503	0.4047488		31.4	20 *
Bromoform	L	100.0	105.2	0.293042	0.3805565	0.1	5.2	20
Bromomethane	L	100.0	72.32	0.1212823	0.1014748		-27.7	20 *
2-Butanone	L	200.0	207.6	9.313386E-02	0.1105282		3.8	20
Carbon disulfide	A	100.0	122.5	0.622022	0.7619126		22.5	20 *
Carbon tetrachloride	A	100.0	129.0	0.297389	0.3836525		29.0	20 *
Chlorobenzene	A	100.0	95.92	1.346299	1.291356	0.3	-4.1	20
Chloroethane	A	100.0	109.5	0.1180991	0.1293704		9.5	20
Chloroform	A	100.0	122.2	0.4195814	0.5127359		22.2	20 *
Chloromethane	A	100.0	109.8	0.2231797	0.2451246	0.1	9.8	20
Cyclohexane	A	100.0	108.4	0.3540904	0.3838586		8.4	20
Dibromochloromethane	A	100.0	122.3	0.4234378	0.5179125		22.3	20 *
1,2-Dibromo-3-chloropropane	L	100.0	104.2	0.1104092	0.1400401		4.2	20
1,2-Dibromoethane (EDB)	A	100.0	108.7	0.4713652	0.5123065		8.7	20
1,2-Dichlorobenzene	A	100.0	103.0	0.9980283	1.028092		3.0	20
1,3-Dichlorobenzene	A	100.0	105.7	0.9972267	1.05434		5.7	20
1,4-Dichlorobenzene	A	100.0	96.12	1.050547	1.009821		-3.9	20
Dichlorodifluoromethane	L	100.0	142.7	0.196978	0.3134515		42.7	20 *
1,1-Dichloroethane	A	100.0	115.1	0.3970346	0.4570644	0.1	15.1	20
1,2-Dichloroethane	A	100.0	129.8	0.3618399	0.4696491		29.8	20 *
1,1-Dichloroethene	A	100.0	105.8	0.1848867	0.195618		5.8	20
cis-1,2-Dichloroethene	A	100.0	110.6	0.2321957	0.256801		10.6	20
trans-1,2-Dichloroethene	A	100.0	110.9	0.2143621	0.2377765		10.9	20
1,2-Dichloropropane	A	100.0	109.4	0.2374431	0.2598897		9.5	20
cis-1,3-Dichloropropene	A	100.0	119.9	0.3885811	0.4658645		19.9	20
trans-1,3-Dichloropropene	A	100.0	112.1	0.6394469	0.7169483		12.1	20

# CONTINUING CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA3

Calibration: 0349001

Lab File ID: 1217CC1.D

Calibration Date: 12/13/10 16:19

Sequence: 0L35202

Injection Date: 12/17/10

Lab Sample ID: 0L35202-CCV1

Injection Time: 13:42

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Ethylbenzene	A	100.0	98.52	2.227076	2.194092		-1.5	20
2-Hexanone	A	200.0	224.7	0.3017843	0.3391035		12.4	20
Isopropylbenzene	A	100.0	101.0	1.851838	1.870159		1.0	20
Methylene chloride	A	100.0	108.0	0.2407745	0.2600071		8.0	20
Methyl Acetate	A	100.0	120.9	0.1660347	0.200693		20.9	20 *
Methylcyclohexane	A	100.0	107.0	0.2943189	0.31501		7.0	20
4-Methyl-2-pentanone	A	200.0	235.6	0.2314244	0.27257		17.8	20
Methyl t-Butyl Ether	A	100.0	118.7	0.6135292	0.7283631		18.7	20
Styrene	A	100.0	98.04	1.518926	1.489129		-2.0	20
1,1,2,2-Tetrachloroethane	A	100.0	96.48	0.5410486	0.5219886	0.3	-3.5	20
Tetrachloroethene	A	100.0	99.50	0.4850248	0.4826047		-0.5	20
Toluene	A	100.0	95.35	1.183272	1.128292		-4.6	20
1,2,3-Trichlorobenzene	A	100.0	106.3	0.5813175	0.6180555		6.3	20
1,2,4-Trichlorobenzene	A	100.0	103.1	0.6601423	0.6807415		3.1	20
1,1,2-Trichloroethane	A	100.0	103.5	0.3486098	0.3607726		3.5	20
1,1,1-Trichloroethane	A	100.0	127.1	0.3704875	0.4709028		27.1	20 *
Trichloroethene	A	100.0	114.0	0.257347	0.29334		14.0	20
Trichlorofluoromethane	A	100.0	126.9	0.3662788	0.4649333		26.9	20 *
1,1,2-Trichloro-1,2,2-trifluoroethane	A	100.0	121.1	0.1889	0.228832		21.1	20 *
Vinyl chloride	A	100.0	114.1	0.1909905	0.2178957		14.1	20
m,p-Xylene	A	200.0	181.0	1.82297	1.649522		-9.5	20
o-Xylene	A	100.0	97.94	1.885961	1.847129		-2.1	20
Bromofluorobenzene	A	30.00	30.64	0.9798013	1.000682		2.1	20
Dibromofluoromethane	A	30.00	33.31	0.2604259	0.2891966		11.0	20
1,2-Dichloroethane-d4	A	30.00	29.48	5.522748E-02	5.427263E-02		-1.7	20
Toluene-d8	A	30.00	28.00	2.048621	1.911994		-6.7	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# PREPARATION BATCH SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L17010 Batch Matrix: Water

Preparation: 5030B

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L17010-BLK1	12/17/10 00:00	5.00	5.00
LCS	0L17010-BS1	12/17/10 00:00	5.00	5.00
BCHMS-FD001-1210	1012153-01	12/17/10 00:00	5.00	5.00
BCHMS-GW-004-1210	1012153-02	12/17/10 00:00	5.00	5.00
BCHMS-GW-005-1210	1012153-03	12/17/10 00:00	5.00	5.00





# ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35417

Instrument: MS-VOA3

Calibration: 0349001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L35417-TUN1	1217TU1E.D	12/18/10 01:06
Calibration Check	0L35417-CCV1	1217CC1E.D	12/18/10 01:32
LCS	0L17014-BS1	1217LS1E.D	12/18/10 02:02
Blank	0L17014-BLK1	1217BL1E.D	12/18/10 03:58
BCHMS-GW-007-1210	1012153-05	1215305.D	12/18/10 05:56
BCHMS-FD002-1210	1012153-06	1215306.D	12/18/10 06:26
BCHMS-GW-008-1210	1012153-07	1215307.D	12/18/10 06:56
BCHMS-GW-009D-1210	1012153-08	1215308.D	12/18/10 07:25
BCHMS-GW-011-1210	1012153-10	1215310.D	12/18/10 08:24
BCHMS-GW-012-1210	1012153-11	1215311.D	12/18/10 11:52
LCS Dup	0L17014-BSD1	1217LD1E.D	12/18/10 12:51

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: 1217TU1E.D

Injection Date: 12/18/10

Instrument ID: MS-VOA3

Injection Time: 01:06

Sequence: 0L35417

Lab Sample ID: 0L35417-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	19.7	PASS
75	30 - 60% of 95	46	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.79	PASS
173	Less than 2% of 174	0.602	PASS
174	50 - 200% of 95	87.3	PASS
175	5 - 9% of 174	7.39	PASS
176	95 - 101% of 174	95.2	PASS
177	5 - 9% of 176	6.63	PASS

# CONTINUING CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Instrument ID: MS-VOA3  
 Lab File ID: 1217CC1E.D  
 Sequence: 0L35417  
 Lab Sample ID: 0L35417-CCV1

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Calibration: 0349001  
 Calibration Date: 12/13/10 16:19  
 Injection Date: 12/18/10  
 Injection Time: 01:32

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	200.0	208.6	7.141267E-02	7.449531E-02		4.3	20
Benzene	A	100.0	101.8	0.8693201	0.884952		1.8	20
Bromochloromethane	A	100.0	105.7	0.1138001	0.1203353		5.7	20
Bromodichloromethane	A	100.0	109.4	0.3079503	0.3368152		9.4	20
Bromoform	L	100.0	100.7	0.293042	0.3642254	0.1	0.7	20
Bromomethane	L	100.0	64.52	0.1212823	9.033137E-02		-35.5	20 *
2-Butanone	L	200.0	193.9	9.313386E-02	0.1032201		-3.0	20
Carbon disulfide	A	100.0	115.5	0.622022	0.7186089		15.5	20
Carbon tetrachloride	A	100.0	105.6	0.297389	0.3141575		5.6	20
Chlorobenzene	A	100.0	97.15	1.346299	1.307905	0.3	-2.9	20
Chloroethane	A	100.0	104.9	0.1180991	0.1238968		4.9	20
Chloroform	A	100.0	104.3	0.4195814	0.4375862		4.3	20
Chloromethane	A	100.0	96.28	0.2231797	0.2148763	0.1	-3.7	20
Cyclohexane	A	100.0	101.5	0.3540904	0.3594212		1.5	20
Dibromochloromethane	A	100.0	116.4	0.4234378	0.4927096		16.4	20
1,2-Dibromo-3-chloropropane	L	100.0	101.2	0.1104092	0.1359117		1.2	20
1,2-Dibromoethane (EDB)	A	100.0	106.6	0.4713652	0.5026099		6.6	20
1,2-Dichlorobenzene	A	100.0	101.0	0.9980283	1.008077		1.0	20
1,3-Dichlorobenzene	A	100.0	99.22	0.9972267	0.9894713		-0.8	20
1,4-Dichlorobenzene	A	100.0	99.07	1.050547	1.040737		-0.9	20
Dichlorodifluoromethane	L	100.0	109.9	0.196978	0.241298		9.9	20
1,1-Dichloroethane	A	100.0	105.2	0.3970346	0.4177589	0.1	5.2	20
1,2-Dichloroethane	A	100.0	104.4	0.3618399	0.3778242		4.4	20
1,1-Dichloroethene	A	100.0	100.9	0.1848867	0.1865057		0.9	20
cis-1,2-Dichloroethene	A	100.0	105.2	0.2321957	0.2442297		5.2	20
trans-1,2-Dichloroethene	A	100.0	102.1	0.2143621	0.2189448		2.1	20
1,2-Dichloropropane	A	100.0	101.6	0.2374431	0.2412888		1.6	20
cis-1,3-Dichloropropene	A	100.0	102.6	0.3885811	0.3985111		2.6	20
trans-1,3-Dichloropropene	A	100.0	105.5	0.6394469	0.6746008		5.5	20

# CONTINUING CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA3

Calibration: 0349001

Lab File ID: 1217CC1E.D

Calibration Date: 12/13/10 16:19

Sequence: 0L35417

Injection Date: 12/18/10

Lab Sample ID: 0L35417-CCV1

Injection Time: 01:32

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Ethylbenzene	A	100.0	95.38	2.227076	2.124188		-4.6	20
2-Hexanone	A	200.0	216.7	0.3017843	0.3270064		8.4	20
Isopropylbenzene	A	100.0	94.78	1.851838	1.755108		-5.2	20
Methylene chloride	A	100.0	101.2	0.2407745	0.2437389		1.2	20
Methyl Acetate	A	100.0	103.9	0.1660347	0.1724509		3.9	20
Methylcyclohexane	A	100.0	99.59	0.2943189	0.29312		-0.4	20
4-Methyl-2-pentanone	A	200.0	209.5	0.2314244	0.2424128		4.7	20
Methyl t-Butyl Ether	A	100.0	106.4	0.6135292	0.6527731		6.4	20
Styrene	A	100.0	94.64	1.518926	1.437526		-5.4	20
1,1,2,2-Tetrachloroethane	A	100.0	98.09	0.5410486	0.5307389	0.3	-1.9	20
Tetrachloroethene	A	100.0	98.86	0.4850248	0.4795075		-1.1	20
Toluene	A	100.0	96.79	1.183272	1.145317		-3.2	20
1,2,3-Trichlorobenzene	A	100.0	102.6	0.5813175	0.5962467		2.6	20
1,2,4-Trichlorobenzene	A	100.0	100.2	0.6601423	0.6612436		0.2	20
1,1,2-Trichloroethane	A	100.0	103.3	0.3486098	0.360255		3.3	20
1,1,1-Trichloroethane	A	100.0	105.6	0.3704875	0.3911983		5.6	20
Trichloroethene	A	100.0	103.6	0.257347	0.2667151		3.6	20
Trichlorofluoromethane	A	100.0	105.3	0.3662788	0.3856717		5.3	20
1,1,2-Trichloro-1,2,2-trifluoroethane	A	100.0	108.9	0.1889	0.2057607		8.9	20
Vinyl chloride	A	100.0	108.2	0.1909905	0.2066839		8.2	20
m,p-Xylene	A	200.0	170.3	1.82297	1.552254		-14.9	20
o-Xylene	A	100.0	91.78	1.885961	1.730856		-8.2	20
Bromofluorobenzene	A	30.00	29.23	0.9798013	0.9546235		-2.6	20
Dibromofluoromethane	A	30.00	29.65	0.2604259	0.2574178		-1.2	20
1,2-Dichloroethane-d4	A	30.00	29.06	5.522748E-02	5.350785E-02		-3.1	20
Toluene-d8	A	30.00	28.84	2.048621	1.96909		-3.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# PREPARATION BATCH SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L17014 Batch Matrix: Water

Preparation: 5030B

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L17014-BLK1	12/17/10 00:00	5.00	5.00
LCS	0L17014-BS1	12/17/10 00:00	5.00	5.00
LCS Dup	0L17014-BSD1	12/17/10 00:00	5.00	5.00
BCHMS-GW-007-1210	1012153-05	12/17/10 00:00	5.00	5.00
BCHMS-FD002-1210	1012153-06	12/17/10 00:00	5.00	5.00
BCHMS-GW-008-1210	1012153-07	12/17/10 00:00	5.00	5.00
BCHMS-GW-009D-1210	1012153-08	12/17/10 00:00	5.00	5.00
BCHMS-GW-011-1210	1012153-10	12/17/10 00:00	5.00	5.00
BCHMS-GW-012-1210	1012153-11	12/17/10 00:00	5.00	5.00





# ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35605

Instrument: MS-VOA3

Calibration: 0349001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L35605-TUN1	1221TU1.D	12/21/10 09:14
Calibration Check	0L35605-CCV1	1221CC1.D	12/21/10 09:41
LCS	0L21007-BS1	1221LS1.D	12/21/10 10:26
Blank	0L21007-BLK1	1221BL1.D	12/21/10 13:24
BCHMS-GW-006-1210	1012153-04RE1	1215304.D	12/21/10 13:54
BCHMS-GW-010-1210	1012153-09RE1	1215309.D	12/21/10 14:23
LCS Dup	0L21007-BSD1	1221LD1.D	12/21/10 20:47

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW 003</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Lab File ID: <u>1221TU1.D</u>	Injection Date: <u>12/21/10</u>
Instrument ID: <u>MS-VOA3</u>	Injection Time: <u>09:14</u>
Sequence: <u>0L35605</u>	Lab Sample ID: <u>0L35605-TUN1</u>

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	21.9	PASS
75	30 - 60% of 95	48.8	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.21	PASS
173	Less than 2% of 174	0.872	PASS
174	50 - 200% of 95	67.4	PASS
175	5 - 9% of 174	6.92	PASS
176	95 - 101% of 174	98.8	PASS
177	5 - 9% of 176	6.66	PASS

# CONTINUING CALIBRATION CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Instrument ID: MS-VOA3  
 Lab File ID: 1221CC1.D  
 Sequence: 0L35605  
 Lab Sample ID: 0L35605-CCV1

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Calibration: 0349001  
 Calibration Date: 12/13/10 16:19  
 Injection Date: 12/21/10  
 Injection Time: 09:41

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	200.0	207.7	7.141267E-02	0.0741504		3.8	20
Benzene	A	100.0	103.8	0.8693201	0.9025689		3.8	20
Bromochloromethane	A	100.0	107.7	0.1138001	0.1225882		7.7	20
Bromodichloromethane	A	100.0	115.8	0.3079503	0.3567222		15.8	20
Bromoform	L	100.0	104.7	0.293042	0.3790294	0.1	4.7	20
Bromomethane	L	100.0	67.47	0.1212823	9.453917E-02		-32.5	20 *
2-Butanone	L	200.0	180.7	9.313386E-02	9.611493E-02		-9.6	20
Carbon disulfide	A	100.0	114.8	0.622022	0.7139055		14.8	20
Carbon tetrachloride	A	100.0	111.9	0.297389	0.3327504		11.9	20
Chlorobenzene	A	100.0	99.70	1.346299	1.342307	0.3	-0.3	20
Chloroethane	A	100.0	103.5	0.1180991	0.1221906		3.5	20
Chloroform	A	100.0	109.7	0.4195814	0.4603007		9.7	20
Chloromethane	A	100.0	96.98	0.2231797	0.2164335	0.1	-3.0	20
Cyclohexane	A	100.0	103.5	0.3540904	0.3664921		3.5	20
Dibromochloromethane	A	100.0	123.8	0.4234378	0.5242512		23.8	20 *
1,2-Dibromo-3-chloropropane	L	100.0	100.0	0.1104092	0.1343662		0.0	20
1,2-Dibromoethane (EDB)	A	100.0	111.8	0.4713652	0.5270739		11.8	20
1,2-Dichlorobenzene	A	100.0	105.1	0.9980283	1.048548		5.1	20
1,3-Dichlorobenzene	A	100.0	108.0	0.9972267	1.076735		8.0	20
1,4-Dichlorobenzene	A	100.0	102.2	1.050547	1.073999		2.2	20
Dichlorodifluoromethane	L	100.0	112.6	0.196978	0.2471012		12.6	20
1,1-Dichloroethane	A	100.0	108.4	0.3970346	0.4304077	0.1	8.4	20
1,2-Dichloroethane	A	100.0	109.6	0.3618399	0.3967166		9.6	20
1,1-Dichloroethene	A	100.0	102.0	0.1848867	0.1885674		2.0	20
cis-1,2-Dichloroethene	A	100.0	107.0	0.2321957	0.2483438		7.0	20
trans-1,2-Dichloroethene	A	100.0	102.4	0.2143621	0.2195053		2.4	20
1,2-Dichloropropane	A	100.0	103.5	0.2374431	0.2458544		3.5	20
cis-1,3-Dichloropropene	A	100.0	108.1	0.3885811	0.4201651		8.1	20
trans-1,3-Dichloropropene	A	100.0	114.3	0.6394469	0.7309005		14.3	20

## CONTINUING CALIBRATION CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA3

Calibration: 0349001

Lab File ID: 1221CC1.D

Calibration Date: 12/13/10 16:19

Sequence: 0L35605

Injection Date: 12/21/10

Lab Sample ID: 0L35605-CCV1

Injection Time: 09:41

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Ethylbenzene	A	100.0	101.8	2.227076	2.267536		1.8	20
2-Hexanone	A	200.0	218.4	0.3017843	0.3296058		9.2	20
Isopropylbenzene	A	100.0	100.8	1.851838	1.866282		0.8	20
Methylene chloride	A	100.0	101.3	0.2407745	0.2439958		1.3	20
Methyl Acetate	A	100.0	105.7	0.1660347	0.1755711		5.7	20
Methylcyclohexane	A	100.0	103.7	0.2943189	0.30532		3.7	20
4-Methyl-2-pentanone	A	200.0	207.4	0.2314244	0.2399701		3.7	20
Methyl t-Butyl Ether	A	100.0	106.6	0.6135292	0.6543814		6.7	20
Styrene	A	100.0	102.4	1.518926	1.554926		2.4	20
1,1,2,2-Tetrachloroethane	A	100.0	102.4	0.5410486	0.5538319	0.3	2.4	20
Tetrachloroethene	A	100.0	106.0	0.4850248	0.5141907		6.0	20
Toluene	A	100.0	102.7	1.183272	1.215464		2.7	20
1,2,3-Trichlorobenzene	A	100.0	104.6	0.5813175	0.607771		4.6	20
1,2,4-Trichlorobenzene	A	100.0	105.0	0.6601423	0.6932552		5.0	20
1,1,2-Trichloroethane	A	100.0	106.9	0.3486098	0.3725531		6.9	20
1,1,1-Trichloroethane	A	100.0	113.0	0.3704875	0.4187148		13.0	20
Trichloroethene	A	100.0	104.4	0.257347	0.268717		4.4	20
Trichlorofluoromethane	A	100.0	115.7	0.3662788	0.4238736		15.7	20
1,1,2-Trichloro-1,2,2-trifluoroethane	A	100.0	114.2	0.1889	0.2156694		14.2	20
Vinyl chloride	A	100.0	106.8	0.1909905	0.2039479		6.8	20
m,p-Xylene	A	200.0	184.2	1.82297	1.678522		-7.9	20
o-Xylene	A	100.0	101.4	1.885961	1.913043		1.4	20
Bromofluorobenzene	A	30.00	29.60	0.9798013	0.9666211		-1.3	20
Dibromofluoromethane	A	30.00	30.16	0.2604259	0.261795		0.5	20
1,2-Dichloroethane-d4	A	30.00	28.95	5.522748E-02	5.328772E-02		-3.5	20
Toluene-d8	A	30.00	29.61	2.048621	2.022058		-1.3	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# PREPARATION BATCH SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L21007 Batch Matrix: Water

Preparation: 5030B

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L21007-BLK1	12/21/10 00:00	5.00	5.00
LCS	0L21007-BS1	12/21/10 00:00	5.00	5.00
LCS Dup	0L21007-BSD1	12/21/10 00:00	5.00	5.00
BCHMS-GW-006-1210	1012153-04RE1	12/21/10 00:00	5.00	5.00
BCHMS-GW-010-1210	1012153-09RE1	12/21/10 00:00	5.00	5.00





# ANALYSIS SEQUENCE SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35702

Instrument: MS-BNA1

Calibration: 0362004

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L35702-TUN1	SEQ-TUN1.D	12/18/10 18:01
Cal Standard	0L35702-CAL1	SEQ-CAL1.D	12/18/10 18:25
Cal Standard	0L35702-CAL2	SEQ-CAL2.D	12/18/10 18:53
Cal Standard	0L35702-CAL3	SEQ-CAL3.D	12/18/10 19:21
Cal Standard	0L35702-CAL4	SEQ-CAL4.D	12/18/10 19:49
Cal Standard	0L35702-CAL5	SEQ-CAL5.D	12/18/10 20:17
Cal Standard	0L35702-CAL6	SEQ-CAL6.D	12/18/10 20:45
Cal Standard	0L35702-CAL7	SEQ-CAL7.D	12/18/10 21:12
Cal Standard	0L35702-CAL8	SEQ-CAL8.D	12/18/10 21:40
Cal Standard	0L35702-CAL9	SEQ-CAL9.D	12/18/10 22:08
Cal Standard	0L35702-CALA	SEQ-CALA.D	12/18/10 22:36
Cal Standard	0L35702-CALB	SEQ-CALB.D	12/18/10 23:03
Cal Standard	0L35702-CALC	SEQ-CALC.D	12/18/10 23:31
Cal Standard	0L35702-CALD	SEQ-CALD.D	12/18/10 23:59
Cal Standard	0L35702-CALE	SEQ-CALE.D	12/19/10 00:26
Cal Standard	0L35702-CALF	SEQ-CALF.D	12/19/10 00:54
Cal Standard	0L35702-CALG	SEQ-CALG.D	12/19/10 01:21
Cal Standard	0L35702-CALH	SEQ-CALH.D	12/19/10 01:49
Cal Standard	0L35702-CALI	SEQ-CALI.D	12/19/10 02:16
Cal Standard	0L35702-CALJ	SEQ-CALJ.D	12/19/10 02:43
Cal Standard	0L35702-CALK	SEQ-CALK.D	12/19/10 03:11
Initial Cal Check	0L35702-ICV1	SEQ-ICV1.D	12/19/10 03:38
Initial Cal Check	0L35702-ICV2	SEQ-ICV2.D	12/19/10 04:05
MS Tune	0L35702-TUN2	SEQ-TUN1.D	12/22/10 15:21
Initial Cal Check	0L35702-ICV3	SEQ-ICV3.D	12/22/10 17:47

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_003</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Lab File ID: <u>SEQ-TUN1.D</u>	Injection Date: <u>12/18/10</u>
Instrument ID: <u>MS-BNA1</u>	Injection Time: <u>18:01</u>
Sequence: <u>0L35702</u>	Lab Sample ID: <u>0L35702-TUN1</u>

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	32.2	PASS
68	Less than 2% of 69	0	PASS
69	Less than 200% of 198	53.3	PASS
70	Less than 2% of 69	0.467	PASS
127	40 - 60% of 198	41.1	PASS
197	Less than 1% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.15	PASS
275	10 - 30% of 198	17.1	PASS
365	1 - 200% of 198	2.04	PASS
441	0.001 - 100% of 443	73	PASS
442	40 - 200% of 198	48.8	PASS
443	17 - 23% of 442	19.6	PASS

## INITIAL CALIBRATION DATA (Continued)

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362004

Instrument: MS-BNA1

Matrix: Water

Calibration Date: 12/18/2010 6:01:14PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
3,3'-Dichlorobenzidine	0.3561386	13.74607	14.00913	1.853712E-02			15	
Acenaphthene	1.158212	14.29994	9.0893	6.863698E-02			CCC (30)	
Acenaphthylene	1.891103	11.23367	8.8751	5.824126E-02			15	
Acetophenone	1.491383	10.09705	5.9345	3.533817E-02			15	
Aniline	1.814495	8.712649	5.0947	0.1061016			15	
Anthracene	1.061887	11.50453	10.9213	4.956257E-02			15	
Atrazine	0.2180254	7.203989	10.55367	8.976036E-02			15	
Benzaldehyde	1.030353	13.61947	4.9567	3.368076E-02			15	
Benzidine	0.5252211	18.55429	12.485	2.056556E-02		0.9933875	0.99	
Benzo(a)anthracene	1.118893	3.791406	14.0132	2.141849E-02			15	
Benzo(a)pyrene	1.004932	13.00593	15.629	4.329081E-02			CCC (30)	
Benzo(b)fluoranthene	1.095916	8.306519	15.26688	3.715737E-02			15	
Benzo(g,h,i)perylene	0.7554867	8.063221	17.10713	0.0522402			15	
Benzoic acid	0.1412433	53.15864	6.784714	0.7332219		0.9914056	0.99	
Benzo(k)fluoranthene	1.257887	9.666064	15.29933	5.295254E-02			15	
Benzyl alcohol	0.7414899	10.21932	5.6468	0.1073651			15	
1,1-Biphenyl	1.474029	14.84233	8.37475	5.904494E-02			15	
4-Bromophenyl-phenylether	0.2483237	5.338416	10.3185	3.246559E-02			15	
Butylbenzylphthalate	0.6249408	8.167292	13.416	1.919134E-02			15	
Caprolactam	0.1169195	11.68998	7.443	0.305151			15	
Carbazole	0.9724047	9.694398	11.1316	0.0413017			15	
4-Chloro-3-methylphenol	0.2456948	8.186533	7.667444	6.040722E-02			CCC (30)	
4-Chloroaniline	0.4601545	4.713541	7.0595	5.065824E-02			15	
Bis(2-chloroethoxy)methane	0.4619607	7.81565	6.7025	0.1092234			15	
Bis(2-chloroethyl)ether	1.28714	6.76312	5.1907	0.1134156			15	
2,2'-Oxybis-1-chloropropane	2.042516	9.79913	5.8131	7.244105E-02			15	
2-Chloronaphthalene	1.215542	11.50754	8.3821	6.350785E-02			15	
2-Chlorophenol	1.374726	6.133877	5.2255	4.223994E-02			15	
4-Chlorophenyl phenyl ether	0.6417793	9.286445	9.7325	3.644994E-02			15	
Chrysene	1.17179	10.57778	14.054	5.595642E-02			15	
Dibenz(a,h)anthracene	0.6639614	17.30742	16.8445	4.159269E-02	0.9971858		0.995	
Dibenzofuran	1.589755	11.16221	9.2984	5.427527E-02			15	

## INITIAL CALIBRATION DATA (Continued)

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362004

Instrument: MS-BNA1

Matrix: Water

Calibration Date: 12/18/2010 6:01:14PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Di-n-butylphthalate	1.363182	9.847762	11.615	3.805597E-02			15	
1,4-Dichlorobenzene	1.479315	6.637054	5.482	5.867455E-02			CCC (30)	
1,3-Dichlorobenzene	1.504545	7.519585	5.3966	3.201965E-02			15	
1,2-Dichlorobenzene	1.412773	12.37593	5.6559	2.437379E-02			15	
2,6-Dichlorophenol	0.3126971	8.052077	7.060778	3.303276E-02			15	
2,4-Dichlorophenol	0.3078656	5.011903	6.8009	7.686769E-02			CCC (30)	
Diethylphthalate	1.341364	11.18514	9.635286	5.717583E-02			15	
2,4-Dimethylphenol	0.3101379	4.520934	6.601222	0.1065945			15	
Dimethyl phthalate	1.287341	10.51153	8.78025	0.1342213			15	
4,6-Dinitro-2-methylphenol	0.1397071	54.78978	9.802286	0.1288307	0.9974412		0.995	
2,4-Dinitrophenol	0.1320693	45.30627	9.150857	8.498765E-02		0.9967507	SPCC (0.05)	
2,4-Dinitrotoluene	0.3776842	15.36291	9.312125	0.1020181	0.9956458		0.995	
2,6-Dinitrotoluene	0.3424953	11.08749	8.831625	0.1060668			15	
Di-n-octylphthalate	1.294711	22.16871	14.90171	1.483539E-02	0.9968773		CCC (30)	
1,4-Dioxane	0.5733591	6.453446	2.0327	0.2131685			15	
1,2-Diphenylhydrazine	0.8207919	9.68715	9.922	5.045649E-02			15	
Bis(2-ethylhexyl)phthalate	0.7833096	11.84578	14.13843	2.094629E-02			15	
Fluoranthene	1.101978	10.57929	12.2919	4.765323E-02			CCC (30)	
Fluorene	1.2694	10.2778	9.71	4.731986E-02			15	
2-Fluorobiphenyl	1.335882	12.27071	8.2631	3.988867E-02			15	
2-Fluorophenol	1.268175	6.87474	4.0035	8.664369E-02			15	
Hexachlorobenzene	0.2933641	7.288823	10.3804	0.0528239			15	
Hexachlorobutadiene	0.2005462	5.992858	7.151111	4.343702E-02			CCC (30)	
Hexachlorocyclopentadiene	0.3593771	12.41399	8.011125	1.441213E-02			SPCC (0.05)	
Hexachloroethane	0.5747469	8.915124	6.0437	3.935189E-02			15	
Indeno(1,2,3-cd)pyrene	0.842443	13.64429	16.82237	3.707439E-02			15	
Isophorone	0.7029211	4.306087	6.425375	0.119834			15	
1-Methylnaphthalene	0.5420947	8.67814	7.9182	5.411778E-02			15	
2-Methylnaphthalene	0.5291538	8.531085	7.8047	0.0352344			15	
2-Methylphenol	1.091088	9.197364	5.7956	0.0658841			15	
3-Methylphenol	1.084733	9.91475	5.9863	0.1342931			15	
4-Methylphenol	1.084733	9.91475	5.9863	0.1342931			15	

## INITIAL CALIBRATION DATA (Continued)

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO.JM17

Calibration: 0362004

Instrument: MS-BNA1

Matrix: Water

Calibration Date: 12/18/2010 6:01:14PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Naphthalene	0.9686374	11.16622	6.971667	6.066103E-02			15	
4-Nitroaniline	0.274633	9.568577	9.758375	0.1446812			15	
3-Nitroaniline	0.3791395	9.873316	9.024375	0.1126044			15	
2-Nitroaniline	0.2983051	14.13219	8.5225	7.053652E-02			15	
Nitrobenzene	0.3472915	3.633122	6.13175	9.818485E-02			15	
Nitrobenzenc-d5	0.3378513	6.332655	6.1091	7.110683E-02			15	
4-Nitrophenol	0.1686802	19.4349	9.266571	0.1040449	0.9970496		SPCC (0.05)	
2-Nitrophenol	0.2082983	14.5601	6.50725	0.0466271			CCC (30)	
N-Nitrosodimethylamine	0.5404532	9.072787	2.409222	0.188559			15	
N-Nitrosodiphenylamine	0.6683254	8.697682	9.8824	8.152393E-02			CCC (30)	
N-Nitroso-di-n-propylamine	0.8216103	11.46883	5.965444	0.1554278			SPCC (0.05)	
Pentachlorophenol	0.1576577	25.81916	10.62586	3.551647E-02	0.9974932		CCC (30)	
Phenanthrene	1.079608	13.62309	10.8597	5.063865E-02			15	
Phenol	1.69783	8.697325	5.1152	0.2175782			CCC (30)	
Phenol-d6	1.469798	9.364761	5.1008	0.2206916			15	
Pyrene	1.346	12.31461	12.5586	4.906139E-02			15	
Pyridine	1.496743	12.09185	2.411	0.3967962			15	
Terphenyl-d14	0.8665087	7.049283	12.79067	3.376688E-02			15	
1,2,4,5-Tetrachlorobenzene	0.3428869	12.96305	8.011125	2.979072E-02			15	
2,3,4,6-Tetrachlorophenol	0.3542598	13.64632	9.464375	4.771478E-02			15	
2,4,6-Tribromophenol	0.153572	11.17439	10.00625	0.0738055			15	
1,2,4-Trichlorobenzene	0.3787939	9.82728	6.8905	5.750424E-02			15	
2,4,6-Trichlorophenol	0.3935328	13.39547	8.159555	4.247603E-02			CCC (30)	
2,4,5-Trichlorophenol	0.4280447	8.85813	8.197625	5.860378E-02			15	
3,3'-Dichlorobenzidine	0.3561386	13.74607	14.00913	1.853712E-02			15	
Acenaphthene	1.158212	14.29994	9.0893	6.863698E-02			CCC (30)	
Acenaphthylene	1.891103	11.23367	8.8751	5.824126E-02			15	
Acetophenone	1.491383	10.09705	5.9345	3.533817E-02			15	
Aniline	1.814495	8.712649	5.0947	0.1061016			15	
Anthracene	1.061887	11.50453	10.9213	4.956257E-02			15	
Atrazine	0.2180254	7.203989	10.55367	8.976036E-02			15	
Benzaldehyde	1.030353	13.61947	4.9567	3.368076E-02			15	

## INITIAL CALIBRATION DATA (Continued)

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362004

Instrument: MS-BNA1

Matrix: Water

Calibration Date: 12/18/2010 6:01:14PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Benzidine	0.5252211	18.55429	12.485	2.056556E-02		0.9933875	0.99	
Benzo(a)anthracene	1.118893	3.791406	14.0132	2.141849E-02			15	
Benzo(a)pyrene	1.004932	13.00593	15.629	4.329081E-02			CCC (30)	
Benzo(b)fluoranthene	1.095916	8.306519	15.26688	3.715737E-02			15	
Benzo(g,h,i)perylene	0.7554867	8.063221	17.10713	0.0522402			15	
Benzoic acid	0.1412433	53.15864	6.784714	0.7332219		0.9914056	0.99	
Benzo(k)fluoranthene	1.257887	9.666064	15.29933	5.295254E-02			15	
Benzyl alcohol	0.7414899	10.21932	5.6468	0.1073651			15	
1,1-Biphenyl	1.474029	14.84233	8.37475	5.904494E-02			15	
4-Bromophenyl-phenylether	0.2483237	5.338416	10.3185	3.246559E-02			15	
Butylbenzylphthalate	0.6249408	8.167292	13.416	1.919134E-02			15	
Caprolactam	0.1169195	11.68998	7.443	0.305151			15	
Carbazole	0.9724047	9.694398	11.1316	0.0413017			15	
4-Chloro-3-methylphenol	0.2456948	8.186533	7.667444	6.040722E-02			CCC (30)	
4-Chloroaniline	0.4601545	4.713541	7.0595	5.065824E-02			15	
Bis(2-chloroethoxy)methane	0.4619607	7.81565	6.7025	0.1092234			15	
Bis(2-chloroethyl)ether	1.28714	6.76312	5.1907	0.1134156			15	
2,2'-Oxybis-1-chloropropane	2.042516	9.79913	5.8131	7.244105E-02			15	
2-Chloronaphthalene	1.215542	11.50754	8.3821	6.350785E-02			15	
2-Chlorophenol	1.374726	6.133877	5.2255	4.223994E-02			15	
4-Chlorophenyl phenyl ether	0.6417793	9.286445	9.7325	3.644994E-02			15	
Chrysene	1.17179	10.57778	14.054	5.595642E-02			15	
Dibenz(a,h)anthracene	0.6639614	17.30742	16.8445	4.159269E-02	0.9971858		0.995	
Dibenzofuran	1.589755	11.16221	9.2984	5.427527E-02			15	
Di-n-butylphthalate	1.363182	9.847762	11.615	3.805597E-02			15	
1,4-Dichlorobenzene	1.479315	6.637054	5.482	5.867455E-02			CCC (30)	
1,3-Dichlorobenzene	1.504545	7.519585	5.3966	3.201965E-02			15	
1,2-Dichlorobenzene	1.412773	12.37593	5.6559	2.437379E-02			15	
2,6-Dichlorophenol	0.3126971	8.052077	7.060778	3.303276E-02			15	
2,4-Dichlorophenol	0.3078656	5.011903	6.8009	7.686769E-02			CCC (30)	
Diethylphthalate	1.341364	11.18514	9.635286	5.717583E-02			15	
2,4-Dimethylphenol	0.3101379	4.520934	6.601222	0.1065945			15	

## INITIAL CALIBRATION DATA (Continued)

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362004

Instrument: MS-BNA1

Matrix: Water

Calibration Date: 12/18/2010 6:01:14PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dimethyl phthalate	1.287341	10.51153	8.78025	0.1342213			15	
4,6-Dinitro-2-methylphenol	0.1397071	34.78978	9.802286	0.1288307	0.9974412		0.995	
2,4-Dinitrophenol	0.1320693	45.30627	9.150857	8.498765E-02		0.9967507	SPCC (0.05)	
2,4-Dinitrotoluene	0.3776842	15.36291	9.312125	0.1020181	0.9956458		0.995	
2,6-Dinitrotoluene	0.3424953	11.08749	8.831625	0.1060668			15	
Di-n-octylphthalate	1.294711	22.16871	14.90171	1.483539E-02	0.9968773		CCC (30)	
1,4-Dioxane	0.5733591	6.453446	2.0327	0.2131685			15	
1,2-Diphenylhydrazine	0.8207919	9.68715	9.922	5.045649E-02			15	
Bis(2-ethylhexyl)phthalate	0.7833096	11.84578	14.13843	2.094629E-02			15	
Fluoranthene	1.101978	10.57929	12.2919	4.765323E-02			CCC (30)	
Fluorene	1.2694	10.2778	9.71	4.731986E-02			15	
2-Fluorobiphenyl	1.335882	12.27071	8.2631	3.988867E-02			15	
2-Fluorophenol	1.268175	6.87474	4.0035	8.664369E-02			15	
Hexachlorobenzene	0.2933641	7.288823	10.3804	0.0528239			15	
Hexachlorobutadiene	0.2005462	5.992858	7.151111	4.343702E-02			CCC (30)	
Hexachlorocyclopentadiene	0.3593771	12.41399	8.011125	1.441213E-02			SPCC (0.05)	
Hexachloroethane	0.5747469	8.915124	6.0437	3.935189E-02			15	
Indeno(1,2,3-cd)pyrene	0.842443	13.64429	16.82237	3.707439E-02			15	
Isophorone	0.7029211	4.306087	6.425375	0.119834			15	
1-Methylnaphthalene	0.5420947	8.67814	7.9182	5.411778E-02			15	
2-Methylnaphthalene	0.5291538	8.531085	7.8047	0.0352344			15	
2-Methylphenol	1.091088	9.197364	5.7956	0.0658841			15	
3-Methylphenol	1.084733	9.91475	5.9863	0.1342931			15	
4-Methylphenol	1.084733	9.91475	5.9863	0.1342931			15	
Naphthalene	0.9686374	11.16622	6.971667	6.066103E-02			15	
4-Nitroaniline	0.274633	9.568577	9.758375	0.1446812			15	
3-Nitroaniline	0.3791395	9.873316	9.024375	0.1126044			15	
2-Nitroaniline	0.2983051	14.13219	8.5225	7.053652E-02			15	
Nitrobenzene	0.3472915	3.633122	6.13175	9.818485E-02			15	
Nitrobenzene-d5	0.3378513	6.332655	6.1091	7.110683E-02			15	
4-Nitrophenol	0.1686802	19.4349	9.266571	0.1040449	0.9970496		SPCC (0.05)	
2-Nitrophenol	0.2082983	14.5601	6.50725	0.0466271			CCC (30)	

**INITIAL CALIBRATION DATA (Continued)**

**SW8270C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362004

Instrument: MS-BNA1

Matrix: Water

Calibration Date: 12/18/2010 6:01:14PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
N-Nitrosodimethylamine	0.5404532	9.072787	2.409222	0.188559			15	
N-Nitrosodiphenylamine	0.6683254	8.697682	9.8824	8.152393E-02			CCC (30)	
N-Nitroso-di-n-propylamine	0.8216103	11.46883	5.965444	0.1554278			SPCC (0.05)	
Pentachlorophenol	0.1576577	25.81916	10.62586	3.551647E-02	0.9974932		CCC (30)	
Phenanthrene	1.079608	13.62309	10.8597	5.063865E-02			15	
Phenol	1.69783	8.697325	5.1152	0.2175782			CCC (30)	
Phenol-d6	1.469798	9.364761	5.1008	0.2206916			15	
Pyrene	1.346	12.31461	12.5586	4.906139E-02			15	
Pyridine	1.496743	12.09185	2.411	0.3967962			15	
Terphenyl-d14	0.8665087	7.049283	12.79067	3.376688E-02			15	
1,2,4,5-Tetrachlorobenzene	0.3428869	12.96305	8.011125	2.979072E-02			15	
2,3,4,6-Tetrachlorophenol	0.3542598	13.64632	9.464375	4.771478E-02			15	
2,4,6-Tribromophenol	0.153572	11.17439	10.00625	0.0738055			15	
1,2,4-Trichlorobenzene	0.3787939	9.82728	6.8905	5.750424E-02			15	
2,4,6-Trichlorophenol	0.3935328	13.39547	8.159555	4.247603E-02			CCC (30)	
2,4,5-Trichlorophenol	0.4280447	8.85813	8.197625	5.860378E-02			15	

# INITIAL CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-ICV1.D

Calibration Date: 12/18/10 18:01

Sequence: 0L35702

Injection Date: 12/19/10

Lab Sample ID: 0L35702-ICV1

Injection Time: 03:38

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Acetophenone	A	50.00	48.29	1.491383	1.440482		-3.4	20
Atrazine	A	50.00	43.66	0.2180254	0.1903756		-12.7	20
Benzaldehyde	A	50.00	43.80	1.030353	0.9025793		-12.4	20
1,1-Biphenyl	A	50.00	41.87	1.474029	1.234423		-16.3	20
4-Bromophenyl-phenylether	A	50.00	52.00	0.2483237	0.2582525		4.0	20
Butylbenzylphthalate	A	50.00	55.16	0.6249408	0.6894927		10.3	20
Carbazole	A	50.00	50.47	0.9724047	0.9816045		0.9	20
4-Chloro-3-methylphenol	A	50.00	55.48	0.2456948	0.2726439		11.0	20
4-Chloroaniline	A	50.00	48.94	0.4601545	0.4504155		-2.1	20
Bis(2-chloroethoxy)methane	A	50.00	47.74	0.4619607	0.441091		-4.5	20
Bis(2-chloroethyl)ether	A	50.00	51.32	1.28714	1.321147		2.6	20
2,2'-Oxybis-1-chloropropane	A	50.00	47.57	2.042516	1.94344		-4.9	20
2-Chloronaphthalene	A	50.00	54.25	1.215542	1.318904		8.5	20
2-Chlorophenol	A	50.00	49.73	1.374726	1.3673		-0.5	20
4-Chlorophenyl phenyl ether	A	50.00	46.50	0.6417793	0.5968565		-7.0	20
Dibenzofuran	A	50.00	47.75	1.589755	1.518321		-4.5	20
Di-n-butylphthalate	A	50.00	54.83	1.363182	1.494901		9.7	20
2,4-Dichlorophenol	A	50.00	54.75	0.3078656	0.3371061		9.5	20
Diethylphthalate	A	50.00	49.32	1.341364	1.323204		-1.4	20
2,4-Dimethylphenol	A	50.00	49.35	0.3101379	0.3060793		-1.3	20
Dimethyl phthalate	A	50.00	52.04	1.287341	1.339882		4.1	20
4,6-Dinitro-2-methylphenol	L	50.00	51.10	0.1397071	0.165349		2.2	20
2,4-Dinitrophenol	Q	50.00	54.92	0.1320693	0.1707222	0.05	9.8	20
2,4-Dinitrotoluene	L	50.00	51.53	0.3776842	0.4129243		3.1	20
2,6-Dinitrotoluene	A	50.00	52.01	0.3424953	0.3562346		4.0	20
Di-n-octylphthalate	L	50.00	57.02	1.294711	1.608453		14.0	20
1,4-Dioxane	A	50.00	0.000	0.5733591				20
Bis(2-ethylhexyl)phthalate	A	50.00	57.09	0.7833096	0.8943582		14.2	20
Hexachlorobenzene	A	50.00	48.70	0.2933641	0.2857311		-2.6	20

# INITIAL CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-ICV1.D

Calibration Date: 12/18/10 18:01

Sequence: 0L35702

Injection Date: 12/19/10

Lab Sample ID: 0L35702-ICV1

Injection Time: 03:38

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Hexachlorobutadiene	A	50.00	51.47	0.2005462	0.2064304		2.9	20
Hexachlorocyclopentadiene	A	50.00	54.18	0.3593771	0.389443	0.05	8.4	20
Hexachloroethane	A	50.00	51.46	0.5747469	0.5915205		2.9	20
Isophorone	A	50.00	53.56	0.7029211	0.7529099		7.1	20
2-Methylphenol	A	50.00	49.81	1.091088	1.086859		-0.4	20
4-Methylphenol	A	50.00	53.59	1.084733	1.162538		7.2	20
Naphthalene	A	50.00	49.60	0.9686374	0.9609029		-0.8	20
4-Nitroaniline	A	50.00	41.61	0.274633	0.2285265		-16.8	20
3-Nitroaniline	A	50.00	45.94	0.3791395	0.3483779		-8.1	20
Nitrobenzene	A	50.00	53.85	0.3472915	0.3740237		7.7	20
4-Nitrophenol	L	50.00	50.26	0.1686802	0.1824608	0.05	0.5	20
N-Nitrosodiphenylamine	A	50.00	47.07	0.6683254	0.6291773		-5.9	20
N-Nitroso-di-n-propylamine	A	50.00	53.45	0.8216103	0.8782842	0.05	6.9	20
Pentachlorophenol	L	50.00	51.10	0.1576577	0.1778665		2.2	20
Phenol	A	50.00	48.02	1.69783	1.630678		-4.0	20
1,2,4,5-Tetrachlorobenzene	A	50.00	45.13	0.3428869	0.3094861		-9.7	20
2,3,4,6-Tetrachlorophenol	A	50.00	51.52	0.3542598	0.3650355		3.0	20
2,4,6-Trichlorophenol	A	50.00	56.73	0.3935328	0.4465026		13.5	20
2,4,5-Trichlorophenol	A	50.00	54.52	0.4280447	0.4667338		9.0	20
2-Fluorobiphenyl	A	50.00	45.32	1.335882	1.21073		-9.4	20
2-Fluorophenol	A	100.0	95.12	1.268175	1.206292		-4.9	20
Nitrobenzene-d5	A	50.00	54.60	0.3378513	0.3689055		9.2	20
Phenol-d6	A	100.0	92.37	1.469798	1.357598		-7.6	20
Terphenyl-d14	A	50.00	48.13	0.8665087	0.8340641		-3.7	20
2,4,6-Tribromophenol	A	100.0	103.4	0.153572	0.1587617		3.4	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# INITIAL CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-ICV2.D

Calibration Date: 12/18/10 18:01

Sequence: 0L35702

Injection Date: 12/19/10

Lab Sample ID: 0L35702-ICV2

Injection Time: 04:05

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
3,3'-Dichlorobenzidine	A	50.00	52.75	0.3561386	0.3757319		5.5	20
1,4-Dioxane	A	50.00	52.44	0.5733591	0.60133		4.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: SEQ-TUN1.D

Injection Date: 12/22/10

Instrument ID: MS-BNA1

Injection Time: 15:21

Sequence: 0L35702

Lab Sample ID: 0L35702-TUN2

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	35.4	PASS
68	Less than 2% of 69	0	PASS
69	Less than 200% of 198	58.2	PASS
70	Less than 2% of 69	0.498	PASS
127	40 - 60% of 198	42.2	PASS
197	Less than 1% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.78	PASS
275	10 - 30% of 198	17.9	PASS
365	1 - 200% of 198	1.91	PASS
441	0.001 - 100% of 443	72.5	PASS
442	40 - 200% of 198	51.3	PASS
443	17 - 23% of 442	21.8	PASS

# INITIAL CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-ICV3.D

Calibration Date: 12/18/10 18:01

Sequence: 0L35702

Injection Date: 12/22/10

Lab Sample ID: 0L35702-ICV3

Injection Time: 17:47

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Caprolactam	A	50.00	58.27	0.1169195	0.1362487		16.5	20
2-Nitroaniline	A	50.00	52.06	0.2983051	0.3106067		4.1	20
2-Nitrophenol	A	50.00	53.21	0.2082983	0.22166		6.4	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# ANALYSIS SEQUENCE SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35610

Instrument: MS-BNA1

Calibration: 0362004

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L35610-TUN1	SEQ-TUN1.D	12/21/10 10:23
Calibration Check	0L35610-CCV1	SEQ-CCV1.D	12/21/10 10:46
LCS	0L16011-BS1	L16011L1.D	12/21/10 17:11
LCS Dup	0L16011-BSD1	L16011L2.D	12/21/10 17:38
Blank	0L16011-BLK1	L16011B1.D	12/21/10 18:06

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: SEQ-TUN1.D

Injection Date: 12/21/10

Instrument ID: MS-BNA1

Injection Time: 10:23

Sequence: 0L35610

Lab Sample ID: 0L35610-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	34.1	PASS
68	Less than 2% of 69	0	PASS
69	Less than 200% of 198	53.2	PASS
70	Less than 2% of 69	0.337	PASS
127	40 - 60% of 198	40.8	PASS
197	Less than 1% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.04	PASS
275	10 - 30% of 198	20.1	PASS
365	1 - 200% of 198	2.44	PASS
441	0.001 - 100% of 443	71.9	PASS
442	40 - 200% of 198	57.8	PASS
443	17 - 23% of 442	20.6	PASS

# CONTINUING CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Instrument ID: MS-BNA1  
 Lab File ID: SEQ-CCV1.D  
 Sequence: 0L35610  
 Lab Sample ID: 0L35610-CCV1

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Calibration: 0362004  
 Calibration Date: 12/18/10 18:01  
 Injection Date: 12/21/10  
 Injection Time: 10:46

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
3,3'-Dichlorobenzidine	A	50.00	39.38	0.3561386	0.2805013		-21.2	20 *
Acetophenone	A	50.00	46.89	1.491383	1.398676		-6.2	20
Atrazine	A	50.00	53.04	0.2180254	0.231265		6.1	20
Benzaldehyde	A	50.00	13.30	1.030353	0.2741842		-73.4	20 *
1,1-Biphenyl	A	50.00	46.15	1.474029	1.360624		-7.7	20
4-Bromophenyl-phenylether	A	50.00	58.42	0.2483237	0.2901381		16.8	20
Butylbenzylphthalate	A	50.00	57.31	0.6249408	0.7163264		14.6	20
Caprolactam	A	50.00	54.76	0.1169195	0.128059		9.5	20
Carbazole	A	50.00	48.59	0.9724047	0.945026		-2.8	20
4-Chloro-3-methylphenol	A	50.00	52.08	0.2456948	0.2559047		4.2	20
4-Chloroaniline	A	50.00	50.17	0.4601545	0.4617241		0.3	20
Bis(2-chloroethoxy)methane	A	50.00	47.52	0.4619607	0.4390989		-4.9	20
Bis(2-chloroethyl)ether	A	50.00	48.44	1.28714	1.247057		-3.1	20
2,2'-Oxybis-1-chloropropane	A	50.00	48.09	2.042516	1.964654		-3.8	20
2-Chloronaphthalene	A	50.00	44.19	1.215542	1.074211		-11.6	20
2-Chlorophenol	A	50.00	49.22	1.374726	1.353351		-1.6	20
4-Chlorophenyl phenyl ether	A	50.00	49.31	0.6417793	0.6329554		-1.4	20
Dibenzofuran	A	50.00	53.89	1.589755	1.713352		7.8	20
Di-n-butylphthalate	A	50.00	55.19	1.363182	1.504757		10.4	20
2,4-Dichlorophenol	A	50.00	55.35	0.3078656	0.3408296		10.7	20
Diethylphthalate	A	50.00	50.96	1.341364	1.367165		1.9	20
2,4-Dimethylphenol	A	50.00	49.66	0.3101379	0.3080434		-0.7	20
Dimethyl phthalate	A	50.00	50.54	1.287341	1.301203		1.1	20
4,6-Dinitro-2-methylphenol	L	50.00	47.68	0.1397071	0.151875		-4.6	20
2,4-Dinitrophenol	Q	50.00	46.76	0.1320693	0.1366591	0.05	-6.5	20
2,4-Dinitrotoluene	L	50.00	60.49	0.3776842	0.48613		21.0	20 *
2,6-Dinitrotoluene	A	50.00	53.08	0.3424953	0.3636102		6.2	20
Di-n-octylphthalate	L	50.00	56.90	1.294711	1.604815		13.8	20
1,4-Dioxane	A	50.00	52.08	0.5733591	0.597234		4.2	20

# CONTINUING CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-CCV1.D

Calibration Date: 12/18/10 18:01

Sequence: 0L35610

Injection Date: 12/21/10

Lab Sample ID: 0L35610-CCV1

Injection Time: 10:46

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Bis(2-ethylhexyl)phthalate	A	50.00	54.95	0.7833096	0.8608839		9.9	20
Hexachlorobenzene	A	50.00	50.80	0.2933641	0.2980796		1.6	20
Hexachlorobutadiene	A	50.00	52.23	0.2005462	0.2094748		4.5	20
Hexachlorocyclopentadiene	A	50.00	47.89	0.3593771	0.3442452	0.05	-4.2	20
Hexachloroethane	A	50.00	47.77	0.5747469	0.5491626		-4.5	20
Isophorone	A	50.00	51.06	0.7029211	0.7178717		2.1	20
2-Methylphenol	A	50.00	47.50	1.091088	1.03649		-5.0	20
4-Methylphenol	A	50.00	50.53	1.084733	1.096236		1.1	20
Naphthalene	A	50.00	47.58	0.9686374	0.9218455		-4.8	20
4-Nitroaniline	A	50.00	75.86	0.274633	0.4166789		51.7	20 *
3-Nitroaniline	A	50.00	55.27	0.3791395	0.4191235		10.5	20
2-Nitroaniline	A	50.00	62.32	0.2983051	0.3718026		24.6	20 *
Nitrobenzene	A	50.00	51.04	0.3472915	0.3545396		2.1	20
4-Nitrophenol	L	50.00	55.02	0.1686802	0.2015303	0.05	10.0	20
2-Nitrophenol	A	50.00	57.42	0.2082983	0.239225		14.8	20
N-Nitrosodiphenylamine	A	50.00	41.31	0.6683254	0.5522134		-17.4	20
N-Nitroso-di-n-propylamine	A	50.00	55.30	0.8216103	0.9086341	0.05	10.6	20
Pentachlorophenol	L	50.00	58.73	0.1576577	0.2078207		17.5	20
Phenol	A	50.00	43.12	1.69783	1.464041		-13.8	20
1,2,4,5-Tetrachlorobenzene	A	50.00	43.97	0.3428869	0.3015098		-12.1	20
2,3,4,6-Tetrachlorophenol	A	50.00	52.32	0.3542598	0.3706919		4.6	20
2,4,6-Trichlorophenol	A	50.00	55.51	0.3935328	0.4369382		11.0	20
2,4,5-Trichlorophenol	A	50.00	56.85	0.4280447	0.4867208		13.7	20
2-Fluorobiphenyl	A	50.00	48.63	1.335882	1.2992		-2.7	20
2-Fluorophenol	A	100.0	92.40	1.268175	1.171752		-7.6	20
Nitrobenzene-d5	A	50.00	55.46	0.3378513	0.3747257		10.9	20
Phenol-d6	A	100.0	87.94	1.469798	1.292606		-12.1	20
Terphenyl-d14	A	50.00	53.00	0.8665087	0.9184857		6.0	20
2,4,6-Tribromophenol	A	100.0	105.1	0.153572	0.1614314		5.1	20

# PREPARATION BATCH SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L16011 Batch Matrix: Water

Preparation: EXT\_3510

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L16011-BLK1	12/16/10 17:40	1,000.00	0.50
LCS	0L16011-BS1	12/16/10 17:40	1,000.00	0.50
LCS Dup	0L16011-BSD1	12/16/10 17:40	1,000.00	0.50
BCHMS-GW-012-1210	1012153-11	12/16/10 17:40	1,070.00	0.50

## ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG: CTOJM17KW\_003  
 Client: Tetra Tech NUS, Inc. (T010) Project: NAS Key West CTO JM17  
 Matrix: Laboratory ID: 0L16011-BLK1 File ID: L16011B1.D  
 Sampled: Prepared: Analyzed: 12/21/10 18:06  
 Solids: Preparation: EXT 3510 Dilution:  
 Batch: 0L16011 Sequence: 0L35610 Calibration: 0362004 Instrument: MS-BNAI

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
91-94-1	3,3'-Dichlorobenzidine		0.500	1.25	2.50	Y U
98-86-2	Acetophenone		0.625	1.25	2.50	U
1912-24-9	Atrazine		0.625	1.25	2.50	U
100-52-7	Benzaldehyde		0.625	1.25	2.50	Y U
92-52-4	1,1-Biphenyl		0.500	1.25	2.50	U
101-55-3	4-Bromophenyl-phenylether		0.625	1.25	2.50	U
85-68-7	Butylbenzylphthalate		0.625	1.25	2.50	Q U
105-60-2	Caprolactam		0.625	1.25	2.50	U
86-74-8	Carbazole		0.625	1.25	2.50	Q U
59-50-7	4-Chloro-3-methylphenol		0.625	1.25	2.50	U
106-47-8	4-Chloroaniline		0.625	1.25	2.50	U
111-91-1	Bis(2-chloroethoxy)methane		0.625	1.25	2.50	U
111-44-4	Bis(2-chloroethyl)ether		0.625	1.25	2.50	U
108-60-1	2,2'-Oxybis-1-chloropropane		0.500	1.25	2.50	U
91-58-7	2-Chloronaphthalene		0.625	1.25	2.50	U
95-57-8	2-Chlorophenol		0.625	1.25	2.50	U
7005-72-3	4-Chlorophenyl phenyl ether		0.625	1.25	2.50	U
132-64-9	Dibenzofuran		0.625	1.25	2.50	U
84-74-2	Di-n-butylphthalate		0.625	1.25	2.50	Q U
120-83-2	2,4-Dichlorophenol		0.300	1.25	2.50	Q U
84-66-2	Diethylphthalate		0.625	1.25	2.50	U
105-67-9	2,4-Dimethylphenol		2.50	5.00	10.0	U
131-11-3	Dimethyl phthalate		0.625	1.25	2.50	U
534-52-1	4,6-Dinitro-2-methylphenol		2.50	5.00	10.0	U
51-28-5	2,4-Dinitrophenol		6.25	12.5	25.0	U
121-14-2	2,4-Dinitrotoluene		0.625	1.25	2.50	X U
606-20-2	2,6-Dinitrotoluene		0.625	1.25	2.50	U
117-84-0	Di-n-octylphthalate		0.625	1.25	2.50	Q U
123-91-1	1,4-Dioxane		0.625	1.25	2.50	U
117-81-7	Bis(2-ethylhexyl)phthalate		0.625	1.25	2.50	Q U
118-74-1	Hexachlorobenzene		0.625	1.25	2.50	U
87-68-3	Hexachlorobutadiene		0.625	1.25	2.50	U
77-47-4	Hexachlorocyclopentadiene		0.625	1.25	2.50	U
67-72-1	Hexachloroethane		0.625	1.25	2.50	U
78-59-1	Isophorone		0.625	1.25	2.50	U
95-48-7	2-Methylphenol		0.625	1.25	2.50	U
106-44-5	4-Methylphenol		0.625	1.25	2.50	U
91-20-3	Naphthalene		0.625	1.25	2.50	U
100-01-6	4-Nitroaniline		1.50	5.00	10.0	Q, X U
99-09-2	3-Nitroaniline		1.50	5.00	10.0	U



# ANALYSIS SEQUENCE SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36204

Instrument: MS-BNA1

Calibration: 0362004

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	0L36204-CCV1	SEQ-CCV1.D	12/23/10 12:58
MS Tune	0L36204-TUN3	SEQ-TUN3.D	12/23/10 23:42
Calibration Check	0L36204-CCV3	SEQ-CCV3.D	12/24/10 00:05
BCHMS-GW-012-1210	1012153-11	1215311.D	12/24/10 01:00

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: SEQ-TUN3.D

Injection Date: 12/23/10

Instrument ID: MS-BNA1

Injection Time: 23:42

Sequence: 0L36204

Lab Sample ID: 0L36204-TUN3

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	35.1	PASS
68	Less than 2% of 69	0	PASS
69	Less than 200% of 198	57.7	PASS
70	Less than 2% of 69	0.232	PASS
127	40 - 60% of 198	42.9	PASS
197	Less than 1% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.2	PASS
275	10 - 30% of 198	20.8	PASS
365	1 - 200% of 198	2.7	PASS
441	0.001 - 100% of 443	72.1	PASS
442	40 - 200% of 198	65.9	PASS
443	17 - 23% of 442	20.9	PASS

# CONTINUING CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-CCV3.D

Calibration Date: 12/18/10 18:01

Sequence: 0L36204

Injection Date: 12/24/10

Lab Sample ID: 0L36204-CCV3

Injection Time: 00:05

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
3,3'-Dichlorobenzidine	A	50.00	44.42	0.3561386	0.3163965		-11.2	20
Acetophenone	A	50.00	45.79	1.491383	1.365877		-8.4	20
Atrazine	A	50.00	46.22	0.2180254	0.2015358		-7.6	20
Benzaldehyde	A	50.00	38.90	1.030353	0.8016411		-22.2	20 *
1,1-Biphenyl	A	50.00	37.96	1.474029	1.119213		-24.1	20 *
4-Bromophenyl-phenylether	A	50.00	50.87	0.2483237	0.2526332		1.7	20
Butylbenzylphthalate	A	50.00	63.79	0.6249408	0.7973242		27.6	20 *
Caprolactam	A	50.00	52.86	0.1169195	0.1236071		5.7	20
Carbazole	A	50.00	50.46	0.9724047	0.9813487		0.9	20
4-Chloro-3-methylphenol	A	50.00	60.26	0.2456948	0.2961089		20.5	20 *
4-Chloroaniline	A	50.00	47.27	0.4601545	0.4350432		-5.5	20
Bis(2-chloroethoxy)methane	A	50.00	47.74	0.4619607	0.4410801		-4.5	20
Bis(2-chloroethyl)ether	A	50.00	48.47	1.28714	1.247755		-3.1	20
2,2'-Oxybis-1-chloropropane	A	50.00	43.29	2.042516	1.7683		-13.4	20
2-Chloronaphthalene	A	50.00	48.04	1.215542	1.167947		-3.9	20
2-Chlorophenol	A	50.00	46.74	1.374726	1.285215		-6.5	20
4-Chlorophenyl phenyl ether	A	50.00	44.92	0.6417793	0.5765315		-10.2	20
Dibenzofuran	A	50.00	43.58	1.589755	1.385473		-12.8	20
Di-n-butylphthalate	A	50.00	48.77	1.363182	1.329542		-2.5	20
2,4-Dichlorophenol	A	50.00	53.33	0.3078656	0.3283672		6.7	20
Diethylphthalate	A	50.00	49.58	1.341364	1.330242		-0.8	20
2,4-Dimethylphenol	A	50.00	52.90	0.3101379	0.3281049		5.8	20
Dimethyl phthalate	A	50.00	46.13	1.287341	1.187625		-7.7	20
4,6-Dinitro-2-methylphenol	L	50.00	50.20	0.1397071	0.1618015		0.4	20
2,4-Dinitrophenol	Q	50.00	53.74	0.1320693	0.1657098	0.05	7.5	20
2,4-Dinitrotoluene	L	50.00	49.06	0.3776842	0.3927907		-1.9	20
2,6-Dinitrotoluene	A	50.00	53.44	0.3424953	0.3660608		6.9	20
Di-n-octylphthalate	L	50.00	63.24	1.294711	1.795167		26.5	20 *
1,4-Dioxane	A	50.00	44.92	0.5733591	0.5151053		-10.2	20

# CONTINUING CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-CCV3.D

Calibration Date: 12/18/10 18:01

Sequence: 0L36204

Injection Date: 12/24/10

Lab Sample ID: 0L36204-CCV3

Injection Time: 00:05

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Bis(2-ethylhexyl)phthalate	A	50.00	63.19	0.7833096	0.9900138		26.4	20 *
Hexachlorobenzene	A	50.00	45.98	0.2933641	0.2698037		-8.0	20
Hexachlorobutadiene	A	50.00	48.30	0.2005462	0.1937516		-3.4	20
Hexachlorocyclopentadiene	A	50.00	46.30	0.3593771	0.3327885	0.05	-7.4	20
Hexachloroethane	A	50.00	45.34	0.5747469	0.521187		-9.3	20
Isophorone	A	50.00	48.73	0.7029211	0.6850706		-2.5	20
2-Methylphenol	A	50.00	45.59	1.091088	0.9948585		-8.8	20
4-Methylphenol	A	50.00	48.81	1.084733	1.059016		-2.4	20
Naphthalene	A	50.00	47.61	0.9686374	0.9223964		-4.8	20
4-Nitroaniline	A	50.00	65.39	0.274633	0.3591446		30.8	20 *
3-Nitroaniline	A	50.00	49.03	0.3791395	0.371784		-1.9	20
2-Nitroaniline	A	50.00	63.02	0.2983051	0.3759984		26.0	20 *
Nitrobenzene	A	50.00	51.93	0.3472915	0.3607306		3.9	20
4-Nitrophenol	L	50.00	50.84	0.1686802	0.1847986	0.05	1.7	20
2-Nitrophenol	A	50.00	54.95	0.2082983	0.2289197		9.9	20
N-Nitrosodiphenylamine	A	50.00	47.11	0.6683254	0.6297605		-5.8	20
N-Nitroso-di-n-propylamine	A	50.00	51.12	0.8216103	0.840051	0.05	2.2	20
Pentachlorophenol	L	50.00	50.63	0.1576577	0.1760267		1.3	20
Phenol	A	50.00	43.80	1.69783	1.487185		-12.4	20
1,2,4,5-Tetrachlorobenzene	A	50.00	39.89	0.3428869	0.2735578		-20.2	20 *
2,3,4,6-Tetrachlorophenol	A	50.00	50.45	0.3542598	0.357427		0.9	20
2,4,6-Trichlorophenol	A	50.00	47.08	0.3935328	0.3705441		-5.8	20
2,4,5-Trichlorophenol	A	50.00	48.19	0.4280447	0.4125285		-3.6	20
2-Fluorobiphenyl	A	50.00	46.31	1.335882	1.237256		-7.4	20
2-Fluorophenol	A	100.0	92.39	1.268175	1.171622		-7.6	20
Nitrobenzene-d5	A	50.00	54.69	0.3378513	0.3695729		9.4	20
Phenol-d6	A	100.0	88.93	1.469798	1.307069		-11.1	20
Terphenyl-d14	A	50.00	50.10	0.8665087	0.8682354		0.2	20
2,4,6-Tribromophenol	A	100.0	99.86	0.153572	0.1533606		-0.1	20

## ANALYSIS SEQUENCE SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 1A00304

Instrument: MS-BNA1

Calibration: 0362004

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	1A00304-TUN1	SEQ-TUN1.D	12/30/10 15:30
Calibration Check	1A00304-CCV1	SEQ-CCV1.D	12/30/10 15:53
Blank	0L16008-BLK1	L16008B1.D	12/30/10 16:26
LCS	0L16008-BS1	L16008L1.D	12/30/10 16:53
LCS Dup	0L16008-BSD1	L16008L2.D	12/30/10 17:21
BCHMS-FD001-1210	1012153-01	1215301.D	12/30/10 22:25
BCHMS-GW-004-1210	1012153-02	1215302.D	12/30/10 22:53
BCHMS-GW-005-1210	1012153-03	1215303.D	12/30/10 23:21
BCHMS-GW-006-1210	1012153-04	1215304.D	12/30/10 23:49
BCHMS-GW-007-1210	1012153-05	1215305.D	12/31/10 00:17
BCHMS-FD002-1210	1012153-06	1215306.D	12/31/10 00:45
BCHMS-GW-008-1210	1012153-07	1215307.D	12/31/10 01:13
BCHMS-GW-009D-1210	1012153-08	1215308.D	12/31/10 01:41
BCHMS-GW-010-1210	1012153-09	1215309.D	12/31/10 02:09
BCHMS-GW-011-1210	1012153-10	1215310.D	12/31/10 02:37

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: SEQ-TUN1.D

Injection Date: 12/30/10

Instrument ID: MS-BNA1

Injection Time: 15:30

Sequence: 1A00304

Lab Sample ID: 1A00304-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	42	PASS
68	Less than 2% of 69	0	PASS
69	Less than 200% of 198	63.9	PASS
70	Less than 2% of 69	0	PASS
127	40 - 60% of 198	43.4	PASS
197	Less than 1% of 198	0	PASS
198	Base peak, 100% relative abundance	100.	PASS
199	5 - 9% of 198	6.81	PASS
275	10 - 30% of 198	18	PASS
365	1 - 200% of 198	1.59	PASS
441	0.001 - 100% of 443	73.3	PASS
442	40 - 200% of 198	43	PASS
443	17 - 23% of 442	20	PASS

# CONTINUING CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-CCV1.D

Calibration Date: 12/18/10 18:01

Sequence: 1A00304

Injection Date: 12/30/10

Lab Sample ID: 1A00304-CCV1

Injection Time: 15:53

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
3,3'-Dichlorobenzidine	A	50.00	39.73	0.3561386	0.2829973		-20.5	20 *
Acetophenone	A	50.00	42.57	1.491383	1.269801		-14.9	20
Atrazine	A	50.00	45.11	0.2180254	0.1967218		-9.8	20
Benzaldehyde	A	50.00	8.997	1.030353	0.1854088		-82.0	20 *
1,1-Biphenyl	A	50.00	42.85	1.474029	1.263352		-14.3	20
4-Bromophenyl-phenylether	A	50.00	52.91	0.2483237	0.2627674		5.8	20
Butylbenzylphthalate	A	50.00	56.28	0.6249408	0.7034642		12.6	20
Caprolactam	A	50.00	44.98	0.1169195	0.1051929		-10.0	20
Carbazole	A	50.00	43.03	0.9724047	0.836819		-13.9	20
4-Chloro-3-methylphenol	A	50.00	52.08	0.2456948	0.2559214		4.2	20
4-Chloroaniline	A	50.00	43.68	0.4601545	0.4019665		-12.6	20
Bis(2-chloroethoxy)methane	A	50.00	43.17	0.4619607	0.3988686		-13.7	20
Bis(2-chloroethyl)ether	A	50.00	41.13	1.28714	1.058866		-17.7	20
2,2'-Oxybis-1-chloropropane	A	50.00	44.26	2.042516	1.808073		-11.5	20
2-Chloronaphthalene	A	50.00	40.72	1.215542	0.9898713		-18.6	20
2-Chlorophenol	A	50.00	42.78	1.374726	1.176153		-14.4	20
4-Chlorophenyl phenyl ether	A	50.00	39.62	0.6417793	0.5085707		-20.8	20 *
Dibenzofuran	A	50.00	46.29	1.589755	1.471942		-7.4	20
Di-n-butylphthalate	A	50.00	48.13	1.363182	1.312193		-3.7	20
2,4-Dichlorophenol	A	50.00	54.46	0.3078656	0.3353261		8.9	20
Diethylphthalate	A	50.00	43.95	1.341364	1.17905		-12.1	20
2,4-Dimethylphenol	A	50.00	45.16	0.3101379	0.280094		-9.7	20
Dimethyl phthalate	A	50.00	49.85	1.287341	1.283395		-0.3	20
4,6-Dinitro-2-methylphenol	L	50.00	49.53	0.1397071	0.1591728		-0.9	20
2,4-Dinitrophenol	Q	50.00	50.20	0.1320693	0.1508463	0.05	0.4	20
2,4-Dinitrotoluene	L	50.00	48.68	0.3776842	0.3896376		-2.6	20
2,6-Dinitrotoluene	A	50.00	47.57	0.3424953	0.3258529		-4.9	20
Di-n-octylphthalate	L	50.00	58.68	1.294711	1.658451		17.4	20
1,4-Dioxane	A	50.00	50.43	0.5733591	0.5782533		0.9	20

# CONTINUING CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-CCV1.D

Calibration Date: 12/18/10 18:01

Sequence: 1A00304

Injection Date: 12/30/10

Lab Sample ID: 1A00304-CCV1

Injection Time: 15:53

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Bis(2-ethylhexyl)phthalate	A	50.00	55.88	0.7833096	0.8754116		11.8	20
Hexachlorobenzene	A	50.00	46.01	0.2933641	0.2699737		-8.0	20
Hexachlorobutadiene	A	50.00	46.95	0.2005462	0.1883136		-6.1	20
Hexachlorocyclopentadiene	A	50.00	41.72	0.3593771	0.299876	0.05	-16.6	20
Hexachloroethane	A	50.00	47.85	0.5747469	0.5499899		-4.3	20
Isophorone	A	50.00	49.08	0.7029211	0.6899288		-1.8	20
2-Methylphenol	A	50.00	43.76	1.091088	0.9549251		-12.5	20
4-Methylphenol	A	50.00	45.10	1.084733	0.9783726		-9.8	20
Naphthalene	A	50.00	48.92	0.9686374	0.9476538		-2.2	20
4-Nitroaniline	A	50.00	46.68	0.274633	0.256375		-6.6	20
3-Nitroaniline	A	50.00	43.31	0.3791395	0.328448		-13.4	20
2-Nitroaniline	A	50.00	57.19	0.2983051	0.3412004		14.4	20
Nitrobenzene	A	50.00	52.50	0.3472915	0.3646928		5.0	20
4-Nitrophenol	L	50.00	42.99	0.1686802	0.1532793	0.05	-14.0	20
2-Nitrophenol	A	50.00	55.75	0.2082983	0.2322692		11.5	20
N-Nitrosodiphenylamine	A	50.00	42.23	0.6683254	0.5644591		-15.5	20
N-Nitroso-di-n-propylamine	A	50.00	50.46	0.8216103	0.8290903	0.05	0.9	20
Pentachlorophenol	L	50.00	59.97	0.1576577	0.2126781		19.9	20
Phenol	A	50.00	41.44	1.69783	1.407254		-17.1	20
1,2,4,5-Tetrachlorobenzene	A	50.00	38.14	0.3428869	0.2615531		-23.7	20 *
2,3,4,6-Tetrachlorophenol	A	50.00	43.58	0.3542598	0.3088032		-12.8	20
2,4,6-Trichlorophenol	A	50.00	47.62	0.3935328	0.3747908		-4.8	20
2,4,5-Trichlorophenol	A	50.00	48.49	0.4280447	0.4151556		-3.0	20
2-Fluorobiphenyl	A	50.00	46.75	1.335882	1.24904		-6.5	20
2-Fluorophenol	A	100.0	92.17	1.268175	1.168896		-7.8	20
Nitrobenzene-d5	A	50.00	52.57	0.3378513	0.3552115		5.1	20
Phenol-d6	A	100.0	87.10	1.469798	1.280241		-12.9	20
Terphenyl-d14	A	50.00	43.39	0.8665087	0.751981		-13.2	20
2,4,6-Tribromophenol	A	100.0	97.63	0.153572	0.1499296		-2.4	20







# ANALYSIS SEQUENCE SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 1A00305

Instrument: MS-BNA1

Calibration: 0362004

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	1A00305-TUN1	SEQ-TUN2.D	12/31/10 03:05
Calibration Check	1A00305-CCV1	SEQ-CCV2.D	12/31/10 03:29
Blank	0L16009-BLK1	L16009B1.D	12/31/10 03:57
LCS	0L16009-BS1	L16009L1.D	12/31/10 04:25
BCHMS-SO-002-1210	1012153-13	1215313.D	12/31/10 04:53
BCHMS-SO-004-1210	1012153-14	1215314.D	12/31/10 05:20
BCHMS-SO-007-1210	1012153-15	1215315.D	12/31/10 05:48
BCHMS-SO-012-1210	1012153-17	1215317.D	12/31/10 06:16
BCHMS-SO-013-1210	1012153-18	1215318.D	12/31/10 06:44
BCHMS-SO-014-1210	1012153-19	1215319.D	12/31/10 07:12
BCHMS-SO-015-1210	1012153-20	1215320.D	12/31/10 07:40
BCHMS-SO-016-1210	1012153-21	1215321.D	12/31/10 08:08
BCHMS-SO-017-1210	1012153-22	1215322.D	12/31/10 08:36
BCHMS-SO-018-1210	1012153-23	1215323.D	12/31/10 09:03
BCHMS-SO-019-1210	1012153-24	1215324.D	12/31/10 09:31
BCHMS-SO-020-1210	1012153-25	1215325.D	12/31/10 09:59
BCHMS-SO-021-1210	1012153-26	1215326.D	12/31/10 10:27
BCHMS-SO-024-1210	1012153-29	1215329.D	12/31/10 10:55
BCHMS-SO-028-1210	1012153-32	1215332.D	12/31/10 11:23
BCHMS-SO-002-1210	0L16009-MS1	1215313M.D	12/31/10 11:51
BCHMS-SO-002-1210	0L16009-MSD1	1215313S.D	12/31/10 12:19
BCHMS-SO-023-1210	1012153-28	1215328.D	12/31/10 12:47
BCHMS-SO-025-1210	1012153-30	1215330.D	12/31/10 13:15
BCHMS-SO-010-1210	1012153-16	1215316.D	12/31/10 13:43
BCHMS-SO-022-1210	1012153-27	1215327.D	12/31/10 14:11
BCHMS-SO-026-1210	1012153-31	1215331.D	12/31/10 14:39

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: SEQ-TUN2.D

Injection Date: 12/31/10

Instrument ID: MS-BNA1

Injection Time: 03:05

Sequence: 1A00305

Lab Sample ID: 1A00305-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	33.8	PASS
68	Less than 2% of 69	0.101	PASS
69	Less than 200% of 198	50.1	PASS
70	Less than 2% of 69	0.42	PASS
127	40 - 60% of 198	41.5	PASS
197	Less than 1% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.34	PASS
275	10 - 30% of 198	20.3	PASS
365	1 - 200% of 198	2.49	PASS
441	0.001 - 100% of 443	76.6	PASS
442	40 - 200% of 198	72.9	PASS
443	17 - 23% of 442	18.9	PASS

# CONTINUING CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-CCV2.D

Calibration Date: 12/18/10 18:01

Sequence: IA00305

Injection Date: 12/31/10

Lab Sample ID: IA00305-CCV1

Injection Time: 03:29

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
3,3'-Dichlorobenzidine	A	50.00	42.79	0.3561386	0.3047609		-14.4	20
Acetophenone	A	50.00	44.18	1.491383	1.317887		-11.6	20
Atrazine	A	50.00	47.84	0.2180254	0.2085979		-4.3	20
Benzaldehyde	A	50.00	7.871	1.030353	0.162193		-84.3	20 *
1,1-Biphenyl	A	50.00	44.31	1.474029	1.306313		-11.4	20
4-Bromophenyl-phenylether	A	50.00	51.17	0.2483237	0.2541164		2.3	20
Butylbenzylphthalate	A	50.00	60.45	0.6249408	0.7556059		20.9	20 *
Caprolactam	A	50.00	42.20	0.1169195	9.868146E-02		-15.6	20
Carbazole	A	50.00	48.66	0.9724047	0.9462854		-2.7	20
4-Chloro-3-methylphenol	A	50.00	51.70	0.2456948	0.2540615		3.4	20
4-Chloroaniline	A	50.00	43.51	0.4601545	0.4004422		-13.0	20
Bis(2-chloroethoxy)methane	A	50.00	44.68	0.4619607	0.4127715		-10.6	20
Bis(2-chloroethyl)ether	A	50.00	47.73	1.28714	1.228778		-4.5	20
2,2'-Oxybis-1-chloropropane	A	50.00	47.48	2.042516	1.93961		-5.0	20
2-Chloronaphthalene	A	50.00	42.60	1.215542	1.035778		-14.8	20
2-Chlorophenol	A	50.00	48.51	1.374726	1.333747		-3.0	20
4-Chlorophenyl phenyl ether	A	50.00	42.01	0.6417793	0.5392018		-16.0	20
Dibenzofuran	A	50.00	50.54	1.589755	1.606826		1.1	20
Di-n-butylphthalate	A	50.00	53.73	1.363182	1.464882		7.5	20
2,4-Dichlorophenol	A	50.00	51.00	0.3078656	0.3140187		2.0	20
Diethylphthalate	A	50.00	44.98	1.341364	1.206774		-10.0	20
2,4-Dimethylphenol	A	50.00	46.48	0.3101379	0.2883185		-7.0	20
Dimethyl phthalate	A	50.00	51.39	1.287341	1.323088		2.8	20
4,6-Dinitro-2-methylphenol	L	50.00	48.22	0.1397071	0.1540214		-3.6	20
2,4-Dinitrophenol	Q	50.00	46.87	0.1320693	0.1371161	0.05	-6.3	20
2,4-Dinitrotoluene	L	50.00	51.19	0.3776842	0.4101596		2.4	20
2,6-Dinitrotoluene	A	50.00	48.76	0.3424953	0.3340097		-2.5	20
Di-n-octylphthalate	L	50.00	59.10	1.294711	1.670893		18.2	20
1,4-Dioxane	A	50.00	56.48	0.5733591	0.6476499		13.0	20

## CONTINUING CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-CCV2.D

Calibration Date: 12/18/10 18:01

Sequence: 1A00305

Injection Date: 12/31/10

Lab Sample ID: 1A00305-CCV1

Injection Time: 03:29

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Bis(2-ethylhexyl)phthalate	A	50.00	63.49	0.7833096	0.994617		27.0	20 *
Hexachlorobenzene	A	50.00	46.48	0.2933641	0.2727286		-7.0	20
Hexachlorobutadiene	A	50.00	44.76	0.2005462	0.1795443		-10.5	20
Hexachlorocyclopentadiene	A	50.00	35.67	0.3593771	0.2563877	0.05	-28.7	20 *
Hexachloroethane	A	50.00	46.93	0.5747469	0.5394655		-6.1	20
Isophorone	A	50.00	49.80	0.7029211	0.7000615		-0.4	20
2-Methylphenol	A	50.00	47.34	1.091088	1.03316		-5.3	20
4-Methylphenol	A	50.00	46.03	1.084733	0.9987078		-7.9	20
Naphthalene	A	50.00	47.03	0.9686374	0.9111038		-5.9	20
4-Nitroaniline	A	50.00	52.26	0.274633	0.2870705		4.5	20
3-Nitroaniline	A	50.00	44.23	0.3791395	0.33536		-11.5	20
2-Nitroaniline	A	50.00	59.79	0.2983051	0.3567345		19.6	20
Nitrobenzene	A	50.00	47.03	0.3472915	0.3266543		-5.9	20
4-Nitrophenol	L	50.00	47.99	0.1686802	0.1733395	0.05	-4.0	20
2-Nitrophenol	A	50.00	55.02	0.2082983	0.2292212		10.0	20
N-Nitrosodiphenylamine	A	50.00	41.67	0.6683254	0.5570242		-16.7	20
N-Nitroso-di-n-propylamine	A	50.00	52.16	0.8216103	0.8570656	0.05	4.3	20
Pentachlorophenol	L	50.00	58.01	0.1576577	0.2050042		16.0	20
Phenol	A	50.00	46.37	1.69783	1.574556		-7.3	20
1,2,4,5-Tetrachlorobenzene	A	50.00	35.71	0.3428869	0.2449093		-28.6	20 *
2,3,4,6-Tetrachlorophenol	A	50.00	40.47	0.3542598	0.2867549		-19.1	20
2,4,6-Trichlorophenol	A	50.00	48.10	0.3935328	0.3785654		-3.8	20
2,4,5-Trichlorophenol	A	50.00	47.98	0.4280447	0.4107702		-4.0	20
2-Fluorobiphenyl	A	50.00	47.12	1.335882	1.259088		-5.7	20
2-Fluorophenol	A	100.0	98.33	1.268175	1.246969		-1.7	20
Nitrobenzene-d5	A	50.00	48.25	0.3378513	0.3260093		-3.5	20
Phenol-d6	A	100.0	96.18	1.469798	1.413723		-3.8	20
Terphenyl-d14	A	50.00	51.46	0.8665087	0.8917887		2.9	20
2,4,6-Tribromophenol	A	100.0	89.18	0.153572	0.1369505		-10.8	20

## PREPARATION BATCH SUMMARY

**SW8270C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L16009      Batch Matrix: Solid

Preparation: EXT 3546

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L16009-BLK1	12/16/10 13:25	15.00	1.00
LCS	0L16009-BS1	12/16/10 13:25	15.00	1.00
BCHMS-SO-002-1210	0L16009-MS1	12/16/10 13:25	15.10	1.00
BCHMS-SO-002-1210	0L16009-MSD1	12/16/10 13:25	15.00	1.00
BCHMS-SO-002-1210	1012153-13	12/16/10 13:25	15.30	1.00
BCHMS-SO-004-1210	1012153-14	12/16/10 13:25	15.00	1.00
BCHMS-SO-007-1210	1012153-15	12/16/10 13:25	15.20	1.00
BCHMS-SO-010-1210	1012153-16	12/16/10 13:25	15.20	1.00
BCHMS-SO-012-1210	1012153-17	12/16/10 13:25	15.10	1.00
BCHMS-SO-013-1210	1012153-18	12/16/10 13:25	15.20	1.00
BCHMS-SO-014-1210	1012153-19	12/16/10 13:25	15.00	1.00
BCHMS-SO-015-1210	1012153-20	12/16/10 13:25	15.30	1.00
BCHMS-SO-016-1210	1012153-21	12/16/10 13:25	15.20	1.00
BCHMS-SO-017-1210	1012153-22	12/16/10 13:25	15.10	1.00
BCHMS-SO-018-1210	1012153-23	12/16/10 13:25	15.10	1.00
BCHMS-SO-019-1210	1012153-24	12/16/10 13:25	15.10	1.00
BCHMS-SO-020-1210	1012153-25	12/16/10 13:25	15.10	1.00
BCHMS-SO-021-1210	1012153-26	12/16/10 13:25	15.20	1.00
BCHMS-SO-022-1210	1012153-27	12/16/10 13:25	15.40	1.00
BCHMS-SO-023-1210	1012153-28	12/16/10 13:25	15.20	1.00
BCHMS-SO-024-1210	1012153-29	12/16/10 13:25	15.30	1.00
BCHMS-SO-025-1210	1012153-30	12/16/10 13:25	15.00	1.00
BCHMS-SO-026-1210	1012153-31	12/16/10 13:25	15.10	1.00
BCHMS-SO-028-1210	1012153-32	12/16/10 13:25	15.40	1.00





# ANALYSIS SEQUENCE SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 1A00401

Instrument: MS-BNA1

Calibration: 0362004

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	1A00401-TUN1	SEQ-TUN2.D	12/29/10 17:09
Calibration Check	1A00401-CCV1	SEQ-CCV2.D	12/29/10 17:32
Blank	0L18006-BLK1	L18006B1.D	12/29/10 18:00
LCS	0L18006-BS1	L18006L1.D	12/29/10 18:28
BCHMS-SO-FD01-1210	1012153-33	1215333.D	12/29/10 21:43
BCHMS-SO-FD02-1210	1012153-34	1215334.D	12/29/10 22:11

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: SEQ-TUN2.D

Injection Date: 12/29/10

Instrument ID: MS-BNA1

Injection Time: 17:09

Sequence: 1A00401

Lab Sample ID: 1A00401-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	44.1	PASS
68	Less than 2% of 69	0	PASS
69	Less than 200% of 198	71	PASS
70	Less than 2% of 69	0.356	PASS
127	40 - 60% of 198	47.7	PASS
197	Less than 1% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.32	PASS
275	10 - 30% of 198	20.2	PASS
365	1 - 200% of 198	1.58	PASS
441	0.001 - 100% of 443	74.8	PASS
442	40 - 200% of 198	45.6	PASS
443	17 - 23% of 442	21	PASS

## CONTINUING CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-CCV2.D

Calibration Date: 12/18/10 18:01

Sequence: 1A00401

Injection Date: 12/29/10

Lab Sample ID: 1A00401-CCV1

Injection Time: 17:32

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
3,3'-Dichlorobenzidine	A	50.00	41.75	0.3561386	0.2973545		-16.5	20
Acetophenone	A	50.00	49.86	1.491383	1.487232		-0.3	20
Atrazine	A	50.00	44.32	0.2180254	0.193242		-11.4	20
Benzaldehyde	A	50.00	23.94	1.030353	0.4934352		-52.1	20 *
1,1-Biphenyl	A	50.00	41.27	1.474029	1.216773		-17.5	20
4-Bromophenyl-phenylether	A	50.00	49.80	0.2483237	0.2473072		-0.4	20
Butylbenzylphthalate	A	50.00	65.64	0.6249408	0.8203654		31.3	20 *
Caprolactam	A	50.00	58.36	0.1169195	0.1364806		16.7	20
Carbazole	A	50.00	53.26	0.9724047	1.035915		6.5	20
4-Chloro-3-methylphenol	A	50.00	56.94	0.2456948	0.2798096		13.9	20
4-Chloroaniline	A	50.00	44.69	0.4601545	0.4112918		-10.6	20
Bis(2-chloroethoxy)methane	A	50.00	50.13	0.4619607	0.4631942		0.3	20
Bis(2-chloroethyl)ether	A	50.00	46.95	1.28714	1.208727		-6.1	20
2,2'-Oxybis-1-chloropropane	A	50.00	45.10	2.042516	1.842357		-9.8	20
2-Chloronaphthalene	A	50.00	51.14	1.215542	1.24321		2.3	20
2-Chlorophenol	A	50.00	46.73	1.374726	1.284868		-6.5	20
4-Chlorophenyl phenyl ether	A	50.00	45.52	0.6417793	0.5843264		-9.0	20
Dibenzofuran	A	50.00	47.07	1.589755	1.496579		-5.9	20
Di-n-butylphthalate	A	50.00	54.48	1.363182	1.485413		9.0	20
2,4-Dichlorophenol	A	50.00	55.12	0.3078656	0.3393667		10.2	20
Diethylphthalate	A	50.00	56.25	1.341364	1.509008		12.5	20
2,4-Dimethylphenol	A	50.00	55.89	0.3101379	0.3466903		11.8	20
Dimethyl phthalate	A	50.00	49.04	1.287341	1.262735		-1.9	20
4,6-Dinitro-2-methylphenol	L	50.00	53.32	0.1397071	0.1740765		6.6	20
2,4-Dinitrophenol	Q	50.00	61.13	0.1320693	0.1976838	0.05	22.3	20 *
2,4-Dinitrotoluene	L	50.00	55.49	0.3776842	0.4453325		11.0	20
2,6-Dinitrotoluene	A	50.00	51.48	0.3424953	0.3526361		3.0	20
Di-n-octylphthalate	L	50.00	59.62	1.294711	1.686583		19.2	20
1,4-Dioxane	A	50.00	50.54	0.5733591	0.5796022		1.1	20

# CONTINUING CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-CCV2.D

Calibration Date: 12/18/10 18:01

Sequence: 1A00401

Injection Date: 12/29/10

Lab Sample ID: 1A00401-CCV1

Injection Time: 17:32

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Bis(2-ethylhexyl)phthalate	A	50.00	61.60	0.7833096	0.9649866		23.2	20 *
Hexachlorobenzene	A	50.00	47.87	0.2933641	0.2808534		-4.3	20
Hexachlorobutadiene	A	50.00	46.92	0.2005462	0.1881812		-6.2	20
Hexachlorocyclopentadiene	A	50.00	45.24	0.3593771	0.3251682	0.05	-9.5	20
Hexachloroethane	A	50.00	48.74	0.5747469	0.5603074		-2.5	20
Isophorone	A	50.00	53.45	0.7029211	0.7514469		6.9	20
2-Methylphenol	A	50.00	47.29	1.091088	1.032037		-5.4	20
4-Methylphenol	A	50.00	52.79	1.084733	1.145202		5.6	20
Naphthalene	A	50.00	51.38	0.9686374	0.9953064		2.8	20
4-Nitroaniline	A	50.00	49.12	0.274633	0.2697818		-1.8	20
3-Nitroaniline	A	50.00	48.38	0.3791395	0.3668392		-3.2	20
2-Nitroaniline	A	50.00	59.70	0.2983051	0.356153		19.4	20
Nitrobenzene	A	50.00	54.19	0.3472915	0.3764271		8.4	20
4-Nitrophenol	L	50.00	59.05	0.1686802	0.217699	0.05	18.1	20
2-Nitrophenol	A	50.00	57.63	0.2082983	0.2400947		15.3	20
N-Nitrosodiphenylamine	A	50.00	50.54	0.6683254	0.6755752		1.1	20
N-Nitroso-di-n-propylamine	A	50.00	53.10	0.8216103	0.8725927	0.05	6.2	20
Pentachlorophenol	L	50.00	54.17	0.1576577	0.1899249		8.3	20
Phenol	A	50.00	43.91	1.69783	1.491136		-12.2	20
1,2,4,5-Tetrachlorobenzene	A	50.00	45.00	0.3428869	0.308564		-10.0	20
2,3,4,6-Tetrachlorophenol	A	50.00	48.95	0.3542598	0.3468269		-2.1	20
2,4,6-Trichlorophenol	A	50.00	50.31	0.3935328	0.3959477		0.6	20
2,4,5-Trichlorophenol	A	50.00	48.63	0.4280447	0.4163298		-2.7	20
2-Fluorobiphenyl	A	50.00	44.16	1.335882	1.179803		-11.7	20
2-Fluorophenol	A	100.0	91.64	1.268175	1.162115		-8.4	20
Nitrobenzene-d5	A	50.00	57.66	0.3378513	0.3896405		15.3	20
Phenol-d6	A	100.0	95.59	1.469798	1.404972		-4.4	20
Terphenyl-d14	A	50.00	53.40	0.8665087	0.9253603		6.8	20
2,4,6-Tribromophenol	A	100.0	97.63	0.153572	0.1499349		-2.4	20

# PREPARATION BATCH SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L18006 Batch Matrix: Solid

Preparation: EXT 3546

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L18006-BLK1	12/20/10 10:30	15.00	1.00
LCS	0L18006-BS1	12/20/10 10:30	15.00	1.00
BCHMS-SO-FD01-1210	1012153-33	12/20/10 10:30	15.00	1.00
BCHMS-SO-FD02-1210	1012153-34	12/20/10 10:30	15.00	1.00

## ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG: CTOJM17KW\_003  
 Client: Tetra Tech NUS, Inc. (T010) Project: NAS Key West CTO JM17  
 Matrix: Laboratory ID: 0L18006-BLK1 File ID: L18006B1.D  
 Sampled: Prepared: Analyzed: 12/29/10 18:00  
 Solids: Preparation: EXT 3546 Dilution:  
 Batch: 0L18006 Sequence: 1A00401 Calibration: 0362004 Instrument: MS-BNA1

CAS NO.	COMPOUND	ONC. (ug/Kg we	DL	LOD	LOQ	Q
91-94-1	3,3'-Dichlorobenzidine		83.3	167	333	U
98-86-2	Acetophenone		83.3	167	333	U
1912-24-9	Atrazine		83.3	167	333	U
100-52-7	Benzaldehyde		83.3	167	333	Y U
92-52-4	1,1-Biphenyl		83.3	167	333	U
101-55-3	4-Bromophenyl-phenylether		83.3	167	333	U
85-68-7	Butylbenzylphthalate		83.3	167	333	X U
105-60-2	Caprolactam		83.3	167	333	Q U
86-74-8	Carbazole		83.3	167	333	U
59-50-7	4-Chloro-3-methylphenol		83.3	167	333	U
106-47-8	4-Chloroaniline		83.3	167	333	U
111-91-1	Bis(2-chloroethoxy)methane		83.3	167	333	U
111-44-4	Bis(2-chloroethyl)ether		83.3	167	333	U
108-60-1	2,2'-Oxybis-1-chloropropane		83.3	167	333	U
91-58-7	2-Chloronaphthalene		83.3	167	333	U
95-57-8	2-Chlorophenol		83.3	167	333	U
7005-72-3	4-Chlorophenyl phenyl ether		83.3	167	333	U
132-64-9	Dibenzofuran		83.3	167	333	U
84-74-2	Di-n-butylphthalate		83.3	167	333	U
120-83-2	2,4-Dichlorophenol		83.3	167	333	U
84-66-2	Diethylphthalate		83.3	167	333	U
105-67-9	2,4-Dimethylphenol		333	667	1300	U
131-11-3	Dimethyl phthalate		83.3	167	333	U
534-52-1	4,6-Dinitro-2-methylphenol		833	1670	3300	U
51-28-5	2,4-Dinitrophenol		833	1670	3300	X U
121-14-2	2,4-Dinitrotoluene		83.3	167	333	U
606-20-2	2,6-Dinitrotoluene		83.3	167	333	U
117-84-0	Di-n-octylphthalate		83.3	167	333	U
123-91-1	1,4-Dioxane		83.3	167	333	U
117-81-7	Bis(2-ethylhexyl)phthalate		83.3	167	333	X U
118-74-1	Hexachlorobenzene		83.3	167	333	U
87-68-3	Hexachlorobutadiene		83.3	167	333	U
77-47-4	Hexachlorocyclopentadiene		83.3	167	333	U
67-72-1	Hexachloroethane		83.3	167	333	U
78-59-1	Isophorone		83.3	167	333	U
95-48-7	2-Methylphenol		83.3	167	333	U
106-44-5	4-Methylphenol		83.3	167	333	U
91-20-3	Naphthalene		83.3	167	333	U
100-01-6	4-Nitroaniline		333	667	1300	U
99-09-2	3-Nitroaniline		333	667	1300	U



# ANALYSIS SEQUENCE SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 1A00601

Instrument: MS-BNA1

Calibration: 0362004

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	1A00601-TUN1	SEQ-TUN1.D	01/05/11 14:42
Calibration Check	1A00601-CCV1	SEQ-CCV1s.D	01/05/11 15:05
LCS	1A04005-BS1	A04005L1.D	01/05/11 16:04
Blank	1A04005-BLK1	A04005B1.D	01/05/11 16:59
BCHMS-SO-026-1210	1012153-31RE1	1215331R.D	01/05/11 21:35
BCHMS-SO-026-1210	1A04005-MS1	1215331M.D	01/05/11 22:03

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: SEQ-TUN1.D

Injection Date: 01/05/11

Instrument ID: MS-BNA1

Injection Time: 14:42

Sequence: 1A00601

Lab Sample ID: 1A00601-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	55.5	PASS
68	Less than 2% of 69	0	PASS
69	Less than 200% of 198	82.9	PASS
70	Less than 2% of 69	0.18	PASS
127	40 - 60% of 198	52.2	PASS
197	Less than 1% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.72	PASS
275	10 - 30% of 198	18.7	PASS
365	1 - 200% of 198	1.77	PASS
441	0.001 - 100% of 443	81.3	PASS
442	40 - 200% of 198	42.1	PASS
443	17 - 23% of 442	19.7	PASS

# CONTINUING CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Instrument ID: MS-BNA1  
 Lab File ID: SEQ-CCV1s.D  
 Sequence: 1A00601  
 Lab Sample ID: 1A00601-CCV1

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Calibration: 0362004  
 Calibration Date: 12/18/10 18:01  
 Injection Date: 01/05/11  
 Injection Time: 15:05

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
3,3'-Dichlorobenzidine	A	50.00	48.39	0.3561386	0.3446922		-3.2	20
Acetophenone	A	50.00	56.15	1.491383	1.674931		12.3	20
Atrazine	A	50.00	46.68	0.2180254	0.2035592		-6.6	20
Benzaldehyde	A	50.00	41.73	1.030353	0.8600188		-16.5	20
1,1-Biphenyl	A	50.00	47.75	1.474029	1.407691		-4.5	20
4-Bromophenyl-phenylether	A	50.00	43.21	0.2483237	0.2146164		-13.6	20
Butylbenzylphthalate	A	50.00	63.75	0.6249408	0.7968613		27.5	20 *
Caprolactam	A	50.00	55.61	0.1169195	0.1300299		11.2	20
Carbazole	A	50.00	57.76	0.9724047	1.123279		15.5	20
4-Chloro-3-methylphenol	A	50.00	56.67	0.2456948	0.2784757		13.3	20
4-Chloroaniline	A	50.00	45.58	0.4601545	0.4194847		-8.8	20
Bis(2-chloroethoxy)methane	A	50.00	53.25	0.4619607	0.4920279		6.5	20
Bis(2-chloroethyl)ether	A	50.00	58.57	1.28714	1.507883		17.1	20
2,2'-Oxybis-1-chloropropane	A	50.00	66.28	2.042516	2.707467		32.6	20 *
2-Chloronaphthalene	A	50.00	55.17	1.215542	1.341202		10.3	20
2-Chlorophenol	A	50.00	50.46	1.374726	1.387329		0.9	20
4-Chlorophenyl phenyl ether	A	50.00	41.83	0.6417793	0.5368997		-16.3	20
Dibenzofuran	A	50.00	46.20	1.589755	1.469066		-7.6	20
Di-n-butylphthalate	A	50.00	53.33	1.363182	1.454013		6.7	20
2,4-Dichlorophenol	A	50.00	50.73	0.3078656	0.3123429		1.5	20
Diethylphthalate	A	50.00	52.47	1.341364	1.407537		4.9	20
2,4-Dimethylphenol	A	50.00	56.61	0.3101379	0.3511202		13.2	20
Dimethyl phthalate	A	50.00	50.27	1.287341	1.29433		0.5	20
4,6-Dinitro-2-methylphenol	L	50.00	54.53	0.1397071	0.1788575		9.1	20
2,4-Dinitrophenol	Q	50.00	63.57	0.1320693	0.2085448	0.05	27.1	20 *
2,4-Dinitrotoluene	L	50.00	54.44	0.3776842	0.4367093		8.9	20
2,6-Dinitrotoluene	A	50.00	52.70	0.3424953	0.3609671		5.4	20
Di-n-octylphthalate	L	50.00	70.08	1.294711	2.000835		40.2	20 *
1,4-Dioxane	A	50.00	66.00	0.5733591	0.7568326		32.0	20 *

# CONTINUING CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-CCV1s.D

Calibration Date: 12/18/10 18:01

Sequence: 1A00601

Injection Date: 01/05/11

Lab Sample ID: 1A00601-CCV1

Injection Time: 15:05

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Bis(2-ethylhexyl)phthalate	A	50.00	64.73	0.7833096	1.014089		29.5	20 *
Hexachlorobenzene	A	50.00	45.61	0.2933641	0.267632		-8.8	20
Hexachlorobutadiene	A	50.00	40.90	0.2005462	0.1640592		-18.2	20
Hexachlorocyclopentadiene	A	50.00	52.86	0.3593771	0.3799102	0.05	5.7	20
Hexachloroethane	A	50.00	54.67	0.5747469	0.6283867		9.3	20
Isophorone	A	50.00	59.50	0.7029211	0.836435		19.0	20
2-Methylphenol	A	50.00	56.62	1.091088	1.235584		13.2	20
4-Methylphenol	A	50.00	58.33	1.084733	1.265389		16.7	20
Naphthalene	A	50.00	51.35	0.9686374	0.9948449		2.7	20
4-Nitroaniline	A	50.00	63.57	0.274633	0.3491466		27.1	20 *
3-Nitroaniline	A	50.00	54.26	0.3791395	0.4114574		8.5	20
2-Nitroaniline	A	50.00	82.38	0.2983051	0.4914652		64.8	20 *
Nitrobenzene	A	50.00	63.50	0.3472915	0.4410284		27.0	20 *
4-Nitrophenol	L	50.00	73.90	0.1686802	0.2772972	0.05	47.8	20 *
2-Nitrophenol	A	50.00	58.52	0.2082983	0.2438075		17.0	20
N-Nitrosodiphenylamine	A	50.00	54.09	0.6683254	0.7230344		8.2	20
N-Nitroso-di-n-propylamine	A	50.00	67.06	0.8216103	1.101874	0.05	34.1	20 *
Pentachlorophenol	L	50.00	55.28	0.1576577	0.1943004		10.6	20
Phenol	A	50.00	49.97	1.69783	1.696856		-0.06	20
1,2,4,5-Tetrachlorobenzene	A	50.00	40.38	0.3428869	0.2769157		-19.2	20
2,3,4,6-Tetrachlorophenol	A	50.00	48.41	0.3542598	0.3430112		-3.2	20
2,4,6-Trichlorophenol	A	50.00	47.80	0.3935328	0.3762313		-4.4	20
2,4,5-Trichlorophenol	A	50.00	44.49	0.4280447	0.3809065		-11.0	20
2-Fluorobiphenyl	A	50.00	46.51	1.335882	1.24266		-7.0	20
2-Fluorophenol	A	100.0	109.5	1.268175	1.389048		9.5	20
Nitrobenzene-d5	A	50.00	66.39	0.3378513	0.4485878		32.8	20 *
Phenol-d6	A	100.0	105.2	1.469798	1.546804		5.2	20
Terphenyl-d14	A	50.00	51.72	0.8665087	0.8962424		3.4	20
2,4,6-Tribromophenol	A	100.0	104.4	0.153572	0.1603004		4.4	20

# PREPARATION BATCH SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTOJM17

Batch: 1A04005 Batch Matrix: Solid

Preparation: EXT\_3546

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
BCHMS-SO-026-1210	I012153-31RE1	01/04/11 11:00	15.20	1.00
Blank	1A04005-BLK1	01/04/11 11:00	15.00	1.00
LCS	1A04005-BS1	01/04/11 11:00	15.00	1.00
BCHMS-SO-026-1210	1A04005-MS1	01/04/11 11:00	15.20	1.00





# ANALYSIS SEQUENCE SUMMARY

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35607

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0L35607-CAL1	010R0901.D	12/21/10 15:58
Cal Standard	0L35607-CAL1	010F0901.D	12/21/10 15:58
Cal Standard	0L35607-CAL2	011R1001.D	12/21/10 16:17
Cal Standard	0L35607-CAL2	011F1001.D	12/21/10 16:17
Cal Standard	0L35607-CAL3	012R1101.D	12/21/10 16:36
Cal Standard	0L35607-CAL3	012F1101.D	12/21/10 16:36
Cal Standard	0L35607-CAL4	013R1201.D	12/21/10 16:54
Cal Standard	0L35607-CAL4	013F1201.D	12/21/10 16:54
Cal Standard	0L35607-CAL5	014R1301.D	12/21/10 17:13
Cal Standard	0L35607-CAL5	014F1301.D	12/21/10 17:13
Cal Standard	0L35607-CAL6	015R1401.D	12/21/10 17:31
Cal Standard	0L35607-CAL6	015F1401.D	12/21/10 17:31
Initial Cal Check	0L35607-ICV1	016R1501.D	12/21/10 17:50
Initial Cal Check	0L35607-ICV1	016F1501.D	12/21/10 17:50



# INITIAL CALIBRATION CHECK

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 016F1501.D

Calibration Date: 12/23/10 15:56

Sequence: 0L35607

Injection Date: 12/21/10

Lab Sample ID: 0L35607-ICV1

Injection Time: 17:50

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Toxaphene (1)	A	1000	1071	1185.298	1268.998		7.1	20
Toxaphene (2)	A	1000	1050	484.1924	508.485		5.0	20
Toxaphene (3)	A	1000	1039	980.2943	1018.5		3.9	20
Toxaphene (4)	A	1000	1053	1118.753	1177.873		5.3	20
Toxaphene (5)	A	1000	1036	593.4394	614.842		3.6	20
Toxaphene (1) [2C]	A	1000	1058	1792.252	1895.322		5.8	20
Toxaphene (2) [2C]	A	1000	1033	569.9496	588.834		3.3	20
Toxaphene (3) [2C]	A	1000	990.0	982.375	972.543		-1.0	20
Toxaphene (4) [2C]	A	1000	1069	898.0156	960.209		6.9	20
Toxaphene (5) [2C]	A	1000	1089	501.7398	546.571		8.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## ANALYSIS SEQUENCE SUMMARY

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36212

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Performance Mix	0L36212-PEM1	002F0201.D	12/23/10 10:39
Performance Mix	0L36212-PEM1	002R0201.D	12/23/10 10:39
Cal Standard	0L36212-CAL1	003R0301.D	12/23/10 11:01
Cal Standard	0L36212-CAL1	003F0301.D	12/23/10 11:01
Cal Standard	0L36212-CAL2	004F0401.D	12/23/10 11:20
Cal Standard	0L36212-CAL2	004R0401.D	12/23/10 11:20
Cal Standard	0L36212-CAL3	005F0501.D	12/23/10 11:39
Cal Standard	0L36212-CAL3	005R0501.D	12/23/10 11:39
Cal Standard	0L36212-CAL4	006R0601.D	12/23/10 11:58
Cal Standard	0L36212-CAL4	006F0601.D	12/23/10 11:58
Cal Standard	0L36212-CAL5	007R0701.D	12/23/10 12:16
Cal Standard	0L36212-CAL5	007F0701.D	12/23/10 12:16
Cal Standard	0L36212-CAL6	008F0801.D	12/23/10 12:35
Cal Standard	0L36212-CAL6	008R0801.D	12/23/10 12:35
Cal Standard	0L36212-CAL7	009F0901.D	12/23/10 12:54
Cal Standard	0L36212-CAL7	009R0901.D	12/23/10 12:54
Initial Cal Check	0L36212-ICV1	010F1001.D	12/23/10 13:12
Initial Cal Check	0L36212-ICV1	010R1001.D	12/23/10 13:12

## INITIAL CALIBRATION STANDARDS

**SW8081B**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Sequence: 0L36212  
 Calibration: 0362003

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Instrument: GL-ECD3

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
10I0162	Pest_ICAL7@1ppb	0L36212-CAL1	003F0301.D	12/23/10 11:01
10I0162	Pest_ICAL7@1ppb	0L36212-CAL1	003R0301.D	12/23/10 11:01
10I0161	Pest_ICAL6@5ppb	0L36212-CAL2	004F0401.D	12/23/10 11:20
10I0161	Pest_ICAL6@5ppb	0L36212-CAL2	004R0401.D	12/23/10 11:20
10I0160	Pest_ICAL5@10ppb	0L36212-CAL3	005R0501.D	12/23/10 11:39
10I0160	Pest_ICAL5@10ppb	0L36212-CAL3	005F0501.D	12/23/10 11:39
10I0159	Pest_ICAL4@25ppb	0L36212-CAL4	006F0601.D	12/23/10 11:58
10I0159	Pest_ICAL4@25ppb	0L36212-CAL4	006R0601.D	12/23/10 11:58
10I0158	Pest_ICAL3@50ppb	0L36212-CAL5	007F0701.D	12/23/10 12:16
10I0158	Pest_ICAL3@50ppb	0L36212-CAL5	007R0701.D	12/23/10 12:16
10I0157	Pest. AB/Sur CCV @ 100ppb	0L36212-CAL6	008F0801.D	12/23/10 12:35
10I0157	Pest. AB/Sur CCV @ 100ppb	0L36212-CAL6	008R0801.D	12/23/10 12:35
10I0155	Pest_ICAL1@200ppb	0L36212-CAL7	009R0901.D	12/23/10 12:54
10I0155	Pest_ICAL1@200ppb	0L36212-CAL7	009F0901.D	12/23/10 12:54

## INITIAL CALIBRATION DATA (Continued)

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362003

Instrument: GL-ECD3

Matrix: Water

Calibration Date: 12/23/2010 3:56:36PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
4,4'-DDE	32487.67	3.4341	8.387	2.074454E-02			20	
4,4'-DDE [2C]	26340.12	12.49006	7.008857	2.738972E-02			20	
4,4'-DDD	27017.65	5.01139	9.020857	9.781635E-03			20	
4,4'-DDD [2C]	23386.3	11.67646	7.631571	1.725168E-02			20	
4,4'-DDT	22729.73	8.948656	9.402714	1.156269E-02			20	
4,4'-DDT [2C]	19739.9	10.33025	7.918429	1.767381E-02			20	
Aldrin	35385.12	3.960454	7.323	0.0140873			20	
Aldrin [2C]	29075.31	12.43675	5.993429	1.491937E-02			20	
alpha-BHC	37461.78	9.180577	6.005429	2.456044E-02			20	
alpha-BHC [2C]	33203.06	7.431464	5.124286	1.066946E-02			20	
alpha-Chlordane	32028.89	1.957585	8.191857	2.547424E-02			20	
alpha-Chlordane [2C]	27010.77	14.56833	6.814572	2.367613E-02			20	
beta-BHC	14540.77	1.342717	6.556143	2.689054E-02			20	
beta-BHC [2C]	13100.81	16.8622	5.701	2.629542E-02			20	
delta-BHC	29594.3	13.05101	6.820571	0.028336			20	
delta-BHC [2C]	26517.58	7.979185	5.918714	1.875432E-02			20	
Dieldrin	33539.54	3.62564	8.585571	2.450331E-02			20	
Dieldrin [2C]	28037.98	12.79026	7.164429	1.017671E-02			20	
Endosulfan I	30042.71	2.728627	8.257571	1.945018E-02			20	
Endosulfan I [2C]	25435.04	15.44957	6.880857	2.508662E-03			20	
Endosulfan II	28085.93	2.834552	9.143	1.221745E-02			20	
Endosulfan II [2C]	23959.83	16.19936	7.814286	1.54268E-03			20	
Endosulfan sulfate	23222.1	5.558567	9.594857	0.0127251			20	
Endosulfan sulfate [2C]	20348.02	14.11604	8.286	6.351399E-03			20	
Endrin	25585.52	3.881781	8.866	8.771973E-03			20	
Endrin [2C]	22655.16	14.5884	7.473286	1.710032E-02			20	
Endrin aldehyde	22673.51	6.844148	9.303857	2.943207E-03			20	
Endrin aldehyde [2C]	20614.57	18.62793	8.023429	1.785149E-02			20	
Endrin ketone	31625.1	4.355536	10.20814	1.408748E-02			20	
Endrin ketone [2C]	26909.9	14.8903	8.897286	1.618363E-02			20	
gamma-BHC (Lindane)	32719.69	8.117297	6.343857	4.258502E-03			20	
gamma-BHC (Lindane) [2C]	29406.27	8.18205	5.422571	1.048786E-02			20	

## INITIAL CALIBRATION DATA (Continued)

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362003

Instrument: GL-ECD3

Matrix: Water

Calibration Date: 12/23/2010 3:56:36PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
gamma-Chlordane	33690.5	5.070707	8.102286	2.684738E-02			20	
gamma-Chlordane [2C]	27718.95	13.69303	6.749286	1.868481E-02			20	
Heptachlor	28021.52	10.2639	6.949143	1.927336E-02			20	
Heptachlor [2C]	26505.56	14.8275	5.727572	6.113767E-03			20	
Heptachlor epoxide	32114.34	4.310704	7.806857	1.672935E-02			20	
Heptachlor epoxide [2C]	27492.98	16.02793	6.493571	1.584557E-02			20	
Methoxychlor	12736.61	4.878609	10.00386	0.0206292			20	
Methoxychlor [2C]	11247.63	19.13666	8.613143	1.657359E-02			20	
Chlordane (tech)	2265.814	2.036435	9.007667	7.207414E-03			20	
Chlordane (1)	4560.136	2.206321	7.989	1.416297E-02			20	
Chlordane (2)	1011.213	4.748592	6.536	1.188001E-02			20	
Chlordane (3)	1003.996	8.624511	6.760834	8.797502E-03			20	
Chlordane (4)	3753.811	2.957383	7.897833	8.880134E-03			20	
Chlordane (5)	999.9125	4.559042	9.007667	7.207414E-03			20	
Chlordane (tech) [2C]	1234.277	10.59888	7.605	3.28691E-03			20	
Chlordane (1) [2C]	2188.726	14.89601	6.6265	1.838167E-02			20	
Chlordane (2) [2C]	750.7542	8.135717	5.401333	1.394675E-02			20	
Chlordane (3) [2C]	797.21	5.579656	5.56	3.498735E-03			20	
Chlordane (4) [2C]	1630.041	13.84368	6.581167	8.453161E-03			20	
Chlordane (5) [2C]	804.6533	7.142321	7.605	3.28691E-03			20	
Toxaphene (1)	1185.298	17.60246	10.15483	1.163139E-02			20	
Toxaphene (2)	484.1924	16.99113	8.840667	9.882717E-03			20	
Toxaphene (3)	980.2943	10.31703	9.5105	1.633135E-02			20	
Toxaphene (4)	1118.753	18.26761	9.6235	0.0199586			20	
Toxaphene (5)	593.4394	16.38404	10.60983	1.414172E-02			20	
Toxaphene (1) [2C]	1792.252	12.55136	8.7885	1.583008E-02			20	
Toxaphene (2) [2C]	569.9496	12.09974	7.845833	1.217741E-02			20	
Toxaphene (3) [2C]	982.375	13.04506	8.191834	1.640441E-02			20	
Toxaphene (4) [2C]	898.0156	12.24894	9.1715	1.758355E-02			20	
Toxaphene (5) [2C]	501.7398	14.1256	9.3375	1.331971E-02			20	
Tetrachloro-m-xylene	28756.09	6.436385	5.549333	1.124923E-02			20	
Tetrachloro-m-xylene [2C]	28081.79	12.60113	4.667286	3.784695E-02			20	

## INITIAL CALIBRATION DATA (Continued)

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362003

Instrument: GL-ECD3

Matrix: Water

Calibration Date: 12/23/2010 3:56:36PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Decachlorobiphenyl	28655.66	7.832286	11.845	9.537063E-03			20	
Decachlorobiphenyl [2C]	20853.67	18.98494	10.21386	3.150825E-03			20	
4,4'-DDE	32487.67	3.4341	8.387	2.074454E-02			20	
4,4'-DDE [2C]	26340.12	12.49006	7.008857	2.738972E-02			20	
4,4'-DDD	27017.65	5.01139	9.020857	9.781635E-03			20	
4,4'-DDD [2C]	23386.3	11.67646	7.631571	1.725168E-02			20	
4,4'-DDT	22729.73	8.948656	9.402714	1.156269E-02			20	
4,4'-DDT [2C]	19739.9	10.33025	7.918429	1.767381E-02			20	
Aldrin	35385.12	3.960454	7.323	0.0140873			20	
Aldrin [2C]	29075.31	12.43675	5.993429	1.491937E-02			20	
alpha-BHC	37461.78	9.180577	6.005429	2.456044E-02			20	
alpha-BHC [2C]	33203.06	7.431464	5.124286	1.066946E-02			20	
alpha-Chlordanc	32028.89	1.957585	8.191857	2.547424E-02			20	
alpha-Chlordanc [2C]	27010.77	14.56833	6.814572	2.367613E-02			20	
beta-BHC	14540.77	1.342717	6.556143	2.689054E-02			20	
beta-BHC [2C]	13100.81	16.8622	5.701	2.629542E-02			20	
delta-BHC	29594.3	13.05101	6.820571	0.028336			20	
delta-BHC [2C]	26517.58	7.979185	5.918714	1.875432E-02			20	
Dieldrin	33539.54	3.62564	8.585571	2.450331E-02			20	
Dieldrin [2C]	28037.98	12.79026	7.164429	1.017671E-02			20	
Endosulfan I	30042.71	2.728627	8.257571	1.945018E-02			20	
Endosulfan I [2C]	25435.04	15.44957	6.880857	2.508662E-03			20	
Endosulfan II	28085.93	2.834552	9.143	1.221745E-02			20	
Endosulfan II [2C]	23959.83	16.19936	7.814286	1.54268E-03			20	
Endosulfan sulfate	23222.1	5.558567	9.594857	0.0127251			20	
Endosulfan sulfate [2C]	20348.02	14.11604	8.286	6.351399E-03			20	
Endrin	25585.52	3.881781	8.866	8.771973E-03			20	
Endrin [2C]	22655.16	14.5884	7.473286	1.710032E-02			20	
Endrin aldehyde	22673.51	6.844148	9.303857	2.943207E-03			20	
Endrin aldehyde [2C]	20614.57	18.62793	8.023429	1.785149E-02			20	
Endrin ketone	31625.1	4.355536	10.20814	1.408748E-02			20	
Endrin ketone [2C]	26909.9	14.8903	8.897286	1.618363E-02			20	

## INITIAL CALIBRATION DATA (Continued)

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362003

Instrument: GL-ECD3

Matrix: Water

Calibration Date: 12/23/2010 3:56:36PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
gamma-BHC (Lindane)	32719.69	8.117297	6.343857	4.258502E-03			20	
gamma-BHC (Lindane) [2C]	29406.27	8.18205	5.422571	1.048786E-02			20	
gamma-Chlordane	33690.5	5.070707	8.102286	2.684738E-02			20	
gamma-Chlordane [2C]	27718.95	13.69303	6.749286	1.868481E-02			20	
Heptachlor	28021.52	10.2639	6.949143	1.927336E-02			20	
Heptachlor [2C]	26505.56	14.8275	5.727572	6.113767E-03			20	
Heptachlor epoxide	32114.34	4.310704	7.806857	1.672935E-02			20	
Heptachlor epoxide [2C]	27492.98	16.02793	6.493571	1.584557E-02			20	
Methoxychlor	12736.61	4.878609	10.00386	0.0206292			20	
Methoxychlor [2C]	11247.63	19.13666	8.613143	1.657359E-02			20	
Chlordane (tech)	2265.814	2.036435	9.007667	7.207414E-03			20	
Chlordane (1)	4560.136	2.206321	7.989	1.416297E-02			20	
Chlordane (2)	1011.213	4.748592	6.536	1.188001E-02			20	
Chlordane (3)	1003.996	8.624511	6.760834	8.797502E-03			20	
Chlordane (4)	3753.811	2.957383	7.897833	8.880134E-03			20	
Chlordane (5)	999.9125	4.559042	9.007667	7.207414E-03			20	
Chlordane (tech) [2C]	1234.277	10.59888	7.605	3.28691E-03			20	
Chlordane (1) [2C]	2188.726	14.89601	6.6265	1.838167E-02			20	
Chlordane (2) [2C]	750.7542	8.135717	5.401333	1.394675E-02			20	
Chlordane (3) [2C]	797.21	5.579656	5.56	3.498735E-03			20	
Chlordane (4) [2C]	1630.041	13.84368	6.581167	8.453161E-03			20	
Chlordane (5) [2C]	804.6533	7.142321	7.605	3.28691E-03			20	
Toxaphene (1)	1185.298	17.60246	10.15483	1.163139E-02			20	
Toxaphene (2)	484.1924	16.99113	8.840667	9.882717E-03			20	
Toxaphene (3)	980.2943	10.31703	9.5105	1.633135E-02			20	
Toxaphene (4)	1118.753	18.26761	9.6235	0.0199586			20	
Toxaphene (5)	593.4394	16.38404	10.60983	1.414172E-02			20	
Toxaphene (1) [2C]	1792.252	12.55136	8.7885	1.583008E-02			20	
Toxaphene (2) [2C]	569.9496	12.09974	7.845833	1.217741E-02			20	
Toxaphene (3) [2C]	982.375	13.04506	8.191834	1.640441E-02			20	
Toxaphene (4) [2C]	898.0156	12.24894	9.1715	1.758355E-02			20	
Toxaphene (5) [2C]	501.7398	14.1256	9.3375	1.331971E-02			20	

## INITIAL CALIBRATION DATA (Continued)

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362003

Instrument: GL-ECD3

Matrix: Water

Calibration Date: 12/23/2010 3:56:36PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Tetrachloro-m-xylene	28756.09	6.436385	5.549333	1.124923E-02			20	
Tetrachloro-m-xylene [2C]	28081.79	12.60113	4.667286	3.784695E-02			20	
Decachlorobiphenyl	28655.66	7.832286	11.845	9.537063E-03			20	
Decachlorobiphenyl [2C]	20853.67	18.98494	10.21386	3.150825E-03			20	

## BREAKDOWN REPORT

Lab Sample ID: 0L36218-PEM1 Analyzed: 12/23/2010

---

Column Number: 1

Analyte	% Breakdown
4,4'-DDT	4.67
Endrin	9.94

---

Column Number: 2

Analyte	% Breakdown
4,4'-DDT	7.59
Endrin	9.39

---

## BREAKDOWN REPORT

Lab Sample ID: 0L36408-PEM2 Analyzed: 12/29/2010

---

Column Number: 1

Analyte	% Breakdown
4,4'-DDT	7.51
Endrin	11.32

---

Column Number: 2

Analyte	% Breakdown
4,4'-DDT	9.86
Endrin	12.03

---

## BREAKDOWN REPORT

Lab Sample ID: 0L36212-PEM1 Analyzed: 12/23/2010

---

Column Number: 1

Analyte	% Breakdown
4,4'-DDT	4.67
Endrin	9.94

---

Column Number: 2

Analyte	% Breakdown
4,4'-DDT	7.59
Endrin	9.39

---

# INITIAL CALIBRATION CHECK

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 010F1001.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36212

Injection Date: 12/23/10

Lab Sample ID: 0L36212-ICV1

Injection Time: 13:12

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
4,4'-DDE	A	100.0	111.5	32487.67	36236.25		11.5	20
4,4'-DDE [2C]	A	100.0	97.60	26340.12	25707.42		-2.4	20
4,4'-DDD	A	100.0	109.4	27017.65	29549.77		9.4	20
4,4'-DDD [2C]	A	100.0	97.16	23386.3	22721.31		-2.8	20
4,4'-DDT	A	100.0	113.8	22729.73	25868.11		13.8	20
4,4'-DDT [2C]	A	100.0	98.18	19739.9	19380.89		-1.8	20
Aldrin	A	100.0	112.7	35385.12	39869.4		12.7	20
Aldrin [2C]	A	100.0	97.52	29075.31	28353.53		-2.5	20
alpha-BHC	A	100.0	119.2	37461.78	44657.16		19.2	20
alpha-BHC [2C]	A	100.0	104.1	33203.06	34559.06		4.1	20
alpha-Chlordane	A	100.0	111.0	32028.89	35552.09		11.0	20
alpha-Chlordane [2C]	A	100.0	97.58	27010.77	26355.97		-2.4	20
beta-BHC	A	100.0	112.6	14540.77	16376.48		12.6	20
beta-BHC [2C]	A	100.0	99.79	13100.81	13072.9		-0.2	20
delta-BHC	A	100.0	119.2	29594.3	35284.3		19.2	20
delta-BHC [2C]	A	100.0	104.6	26517.58	27734.09		4.6	20
Dieldrin	A	100.0	110.4	33539.54	37043.24		10.4	20
Dieldrin [2C]	A	100.0	96.17	28037.98	26963.3		-3.8	20
Endosulfan I	A	100.0	112.5	30042.71	33798		12.5	20
Endosulfan I [2C]	A	100.0	96.35	25435.04	24507.63		-3.6	20
Endosulfan II	A	100.0	107.9	28085.93	30318.26		7.9	20
Endosulfan II [2C]	A	100.0	92.94	23959.83	22268.47		-7.1	20
Endosulfan sulfate	A	100.0	110.0	23222.1	25544.17		10.0	20
Endosulfan sulfate [2C]	A	100.0	96.56	20348.02	19647.45		-3.4	20
Endrin	A	100.0	112.4	25585.52	28750.05		12.4	20
Endrin [2C]	A	100.0	96.05	22655.16	21760.26		-4.0	20
Endrin aldehyde	A	100.0	99.69	22673.51	22604.24		-0.3	20
Endrin aldehyde [2C]	A	100.0	89.11	20614.57	18370.21		-10.9	20
Endrin ketone	A	100.0	109.2	31625.1	34536.53		9.2	20

# INITIAL CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 010R1001.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36212

Injection Date: 12/23/10

Lab Sample ID: 0L36212-ICV1

Injection Time: 13:12

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Endrin ketone [2C]	A	100.0	95.68	26909.9	25746.32		-4.3	20
gamma-BHC (Lindane)	A	100.0	118.0	32719.69	38595.94		18.0	20
gamma-BHC (Lindane) [2C]	A	100.0	103.2	29406.27	30349.35		3.2	20
gamma-Chlordane	A	100.0	109.1	33690.5	36764.93		9.1	20
gamma-Chlordane [2C]	A	100.0	98.24	27718.95	27229.94		-1.8	20
Heptachlor	A	100.0	117.0	28021.52	32788.96		17.0	20
Heptachlor [2C]	A	100.0	96.85	26505.56	25671.91		-3.1	20
Heptachlor epoxide	A	100.0	113.3	32114.34	36396.72		13.3	20
Heptachlor epoxide [2C]	A	100.0	95.96	27492.98	26383.23		-4.0	20
Methoxychlor	A	100.0	109.2	12736.61	13908.66		9.2	20
Methoxychlor [2C]	A	100.0	94.91	11247.63	10675.47		-5.1	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## ANALYSIS SEQUENCE SUMMARY

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36218

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Performance Mix	0L36218-PEM1	002F0201.D	12/23/10 10:39
Performance Mix	0L36218-PEM1	002R0201.D	12/23/10 10:39
Calibration Check	0L36218-CCV1	012R1201.D	12/23/10 13:49
Calibration Check	0L36218-CCV1	012F1201.D	12/23/10 13:49
Calibration Check	0L36218-CCV2	014R1401.D	12/23/10 14:27
Calibration Check	0L36218-CCV2	014F1401.D	12/23/10 14:27
Blank	0L16023-BLK1	024F2401.D	12/23/10 17:33
Blank	0L16023-BLK1	024R2401.D	12/23/10 17:33
LCS	0L16023-BS1	025R2501.D	12/23/10 17:51
LCS	0L16023-BS1	025F2501.D	12/23/10 17:51
LCS Dup	0L16023-BSD1	026R2601.D	12/23/10 18:10
LCS Dup	0L16023-BSD1	026F2601.D	12/23/10 18:10
BCHMS-FD001-1210	1012153-01	029F2901.D	12/23/10 19:06
BCHMS-FD001-1210	1012153-01	029R2901.D	12/23/10 19:06
BCHMS-GW-004-1210	1012153-02	030R3001.D	12/23/10 19:24
BCHMS-GW-004-1210	1012153-02	030F3001.D	12/23/10 19:24
BCHMS-GW-010-1210	1012153-09	031R3101.D	12/23/10 19:43
BCHMS-GW-010-1210	1012153-09	031F3101.D	12/23/10 19:43
BCHMS-GW-012-1210	1012153-11	032R3201.D	12/23/10 20:02
BCHMS-GW-012-1210	1012153-11	032F3201.D	12/23/10 20:02
Calibration Check	0L36218-CCV4	033F3301.D	12/23/10 20:20
Calibration Check	0L36218-CCV4	033R3301.D	12/23/10 20:20
Calibration Check	0L36218-CCV5	035F3501.D	12/23/10 20:57
Calibration Check	0L36218-CCV5	035R3501.D	12/23/10 20:57

# CONTINUING CALIBRATION CHECK

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 012F1201.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV1

Injection Time: 13:49

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDE	A	100.0	107.2	32487.67	34819.64		7.2	20
4,4'-DDE [2C]	A	100.0	93.01	26340.12	24498.39		-7.0	20
4,4'-DDD	A	100.0	108.4	27017.65	29290.98		8.4	20
4,4'-DDD [2C]	A	100.0	93.01	23386.3	21751.34		-7.0	20
4,4'-DDT	A	100.0	115.0	22729.73	26148.27		15.0	20
4,4'-DDT [2C]	A	100.0	98.71	19739.9	19485.38		-1.3	20
Aldrin	A	100.0	107.3	35385.12	37982.73		7.3	20
Aldrin [2C]	A	100.0	92.53	29075.31	26903.94		-7.5	20
alpha-BHC	A	100.0	111.3	37461.78	41703.58		11.3	20
alpha-BHC [2C]	A	100.0	97.86	33203.06	32494.14		-2.1	20
alpha-Chlordane	A	100.0	105.1	32028.89	33672.58		5.1	20
alpha-Chlordane [2C]	A	100.0	93.01	27010.77	25123.12		-7.0	20
beta-BHC	A	100.0	104.3	14540.77	15165.84		4.3	20
beta-BHC [2C]	A	100.0	94.08	13100.81	12325.83		-5.9	20
delta-BHC	A	100.0	114.4	29594.3	33865.2		14.4	20
delta-BHC [2C]	A	100.0	99.65	26517.58	26424.31		-0.4	20
Dieldrin	A	100.0	107.0	33539.54	35888.93		7.0	20
Dieldrin [2C]	A	100.0	94.04	28037.98	26366.09		-6.0	20
Endosulfan I	A	100.0	106.3	30042.71	31942.54		6.3	20
Endosulfan I [2C]	A	100.0	92.01	25435.04	23402.06		-8.0	20
Endosulfan II	A	100.0	107.2	28085.93	30107.79		7.2	20
Endosulfan II [2C]	A	100.0	91.84	23959.83	22004.68		-8.2	20
Endosulfan sulfate	A	100.0	106.7	23222.1	24777.08		6.7	20
Endosulfan sulfate [2C]	A	100.0	93.94	20348.02	19116.09		-6.1	20
Endrin	A	100.0	108.4	25585.52	27743.21		8.4	20
Endrin [2C]	A	100.0	92.78	22655.16	21019.56		-7.2	20
Endrin aldehyde	A	100.0	104.5	22673.51	23689		4.5	20
Endrin aldehyde [2C]	A	100.0	90.98	20614.57	18754.38		-9.0	20
Endrin ketone	A	100.0	106.1	31625.1	33567.12		6.1	20

## CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 012R1201.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV1

Injection Time: 13:49

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Endrin ketone [2C]	A	100.0	94.20	26909.9	25348.05		-5.8	20
gamma-BHC (Lindane)	A	100.0	110.9	32719.69	36278.39		10.9	20
gamma-BHC (Lindane) [2C]	A	100.0	97.49	29406.27	28667.93		-2.5	20
gamma-Chlordane	A	100.0	103.8	33690.5	34981.39		3.8	20
gamma-Chlordane [2C]	A	100.0	93.18	27718.95	25828		-6.8	20
Heptachlor	A	100.0	112.8	28021.52	31601.78		12.8	20
Heptachlor [2C]	A	100.0	90.95	26505.56	24107.14		-9.0	20
Heptachlor epoxide	A	100.0	107.7	32114.34	34602.29		7.7	20
Heptachlor epoxide [2C]	A	100.0	89.99	27492.98	24739.89		-10.0	20
Methoxychlor	A	100.0	106.2	12736.61	13526.52		6.2	20
Methoxychlor [2C]	A	100.0	90.01	11247.63	10124.08		-10.0	20
Tetrachloro-m-xylene	A	100.0	98.58	28756.09	28347.21		-1.4	20
Tetrachloro-m-xylene [2C]	A	100.0	91.96	28081.79	25825.3		-8.0	20
Decachlorobiphenyl	A	100.0	101.1	28655.66	28966.29		1.1	20
Decachlorobiphenyl [2C]	A	100.0	93.06	20853.67	19406.62		-6.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 014F1401.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV2

Injection Time: 14:27

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Toxaphene (1)	A	1000	976.7	1185.298	1157.703		-2.3	20
Toxaphene (2)	A	1000	996.5	484.1924	482.489		-0.4	20
Toxaphene (3)	A	1000	956.3	980.2943	937.493		-4.4	20
Toxaphene (4)	A	1000	956.6	1118.753	1070.227		-4.3	20
Toxaphene (5)	A	1000	876.4	593.4394	520.061		-12.4	20
Toxaphene (1) [2C]	A	1000	953.7	1792.252	1709.248		-4.6	20
Toxaphene (2) [2C]	A	1000	962.3	569.9496	548.44		-3.8	20
Toxaphene (3) [2C]	A	1000	1174	982.375	1152.882		17.4	20
Toxaphene (4) [2C]	A	1000	913.2	898.0156	820.079		-8.7	20
Toxaphene (5) [2C]	A	1000	918.8	501.7398	461		-8.1	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 033F3301.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV4

Injection Time: 20:20

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDE	A	100.0	113.8	32487.67	36975.47		13.8	20
4,4'-DDE [2C]	A	100.0	87.88	26340.12	23146.76		-12.1	20
4,4'-DDD	A	100.0	116.3	27017.65	31417.27		16.3	20
4,4'-DDD [2C]	A	100.0	89.48	23386.3	20927.32		-10.5	20
4,4'-DDT	A	100.0	126.7	22729.73	28802.16		26.7	20 *
4,4'-DDT [2C]	A	100.0	96.87	19739.9	19121.32		-3.1	20
Aldrin	A	100.0	113.6	35385.12	40198.37		13.6	20
Aldrin [2C]	A	100.0	89.24	29075.31	25947.69		-10.8	20
alpha-BHC	A	100.0	120.4	37461.78	45124.31		20.5	20 *
alpha-BHC [2C]	A	100.0	94.13	33203.06	31255.4		-5.9	20
alpha-Chlordane	A	100.0	111.6	32028.89	35753.62		11.6	20
alpha-Chlordane [2C]	A	100.0	86.37	27010.77	23328.84		-13.6	20
beta-BHC	A	100.0	110.0	14540.77	15999.85		10.0	20
beta-BHC [2C]	A	100.0	87.53	13100.81	11467.47		-12.5	20
delta-BHC	A	100.0	126.6	29594.3	37464.97		26.6	20 *
delta-BHC [2C]	A	100.0	99.64	26517.58	26422.2		-0.4	20
Dieldrin	A	100.0	113.5	33539.54	38064.1		13.5	20
Dieldrin [2C]	A	100.0	88.54	28037.98	24825.27		-11.5	20
Endosulfan I	A	100.0	113.0	30042.71	33943.23		13.0	20
Endosulfan I [2C]	A	100.0	87.04	25435.04	22138.27		-13.0	20
Endosulfan II	A	100.0	113.4	28085.93	31851.36		13.4	20
Endosulfan II [2C]	A	100.0	87.82	23959.83	21042.67		-12.2	20
Endosulfan sulfate	A	100.0	117.6	23222.1	27322.14		17.7	20
Endosulfan sulfate [2C]	A	100.0	91.11	20348.02	18539.52		-8.9	20
Endrin	A	100.0	113.9	25585.52	29140.72		13.9	20
Endrin [2C]	A	100.0	88.17	22655.16	19976.01		-11.8	20
Endrin aldehyde	A	100.0	110.9	22673.51	25151.87		10.9	20
Endrin aldehyde [2C]	A	100.0	86.93	20614.57	17920.51		-13.1	20
Endrin ketone	A	100.0	117.2	31625.1	37054.7		17.2	20

## CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 033R3301.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV4

Injection Time: 20:20

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Endrin ketone [2C]	A	100.0	90.70	26909.9	24406.52		-9.3	20
gamma-BHC (Lindane)	A	100.0	120.6	32719.69	39460.68		20.6	20 *
gamma-BHC (Lindane) [2C]	A	100.0	94.78	29406.27	27870.66		-5.2	20
gamma-Chlordane	A	100.0	109.8	33690.5	36985.46		9.8	20
gamma-Chlordane [2C]	A	100.0	86.52	27718.95	23982.93		-13.5	20
Heptachlor	A	100.0	126.4	28021.52	35428.15		26.4	20 *
Heptachlor [2C]	A	100.0	93.27	26505.56	24722.3		-6.7	20
Heptachlor epoxide	A	100.0	114.1	32114.34	36655.53		14.1	20
Heptachlor epoxide [2C]	A	100.0	85.03	27492.98	23376.32		-15.0	20
Methoxychlor	A	100.0	114.7	12736.61	14604.25		14.7	20
Methoxychlor [2C]	A	100.0	86.34	11247.63	9711.27		-13.7	20
Tetrachloro-m-xylene	A	100.0	102.8	28756.09	29567.04		2.8	20
Tetrachloro-m-xylene [2C]	A	100.0	86.10	28081.79	24177.35		-13.9	20
Decachlorobiphenyl	A	100.0	107.6	28655.66	30834.86		7.6	20
Decachlorobiphenyl [2C]	A	100.0	86.14	20853.67	17962.47		-13.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 035F3501.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV5

Injection Time: 20:57

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Toxaphene (1)	A	1000	951.0	1185.298	1127.259		-4.9	20
Toxaphene (2)	A	1000	1024	484.1924	495.842		2.4	20
Toxaphene (3)	A	1000	943.6	980.2943	924.983		-5.6	20
Toxaphene (4)	A	1000	980.0	1118.753	1096.363		-2.0	20
Toxaphene (5)	A	1000	892.9	593.4394	529.871		-10.7	20
Toxaphene (1) [2C]	A	1000	797.5	1792.252	1429.361		-20.2	20 *
Toxaphene (2) [2C]	A	1000	864.2	569.9496	492.556		-13.6	20
Toxaphene (3) [2C]	A	1000	1127	982.375	1107.037		12.7	20
Toxaphene (4) [2C]	A	1000	792.6	898.0156	711.805		-20.7	20 *
Toxaphene (5) [2C]	A	1000	784.8	501.7398	393.793		-21.5	20 *

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# PREPARATION BATCH SUMMARY

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L16023 Batch Matrix: Water

Preparation: EXT\_3510

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L16023-BLK1	12/17/10 14:10	1,000.00	5.00
LCS	0L16023-BS1	12/17/10 14:10	1,000.00	5.00
LCS Dup	0L16023-BSD1	12/17/10 14:10	1,000.00	5.00
BCHMS-FD001-1210	1012153-01	12/17/10 14:10	1,080.00	5.00
BCHMS-GW-004-1210	1012153-02	12/17/10 14:10	1,080.00	5.00
BCHMS-GW-010-1210	1012153-09	12/17/10 14:10	1,070.00	5.00
BCHMS-GW-012-1210	1012153-11	12/17/10 14:10	1,070.00	5.00



# ANALYSIS SEQUENCE SUMMARY

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36408

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Performance Mix	0L36408-PEM2	099F1201.D	12/29/10 18:44
Performance Mix	0L36408-PEM2	099R1201.D	12/29/10 18:44
Calibration Check	0L36408-CCV1	003F1301.D	12/29/10 19:03
Calibration Check	0L36408-CCV1	003R1301.D	12/29/10 19:03
Calibration Check	0L36408-CCV2	005R1501.D	12/29/10 19:40
Calibration Check	0L36408-CCV2	005F1501.D	12/29/10 19:40
Blank	0L21019-BLK1	007R1701.D	12/29/10 20:17
Blank	0L21019-BLK1	007F1701.D	12/29/10 20:17
LCS	0L21019-BS1	008R1801.D	12/29/10 20:35
LCS	0L21019-BS1	008F1801.D	12/29/10 20:35
BCHMS-SO-004-1210	1012153-14	010R2001.D	12/29/10 21:13
BCHMS-SO-004-1210	1012153-14	010F2001.D	12/29/10 21:13
BCHMS-SO-010-1210	1012153-16	011R2101.D	12/29/10 21:31
BCHMS-SO-010-1210	1012153-16	011F2101.D	12/29/10 21:31
BCHMS-SO-012-1210	1012153-17	012F2201.D	12/29/10 21:50
BCHMS-SO-012-1210	1012153-17	012R2201.D	12/29/10 21:50
BCHMS-SO-024-1210	1012153-29	013F2301.D	12/29/10 22:08
BCHMS-SO-024-1210	1012153-29	013R2301.D	12/29/10 22:08
BCHMS-SO-025-1210	1012153-30	014R2401.D	12/29/10 22:27
BCHMS-SO-025-1210	1012153-30	014F2401.D	12/29/10 22:27
BCHMS-SO-028-1210	1012153-32	015R2501.D	12/29/10 22:46
BCHMS-SO-028-1210	1012153-32	015F2501.D	12/29/10 22:46
BCHMS-SO-FD02-1210	1012153-34	016R2601.D	12/29/10 23:04
BCHMS-SO-FD02-1210	1012153-34	016F2601.D	12/29/10 23:04
Calibration Check	0L36408-CCV4	020F3001.D	12/30/10 00:18
Calibration Check	0L36408-CCV4	020R3001.D	12/30/10 00:18
Calibration Check	0L36408-CCV5	022F3201.D	12/30/10 00:56
Calibration Check	0L36408-CCV5	022R3201.D	12/30/10 00:56

## CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 003F1301.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36408

Injection Date: 12/29/10

Lab Sample ID: 0L36408-CCV1

Injection Time: 19:03

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDE	A	100.0	102.0	32487.67	33128.58		2.0	20
4,4'-DDE [2C]	A	100.0	86.71	26340.12	22840.22		-13.3	20
4,4'-DDD	A	100.0	103.7	27017.65	28027.44		3.7	20
4,4'-DDD [2C]	A	100.0	88.73	23386.3	20750.91		-11.3	20
4,4'-DDT	A	100.0	104.3	22729.73	23716.08		4.3	20
4,4'-DDT [2C]	A	100.0	89.69	19739.9	17705.53		-10.3	20
Aldrin	A	100.0	102.8	35385.12	36372.2		2.8	20
Aldrin [2C]	A	100.0	86.68	29075.31	25201.73		-13.3	20
alpha-BHC	A	100.0	106.7	37461.78	39957.05		6.7	20
alpha-BHC [2C]	A	100.0	91.70	33203.06	30445.93		-8.3	20
alpha-Chlordane	A	100.0	101.9	32028.89	32651.91		1.9	20
alpha-Chlordane [2C]	A	100.0	88.37	27010.77	23870.17		-11.6	20
beta-BHC	A	100.0	99.90	14540.77	14526.41		-0.1	20
beta-BHC [2C]	A	100.0	88.80	13100.81	11633.13		-11.2	20
delta-BHC	A	100.0	111.9	29594.3	33130.1		11.9	20
delta-BHC [2C]	A	100.0	95.35	26517.58	25285.67		-4.6	20
Dieldrin	A	100.0	102.9	33539.54	34504.49		2.9	20
Dieldrin [2C]	A	100.0	88.80	28037.98	24898.57		-11.2	20
Endosulfan I	A	100.0	103.0	30042.71	30929.26		3.0	20
Endosulfan I [2C]	A	100.0	86.76	25435.04	22067.75		-13.2	20
Endosulfan II	A	100.0	102.7	28085.93	28841.54		2.7	20
Endosulfan II [2C]	A	100.0	87.90	23959.83	21059.98		-12.1	20
Endosulfan sulfate	A	100.0	103.4	23222.1	24007.18		3.4	20
Endosulfan sulfate [2C]	A	100.0	89.39	20348.02	18189.49		-10.6	20
Endrin	A	100.0	98.92	25585.52	25309.74		-1.1	20
Endrin [2C]	A	100.0	83.57	22655.16	18933.6		-16.4	20
Endrin aldehyde	A	100.0	101.2	22673.51	22937.8		1.2	20
Endrin aldehyde [2C]	A	100.0	88.27	20614.57	18196.03		-11.7	20
Endrin ketone	A	100.0	103.1	31625.1	32606.87		3.1	20

## CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 003R1301.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36408

Injection Date: 12/29/10

Lab Sample ID: 0L36408-CCV1

Injection Time: 19:03

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Endrin ketone [2C]	A	100.0	90.66	26909.9	24397.51		-9.3	20
gamma-BHC (Lindane)	A	100.0	106.8	32719.69	34950.27		6.8	20
gamma-BHC (Lindane) [2C]	A	100.0	92.37	29406.27	27163.6		-7.6	20
gamma-Chlordane	A	100.0	100.9	33690.5	34008.47		0.9	20
gamma-Chlordane [2C]	A	100.0	88.44	27718.95	24515.09		-11.6	20
Heptachlor	A	100.0	102.5	28021.52	28730.4		2.5	20
Heptachlor [2C]	A	100.0	83.95	26505.56	22250.59		-16.1	20
Heptachlor epoxide	A	100.0	103.6	32114.34	33287.67		3.7	20
Heptachlor epoxide [2C]	A	100.0	84.73	27492.98	23295.12		-15.3	20
Methoxychlor	A	100.0	95.34	12736.61	12143.08		-4.7	20
Methoxychlor [2C]	A	100.0	82.73	11247.63	9305.37		-17.3	20
Tetrachloro-m-xylene	A	100.0	92.65	28756.09	26642.5		-7.4	20
Tetrachloro-m-xylene [2C]	A	100.0	85.97	28081.79	24141.42		-14.0	20
Decachlorobiphenyl	A	100.0	96.81	28655.66	27742.69		-3.2	20
Decachlorobiphenyl [2C]	A	100.0	90.03	20853.67	18774.13		-10.0	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 005F1501.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36408

Injection Date: 12/29/10

Lab Sample ID: 0L36408-CCV2

Injection Time: 19:40

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Toxaphene (1)	A	1000	1020	1185.298	1208.79		2.0	20
Toxaphene (2)	A	1000	1017	484.1924	492.541		1.7	20
Toxaphene (3)	A	1000	1130	980.2943	1108.079		13.0	20
Toxaphene (4)	A	1000	1029	1118.753	1151.274		2.9	20
Toxaphene (5)	A	1000	989.7	593.4394	587.356		-1.0	20
Toxaphene (1) [2C]	A	1000	894.6	1792.252	1603.324		-10.5	20
Toxaphene (2) [2C]	A	1000	907.7	569.9496	517.365		-9.2	20
Toxaphene (3) [2C]	A	1000	848.8	982.375	833.827		-15.1	20
Toxaphene (4) [2C]	A	1000	886.7	898.0156	796.253		-11.3	20
Toxaphene (5) [2C]	A	1000	856.9	501.7398	429.928		-14.3	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Instrument ID: GL-ECD3  
 Lab File ID: 020F3001.D  
 Sequence: 0L36408  
 Lab Sample ID: 0L36408-CCV4

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Calibration: 0362003  
 Calibration Date: 12/23/10 15:56  
 Injection Date: 12/30/10  
 Injection Time: 00:18

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDE	A	100.0	106.9	32487.67	34741.12		6.9	20
4,4'-DDE [2C]	A	100.0	96.62	26340.12	25449.02		-3.4	20
4,4'-DDD	A	100.0	113.0	27017.65	30541.85		13.0	20
4,4'-DDD [2C]	A	100.0	100.6	23386.3	23540.63		0.7	20
4,4'-DDT	A	100.0	108.0	22729.73	24549.21		8.0	20
4,4'-DDT [2C]	A	100.0	98.96	19739.9	19533.79		-1.0	20
Aldrin	A	100.0	105.8	35385.12	37431.51		5.8	20
Aldrin [2C]	A	100.0	95.12	29075.31	27656.43		-4.9	20
alpha-BHC	A	100.0	112.1	37461.78	41993.43		12.1	20
alpha-BHC [2C]	A	100.0	103.8	33203.06	34471.37		3.8	20
alpha-Chlordane	A	100.0	105.0	32028.89	33647.44		5.1	20
alpha-Chlordane [2C]	A	100.0	96.14	27010.77	25969.55		-3.9	20
beta-BHC	A	100.0	104.8	14540.77	15246.14		4.9	20
beta-BHC [2C]	A	100.0	102.4	13100.81	13421.65		2.4	20
delta-BHC	A	100.0	123.0	29594.3	36392.62		23.0	20 *
delta-BHC [2C]	A	100.0	113.3	26517.58	30039.25		13.3	20
Dieldrin	A	100.0	106.5	33539.54	35718.99		6.5	20
Dieldrin [2C]	A	100.0	97.88	28037.98	27442.62		-2.1	20
Endosulfan I	A	100.0	106.5	30042.71	31984.64		6.5	20
Endosulfan I [2C]	A	100.0	95.31	25435.04	24243.38		-4.7	20
Endosulfan II	A	100.0	107.4	28085.93	30150.79		7.4	20
Endosulfan II [2C]	A	100.0	97.09	23959.83	23262.7		-2.9	20
Endosulfan sulfate	A	100.0	108.7	23222.1	25250.26		8.7	20
Endosulfan sulfate [2C]	A	100.0	103.6	20348.02	21086.57		3.6	20
Endrin	A	100.0	105.4	25585.52	26964.47		5.4	20
Endrin [2C]	A	100.0	95.52	22655.16	21639.15		-4.5	20
Endrin aldehyde	A	100.0	106.5	22673.51	24139.26		6.5	20
Endrin aldehyde [2C]	A	100.0	97.93	20614.57	20187.97		-2.1	20
Endrin ketone	A	100.0	111.2	31625.1	35161.2		11.2	20

## CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 020R3001.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36408

Injection Date: 12/30/10

Lab Sample ID: 0L36408-CCV4

Injection Time: 00:18

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Endrin ketone [2C]	A	100.0	101.8	26909.9	27393.49		1.8	20
gamma-BHC (Lindane)	A	100.0	113.0	32719.69	36963.46		13.0	20
gamma-BHC (Lindane) [2C]	A	100.0	104.0	29406.27	30585.32		4.0	20
gamma-Chlordane	A	100.0	103.6	33690.5	34890.6		3.6	20
gamma-Chlordane [2C]	A	100.0	96.72	27718.95	26810.06		-3.3	20
Heptachlor	A	100.0	111.2	28021.52	31165.58		11.2	20
Heptachlor [2C]	A	100.0	94.53	26505.56	25055.56		-5.5	20
Heptachlor epoxide	A	100.0	106.7	32114.34	34260.23		6.7	20
Heptachlor epoxide [2C]	A	100.0	93.05	27492.98	25582.89		-6.9	20
Methoxychlor	A	100.0	99.36	12736.61	12655.03		-0.6	20
Methoxychlor [2C]	A	100.0	90.61	11247.63	10191.17		-9.4	20
Tetrachloro-m-xylene	A	100.0	94.64	28756.09	27215.86		-5.4	20
Tetrachloro-m-xylene [2C]	A	100.0	93.28	28081.79	26194.05		-6.7	20
Decachlorobiphenyl	A	100.0	99.24	28655.66	28437.12		-0.8	20
Decachlorobiphenyl [2C]	A	100.0	96.50	20853.67	20123.71		-3.5	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 022F3201.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36408

Injection Date: 12/30/10

Lab Sample ID: 0L36408-CCV5

Injection Time: 00:56

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Toxaphene (1)	A	1000	937.4	1185.298	1111.057		-6.3	20
Toxaphene (2)	A	1000	1013	484.1924	490.35		1.3	20
Toxaphene (3)	A	1000	928.7	980.2943	910.435		-7.1	20
Toxaphene (4)	A	1000	956.3	1118.753	1069.864		-4.4	20
Toxaphene (5)	A	1000	848.4	593.4394	503.472		-15.2	20
Toxaphene (1) [2C]	A	1000	984.1	1792.252	1763.805		-1.6	20
Toxaphene (2) [2C]	A	1000	1078	569.9496	614.265		7.8	20
Toxaphene (3) [2C]	A	1000	947.3	982.375	930.628		-5.3	20
Toxaphene (4) [2C]	A	1000	1015	898.0156	911.238		1.5	20
Toxaphene (5) [2C]	A	1000	953.3	501.7398	478.29		-4.7	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# PREPARATION BATCH SUMMARY

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L21019 Batch Matrix: Solid

Preparation: EXT\_3546

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L21019-BLK1	12/22/10 14:30	15.00	5.00
LCS	0L21019-BS1	12/22/10 14:30	15.00	5.00
BCHMS-SO-004-1210	1012153-14	12/22/10 14:30	15.20	5.00
BCHMS-SO-010-1210	1012153-16	12/22/10 14:30	15.60	5.00
BCHMS-SO-012-1210	1012153-17	12/22/10 14:30	15.70	5.00
BCHMS-SO-024-1210	1012153-29	12/22/10 14:30	15.30	5.00
BCHMS-SO-025-1210	1012153-30	12/22/10 14:30	15.40	5.00
BCHMS-SO-028-1210	1012153-32	12/22/10 14:30	15.60	5.00
BCHMS-SO-FD02-1210	1012153-34	12/22/10 14:30	15.60	5.00



## METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Instrument: GL-ECD3

Analyte	MDL	MRL	Units	Method
4,4'-DDD	0.170	0.670	ug/Kg	SW8081B
	0.00500	0.0200	ug/Kg	SW8081B
	0.00500	0.0200	ug/L	SW8081B
4,4'-DDD [2C]	0.170	0.670	ug/Kg	SW8081B
4,4'-DDE	0.170	0.670	ug/Kg	SW8081B
	0.00500	0.0200	ug/Kg	SW8081B
	0.00500	0.0200	ug/L	SW8081B
4,4'-DDE [2C]	0.170	0.670	ug/Kg	SW8081B
4,4'-DDT	0.170	0.670	ug/Kg	SW8081B
	0.00500	0.0200	ug/Kg	SW8081B
	0.00500	0.0200	ug/L	SW8081B
4,4'-DDT [2C]	0.170	0.670	ug/Kg	SW8081B
	0.00500	0.0200	ug/Kg	SW8081B
	0.00500	0.0200	ug/L	SW8081B
Aldrin	0.110	0.670	ug/Kg	SW8081B
	0.00330	0.0200	ug/Kg	SW8081B
	0.00330	0.0200	ug/L	SW8081B
Aldrin [2C]	0.110	0.670	ug/Kg	SW8081B
	0.00330	0.0200	ug/Kg	SW8081B
	0.00330	0.0200	ug/L	SW8081B
alpha-BHC	0.110	0.670	ug/Kg	SW8081B
alpha-BHC [2C]	0.110	0.670	ug/Kg	SW8081B
	0.00330	0.0200	ug/Kg	SW8081B
	0.00330	0.0200	ug/L	SW8081B
alpha-Chlordane	0.110	0.670	ug/Kg	SW8081B
	0.00330	0.0200	ug/Kg	SW8081B
	0.00330	0.0200	ug/L	SW8081B
beta-BHC	0.110	0.670	ug/Kg	SW8081B
	0.00330	0.0200	ug/Kg	SW8081B
	0.00330	0.0200	ug/L	SW8081B
beta-BHC [2C]	0.110	0.670	ug/Kg	SW8081B
	0.00330	0.0200	ug/Kg	SW8081B
	0.00330	0.0200	ug/L	SW8081B
delta-BHC	0.110	0.670	ug/Kg	SW8081B
	0.00330	0.0200	ug/L	SW8081B
	0.00330	0.0200	ug/Kg	SW8081B
Diieldrin	0.170	0.670	ug/Kg	SW8081B

## METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Instrument: GL-ECD3

Analyte	MDL	MRL	Units	Method
Dieldrin	0.00500	0.0200	ug/L	SW8081B
	0.00500	0.0200	ug/Kg	SW8081B
Dieldrin [2C]	0.00500	0.0200	ug/Kg	SW8081B
	0.00500	0.0200	ug/L	SW8081B
Endosulfan I	0.110	0.670	ug/Kg	SW8081B
	0.00330	0.0200	ug/L	SW8081B
	0.00330	0.0200	ug/Kg	SW8081B
Endosulfan II	0.170	0.670	ug/Kg	SW8081B
	0.00500	0.0200	ug/L	SW8081B
	0.00500	0.0200	ug/Kg	SW8081B
Endosulfan II [2C]	0.170	0.670	ug/Kg	SW8081B
	0.00500	0.0200	ug/L	SW8081B
	0.00500	0.0200	ug/Kg	SW8081B
Endosulfan sulfate	0.170	0.670	ug/Kg	SW8081B
	0.00500	0.0200	ug/L	SW8081B
	0.00500	0.0200	ug/Kg	SW8081B
Endrin	0.170	0.670	ug/Kg	SW8081B
	0.00500	0.0200	ug/L	SW8081B
	0.00500	0.0200	ug/Kg	SW8081B
Endrin [2C]	0.170	0.670	ug/Kg	SW8081B
Endrin aldehyde	0.170	0.670	ug/Kg	SW8081B
	0.00500	0.0200	ug/L	SW8081B
	0.00500	0.0200	ug/Kg	SW8081B
Endrin ketone	0.170	0.670	ug/Kg	SW8081B
	0.00500	0.0200	ug/L	SW8081B
	0.00500	0.0200	ug/Kg	SW8081B
gamma-BHC (Lindane)	0.110	0.670	ug/Kg	SW8081B
	0.00330	0.0200	ug/L	SW8081B
	0.00330	0.0200	ug/Kg	SW8081B
gamma-BHC (Lindane) [2C]	0.110	0.670	ug/Kg	SW8081B
gamma-Chlordane	0.110	0.670	ug/Kg	SW8081B
	0.00330	0.0200	ug/L	SW8081B
	0.00330	0.0200	ug/Kg	SW8081B
gamma-Chlordane [2C]	0.00330	0.0200	ug/L	SW8081B
	0.00330	0.0200	ug/Kg	SW8081B
Heptachlor	0.110	0.670	ug/Kg	SW8081B
	0.00330	0.0200	ug/L	SW8081B

## METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Instrument: GL-ECD3

Analyte	MDL	MRL	Units	Method
Heptachlor	0.00330	0.0200	ug/Kg	SW8081B
Heptachlor epoxide	0.110	0.670	ug/Kg	SW8081B
	0.00330	0.0200	ug/L	SW8081B
	0.00330	0.0200	ug/Kg	SW8081B
Heptachlor epoxide [2C]	0.110	0.670	ug/Kg	SW8081B
Methoxychlor	0.00330	0.0200	ug/L	SW8081B
	0.00330	0.0200	ug/Kg	SW8081B
Methoxychlor [2C]	0.110	0.670	ug/Kg	SW8081B
Toxaphene	11.0	33.0	ug/Kg	SW8081B
	0.330	1.00	ug/L	SW8081B
	0.330	1.00	ug/Kg	SW8081B

## ANALYSIS SEQUENCE SUMMARY

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0K32606

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0K32606-CAL1	001R0101.D	11/18/10 12:48
Cal Standard	0K32606-CAL1	001F0101.D	11/18/10 12:48
Cal Standard	0K32606-CAL2	002R0201.D	11/18/10 13:07
Cal Standard	0K32606-CAL2	002F0201.D	11/18/10 13:07
Cal Standard	0K32606-CAL3	003R0301.D	11/18/10 13:25
Cal Standard	0K32606-CAL3	003F0301.D	11/18/10 13:25
Cal Standard	0K32606-CAL4	004R0401.D	11/18/10 13:44
Cal Standard	0K32606-CAL4	004F0401.D	11/18/10 13:44
Cal Standard	0K32606-CAL5	005R0501.D	11/18/10 14:03
Cal Standard	0K32606-CAL5	005F0501.D	11/18/10 14:03
Cal Standard	0K32606-CAL6	006R0601.D	11/18/10 14:22
Cal Standard	0K32606-CAL6	006F0601.D	11/18/10 14:22
Initial Cal Check	0K32606-ICV1	007R0701.D	11/18/10 14:40
Initial Cal Check	0K32606-ICV1	007F0701.D	11/18/10 14:40

## INITIAL CALIBRATION STANDARDS

SW8082A

Laboratory:	Empirical Laboratories, LLC	SDG:	CTOJM17KW_003
Client:	Tetra Tech NUS, Inc. (T010)	Project:	NAS Key West CTO JM17
Sequence:	0K32606	Instrument:	GL-ECD3
Calibration:	0362003		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
10G0158	Aro-1660 Cal1@2500/125	0K32606-CAL1	001R0101.D	11/18/10 12:48
10G0158	Aro-1660 Cal1@2500/125	0K32606-CAL1	001F0101.D	11/18/10 12:48
10G0159	Aro-1660 Cal2@1000/50 (CCV)	0K32606-CAL2	002F0201.D	11/18/10 13:07
10G0159	Aro-1660 Cal2@1000/50 (CCV)	0K32606-CAL2	002R0201.D	11/18/10 13:07
10G0160	Aro-1660 Cal3@750/37.5	0K32606-CAL3	003F0301.D	11/18/10 13:25
10G0160	Aro-1660 Cal3@750/37.5	0K32606-CAL3	003R0301.D	11/18/10 13:25
10G0161	Aro-1660 Cal4@500/25	0K32606-CAL4	004F0401.D	11/18/10 13:44
10G0161	Aro-1660 Cal4@500/25	0K32606-CAL4	004R0401.D	11/18/10 13:44
10G0162	Aro-1660 Cal5@100/5	0K32606-CAL5	005F0501.D	11/18/10 14:03
10G0162	Aro-1660 Cal5@100/5	0K32606-CAL5	005R0501.D	11/18/10 14:03
10G0163	Aro-1660 Cal6@50/2.5	0K32606-CAL6	006R0601.D	11/18/10 14:22
10G0163	Aro-1660 Cal6@50/2.5	0K32606-CAL6	006F0601.D	11/18/10 14:22

# INITIAL CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 007F0701.D

Calibration Date: 12/23/10 15:56

Sequence: OK32606

Injection Date: 11/18/10

Lab Sample ID: OK32606-ICV1

Injection Time: 14:40

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Aroclor-1016 (1)	A	1000	965.8	1377.504	1330.475		-3.4	20
Aroclor-1016 (2)	A	1000	954.1	444.0847	423.696		-4.6	20
Aroclor-1016 (3)	A	1000	990.4	649.9719	643.709		-1.0	20
Aroclor-1016 (4)	A	1000	1001	648.8554	649.524		0.1	20
Aroclor-1016 (5)	A	1000	1007	518.3258	521.878		0.7	20
Aroclor-1016 (1) [2C]	A	1000	770.6	1116.305	860.241		-22.9	20 *
Aroclor-1016 (2) [2C]	A	1000	955.3	482.1738	460.605		-4.5	20
Aroclor-1016 (3) [2C]	A	1000	884.8	538.2843	476.271		-11.5	20
Aroclor-1016 (4) [2C]	A	1000	869.8	685.3173	596.06		-13.0	20
Aroclor-1016 (5) [2C]	A	1000	893.4	518.0925	462.882		-10.7	20
Aroclor-1260 (1)	A	1000	914.4	3707.263	3390.072		-8.6	20
Aroclor-1260 (2)	A	1000	999.0	1987.077	1985.004		-0.1	20
Aroclor-1260 (3)	A	1000	1044	2134.259	2227.99		4.4	20
Aroclor-1260 (4)	A	1000	845.2	1615.479	1365.422		-15.5	20
Aroclor-1260 (5)	A	1000	819.7	907.6331	744.024		-18.0	20
Aroclor-1260 (1) [2C]	A	1000	848.7	2013.278	1708.677		-15.1	20
Aroclor-1260 (2) [2C]	A	1000	914.8	1028.947	941.29		-8.5	20
Aroclor-1260 (3) [2C]	A	1000	939.9	1227.66	1153.839		-6.0	20
Aroclor-1260 (4) [2C]	A	1000	917.8	1169.368	1073.231		-8.2	20
Aroclor-1260 (5) [2C]	A	1000	816.1	921.5547	752.068		-18.4	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## ANALYSIS SEQUENCE SUMMARY

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36212

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0L36212-CAL1	003R0301.D	12/23/10 11:01
Cal Standard	0L36212-CAL1	003F0301.D	12/23/10 11:01
Cal Standard	0L36212-CAL2	004R0401.D	12/23/10 11:20
Cal Standard	0L36212-CAL2	004F0401.D	12/23/10 11:20
Cal Standard	0L36212-CAL3	005R0501.D	12/23/10 11:39
Cal Standard	0L36212-CAL3	005F0501.D	12/23/10 11:39
Cal Standard	0L36212-CAL4	006R0601.D	12/23/10 11:58
Cal Standard	0L36212-CAL4	006F0601.D	12/23/10 11:58
Cal Standard	0L36212-CAL5	007R0701.D	12/23/10 12:16
Cal Standard	0L36212-CAL5	007F0701.D	12/23/10 12:16
Cal Standard	0L36212-CAL6	008R0801.D	12/23/10 12:35
Cal Standard	0L36212-CAL6	008F0801.D	12/23/10 12:35
Cal Standard	0L36212-CAL7	009R0901.D	12/23/10 12:54
Cal Standard	0L36212-CAL7	009F0901.D	12/23/10 12:54

## INITIAL CALIBRATION STANDARDS

SW8082A

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Sequence: 0L36212  
 Calibration: 0362003

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Instrument: GL-ECD3

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
10I0162	Pest_ICAL7@1ppb	0L36212-CAL1	003R0301.D	12/23/10 11:01
10I0162	Pest_ICAL7@1ppb	0L36212-CAL1	003F0301.D	12/23/10 11:01
10I0161	Pest_ICAL6@5ppb	0L36212-CAL2	004F0401.D	12/23/10 11:20
10I0161	Pest_ICAL6@5ppb	0L36212-CAL2	004R0401.D	12/23/10 11:20
10I0160	Pest_ICAL5@10ppb	0L36212-CAL3	005F0501.D	12/23/10 11:39
10I0160	Pest_ICAL5@10ppb	0L36212-CAL3	005R0501.D	12/23/10 11:39
10I0159	Pest_ICAL4@25ppb	0L36212-CAL4	006F0601.D	12/23/10 11:58
10I0159	Pest_ICAL4@25ppb	0L36212-CAL4	006R0601.D	12/23/10 11:58
10I0158	Pest_ICAL3@50ppb	0L36212-CAL5	007F0701.D	12/23/10 12:16
10I0158	Pest_ICAL3@50ppb	0L36212-CAL5	007R0701.D	12/23/10 12:16
10I0157	Pest. AB/Sur CCV @ 100ppb	0L36212-CAL6	008F0801.D	12/23/10 12:35
10I0157	Pest. AB/Sur CCV @ 100ppb	0L36212-CAL6	008R0801.D	12/23/10 12:35
10I0155	Pest_ICAL1@200ppb	0L36212-CAL7	009R0901.D	12/23/10 12:54
10I0155	Pest_ICAL1@200ppb	0L36212-CAL7	009F0901.D	12/23/10 12:54

## INITIAL CALIBRATION DATA (Continued)

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362003

Instrument: GL-ECD3

Matrix: Water

Calibration Date: 12/23/2010 3:56:36PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Aroclor-1016 (1)	1377.504	4.536308	6.700333	3.426844E-02			20	
Aroclor-1016 (2)	444.0847	4.44248	5.826833	3.181603E-02			20	
Aroclor-1016 (3)	649.9719	4.621188	6.179167	3.737598E-02			20	
Aroclor-1016 (4)	648.8554	3.928386	6.382333	4.135933E-02			20	
Aroclor-1016 (5)	518.3258	5.712167	6.986333	4.281168E-02			20	
Aroclor-1016 (1) [2C]	1116.305	22.05288	5.6205	8.742721E-02			20	*
Aroclor-1016 (2) [2C]	482.1738	15.65584	5.207667	6.233316E-02			20	
Aroclor-1016 (3) [2C]	538.2843	19.29511	5.3845	6.561467E-02			20	
Aroclor-1016 (4) [2C]	685.3173	23.96236	5.673333	7.372141E-02			20	*
Aroclor-1016 (5) [2C]	518.0925	18.33539	6.050167	3.093481E-02			20	
Aroclor-1260 (1)	3707.263	5.739381	9.985833	4.225337E-02			20	
Aroclor-1260 (2)	1987.077	5.271371	8.871167	0.0462616			20	
Aroclor-1260 (3)	2134.259	6.546249	9.215667	0.0358565			20	
Aroclor-1260 (4)	1615.479	6.430938	9.3155	3.563058E-02			20	
Aroclor-1260 (5)	907.6331	8.228581	11.0785	2.856956E-02			20	
Aroclor-1260 (1) [2C]	2013.278	16.31731	8.419	8.340063E-03			20	
Aroclor-1260 (2) [2C]	1028.947	20.55875	7.164667	1.777219E-02			20	*
Aroclor-1260 (3) [2C]	1227.66	19.18172	7.3915	0.0314888			20	
Aroclor-1260 (4) [2C]	1169.368	18.45489	7.554333	1.416947E-02			20	
Aroclor-1260 (5) [2C]	921.5547	18.06768	8.109833	0.0215561			20	
Tetrachloro-m-xylene	28756.09	6.436385	5.549333	1.124923E-02			20	
Tetrachloro-m-xylene [2C]	28081.79	12.60113	4.667286	3.784695E-02			20	
Decachlorobiphenyl	28655.66	7.832286	11.845	9.537063E-03			20	
Decachlorobiphenyl [2C]	20853.67	18.98494	10.21386	3.150825E-03			20	
Aroclor-1016 (1)	1377.504	4.536308	6.700333	3.426844E-02			20	
Aroclor-1016 (2)	444.0847	4.44248	5.826833	3.181603E-02			20	
Aroclor-1016 (3)	649.9719	4.621188	6.179167	3.737598E-02			20	
Aroclor-1016 (4)	648.8554	3.928386	6.382333	4.135933E-02			20	
Aroclor-1016 (5)	518.3258	5.712167	6.986333	4.281168E-02			20	
Aroclor-1016 (1) [2C]	1116.305	22.05288	5.6205	8.742721E-02			20	*
Aroclor-1016 (2) [2C]	482.1738	15.65584	5.207667	6.233316E-02			20	
Aroclor-1016 (3) [2C]	538.2843	19.29511	5.3845	6.561467E-02			20	

## INITIAL CALIBRATION DATA (Continued)

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362003

Instrument: GL-ECD3

Matrix: Water

Calibration Date: 12/23/2010 3:56:36PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Aroclor-1016 (4) [2C]	685.3173	23.96236	5.673333	7.372141E-02			20	*
Aroclor-1016 (5) [2C]	518.0925	18.33539	6.050167	3.093481E-02			20	
Aroclor-1260 (1)	3707.263	5.739381	9.985833	4.225337E-02			20	
Aroclor-1260 (2)	1987.077	5.271371	8.871167	0.0462616			20	
Aroclor-1260 (3)	2134.259	6.546249	9.215667	0.0358565			20	
Aroclor-1260 (4)	1615.479	6.430938	9.3155	3.563058E-02			20	
Aroclor-1260 (5)	907.6331	8.228581	11.0785	2.856956E-02			20	
Aroclor-1260 (1) [2C]	2013.278	16.31731	8.419	8.340063E-03			20	
Aroclor-1260 (2) [2C]	1028.947	20.55875	7.164667	1.777219E-02			20	*
Aroclor-1260 (3) [2C]	1227.66	19.18172	7.3915	0.0314888			20	
Aroclor-1260 (4) [2C]	1169.368	18.45489	7.554333	1.416947E-02			20	
Aroclor-1260 (5) [2C]	921.5547	18.06768	8.109833	0.0215561			20	
Tetrachloro-m-xylenc	28756.09	6.436385	5.549333	1.124923E-02			20	
Tetrachloro-m-xylenc [2C]	28081.79	12.60113	4.667286	3.784695E-02			20	
Decachlorobiphenyl	28655.66	7.832286	11.845	9.537063E-03			20	
Decachlorobiphenyl [2C]	20853.67	18.98494	10.21386	3.150825E-03			20	

## ANALYSIS SEQUENCE SUMMARY

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36218

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	0L36218-CCV1	012F1201.D	12/23/10 13:49
Calibration Check	0L36218-CCV1	012R1201.D	12/23/10 13:49
Calibration Check	0L36218-CCV3	015R1501.D	12/23/10 14:46
Calibration Check	0L36218-CCV3	015F1501.D	12/23/10 14:46
Blank	0L16023-BLK1	024R2401.D	12/23/10 17:33
Blank	0L16023-BLK1	024F2401.D	12/23/10 17:33
LCS	0L16023-BS2	027R2701.D	12/23/10 18:29
LCS	0L16023-BS2	027F2701.D	12/23/10 18:29
LCS Dup	0L16023-BSD2	028R2801.D	12/23/10 18:47
LCS Dup	0L16023-BSD2	028F2801.D	12/23/10 18:47
BCHMS-FD001-1210	1012153-01	029F2901.D	12/23/10 19:06
BCHMS-FD001-1210	1012153-01	029R2901.D	12/23/10 19:06
BCHMS-GW-004-1210	1012153-02	030R3001.D	12/23/10 19:24
BCHMS-GW-004-1210	1012153-02	030F3001.D	12/23/10 19:24
BCHMS-GW-010-1210	1012153-09	031R3101.D	12/23/10 19:43
BCHMS-GW-010-1210	1012153-09	031F3101.D	12/23/10 19:43
BCHMS-GW-012-1210	1012153-11	032R3201.D	12/23/10 20:02
BCHMS-GW-012-1210	1012153-11	032F3201.D	12/23/10 20:02
Calibration Check	0L36218-CCV4	033F3301.D	12/23/10 20:20
Calibration Check	0L36218-CCV4	033R3301.D	12/23/10 20:20
Calibration Check	0L36218-CCV6	036R3601.D	12/23/10 21:16
Calibration Check	0L36218-CCV6	036F3601.D	12/23/10 21:16

# CONTINUING CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 012F1201.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV1

Injection Time: 13:49

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Tetrachloro-m-xylene	A	100.0	98.58	28756.09	28347.21		-1.4	20
Tetrachloro-m-xylene [2C]	A	100.0	91.96	28081.79	25825.3		-8.0	20
Decachlorobiphenyl	A	100.0	101.1	28655.66	28966.29		1.1	20
Decachlorobiphenyl [2C]	A	100.0	93.06	20853.67	19406.62		-6.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 015F1501.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV3

Injection Time: 14:46

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor-1016 (1)	A	1000	988.4	1377.504	1361.566		-1.2	20
Aroclor-1016 (2)	A	1000	1018	444.0847	452.034		1.8	20
Aroclor-1016 (3)	A	1000	1002	649.9719	651.285		0.2	20
Aroclor-1016 (4)	A	1000	999.9	648.8554	648.801		-0.008	20
Aroclor-1016 (5)	A	1000	1003	518.3258	520.106		0.3	20
Aroclor-1016 (1) [2C]	A	1000	1076	1116.305	1201.189		7.6	20
Aroclor-1016 (2) [2C]	A	1000	1216	482.1738	586.564		21.6	20 *
Aroclor-1016 (3) [2C]	A	1000	1135	538.2843	611.142		13.5	20
Aroclor-1016 (4) [2C]	A	1000	1093	685.3173	749.238		9.3	20
Aroclor-1016 (5) [2C]	A	1000	1244	518.0925	644.572		24.4	20 *
Aroclor-1260 (1)	A	1000	1103	3707.263	4089.587		10.3	20
Aroclor-1260 (2)	A	1000	1069	1987.077	2124.085		6.9	20
Aroclor-1260 (3)	A	1000	1045	2134.259	2230.917		4.5	20
Aroclor-1260 (4)	A	1000	1068	1615.479	1725.094		6.8	20
Aroclor-1260 (5)	A	1000	1122	907.6331	1017.991		12.2	20
Aroclor-1260 (1) [2C]	A	1000	1312	2013.278	2640.902		31.2	20 *
Aroclor-1260 (2) [2C]	A	1000	1236	1028.947	1271.271		23.6	20 *
Aroclor-1260 (3) [2C]	A	1000	1260	1227.66	1547.022		26.0	20 *
Aroclor-1260 (4) [2C]	A	1000	1258	1169.368	1471.273		25.8	20 *
Aroclor-1260 (5) [2C]	A	1000	1275	921.5547	1175.058		27.5	20 *

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

} 26.8

## CONTINUING CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 033F3301.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV4

Injection Time: 20:20

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Tetrachloro-m-xylene	A	100.0	102.8	28756.09	29567.04		2.8	20
Tetrachloro-m-xylene [2C]	A	100.0	86.10	28081.79	24177.35		-13.9	20
Decachlorobiphenyl	A	100.0	107.6	28655.66	30834.86		7.6	20
Decachlorobiphenyl [2C]	A	100.0	86.14	20853.67	17962.47		-13.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 036F3601.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV6

Injection Time: 21:16

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor-1016 (1)	A	1000	982.0	1377.504	1352.642		-1.8	20
Aroclor-1016 (2)	A	1000	1020	444.0847	453.099		2.0	20
Aroclor-1016 (3)	A	1000	1004	649.9719	652.838		0.4	20
Aroclor-1016 (4)	A	1000	1012	648.8554	656.811		1.2	20
Aroclor-1016 (5)	A	1000	1017	518.3258	526.997		1.7	20
Aroclor-1016 (1) [2C]	A	1000	970.0	1116.305	1082.86		-3.0	20
Aroclor-1016 (2) [2C]	A	1000	1214	482.1738	585.202		21.4	20 *
Aroclor-1016 (3) [2C]	A	1000	1116	538.2843	600.787		11.6	20
Aroclor-1016 (4) [2C]	A	1000	1096	685.3173	751.135		9.6	20
Aroclor-1016 (5) [2C]	A	1000	1170	518.0925	606.071		17.0	20
Aroclor-1260 (1)	A	1000	1065	3707.263	3948.096		6.5	20
Aroclor-1260 (2)	A	1000	1054	1987.077	2095.547		5.5	20
Aroclor-1260 (3)	A	1000	1030	2134.259	2199.215		3.0	20
Aroclor-1260 (4)	A	1000	1053	1615.479	1701.398		5.3	20
Aroclor-1260 (5)	A	1000	1064	907.6331	966.245		6.5	20
Aroclor-1260 (1) [2C]	A	1000	1182	2013.278	2378.81		18.2	20
Aroclor-1260 (2) [2C]	A	1000	1140	1028.947	1172.568		14.0	20
Aroclor-1260 (3) [2C]	A	1000	1163	1227.66	1427.768		16.3	20
Aroclor-1260 (4) [2C]	A	1000	1152	1169.368	1346.53		15.2	20
Aroclor-1260 (5) [2C]	A	1000	1168	921.5547	1076.398		16.8	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# PREPARATION BATCH SUMMARY

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L16023 Batch Matrix: Water

Preparation: EXT\_3510

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L16023-BLK1	12/17/10 14:10	1,000.00	5.00
LCS	0L16023-BS2	12/17/10 14:10	1,000.00	5.00
LCS Dup	0L16023-BSD2	12/17/10 14:10	1,000.00	5.00
BCHMS-FD001-1210	1012153-01	12/17/10 14:10	1,080.00	5.00
BCHMS-GW-004-1210	1012153-02	12/17/10 14:10	1,080.00	5.00
BCHMS-GW-010-1210	1012153-09	12/17/10 14:10	1,070.00	5.00
BCHMS-GW-012-1210	1012153-11	12/17/10 14:10	1,070.00	5.00



# ANALYSIS SEQUENCE SUMMARY

**SW8082A**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36408

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	0L36408-CCV1	003F1301.D	12/29/10 19:03
Calibration Check	0L36408-CCV1	003R1301.D	12/29/10 19:03
Calibration Check	0L36408-CCV3	006R1601.D	12/29/10 19:58
Calibration Check	0L36408-CCV3	006F1601.D	12/29/10 19:58
Blank	0L21019-BLK1	007R1701.D	12/29/10 20:17
Blank	0L21019-BLK1	007F1701.D	12/29/10 20:17
LCS	0L21019-BS2	009R1901.D	12/29/10 20:54
LCS	0L21019-BS2	009F1901.D	12/29/10 20:54
BCHMS-SO-004-1210	1012153-14	010R2001.D	12/29/10 21:13
BCHMS-SO-004-1210	1012153-14	010F2001.D	12/29/10 21:13
BCHMS-SO-010-1210	1012153-16	011R2101.D	12/29/10 21:31
BCHMS-SO-010-1210	1012153-16	011F2101.D	12/29/10 21:31
BCHMS-SO-012-1210	1012153-17	012F2201.D	12/29/10 21:50
BCHMS-SO-012-1210	1012153-17	012R2201.D	12/29/10 21:50
BCHMS-SO-024-1210	1012153-29	013F2301.D	12/29/10 22:08
BCHMS-SO-024-1210	1012153-29	013R2301.D	12/29/10 22:08
BCHMS-SO-025-1210	1012153-30	014R2401.D	12/29/10 22:27
BCHMS-SO-025-1210	1012153-30	014F2401.D	12/29/10 22:27
BCHMS-SO-028-1210	1012153-32	015R2501.D	12/29/10 22:46
BCHMS-SO-028-1210	1012153-32	015F2501.D	12/29/10 22:46
BCHMS-SO-FD02-1210	1012153-34	016R2601.D	12/29/10 23:04
BCHMS-SO-FD02-1210	1012153-34	016F2601.D	12/29/10 23:04
Calibration Check	0L36408-CCV4	020F3001.D	12/30/10 00:18
Calibration Check	0L36408-CCV4	020R3001.D	12/30/10 00:18
Calibration Check	0L36408-CCV6	023R3301.D	12/30/10 01:14
Calibration Check	0L36408-CCV6	023F3301.D	12/30/10 01:14

## CONTINUING CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 003F1301.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36408

Injection Date: 12/29/10

Lab Sample ID: 0L36408-CCV1

Injection Time: 19:03

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Tetrachloro-m-xylene	A	100.0	92.65	28756.09	26642.5		-7.4	20
Tetrachloro-m-xylene [2C]	A	100.0	85.97	28081.79	24141.42		-14.0	20
Decachlorobiphenyl	A	100.0	96.81	28655.66	27742.69		-3.2	20
Decachlorobiphenyl [2C]	A	100.0	90.03	20853.67	18774.13		-10.0	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 006F1601.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36408

Injection Date: 12/29/10

Lab Sample ID: 0L36408-CCV3

Injection Time: 19:58

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor-1016 (1)	A	1000	883.1	1377.504	1216.471		-11.7	20
Aroclor-1016 (2)	A	1000	910.5	444.0847	404.345		-8.9	20
Aroclor-1016 (3)	A	1000	918.3	649.9719	596.88		-8.2	20
Aroclor-1016 (4)	A	1000	910.0	648.8554	590.48		-9.0	20
Aroclor-1016 (5)	A	1000	922.6	518.3258	478.202		-7.7	20
Aroclor-1016 (1) [2C]	A	1000	1032	1116.305	1152.125		3.2	20
Aroclor-1016 (2) [2C]	A	1000	1150	482.1738	554.476		15.0	20
Aroclor-1016 (3) [2C]	A	1000	1086	538.2843	584.567		8.6	20
Aroclor-1016 (4) [2C]	A	1000	1021	685.3173	700.043		2.1	20
Aroclor-1016 (5) [2C]	A	1000	1167	518.0925	604.755		16.7	20
Aroclor-1260 (1)	A	1000	998.6	3707.263	3702.19		-0.1	20
Aroclor-1260 (2)	A	1000	984.1	1987.077	1955.435		-1.6	20
Aroclor-1260 (3)	A	1000	965.5	2134.259	2060.652		-3.4	20
Aroclor-1260 (4)	A	1000	993.0	1615.479	1604.267		-0.7	20
Aroclor-1260 (5)	A	1000	1005	907.6331	912.475		0.5	20
Aroclor-1260 (1) [2C]	A	1000	1228	2013.278	2472.964		22.8	20 *
Aroclor-1260 (2) [2C]	A	1000	1164	1028.947	1198.152		16.4	20
Aroclor-1260 (3) [2C]	A	1000	1185	1227.66	1455.223		18.5	20
Aroclor-1260 (4) [2C]	A	1000	1177	1169.368	1375.981		17.7	20
Aroclor-1260 (5) [2C]	A	1000	1210	921.5547	1115.494		21.0	20 *

} 19.3

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 020F3001.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36408

Injection Date: 12/30/10

Lab Sample ID: 0L36408-CCV4

Injection Time: 00:18

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Tetrachloro-m-xylene	A	100.0	94.64	28756.09	27215.86		-5.4	20
Tetrachloro-m-xylene [2C]	A	100.0	93.28	28081.79	26194.05		-6.7	20
Decachlorobiphenyl	A	100.0	99.24	28655.66	28437.12		-0.8	20
Decachlorobiphenyl [2C]	A	100.0	96.50	20853.67	20123.71		-3.5	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 023F3301.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36408

Injection Date: 12/30/10

Lab Sample ID: 0L36408-CCV6

Injection Time: 01:14

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor-1016 (1)	A	1000	1022	1377.504	1408.478		2.2	20
Aroclor-1016 (2)	A	1000	1001	444.0847	444.478		0.09	20
Aroclor-1016 (3)	A	1000	1009	649.9719	655.888		0.9	20
Aroclor-1016 (4)	A	1000	997.2	648.8554	647.046		-0.3	20
Aroclor-1016 (5)	A	1000	1012	518.3258	524.809		1.3	20
Aroclor-1016 (1) [2C]	A	1000	1111	1116.305	1240.091		11.1	20
Aroclor-1016 (2) [2C]	A	1000	1341	482.1738	646.761		34.1	20 *
Aroclor-1016 (3) [2C]	A	1000	1183	538.2843	637.033		18.3	20
Aroclor-1016 (4) [2C]	A	1000	1159	685.3173	794.512		15.9	20
Aroclor-1016 (5) [2C]	A	1000	1329	518.0925	688.426		32.9	20 *
Aroclor-1260 (1)	A	1000	1112	3707.263	4123.247		11.2	20
Aroclor-1260 (2)	A	1000	1094	1987.077	2174.101		9.4	20
Aroclor-1260 (3)	A	1000	1070	2134.259	2284.284		7.0	20
Aroclor-1260 (4)	A	1000	1094	1615.479	1767.536		9.4	20
Aroclor-1260 (5)	A	1000	1116	907.6331	1012.876		11.6	20
Aroclor-1260 (1) [2C]	A	1000	1396	2013.278	2810.017		39.6	20 *
Aroclor-1260 (2) [2C]	A	1000	1320	1028.947	1358.592		32.0	20 *
Aroclor-1260 (3) [2C]	A	1000	1337	1227.66	1641.648		33.7	20 *
Aroclor-1260 (4) [2C]	A	1000	1354	1169.368	1583.223		35.4	20 *
Aroclor-1260 (5) [2C]	A	1000	1378	921.5547	1269.799		37.8	20 *

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk.

\* Values outside of QC limits

# PREPARATION BATCH SUMMARY

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L21019 Batch Matrix: Solid

Preparation: EXT\_3546

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L21019-BLK1	12/22/10 14:30	15.00	5.00
LCS	0L21019-BS2	12/22/10 14:30	15.00	5.00
BCHMS-SO-004-1210	1012153-14	12/22/10 14:30	15.20	5.00
BCHMS-SO-010-1210	1012153-16	12/22/10 14:30	15.60	5.00
BCHMS-SO-012-1210	1012153-17	12/22/10 14:30	15.70	5.00
BCHMS-SO-024-1210	1012153-29	12/22/10 14:30	15.30	5.00
BCHMS-SO-025-1210	1012153-30	12/22/10 14:30	15.40	5.00
BCHMS-SO-028-1210	1012153-32	12/22/10 14:30	15.60	5.00
BCHMS-SO-FD02-1210	1012153-34	12/22/10 14:30	15.60	5.00



## METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Instrument: GL-ECD3

Analyte	MDL	MRL	Units	Method
Aroclor-1016	4.20	17.0	ug/Kg	SW8082A
	0.120	0.500	ug/L	SW8082A
Aroclor-1221	4.20	17.0	ug/Kg	SW8082A
	0.120	0.500	ug/L	SW8082A
Aroclor-1232	4.20	17.0	ug/Kg	SW8082A
	0.120	0.500	ug/L	SW8082A
Aroclor-1242	4.20	17.0	ug/Kg	SW8082A
	0.120	0.500	ug/L	SW8082A
Aroclor-1248	4.20	17.0	ug/Kg	SW8082A
	0.120	0.500	ug/L	SW8082A
Aroclor-1254	4.20	17.0	ug/Kg	SW8082A
	0.120	0.500	ug/L	SW8082A
Aroclor-1260	4.20	17.0	ug/Kg	SW8082A
	0.120	0.500	ug/L	SW8082A
Aroclor-1262	4.20	17.0	ug/Kg	SW8082A
	0.120	0.500	ug/L	SW8082A
Aroclor-1268	4.20	17.0	ug/Kg	SW8082A
	0.120	0.500	ug/L	SW8082A

**ANALYSIS SEQUENCE SUMMARY**  
**FLPRO**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Sequence: 0L35416  
 Calibration: 0354003

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Instrument: GL-GCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0L35416-CAL6	003F0401.D	12/17/10 16:36
Cal Standard	0L35416-CAL5	004F0501.D	12/17/10 17:18
Cal Standard	0L35416-CAL4	005F0601.D	12/17/10 18:00
Cal Standard	0L35416-CAL3	006F0701.D	12/17/10 18:42
Cal Standard	0L35416-CAL2	007F0801.D	12/17/10 19:24
Cal Standard	0L35416-CAL1	008F0901.D	12/17/10 20:07
Initial Cal Check	0L35416-ICV1	009F1001.D	12/17/10 20:49



# INITIAL CALIBRATION DATA (Continued)

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0354003

Instrument: GL-GCFID2

Matrix: Water

Calibration Date: 12/17/2010 12:00:26AM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Petroleum Range Organics	1161.673	7.581268	2.9	1.880959E-02			20	
2-Fluorobiphenyl	1907.535	7.252165	11.5235	0.0596244			20	
o-Terphenyl	2029.693	5.729139	17.02467	2.901856E-02			20	

# INITIAL CALIBRATION CHECK

## FLPRO

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_003</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Instrument ID: <u>GL-GCFID2</u>	Calibration: <u>0354003</u>
Lab File ID: <u>009F1001.D</u>	Calibration Date: <u>12/17/10 00:00</u>
Sequence: <u>0L35416</u>	Injection Date: <u>12/17/10</u>
Lab Sample ID: <u>0L35416-ICV1</u>	Injection Time: <u>20:49</u>

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Petroleum Range Organics	A	4000	4535	1161.673	1316.997		13.4	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# ANALYSIS SEQUENCE SUMMARY

## FLPRO

Laboratory:	<u>Empirical Laboratories, LLC</u>	SDG:	<u>CTOJM17KW_003</u>
Client:	<u>Tetra Tech NUS, Inc. (T010)</u>	Project:	<u>NAS Key West CTO JM17</u>
Sequence:	<u>0L35614</u>	Instrument:	<u>GL-GCFID2</u>
Calibration:	<u>0354003</u>		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	0L35614-CCV1	014F1401.D	12/20/10 19:39
Calibration Check	0L35614-CCV2	028F2801.D	12/21/10 05:31
Blank	0L16024-BLK1	034F3401.D	12/21/10 09:44
LCS	0L16024-BS1	035F3501.D	12/21/10 10:26
LCS Dup	0L16024-BSD1	036F3601.D	12/21/10 11:08
BCHMS-FD001-1210	1012153-01	037F3701.D	12/21/10 11:50
BCHMS-GW-004-1210	1012153-02	038F3801.D	12/21/10 12:33
BCHMS-GW-005-1210	1012153-03	039F3901.D	12/21/10 13:15
BCHMS-GW-006-1210	1012153-04	040F4001.D	12/21/10 13:57
Calibration Check	0L35614-CCV3	042F4201.D	12/21/10 15:21
BCHMS-GW-007-1210	1012153-05	043F4301.D	12/21/10 16:03
BCHMS-FD002-1210	1012153-06	044F4401.D	12/21/10 16:45
BCHMS-GW-008-1210	1012153-07	045F4501.D	12/21/10 17:27
BCHMS-GW-009D-1210	1012153-08	046F4601.D	12/21/10 18:09
BCHMS-GW-010-1210	1012153-09	047F4701.D	12/21/10 18:52
BCHMS-GW-011-1210	1012153-10	048F4801.D	12/21/10 19:34
BCHMS-GW-012-1210	1012153-11	049F4901.D	12/21/10 20:16
Calibration Check	0L35614-CCV4	053F5301.D	12/21/10 23:04

# CONTINUING CALIBRATION CHECK

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-GCFID2

Calibration: 0354003

Lab File ID: 014F1401.D

Calibration Date: 12/17/10 00:00

Sequence: 0L35614

Injection Date: 12/20/10

Lab Sample ID: 0L35614-CCV1

Injection Time: 19:39

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	4280	1161.673	1169.886		0.7	25
2-Fluorobiphenyl	A	25.00	27.12	1907.535	2069.6		8.5	25
o-Terphenyl	A	25.00	26.37	2029.693	2141.04		5.5	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-GCFID2

Calibration: 0354003

Lab File ID: 028F2801.D

Calibration Date: 12/17/10 00:00

Sequence: 0L35614

Injection Date: 12/21/10

Lab Sample ID: 0L35614-CCV2

Injection Time: 05:31

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	4489	1161.673	1226.935		5.6	25
2-Fluorobiphenyl	A	25.00	27.82	1907.535	2122.96		11.3	25
o-Terphenyl	A	25.00	27.34	2029.693	2220.12		9.4	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

### FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-GCFID2

Calibration: 0354003

Lab File ID: 042F4201.D

Calibration Date: 12/17/10 00:00

Sequence: 0L35614

Injection Date: 12/21/10

Lab Sample ID: 0L35614-CCV3

Injection Time: 15:21

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	4638	1161.673	1267.761		9.1	25
2-Fluorobiphenyl	A	25.00	28.42	1907.535	2168.2		13.7	25
o-Terphenyl	A	25.00	28.24	2029.693	2292.88		13.0	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-GCFID2

Calibration: 0354003

Lab File ID: 053F5301.D

Calibration Date: 12/17/10 00:00

Sequence: 0L35614

Injection Date: 12/21/10

Lab Sample ID: 0L35614-CCV4

Injection Time: 23:04

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	4542	1161.673	1241.544		6.9	25
2-Fluorobiphenyl	A	25.00	27.47	1907.535	2096.04		9.9	25
o-Terphenyl	A	25.00	27.50	2029.693	2232.32		10.0	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits





**ANALYSIS SEQUENCE SUMMARY**  
**FLPRO**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36411

Instrument: GL-GCFID2

Calibration: 0364001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0L36411-CAL6	003F0901.D	12/29/10 18:11
Cal Standard	0L36411-CAL5	004F1001.D	12/29/10 18:53
Cal Standard	0L36411-CAL4	005F1101.D	12/29/10 19:36
Cal Standard	0L36411-CAL3	006F1201.D	12/29/10 20:18
Cal Standard	0L36411-CAL2	007F1301.D	12/29/10 21:00
Cal Standard	0L36411-CAL1	008F1401.D	12/29/10 21:42
Initial Cal Check	0L36411-ICV1	009F1501.D	12/29/10 22:25



## INITIAL CALIBRATION DATA (Continued)

### FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0364001

Instrument: GL-GCFID2

Matrix: Water

Calibration Date: 12/29/2010 12:00:36AM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Petroleum Range Organics	846.2533	11.13636	2.807	9.406812E-03			20	
2-Fluorobiphenyl	1294.737	4.223345	11.45083	2.783708E-02			20	
o-Terphenyl	1329	10.13905	16.96417	2.080324E-02			20	

# INITIAL CALIBRATION CHECK

## FLPRO

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_003</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Instrument ID: <u>GL-GCFID2</u>	Calibration: <u>0364001</u>
Lab File ID: <u>009F1501.D</u>	Calibration Date: <u>12/29/10 00:00</u>
Sequence: <u>0L36411</u>	Injection Date: <u>12/29/10</u>
Lab Sample ID: <u>0L36411-ICV1</u>	Injection Time: <u>22:25</u>

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Petroleum Range Organics	A	4000	4363	846.2533	922.973		9.1	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**ANALYSIS SEQUENCE SUMMARY**  
**FLPRO**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Sequence: 1A00404  
 Calibration: 0364001

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Instrument: GL-GCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	1A00404-CCV1	010F1601.D	12/29/10 23:07
Blank	0L21018-BLK1	011F1701.D	12/29/10 23:49
LCS	0L21018-BS1	012F1801.D	12/30/10 00:32
BCHMS-SO-002-1210	1012153-13	013F1901.D	12/30/10 01:14
BCHMS-SO-002-1210	0L21018-MS1	014F2001.D	12/30/10 01:56
BCHMS-SO-002-1210	0L21018-MSD1	015F2101.D	12/30/10 02:38
BCHMS-SO-004-1210	1012153-14	016F2201.D	12/30/10 03:21
BCHMS-SO-007-1210	1012153-15	017F2301.D	12/30/10 04:03
BCHMS-SO-010-1210	1012153-16	018F2401.D	12/30/10 04:45
BCHMS-SO-012-1210	1012153-17	019F2501.D	12/30/10 05:28
BCHMS-SO-013-1210	1012153-18	020F2601.D	12/30/10 06:10
BCHMS-SO-014-1210	1012153-19	021F2701.D	12/30/10 06:53
BCHMS-SO-015-1210	1012153-20	022F2801.D	12/30/10 07:35
BCHMS-SO-016-1210	1012153-21	023F2901.D	12/30/10 08:17
BCHMS-SO-017-1210	1012153-22	024F3101.D	12/30/10 09:41
Calibration Check	1A00404-CCV2	025F3201.D	12/30/10 10:23
BCHMS-SO-018-1210	1012153-23	026F3301.D	12/30/10 11:05
BCHMS-SO-019-1210	1012153-24	027F3401.D	12/30/10 11:47
BCHMS-SO-020-1210	1012153-25	028F3501.D	12/30/10 12:30
BCHMS-SO-021-1210	1012153-26	029F3601.D	12/30/10 13:12
BCHMS-SO-022-1210	1012153-27	030F3701.D	12/30/10 13:54
BCHMS-SO-023-1210	1012153-28	031F3801.D	12/30/10 14:37
BCHMS-SO-024-1210	1012153-29	032F3901.D	12/30/10 15:19
BCHMS-SO-025-1210	1012153-30	033F4001.D	12/30/10 16:01
BCHMS-SO-026-1210	1012153-31	034F4101.D	12/30/10 16:43
BCHMS-SO-028-1210	1012153-32	035F4201.D	12/30/10 17:25
Calibration Check	1A00404-CCV3	036F4301.D	12/30/10 18:07
Blank	0L22009-BLK1	037F4401.D	12/30/10 18:49
LCS	0L22009-BS1	038F4501.D	12/30/10 19:31
LCS Dup	0L22009-BSD1	039F4601.D	12/30/10 20:13
BCHMS-SO-FD01-1210	1012153-33	040F4701.D	12/30/10 20:55
BCHMS-SO-FD02-1210	1012153-34	041F4801.D	12/30/10 21:37

# CONTINUING CALIBRATION CHECK

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-GCFID2

Calibration: 0364001

Lab File ID: 010F1601.D

Calibration Date: 12/29/10 00:00

Sequence: 1A00404

Injection Date: 12/29/10

Lab Sample ID: 1A00404-CCV1

Injection Time: 23:07

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	4045	846.2533	805.3569		-4.8	25
2-Fluorobiphenyl	A	25.00	24.28	1294.737	1257.64		-2.9	25
o-Terphenyl	A	25.00	24.08	1329	1280.04		-3.7	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

## FLPRO

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_003</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Instrument ID: <u>GL-GCFID2</u>	Calibration: <u>0364001</u>
Lab File ID: <u>025F3201.D</u>	Calibration Date: <u>12/29/10 00:00</u>
Sequence: <u>1A00404</u>	Injection Date: <u>12/30/10</u>
Lab Sample ID: <u>1A00404-CCV2</u>	Injection Time: <u>10:23</u>

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	4364	846.2533	869.04		2.7	25
2-Fluorobiphenyl	A	25.00	28.41	1294.737	1471.48		13.7	25
o-Terphenyl	A	25.00	27.00	1329	1435.08		8.0	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

### FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-GCFID2

Calibration: 0364001

Lab File ID: 036F4301.D

Calibration Date: 12/29/10 00:00

Sequence: 1A00404

Injection Date: 12/30/10

Lab Sample ID: 1A00404-CCV3

Injection Time: 18:07

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	4176	846.2533	831.4478		-1.7	25
2-Fluorobiphenyl	A	25.00	28.51	1294.737	1476.44		14.0	25
o-Terphenyl	A	25.00	26.60	1329	1414.2		6.4	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

### FLPRO

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_003</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Instrument ID: <u>GL-GCFID2</u>	Calibration: <u>0364001</u>
Lab File ID: <u>052F5901.D</u>	Calibration Date: <u>12/29/10 00:00</u>
Sequence: <u>1A00404</u>	Injection Date: <u>12/31/10</u>
Lab Sample ID: <u>1A00404-CCV4</u>	Injection Time: <u>05:23</u>

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	4688	846.2533	933.4878		10.3	25
2-Fluorobiphenyl	A	25.00	31.38	1294.737	1625.28		25.5	25 *
o-Terphenyl	A	25.00	28.44	1329	1511.68		13.7	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# ANALYSIS SEQUENCE SUMMARY

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 1A00404

Instrument: GL-GCFID2

Calibration: 0364001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	1A00404-CCV4	052F5901.D	12/31/10 05:23





# PREPARATION BATCH SUMMARY

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L22009

Batch Matrix: Solid

Preparation: EXT\_3546

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L22009-BLK1	12/23/10 13:38	15.00	2.00
LCS	0L22009-BS1	12/23/10 13:38	15.00	2.00
LCS Dup	0L22009-BSD1	12/23/10 13:38	15.00	2.00
BCHMS-SO-FD01-1210	1012153-33	12/23/10 13:38	15.30	2.00
BCHMS-SO-FD02-1210	1012153-34	12/23/10 13:38	15.30	2.00



## METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Instrument: GL-GCFID2

Analyte	MDL	MRL	Units	Method
Petroleum Range Organics	11.3	45.2	mg/Kg	FLPRO
	0.170	0.680	mg/L	FLPRO
	0.170	0.510	mg/Kg	FLPRO



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- Matrix Spike / Matrix Spike Duplicate Recoveries
- Laboratory Control Sample Recoveries
- ICP Serial Dilution Results
- \* • Field Duplicate Results
- \* • Detection Limits

\* - All quality control criteria were met for this parameter.

### **METALS:**

The following contaminants were detected in the laboratory calibration blanks and preparation blanks at the following maximum concentrations:

<u>Analyte</u>	<u>Maximum Concentration</u>	<u>Action Level</u>
Chromium <sup>(1)</sup>	0.204 mg/kg	1.0 mg/kg
Iron <sup>(1)</sup>	3.18 mg/kg	15.9 mg/kg
Zinc <sup>(1)</sup>	1.16 mg/kg	5.8 mg/kg
Sodium <sup>(2)</sup>	537 ug/L	2685 ug/L, 537 mg/kg
Chromium <sup>(3)</sup>	0.22 mg/kg	1.1 mg/kg
Zinc <sup>(3)</sup>	0.845 mg/kg	4.2 mg/kg
Sodium <sup>(4)</sup>	573 ug/L	2865 ug/L

(1) The maximum concentration found in a preparation blank affecting samples in preparation batch 0L28005.

(2) The maximum concentration found in a calibration blank on 1/3/11 affecting samples BCHMS-GW-009D-1210, BCHMS-SO-002-1210, BCHMS-SO-004-1210, BCHMS-SO-007-1210, BCHMS-SO-010-1210, BCHMS-SO-012-1210, BCHMS-SO-013-1210, BCHMS-SO-014-1210, BCHMS-SO-015-1210, BCHMS-SO-016-1210, BCHMS-SO-017-1210, BCHMS-SO-018-1210, BCHMS-SO-019-1210, BCHMS-SO-021-1210, BCHMS-SO-FD01-1210, and BCHMS-SO-FD02-1210.

(3) The maximum concentration found in a preparation blank affecting samples in preparation batch 0L28004.

(4) The maximum concentration found in a calibration blank on 1/4/11 affecting samples BCHMS-FD001-1210, BCHMS-GW-004-1210, and BCHMS-GW-005-1210.

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot, percent solids and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results less than the blank action level were qualified "U" as a result of laboratory blank contamination.

The continuing calibration analyzed on 12/29/10 at 19:44 had a percent recovery <90 for chromium. Samples BCHMS-GW-009D-1210 and BCHMS-GW-010-1210 were affected. The positive result was qualified as estimated (J) and the non-detected result was qualified as estimated (UJ).

The continuing calibration analyzed on 1/3/11 at 18:14 had a percent recovery >110% for potassium. Sample BCHMS-GW-009D-1210 was affected. The positive result was qualified as estimated (J).

The continuing calibration analyzed on 1/3/11 at 19:28 had a percent recovery >110% for potassium and sodium and a percent recovery <90% for calcium. Samples BCHMS-GW-006-1210, BCHMS-GW-008-1210, BCHMS-GW-009D-1210, BCHMS-GW-011-1210, and BCHMS-

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GW-012-1210 were affected. All positive calcium results were qualified as estimated (J). Positive potassium and sodium results for BCHMS-GW-009D-1210 were qualified as estimated (J).

The continuing calibration analyzed on 1/4/11 at 16:30 had a percent recovery >110% for aluminum and potassium and a percent recovery <90% for calcium. Samples BCHMS-FD001-1210, BCHMS-FD002-1210, BCHMS-GW-004-1210, BCHMS-GW-005-1210, BCHMS-GW-006-1210, and BCHMS-GW-007-1210 were affected. Positive results were qualified as estimated (J).

The continuing calibration analyzed on 1/4/11 at 17:33 had a percent recovery >110% potassium and a percent recovery <90% for calcium and chromium. Samples BCHMS-FD001-1210, BCHMS-FD002-1210, BCHMS-GW-004-1210, BCHMS-GW-005-1210, BCHMS-GW-006-1210, BCHMS-GW-007-1210, BCHMS-GW-008-1210, BCHMS-GW-010-1210, BCHMS-GW-011-1210, BCHMS-GW-012-1210, and BCHMS-SO-002-1210 were affected. Positive results were qualified as estimated (J) and non-detected results were qualified as estimated (UJ).

The matrix spike and matrix spike duplicate for preparation batch 0L27010 (affecting aqueous samples) had a percent recovery >120% for silver, aluminum, antimony, arsenic, copper, and selenium. All samples in preparation batch 0L27010 were affected. Positive results were qualified as estimated (J) and non-detected results were not qualified.

The laboratory control sample for batch 0L27010 (affecting aqueous samples) had a percent recovery > 120% for potassium and sodium. All samples in preparation batch 0L27010 were affected. Positive results were qualified as estimated (J).

The serial dilution for preparation batch 0L27010 (affecting aqueous samples) had a percent difference >10% for potassium. All samples in preparation batch 0L27010 were affected. Positive results were qualified as estimated (J).

#### **MERCURY:**

All sample results were within quality control limits.

#### **Notes:**

Several samples were analyzed at dilutions for aluminum, cadmium, calcium, chromium, copper, lead, manganese, potassium, sodium, thallium, and zinc due to high concentrations in the samples.

The continuing calibration analyzed on 12/29/10 at 1830 had a percent recovery >110% for antimony, potassium, and sodium. No action was required because none of the above analytes were reported from this calibration.

The matrix spike and matrix spike duplicate for preparation batch 0L28004 had a percent recovery >120% for potassium. All samples in preparation batch 0L28004 were affected. No validation action was required as sample results were all non-detected.

#### **Executive Summary**

**Laboratory Performance:** Preparation and calibration blank non-compliances resulted in the qualification of sample results. Several calibration non-compliances resulted in the qualification of sample results. LCS non-compliances for potassium and sodium resulted in the qualification of sample results. Serial dilution non-compliances for potassium resulted in the qualification of sample results.

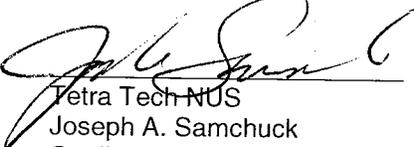
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**Other Factors Affecting Data Quality:** Matrix spike non-compliances for silver, aluminum, antimony, arsenic, copper, and selenium resulted in the qualification of sample results.

The data for these analyses were reviewed with reference to "National Functional Guidelines for Inorganic Review", October 2004 and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories", January 2006.

The text of this report has been formulated to address only those problem areas affecting data quality.

  
Tetra Tech NUS  
Megan Carson  
Chemist/Data Validator

  
Tetra Tech NUS  
Joseph A. Samchuck  
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**APPENDIX A**

**QUALIFIED ANALYTICAL RESULTS**

**Data Validation Qualifier Codes:**

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS - GFAA MSA's  $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ( $< 2 \times$  IDL for inorganics and  $<$ CRQL for organics)  
Other problems (can be any number of issues; e.g. poor chromatography,interferences, etc.)
- Q =
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin  
% Difference between columns/detectors  $>25\%$  for positive results determined via
- U = GC/HPLC
- V = Non-linear calibrations; correlation coefficient  $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids  $<30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

PARAMETER	NSAMPLE		BCHMS-FD001-1210		BCHMS-FD002-1210		BCHMS-GW-004-1210		BCHMS-GW-005-1210	
	LAB_ID	SAMP_DATE	RESULT	QLCD	RESULT	QLCD	RESULT	QLCD	RESULT	QLCD
ALUMINUM	1012153-01	12/12/2010	596 J	CD	1050 J	CD	514 J	CD	537 J	CD
ANTIMONY			6 U		5 U		5 U		5 U	
ARSENIC			3 U		3 U		3 U		3 U	
BARIUM			24.5 J	P	22.3 J	P	25.4 J	P	25.8 J	P
BERYLLIUM			1 U		1 U		1 U		1 U	
CADMIUM			16.2 J	P	17.2 J	P	20.5 J	P	17.3 J	P
CALCIUM			586000 J	C	499000 J	C	568000 J	C	546000 J	C
CHROMIUM			10 U		10 UJ	C	10 U		10 UJ	C
COBALT			5 U		5 U		5 U		5 U	
COPPER			10 U		4 U		10 U		10 U	
IRON			461		432		404		1440	
LEAD			15 U		10 U		15 U		7.5 U	
MAGNESIUM			1450000		1080000		1500000		1450000	
MANGANESE			23.3		25.4		22.9		24.2	
MERCURY			0.12 U		0.08 U		0.13 U		0.11 U	
NICKEL			3 U		3.14 J	P	3 U		3 U	
POTASSIUM			511000 J	CEI	423000 J	CEI	566000 J	CEI	507000 J	CEI
SELENIUM			3.78 J	DP	3 U		3.21 J	DP	3 U	
SILVER			1 U		1 U		1 U		1 U	
SODIUM			1040000 J	E	8270000 J	E	1140000 J	E	1120000 J	E
THALLIUM			3 U		4 U		3 U		3 U	
VANADIUM			5 U		5.52 J	P	5 U		5 U	
ZINC			25 U		31.1 J	P	25 U		25 U	

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-006-1210	BCHMS-GW-007-1210	BCHMS-GW-008-1210	BCHMS-GW-009D-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-04	1012153-05	1012153-07	1012153-08				
FRACTION: M	SAMP_DATE	12/12/2010	12/12/2010	12/13/2010	12/13/2010				
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/L	UG/L	UG/L	UG/L				
	PCT_SOLIDS	0.0	0.0	0.0	0.0				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALUMINIUM	50 U			2920 J	50 U	CD	50 U	95.2 J	DP
ANTIMONY	5 U			5 U	5 U		5 U	5 U	
ARSENIC	3 U			3 U	3 U		3 U	3 U	
BARIUM	19.1 J		P	25.2 J	26.1 J	P	26.1 J	5 U	
BERYLLIUM	1 U			1 U	1 U		1 U	1 U	
CADMIUM	16.9 J		P	16.6 J	14.9 J	P	14.9 J	1.86 J	P
CALCIUM	434000 J		C	529000 J	417000 J	C	417000 J	102000 J	C
CHROMIUM	10 UJ		C	10 UJ	10 UJ	C	10 UJ	2 UJ	C
COBALT	5 U			5 U	5 U		5 U	5 U	
COPPER	9 U			8 U	8 U		8 U	4 U	
IRON	37.3 J		P	1060	36.4 J	P	36.4 J	30 U	
LEAD	15 U			7.5 U	7.5 U		7.5 U	2 U	
MAGNESIUM	1120000			1140000	987000		987000	32700	
MANGANESE	9.24 J		P	16.9	30.4		30.4	6.62 J	P
MERCURY	0.09 U			0.08 U	0.1 U		0.1 U	0.11 U	
NICKEL	3 U			3 U	3 U		3 U	3 U	
POTASSIUM	445000 J		CEI	420000 J	366000 J	CEI	366000 J	7210 J	CEI
SELENIUM	3 U			8.19 J	3 U	DP	3 U	3 U	
SILVER	1 U			1 U	1 U		1 U	1 U	
SODIUM	9060000 J		E	8450000 J	8230000 J	E	8230000 J	93800 J	EC
THALLIUM	3 U			3 U	3 U		3 U	3 U	
VANADIUM	5 U			5.13 J	5 U	P	5 U	5 U	
ZINC	25 U			25 U	25 U		25 U	5 U	

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-010-1210	BCHMS-GW-011-1210	BCHMS-GW-012-1210					
SDG: CTOJM17KW_3	LAB_ID	1012153-09	1012153-10	1012153-11					
FRACTION: M	SAMP_DATE	12/13/2010	12/13/2010	12/13/2010					
MEDIA: WATER	QC_TYPE	NM	NM	NM					
	UNITS	UG/L	UG/L	UG/L					
	PCT_SOLIDS	0.0	0.0	0.0					
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALUMINIUM	5870 J	5 U	D	493 J	5 U	D	1680 J	5 U	D
ANTIMONY	6.45 J	45	DP	19.1 J	1 U	P	3.54 J	3 U	DP
ARSENIC	6.56	1 U		13.6 J	1 U	P	22.3 J	1 U	P
BARIUM	1220000 J	5 U	C	395000 J	5 U	C	425000 J	5 U	C
BERYLLIUM	23.2 J	5 U	C	10 UJ	5 U	C	10 UJ	5 U	C
CADMIUM	41 J	41 J	D	4 U	4 U		4 U	4 U	
CALCIUM	4160	71.9		232	7.5 U		572	10 U	
CHROMIUM	396000	77.5		1070000	21.6		1050000	34.5	
COBALT	0.119 J	0.119 J	P	0.09 U	0.1 U		0.1 U	0.1 U	
COPPER	7.47 J	7.47 J	P	3.4 J	3 U	P	3 U	3 U	
IRON	142000 J	3 U	CEI	383000 J	3 U	CEI	382000 J	3 U	CEI
LEAD	3	1 U		5.47 J	1 U	DP	4.24 J	1 U	DP
MAGNESIUM	3610000 J	3 U	E	8670000 J	4 U	E	7960000 J	3 U	E
MANGANESE	14.7	84.2 J	P	29.8 J	5 U	P	25 U	5 U	P
MERCURY	84.2 J	84.2 J	P	29.8 J	5 U	P	25 U	5 U	P
NICKEL									
POTASSIUM									
SELENIUM									
SILVER									
SODIUM									
THALLIUM									
VANADIUM									
ZINC									

PROJ_NO: 02608	NSAMPLE		BCHMS-SO-002-1210		BCHMS-SO-004-1210		BCHMS-SO-007-1210		BCHMS-SO-010-1210			
	SDG: CTOJM17KW_3	LAB_ID	1012153-13	1012153-14	1012153-15	1012153-16	1012153-15	1012153-15	1012153-16	1012153-16		
FRACTION: M	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010	12/14/2010	12/14/2010	12/14/2010	12/14/2010	12/14/2010		
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM	NM	NM	NM	NM	NM		
	UNITS	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG		
	PCT_SOLIDS	87.5	86.3	86.3	86.3	86.3	86.3	86.3	86.3	73.2		
	DUP_OF											
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALUMINUM	205 J		P	489			165 J		P	599		
ANTIMONY	1.14 U			1.05 U			0.993 U			1.31 U		
ARSENIC	0.686 U			0.632 U			0.596 U			1.74 J		P
BARIUM	7.01 J		P	6.6 J		P	6.61 J		P	12.1		
BERYLLIUM	0.229 U			0.211 U			0.199 U			0.263 U		
CADMIUM	0.323 J		P	0.32 J		P	0.387 J		P	0.368 J		P
CALCIUM	369000 J		C	353000			186000			359000		
CHROMIUM	2.44			3.17			2.4			7.47		
COBALT	1.14 U			1.05 U			0.993 U			1.31 U		
COPPER	0.914 U			0.843 U			0.794 U			13.2		
IRON	83.6			296			91.2			6470		
LEAD	1.71 U			2.32 J		P	1.49 U			15		
MAGNESIUM	937 J		P	1260			945 J		P	1510		
MANGANESE	1.77 J		P	7.01			1.71 J		P	27.1		
MERCURY	0.0117 U			0.0146 J		P	0.0159 J		P	0.285		
NICKEL	0.992 J		P	1.42 J		P	0.775 J		P	4.26		
POTASSIUM	229 U			211 U			199 U			263 U		
SELENIUM	0.686 U			0.632 U			0.596 U			0.828 J		P
SILVER	0.457 U			0.422 U			0.397 U			0.263 U		
SODIUM	1030 J		P	2410			986 J		P	3070		
THALLIUM	1.83 U			1.26 U			1.59 U			2.1 U		
VANADIUM	1.14 U			1.53 J		P	0.993 U			2.59 J		P
ZINC	5.71 U			5.27 U			4.96 U			33.2		





PROJ_NO: 02608 SDG: CTOJM17KW_3 FRACTION: M MEDIA: SOIL	NSAMPLE		BCHMS-SO-016-1210		BCHMS-SO-017-1210		BCHMS-SO-018-1210		BCHMS-SO-019-1210																
	LAB_ID	SAMP_DATE	QC_TYPE	UNITS	PCT_SOLIDS	DUP_OF	RESULT	QLCD	VQL	RESULT	QLCD	VQL	RESULT	QLCD	VQL	RESULT	QLCD	VQL							
	1012153-21	12/14/2010	NM	MG/KG	86.7		242		240		168 J	P	1012153-23	12/14/2010	NM	MG/KG	87.9		1012153-24	12/14/2010	NM	MG/KG	84.8		
ALUMINUM							1.13 U		1.05 U		0.964 U								1.07 U						
ANTIMONY							0.678 U		0.63 U		0.635 J	P							0.643 U						
ARSENIC							6.53 J	P	7.18 J	P	6.89 J	P							6.6 J						
BARIUM							0.226 U		0.21 U		0.193 U								0.214 U						
BERYLLIUM							0.26 J	P	0.294 J	P	0.273 J	P							0.376 J						
CADMIUM							348000		365000		373000								373000						
CALCIUM							2.52		2.63		2.33								2.47						
CHROMIUM							1.13 U		1.05 U		0.964 U								1.07 U						
COBALT							1.61 J	P	1.44 J	P	0.771 U								0.94 J						
COPPER							153		157		86.5								97.1						
IRON							1.7 U		1.58 U		1.45 U								1.61 U						
LEAD							1210		1090		1030								1020 J						
MAGNESIUM							3.54		2.58 J		2.19 J	P							1.7 J						
MANGANESE							0.0118 U		0.0178 J	P	0.0143 U								0.0148 U						
MERCURY							0.753 J	P	0.891 J	P	0.798 J	P							0.83 J						
NICKEL							226 U		210 U		193 U								214 U						
POTASSIUM							0.678 U		0.63 U		0.627 J	P							0.643 U						
SELENIUM							0.226 U		0.42 U		0.386 U								0.429 U						
SILVER							1260		1060		1040								993 J						
SODIUM							1.81 U		1.68 U		1.16 U								1.29 U						
THALLIUM							1.25 J	P	1.27 J	P	1.1 J	P							1.07 U						
VANADIUM							5.65 U		5.25 U		4.82 U								5.36 U						
ZINC																									

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-020-1210	BCHMS-SO-021-1210	BCHMS-SO-022-1210	BCHMS-SO-023-1210				
SDG: CTOJM17KW_3	LAB_ID	1012153-25	1012153-26	1012153-27	1012153-28				
FRACTION: M	SAMP_DATE	12/14/2010	12/14/2010	12/14/2010	12/14/2010				
MEDIA: SOIL	QC_TYPE	NM	NM	NM	NM				
	UNITS	MG/KG	MG/KG	MG/KG	MG/KG				
	PCT_SOLIDS	87.5	86.1	88.1	86.0				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALUMINUM	403			223			162 J	144 J	P
ANTIMONY	1.06 U			1.1 U			0.996 U	1.04 U	
ARSENIC	0.635 U			0.877 U			0.598 U	0.623 U	
BARIUM	7.35 J		P	7.9 J		P	6.26 J	6.8 J	P
BERYLLIUM	0.212 U			0.219 U			0.199 U	0.208 U	
CADMIUM	0.212 U			0.61 J		P	0.199 U	0.209 J	P
CALCIUM	357000			376000			368000	379000	
CHROMIUM	2.97			2.32			2.39	2.24	
COBALT	1.06 U			1.1 U			0.996 U	1.04 U	
COPPER	1.86 J		P	0.877 U			0.797 U	0.83 U	
IRON	292			100			82.8	64.1	
LEAD	1.59 U			1.64 U			1.49 U	1.56 U	
MAGNESIUM	994 J		P	977 J		P	855 J	900 J	P
MANGANESE	7.07			1.86 J		P	1.75 J	1.74 J	P
MERCURY	0.0117 U			0.0162 U			0.0123 U	0.0156 U	
NICKEL	1.01 J		P	0.913 J		P	0.792 J	0.696 J	P
POTASSIUM	212 U			219 U			199 U	208 U	
SELENIUM	0.635 U			0.658 U			0.598 U	0.623 U	
SILVER	0.423 U			0.438 U			0.199 U	0.415 U	
SODIUM	1240			1040 J		P	1120	1300	
THALLIUM	1.69 U			1.75 U			1.59 U	1.66 U	
VANADIUM	1.54 J		P	1.1 U			1.2 J	1.04 U	P
ZINC	5.29 U			5.48 U			4.98 U	5.19 U	

PROJ_NO: 02608 SDG: CTOJM17KW_3 FRACTION: M MEDIA: SOIL	NSAMPLE		BCHMS-SO-024-1210		BCHMS-SO-025-1210		BCHMS-SO-026-1210		BCHMS-SO-028-1210						
	LAB_ID	SAMP_DATE	QC_TYPE	UNITS	PCT_SOLIDS	DUP_OF	RESULT	QLCD	VQL	RESULT	QLCD	VQL	RESULT	QLCD	VQL
	1012153-29	12/14/2010	NM	MG/KG	88.3		193 J	P	200 J			868		266	
							1.07 U		1.02 U			1.01 U		1.04 U	
							0.641 U		0.611 U			0.605 U		0.624 U	
							6.63 J	P	6.64 J			7.64 J	P	7.54 J	P
							0.214 U		0.204 U			0.202 U		0.208 U	
							0.214 U		0.204 U			0.202 U		0.208 U	
							360000		365000			348000		378000	
							2.46		2.55			3.46		2.66	
							1.07 U		1.02 U			1.01 U		1.04 U	
							0.855 U		0.815 U			10.6		0.832 U	
							90.9		96.4			939		123	
							1.6 U		1.53 U			3.06		1.56 U	
							976 J	P	875 J			1350		1150	
							1.75 J	P	1.85 J			10.4		2.4 J	P
							0.0143 U		0.0159 U			0.016 J	P	0.0139 U	
							0.837 J	P	0.765 J			1.22 J	P	0.69 J	P
							214 U		204 U			202 U		208 U	
							0.641 U		0.611 U			0.605 U		0.624 U	
							0.428 U		0.204 U			0.202 U		0.416 U	
							1400		1160			1100		2390	
							1.28 U		2.04 U			1.41 U		1.66 U	
							1.08 J	P	1.25 J			3.38		1.27 J	P
							5.34 U		5.1 U			30.3		5.2 U	

PROJ_NO: 02608	NSAMPLE	BCHMS-SO-FD01-1210	BCHMS-SO-FD02-1210
SDG: CTOJM17KW_3	LAB_ID	1012153-33	1012153-34
FRACTION: M	SAMP_DATE	12/14/2010	12/14/2010
MEDIA: SOIL	QC_TYPE	NM	NM
	UNITS	MG/KG	MG/KG
	PCT_SOLIDS	87.9	86.8
	DUP_OF	BCHMS-SO-014-1210	BCHMS-SO-024-1210
PARAMETER	RESULT	VQL	QLCD
ALUMINUM	203 J	P	
ANTIMONY	1.11 U		233
ARSENIC	0.669 U		1.03 U
BARIIUM	6.28 J	P	0.617 U
BERYLLIUM	0.223 U		7.51 J
CADMIUM	0.223 U		0.206 U
CALCIUM	383000		0.206 U
CHROMIUM	2.92		395000
COBALT	1.11 U		2.86
COPPER	0.892 U		1.03 U
IRON	103		0.822 U
LEAD	1.67 U		122
MAGNESIUM	943 J	P	1.54 U
MANGANESE	2.25 J	P	1060
MERCURY	0.013 U		2.53 J
NICKEL	0.669 U		0.0132 U
POTASSIUM	223 U		0.617 U
SELENIUM	1.11 U		206 U
SILVER	0.223 U		0.617 U
SODIUM	965 J	P	0.206 U
THALLIUM	0.669 U		1180
VANADIUM	1.11 U		1.03 U
ZINC	5.57 U		1.24 J
			5.14 U
			P

**APPENDIX B**

**RESULTS AS REPORTED BY THE LABORATORY**

# ANALYSIS DATA SHEET

BCHMS-SO-002-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-13

Sampled: 12/14/10 08:00

Received: 12/15/10 08:30

% Solids: 87.51

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0117	0.0298	0.0330	1	U	SW7471A	0L29002	01/03/11 10:18
7429-90-5	Aluminum	205	57.1	114	229	5	D1	SW6010C	0L28004	01/04/11 18:38
7440-36-0	Antimony		1.14	1.83	2.29	1	U	SW6010C	0L28004	12/29/10 21:29
7440-38-2	Arsenic		0.686	1.37	2.29	1	U	SW6010C	0L28004	12/29/10 21:29
7440-39-3	Barium	7.01	1.14	4.57	9.14	1	1	SW6010C	0L28004	12/29/10 21:29
7440-41-7	Beryllium		0.229	0.457	1.14	1	U	SW6010C	0L28004	12/29/10 21:29
7440-43-9	Cadmium	0.323	0.229	0.457	1.14	1	1	SW6010C	0L28004	12/29/10 21:29
7440-70-2	Calcium	369000	1140	2290	5710	5	Y D	SW6010C	0L28004	01/04/11 18:38
7440-47-3	Chromium	2.44	0.457	0.914	2.29	1		SW6010C	0L28004	01/03/11 21:17
7440-48-4	Cobalt		1.14	2.29	2.86	1	U	SW6010C	0L28004	12/29/10 21:29
7440-50-8	Copper		0.914	1.83	2.29	1	U	SW6010C	0L28004	12/29/10 21:29
7439-89-6	Iron	83.6	6.86	13.7	22.9	1		SW6010C	0L28004	01/03/11 21:17
7439-92-1	Lead		1.71	3.43	3.43	5	U	SW6010C	0L28004	01/04/11 18:38
7439-95-4	Magnesium	937	229	686	1140	1	1	SW6010C	0L28004	01/03/11 21:17
7439-96-5	Manganese	1.77	0.686	1.37	3.43	1	1	SW6010C	0L28004	12/29/10 21:29
7440-02-0	Nickel	0.992	0.686	1.37	2.29	1	1	SW6010C	0L28004	12/29/10 21:29
7440-09-7	Potassium		229	686	1140	1	UN	SW6010C	0L28004	01/03/11 21:17
7782-49-2	Selenium		0.686	1.14	2.29	1	U	SW6010C	0L28004	12/29/10 21:29
7440-22-4	Silver		0.457	0.457	2.29	1	M U	SW6010C	0L28004	12/29/10 21:29
7440-23-5	Sodium	1030	229	686	1140	1	1	SW6010C	0L28004	01/03/11 21:17
7440-28-0	Thallium		1.83	1.83	3.66	2	M U	SW6010C	0L28004	01/04/11 18:33
7440-62-2	Vanadium		1.14	2.29	2.86	1	U	SW6010C	0L28004	12/29/10 21:29
7440-66-6	Zinc		5.71	11.4	22.9	5	U	SW6010C	0L28004	01/04/11 18:38

# ANALYSIS DATA SHEET

BCHMS-SO-004-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-14

Sampled: 12/14/10 08:20

Received: 12/15/10 08:30

% Solids: 86.26

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0146	0.0122	0.0310	0.0330	1	I	SW7471A	0L29002	01/03/11 10:20
7429-90-5	Aluminum	489	52.7	105	211	5	D	SW6010C	0L28004	01/04/11 19:01
7440-36-0	Antimony		1.05	1.69	2.11	1	U	SW6010C	0L28004	12/29/10 21:34
7440-38-2	Arsenic		0.632	1.26	2.11	1	U	SW6010C	0L28004	12/29/10 21:34
7440-39-3	Barium	6.60	1.05	4.22	8.43	1	I	SW6010C	0L28004	12/29/10 21:34
7440-41-7	Beryllium		0.211	0.422	1.05	1	U	SW6010C	0L28004	12/29/10 21:34
7440-43-9	Cadmium	0.320	0.211	0.422	1.05	1	I	SW6010C	0L28004	12/29/10 21:34
7440-70-2	Calcium	353000	1050	2110	5270	5	D	SW6010C	0L28004	01/04/11 19:01
7440-47-3	Chromium	3.17	0.422	0.843	2.11	1		SW6010C	0L28004	01/03/11 21:22
7440-48-4	Cobalt		1.05	2.11	2.63	1	U	SW6010C	0L28004	12/29/10 21:34
7440-50-8	Copper		0.843	1.69	2.11	1	U	SW6010C	0L28004	12/29/10 21:34
7439-89-6	Iron	296	6.32	12.6	21.1	1		SW6010C	0L28004	01/03/11 21:22
7439-92-1	Lead	2.32	1.58	3.16	3.16	5	DI	SW6010C	0L28004	01/04/11 19:01
7439-95-4	Magnesium	1260	211	632	1050	1		SW6010C	0L28004	01/03/11 21:22
7439-96-5	Manganese	7.01	0.632	1.26	3.16	1		SW6010C	0L28004	12/29/10 21:34
7440-02-0	Nickel	1.42	0.632	1.26	2.11	1	I	SW6010C	0L28004	12/29/10 21:34
7440-09-7	Potassium		211	632	1050	1	UN	SW6010C	0L28004	01/03/11 21:22
7782-49-2	Selenium		0.632	1.05	2.11	1	U	SW6010C	0L28004	12/29/10 21:34
7440-22-4	Silver		0.422	0.422	2.11	1	MU	SW6010C	0L28004	12/29/10 21:34
7440-23-5	Sodium	2410	211	632	1050	1		SW6010C	0L28004	01/03/11 21:22
7440-28-0	Thallium		1.26	1.69	3.37	2	U	SW6010C	0L28004	01/04/11 18:56
7440-62-2	Vanadium	1.53	1.05	2.11	2.63	1	I	SW6010C	0L28004	12/29/10 21:34
7440-66-6	Zinc		5.27	10.5	21.1	5	U	SW6010C	0L28004	01/04/11 19:01

# ANALYSIS DATA SHEET

BCHMS-SO-007-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-15

Sampled: 12/14/10 08:40

Received: 12/15/10 08:30

% Solids: 88.35

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0159	0.0158	0.0400	0.0400	1	1	SW7471A	0L29002	01/03/11 10:21
7429-90-5	Aluminum	165	49.6	99.3	199	5	D1	SW6010C	0L28004	01/04/11 19:11
7440-36-0	Antimony		0.993	1.59	1.99	1	U	SW6010C	0L28004	12/29/10 21:39
7440-38-2	Arsenic		0.596	1.19	1.99	1	U	SW6010C	0L28004	12/29/10 21:39
7440-39-3	Barium	6.61	0.993	3.97	7.94	1	1	SW6010C	0L28004	12/29/10 21:39
7440-41-7	Beryllium		0.199	0.397	0.993	1	U	SW6010C	0L28004	12/29/10 21:39
7440-43-9	Cadmium	0.387	0.199	0.397	0.993	1	1	SW6010C	0L28004	12/29/10 21:39
7440-70-2	Calcium	186000	993	1990	4960	5	D	SW6010C	0L28004	01/04/11 19:11
7440-47-3	Chromium	2.40	0.397	0.794	1.99	1		SW6010C	0L28004	01/03/11 21:27
7440-48-4	Cobalt		0.993	1.99	2.48	1	U	SW6010C	0L28004	12/29/10 21:39
7440-50-8	Copper		0.794	1.59	1.99	1	U	SW6010C	0L28004	12/29/10 21:39
7439-89-6	Iron	91.2	5.96	11.9	19.9	1		SW6010C	0L28004	01/03/11 21:27
7439-92-1	Lead		1.49	2.98	2.98	5	U	SW6010C	0L28004	01/04/11 19:11
7439-95-4	Magnesium	945	199	596	993	1	1	SW6010C	0L28004	01/03/11 21:27
7439-96-5	Manganese	1.71	0.596	1.19	2.98	1	1	SW6010C	0L28004	12/29/10 21:39
7440-02-0	Nickel	0.775	0.596	1.19	1.99	1	1	SW6010C	0L28004	12/29/10 21:39
7440-09-7	Potassium		199	596	993	1	UN	SW6010C	0L28004	01/03/11 21:27
7782-49-2	Selenium		0.596	0.993	1.99	1	U	SW6010C	0L28004	12/29/10 21:39
7440-22-4	Silver		0.397	0.397	1.99	1	M U	SW6010C	0L28004	12/29/10 21:39
7440-23-5	Sodium	986	199	596	993	1	1	SW6010C	0L28004	01/03/11 21:27
7440-28-0	Thallium		1.59	1.59	3.18	2	M U	SW6010C	0L28004	01/04/11 19:06
7440-62-2	Vanadium		0.993	1.99	2.48	1	U	SW6010C	0L28004	12/29/10 21:39
7440-66-6	Zinc		4.96	9.93	19.9	5	U	SW6010C	0L28004	01/04/11 19:11

# ANALYSIS DATA SHEET

BCHMS-SO-010-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-16

Sampled: 12/14/10 09:00

Received: 12/15/10 08:30

% Solids: 73.23

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.285	0.0161	0.0410	0.0410	1		SW7471A	0L29002	01/03/11 10:23
7429-90-5	Aluminum	599	65.7	131	263	5	D	SW6010C	0L28004	01/04/11 19:21
7440-36-0	Antimony		1.31	2.10	2.63	1	U	SW6010C	0L28004	12/29/10 21:44
7440-38-2	Arsenic	1.74	0.788	1.58	2.63	1	I	SW6010C	0L28004	12/29/10 21:44
7440-39-3	Barium	12.1	1.31	5.25	10.5	1		SW6010C	0L28004	12/29/10 21:44
7440-41-7	Beryllium		0.263	0.525	1.31	1	U	SW6010C	0L28004	12/29/10 21:44
7440-43-9	Cadmium	0.368	0.263	0.525	1.31	1	I	SW6010C	0L28004	12/29/10 21:44
7440-70-2	Calcium	359000	1310	2630	6570	5	D	SW6010C	0L28004	01/04/11 19:21
7440-47-3	Chromium	7.47	0.525	1.05	2.63	1		SW6010C	0L28004	01/03/11 21:32
7440-48-4	Cobalt		1.31	2.63	3.28	1	U	SW6010C	0L28004	12/29/10 21:44
7440-50-8	Copper	13.2	1.05	2.10	2.63	1		SW6010C	0L28004	12/29/10 21:44
7439-89-6	Iron	6470	7.88	15.8	26.3	1		SW6010C	0L28004	01/03/11 21:32
7439-92-1	Lead	15.0	1.97	3.94	3.94	5	D	SW6010C	0L28004	01/04/11 19:21
7439-95-4	Magnesium	1510	263	788	1310	1		SW6010C	0L28004	01/03/11 21:32
7439-96-5	Manganese	27.1	0.788	1.58	3.94	1		SW6010C	0L28004	12/29/10 21:44
7440-02-0	Nickel	4.26	0.788	1.58	2.63	1		SW6010C	0L28004	12/29/10 21:44
7440-09-7	Potassium		263	788	1310	1	UN	SW6010C	0L28004	01/03/11 21:32
7782-49-2	Selenium	0.828	0.788	1.31	2.63	1	I	SW6010C	0L28004	12/29/10 21:44
7440-22-4	Silver		0.263	0.525	2.63	1	U	SW6010C	0L28004	12/29/10 21:44
7440-23-5	Sodium	3070	263	788	1310	1		SW6010C	0L28004	01/03/11 21:32
7440-28-0	Thallium		2.10	2.10	4.20	2	M U	SW6010C	0L28004	01/04/11 19:16
7440-62-2	Vanadium	2.59	1.31	2.63	3.28	1	I	SW6010C	0L28004	12/29/10 21:44
7440-66-6	Zinc	33.2	6.57	13.1	26.3	5	D	SW6010C	0L28004	01/04/11 19:21

# ANALYSIS DATA SHEET

BCHMS-SO-012-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-17

Sampled: 12/14/10 09:20

Received: 12/15/10 08:30

% Solids: 77.68

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0178	0.0157	0.0398	0.0398	1	I	SW7471A	0L29002	01/03/11 10:25
7429-90-5	Aluminum	234	63.1	126	252	5	D I	SW6010C	0L28004	01/04/11 19:25
7440-36-0	Antimony		1.26	2.02	2.52	1	U	SW6010C	0L28004	12/29/10 21:48
7440-38-2	Arsenic		0.757	1.51	2.52	1	U	SW6010C	0L28004	12/29/10 21:48
7440-39-3	Barium	7.04	1.26	5.05	10.1	1	I	SW6010C	0L28004	12/29/10 21:48
7440-41-7	Beryllium		0.252	0.505	1.26	1	U	SW6010C	0L28004	12/29/10 21:48
7440-43-9	Cadmium	0.332	0.252	0.505	1.26	1	I	SW6010C	0L28004	12/29/10 21:48
7440-70-2	Calcium	404000	1260	2520	6310	5	D	SW6010C	0L28004	01/04/11 19:25
7440-47-3	Chromium	2.93	0.505	1.01	2.52	1		SW6010C	0L28004	01/03/11 21:37
7440-48-4	Cobalt		1.26	2.52	3.16	1	U	SW6010C	0L28004	12/29/10 21:48
7440-50-8	Copper		1.01	2.02	2.52	1	U	SW6010C	0L28004	12/29/10 21:48
7439-89-6	Iron	139	7.57	15.1	25.2	1		SW6010C	0L28004	01/03/11 21:37
7439-92-1	Lead		1.89	3.79	3.79	5	U	SW6010C	0L28004	01/04/11 19:25
7439-95-4	Magnesium	1220	252	757	1260	1	I	SW6010C	0L28004	01/03/11 21:37
7439-96-5	Manganese	2.54	0.757	1.51	3.79	1	I	SW6010C	0L28004	12/29/10 21:48
7440-02-0	Nickel	0.855	0.757	1.51	2.52	1	I	SW6010C	0L28004	12/29/10 21:48
7440-09-7	Potassium		252	757	1260	1	UN	SW6010C	0L28004	01/03/11 21:37
7782-49-2	Selenium		0.757	1.26	2.52	1	U	SW6010C	0L28004	12/29/10 21:48
7440-22-4	Silver		0.505	0.505	2.52	1	M U	SW6010C	0L28004	12/29/10 21:48
7440-23-5	Sodium	1920	252	757	1260	1		SW6010C	0L28004	01/03/11 21:37
7440-28-0	Thallium		2.02	2.02	2.02	1	M U	SW6010C	0L28004	12/29/10 21:48
7440-62-2	Vanadium		1.26	2.52	3.16	1	U	SW6010C	0L28004	12/29/10 21:48
7440-66-6	Zinc		6.31	12.6	25.2	5	U	SW6010C	0L28004	01/04/11 19:25

# ANALYSIS DATA SHEET

BCHMS-SO-013-1210

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Solid  
 Sampled: 12/14/10 09:40  
 % Solids: 80.49

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012153-18  
 Received: 12/15/10 08:30

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0156	0.0397	0.0397	1	U	SW7471A	0L29002	01/03/11 10:27
7429-90-5	Aluminum	188	59.7	119	239	5	DI	SW6010C	0L28004	01/04/11 19:35
7440-36-0	Antimony		1.19	1.91	2.39	1	U	SW6010C	0L28004	12/29/10 21:53
7440-38-2	Arsenic		0.717	1.43	2.39	1	U	SW6010C	0L28004	12/29/10 21:53
7440-39-3	Barium	7.49	1.19	4.78	9.56	1	I	SW6010C	0L28004	12/29/10 21:53
7440-41-7	Beryllium		0.239	0.478	1.19	1	U	SW6010C	0L28004	12/29/10 21:53
7440-43-9	Cadmium	0.477	0.239	0.478	1.19	1	I	SW6010C	0L28004	12/29/10 21:53
7440-70-2	Calcium	361000	1190	2390	5970	5	D	SW6010C	0L28004	01/04/11 19:35
7440-47-3	Chromium	2.84	0.478	0.956	2.39	1		SW6010C	0L28004	01/03/11 21:42
7440-48-4	Cobalt		1.19	2.39	2.99	1	U	SW6010C	0L28004	12/29/10 21:53
7440-50-8	Copper	1.44	0.956	1.91	2.39	1	I	SW6010C	0L28004	12/29/10 21:53
7439-89-6	Iron	90.3	7.17	14.3	23.9	1		SW6010C	0L28004	01/03/11 21:42
7439-92-1	Lead	4.19	1.79	3.58	3.58	5	D	SW6010C	0L28004	01/04/11 19:35
7439-95-4	Magnesium	970	239	717	1190	1	I	SW6010C	0L28004	01/03/11 21:42
7439-96-5	Manganese	1.75	0.717	1.43	3.58	1	I	SW6010C	0L28004	12/29/10 21:53
7440-02-0	Nickel	0.835	0.717	1.43	2.39	1	I	SW6010C	0L28004	12/29/10 21:53
7440-09-7	Potassium		239	717	1190	1	UN	SW6010C	0L28004	01/03/11 21:42
7782-49-2	Selenium		0.717	1.19	2.39	1	U	SW6010C	0L28004	12/29/10 21:53
7440-22-4	Silver		0.239	0.478	2.39	1	U	SW6010C	0L28004	12/29/10 21:53
7440-23-5	Sodium	1110	239	717	1190	1	I	SW6010C	0L28004	01/03/11 21:42
7440-28-0	Thallium		1.43	1.91	3.82	2	U	SW6010C	0L28004	01/04/11 19:30
7440-62-2	Vanadium	1.32	1.19	2.39	2.99	1	I	SW6010C	0L28004	12/29/10 21:53
7440-66-6	Zinc		5.97	11.9	23.9	5	U	SW6010C	0L28004	01/04/11 19:35

# ANALYSIS DATA SHEET

**BCHMS-SO-014-1210**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-19

Sampled: 12/14/10 10:00

Received: 12/15/10 08:30

% Solids: 86.53

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0141	0.0137	0.0347	0.0347	1	I	SW7471A	0L29002	01/03/11 10:29
7429-90-5	Aluminum	200	55.6	111	222	5	D I	SW6010C	0L28004	01/04/11 19:45
7440-36-0	Antimony		1.11	1.78	2.22	1	U	SW6010C	0L28004	12/29/10 21:58
7440-38-2	Arsenic		0.667	1.33	2.22	1	U	SW6010C	0L28004	12/29/10 21:58
7440-39-3	Barium	7.26	1.11	4.44	8.89	1	I	SW6010C	0L28004	12/29/10 21:58
7440-41-7	Beryllium		0.222	0.444	1.11	1	U	SW6010C	0L28004	12/29/10 21:58
7440-43-9	Cadmium	0.296	0.222	0.444	1.11	1	I	SW6010C	0L28004	12/29/10 21:58
7440-70-2	Calcium	368000	1110	2220	5560	5	D	SW6010C	0L28004	01/04/11 19:45
7440-47-3	Chromium	2.82	0.444	0.889	2.22	1		SW6010C	0L28004	01/03/11 21:46
7440-48-4	Cobalt		1.11	2.22	2.78	1	U	SW6010C	0L28004	12/29/10 21:58
7440-50-8	Copper		0.889	1.78	2.22	1	U	SW6010C	0L28004	12/29/10 21:58
7439-89-6	Iron	92.1	6.67	13.3	22.2	1		SW6010C	0L28004	01/03/11 21:46
7439-92-1	Lead	1.75	1.67	3.33	3.33	5	D I	SW6010C	0L28004	01/04/11 19:45
7439-95-4	Magnesium	1090	222	667	1110	1	I	SW6010C	0L28004	01/03/11 21:46
7439-96-5	Manganese	2.00	0.667	1.33	3.33	1	I	SW6010C	0L28004	12/29/10 21:58
7440-02-0	Nickel	0.976	0.667	1.33	2.22	1	I	SW6010C	0L28004	12/29/10 21:58
7440-09-7	Potassium		222	667	1110	1	UN	SW6010C	0L28004	01/03/11 21:46
7782-49-2	Selenium		0.667	1.11	2.22	1	U	SW6010C	0L28004	12/29/10 21:58
7440-22-4	Silver		0.444	0.444	2.22	1	M U	SW6010C	0L28004	12/29/10 21:58
7440-23-5	Sodium	1140	222	667	1110	1		SW6010C	0L28004	01/03/11 21:46
7440-28-0	Thallium		1.78	1.78	3.56	2	M U	SW6010C	0L28004	01/04/11 19:40
7440-62-2	Vanadium	1.29	1.11	2.22	2.78	1	I	SW6010C	0L28004	12/29/10 21:58
7440-66-6	Zinc		5.56	11.1	22.2	5	U	SW6010C	0L28004	01/04/11 19:45

# ANALYSIS DATA SHEET

**BCHMS-SO-015-1210**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-20

Sampled: 12/14/10 10:20

Received: 12/15/10 08:30

% Solids: 85.80

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0120	0.0304	0.0330	1	U	SW7471A	0L29002	01/03/11 10:34
7429-90-5	Aluminum	171	55.0	110	220	5	DI	SW6010C	0L28004	01/04/11 20:08
7440-36-0	Antimony		1.10	1.76	2.20	1	U	SW6010C	0L28004	12/29/10 22:03
7440-38-2	Arsenic		0.880	1.32	2.20	1	M U	SW6010C	0L28004	12/29/10 22:03
7440-39-3	Barium	6.66	1.10	4.40	8.80	1	I	SW6010C	0L28004	12/29/10 22:03
7440-41-7	Beryllium		0.220	0.440	1.10	1	U	SW6010C	0L28004	12/29/10 22:03
7440-43-9	Cadmium	0.295	0.220	0.440	1.10	1	I	SW6010C	0L28004	12/29/10 22:03
7440-70-2	Calcium	380000	1100	2200	5500	5	D	SW6010C	0L28004	01/04/11 20:08
7440-47-3	Chromium	2.32	0.440	0.880	2.20	1		SW6010C	0L28004	01/03/11 21:51
7440-48-4	Cobalt		1.10	2.20	2.75	1	U	SW6010C	0L28004	12/29/10 22:03
7440-50-8	Copper		0.880	1.76	2.20	1	U	SW6010C	0L28004	12/29/10 22:03
7439-89-6	Iron	81.8	6.60	13.2	22.0	1		SW6010C	0L28004	01/03/11 21:51
7439-92-1	Lead		1.65	3.30	3.30	5	U	SW6010C	0L28004	01/04/11 20:08
7439-95-4	Magnesium	878	220	660	1100	1	I	SW6010C	0L28004	01/03/11 21:51
7439-96-5	Manganese	1.52	0.660	1.32	3.30	1	I	SW6010C	0L28004	12/29/10 22:03
7440-02-0	Nickel	0.958	0.660	1.32	2.20	1	I	SW6010C	0L28004	12/29/10 22:03
7440-09-7	Potassium		220	660	1100	1	UN	SW6010C	0L28004	01/03/11 21:51
7782-49-2	Selenium		0.660	1.10	2.20	1	U	SW6010C	0L28004	12/29/10 22:03
7440-22-4	Silver		0.220	0.440	2.20	1	U	SW6010C	0L28004	12/29/10 22:03
7440-23-5	Sodium	875	220	660	1100	1	I	SW6010C	0L28004	01/03/11 21:51
7440-28-0	Thallium		2.20	2.20	3.52	2	M U	SW6010C	0L28004	01/04/11 20:03
7440-62-2	Vanadium	2.50	1.10	2.20	2.75	1	I	SW6010C	0L28004	12/29/10 22:03
7440-66-6	Zinc		5.50	11.0	22.0	5	U	SW6010C	0L28004	01/04/11 20:08

# ANALYSIS DATA SHEET

BCHMS-SO-016-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-21

Sampled: 12/14/10 10:40

Received: 12/15/10 08:30

% Solids: 86.71

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0118	0.0300	0.0330	1	U	SW7471A	0L29002	01/03/11 10:36
7429-90-5	Aluminum	242	56.5	113	226	5	D	SW6010C	0L28004	01/04/11 20:13
7440-36-0	Antimony		1.13	1.81	2.26	1	U	SW6010C	0L28004	12/29/10 22:08
7440-38-2	Arsenic		0.678	1.36	2.26	1	U	SW6010C	0L28004	12/29/10 22:08
7440-39-3	Barium	6.53	1.13	4.52	9.05	1	I	SW6010C	0L28004	12/29/10 22:08
7440-41-7	Beryllium		0.226	0.452	1.13	1	U	SW6010C	0L28004	12/29/10 22:08
7440-43-9	Cadmium	0.260	0.226	0.452	1.13	1	I	SW6010C	0L28004	12/29/10 22:08
7440-70-2	Calcium	348000	1130	2260	5650	5	D	SW6010C	0L28004	01/04/11 20:13
7440-47-3	Chromium	2.52	0.452	0.905	2.26	1		SW6010C	0L28004	01/03/11 21:56
7440-48-4	Cobalt		1.13	2.26	2.83	1	U	SW6010C	0L28004	12/29/10 22:08
7440-50-8	Copper	1.61	0.905	1.81	2.26	1	I	SW6010C	0L28004	12/29/10 22:08
7439-89-6	Iron	153	6.78	13.6	22.6	1		SW6010C	0L28004	01/03/11 21:56
7439-92-1	Lead		1.70	3.39	3.39	5	U	SW6010C	0L28004	01/04/11 20:13
7439-95-4	Magnesium	1210	226	678	1130	1		SW6010C	0L28004	01/03/11 21:56
7439-96-5	Manganese	3.54	0.678	1.36	3.39	1		SW6010C	0L28004	12/29/10 22:08
7440-02-0	Nickel	0.753	0.678	1.36	2.26	1	I	SW6010C	0L28004	12/29/10 22:08
7440-09-7	Potassium		226	678	1130	1	UN	SW6010C	0L28004	01/03/11 21:56
7782-49-2	Selenium		0.678	1.13	2.26	1	U	SW6010C	0L28004	12/29/10 22:08
7440-22-4	Silver		0.226	0.452	2.26	1	U	SW6010C	0L28004	12/29/10 22:08
7440-23-5	Sodium	1260	226	678	1130	1		SW6010C	0L28004	01/03/11 21:56
7440-28-0	Thallium		1.81	1.81	1.81	1	M U	SW6010C	0L28004	12/29/10 22:08
7440-62-2	Vanadium	1.25	1.13	2.26	2.83	1	I	SW6010C	0L28004	12/29/10 22:08
7440-66-6	Zinc		5.65	11.3	22.6	5	U	SW6010C	0L28004	01/04/11 20:13

# ANALYSIS DATA SHEET

BCHMS-SO-017-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-22

Sampled: 12/14/10 11:00

Received: 12/15/10 08:30

% Solids: 88.14

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0178	0.0158	0.0401	0.0401	1	I	SW7471A	0L29002	01/03/11 10:37
7429-90-5	Aluminum	240	52.5	105	210	5	D	SW6010C	0L28004	01/04/11 20:18
7440-36-0	Antimony		1.05	1.68	2.10	1	U	SW6010C	0L28004	12/29/10 22:12
7440-38-2	Arsenic		0.630	1.26	2.10	1	U	SW6010C	0L28004	12/29/10 22:12
7440-39-3	Barium	7.18	1.05	4.20	8.40	1	I	SW6010C	0L28004	12/29/10 22:12
7440-41-7	Beryllium		0.210	0.420	1.05	1	U	SW6010C	0L28004	12/29/10 22:12
7440-43-9	Cadmium	0.294	0.210	0.420	1.05	1	I	SW6010C	0L28004	12/29/10 22:12
7440-70-2	Calcium	365000	1050	2100	5250	5	D	SW6010C	0L28004	01/04/11 20:18
7440-47-3	Chromium	2.63	0.420	0.840	2.10	1		SW6010C	0L28004	01/03/11 22:01
7440-48-4	Cobalt		1.05	2.10	2.63	1	U	SW6010C	0L28004	12/29/10 22:12
7440-50-8	Copper	1.44	0.840	1.68	2.10	1	I	SW6010C	0L28004	12/29/10 22:12
7439-89-6	Iron	157	6.30	12.6	21.0	1		SW6010C	0L28004	01/03/11 22:01
7439-92-1	Lead		1.58	3.15	3.15	5	U	SW6010C	0L28004	01/04/11 20:18
7439-95-4	Magnesium	1090	210	630	1050	1		SW6010C	0L28004	01/03/11 22:01
7439-96-5	Manganese	2.58	0.630	1.26	3.15	1	I	SW6010C	0L28004	12/29/10 22:12
7440-02-0	Nickel	0.891	0.630	1.26	2.10	1	I	SW6010C	0L28004	12/29/10 22:12
7440-09-7	Potassium		210	630	1050	1	UN	SW6010C	0L28004	01/03/11 22:01
7782-49-2	Selenium		0.630	1.05	2.10	1	U	SW6010C	0L28004	12/29/10 22:12
7440-22-4	Silver		0.420	0.420	2.10	1	M U	SW6010C	0L28004	12/29/10 22:12
7440-23-5	Sodium	1060	210	630	1050	1		SW6010C	0L28004	01/03/11 22:01
7440-28-0	Thallium		1.68	1.68	1.68	1	M U	SW6010C	0L28004	12/29/10 22:12
7440-62-2	Vanadium	1.27	1.05	2.10	2.63	1	I	SW6010C	0L28004	12/29/10 22:12
7440-66-6	Zinc		5.25	10.5	21.0	5	U	SW6010C	0L28004	01/04/11 20:18

# ANALYSIS DATA SHEET

BCHMS-SO-018-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-23

Sampled: 12/14/10 11:20

Received: 12/15/10 08:30

% Solids: 87.93

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0143	0.0363	0.0363	1	U	SW7471A	0L29002	01/03/11 10:39
7429-90-5	Aluminum	168	48.2	96.4	193	5	D I	SW6010C	0L28004	01/04/11 20:28
7440-36-0	Antimony		0.964	1.54	1.93	1	U	SW6010C	0L28004	12/29/10 22:30
7440-38-2	Arsenic	0.635	0.578	1.16	1.93	1	I	SW6010C	0L28004	12/29/10 22:30
7440-39-3	Barium	6.89	0.964	3.86	7.71	1	I	SW6010C	0L28004	12/29/10 22:30
7440-41-7	Beryllium		0.193	0.386	0.964	1	U	SW6010C	0L28004	12/29/10 22:30
7440-43-9	Cadmium	0.273	0.193	0.386	0.964	1	I	SW6010C	0L28004	12/29/10 22:30
7440-70-2	Calcium	373000	964	1930	4820	5	D	SW6010C	0L28004	01/04/11 20:28
7440-47-3	Chromium	2.33	0.386	0.771	1.93	1		SW6010C	0L28004	12/29/10 22:30
7440-48-4	Cobalt		0.964	1.93	2.41	1	U	SW6010C	0L28004	12/29/10 22:30
7440-50-8	Copper		0.771	1.54	1.93	1	U	SW6010C	0L28004	12/29/10 22:30
7439-89-6	Iron	86.5	5.78	11.6	19.3	1		SW6010C	0L28004	01/03/11 22:19
7439-92-1	Lead		1.45	2.89	2.89	5	U	SW6010C	0L28004	01/04/11 20:28
7439-95-4	Magnesium	1030	193	578	964	1		SW6010C	0L28004	01/03/11 22:19
7439-96-5	Manganese	2.19	0.578	1.16	2.89	1	I	SW6010C	0L28004	12/29/10 22:30
7440-02-0	Nickel	0.798	0.578	1.16	1.93	1	I	SW6010C	0L28004	12/29/10 22:30
7440-09-7	Potassium		193	578	964	1	UN	SW6010C	0L28004	01/03/11 22:19
7782-49-2	Selenium	0.627	0.578	0.964	1.93	1	I	SW6010C	0L28004	12/29/10 22:30
7440-22-4	Silver		0.386	0.386	1.93	1	M U	SW6010C	0L28004	12/29/10 22:30
7440-23-5	Sodium	1040	193	578	964	1		SW6010C	0L28004	01/03/11 22:19
7440-28-0	Thallium		1.16	1.54	3.08	2	U	SW6010C	0L28004	01/04/11 20:23
7440-62-2	Vanadium	1.10	0.964	1.93	2.41	1	I	SW6010C	0L28004	12/29/10 22:30
7440-66-6	Zinc		4.82	9.64	19.3	5	U	SW6010C	0L28004	01/04/11 20:28

# ANALYSIS DATA SHEET

BCHMS-SO-019-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-24

Sampled: 12/14/10 11:40

Received: 12/15/10 08:30

% Solids: 84.79

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0148	0.0377	0.0377	1	U	SW7471A	0L29002	01/03/11 10:41
7429-90-5	Aluminum	137	53.6	107	214	5	D1	SW6010C	0L28004	01/04/11 20:38
7440-36-0	Antimony		1.07	1.72	2.14	1	U	SW6010C	0L28004	12/29/10 22:35
7440-38-2	Arsenic		0.643	1.29	2.14	1	U	SW6010C	0L28004	12/29/10 22:35
7440-39-3	Barium	6.60	1.07	4.29	8.58	1	I	SW6010C	0L28004	12/29/10 22:35
7440-41-7	Beryllium		0.214	0.429	1.07	1	U	SW6010C	0L28004	12/29/10 22:35
7440-43-9	Cadmium	0.376	0.214	0.429	1.07	1	I	SW6010C	0L28004	12/29/10 22:35
7440-70-2	Calcium	373000	1070	2140	5360	5	D	SW6010C	0L28004	01/04/11 20:38
7440-47-3	Chromium	2.47	0.429	0.858	2.14	1		SW6010C	0L28004	12/29/10 22:35
7440-48-4	Cobalt		1.07	2.14	2.68	1	U	SW6010C	0L28004	12/29/10 22:35
7440-50-8	Copper	0.940	0.858	1.72	2.14	1	I	SW6010C	0L28004	12/29/10 22:35
7439-89-6	Iron	97.1	6.43	12.9	21.4	1		SW6010C	0L28004	01/03/11 22:24
7439-92-1	Lead		1.61	3.22	3.22	5	U	SW6010C	0L28004	01/04/11 20:38
7439-95-4	Magnesium	1020	214	643	1070	1	I	SW6010C	0L28004	01/03/11 22:24
7439-96-5	Manganese	1.70	0.643	1.29	3.22	1	I	SW6010C	0L28004	12/29/10 22:35
7440-02-0	Nickel	0.830	0.643	1.29	2.14	1	I	SW6010C	0L28004	12/29/10 22:35
7440-09-7	Potassium		214	643	1070	1	UN	SW6010C	0L28004	01/03/11 22:24
7782-49-2	Selenium		0.643	1.07	2.14	1	U	SW6010C	0L28004	12/29/10 22:35
7440-22-4	Silver		0.429	0.429	2.14	1	MU	SW6010C	0L28004	12/29/10 22:35
7440-23-5	Sodium	993	214	643	1070	1	I	SW6010C	0L28004	01/03/11 22:24
7440-28-0	Thallium		1.29	1.72	3.43	2	U	SW6010C	0L28004	01/04/11 20:33
7440-62-2	Vanadium		1.07	2.14	2.68	1	U	SW6010C	0L28004	12/29/10 22:35
7440-66-6	Zinc		5.36	10.7	21.4	5	U	SW6010C	0L28004	01/04/11 20:38

# ANALYSIS DATA SHEET

BCHMS-SO-020-1210

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Solid  
 Sampled: 12/14/10 12:00  
 % Solids: 87.49

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012153-25  
 Received: 12/15/10 08:30

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0117	0.0298	0.0330	1	U	SW7471A	0L29002	01/03/11 10:43
7429-90-5	Aluminum	403	52.9	106	212	5	D	SW6010C	0L28004	01/04/11 20:43
7440-36-0	Antimony		1.06	1.69	2.12	1	U	SW6010C	0L28004	12/29/10 22:40
7440-38-2	Arsenic		0.635	1.27	2.12	1	U	SW6010C	0L28004	12/29/10 22:40
7440-39-3	Barium	7.35	1.06	4.23	8.47	1	I	SW6010C	0L28004	12/29/10 22:40
7440-41-7	Beryllium		0.212	0.423	1.06	1	U	SW6010C	0L28004	12/29/10 22:40
7440-43-9	Cadmium		0.212	0.423	1.06	1	U	SW6010C	0L28004	12/29/10 22:40
7440-70-2	Calcium	357000	1060	2120	5290	5	D	SW6010C	0L28004	01/04/11 20:43
7440-47-3	Chromium	2.97	0.423	0.847	2.12	1		SW6010C	0L28004	12/29/10 22:40
7440-48-4	Cobalt		1.06	2.12	2.65	1	U	SW6010C	0L28004	12/29/10 22:40
7440-50-8	Copper	1.86	0.847	1.69	2.12	1	I	SW6010C	0L28004	12/29/10 22:40
7439-89-6	Iron	292	6.35	12.7	21.2	1		SW6010C	0L28004	01/03/11 22:29
7439-92-1	Lead		1.59	3.18	3.18	5	U	SW6010C	0L28004	01/04/11 20:43
7439-95-4	Magnesium	994	212	635	1060	1	I	SW6010C	0L28004	01/03/11 22:29
7439-96-5	Manganese	7.07	0.635	1.27	3.18	1		SW6010C	0L28004	12/29/10 22:40
7440-02-0	Nickel	1.01	0.635	1.27	2.12	1	I	SW6010C	0L28004	12/29/10 22:40
7440-09-7	Potassium		212	635	1060	1	UN	SW6010C	0L28004	12/29/10 22:40
7782-49-2	Selenium		0.635	1.06	2.12	1	U	SW6010C	0L28004	12/29/10 22:40
7440-22-4	Silver		0.423	0.423	2.12	1	M U	SW6010C	0L28004	12/29/10 22:40
7440-23-5	Sodium	1240	212	635	1060	1		SW6010C	0L28004	12/29/10 22:40
7440-28-0	Thallium		1.69	1.69	1.69	1	M U	SW6010C	0L28004	12/29/10 22:40
7440-62-2	Vanadium	1.54	1.06	2.12	2.65	1	I	SW6010C	0L28004	12/29/10 22:40
7440-66-6	Zinc		5.29	10.6	21.2	5	U	SW6010C	0L28004	01/04/11 20:43

# ANALYSIS DATA SHEET

BCHMS-SO-021-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-26

Sampled: 12/14/10 12:20

Received: 12/15/10 08:30

% Solids: 86.07

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0162	0.0411	0.0411	1	U	SW7471A	0L29002	01/03/11 10:45
7429-90-5	Aluminum	223	54.8	110	219	5	D	SW6010C	0L28004	01/04/11 20:53
7440-36-0	Antimony		1.10	1.75	2.19	1	U	SW6010C	0L28004	01/03/11 22:34
7440-38-2	Arsenic		0.877	1.32	2.19	1	M U	SW6010C	0L28004	01/03/11 22:34
7440-39-3	Barium	7.90	1.10	4.38	8.77	1	I	SW6010C	0L28004	01/03/11 22:34
7440-41-7	Beryllium		0.219	0.438	1.10	1	U	SW6010C	0L28004	01/03/11 22:34
7440-43-9	Cadmium	0.610	0.219	0.438	1.10	1	I	SW6010C	0L28004	01/03/11 22:34
7440-70-2	Calcium	376000	1100	2190	5480	5	D	SW6010C	0L28004	01/04/11 20:53
7440-47-3	Chromium	2.32	0.438	0.877	2.19	1		SW6010C	0L28004	01/03/11 22:34
7440-48-4	Cobalt		1.10	2.19	2.74	1	U	SW6010C	0L28004	01/03/11 22:34
7440-50-8	Copper		0.877	1.75	2.19	1	U	SW6010C	0L28004	01/03/11 22:34
7439-89-6	Iron	100	6.58	13.2	21.9	1		SW6010C	0L28004	01/03/11 22:34
7439-92-1	Lead		1.64	3.29	3.29	5	U	SW6010C	0L28004	01/04/11 20:53
7439-95-4	Magnesium	977	219	658	1100	1	I	SW6010C	0L28004	01/03/11 22:34
7439-96-5	Manganese	1.86	0.658	1.32	3.29	1	I	SW6010C	0L28004	01/03/11 22:34
7440-02-0	Nickel	0.913	0.658	1.32	2.19	1	I	SW6010C	0L28004	01/03/11 22:34
7440-09-7	Potassium		219	658	1100	1	UN	SW6010C	0L28004	01/03/11 22:34
7782-49-2	Selenium		0.658	1.10	2.19	1	U	SW6010C	0L28004	01/03/11 22:34
7440-22-4	Silver		0.438	0.438	2.19	1	M U	SW6010C	0L28004	01/03/11 22:34
7440-23-5	Sodium	1040	219	658	1100	1	I	SW6010C	0L28004	01/03/11 22:34
7440-28-0	Thallium		1.75	1.75	1.75	1	M U	SW6010C	0L28004	01/03/11 22:34
7440-62-2	Vanadium		1.10	2.19	2.74	1	U	SW6010C	0L28004	01/03/11 22:34
7440-66-6	Zinc		5.48	11.0	21.9	5	U	SW6010C	0L28004	01/04/11 20:53

# ANALYSIS DATA SHEET

BCHMS-SO-022-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-27

Sampled: 12/14/10 12:40

Received: 12/15/10 08:30

% Solids: 88.07

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0123	0.0312	0.0330	1	U	SW7471A	0L29002	01/03/11 10:47
7429-90-5	Aluminum	162	49.8	99.6	199	5	D I	SW6010C	0L28004	01/04/11 21:11
7440-36-0	Antimony		0.996	1.59	1.99	1	U	SW6010C	0L28004	12/29/10 22:49
7440-38-2	Arsenic		0.598	1.20	1.99	1	U	SW6010C	0L28004	12/29/10 22:49
7440-39-3	Barium	6.26	0.996	3.98	7.97	1	I	SW6010C	0L28004	12/29/10 22:49
7440-41-7	Beryllium		0.199	0.398	0.996	1	U	SW6010C	0L28004	12/29/10 22:49
7440-43-9	Cadmium		0.199	0.398	0.996	1	U	SW6010C	0L28004	12/29/10 22:49
7440-70-2	Calcium	368000	996	1990	4980	5	D	SW6010C	0L28004	01/04/11 21:11
7440-47-3	Chromium	2.39	0.398	0.797	1.99	1		SW6010C	0L28004	12/29/10 22:49
7440-48-4	Cobalt		0.996	1.99	2.49	1	U	SW6010C	0L28004	12/29/10 22:49
7440-50-8	Copper		0.797	1.59	1.99	1	U	SW6010C	0L28004	12/29/10 22:49
7439-89-6	Iron	82.8	5.98	12.0	19.9	1		SW6010C	0L28004	01/03/11 22:38
7439-92-1	Lead		1.49	2.99	2.99	5	U	SW6010C	0L28004	01/04/11 21:11
7439-95-4	Magnesium	855	199	598	996	1	I	SW6010C	0L28004	01/03/11 22:38
7439-96-5	Manganese	1.75	0.598	1.20	2.99	1	I	SW6010C	0L28004	12/29/10 22:49
7440-02-0	Nickel	0.792	0.598	1.20	1.99	1	I	SW6010C	0L28004	12/29/10 22:49
7440-09-7	Potassium		199	598	996	1	UN	SW6010C	0L28004	12/29/10 22:49
7782-49-2	Selenium		0.598	0.996	1.99	1	U	SW6010C	0L28004	12/29/10 22:49
7440-22-4	Silver		0.199	0.398	1.99	1	U	SW6010C	0L28004	12/29/10 22:49
7440-23-5	Sodium	1120	199	598	996	1		SW6010C	0L28004	12/29/10 22:49
7440-28-0	Thallium		1.59	1.59	1.59	1	M U	SW6010C	0L28004	12/29/10 22:49
7440-62-2	Vanadium	1.20	0.996	1.99	2.49	1	I	SW6010C	0L28004	12/29/10 22:49
7440-66-6	Zinc		4.98	9.96	19.9	5	U	SW6010C	0L28004	01/04/11 21:11

# ANALYSIS DATA SHEET

BCHMS-SO-023-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-28

Sampled: 12/14/10 13:00

Received: 12/15/10 08:30

% Solids: 86.04

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0156	0.0397	0.0397	1	U	SW7471A	0L29002	01/03/11 10:48
7429-90-5	Aluminum	144	51.9	104	208	5	DI	SW6010C	0L28004	01/04/11 21:20
7440-36-0	Antimony		1.04	1.66	2.08	1	U	SW6010C	0L28004	12/29/10 22:54
7440-38-2	Arsenic		0.623	1.25	2.08	1	U	SW6010C	0L28004	12/29/10 22:54
7440-39-3	Barium	6.80	1.04	4.15	8.30	1	I	SW6010C	0L28004	12/29/10 22:54
7440-41-7	Beryllium		0.208	0.415	1.04	1	U	SW6010C	0L28004	12/29/10 22:54
7440-43-9	Cadmium	0.209	0.208	0.415	1.04	1	I	SW6010C	0L28004	12/29/10 22:54
7440-70-2	Calcium	379000	1040	2080	5190	5	D	SW6010C	0L28004	01/04/11 21:20
7440-47-3	Chromium	2.24	0.415	0.830	2.08	1		SW6010C	0L28004	12/29/10 22:54
7440-48-4	Cobalt		1.04	2.08	2.59	1	U	SW6010C	0L28004	12/29/10 22:54
7440-50-8	Copper		0.830	1.66	2.08	1	U	SW6010C	0L28004	12/29/10 22:54
7439-89-6	Iron	64.1	6.23	12.5	20.8	1		SW6010C	0L28004	01/03/11 22:43
7439-92-1	Lead		1.56	3.11	3.11	5	U	SW6010C	0L28004	01/04/11 21:20
7439-95-4	Magnesium	900	208	623	1040	1	I	SW6010C	0L28004	01/03/11 22:43
7439-96-5	Manganese	1.74	0.623	1.25	3.11	1	I	SW6010C	0L28004	12/29/10 22:54
7440-02-0	Nickel	0.696	0.623	1.25	2.08	1	I	SW6010C	0L28004	12/29/10 22:54
7440-09-7	Potassium		208	623	1040	1	UN	SW6010C	0L28004	12/29/10 22:54
7782-49-2	Selenium		0.623	1.04	2.08	1	U	SW6010C	0L28004	12/29/10 22:54
7440-22-4	Silver		0.415	0.415	2.08	1	M U	SW6010C	0L28004	12/29/10 22:54
7440-23-5	Sodium	1300	208	623	1040	1		SW6010C	0L28004	12/29/10 22:54
7440-28-0	Thallium		1.66	1.66	3.32	2	M U	SW6010C	0L28004	01/04/11 21:15
7440-62-2	Vanadium		1.04	2.08	2.59	1	U	SW6010C	0L28004	12/29/10 22:54
7440-66-6	Zinc		5.19	10.4	20.8	5	U	SW6010C	0L28004	01/04/11 21:20

# ANALYSIS DATA SHEET

BCHMS-SO-024-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-29

Sampled: 12/14/10 13:20

Received: 12/15/10 08:30

% Solids: 88.26

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0143	0.0362	0.0362	1	U	SW7471A	0L29002	01/03/11 10:50
7429-90-5	Aluminum	193	53.4	107	214	5	DI	SW6010C	0L28004	01/04/11 21:25
7440-36-0	Antimony		1.07	1.71	2.14	1	U	SW6010C	0L28004	12/29/10 22:59
7440-38-2	Arsenic		0.641	1.28	2.14	1	U	SW6010C	0L28004	12/29/10 22:59
7440-39-3	Barium	6.63	1.07	4.28	8.55	1	I	SW6010C	0L28004	12/29/10 22:59
7440-41-7	Beryllium		0.214	0.428	1.07	1	U	SW6010C	0L28004	12/29/10 22:59
7440-43-9	Cadmium		0.214	0.428	1.07	1	U	SW6010C	0L28004	12/29/10 22:59
7440-70-2	Calcium	360000	1070	2140	5340	5	D	SW6010C	0L28004	01/04/11 21:25
7440-47-3	Chromium	2.46	0.428	0.855	2.14	1		SW6010C	0L28004	12/29/10 22:59
7440-48-4	Cobalt		1.07	2.14	2.67	1	U	SW6010C	0L28004	12/29/10 22:59
7440-50-8	Copper		0.855	1.71	2.14	1	U	SW6010C	0L28004	12/29/10 22:59
7439-89-6	Iron	90.9	6.41	12.8	21.4	1		SW6010C	0L28004	01/03/11 22:48
7439-92-1	Lead		1.60	3.21	3.21	5	U	SW6010C	0L28004	01/04/11 21:25
7439-95-4	Magnesium	976	214	641	1070	1	I	SW6010C	0L28004	01/03/11 22:48
7439-96-5	Manganese	1.75	0.641	1.28	3.21	1	I	SW6010C	0L28004	12/29/10 22:59
7440-02-0	Nickel	0.837	0.641	1.28	2.14	1	I	SW6010C	0L28004	12/29/10 22:59
7440-09-7	Potassium		214	641	1070	1	UN	SW6010C	0L28004	12/29/10 22:59
7782-49-2	Selenium		0.641	1.07	2.14	1	U	SW6010C	0L28004	12/29/10 22:59
7440-22-4	Silver		0.428	0.428	2.14	1	M U	SW6010C	0L28004	12/29/10 22:59
7440-23-5	Sodium	1400	214	641	1070	1		SW6010C	0L28004	12/29/10 22:59
7440-28-0	Thallium		1.28	1.28	1.71	1	M U	SW6010C	0L28004	12/29/10 22:59
7440-62-2	Vanadium	1.08	1.07	2.14	2.67	1	I	SW6010C	0L28004	12/29/10 22:59
7440-66-6	Zinc		5.34	10.7	21.4	5	U	SW6010C	0L28004	01/04/11 21:25

# ANALYSIS DATA SHEET

BCHMS-SO-025-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-30

Sampled: 12/14/10 13:40

Received: 12/15/10 08:30

% Solids: 84.59

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0159	0.0404	0.0404	1	U	SW7471A	0L29002	01/03/11 10:55
7429-90-5	Aluminum	200	51.0	102	204	5	D I	SW6010C	0L28004	01/04/11 21:35
7440-36-0	Antimony		1.02	1.63	2.04	1	U	SW6010C	0L28004	12/29/10 23:04
7440-38-2	Arsenic		0.611	1.22	2.04	1	U	SW6010C	0L28004	12/29/10 23:04
7440-39-3	Barium	6.64	1.02	4.08	8.15	1	I	SW6010C	0L28004	12/29/10 23:04
7440-41-7	Beryllium		0.204	0.408	1.02	1	U	SW6010C	0L28004	12/29/10 23:04
7440-43-9	Cadmium		0.204	0.408	1.02	1	U	SW6010C	0L28004	12/29/10 23:04
7440-70-2	Calcium	365000	1020	2040	5100	5	D	SW6010C	0L28004	01/04/11 21:35
7440-47-3	Chromium	2.55	0.408	0.815	2.04	1		SW6010C	0L28004	12/29/10 23:04
7440-48-4	Cobalt		1.02	2.04	2.55	1	U	SW6010C	0L28004	12/29/10 23:04
7440-50-8	Copper		0.815	1.63	2.04	1	U	SW6010C	0L28004	12/29/10 23:04
7439-89-6	Iron	96.4	6.11	12.2	20.4	1		SW6010C	0L28004	01/03/11 22:53
7439-92-1	Lead		1.53	3.06	3.06	5	U	SW6010C	0L28004	01/04/11 21:35
7439-95-4	Magnesium	875	204	611	1020	1	I	SW6010C	0L28004	01/03/11 22:53
7439-96-5	Manganese	1.85	0.611	1.22	3.06	1	I	SW6010C	0L28004	12/29/10 23:04
7440-02-0	Nickel	0.765	0.611	1.22	2.04	1	I	SW6010C	0L28004	12/29/10 23:04
7440-09-7	Potassium		204	611	1020	1	UN	SW6010C	0L28004	12/29/10 23:04
7782-49-2	Selenium		0.611	1.02	2.04	1	U	SW6010C	0L28004	12/29/10 23:04
7440-22-4	Silver		0.204	0.408	2.04	1	U	SW6010C	0L28004	12/29/10 23:04
7440-23-5	Sodium	1160	204	611	1020	1		SW6010C	0L28004	12/29/10 23:04
7440-28-0	Thallium		2.04	2.04	3.26	2	M U	SW6010C	0L28004	01/04/11 21:30
7440-62-2	Vanadium	1.25	1.02	2.04	2.55	1	I	SW6010C	0L28004	12/29/10 23:04
7440-66-6	Zinc		5.10	10.2	20.4	5	U	SW6010C	0L28004	01/04/11 21:35

# ANALYSIS DATA SHEET

BCHMS-SO-026-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-31

Sampled: 12/14/10 14:00

Received: 12/15/10 08:30

% Solids: 88.50

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0160	0.0157	0.0399	0.0399	1	I	SW7471A	0L29002	01/03/11 10:57
7429-90-5	Aluminum	868	50.4	101	202	5	D	SW6010C	0L28004	01/04/11 21:40
7440-36-0	Antimony		1.01	1.61	2.02	1	U	SW6010C	0L28004	12/29/10 23:09
7440-38-2	Arsenic		0.605	1.21	2.02	1	U	SW6010C	0L28004	12/29/10 23:09
7440-39-3	Barium	7.64	1.01	4.04	8.07	1	I	SW6010C	0L28004	12/29/10 23:09
7440-41-7	Beryllium		0.202	0.404	1.01	1	U	SW6010C	0L28004	12/29/10 23:09
7440-43-9	Cadmium		0.202	0.404	1.01	1	U	SW6010C	0L28004	12/29/10 23:09
7440-70-2	Calcium	348000	1010	2020	5040	5	D	SW6010C	0L28004	01/04/11 21:40
7440-47-3	Chromium	3.46	0.404	0.807	2.02	1		SW6010C	0L28004	12/29/10 23:09
7440-48-4	Cobalt		1.01	2.02	2.52	1	U	SW6010C	0L28004	12/29/10 23:09
7440-50-8	Copper	10.6	0.807	1.61	2.02	1		SW6010C	0L28004	12/29/10 23:09
7439-89-6	Iron	939	6.05	12.1	20.2	1		SW6010C	0L28004	01/03/11 22:58
7439-92-1	Lead	3.06	1.51	3.03	3.03	5	D	SW6010C	0L28004	01/04/11 21:40
7439-95-4	Magnesium	1350	202	605	1010	1		SW6010C	0L28004	01/03/11 22:58
7439-96-5	Manganese	10.4	0.605	1.21	3.03	1		SW6010C	0L28004	12/29/10 23:09
7440-02-0	Nickel	1.22	0.605	1.21	2.02	1	I	SW6010C	0L28004	12/29/10 23:09
7440-09-7	Potassium		202	605	1010	1	UN	SW6010C	0L28004	12/29/10 23:09
7782-49-2	Selenium		0.605	1.01	2.02	1	U	SW6010C	0L28004	12/29/10 23:09
7440-22-4	Silver		0.202	0.404	2.02	1	U	SW6010C	0L28004	12/29/10 23:09
7440-23-5	Sodium	1100	202	605	1010	1		SW6010C	0L28004	12/29/10 23:09
7440-28-0	Thallium		1.41	1.41	1.61	1	M U	SW6010C	0L28004	12/29/10 23:09
7440-62-2	Vanadium	3.38	1.01	2.02	2.52	1		SW6010C	0L28004	12/29/10 23:09
7440-66-6	Zinc	30.3	5.04	10.1	20.2	5	D	SW6010C	0L28004	01/04/11 21:40

**ANALYSIS DATA SHEET**

BCHMS-SO-028-1210

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Solid  
 Sampled: 12/14/10 14:20  
 % Solids: 87.44

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012153-32  
 Received: 12/15/10 08:30

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0139	0.0354	0.0354	1	U	SW7471A	0L29002	01/03/11 10:59
7429-90-5	Aluminum	266	52.0	104	208	5	D	SW6010C	0L28004	01/04/11 21:45
7440-36-0	Antimony		1.04	1.66	2.08	1	U	SW6010C	0L28004	12/29/10 23:14
7440-38-2	Arsenic		0.624	1.25	2.08	1	U	SW6010C	0L28004	12/29/10 23:14
7440-39-3	Barium	7.54	1.04	4.16	8.32	1	I	SW6010C	0L28004	12/29/10 23:14
7440-41-7	Beryllium		0.208	0.416	1.04	1	U	SW6010C	0L28004	12/29/10 23:14
7440-43-9	Cadmium		0.208	0.416	1.04	1	U	SW6010C	0L28004	12/29/10 23:14
7440-70-2	Calcium	378000	1040	2080	5200	5	D	SW6010C	0L28004	01/04/11 21:45
7440-47-3	Chromium	2.66	0.416	0.832	2.08	1		SW6010C	0L28004	12/29/10 23:14
7440-48-4	Cobalt		1.04	2.08	2.60	1	U	SW6010C	0L28004	12/29/10 23:14
7440-50-8	Copper		0.832	1.66	2.08	1	U	SW6010C	0L28004	12/29/10 23:14
7439-89-6	Iron	123	6.24	12.5	20.8	1		SW6010C	0L28004	01/03/11 23:03
7439-92-1	Lead		1.56	3.12	3.12	5	U	SW6010C	0L28004	01/04/11 21:45
7439-95-4	Magnesium	1150	208	624	1040	1		SW6010C	0L28004	01/03/11 23:03
7439-96-5	Manganese	2.40	0.624	1.25	3.12	1	I	SW6010C	0L28004	12/29/10 23:14
7440-02-0	Nickel	0.690	0.624	1.25	2.08	1	I	SW6010C	0L28004	12/29/10 23:14
7440-09-7	Potassium		208	624	1040	1	UN	SW6010C	0L28004	12/29/10 23:14
7782-49-2	Selenium		0.624	1.04	2.08	1	U	SW6010C	0L28004	12/29/10 23:14
7440-22-4	Silver		0.416	0.416	2.08	1	M U	SW6010C	0L28004	12/29/10 23:14
7440-23-5	Sodium	2390	208	624	1040	1		SW6010C	0L28004	12/29/10 23:14
7440-28-0	Thallium		1.66	1.66	1.66	1	M U	SW6010C	0L28004	12/29/10 23:14
7440-62-2	Vanadium	1.27	1.04	2.08	2.60	1	I	SW6010C	0L28004	12/29/10 23:14
7440-66-6	Zinc		5.20	10.4	20.8	5	U	SW6010C	0L28004	01/04/11 21:45

# ANALYSIS DATA SHEET

BCHMS-SO-FD01-1210

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Solid  
 Sampled: 12/14/10 00:00  
 % Solids: 87.95

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012153-33  
 Received: 12/15/10 08:30

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0130	0.0331	0.0331	1	U	SW7471A	0L29003	01/03/11 11:08
7429-90-5	Aluminum	203	55.7	111	223	5	D I	SW6010C	0L28005	01/04/11 21:55
7440-36-0	Antimony		1.11	1.78	2.23	1	U	SW6010C	0L28005	12/30/10 00:01
7440-38-2	Arsenic		0.669	1.34	2.23	1	U	SW6010C	0L28005	12/30/10 00:01
7440-39-3	Barium	6.28	1.11	4.46	8.92	1	I	SW6010C	0L28005	12/30/10 00:01
7440-41-7	Beryllium		0.223	0.446	1.11	1	U	SW6010C	0L28005	12/30/10 00:01
7440-43-9	Cadmium		0.223	0.446	1.11	1	U	SW6010C	0L28005	12/30/10 00:01
7440-70-2	Calcium	383000	1110	2230	5570	5	D	SW6010C	0L28005	01/04/11 21:55
7440-47-3	Chromium	2.92	0.446	0.892	2.23	1		SW6010C	0L28005	12/30/10 00:01
7440-48-4	Cobalt		1.11	2.23	2.79	1	U	SW6010C	0L28005	12/30/10 00:01
7440-50-8	Copper		0.892	1.78	2.23	1	U	SW6010C	0L28005	12/30/10 00:01
7439-89-6	Iron	103	6.69	13.4	22.3	1		SW6010C	0L28005	01/03/11 23:52
7439-92-1	Lead		1.67	3.34	3.34	5	U	SW6010C	0L28005	01/04/11 21:55
7439-95-4	Magnesium	943	223	669	1110	1	I	SW6010C	0L28005	01/03/11 23:52
7439-96-5	Manganese	2.25	0.669	1.34	3.34	1	I	SW6010C	0L28005	12/30/10 00:01
7440-02-0	Nickel		0.669	1.34	2.23	1	U	SW6010C	0L28005	12/30/10 00:01
7440-09-7	Potassium		223	669	1110	1	U	SW6010C	0L28005	01/03/11 23:52
7782-49-2	Selenium		1.11	1.11	2.23	1	M U	SW6010C	0L28005	12/30/10 00:01
7440-22-4	Silver		0.223	0.446	2.23	1	U	SW6010C	0L28005	12/30/10 00:01
7440-23-5	Sodium	965	223	669	1110	1	I	SW6010C	0L28005	01/03/11 23:52
7440-28-0	Thallium		0.669	0.892	1.78	1	U	SW6010C	0L28005	12/30/10 00:01
7440-62-2	Vanadium		1.11	2.23	2.79	1	U	SW6010C	0L28005	01/03/11 23:52
7440-66-6	Zinc		5.57	11.1	22.3	5	U	SW6010C	0L28005	01/04/11 21:55

# ANALYSIS DATA SHEET

BCHMS-SO-FD02-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 1012153-34

Sampled: 12/14/10 00:00

Received: 12/15/10 08:30

% Solids: 86.85

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0132	0.0335	0.0335	1	U	SW7471A	0L29003	01/03/11 11:09
7429-90-5	Aluminum	233	51.4	103	206	5	D	SW6010C	0L28005	01/04/11 22:00
7440-36-0	Antimony		1.03	1.64	2.06	1	U	SW6010C	0L28005	12/30/10 00:06
7440-38-2	Arsenic		0.617	1.23	2.06	1	U	SW6010C	0L28005	12/30/10 00:06
7440-39-3	Barium	7.51	1.03	4.11	8.22	1	I	SW6010C	0L28005	12/30/10 00:06
7440-41-7	Beryllium		0.206	0.411	1.03	1	U	SW6010C	0L28005	12/30/10 00:06
7440-43-9	Cadmium		0.206	0.411	1.03	1	U	SW6010C	0L28005	12/30/10 00:06
7440-70-2	Calcium	395000	1030	2060	5140	5	D	SW6010C	0L28005	01/04/11 22:00
7440-47-3	Chromium	2.86	0.411	0.822	2.06	1		SW6010C	0L28005	12/30/10 00:06
7440-48-4	Cobalt		1.03	2.06	2.57	1	U	SW6010C	0L28005	12/30/10 00:06
7440-50-8	Copper		0.822	1.64	2.06	1	U	SW6010C	0L28005	12/30/10 00:06
7439-89-6	Iron	122	6.17	12.3	20.6	1		SW6010C	0L28005	01/03/11 23:57
7439-92-1	Lead		1.54	3.08	3.08	5	U	SW6010C	0L28005	01/04/11 22:00
7439-95-4	Magnesium	1060	206	617	1030	1		SW6010C	0L28005	01/03/11 23:57
7439-96-5	Manganese	2.53	0.617	1.23	3.08	1	I	SW6010C	0L28005	12/30/10 00:06
7440-02-0	Nickel		0.617	1.23	2.06	1	U	SW6010C	0L28005	12/30/10 00:06
7440-09-7	Potassium		206	617	1030	1	U	SW6010C	0L28005	01/03/11 23:57
7782-49-2	Selenium		0.617	1.03	2.06	1	U	SW6010C	0L28005	12/30/10 00:06
7440-22-4	Silver		0.206	0.411	2.06	1	U	SW6010C	0L28005	12/30/10 00:06
7440-23-5	Sodium	1180	206	617	1030	1		SW6010C	0L28005	01/03/11 23:57
7440-28-0	Thallium		1.03	1.03	1.64	1	M U	SW6010C	0L28005	12/30/10 00:06
7440-62-2	Vanadium	1.24	1.03	2.06	2.57	1	I	SW6010C	0L28005	01/03/11 23:57
7440-66-6	Zinc		5.14	10.3	20.6	5	U	SW6010C	0L28005	01/04/11 22:00

# ANALYSIS DATA SHEET

**BCHMS-FD001-1210**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Ground Water  
 Sampled: 12/12/10 00:00  
 % Solids: 0.00

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012153-01  
 Received: 12/15/10 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.120	0.200	0.200	1	M U	SW7470A	0L21002	12/22/10 13:04
7429-90-5	Aluminum	596	100	200	400	2	X D N	SW6010C	0L27010	01/04/11 15:54
7440-36-0	Antimony		6.00	8.00	10.0	1	M U N	SW6010C	0L27010	01/03/11 18:37
7440-38-2	Arsenic		3.00	6.00	10.0	1	U N	SW6010C	0L27010	01/03/11 18:37
7440-39-3	Barium	24.5	5.00	10.0	40.0	1	I	SW6010C	0L27010	12/29/10 18:53
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L27010	12/29/10 18:53
7440-43-9	Cadmium	16.2	5.00	10.0	25.0	5	D I	SW6010C	0L27010	01/04/11 15:59
7440-70-2	Calcium	586000	2000	4000	10000	2	Y D	SW6010C	0L27010	01/04/11 15:54
7440-47-3	Chromium		10.0	20.0	50.0	5	U	SW6010C	0L27010	01/04/11 15:59
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 18:53
7440-50-8	Copper		10.0	10.0	10.0	1	M U N	SW6010C	0L27010	01/03/11 18:37
7439-89-6	Iron	461	30.0	60.0	100	1		SW6010C	0L27010	01/03/11 18:37
7439-92-1	Lead		15.0	15.0	15.0	5	M U	SW6010C	0L27010	01/04/11 15:59
7439-95-4	Magnesium	1450000	5000	15000	25000	5	D	SW6010C	0L27010	01/04/11 15:59
7439-96-5	Manganese	23.3	3.00	6.00	15.0	1		SW6010C	0L27010	12/29/10 18:53
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L27010	12/29/10 18:53
7440-09-7	Potassium	511000	5000	75000	125000	25	X D Q	SW6010C	0L27010	01/04/11 16:04
7782-49-2	Selenium	3.78	3.00	5.00	10.0	1	I N	SW6010C	0L27010	01/03/11 18:37
7440-22-4	Silver		1.00	2.00	10.0	1	U N	SW6010C	0L27010	12/29/10 18:53
7440-23-5	Sodium	10400000	5000	75000	125000	25	D Q	SW6010C	0L27010	01/04/11 16:04
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L27010	12/29/10 18:53
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 18:53
7440-66-6	Zinc		25.0	50.0	100	5	U	SW6010C	0L27010	01/04/11 15:59

# ANALYSIS DATA SHEET

**BCHMS-FD002-1210**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Ground Water  
 Sampled: 12/13/10 00:00  
 % Solids: 0.00

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012153-06  
 Received: 12/15/10 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L21002	12/22/10 13:11
7429-90-5	Aluminum	1050	100	200	400	2	X D N	SW6010C	0L27010	01/04/11 17:18
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:02
7440-38-2	Arsenic		3.00	6.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:02
7440-39-3	Barium	22.3	5.00	10.0	40.0	1	I	SW6010C	0L27010	12/29/10 19:18
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L27010	12/29/10 19:18
7440-43-9	Cadmium	17.2	5.00	10.0	25.0	5	D I	SW6010C	0L27010	01/04/11 17:23
7440-70-2	Calcium	499000	2000	4000	10000	2	Y D	SW6010C	0L27010	01/04/11 17:18
7440-47-3	Chromium		10.0	20.0	50.0	5	Y U	SW6010C	0L27010	01/04/11 17:23
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 19:18
7440-50-8	Copper		4.00	8.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:02
7439-89-6	Iron	432	30.0	60.0	100	1		SW6010C	0L27010	01/03/11 19:02
7439-92-1	Lead		10.0	15.0	15.0	5	M U	SW6010C	0L27010	01/04/11 17:23
7439-95-4	Magnesium	1080000	5000	15000	25000	5	D	SW6010C	0L27010	01/04/11 17:23
7439-96-5	Manganese	25.4	3.00	6.00	15.0	1		SW6010C	0L27010	12/29/10 19:18
7440-02-0	Nickel	3.14	3.00	6.00	10.0	1	I	SW6010C	0L27010	12/29/10 19:18
7440-09-7	Potassium	423000	1000	15000	25000	5	X D Q	SW6010C	0L27010	01/04/11 17:23
7782-49-2	Selenium		3.00	5.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:02
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L27010	12/29/10 19:18
7440-23-5	Sodium	8270000	5000	75000	125000	25	D Q	SW6010C	0L27010	01/04/11 17:27
7440-28-0	Thallium		4.00	4.00	8.00	1	M U	SW6010C	0L27010	12/29/10 19:18
7440-62-2	Vanadium	5.52	5.00	10.0	12.5	1	I	SW6010C	0L27010	12/29/10 19:18
7440-66-6	Zinc	31.1	25.0	50.0	100	5	D I	SW6010C	0L27010	01/04/11 17:23

# ANALYSIS DATA SHEET

BCHMS-GW-004-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Ground Water

Laboratory ID: 1012153-02

Sampled: 12/12/10 10:00

Received: 12/15/10 08:30

% Solids: 0.00

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.130	0.200	0.200	1	M U	SW7470A	0L21002	12/22/10 13:05
7429-90-5	Aluminum	514	100	200	400	2	X D N	SW6010C	0L27010	01/04/11 16:09
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L27010	01/03/11 18:42
7440-38-2	Arsenic		3.00	6.00	10.0	1	UN	SW6010C	0L27010	01/03/11 18:42
7440-39-3	Barium	25.4	5.00	10.0	40.0	1	I	SW6010C	0L27010	12/29/10 18:58
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L27010	12/29/10 18:58
7440-43-9	Cadmium	20.5	5.00	10.0	25.0	5	D I	SW6010C	0L27010	01/04/11 16:14
7440-70-2	Calcium	568000	2000	4000	10000	2	Y D	SW6010C	0L27010	01/04/11 16:09
7440-47-3	Chromium		10.0	20.0	50.0	5	U	SW6010C	0L27010	01/04/11 16:14
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 18:58
7440-50-8	Copper		10.0	16.0	20.0	2	M U N	SW6010C	0L27010	01/04/11 16:09
7439-89-6	Iron	404	30.0	60.0	100	1		SW6010C	0L27010	01/03/11 18:42
7439-92-1	Lead		15.0	15.0	15.0	5	M U	SW6010C	0L27010	01/04/11 16:14
7439-95-4	Magnesium	1500000	5000	15000	25000	5	D	SW6010C	0L27010	01/04/11 16:14
7439-96-5	Manganese	22.9	3.00	6.00	15.0	1		SW6010C	0L27010	12/29/10 18:58
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L27010	12/29/10 18:58
7440-09-7	Potassium	566000	5000	75000	125000	25	X D Q	SW6010C	0L27010	01/04/11 16:19
7782-49-2	Selenium	3.21	3.00	5.00	10.0	1	I N	SW6010C	0L27010	01/03/11 18:42
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L27010	12/29/10 18:58
7440-23-5	Sodium	11400000	5000	75000	125000	25	D Q	SW6010C	0L27010	01/04/11 16:19
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L27010	12/29/10 18:58
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 18:58
7440-66-6	Zinc		25.0	50.0	100	5	U	SW6010C	0L27010	01/04/11 16:14

# ANALYSIS DATA SHEET

**BCHMS-GW-005-1210**

 Laboratory: Empirical Laboratories, LLC

 SDG: CTOJM17KW\_003

 Client: Tetra Tech NUS, Inc. (T010)

 Project: NAS Key West CTO JM17

 Matrix: Ground Water

 Laboratory ID: 1012153-03

 Sampled: 12/12/10 10:50

 Received: 12/15/10 08:30

 % Solids: 0.00

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.110	0.200	0.200	1	M U	SW7470A	0L21002	12/22/10 13:07
7429-90-5	Aluminum	537	100	200	400	2	X D N	SW6010C	0L27010	01/04/11 16:23
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L27010	01/03/11 18:47
7440-38-2	Arsenic		3.00	6.00	10.0	1	UN	SW6010C	0L27010	01/03/11 18:47
7440-39-3	Barium	25.8	5.00	10.0	40.0	1	I	SW6010C	0L27010	12/29/10 19:03
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L27010	12/29/10 19:03
7440-43-9	Cadmium	17.3	5.00	10.0	25.0	5	D I	SW6010C	0L27010	01/04/11 16:44
7440-70-2	Calcium	546000	2000	4000	10000	2	Y D	SW6010C	0L27010	01/04/11 16:23
7440-47-3	Chromium		10.0	20.0	50.0	5	Y U	SW6010C	0L27010	01/04/11 16:44
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 19:03
7440-50-8	Copper		10.0	16.0	20.0	2	M UN	SW6010C	0L27010	01/04/11 16:23
7439-89-6	Iron	1440	30.0	60.0	100	1		SW6010C	0L27010	01/03/11 18:47
7439-92-1	Lead		7.50	15.0	15.0	5	U	SW6010C	0L27010	01/04/11 16:44
7439-95-4	Magnesium	1450000	5000	15000	25000	5	D	SW6010C	0L27010	01/04/11 16:44
7439-96-5	Manganese	24.2	3.00	6.00	15.0	1		SW6010C	0L27010	12/29/10 19:03
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L27010	12/29/10 19:03
7440-09-7	Potassium	507000	5000	75000	125000	25	X D Q	SW6010C	0L27010	01/04/11 16:49
7782-49-2	Selenium		3.00	5.00	10.0	1	UN	SW6010C	0L27010	01/03/11 18:47
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L27010	12/29/10 19:03
7440-23-5	Sodium	11200000	5000	75000	125000	25	D Q	SW6010C	0L27010	01/04/11 16:49
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L27010	12/29/10 19:03
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 19:03
7440-66-6	Zinc		25.0	50.0	100	5	U	SW6010C	0L27010	01/04/11 16:44

# ANALYSIS DATA SHEET

**BCHMS-GW-006-1210**

 Laboratory: Empirical Laboratories, LLC

 SDG: CTOJM17KW\_003

 Client: Tetra Tech NUS, Inc. (T010)

 Project: NAS Key West CTO JM17

 Matrix: Ground Water

 Laboratory ID: 1012153-04

 Sampled: 12/12/10 13:30

 Received: 12/15/10 08:30

 % Solids: 0.00

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0900	0.200	0.200	1	M U	SW7470A	0L21002	12/22/10 13:08
7429-90-5	Aluminum		50.0	100	200	1	UN	SW6010C	0L27010	01/03/11 18:52
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L27010	01/03/11 18:52
7440-38-2	Arsenic		3.00	6.00	10.0	1	UN	SW6010C	0L27010	01/03/11 18:52
7440-39-3	Barium	19.1	5.00	10.0	40.0	1	I	SW6010C	0L27010	12/29/10 19:08
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L27010	12/29/10 19:08
7440-43-9	Cadmium	16.9	5.00	10.0	25.0	5	D I	SW6010C	0L27010	01/04/11 16:54
7440-70-2	Calcium	434000	1000	2000	5000	1	Y	SW6010C	0L27010	01/03/11 18:52
7440-47-3	Chromium		10.0	20.0	50.0	5	Y U	SW6010C	0L27010	01/04/11 16:54
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 19:08
7440-50-8	Copper		9.00	9.00	10.0	1	M UN	SW6010C	0L27010	01/03/11 18:52
7439-89-6	Iron	37.3	30.0	60.0	100	1	I	SW6010C	0L27010	01/03/11 18:52
7439-92-1	Lead		15.0	15.0	15.0	5	M U	SW6010C	0L27010	01/04/11 16:54
7439-95-4	Magnesium	1120000	5000	15000	25000	5	D	SW6010C	0L27010	01/04/11 16:54
7439-96-5	Manganese	9.24	3.00	6.00	15.0	1	I	SW6010C	0L27010	12/29/10 19:08
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L27010	12/29/10 19:08
7440-09-7	Potassium	445000	1000	15000	25000	5	X D Q	SW6010C	0L27010	01/04/11 16:54
7782-49-2	Selenium		3.00	5.00	10.0	1	UN	SW6010C	0L27010	01/03/11 18:52
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L27010	12/29/10 19:08
7440-23-5	Sodium	9060000	5000	75000	125000	25	D Q	SW6010C	0L27010	01/04/11 16:58
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L27010	12/29/10 19:08
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 19:08
7440-66-6	Zinc		25.0	50.0	100	5	U	SW6010C	0L27010	01/04/11 16:54

# ANALYSIS DATA SHEET

**BCHMS-GW-007-1210**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Ground Water  
 Sampled: 12/12/10 14:30  
 % Solids: 0.00

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 1012153-05  
 Received: 12/15/10 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.200	0.200	1	U	SW7470A	0L21002	12/22/10 13:09
7429-90-5	Aluminum	2920	100	200	400	2	X D N	SW6010C	0L27010	01/04/11 17:03
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L27010	01/03/11 18:57
7440-38-2	Arsenic		3.00	6.00	10.0	1	UN	SW6010C	0L27010	01/03/11 18:57
7440-39-3	Barium	25.2	5.00	10.0	40.0	1	I	SW6010C	0L27010	12/29/10 19:13
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L27010	12/29/10 19:13
7440-43-9	Cadmium	16.6	5.00	10.0	25.0	5	D I	SW6010C	0L27010	01/04/11 17:08
7440-70-2	Calcium	529000	2000	4000	10000	2	Y D	SW6010C	0L27010	01/04/11 17:03
7440-47-3	Chromium		10.0	20.0	50.0	5	Y U	SW6010C	0L27010	01/04/11 17:08
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 19:13
7440-50-8	Copper		8.00	8.00	10.0	1	M UN	SW6010C	0L27010	01/03/11 18:57
7439-89-6	Iron	1060	30.0	60.0	100	1		SW6010C	0L27010	01/03/11 18:57
7439-92-1	Lead		7.50	15.0	15.0	5	U	SW6010C	0L27010	01/04/11 17:08
7439-95-4	Magnesium	1140000	5000	15000	25000	5	D	SW6010C	0L27010	01/04/11 17:08
7439-96-5	Manganese	16.9	3.00	6.00	15.0	1		SW6010C	0L27010	12/29/10 19:13
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L27010	12/29/10 19:13
7440-09-7	Potassium	420000	1000	15000	25000	5	X D Q	SW6010C	0L27010	01/04/11 17:08
7782-49-2	Selenium	8.19	3.00	5.00	10.0	1	IN	SW6010C	0L27010	01/03/11 18:57
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L27010	12/29/10 19:13
7440-23-5	Sodium	8450000	5000	75000	125000	25	D Q	SW6010C	0L27010	01/04/11 17:13
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L27010	12/29/10 19:13
7440-62-2	Vanadium	5.13	5.00	10.0	12.5	1	I	SW6010C	0L27010	12/29/10 19:13
7440-66-6	Zinc		25.0	50.0	100	5	U	SW6010C	0L27010	01/04/11 17:08

# ANALYSIS DATA SHEET

**BCHMS-GW-008-1210**

 Laboratory: Empirical Laboratories, LLC

 SDG: CTOJM17KW\_003

 Client: Tetra Tech NUS, Inc. (T010)

 Project: NAS Key West CTO JM17

 Matrix: Ground Water

 Laboratory ID: 1012153-07

 Sampled: 12/13/10 09:00

 Received: 12/15/10 08:30

 % Solids: 0.00

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.100	0.200	0.200	1	M U	SW7470A	0L21002	12/22/10 13:13
7429-90-5	Aluminum		50.0	100	200	1	UN	SW6010C	0L27010	01/03/11 19:07
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:07
7440-38-2	Arsenic		3.00	6.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:07
7440-39-3	Barium	26.1	5.00	10.0	40.0	1	I	SW6010C	0L27010	12/29/10 19:23
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L27010	12/29/10 19:23
7440-43-9	Cadmium	14.9	5.00	10.0	25.0	5	D I	SW6010C	0L27010	01/04/11 17:45
7440-70-2	Calcium	417000	1000	2000	5000	1	Y	SW6010C	0L27010	01/03/11 19:07
7440-47-3	Chromium		10.0	20.0	50.0	5	Y U	SW6010C	0L27010	01/04/11 17:45
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 19:23
7440-50-8	Copper		8.00	8.00	10.0	1	M UN	SW6010C	0L27010	01/03/11 19:07
7439-89-6	Iron	36.4	30.0	60.0	100	1	I	SW6010C	0L27010	01/03/11 19:07
7439-92-1	Lead		7.50	15.0	15.0	5	U	SW6010C	0L27010	01/04/11 17:45
7439-95-4	Magnesium	987000	5000	15000	25000	5	D	SW6010C	0L27010	01/04/11 17:45
7439-96-5	Manganese	30.4	3.00	6.00	15.0	1		SW6010C	0L27010	12/29/10 19:23
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L27010	12/29/10 19:23
7440-09-7	Potassium	366000	1000	15000	25000	5	X D Q	SW6010C	0L27010	01/04/11 17:45
7782-49-2	Selenium		3.00	5.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:07
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L27010	12/29/10 19:23
7440-23-5	Sodium	8230000	5000	75000	125000	25	D Q	SW6010C	0L27010	01/04/11 17:50
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L27010	12/29/10 19:23
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 19:23
7440-66-6	Zinc		25.0	50.0	100	5	U	SW6010C	0L27010	01/04/11 17:45

# ANALYSIS DATA SHEET

**BCHMS-GW-009D-1210**

 Laboratory: Empirical Laboratories, LLC

 SDG: CTOJM17KW\_003

 Client: Tetra Tech NUS, Inc. (T010)

 Project: NAS Key West CTO JM17

 Matrix: Ground Water

 Laboratory ID: 1012153-08

 Sampled: 12/13/10 10:00

 Received: 12/15/10 08:30

 % Solids: 0.00

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.110	0.200	0.200	1	M U	SW7470A	0L21002	12/22/10 13:22
7429-90-5	Aluminum	95.2	50.0	100	200	1	IN	SW6010C	0L27010	01/03/11 19:13
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:13
7440-38-2	Arsenic		3.00	6.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:13
7440-39-3	Barium		5.00	10.0	40.0	1	U	SW6010C	0L27010	12/29/10 19:28
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L27010	12/29/10 19:28
7440-43-9	Cadmium	1.86	1.00	2.00	5.00	1	I	SW6010C	0L27010	01/03/11 19:13
7440-70-2	Calcium	102000	1000	2000	5000	1	Y	SW6010C	0L27010	01/03/11 19:13
7440-47-3	Chromium		2.00	4.00	10.0	1	U	SW6010C	0L27010	12/29/10 19:28
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 19:28
7440-50-8	Copper		4.00	8.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:13
7439-89-6	Iron		30.0	60.0	100	1	U	SW6010C	0L27010	01/03/11 19:13
7439-92-1	Lead		2.00	3.00	3.00	1	M U	SW6010C	0L27010	12/29/10 19:28
7439-95-4	Magnesium	32700	1000	3000	5000	1		SW6010C	0L27010	12/29/10 19:28
7439-96-5	Manganese	6.62	3.00	6.00	15.0	1	I	SW6010C	0L27010	12/29/10 19:28
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L27010	12/29/10 19:28
7440-09-7	Potassium	7210	200	3000	5000	1	X Q	SW6010C	0L27010	01/03/11 19:13
7782-49-2	Selenium		3.00	5.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:13
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L27010	12/29/10 19:28
7440-23-5	Sodium	93800	200	3000	5000	1	Y Q	SW6010C	0L27010	01/03/11 19:13
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L27010	12/29/10 19:28
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 19:28
7440-66-6	Zinc		5.00	10.0	20.0	1	U	SW6010C	0L27010	12/29/10 19:28

# ANALYSIS DATA SHEET

**BCHMS-GW-010-1210**

 Laboratory: Empirical Laboratories, LLC

 SDG: CTOJM17KW\_003

 Client: Tetra Tech NUS, Inc. (T010)

 Project: NAS Key West CTO JM17

 Matrix: Ground Water

 Laboratory ID: 1012153-09

 Sampled: 12/13/10 11:00

 Received: 12/15/10 08:30

 % Solids: 0.00

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.119	0.0800	0.200	0.200	1	I	SW7470A	0L21003	12/22/10 13:49
7429-90-5	Aluminum	5870	250	500	1000	5	D N	SW6010C	0L27010	01/04/11 17:55
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:17
7440-38-2	Arsenic	6.45	3.00	6.00	10.0	1	IN	SW6010C	0L27010	01/03/11 19:17
7440-39-3	Barium	45.0	5.00	10.0	40.0	1		SW6010C	0L27010	12/29/10 19:33
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L27010	12/29/10 19:33
7440-43-9	Cadmium	6.56	1.00	2.00	5.00	1		SW6010C	0L27010	01/03/11 19:17
7440-70-2	Calcium	1220000	5000	10000	25000	5	Y D	SW6010C	0L27010	01/04/11 17:55
7440-47-3	Chromium	23.2	2.00	4.00	10.0	1		SW6010C	0L27010	12/29/10 19:33
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 19:33
7440-50-8	Copper	41.0	4.00	8.00	10.0	1	N	SW6010C	0L27010	01/03/11 19:17
7439-89-6	Iron	4160	30.0	60.0	100	1		SW6010C	0L27010	01/03/11 19:17
7439-92-1	Lead	71.9	7.50	15.0	15.0	5	D	SW6010C	0L27010	01/04/11 17:55
7439-95-4	Magnesium	396000	1000	3000	5000	1		SW6010C	0L27010	12/29/10 19:33
7439-96-5	Manganese	77.5	3.00	6.00	15.0	1		SW6010C	0L27010	12/29/10 19:33
7440-02-0	Nickel	7.47	3.00	6.00	10.0	1	I	SW6010C	0L27010	12/29/10 19:33
7440-09-7	Potassium	142000	1000	15000	25000	5	X D Q	SW6010C	0L27010	01/04/11 17:55
7782-49-2	Selenium		3.00	5.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:17
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L27010	12/29/10 19:33
7440-23-5	Sodium	3610000	5000	75000	125000	25	D Q	SW6010C	0L27010	01/04/11 18:00
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L27010	12/29/10 19:33
7440-62-2	Vanadium	14.7	5.00	10.0	12.5	1		SW6010C	0L27010	12/29/10 19:33
7440-66-6	Zinc	84.2	25.0	50.0	100	5	D I	SW6010C	0L27010	01/04/11 17:55

# ANALYSIS DATA SHEET

**BCHMS-GW-011-1210**

 Laboratory: Empirical Laboratories, LLC

 SDG: CTOJM17KW\_003

 Client: Tetra Tech NUS, Inc. (T010)

 Project: NAS Key West CTO JM17

 Matrix: Ground Water

 Laboratory ID: 1012153-10

 Sampled: 12/13/10 15:00

 Received: 12/15/10 08:30

 % Solids: 0.00

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0900	0.200	0.200	1	M U	SW7470A	0L21003	12/22/10 13:51
7429-90-5	Aluminum	493	50.0	100	200	1	N	SW6010C	0L27010	01/03/11 19:22
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:22
7440-38-2	Arsenic		3.00	6.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:22
7440-39-3	Barium	19.1	5.00	10.0	40.0	1	I	SW6010C	0L27010	12/29/10 19:38
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L27010	12/29/10 19:38
7440-43-9	Cadmium	13.6	5.00	10.0	25.0	5	D I	SW6010C	0L27010	01/04/11 18:05
7440-70-2	Calcium	395000	1000	2000	5000	1	Y	SW6010C	0L27010	01/03/11 19:22
7440-47-3	Chromium		10.0	20.0	50.0	5	Y U	SW6010C	0L27010	01/04/11 18:05
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 19:38
7440-50-8	Copper		4.00	8.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:22
7439-89-6	Iron	232	30.0	60.0	100	1		SW6010C	0L27010	01/03/11 19:22
7439-92-1	Lead		7.50	15.0	15.0	5	U	SW6010C	0L27010	01/04/11 18:05
7439-95-4	Magnesium	1070000	5000	15000	25000	5	D	SW6010C	0L27010	01/04/11 18:05
7439-96-5	Manganese	21.6	3.00	6.00	15.0	1		SW6010C	0L27010	12/29/10 19:38
7440-02-0	Nickel	3.40	3.00	6.00	10.0	1	I	SW6010C	0L27010	12/29/10 19:38
7440-09-7	Potassium	383000	1000	15000	25000	5	X D Q	SW6010C	0L27010	01/04/11 18:05
7782-49-2	Selenium	5.47	3.00	5.00	10.0	1	IN	SW6010C	0L27010	01/03/11 19:22
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L27010	12/29/10 19:38
7440-23-5	Sodium	8670000	5000	75000	125000	25	D Q	SW6010C	0L27010	01/04/11 18:09
7440-28-0	Thallium		4.00	4.00	8.00	1	M U	SW6010C	0L27010	12/29/10 19:38
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 19:38
7440-66-6	Zinc	29.8	25.0	50.0	100	5	D I	SW6010C	0L27010	01/04/11 18:05

# ANALYSIS DATA SHEET

**BCHMS-GW-012-1210**

 Laboratory: Empirical Laboratories, LLC

 SDG: CTOJM17KW\_003

 Client: Tetra Tech NUS, Inc. (T010)

 Project: NAS Key West CTO JM17

 Matrix: Ground Water

 Laboratory ID: 1012153-11

 Sampled: 12/13/10 14:00

 Received: 12/15/10 08:30

 % Solids: 0.00

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.100	0.200	0.200	1	M U	SW7470A	0L21003	12/22/10 13:56
7429-90-5	Aluminum	1680	50.0	100	200	1	N	SW6010C	0L27010	01/03/11 19:40
7440-36-0	Antimony		5.00	8.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:40
7440-38-2	Arsenic	3.54	3.00	6.00	10.0	1	IN	SW6010C	0L27010	01/03/11 19:40
7440-39-3	Barium	22.3	5.00	10.0	40.0	1	I	SW6010C	0L27010	12/29/10 19:56
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	0L27010	12/29/10 19:56
7440-43-9	Cadmium	14.1	5.00	10.0	25.0	5	D I	SW6010C	0L27010	01/04/11 18:14
7440-70-2	Calcium	425000	1000	2000	5000	1		SW6010C	0L27010	01/03/11 19:40
7440-47-3	Chromium		10.0	20.0	50.0	5	Y U	SW6010C	0L27010	01/04/11 18:14
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 19:56
7440-50-8	Copper		4.00	8.00	10.0	1	UN	SW6010C	0L27010	01/03/11 19:40
7439-89-6	Iron	572	30.0	60.0	100	1		SW6010C	0L27010	01/03/11 19:40
7439-92-1	Lead		10.0	15.0	15.0	5	M U	SW6010C	0L27010	01/04/11 18:14
7439-95-4	Magnesium	1050000	5000	15000	25000	5	D	SW6010C	0L27010	01/04/11 18:14
7439-96-5	Manganese	34.5	3.00	6.00	15.0	1		SW6010C	0L27010	12/29/10 19:56
7440-02-0	Nickel		3.00	6.00	10.0	1	U	SW6010C	0L27010	12/29/10 19:56
7440-09-7	Potassium	382000	1000	15000	25000	5	X D Q	SW6010C	0L27010	01/04/11 18:14
7782-49-2	Selenium	4.24	3.00	5.00	10.0	1	IN	SW6010C	0L27010	01/03/11 19:40
7440-22-4	Silver		1.00	2.00	10.0	1	UN	SW6010C	0L27010	12/29/10 19:56
7440-23-5	Sodium	7960000	5000	75000	125000	25	D Q	SW6010C	0L27010	01/04/11 18:19
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	0L27010	12/29/10 19:56
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	0L27010	12/29/10 19:56
7440-66-6	Zinc		25.0	50.0	100	5	U	SW6010C	0L27010	01/04/11 18:14

**APPENDIX C**

**SUPPORT DOCUMENTATION**



TETRA TECH NUS, INC

CHAIN OF CUSTODY  
NUMBER: ED00000143-3

Project No: <b>112G02608</b>	Facility: <b>KEY WEST NAS</b>	Project Manager: <b>Shauna Stotler-Hardy</b>	Carrier: <b>Federal Express</b>	Laboratory Name: <b>Empirical Laboratories, LLC 621 Mainstream Drive Nashville, TN 37228</b>
Task No: <b>JM17</b>	Turn Around Time: <b>Standard</b>	Field Ops Leader: <b>Gary Braganza</b>	Carrier/Waybill No. <b>874183383409</b>	Point of Contact: <b>Kim Kostzer (615) 345-1115</b>

Date	Sample ID #	Time	Analysis	Loc ID	Matrix	Description	Preservative	Container Count	Container Type	Container Reqs	Comments
12/12/2010	BCHMS-FD001-1210	00:00	SW846 6020A	QC	GW Metals	SWOCs (low level) and SIM	4°C/HNO3	2	Plastic - PE	125ml	10/21/15
12/12/2010	BCHMS-FD001-1210	00:00	SW846 8720D/8270DSIM	QC	GW SVOCs (low level) and PAHs	TRPH	4°C	2	Glass - Amber	1L	
12/12/2010	BCHMS-FD001-1210	00:00	FL PRO	QC	GW TRPH		4°C/HCL	2	Glass - Amber	1L	-01
12/12/2010	BCHMS-FD001-1210	00:00	SW846 8260B	QC	GW VOCs (low level analysis)		4°C/HCL	3	Glass - Clear	40ml vials	
12/12/2010	BCHMS-FD001-1210	00:00	SW846 8082A/8081B	QC	GW PCBs/Pesticides		4°C	3	Glass - Amber	1L	-02
12/12/2010	BCHMS-GW-004-1210	10:00	SW846 8260B	BCHMS-GW004	GW VOCs (low level analysis)		4°C/HCL	3	Glass - Clear	40ml vials	
12/12/2010	BCHMS-GW-004-1210	10:00	SW846 8720D/8270DSIM	BCHMS-GW004	GW SVOCs (low level) and PAHs	SIM	4°C	2	Glass - Amber	1L	-03
12/12/2010	BCHMS-GW-004-1210	10:00	SW846 6020A	BCHMS-GW004	GW Metals		4°C/HNO3	2	Plastic - PE	125ml	
12/12/2010	BCHMS-GW-004-1210	10:00	FL PRO	BCHMS-GW004	GW TRPH		4°C/HCL	2	Glass - Amber	1L	-04
12/12/2010	BCHMS-GW-004-1210	10:00	SW846 8082A/8081B	BCHMS-GW004	GW PCBs/Pesticides		4°C	3	Glass - Clear	40ml vials	
12/12/2010	BCHMS-GW-005-1210	10:50	SW846 8260B	BCHMS-GW005	GW VOCs (low level analysis)		4°C/HCL	3	Glass - Clear	40ml vials	-05
12/12/2010	BCHMS-GW-005-1210	10:50	SW846 8720D/8270DSIM	BCHMS-GW005	GW SVOCs (low level) and PAHs	SIM	4°C	2	Glass - Amber	1L	
12/12/2010	BCHMS-GW-005-1210	10:50	SW846 6020A	BCHMS-GW005	GW Metals		4°C/HNO3	2	Plastic - PE	125ml	-06
12/12/2010	BCHMS-GW-005-1210	10:50	FL PRO	BCHMS-GW005	GW TRPH		4°C/HCL	2	Glass - Amber	1L	
12/12/2010	BCHMS-GW-006-1210	13:30	SW846 8260B	BCHMS-GW006	GW VOCs (low level analysis)		4°C/HCL	3	Glass - Clear	40ml vials	-07
12/12/2010	BCHMS-GW-006-1210	13:30	SW846 8720D/8270DSIM	BCHMS-GW006	GW SVOCs (low level) and PAHs	SIM	4°C	2	Glass - Amber	1L	
12/12/2010	BCHMS-GW-006-1210	13:30	SW846 6020A	BCHMS-GW006	GW Metals		4°C/HNO3	2	Plastic - PE	125ml	-08
12/12/2010	BCHMS-GW-006-1210	13:30	FL PRO	BCHMS-GW006	GW TRPH		4°C/HCL	2	Glass - Amber	1L	
12/12/2010	BCHMS-GW-007-1210	14:30	SW846 8260B	BCHMS-GW007	GW VOCs (low level analysis)		4°C/HCL	3	Glass - Clear	40ml vials	-09
12/12/2010	BCHMS-GW-007-1210	14:30	SW846 8260B	BCHMS-GW007	GW VOCs (low level analysis)		4°C/HCL	3	Glass - Clear	40ml vials	

12/12/2010	BCHMS-GW-007-1210	14:30	SW846 8720D/8270DSIM	BCHMS-GW007	GW	SVOCs (low level) and SIM	4°C	2	Glass - Amber	1L	
12/12/2010	BCHMS-GW-007-1210	14:30	SW846 6020A	BCHMS-GW007	GW	PAHs	4°C/HNO3	2	Plastic - PE	125ml	
12/12/2010	BCHMS-GW-007-1210	14:30	FL PRO	BCHMS-GW007	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/13/2010	BCHMS-FD002-1210	00:00	SW846 6020A	QC	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml	
12/13/2010	BCHMS-FD002-1210	00:00	FL PRO	QC	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/13/2010	BCHMS-FD002-1210	00:00	SW846 8720D/8270DSIM	QC	GW	SVOCs (low level) and SIM	4°C	2	Glass - Amber	1L	
12/13/2010	BCHMS-FD002-1210	00:00	SW846 8260B	QC	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/13/2010	BCHMS-GW-008-1210	09:00	SW846 8260B	BCHMS-GW008	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/13/2010	BCHMS-GW-008-1210	09:00	SW846 8720D/8270DSIM	BCHMS-GW008	GW	SVOCs (low level) and SIM	4°C	2	Glass - Amber	1L	
12/13/2010	BCHMS-GW-008-1210	09:00	SW846 6020A	BCHMS-GW008	GW	PAHs	4°C/HNO3	2	Plastic - PE	125ml	
12/13/2010	BCHMS-GW-008-1210	09:00	FL PRO	BCHMS-GW008	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/13/2010	BCHMS-GW-009D-1210	10:00	SW846 8260B	BCHMS-GW009D	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/13/2010	BCHMS-GW-009D-1210	10:00	SW846 8720D/8270DSIM	BCHMS-GW009D	GW	SVOCs (low level) and SIM	4°C	2	Glass - Amber	1L	
12/13/2010	BCHMS-GW-009D-1210	10:00	SW846 6020A	BCHMS-GW009D	GW	PAHs	4°C/HNO3	2	Plastic - PE	125ml	
12/13/2010	BCHMS-GW-009D-1210	10:00	FL PRO	BCHMS-GW009D	GW	Metals	4°C/HCL	2	Glass - Amber	1L	
12/13/2010	BCHMS-GW-010-1210	11:00	SW846 8260B	BCHMS-GW010	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/13/2010	BCHMS-GW-010-1210	11:00	SW846 8720D/8270DSIM	BCHMS-GW010	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/13/2010	BCHMS-GW-010-1210	11:00	SW846 6020A	BCHMS-GW010	GW	PAHs	4°C	2	Glass - Amber	1L	
12/13/2010	BCHMS-GW-010-1210	11:00	SW846 6020A	BCHMS-GW010	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml	
12/13/2010	BCHMS-GW-010-1210	11:00	FL PRO	BCHMS-GW010	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/13/2010	BCHMS-GW-010-1210	11:00	SW846 8082A/8081B	BCHMS-GW010	GW	PCBs/Pesticides	4°C	3	Glass - Amber	1L	
12/13/2010	BCHMS-GW-011-1210	15:00	SW846 8260B	BCHMS-GW011	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/13/2010	BCHMS-GW-011-1210	15:00	SW846 8720D/8270DSIM	BCHMS-GW011	GW	SVOCs (low level) and SIM	4°C	2	Glass - Amber	1L	
12/13/2010	BCHMS-GW-011-1210	15:00	SW846 6020A	BCHMS-GW011	GW	PAHs	4°C/HNO3	2	Plastic - PE	125ml	
12/13/2010	BCHMS-GW-011-1210	15:00	FL PRO	BCHMS-GW011	GW	Metals	4°C/HCL	2	Glass - Amber	1L	
12/13/2010	BCHMS-GW-012-1210	14:00	SW846 8260B	BCHMS-GW012	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/13/2010	BCHMS-GW-012-1210	14:00	SW846 8720D/8270DSIM	BCHMS-GW012	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials	
12/13/2010	BCHMS-GW-012-1210	14:00	SW846 6020A	BCHMS-GW012	GW	PAHs	4°C	2	Glass - Amber	1L	
12/13/2010	BCHMS-GW-012-1210	14:00	SW846 6020A	BCHMS-GW012	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml	
12/13/2010	BCHMS-GW-012-1210	14:00	FL PRO	BCHMS-GW012	GW	TRPH	4°C/HCL	2	Glass - Amber	1L	
12/13/2010	BCHMS-GW-012-1210	14:00	SW846 8082A/8081B	BCHMS-GW012	GW	PCBs/Pesticides	4°C	3	Glass - Amber	1L	
12/13/2010	BCHMS-TB02-1210	00:00	SW846 8260B	QC	AQ	VOCs (low level analysis)	4°C/HCL	2	Glass - Clear	40ml vials	
12/14/2010	BCHMS-SO-002-1210	08:00	SW846 8260B	BCHMS-SO002	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-ared)	
12/14/2010	BCHMS-SO-002-1210	08:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO002	SO	SVOCs (low level) (Metals)TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	

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Trip Blank -12  
-13

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12/14/2010	BCHMS-SO-004-1210	08:20	SW846 8260B	BCHMS-SO004	SO	VOCS			4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-14
12/14/2010	BCHMS-SO-004-1210	08:20	SW846 8082A/8081B	BCHMS-SO004	SO	PCBs/Pesticides			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-004-1210	08:20	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO004	SO	SVOCS, low level (Metals) TRPH			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-007-1210	08:40	SW846 8260B	BCHMS-SO007	SO	VOCS			4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-15
12/14/2010	BCHMS-SO-007-1210	08:40	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO007	SO	SVOCS, low level (Metals) TRPH			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-010-1210	09:00	SW846 8260B	BCHMS-SO010	SO	VOCS			4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-16
12/14/2010	BCHMS-SO-010-1210	09:00	SW846 8082A/8081B	BCHMS-SO010	SO	PCBs/Pesticides			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-010-1210	09:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO010	SO	SVOCS, low level (Metals) TRPH			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-012-1210	09:20	SW846 8260B	BCHMS-SO012	SO	VOCS			4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-17
12/14/2010	BCHMS-SO-012-1210	09:20	SW846 8082A/8081B	BCHMS-SO012	SO	PCBs/Pesticides			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-012-1210	09:20	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO012	SO	SVOCS, low level (Metals) TRPH			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-013-1210	09:40	SW846 8260B	BCHMS-SO013	SO	VOCS			4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-18
12/14/2010	BCHMS-SO-013-1210	09:40	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO013	SO	SVOCS, low level (Metals) TRPH			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-014-1210	10:00	SW846 8260B	BCHMS-SO014	SO	VOCS			4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-19
12/14/2010	BCHMS-SO-014-1210	10:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO014	SO	SVOCS, low level (Metals) TRPH			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-015-1210	10:20	SW846 8260B	BCHMS-SO015	SO	VOCS			4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-20
12/14/2010	BCHMS-SO-015-1210	10:20	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO015	SO	SVOCS, low level (Metals) TRPH			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-016-1210	10:40	SW846 8260B	BCHMS-SO016	SO	VOCS			4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-21
12/14/2010	BCHMS-SO-016-1210	10:40	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO016	SO	SVOCS, low level (Metals) TRPH			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-017-1210	11:00	SW846 8260B	BCHMS-SO017	SO	VOCS			4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-22
12/14/2010	BCHMS-SO-017-1210	11:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO017	SO	SVOCS, low level (Metals) TRPH			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-018-1210	11:20	SW846 8260B	BCHMS-SO018	SO	VOCS			4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-23
12/14/2010	BCHMS-SO-018-1210	11:20	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO018	SO	SVOCS, low level (Metals) TRPH			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-019-1210	11:40	SW846 8260B	BCHMS-SO019	SO	VOCS			4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-24
12/14/2010	BCHMS-SO-019-1210	11:40	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO019	SO	SVOCS, low level (Metals) TRPH			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-020-1210	12:00	SW846 8260B	BCHMS-SO020	SO	VOCS			4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-25
12/14/2010	BCHMS-SO-020-1210	12:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO020	SO	SVOCS, low level (Metals) TRPH			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-021-1210	12:20	SW846 8260B	BCHMS-SO021	SO	VOCS			4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-26
12/14/2010	BCHMS-SO-021-1210	12:20	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO021	SO	SVOCS, low level (Metals) TRPH			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	
12/14/2010	BCHMS-SO-022-1210	12:40	SW846 8260B	BCHMS-SO022	SO	VOCS			4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-27
12/14/2010	BCHMS-SO-022-1210	12:40	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO022	SO	SVOCS, low level (Metals) TRPH			4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	

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12/14/2010	BCHMS-SO-023-1210	13:00	SW846 8260B	BCHMS-SO023	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-28
12/14/2010	BCHMS-SO-023-1210	13:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO023	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-29
12/14/2010	BCHMS-SO-024-1210	13:20	SW846 8260B	BCHMS-SO024	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-29
12/14/2010	BCHMS-SO-024-1210	13:20	SW846 8082A/8081B	BCHMS-SO024	SO	PCBs/Pesticides	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-30
12/14/2010	BCHMS-SO-024-1210	13:20	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO024	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-30
12/14/2010	BCHMS-SO-025-1210	13:40	SW846 8260B	BCHMS-SO025	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-31
12/14/2010	BCHMS-SO-025-1210	13:40	SW846 8082A/8081B	BCHMS-SO025	SO	PCBs/Pesticides	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-31
12/14/2010	BCHMS-SO-025-1210	13:40	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO025	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-32
12/14/2010	BCHMS-SO-026-1210	14:00	SW846 8260B	BCHMS-SO026	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-32
12/14/2010	BCHMS-SO-026-1210	14:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO026	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-32
12/14/2010	BCHMS-SO-028-1210	14:20	SW846 8260B	BCHMS-SO028	SO	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-33
12/14/2010	BCHMS-SO-028-1210	14:20	SW846 8082A/8081B	BCHMS-SO028	SO	PCBs/Pesticides	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-33
12/14/2010	BCHMS-SO-028-1210	14:20	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	BCHMS-SO028	SO	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-33
12/14/2010	BCHMS-SO-FD01-1210	00:00	SW846 8260B	QC	QC	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-34
12/14/2010	BCHMS-SO-FD01-1210	00:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	QC	QC	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-34
12/14/2010	BCHMS-SO-FD02-1210	00:00	SW846 8270D/8270DSIM/SW846 6020A/FL PRO	QC	QC	SVOCs (low level)/Metals/TRPH	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-34
12/14/2010	BCHMS-SO-FD02-1210	00:00	SW846 8260B	QC	QC	VOCs	4°C/MeOH+DI Combo	3	Glass - Clear	40 mL vial (pre-tared)	-34
12/14/2010	BCHMS-SO-FD02-1210	00:00	SW846 8082A/8081B	QC	QC	PCBs/Pesticides	4°C	1	Glass - Amber	4 oz. wide-mouth w/Teflon cap	-34
12/14/2010	BCHMS-TB03-1210	00:00	SW846 8260B	QC	AQ	VOCs (low level analysis)	4°C/HCL	2	Glass - Clear	40ml vials	TRIP BLANK -35

1. Relinquished By: <b>Gary Braganza</b>	Date: 12/14/2010	Time: 17:17	Received By: <b>Federal Express</b>	Date: 12/14/2010	Time: 17:17
2. Relinquished By:	Date:	Time:	Received By:	Date:	Time:
3. Relinquished By:	Date:	Time:	Received By: <i>[Signature]</i>	Date: 12/15/10	Time: 08:30

Comments:  
4.50C

**NAS KEY WEST  
WATER DATA  
CTOJM17KW\_3**

FRACTION	CHEMICAL	BCHMS_FD001-1210	UNITS	BCHMS-GW-004-1210	RPD	D
M	ALUMINUM	596	UG/L	514	14.77	82.00
M	BARIUM	24.5 J	UG/L	25.4 J	3.61	0.90
M	CADMIUM	16.2 J	UG/L	20.5 J	23.43	4.30
M	CALCIUM	586000	UG/L	568000	3.12	18000.00
M	IRON	461	UG/L	404	13.18	57.00
M	MAGNESIUM	1450000	UG/L	1500000	3.39	50000.00
M	MANGANESE	23.3	UG/L	22.9	1.73	0.40
M	POTASSIUM	511000	UG/L	566000	10.21	55000.00
M	SELENIUM	3.78 J	UG/L	3.21 J	16.31	0.57
M	SODIUM	10400000	UG/L	11400000	9.17	1000000.00

Current RPD Quality Control Limit: 30 %.  
Shaded cells indicate RPDs that exceed the applicable quality control limit.

**NAS KEY WEST  
WATER DATA  
CTOJM17KW\_3**

FRACTION	CHEMICAL	BCHMS-FD002-1210	UNITS	BCHMS-GW-011-1210	RPD	D
M	ALUMINIUM	1050	UG/L	493	72.20	of 557.00
M	BARIUM	22.3 J	UG/L	19.1 J	15.46	3.20
M	CADIUM	17.2 J	UG/L	13.6 J	23.38	3.60
M	CALCIUM	499000	UG/L	395000	23.27	104000.00
M	IRON	432	UG/L	232	60.24	of 200.00
M	MAGNESIUM	1080000	UG/L	1070000	0.93	10000.00
M	MANGANESE	25.4	UG/L	21.6	16.17	3.80
M	NICKEL	3.14 J	UG/L	3.4 J	7.95	0.26
M	POTASSIUM	423000	UG/L	383000	9.93	40000.00
M	SELENIUM	ND	UG/L	5.47 J	200.00	of 5.47
M	SODIUM	8270000	UG/L	8670000	4.72	400000.00
M	VANADIUM	5.52 J	UG/L	ND	200.00	of 5.52
M	ZINC	31.1 J	UG/L	29.8 J	4.27	1.30

Current RPD Quality Control Limit: 30 %.  
Shaded cells indicate RPDs that exceed the applicable quality control limit.

**NAS KEY WEST  
SOIL DATA  
CTOJM17KW\_3**

FRACTION	CHEMICAL	BCHMS-SO-FD01-1210	UNITS	BCHMS-SO-014-1210	RPD	D
M	ALUMINIUM	203 J	MG/KG	200 J	1.49	3.00
M	BARIUM	6.28 J	MG/KG	7.26 J	14.48	0.98
M	CADMIUM	ND	MG/KG	0.296 J	200.00	OK 0.30
M	CALCIUM	368000	MG/KG	368000	3.99	15000.00
M	CHROMIUM	2.92	MG/KG	2.82	3.48	0.10
M	IRON	103	MG/KG	92.1	11.17	10.90
M	LEAD	ND	MG/KG	1.75 J	200.00	OK 1.75
M	MAGNESIUM	943 J	MG/KG	1090 J	14.46	147.00
M	MANGANESE	2.25 J	MG/KG	2 J	11.76	0.25
M	MERCURY	ND	MG/KG	0.0141 J	200.00	OK 0.01
M	NICKEL	ND	MG/KG	0.976 J	200.00	OK 0.98
M	SODIUM	965 J	MG/KG	1140	16.63	175.00
M	VANADIUM	ND	MG/KG	1.29 J	200.00	OK 1.29

Current RPD Quality Control Limit: 50 %.  
Shaded cells indicate RPDs that exceed the applicable quality control limit.

**NAS KEY WEST  
SOIL DATA  
CTOJM17KW\_3**

FRACTION	CHEMICAL	BCHMS SO FD02-1210	UNITS	BCHMS SO-024-1210	RPD	D
M	ALUMINIUM	233	MG/KG	193 J	18.78	40.00
M	BARIUM	7.51 J	MG/KG	6.63 J	12.45	0.88
M	CALCIUM	395000	MG/KG	360000	9.27	35000.00
M	CHROMIUM	2.86	MG/KG	2.46	15.04	0.40
M	IRON	122	MG/KG	90.9	29.22	31.10
M	MAGNESIUM	1060	MG/KG	976 J	8.25	84.00
M	MANGANESE	2.53 J	MG/KG	1.75 J	36.45	0.78
M	NICKEL	ND	MG/KG	0.837 J	200.00	DK 0.84
M	SODIUM	1180	MG/KG	1400	17.05	220.00
M	VANADIUM	1.24 J	MG/KG	1.08 J	13.79	0.16

Current RPD Quality Control Limit: 50 %.  
Shaded cells indicate RPDs that exceed the applicable quality control limit.

## Sample Delivery Group Case Narrative

### Receipt Information

The samples were received within the preservation guidelines for the associated methods. The information associated with sample receipt and the Sample Delivery Group (SDG) are included within section 4 of this package, which also provides information on the link between the client sample ID listed on the COC and laboratory's assigned unique sample ID or WorkOrder #. The sample is tracked through the laboratory for all analysis via the assigned WorkOrder #.

All samples that were received were analyzed and none of the samples were placed on hold without analyses. There were no subcontracted analyses for this SDG.

As per the client, SIM PAH that is listed on the CoC is not required but SW7470 for Mercury that is not listed is required.

### Changes to the Revision

This is an original submittal of the final report package.

### Analytical Information

All samples were prepped (where applicable) and analyzed within the standard allowed holding times, unless noted within the exceptions listed below. The laboratory analyzed all samples within the program and method guidelines. The following information is provided specific to individual methods:

#### Chromatographic Flags for Manual Integration:

The following letters are used to denote manual integrations on the laboratory's raw data in association with chromatographic integrations:

- A:** The peak was manually integrated as it was not integrated in the original chromatogram.
- B:** The peak was manually integrated due to resolution or coelution issues in the original chromatogram.
- C:** The peak was manually integrated to correct the baseline from the original chromatogram.
- D:** The peak was manually integrated to identify the correct peak as the wrong peak was identified in the original chromatogram.
- E:** The peak was manually integrated to include the entire peak as the original chromatogram only integrated part of the peak.

#### SW8260B:

The batch spikes associated to batches 0L17010 and 0L21007 exceeded criteria with a positive bias for Bromodichloromethane and 1,2-Dichloroethane. The batch spikes associated to batch 0L17014 exceeded criteria with a positive bias for Bromodichloromethane. The batch spikes associated to batch 0L17021 exceeded recovery criteria with a positive bias for Trans-1,3-Dichloropropene and exceeded relative percent difference criteria for 1,2-Dibromo-3-chloropropane. The batch spikes

associated to batches 0L20010 and 0L2016 exceeded the relative percent difference for most of the compounds due to the batch spike being spiked at a different concentration than the batch spike duplicate, due to analyst error. No samples associated to the batch spikes for 0L20010 and 0L2016 were qualified with the "Q" flag since all recovery criteria were within acceptance limits and the relative percent differences would pass criteria if they were calculate based on the percent recovery versus the concentrations.

The method blank associated to batch 0L17021 has a positive result for Methylene Chloride.

The surrogate Dibromofluoromethane exceeded criteria with a negative bias in samples 1012153-25 and -31. Sample 1012153-25 was re-analyzed with Dibromofluoromethane exceeding criteria with a negative bias.

The continuing calibration verifications exceeded criteria in 0L35201-CCV1 with a negative bias for Vinyl Chloride, in 0L35202-CCV1 with a positive bias for Acetone, Bromodichloromethane, Carbon Disulfide, Carbon Tetrachloride, Chloroform, Dibromochloromethane, Dichlorodifluoromethane, 1,2-Dichloroethane, Methyl Acetate, 1,1,1-Trichloroethane, Trichlorofluoromethane and 1,1,2-Trichloro-1,2,2-trifluoroethane and with a negative bias for Bromomethane, in 0L35417-CCV1 with a negative bias for Bromomethane, in 0L35515-CCV1 with a positive bias for Bromochloromethane, Bromodichloromethane, Bromoform, Bromomethane, Dibromochloromethane, 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, Dichlorodifluoromethane, 1,2-Dichloroethane, Cis-1,3-Dichloropropene, Trans-1,3-Dichloropropene, Methyl Acetate, Methyl t-Butyl Ether, Styrene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene and 1,1,2-Trichloroethane, in 0L35605-CCV1 with a negative bias for Bromomethane and with a positive bias for Dibromochloromethane and in 0L36106-CCV1 with a positive bias for Bromoform, Bromomethane, 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, Trans-1,3-Dichloropropene, Methyl Acetate, Methyl t-Butyl Ether, 1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8270C:**

The surrogate 2-Fluorobiphenyl exceeded criteria with a negative bias in sample 1012153-05 and -10. The surrogate Terphenyl-d14 exceeded criteria with a negative bias in sample 1012153-06. The surrogate Nitrobenzene-d5 exceeded criteria with a positive bias in samples 1012153-21, -25, -34, -31MS, 0L16009-BLK1 and 1A04005-BLK1. The surrogates 2-Fluorophenol and 2,4,6-Tribromophenol exceeded criteria with a negative bias in 1012153-31, -31RE1, -31MS and -31MSD. Due to such low recovery of 2-Fluorophenol and 2,4,6-Tribromophenol in sample 1012153-31, it was re-extracted but, it was re-extracted out of the EPA recommended holding time. The low surrogate recovery in the re-extract for sample 1012153-31 confirmed; therefore, this is likely due to the matrix of the sample.

The batch spikes associated to batch 0L16008 exceeded criteria with a positive bias for Butylbenzylphthalate, Di-n-octylphthalate, Bis(2-ethylhexyl)phthalate and Pentachlorophenol and with a negative bias for Hexachlorobutadiene, Hexachloroethane and Caprolactam. The batch spike associated to batch 0L16009 exceeded criteria with a positive bias for Butylbenzylphthalate, Dibenzofuran, Di-n-butylphthalate, Diethylphthalate, 2,4-Dimethylphenol, Dimethyl phthalate, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Di-n-octylphthalate, Bis(2-ethylhexyl)phthalate, 4-Nitroaniline, 2-Nitrophenol and Pentachlorophenol. The batch spikes associated to batch 0L16011 exceeded criteria with a positive bias for Butylbenzylphthalate, Carbazole, Di-n-butylphthalate, 2,4-Dichlorophenol, Di-n-octylphthalate, Bis(2-ethylhexyl)phthalate and 4-Nitroaniline. The batch spike associated to batch 0L18006 exceeded criteria with a positive bias for Caprolactam. The batch spike associated to batch 1A04005 exceeded criteria with a positive bias for Butylbenzylphthalate, Di-n-butylphthalate, 2,4-Dinitrophenol, Di-n-octylphthalate, Bis(2-ethylhexyl)phthalate, 4-Nitroaniline, 2-Nitroaniline and 4-Nitrophenol.

The matrix spikes associated to sample 1012153-13 exceeded criteria with a positive bias for Butylbenzylphthalate, Di-n-octylphthalate and Bis(2-ethylhexyl)phthalate. The matrix spikes associated to sample 1012153-31 exceeded recovery criteria with a positive bias for Butylbenzylphthalate, 2,2'-Oxybis-1-chloropropane, Di-n-butylphthalate, 2,4-Dichlorophenol, 2,4-Dimethylphenol, Di-n-octylphthalate, Bis(2-ethylhexyl)phthalate, 2-Nitroaniline and 4-Nitroaniline and with a negative bias for 2-Chlorophenol, 4,6-Dinitro-2-methylphenol, 2,4-Dinitrophenol, Hexachlorocyclopentadiene, 2-Nitrophenol, Pentachlorophenol, 2,3,4,6-Tetrachlorophenol, 2,4,6-Trichlorophenol and 2,4,5-Trichlorophenol and exceeded the relative percent difference criteria for Hexachlorocyclopentadiene.

The continuing calibration verifications exceeded criteria in 0L35610-CCV1 with a negative bias for 3,3'-Dichlorobenzidine and Benzaldehyde and with a positive bias for 2,4-Dinitrotoluene, 4-Nitroaniline and 2-Nitroaniline, in 0L36204-CCV3 with a negative bias for Benzaldehyde, 1,1'-Biphenyl and 1,2,4,5-Tetrachlorobenzene and with a positive bias for Butylbenzylphthalate, 4-Chloro-3-methylphenol, Di-n-octylphthalate, Bis(2-ethylhexyl)phthalate, 4-Nitroaniline and 2-Nitroaniline, in 1A00304-CCV1 with a negative bias for 3,3'-Dichlorobenzidine, Benzaldehyde, 1,2,4,5-Tetrachlorobenzene and 4-Chlorophenyl phenyl ether, in 1A00305-CCV1 with a negative bias for Benzaldehyde, Hexachlorocyclopentadiene and 1,2,4,5-Tetrachlorobenzene and with a positive bias for Butylbenzylphthalate and Bis(2-ethylhexyl)phthalate, in 1A00401 with a negative bias for Benzaldehyde and with a positive bias for Butylbenzylphthalate 2,4-Dinitrophenol and Bis(2-ethylhexyl)phthalate and in 1A00601-CCV1 with a positive bias for Butylbenzylphthalate, 2,2'-Oxybis-1-chloropropane, 2,4-Dinitrophenol, Di-n-octylphthalate, 1,4-Dioxane, Bis(2-ethylhexyl)phthalate, 4-Nitroaniline 2-Nitroaniline, Nitrobenzene, 4-Nitrophenol, N-nitroso-di-n-propylamine and Nitrobenzene-d5.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8081B:**

The surrogate Decachlorobiphenyl exceeded criteria on both columns with a negative bias in sample 0L16023-BLK1, -BS1, -BSD1, 1012153-01 and -11 and exceeded criteria on column 2 with a negative bias in 1012153-02 and -09.

The continuing calibration verifications exceeded criteria in 0L36218-CCV4 with a positive bias on column 1 for 4,4'-DDT, Alpha-BHC, Delta-BHC, Gamma-BHC and Heptachlor and in 0L36408-CV4 with a positive bias on column 1 for Delta-BHC.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8082A:**

The surrogate Decachlorobiphenyl exceeded criteria on both columns with a negative bias in sample 0L16023-BLK1, -BSD2, 1012153-01 and -11 and exceeded criteria on column 2 with a negative bias in 0L16023-BS2, 1012153-02 and -09.

The continuing calibration verifications exceeded criteria with a positive bias on column 2 in 0L36218-CCV3 for Aroclor-1260 and in 0L36408-CCV6 for Aroclor-1016 and Aroclor-1260.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**FL-PRO:**

The surrogate o-Terphenyl exceeded criteria with a negative bias in 0L16024-BLK1 and samples 1012153-01, -03, -04, -05, -7 and -09

The continuing calibration verification 1A00404-CCV4 exceeded criteria with a positive bias for 2-Fluorobiphenyl.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW6010C/SW7470A/SW7471A:**

The following samples are qualified with an M, for the compounds indicated, to indicate that the LOD and /or DL were raised due to interference: 1012153-01, -02, -03, -04, -07, -08, -10 and -11 (Mercury), 1012153-01 (Antimony), 1012153-20 (Arsenic), 1012153-01, -02, -03, -04, -05 and -07 (Copper), 1012153-01, -02, -04, -04, -06, -08 and -11 (Lead), 1012153-06, -10, -13, -15, -16, -17, -19, -20, -21, -22, -25, -26, -27 -28, -29, -30, -31, -32 and -34 (Thallium), 1012153-13, -14, -15, -17, -19, -22, -23, -24, -25, -26, -28, -29 and -32 (Silver) and 1012153-33 (Selenium).

The batch spike 0L27010-BS2 exceeded criteria with a positive bias for Potassium and Sodium.

The matrix spikes associated to sample 1012153-11 exceeded criteria with a positive

bias for Silver, Aluminum, Antimony, Copper, Arsenic and Selenium. Calcium exceeded criteria but the parent sample concentration was greater than 4 times the amount spiked. The post spike associated to samples 1012153-11 exceeded criteria with a positive bias for Barium, Silver, Aluminum, Antimony, Arsenic, Calcium, Copper and Selenium. The matrix spikes associated to sample 1012153-32 exceeded criteria with a positive bias for Potassium. The post spike associated to sample 1012153-32 exceeded criteria with a positive bias for Potassium and Sodium.

The initial calibration blank 0L36110-ICB1, digestion blanks 0L21002-BLK1 and 0L21003-BLK1 and continuing calibration blank 0L36110-CCB1 have negative results for Mercury. The continuing calibration blanks 0L36404-CCB1, -CCB3, CCB6, 1A00414-CCB4, -CCB5, -CCB7 and 1A00503-CCB5 and digestion blank 0L27010-BLK2 have positive or negative results for Sodium. The continuing calibration blanks 0L36404-CCB4, -CCB5 and 1A00414-CCB6 have positive or negative results for Lead and Sodium. The continuing calibration blank 0L36404-CCB7 has positive or negative results for Cadmium and Sodium. The digestion blank 0L28005-BLK1 has positive or negative results for Chromium and Thallium. The continuing calibration blank 0L36404-CCB8 has positive or negative results for Cadmium, Copper and Nickel. The digestion blank 0L28005-BLK2 has positive or negative results for Iron and Zinc. The digestion blank 0L28004-BLK2 has positive or negative results for Chromium, Thallium and Zinc.

The continuing calibration verifications exceeded criteria in 0L36404-CCV1 with a negative bias for Aluminum, Antimony, Arsenic, Copper, Potassium, Thallium, Selenium and Sodium and with a positive bias for Beryllium, Chromium, Magnesium, Manganese, Vanadium and Zinc, in 0L36404-CCV3 with a positive bias for Antimony, Potassium and Sodium, in 0L36404-CCV4 with a negative bias for Chromium and with a positive bias for Aluminum, Antimony, Arsenic, Cadmium, Copper, Potassium, Sodium and Selenium, in 0L36404-CCV5 with a negative bias for Chromium and Magnesium and with a positive bias for Potassium and Sodium, in 0L36404-CCV6 with a negative bias for Magnesium, in 0L36404-CCV7 with a negative bias for Aluminum and Magnesium, in 0L36404-CCV8 with a negative bias for Beryllium, Magnesium and Vanadium and with a positive bias for Sodium and Potassium, in 1A00414-CCV4 with a positive bias for Potassium, in 1A00414-CCV5 with a negative bias for Calcium and Sodium and with a positive bias for Potassium, in 1A00503-CCV5 with a positive bias for Aluminum and Potassium and with a negative bias for Calcium and in 1A00505-CCV6 with a negative bias for Calcium and Chromium and with a positive bias for Potassium.

The serial dilution associated to sample 1012153-11 is out of the specification limits of  $\pm 10\%$  (when the concentration is greater than 50 X the MDL) for calcium at 11.4% and for sodium at 12.8%. The concentration of the post digestion spike was less than four times the concentration of the sample. No qualifier is required.

The serial dilution for sample 1012153-11 exceeded criteria for Calcium and Sodium. The concentration of the post digestion spike was less than four times the concentration of the sample. No flag is necessary.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012153 Number of Coolers: 1 of 10  
 Client: TTNUS Project: Key West NAS JM17  
 Date/Time Received: 12/15/10 08:30 Date coolers opened: 12/15/10  
 Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9341

2. Were custody seals on outside of cooler(s)?  Yes  No  
 How many: 1 Seal date: 12/14/10 Seal Initials: ?

3. Were custody seals unbroken and intact at the date and time of arrival?  Yes  No  N/A  
 4. Were custody papers sealed in a plastic bag included in the sample cooler?  Yes  No  N/A  
 5. Were custody papers filled out properly (ink, signed, etc.)?  Yes  No  N/A  
 6. Did you sign custody papers in the appropriate place for acceptance?  Yes  No  N/A  
 7. Was project identifiable from custody papers?  Yes  No  N/A  
 8. If required, was enough ice present in the cooler(s)?  Yes  No  N/A

NOTrip  
Blanks  
rec'd in  
shipment.  
Could not  
tag!

Type of Coolant:  WET  DRY  BLUE  NONE  
 Temperature of Samples upon Receipt: Initial Value: 28 °C Correction Factor: -0.3 °C Final Value: 25 °C

Dates samples were logged-in: 12/15/10

9. Initial this form to acknowledge login of sample(s): (Name): Will Schwab (Initial): WS

10. Were all bottle lids intact and sealed tightly?  Yes  No  N/A  
 11. Did all bottles arrive unbroken?  Yes  No  N/A  
 12. Was all required bottle label information complete?  Yes  No  N/A  
 13. Did all bottle labels agree with custody papers?  Yes  No  N/A  
 14. Were correct containers used for the analyses indicated?  Yes  No  N/A  
 15. Were preservative levels correct in all applicable sample containers?  Yes  No  N/A  
 16. Was residual chlorine present in any applicable sample containers?  Yes  No  N/A  
 17. Was sufficient amount of sample sent for the analyses required?  Yes  No  N/A  
 18. Was headspace present in any included VOA vials?  Yes  No  N/A

pH 2 for  
all  
metals  
& FLPRO  
(not soils, H<sub>2</sub>O  
only)

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

1/16 Amber broken in shipment for BCHAHS - GW-011-1210

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012153 Number of Coolers: 2 of 10  
 Client: TTNUS Project: Key West WAS JM17  
 Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
 Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9352

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
 How many: 1 Seal date: 12/14/10 Seal Initials: ?
3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A
4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A
5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A
6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A
7. Was project identifiable from custody papers? .....  Yes  No  N/A
8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
 Temperature of Samples upon Receipt: Initial Value: 3.9 °C Correction Factor: -0.3 °C Final Value: 3.6 °C

- Dates samples were logged-in: \_\_\_\_\_
9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A
11. Did all bottles arrive unbroken? .....  Yes  No  N/A
12. Was all required bottle label information complete? .....  Yes  No  N/A
13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A
14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A
15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A
16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A
17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A
18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

*see  
1 of 10*

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012153 Number of Coolers: 3 of 10  
Client: TTNUS Project: Key West NAS J417  
Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
Opened By (print): Will Schwede (signature): [Signature]  
Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 3409

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
How many: 1 Seal date: 12/14/10 Seal Initials: ?

3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A  
4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A  
5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A  
6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A  
7. Was project identifiable from custody papers? .....  Yes  No  N/A  
8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
Temperature of Samples upon Receipt: Initial Value: 4.2 °C Correction Factor: -0.3 °C Final Value: 3.9 °C

Dates samples were logged-in:  
9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_

10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A  
11. Did all bottles arrive unbroken? .....  Yes  No  N/A  
12. Was all required bottle label information complete? .....  Yes  No  N/A  
13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A  
14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A  
15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A  
16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A  
17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A  
18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

see  
1 of 10

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012153 Number of Coolers: 6 of 10  
Client: TTNUS Project: Key West NAs JM17  
Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9330

2. Were custody seals on outside of cooler(s)?  Yes  No  
How many: 1 Seal date: 12/14/10 Seal Initials: ?

- 3. Were custody seals unbroken and intact at the date and time of arrival?  Yes  No  N/A
- 4. Were custody papers sealed in a plastic bag included in the sample cooler?  Yes  No  N/A
- 5. Were custody papers filled out properly (ink, signed, etc.)?  Yes  No  N/A
- 6. Did you sign custody papers in the appropriate place for acceptance?  Yes  No  N/A
- 7. Was project identifiable from custody papers?  Yes  No  N/A
- 8. If required, was enough ice present in the cooler(s)?  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
Temperature of Samples upon Receipt: Initial Value: 5.6 °C Correction Factor: -0.3 °C Final Value: 5.3 °C

- Dates samples were logged-in:
- 9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
  - 10. Were all bottle lids intact and sealed tightly?  Yes  No  N/A
  - 11. Did all bottles arrive unbroken?  Yes  No  N/A
  - 12. Was all required bottle label information complete?  Yes  No  N/A
  - 13. Did all bottle labels agree with custody papers?  Yes  No  N/A
  - 14. Were correct containers used for the analyses indicated?  Yes  No  N/A
  - 15. Were preservative levels correct in all applicable sample containers?  Yes  No  N/A
  - 16. Was residual chlorine present in any applicable sample containers?  Yes  No  N/A
  - 17. Was sufficient amount of sample sent for the analyses required?  Yes  No  N/A
  - 18. Was headspace present in any included VOA vials?  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

see  
1 of 10

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012153 Number of Coolers: 5 of 10  
 Client: TTNUS Project: Key West NAs JM17  
 Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
 Opened By (print): Will Schwed (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9308

2. Were custody seals on outside of cooler(s)?  Yes  No  
 How many: 1 Seal date: 12/14/10 Seal Initials: ?

3. Were custody seals unbroken and intact at the date and time of arrival?  Yes  No  N/A  
 4. Were custody papers sealed in a plastic bag included in the sample cooler?  Yes  No  N/A  
 5. Were custody papers filled out properly (ink, signed, etc.)?  Yes  No  N/A  
 6. Did you sign custody papers in the appropriate place for acceptance?  Yes  No  N/A  
 7. Was project identifiable from custody papers?  Yes  No  N/A  
 8. If required, was enough ice present in the cooler(s)?  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
 Temperature of Samples upon Receipt: Initial Value: 1.9 °C Correction Factor: -0.3 °C Final Value: 1.6 °C

- Dates samples were logged-in: \_\_\_\_\_
9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
10. Were all bottle lids intact and sealed tightly?  Yes  No  N/A  
 11. Did all bottles arrive unbroken?  Yes  No  N/A  
 12. Was all required bottle label information complete?  Yes  No  N/A  
 13. Did all bottle labels agree with custody papers?  Yes  No  N/A  
 14. Were correct containers used for the analyses indicated?  Yes  No  N/A  
 15. Were preservative levels correct in all applicable sample containers?  Yes  No  N/A  
 16. Was residual chlorine present in any applicable sample containers?  Yes  No  N/A  
 17. Was sufficient amount of sample sent for the analyses required?  Yes  No  N/A  
 18. Was headspace present in any included VOA vials?  Yes  No  N/A

*see  
1 of 10*

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012153 Number of Coolers: 6 of 10  
Client: TTNUS Project: Key West NAS JM17  
Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9320

2. Were custody seals on outside of cooler(s)?  Yes  No  
How many: 1 Seal date: 12/14/10 Seal Initials: ?

- 3. Were custody seals unbroken and intact at the date and time of arrival?  Yes  No  N/A
- 4. Were custody papers sealed in a plastic bag included in the sample cooler?  Yes  No  N/A
- 5. Were custody papers filled out properly (ink, signed, etc.)?  Yes  No  N/A
- 6. Did you sign custody papers in the appropriate place for acceptance?  Yes  No  N/A
- 7. Was project identifiable from custody papers?  Yes  No  N/A
- 8. If required, was enough ice present in the cooler(s)?  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE

Temperature of Samples upon Receipt: Initial Value: 0.3 °C Correction Factor: -0.3 °C Final Value: 0.0 °C

Dates samples were logged-in:

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
- 10. Were all bottle lids intact and sealed tightly?  Yes  No  N/A
  - 11. Did all bottles arrive unbroken?  Yes  No  N/A
  - 12. Was all required bottle label information complete?  Yes  No  N/A
  - 13. Did all bottle labels agree with custody papers?  Yes  No  N/A
  - 14. Were correct containers used for the analyses indicated?  Yes  No  N/A
  - 15. Were preservative levels correct in all applicable sample containers?  Yes  No  N/A
  - 16. Was residual chlorine present in any applicable sample containers?  Yes  No  N/A
  - 17. Was sufficient amount of sample sent for the analyses required?  Yes  No  N/A
  - 18. Was headspace present in any included VOA vials?  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

See  
1 of 10

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012153 Number of Coolers: 7 of 10  
 Client: TTNUS Project: Key West DAS J1417  
 Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
 Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9271

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
 How many: 1 Seal date: 12/14/10 Seal Initials: ?
3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A  
 4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A  
 5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A  
 6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A  
 7. Was project identifiable from custody papers? .....  Yes  No  N/A  
 8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
 Temperature of Samples upon Receipt: Initial Value: 20 °C Correction Factor: -0.3 °C Final Value: 1.7 °C

- Dates samples were logged-in: \_\_\_\_\_
9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A  
 11. Did all bottles arrive unbroken? .....  Yes  No  N/A  
 12. Was all required bottle label information complete? .....  Yes  No  N/A  
 13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A  
 14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A  
 15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A  
 16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A  
 17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A  
 18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

*see  
1 of 10*

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012153 Number of Coolers: 8 of 10  
 Client: TTNUS Project: Key West DAS JM17  
 Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
 Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9282

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
 How many: 1 Seal date: 12/14/10 Seal Initials: ?
3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A
4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A
5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A
6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A
7. Was project identifiable from custody papers? .....  Yes  No  N/A
8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
 Temperature of Samples upon Receipt: Initial Value: 4.8 °C Correction Factor: -0.3 °C Final Value: 4.5 °C

- Dates samples were logged-in: \_\_\_\_\_
9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A
11. Did all bottles arrive unbroken? .....  Yes  No  N/A
12. Was all required bottle label information complete? .....  Yes  No  N/A
13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A
14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A
15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A
16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A
17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A
18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

*See  
1 of 10*

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012153 Number of Coolers: 9 of 10  
Client: TTNUS Project: Key West DAS JM17  
Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9319

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
How many: 1 Seal date: 12/14/10 Seal Initials: ?

- 3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A
- 4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A
- 5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A
- 6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A
- 7. Was project identifiable from custody papers? .....  Yes  No  N/A
- 8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE

Temperature of Samples upon Receipt: Initial Value: 2.0 °C Correction Factor: -0.3 °C Final Value: 1.7 °C

Dates samples were logged-in:

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_

- 10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A
- 11. Did all bottles arrive unbroken? .....  Yes  No  N/A
- 12. Was all required bottle label information complete? .....  Yes  No  N/A
- 13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A
- 14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A
- 15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A
- 16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A
- 17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A
- 18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

see  
1 of 10

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012153 Number of Coolers: 10 of 10  
 Client: TTNUS Project: Key West NAS J1417  
 Date/Time Received: 12/15/10 08:30 Date cooler(s) opened: 12/15/10  
 Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 9293

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
 How many: 1 Seal date: 12/14/10 Seal Initials: ?
3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A  
 4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A  
 5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A  
 6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A  
 7. Was project identifiable from custody papers? .....  Yes  No  N/A  
 8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
 Temperature of Samples upon Receipt: Initial Value: 4.8 °C Correction Factor: -0.3 °C Final Value: 4.5 °C

Dates samples were logged-in:

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A  
 11. Did all bottles arrive unbroken? .....  Yes  No  N/A  
 12. Was all required bottle label information complete? .....  Yes  No  N/A  
 13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A  
 14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A  
 15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A  
 16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A  
 17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A  
 18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

*see  
1 of 10*

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SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-021-1210	1012153-26	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	MG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/29/2010	01/03/2011	15	5	20
HG	UG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/17/2010	12/20/2010	8	3	11
HG	UG/L	BCHMS-GW-027-1210	1012118-05	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12

SORT	UNITS	NSAMPLE	LAB_ID	QC TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	UG/L	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-005-1210	1012153-03	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/17/2010	12/20/2010	7	3	10
HG	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/17/2010	12/20/2010	9	3	12
HG	UG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
HG	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-006-1210	1012153-04	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/21/2010	12/22/2010	9	1	10
HG	UG/L	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/21/2010	12/22/2010	8	1	9
HG	UG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/17/2010	12/20/2010	6	3	9
M	MG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-023-1210	1012153-28RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-021-1210	1012153-26RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-022-1210	1012153-27RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-022-1210	1012153-27RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-021-1210	1012153-26RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-020-1210	1012153-25RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-020-1210	1012153-25RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-019-1210	1012153-24RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-019-1210	1012153-24RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-023-1210	1012153-28RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-026-1210	1012153-31RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-018-1210	1012153-23RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-018-1210	1012153-23RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-019-1210	1012153-24RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-028-1210	1012153-32RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-026-1210	1012153-31RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-018-1210	1012153-23RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-FD02-1210	1012153-34RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-FD02-1210	1012153-34RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/28/2010	12/30/2010	14	2	16
M	MG/KG	BCHMS-SO-FD01-1210	1012153-33RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-FD01-1210	1012153-33RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-025-1210	1012153-30RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-028-1210	1012153-32RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-023-1210	1012153-28RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-025-1210	1012153-30RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-025-1210	1012153-30RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-024-1210	1012153-29RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-024-1210	1012153-29RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/28/2010	12/30/2010	14	2	16
M	MG/KG	BCHMS-SO-004-1210	1012153-14RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-010-1210	1012153-16RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-010-1210	1012153-16RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-010-1210	1012153-16RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-007-1210	1012153-15RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-007-1210	1012153-15RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-012-1210	1012153-17RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-007-1210	1012153-15RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-004-1210	1012153-14RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-002-1210	1012153-13RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-002-1210	1012153-13RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-002-1210	1012153-13RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-015-1210	1012153-20RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-017-1210	1012153-22RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-017-1210	1012153-22RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-004-1210	1012153-14RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-012-1210	1012153-17RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-016-1210	1012153-21RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-016-1210	1012153-21RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-015-1210	1012153-20RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	MG/KG	BCHMS-SO-013-1210	1012153-18RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-013-1210	1012153-18RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	MG/KG	BCHMS-SO-013-1210	1012153-18RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-015-1210	1012153-20RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-014-1210	1012153-19RE1	NM	12/14/2010	12/28/2010	01/03/2011	14	6	20
M	MG/KG	BCHMS-SO-014-1210	1012153-19RE2	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-014-1210	1012153-19RE3	NM	12/14/2010	12/28/2010	01/04/2011	14	7	21
M	MG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/28/2010	12/29/2010	14	1	15
M	UG/L	BCHMS-GW-015-1210	1012134-03RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-012-1210	1012153-11RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-017-1210	1012118-06RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-016-1210	1012134-04RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-019-1210	1012134-05RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-018-1210	1012118-07RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR_DATE	ANAL DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-014-1210	1012134-02RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-013-1210	1012134-01RE4	NM	12/10/2010	12/28/2010	01/04/2011	18	7	25
M	UG/L	BCHMS-GW-013-1210	1012134-01RE3	NM	12/10/2010	12/28/2010	01/04/2011	18	7	25
M	UG/L	BCHMS-GW-013-1210	1012134-01RE2	NM	12/10/2010	12/28/2010	01/04/2011	18	7	25
M	UG/L	BCHMS-GW-013-1210	1012134-01RE1	NM	12/10/2010	12/28/2010	01/03/2011	18	6	24
M	UG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/28/2010	12/29/2010	18	1	19
M	UG/L	BCHMS-GW-012-1210	1012153-11RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-021-1210	1012118-01RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-011-1210	1012153-10RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-012-1210	1012153-11RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-027-1210	1012118-05RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-20D-1210	1012118-08RE2	NM	12/09/2010	12/28/2010	01/04/2011	19	7	26
M	UG/L	BCHMS-GW-20D-1210	1012118-08RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE4	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR_DATE	ANAL DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-029D-1210	1012134-10RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-006-1210	1012153-04RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-011-1210	1012153-10RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-028-1210	1012134-09RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-028-1210	1012134-09RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-028-1210	1012134-09RE4	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-027-1210	1012118-05	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-026-1210	1012118-10RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-025-1210	1012118-09RE1	NM	12/09/2010	12/28/2010	01/03/2011	19	6	25
M	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/28/2010	12/29/2010	19	1	20
M	UG/L	BCHMS-GW-024-1210	1012118-04RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-023D-1210	1012118-03RE2	NM	12/08/2010	12/28/2010	01/04/2011	20	7	27

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-023D-1210	1012118-03RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/28/2010	12/29/2010	20	1	21
M	UG/L	BCHMS-GW-022-1210	1012118-02RE1	NM	12/08/2010	12/28/2010	01/03/2011	20	6	26
M	UG/L	BCHMS-GW-028-1210	1012134-09RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-011-1210	1012153-10RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-007-1210	1012153-05RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-GW-003-1210	1012134-08RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-003-1210	1012134-08RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-002-1210	1012134-07RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-002-1210	1012134-07RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-002-1210	1012134-07RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/28/2010	12/29/2010	17	1	18
M	UG/L	BCHMS-GW-004-1210	1012153-02RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-001-1210	1012134-06RE1	NM	12/11/2010	12/28/2010	01/03/2011	17	6	23
M	UG/L	BCHMS-GW-004-1210	1012153-02RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-FD002-1210	1012153-06RE4	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-FD002-1210	1012153-06RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-FD002-1210	1012153-06RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-FD002-1210	1012153-06RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-FD001-1210	1012153-01RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-FD001-1210	1012153-01RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-FD001-1210	1012153-01RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-FD001-1210	1012153-01RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-001-1210	1012134-06RE2	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-008-1210	1012153-07RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-010-1210	1012153-09RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-010-1210	1012153-09RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-010-1210	1012153-09RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21
M	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-009D-1210	1012153-08RE1	NM	12/13/2010	12/27/2010	01/03/2011	14	7	21

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
M	UG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-003-1210	1012134-08RE3	NM	12/11/2010	12/28/2010	01/04/2011	17	7	24
M	UG/L	BCHMS-GW-008-1210	1012153-07RE2	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-004-1210	1012153-02RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/27/2010	12/29/2010	14	2	16
M	UG/L	BCHMS-GW-007-1210	1012153-05RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-005-1210	1012153-03RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-004-1210	1012153-02RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-008-1210	1012153-07RE3	NM	12/13/2010	12/27/2010	01/04/2011	14	8	22
M	UG/L	BCHMS-GW-005-1210	1012153-03RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-GW-007-1210	1012153-05RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-005-1210	1012153-03RE3	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-005-1210	1012153-03RE4	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-006-1210	1012153-04	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-006-1210	1012153-04RE1	NM	12/12/2010	12/27/2010	01/03/2011	15	7	22
M	UG/L	BCHMS-GW-006-1210	1012153-04RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
M	UG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
M	UG/L	BCHMS-GW-007-1210	1012153-05RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-005-1210	1012153-03	NM	12/12/2010	12/27/2010	12/29/2010	15	2	17
OV	UG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/17/2010	12/18/2010	3	1	4
OV	UG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/17/2010	12/18/2010	3	1	4
OV	UG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/17/2010	12/18/2010	3	1	4
OV	UG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-020-1210	1012153-25RE1	NM	12/14/2010	12/22/2010	12/22/2010	8	0	8
OV	UG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3

## METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Instrument: ME-FIMS

Analyte	MDL	MRL	Units	Method
Mercury	0.0800	0.200	ug/L	SW7470A
	0.0130	0.0330	mg/Kg	SW7471A

## METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Instrument: ME-ICP

Analyte	MDL	MRL	Units	Method
Aluminum	10.0	40.0	mg/Kg	SW6010C
	50.0	200	ug/L	SW6010C
Antimony	1.00	2.00	mg/Kg	SW6010C
	5.00	10.0	ug/L	SW6010C
Arsenic	0.600	2.00	mg/Kg	SW6010C
	3.00	10.0	ug/L	SW6010C
Barium	1.00	8.00	mg/Kg	SW6010C
	5.00	40.0	ug/L	SW6010C
Beryllium	0.200	1.00	mg/Kg	SW6010C
	1.00	5.00	ug/L	SW6010C
Cadmium	0.200	1.00	mg/Kg	SW6010C
	1.00	5.00	ug/L	SW6010C
Calcium	200	1000	mg/Kg	SW6010C
	1000	5000	ug/L	SW6010C
Chromium	0.400	2.00	mg/Kg	SW6010C
	2.00	10.0	ug/L	SW6010C
Cobalt	1.00	2.50	mg/Kg	SW6010C
	5.00	12.5	ug/L	SW6010C
Copper	0.800	2.00	mg/Kg	SW6010C
	4.00	10.0	ug/L	SW6010C
Iron	6.00	20.0	mg/Kg	SW6010C
	30.0	100	ug/L	SW6010C
Lead	0.300	0.600	mg/Kg	SW6010C
	1.50	3.00	ug/L	SW6010C
Magnesium	200	1000	mg/Kg	SW6010C
	1000	5000	ug/L	SW6010C
Manganese	0.600	3.00	mg/Kg	SW6010C
	3.00	15.0	ug/L	SW6010C
Nickel	0.600	2.00	mg/Kg	SW6010C
	3.00	10.0	ug/L	SW6010C
Potassium	200	1000	mg/Kg	SW6010C
	200	5000	ug/L	SW6010C
Selenium	0.600	2.00	mg/Kg	SW6010C
	3.00	10.0	ug/L	SW6010C
Silver	0.200	2.00	mg/Kg	SW6010C
	1.00	10.0	ug/L	SW6010C
Sodium	200	1000	mg/Kg	SW6010C

## METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Instrument: ME-ICP

Analyte	MDL	MRL	Units	Method
Sodium	200	5000	ug/L	SW6010C
Thallium	0.600	1.60	mg/Kg	SW6010C
	3.00	8.00	ug/L	SW6010C
Vanadium	1.00	2.50	mg/Kg	SW6010C
	5.00	12.5	ug/L	SW6010C
Zinc	1.00	4.00	mg/Kg	SW6010C
	5.00	20.0	ug/L	SW6010C

## ICP-AES AND ICP-MS LINEAR RANGES (QUARTERLY)

Lab Name: Empirical Laboratories, LLC

Client: Tetra Tech NUS, Inc. (T010)

SDG: CTOJM17KW\_003

Project: NAS Key West CTO JM17

ICP Instrument ID: ME-ICP Date: 09/11/2009

Analyte	Integ. Time (Sec.)	Concentration ug/L	M
Aluminum	15	500000	P
Antimony	15	10000	P
Arsenic	15	10000	P
Barium	15	5000	P
Beryllium	15	10000	P
Cadmium	15	10000	P
Calcium	15	500000	P
Chromium	15	10000	P
Cobalt	15	10000	P
Copper	15	10000	P
Iron	15	500000	P
Lead	15	10000	P
Magnesium	15	500000	P
Manganese	15	10000	P
Nickel	15	10000	P
Potassium	15	100000	P
Selenium	15	10000	P
Silver	15	2000	P
Sodium	15	500000	P
Thallium	15	10000	P
Vanadium	15	10000	P
Zinc	15	10000	P

# PREPARATION BATCH SUMMARY

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L21002 Batch Matrix: Water

Preparation: pMercury-W EPA 245.1/7470A

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L21002-BLK1	12/21/10 08:02	30.00	30.00
LCS	0L21002-BS1	12/21/10 08:02	30.00	30.00
BCHMS-FD001-1210	1012153-01	12/21/10 08:02	30.00	30.00
BCHMS-GW-004-1210	1012153-02	12/21/10 08:02	30.00	30.00
BCHMS-GW-005-1210	1012153-03	12/21/10 08:02	30.00	30.00
BCHMS-GW-006-1210	1012153-04	12/21/10 08:02	30.00	30.00
BCHMS-GW-007-1210	1012153-05	12/21/10 08:02	30.00	30.00
BCHMS-FD002-1210	1012153-06	12/21/10 08:02	30.00	30.00
BCHMS-GW-008-1210	1012153-07	12/21/10 08:02	30.00	30.00
BCHMS-GW-009D-1210	1012153-08	12/21/10 08:02	30.00	30.00

# LCS / LCS DUPLICATE RECOVERY

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Batch: 0L21002

Laboratory ID: 0L21002-BS1

Preparation: pMercury-W EPA 245.1/7470A

Initial/Final: 30 mL / 30 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Mercury	2.000	2.135	107	80 - 120

# PREPARATION BATCH SUMMARY

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L21003 Batch Matrix: Water

Preparation: pMercury-W SW 7470A

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L21003-BLK1	12/21/10 08:05	30.00	30.00
LCS	0L21003-BS1	12/21/10 08:05	30.00	30.00
BCHMS-GW-012-1210	0L21003-MS1	12/21/10 08:05	30.00	30.00
BCHMS-GW-012-1210	0L21003-MSD1	12/21/10 08:05	30.00	30.00
BCHMS-GW-010-1210	1012153-09	12/21/10 08:05	30.00	30.00
BCHMS-GW-011-1210	1012153-10	12/21/10 08:05	30.00	30.00
BCHMS-GW-012-1210	1012153-11	12/21/10 08:05	30.00	30.00

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY**

SW7470A

**BCHMS-GW-012-1210**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Batch: 0L21003

% Solids:

Source Sample Name: 1012153-11

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Mercury	2.000	ND	1.857	92.8		80 - 120

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS	
						RPD	REC.
Mercury	2.000	1.983	99.2	6.59		20	80 - 120

# LCS / LCS DUPLICATE RECOVERY

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Batch: 0L21003

Laboratory ID: 0L21003-BS1

Preparation: pMercury-W SW 7470A

Initial/Final: 30 mL / 30 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Mercury	2.000	2.302	115	80 - 120

# PREPARATION BATCH SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L27010

Batch Matrix: Water

Preparation: MET 3005A

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L27010-BLK1	12/27/10 11:06	50.00	50.00
Blank	0L27010-BLK2	12/27/10 11:06	50.00	50.00
LCS	0L27010-BS1	12/27/10 11:06	50.00	50.00
LCS	0L27010-BS2	12/27/10 11:06	50.00	50.00
BCHMS-GW-012-1210	0L27010-DUP1	12/27/10 11:06	50.00	50.00
BCHMS-GW-012-1210	0L27010-DUP3	12/27/10 11:06	50.00	50.00
BCHMS-GW-012-1210	0L27010-DUP5	12/27/10 11:06	50.00	50.00
BCHMS-GW-012-1210	0L27010-DUP6	12/27/10 11:06	50.00	50.00
BCHMS-GW-012-1210	0L27010-MS1	12/27/10 11:06	50.00	50.00
BCHMS-GW-012-1210	0L27010-MS3	12/27/10 11:06	50.00	50.00
BCHMS-GW-012-1210	0L27010-MSD1	12/27/10 11:06	50.00	50.00
BCHMS-GW-012-1210	0L27010-MSD3	12/27/10 11:06	50.00	50.00
BCHMS-GW-012-1210	0L27010-PS1	12/27/10 11:06	20.00	20.00
BCHMS-GW-012-1210	0L27010-PS3	12/27/10 11:06	20.00	20.00
BCHMS-FD001-1210	1012153-01	12/27/10 11:06	50.00	50.00
BCHMS-FD001-1210	1012153-01RE1	12/27/10 11:06	50.00	50.00
BCHMS-FD001-1210	1012153-01RE2	12/27/10 11:06	50.00	50.00
BCHMS-FD001-1210	1012153-01RE3	12/27/10 11:06	50.00	50.00
BCHMS-FD001-1210	1012153-01RE4	12/27/10 11:06	50.00	50.00
BCHMS-GW-004-1210	1012153-02	12/27/10 11:06	50.00	50.00
BCHMS-GW-004-1210	1012153-02RE1	12/27/10 11:06	50.00	50.00
BCHMS-GW-004-1210	1012153-02RE2	12/27/10 11:06	50.00	50.00
BCHMS-GW-004-1210	1012153-02RE3	12/27/10 11:06	50.00	50.00
BCHMS-GW-004-1210	1012153-02RE4	12/27/10 11:06	50.00	50.00
BCHMS-GW-005-1210	1012153-03	12/27/10 11:06	50.00	50.00
BCHMS-GW-005-1210	1012153-03RE1	12/27/10 11:06	50.00	50.00
BCHMS-GW-005-1210	1012153-03RE2	12/27/10 11:06	50.00	50.00
BCHMS-GW-005-1210	1012153-03RE3	12/27/10 11:06	50.00	50.00
BCHMS-GW-005-1210	1012153-03RE4	12/27/10 11:06	50.00	50.00
BCHMS-GW-006-1210	1012153-04	12/27/10 11:06	50.00	50.00
BCHMS-GW-006-1210	1012153-04RE1	12/27/10 11:06	50.00	50.00
BCHMS-GW-006-1210	1012153-04RE2	12/27/10 11:06	50.00	50.00
BCHMS-GW-006-1210	1012153-04RE3	12/27/10 11:06	50.00	50.00
BCHMS-GW-007-1210	1012153-05	12/27/10 11:06	50.00	50.00
BCHMS-GW-007-1210	1012153-05RE1	12/27/10 11:06	50.00	50.00
BCHMS-GW-007-1210	1012153-05RE2	12/27/10 11:06	50.00	50.00
BCHMS-GW-007-1210	1012153-05RE3	12/27/10 11:06	50.00	50.00
BCHMS-GW-007-1210	1012153-05RE4	12/27/10 11:06	50.00	50.00
BCHMS-FD002-1210	1012153-06	12/27/10 11:06	50.00	50.00
BCHMS-FD002-1210	1012153-06RE1	12/27/10 11:06	50.00	50.00
BCHMS-FD002-1210	1012153-06RE2	12/27/10 11:06	50.00	50.00
BCHMS-FD002-1210	1012153-06RE3	12/27/10 11:06	50.00	50.00

# PREPARATION BATCH SUMMARY

**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L27010      Batch Matrix: Water

Preparation: MET\_3005A

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
BCHMS-FD002-1210	1012153-06RE4	12/27/10 11:06	50.00	50.00
BCHMS-GW-008-1210	1012153-07	12/27/10 11:06	50.00	50.00
BCHMS-GW-008-1210	1012153-07RE1	12/27/10 11:06	50.00	50.00
BCHMS-GW-008-1210	1012153-07RE2	12/27/10 11:06	50.00	50.00
BCHMS-GW-008-1210	1012153-07RE3	12/27/10 11:06	50.00	50.00
BCHMS-GW-009D-1210	1012153-08	12/27/10 11:06	50.00	50.00
BCHMS-GW-009D-1210	1012153-08RE1	12/27/10 11:06	50.00	50.00
BCHMS-GW-010-1210	1012153-09	12/27/10 11:06	50.00	50.00
BCHMS-GW-010-1210	1012153-09RE1	12/27/10 11:06	50.00	50.00
BCHMS-GW-010-1210	1012153-09RE2	12/27/10 11:06	50.00	50.00
BCHMS-GW-010-1210	1012153-09RE3	12/27/10 11:06	50.00	50.00
BCHMS-GW-011-1210	1012153-10	12/27/10 11:06	50.00	50.00
BCHMS-GW-011-1210	1012153-10RE1	12/27/10 11:06	50.00	50.00
BCHMS-GW-011-1210	1012153-10RE2	12/27/10 11:06	50.00	50.00
BCHMS-GW-011-1210	1012153-10RE3	12/27/10 11:06	50.00	50.00
BCHMS-GW-012-1210	1012153-11	12/27/10 11:06	50.00	50.00
BCHMS-GW-012-1210	1012153-11RE1	12/27/10 11:06	50.00	50.00
BCHMS-GW-012-1210	1012153-11RE2	12/27/10 11:06	50.00	50.00
BCHMS-GW-012-1210	1012153-11RE3	12/27/10 11:06	50.00	50.00

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY**

**SW6010C**

**BCHMS-GW-012-1210**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Batch: 0L27010

% Solids:

Source Sample Name: **1012153-11**

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Barium	2000	22.26	2018	99.8		80 - 120
Beryllium	50.00	ND	43.27	86.5		80 - 120
Cobalt	500.0	ND	448.2	89.6		80 - 120
Manganese	500.0	34.47	474.5	88.0		80 - 120
Nickel	500.0	ND	425.2	85.0		80 - 120
Silver	250.0	ND	395.2	158	N	80 - 120
Thallium	250.0	ND	201.5	80.6		80 - 120
Vanadium	500.0	ND	444.8	89.0		80 - 120

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS	
						RPD	REC.
Barium	2000	2037	101	0.932		20	80 - 120
Beryllium	50.00	42.14	84.3	2.65		20	80 - 120
Cobalt	500.0	454.6	90.9	1.41		20	80 - 120
Manganese	500.0	479.3	89.0	0.998		20	80 - 120
Nickel	500.0	428.6	85.7	0.792		20	80 - 120
Silver	250.0	400.3	160	1.27	N	20	80 - 120
Thallium	250.0	207.9	83.2	3.10		20	80 - 120
Vanadium	500.0	447.4	89.5	0.583		20	80 - 120

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SW6010C

BCHMS-GW-012-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Batch: 0L27010

% Solids:

Source Sample Name: 1012153-11RE1

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Aluminum	2000	1682	4500	141	N	80 - 120
Antimony	250.0	ND	489.1	196	N	80 - 120
Arsenic	250.0	3.540	462.5	184	N	80 - 120
Calcium	5000	425500	408800	-333		80 - 120
Copper	250.0	ND	394.6	158	N	80 - 120
Iron	1000	572.2	1418	84.5		80 - 120
Selenium	250.0	4.245	473.6	188	N	80 - 120

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS	
						RPD	REC.
Aluminum	2000	4429	137	1.59	N	20	80 - 120
Antimony	250.0	501.3	201	2.48	N	20	80 - 120
Arsenic	250.0	471.4	187	1.90	N	20	80 - 120
Calcium	5000	421400	-81.8	3.02		20	80 - 120
Copper	250.0	386.3	155	2.11	N	20	80 - 120
Iron	1000	1426	85.3	0.563		20	80 - 120
Selenium	250.0	472.9	187	0.129	N	20	80 - 120

**POST DIGEST SPIKE SAMPLE RECOVERY**

BCHMS-GW-012-1210

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Laboratory ID: 0L27010-PS1

Batch: 0L27010

Lab Source ID: 1012153-11

Preparation: MET\_3005A

Initial/Final: 20 mL / 20 mL

Analyte	Spike Sample Result (SSR) (ug/L)	Sample Result (SR) (ug/L)	Spike Added (SA) (ug/L)	%R	Control Limit %R
<b>Barium</b>	<b>2620</b>	<b>22.26</b>	<b>2000</b>	<b>130</b>	<b>80 - 120</b>
Beryllium	55.76	ND	50.00	111	80 - 120
Cobalt	591.1	ND	500.0	118	80 - 120
Manganese	600.5	34.47	500.0	113	80 - 120
Nickel	550.0	ND	500.0	109	80 - 120
<b>Silver</b>	<b>503.8</b>	<b>ND</b>	<b>250.0</b>	<b>202</b>	<b>80 - 120</b>
Thallium	258.5	ND	250.0	104	80 - 120
Vanadium	579.4	ND	500.0	115	80 - 120

# POST DIGEST SPIKE SAMPLE RECOVERY

SW6010C

BCHMS-GW-012-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Laboratory ID: 0L27010-PS3

Batch: 0L27010

Lab Source ID: 1012153-11RE1

Preparation: MET\_3005A

Initial/Final: 20 mL / 20 mL

Analyte	Spike Sample Result (SSR) (ug/L)	Sample Result (SR) (ug/L)	Spike Added (SA) (ug/L)	%R	Control Limit %R
Aluminum	4700	1682	2000	151	80 - 120
Antimony	480.6	ND	250.0	193	80 - 120
Arsenic	467.3	3.540	250.0	186	80 - 120
Calcium	432900	425500	5000	149	80 - 120
Copper	384.1	ND	250.0	155	80 - 120
Iron	1611	572.2	1000	104	80 - 120
Selenium	466.0	4.245	250.0	185	80 - 120

## LCS / LCS DUPLICATE RECOVERY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Batch: 0L27010

Laboratory ID: 0L27010-BS1

Preparation: MET 3005A

Initial/Final: 50 mL / 50 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Barium	2000	1981	99.1	80 - 120
Beryllium	50.00	52.52	105	80 - 120
Chromium	200.0	181.5	90.8	80 - 120
Cobalt	500.0	515.8	103	80 - 120
Lead	250.0	261.2	104	80 - 120
Magnesium	5000	4605	92.1	80 - 120
Manganese	500.0	496.4	99.3	80 - 120
Nickel	500.0	511.9	102	80 - 120
Silver	250.0	242.1	96.8	80 - 120
Thallium	250.0	250.9	100	80 - 120
Vanadium	500.0	491.1	98.2	80 - 120
Zinc	500.0	492.3	98.5	80 - 120

## LCS / LCS DUPLICATE RECOVERY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Batch: 0L27010

Laboratory ID: 0L27010-BS2

Preparation: MET\_3005A

Initial/Final: 50 mL / 50 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Aluminum	2000	2197	110	80 - 120
Antimony	250.0	267.2	107	80 - 120
Arsenic	250.0	243.0	97.2	80 - 120
Cadmium	125.0	129.5	104	80 - 120
Calcium	5000	4169	83.4	80 - 120
Copper	250.0	277.7	111	80 - 120
Iron	1000	1018	102	80 - 120
<b>Potassium</b>	<b>5000</b>	<b>6463</b>	<b>129</b>	<b>80 - 120</b>
Selenium	250.0	248.2	99.3	80 - 120
<b>Sodium</b>	<b>5000</b>	<b>6802</b>	<b>136</b>	<b>80 - 120</b>

# SERIAL DILUTION

SW6010C

BCHMS-GW-012-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Laboratory ID: 0L27010-DUP1

Sequence: 0L36404

Lab Source ID: 1012153-11

Preparation: MET 3005A

Initial/Final: 50 / 50

Analyte	Initial Sample Result (I) ug/L	Serial Dilution Result (S) ug/L	% Difference	Q	Method	QC Limits % Difference
Barium	22.257	ND			SW6010C	10.00
Beryllium	ND	ND			SW6010C	10.00
Cobalt	ND	ND			SW6010C	10.00
Manganese	34.466	36.074	4.66		SW6010C	10.00
Nickel	ND	ND			SW6010C	10.00
Silver	ND	ND			SW6010C	10.00
Thallium	ND	ND			SW6010C	10.00
Vanadium	ND	ND			SW6010C	10.00

**SERIAL DILUTION**  
**SW6010C**

BCHMS-GW-012-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Laboratory ID: 0L27010-DUP3

Sequence: 1A00414

Lab Source ID: 1012153-11RE1

Preparation: MET\_3005A

Initial/Final: 50 / 50

Analyte	Initial Sample Result (I) ug/L	Serial Dilution Result (S) ug/L	% Difference	Q	Method	QC Limits % Difference
Aluminum	1682.3	1622.6	-3.55		SW6010C	10.00
Antimony	ND	ND			SW6010C	10.00
Arsenic	3.5399	ND			SW6010C	10.00
Calcium	425470	474020	11.4	E	SW6010C	10.00
Copper	ND	ND			SW6010C	10.00
Iron	572.22	591.8	3.42		SW6010C	10.00
Selenium	4.2446	ND			SW6010C	10.00

# SERIAL DILUTION

SW6010C

BCHMS-GW-012-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Laboratory ID: 0L27010-DUP5

Sequence: 1A00503

Lab Source ID: 1012153-11RE2

Preparation: MET\_3005A

Initial/Final: 50 / 50

Analyte	Initial Sample Result (I) ug/L	Serial Dilution Result (S) ug/L	% Difference	Q	Method	QC Limits % Difference
Cadmium	2.8174	7.9935	184		SW6010C	10.00
Chromium	ND	ND			SW6010C	10.00
Magnesium	210660	206530	-1.96		SW6010C	10.00
Potassium	76320	70375	-7.79		SW6010C	10.00
Zinc	ND	ND			SW6010C	10.00

# SERIAL DILUTION

SW6010C

BCHMS-GW-012-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Laboratory ID: 0L27010-DUP6

Sequence: 1A00503

Lab Source ID: 1012153-11RE3

Preparation: MET\_3005A

Initial/Final: 50 / 50

Analyte	Initial Sample Result (I) ug/L	Serial Dilution Result (S) ug/L	% Difference	Q	Method	QC Limits % Difference
Sodium	318260	358890	12.8	E	SW6010C	10.00

## PREPARATION BATCH SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L28004      Batch Matrix: Solid

Preparation: MET\_3050B

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L28004-BLK1	12/28/10 10:11	1.00	100.00
Blank	0L28004-BLK2	12/28/10 10:11	1.00	100.00
LCS	0L28004-BS1	12/28/10 10:11	1.00	100.00
LCS	0L28004-BS2	12/28/10 10:11	1.00	100.00
BCHMS-SO-028-1210	0L28004-DUP1	12/28/10 10:11	0.55	100.00
BCHMS-SO-028-1210	0L28004-DUP2	12/28/10 10:11	0.56	100.00
BCHMS-SO-028-1210	0L28004-DUP3	12/28/10 10:11	0.55	100.00
BCHMS-SO-028-1210	0L28004-DUP4	12/28/10 10:11	0.56	100.00
BCHMS-SO-028-1210	0L28004-DUP5	12/28/10 10:11	0.56	100.00
BCHMS-SO-028-1210	0L28004-MS1	12/28/10 10:11	0.55	100.00
BCHMS-SO-028-1210	0L28004-MS2	12/28/10 10:11	0.55	100.00
BCHMS-SO-028-1210	0L28004-PS1	12/28/10 10:11	0.55	100.00
BCHMS-SO-028-1210	0L28004-PS2	12/28/10 10:11	0.55	100.00
BCHMS-SO-002-1210	1012153-13	12/28/10 10:11	0.50	100.00
BCHMS-SO-002-1210	1012153-13RE1	12/28/10 10:11	0.50	100.00
BCHMS-SO-002-1210	1012153-13RE2	12/28/10 10:11	0.50	100.00
BCHMS-SO-002-1210	1012153-13RE3	12/28/10 10:11	0.50	100.00
BCHMS-SO-004-1210	1012153-14	12/28/10 10:11	0.55	100.00
BCHMS-SO-004-1210	1012153-14RE1	12/28/10 10:11	0.55	100.00
BCHMS-SO-004-1210	1012153-14RE2	12/28/10 10:11	0.55	100.00
BCHMS-SO-004-1210	1012153-14RE3	12/28/10 10:11	0.55	100.00
BCHMS-SO-007-1210	1012153-15	12/28/10 10:11	0.57	100.00
BCHMS-SO-007-1210	1012153-15RE1	12/28/10 10:11	0.57	100.00
BCHMS-SO-007-1210	1012153-15RE2	12/28/10 10:11	0.57	100.00
BCHMS-SO-007-1210	1012153-15RE3	12/28/10 10:11	0.57	100.00
BCHMS-SO-010-1210	1012153-16	12/28/10 10:11	0.52	100.00
BCHMS-SO-010-1210	1012153-16RE1	12/28/10 10:11	0.52	100.00
BCHMS-SO-010-1210	1012153-16RE2	12/28/10 10:11	0.52	100.00
BCHMS-SO-010-1210	1012153-16RE3	12/28/10 10:11	0.52	100.00
BCHMS-SO-012-1210	1012153-17	12/28/10 10:11	0.51	100.00
BCHMS-SO-012-1210	1012153-17RE1	12/28/10 10:11	0.51	100.00
BCHMS-SO-012-1210	1012153-17RE2	12/28/10 10:11	0.51	100.00
BCHMS-SO-013-1210	1012153-18	12/28/10 10:11	0.52	100.00
BCHMS-SO-013-1210	1012153-18RE1	12/28/10 10:11	0.52	100.00
BCHMS-SO-013-1210	1012153-18RE2	12/28/10 10:11	0.52	100.00
BCHMS-SO-013-1210	1012153-18RE3	12/28/10 10:11	0.52	100.00
BCHMS-SO-014-1210	1012153-19	12/28/10 10:11	0.52	100.00
BCHMS-SO-014-1210	1012153-19RE1	12/28/10 10:11	0.52	100.00
BCHMS-SO-014-1210	1012153-19RE2	12/28/10 10:11	0.52	100.00
BCHMS-SO-014-1210	1012153-19RE3	12/28/10 10:11	0.52	100.00
BCHMS-SO-015-1210	1012153-20	12/28/10 10:11	0.53	100.00
BCHMS-SO-015-1210	1012153-20RE1	12/28/10 10:11	0.53	100.00

## PREPARATION BATCH SUMMARY

**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L28004

Batch Matrix: Solid

Preparation: MET\_3050B

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
BCHMS-SO-015-1210	1012153-20RE2	12/28/10 10:11	0.53	100.00
BCHMS-SO-015-1210	1012153-20RE3	12/28/10 10:11	0.53	100.00
BCHMS-SO-016-1210	1012153-21	12/28/10 10:11	0.51	100.00
BCHMS-SO-016-1210	1012153-21RE1	12/28/10 10:11	0.51	100.00
BCHMS-SO-016-1210	1012153-21RE2	12/28/10 10:11	0.51	100.00
BCHMS-SO-017-1210	1012153-22	12/28/10 10:11	0.54	100.00
BCHMS-SO-017-1210	1012153-22RE1	12/28/10 10:11	0.54	100.00
BCHMS-SO-017-1210	1012153-22RE2	12/28/10 10:11	0.54	100.00
BCHMS-SO-018-1210	1012153-23	12/28/10 10:11	0.59	100.00
BCHMS-SO-018-1210	1012153-23RE1	12/28/10 10:11	0.59	100.00
BCHMS-SO-018-1210	1012153-23RE2	12/28/10 10:11	0.59	100.00
BCHMS-SO-018-1210	1012153-23RE3	12/28/10 10:11	0.59	100.00
BCHMS-SO-019-1210	1012153-24	12/28/10 10:11	0.55	100.00
BCHMS-SO-019-1210	1012153-24RE1	12/28/10 10:11	0.55	100.00
BCHMS-SO-019-1210	1012153-24RE2	12/28/10 10:11	0.55	100.00
BCHMS-SO-019-1210	1012153-24RE3	12/28/10 10:11	0.55	100.00
BCHMS-SO-020-1210	1012153-25	12/28/10 10:11	0.54	100.00
BCHMS-SO-020-1210	1012153-25RE1	12/28/10 10:11	0.54	100.00
BCHMS-SO-020-1210	1012153-25RE2	12/28/10 10:11	0.54	100.00
BCHMS-SO-021-1210	1012153-26RE1	12/28/10 10:11	0.53	100.00
BCHMS-SO-021-1210	1012153-26RE2	12/28/10 10:11	0.53	100.00
BCHMS-SO-022-1210	1012153-27	12/28/10 10:11	0.57	100.00
BCHMS-SO-022-1210	1012153-27RE1	12/28/10 10:11	0.57	100.00
BCHMS-SO-022-1210	1012153-27RE2	12/28/10 10:11	0.57	100.00
BCHMS-SO-023-1210	1012153-28	12/28/10 10:11	0.56	100.00
BCHMS-SO-023-1210	1012153-28RE1	12/28/10 10:11	0.56	100.00
BCHMS-SO-023-1210	1012153-28RE2	12/28/10 10:11	0.56	100.00
BCHMS-SO-023-1210	1012153-28RE3	12/28/10 10:11	0.56	100.00
BCHMS-SO-024-1210	1012153-29	12/28/10 10:11	0.53	100.00
BCHMS-SO-024-1210	1012153-29RE1	12/28/10 10:11	0.53	100.00
BCHMS-SO-024-1210	1012153-29RE2	12/28/10 10:11	0.53	100.00
BCHMS-SO-025-1210	1012153-30	12/28/10 10:11	0.58	100.00
BCHMS-SO-025-1210	1012153-30RE1	12/28/10 10:11	0.58	100.00
BCHMS-SO-025-1210	1012153-30RE2	12/28/10 10:11	0.58	100.00
BCHMS-SO-025-1210	1012153-30RE3	12/28/10 10:11	0.58	100.00
BCHMS-SO-026-1210	1012153-31	12/28/10 10:11	0.56	100.00
BCHMS-SO-026-1210	1012153-31RE1	12/28/10 10:11	0.56	100.00
BCHMS-SO-026-1210	1012153-31RE2	12/28/10 10:11	0.56	100.00
BCHMS-SO-028-1210	1012153-32	12/28/10 10:11	0.55	100.00
BCHMS-SO-028-1210	1012153-32RE1	12/28/10 10:11	0.55	100.00
BCHMS-SO-028-1210	1012153-32RE2	12/28/10 10:11	0.55	100.00

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY**

SW6010C

**BCHMS-SO-028-1210**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Batch: 0L28004

% Solids: 87.44

Source Sample Name: 1012153-32

ANALYTE	SPIKE ADDED (mg/Kg dry)	SAMPLE CONCENTRATION (mg/Kg dry)	MS CONCENTRATION (mg/Kg dry)	MS % REC.	Q	QC LIMITS REC.
Antimony	51.99	ND	57.12	110		80 - 120
Arsenic	51.99	ND	55.41	107		80 - 120
Barium	415.9	7.543	433.4	102		80 - 120
Beryllium	10.40	ND	9.698	93.3		80 - 120
Cadmium	25.99	ND	29.29	113		80 - 120
Chromium	41.59	2.660	43.22	97.5		80 - 120
Cobalt	104.0	ND	108.5	104		80 - 120
Copper	51.99	ND	56.73	109		80 - 120
Manganese	104.0	2.396	111.0	104		80 - 120
Nickel	104.0	0.6898	106.0	101		80 - 120
Potassium	1040	ND	1362	131	N	80 - 120
Selenium	51.99	ND	54.70	105		80 - 120
Silver	51.99	ND	48.79	93.9		80 - 120
Sodium	1040	2389	3576	114		80 - 120
Thallium	51.99	ND	45.67	87.9		80 - 120
Vanadium	104.0	1.274	106.5	101		80 - 120

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY**

**SW6010C**

**BCHMS-SO-028-1210**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Batch: 0L28004

% Solids: 87.44

Source Sample Name: 1012153-32RE1

ANALYTE	SPIKE ADDED (mg/Kg dry)	SAMPLE CONCENTRATION (mg/Kg dry)	MS CONCENTRATION (mg/Kg dry)	MS % REC.	Q	QC LIMITS REC.
Iron	207.9	122.6	361.3	115		80 - 120
Magnesium	1040	1152	2238	104		80 - 120

**POST DIGEST SPIKE SAMPLE RECOVERY**

BCHMS-SO-028-1210

**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 0L28004-PS1

Batch: 0L28004

Lab Source ID: 1012153-32

Preparation: MET\_3050B

Initial/Final: 0.55 g / 100 mL

Analyte	Spike Sample Result (SSR) (ug/L)	Sample Result (SR) (ug/L)	Spike Added (SA) (ug/L)	%R	Control Limit %R
Antimony	281.9	ND	250.0	113	80 - 120
Arsenic	268.9	ND	250.0	107	80 - 120
Barium	2119	36.27	2000	104	80 - 120
Beryllium	49.16	ND	50.00	98.1	80 - 120
Cadmium	144.2	ND	125.0	115	80 - 120
Chromium	208.5	12.79	200.0	97.9	80 - 120
Cobalt	534.6	ND	500.0	107	80 - 120
Copper	283.0	ND	250.0	113	80 - 120
Manganese	548.6	11.52	500.0	107	80 - 120
Nickel	517.4	3.317	500.0	103	80 - 120
<b>Potassium</b>	<b>6490</b>	<b>ND</b>	<b>5000</b>	<b>125</b>	<b>80 - 120</b>
Selenium	266.4	ND	250.0	106	80 - 120
Silver	265.9	ND	250.0	107	80 - 120
<b>Sodium</b>	<b>17720</b>	<b>11490</b>	<b>5000</b>	<b>125</b>	<b>80 - 120</b>
Thallium	212.4	ND	250.0	88.1	80 - 120
Vanadium	533.4	6.126	500.0	105	80 - 120

# POST DIGEST SPIKE SAMPLE RECOVERY

SW6010C

BCHMS-SO-028-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 0L28004-PS2

Batch: 0L28004

Lab Source ID: 1012153-32RE1

Preparation: MET 3050B

Initial/Final: 0.55 g / 100 mL

Analyte	Spike Sample Result (SSR) (ug/L)	Sample Result (SR) (ug/L)	Spike Added (SA) (ug/L)	%R	Control Limit %R
Iron	1722	589.4	1000	113	80 - 120
Magnesium	10940	5541	5000	108	80 - 120

# DUPLICATES

BCHMS-SO-028-1210

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 0L28004-DUP2

Batch: 0L28004

Lab Source ID: 1012153-32

Preparation: MET\_3050B

Initial/Final: 0.56 g / 100 mL

Source Sample Name: BCHMS-SO-028-1210

% Solids: 87.44

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/Kg dry)	DUPLICATE CONCENTRATION (mg/Kg dry)	RPD %	Q	METHOD
Antimony	20	2.08 U	2.04 U			SW6010C
Arsenic	20	2.08 U	2.04 U			SW6010C
Barium	20	7.54 I	8.17 I	2.29		SW6010C
Beryllium	20	1.04 U	1.02 U			SW6010C
Cadmium	20	1.04 U	1.02 U			SW6010C
Chromium	20		2.606	2.08		SW6010C
Cobalt	20	2.60 U	2.55 U			SW6010C
Copper	20	2.08 U	2.04 U			SW6010C
Manganese	20	2.40 I	3.06 I	13.8		SW6010C
Nickel	20	0.690 I	2.04 I	23.4		SW6010C
Potassium	20	1040 U	1020 U			SW6010C
Selenium	20	2.08 U	2.04 U			SW6010C
Silver	20	2.08 U	2.04 U			SW6010C
Sodium	20	2390	2345	1.85		SW6010C
Thallium	20	1.66 U	1.63 U			SW6010C
Vanadium	20	1.27 I	2.55 I	2.17		SW6010C

# DUPLICATES

**BCHMS-SO-028-1210**

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 0L28004-DUP4

Batch: 0L28004

Lab Source ID: 1012153-32RE1

Preparation: MET\_3050B

Initial/Final: 0.56 g / 100 mL

Source Sample Name: BCHMS-SO-028-1210

% Solids: 87.44

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/Kg dry)	DUPLICATE CONCENTRATION (mg/Kg dry)	RPD %	Q	METHOD
Iron	20	123	134.9	9.57		SW6010C
Magnesium	20	1150	1140	1.07		SW6010C

## LCS / LCS DUPLICATE RECOVERY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Batch: 0L28004

Laboratory ID: 0L28004-BS1

Preparation: MET 3050B

Initial/Final: 1 g / 100 mL

ANALYTE	SPIKE ADDED (mg/Kg wet)	LCS CONCENTRATION (mg/Kg wet)	LCS % REC.	QC LIMITS REC.
Aluminum	200.0	216.1	108	80 - 120
Antimony	25.00	27.14	109	80 - 120
Arsenic	25.00	25.96	104	80 - 120
Barium	200.0	207.4	104	80 - 120
Beryllium	5.000	4.812	96.2	80 - 120
Cadmium	12.50	13.28	106	80 - 120
Cobalt	50.00	53.05	106	80 - 120
Copper	25.00	26.77	107	80 - 120
Lead	25.00	24.66	98.6	80 - 120
Manganese	50.00	50.40	101	80 - 120
Nickel	50.00	53.06	106	80 - 120
Silver	25.00	25.13	101	80 - 120
Thallium	25.00	23.35	93.4	80 - 120
Vanadium	50.00	48.72	97.4	80 - 120
Zinc	50.00	53.46	107	80 - 120

# LCS / LCS DUPLICATE RECOVERY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Batch: 0L28004

Laboratory ID: 0L28004-BS2

Preparation: MET\_3050B

Initial/Final: 1 g / 100 mL

ANALYTE	SPIKE ADDED (mg/Kg wet)	LCS CONCENTRATION (mg/Kg wet)	LCS % REC.	QC LIMITS REC.
Calcium	500.0	536.0	107	80 - 120
Chromium	20.00	20.47	102	80 - 120
Iron	100.0	110.5	110	80 - 120
Magnesium	500.0	490.8	98.2	80 - 120
Potassium	500.0	487.7	97.5	80 - 120
Selenium	25.00	23.75	95.0	80 - 120
Sodium	500.0	513.3	103	80 - 120

**SERIAL DILUTION**  
**SW6010C**

BCHMS-SO-028-1210

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Matrix: Solid  
 Sequence: 0L36404  
 Preparation: MET 3050B

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Laboratory ID: 0L28004-DUP1  
 Lab Source ID: 1012153-32  
 Initial/Final: 0.55 / 100

Analyte	Initial Sample Result (I) ug/L	Serial Dilution Result (S) ug/L	% Difference	Q	Method	QC Limits % Difference
Antimony	ND	ND			SW6010C	10.00
Arsenic	ND	ND			SW6010C	10.00
Barium	36.273	34.943	-3.67		SW6010C	10.00
Beryllium	ND	ND			SW6010C	10.00
Cadmium	ND	ND			SW6010C	10.00
Chromium	12.793	12.928	1.06		SW6010C	10.00
Cobalt	ND	ND			SW6010C	10.00
Copper	ND	ND			SW6010C	10.00
Manganese	11.523	ND			SW6010C	10.00
Nickel	3.3172	ND			SW6010C	10.00
Potassium	ND	ND			SW6010C	10.00
Selenium	ND	ND			SW6010C	10.00
Silver	ND	ND			SW6010C	10.00
Sodium	11488	11803	2.75		SW6010C	10.00
Thallium	ND	ND			SW6010C	10.00
Vanadium	6.1262	ND			SW6010C	10.00

**SERIAL DILUTION**  
**SW6010C**

BCHMS-SO-028-1210
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Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 0L28004-DUP3

Sequence: 1A00414

Lab Source ID: 1012153-32RE1

Preparation: MET\_3050B

Initial/Final: 0.55 / 100

Analyte	Initial Sample Result (I) ug/L	Serial Dilution Result (S) ug/L	% Difference	Q	Method	QC Limits % Difference
Iron	589.45	606.4	2.88		SW6010C	10.00
Magnesium	5540.5	5724.5	3.32		SW6010C	10.00

**SERIAL DILUTION**  
**SW6010C**

BCHMS-SO-028-1210
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Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 0L28004-DUP5

Sequence: 1A00503

Lab Source ID: 1012153-32RE2

Preparation: MET 3050B

Initial/Final: 0.56 / 100

Analyte	Initial Sample Result (I) ug/L	Serial Dilution Result (S) ug/L	% Difference	Q	Method	QC Limits % Difference
Aluminum	255.48	652.1	155		SW6010C	10.00
Calcium	363560	357190	-1.75		SW6010C	10.00
Lead	ND	ND			SW6010C	10.00
Zinc	ND	ND			SW6010C	10.00

## PREPARATION BATCH SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L28005

Batch Matrix: Solid

Preparation: MET\_3050B

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L28005-BLK1	12/28/10 10:14	1.00	100.00
Blank	0L28005-BLK2	12/28/10 10:14	1.00	100.00
LCS	0L28005-BS1	12/28/10 10:14	1.00	100.00
LCS	0L28005-BS2	12/28/10 10:14	1.00	100.00
BCHMS-SO-FD02-1210	0L28005-DUP1	12/28/10 10:14	0.56	100.00
BCHMS-SO-FD02-1210	0L28005-DUP2	12/28/10 10:14	0.55	100.00
BCHMS-SO-FD02-1210	0L28005-DUP3	12/28/10 10:14	0.56	100.00
BCHMS-SO-FD02-1210	0L28005-DUP4	12/28/10 10:14	0.55	100.00
BCHMS-SO-FD02-1210	0L28005-DUP5	12/28/10 10:14	0.55	100.00
BCHMS-SO-FD02-1210	0L28005-MS1	12/28/10 10:14	0.50	100.00
BCHMS-SO-FD02-1210	0L28005-MS2	12/28/10 10:14	0.50	100.00
BCHMS-SO-FD02-1210	0L28005-PS1	12/28/10 10:14	0.56	100.00
BCHMS-SO-FD02-1210	0L28005-PS2	12/28/10 10:14	0.56	100.00
BCHMS-SO-FD01-1210	1012153-33	12/28/10 10:14	0.51	100.00
BCHMS-SO-FD01-1210	1012153-33RE1	12/28/10 10:14	0.51	100.00
BCHMS-SO-FD01-1210	1012153-33RE2	12/28/10 10:14	0.51	100.00
BCHMS-SO-FD02-1210	1012153-34	12/28/10 10:14	0.56	100.00
BCHMS-SO-FD02-1210	1012153-34RE1	12/28/10 10:14	0.56	100.00
BCHMS-SO-FD02-1210	1012153-34RE2	12/28/10 10:14	0.56	100.00

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY**

**SW6010C**

**BCHMS-SO-FD02-1210**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Batch: 0L28005

% Solids: 86.85

Source Sample Name: 1012153-34

ANALYTE	SPIKE ADDED (mg/Kg dry)	SAMPLE CONCENTRATION (mg/Kg dry)	MS CONCENTRATION (mg/Kg dry)	MS % REC.	Q	QC LIMITS REC.
Antimony	57.57	ND	58.66	102		80 - 120
Arsenic	57.57	ND	56.58	98.3		80 - 120
Barium	460.6	7.508	452.3	96.6		80 - 120
Beryllium	11.51	ND	10.37	90.0		80 - 120
Cadmium	28.79	ND	30.18	105		80 - 120
Chromium	46.06	2.861	48.17	98.4		80 - 120
Cobalt	115.1	ND	113.4	98.5		80 - 120
Copper	57.57	ND	58.13	101		80 - 120
Manganese	115.1	2.527	119.0	101		80 - 120
Nickel	115.1	ND	110.3	95.8		80 - 120
Selenium	57.57	ND	55.40	96.2		80 - 120
Silver	57.57	ND	56.83	98.7		80 - 120
Thallium	57.57	ND	47.88	83.2		80 - 120

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY**

**SW6010C**

**BCHMS-SO-FD02-1210**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Batch: 0L28005

% Solids: 86.85

Source Sample Name: 1012153-34RE1

ANALYTE	SPIKE ADDED (mg/Kg dry)	SAMPLE CONCENTRATION (mg/Kg dry)	MS CONCENTRATION (mg/Kg dry)	MS % REC.	Q	QC LIMITS REC.
Iron	230.3	121.7	345.0	97.0		80 - 120
Magnesium	1151	1056	2077	88.7		80 - 120
Potassium	1151	ND	1289	112		80 - 120
Sodium	1151	1179	2407	107		80 - 120
Vanadium	115.1	1.245	113.3	97.4		80 - 120

# POST DIGEST SPIKE SAMPLE RECOVERY

SW6010C

BCHMS-SO-FD02-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 0L28005-PS1

Batch: 0L28005

Lab Source ID: 1012153-34

Preparation: MET\_3050B

Initial/Final: 0.56 g / 100 mL

Analyte	Spike Sample Result (SSR) (ug/L)	Sample Result (SR) (ug/L)	Spike Added (SA) (ug/L)	%R	Control Limit %R
Antimony	282.9	ND	250.0	113	80 - 120
Arsenic	266.7	ND	250.0	106	80 - 120
Barium	2217	36.52	2000	109	80 - 120
Beryllium	51.33	ND	50.00	102	80 - 120
Cadmium	145.5	ND	125.0	116	80 - 120
Chromium	228.4	13.91	200.0	107	80 - 120
Cobalt	562.8	ND	500.0	112	80 - 120
Copper	292.7	ND	250.0	117	80 - 120
Manganese	587.0	12.29	500.0	115	80 - 120
Nickel	540.5	ND	500.0	108	80 - 120
Selenium	268.1	ND	250.0	108	80 - 120
Silver	279.3	ND	250.0	112	80 - 120
Thallium	200.7	ND	250.0	82.2	80 - 120

# POST DIGEST SPIKE SAMPLE RECOVERY

SW6010C

BCHMS-SO-FD02-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 0L28005-PS2

Batch: 0L28005

Lab Source ID: 1012153-34RE1

Preparation: MET 3050B

Initial/Final: 0.56 g / 100 mL

Analyte	Spike Sample Result (SSR) (ug/L)	Sample Result (SR) (ug/L)	Spike Added (SA) (ug/L)	%R	Control Limit %R
Iron	1716	592.0	1000	112	80 - 120
Magnesium	10320	5137	5000	104	80 - 120
Potassium	5983	ND	5000	116	80 - 120
Sodium	11640	5734	5000	118	80 - 120
Vanadium	518.2	6.053	500.0	102	80 - 120

**DUPLICATES**

**BCHMS-SO-FD02-1210**

**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 0L28005-DUP2

Batch: 0L28005

Lab Source ID: 1012153-34

Preparation: MET\_3050B

Initial/Final: 0.55 g / 100 mL

Source Sample Name: BCHMS-SO-FD02-1210

% Solids: 86.85

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/Kg dry)	DUPLICATE CONCENTRATION (mg/Kg dry)	RPD %	Q	METHOD
Antimony	20	2.06 U	2.09 U			SW6010C
Arsenic	20	2.06 U	2.09 U			SW6010C
Barium	20	7.51 I	8.37 I	7.59		SW6010C
Beryllium	20	1.03 U	1.05 U			SW6010C
Cadmium	20	1.03 U	1.05 U			SW6010C
Chromium	20		2.800	2.14		SW6010C
Cobalt	20	2.57 U	2.62 U			SW6010C
Copper	20	2.06 U	2.09 U			SW6010C
Manganese	20	2.53 I	3.14 I	0.0286		SW6010C
Nickel	20	2.06 U	2.09 U			SW6010C
Selenium	20	2.06 U	2.09 U			SW6010C
Silver	20	2.06 U	2.09 U			SW6010C
Thallium	20	1.64 U	1.67 U			SW6010C

# DUPLICATES

BCHMS-SO-FD02-1210

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 0L28005-DUP4

Batch: 0L28005

Lab Source ID: 1012153-34RE1

Preparation: MET 3050B

Initial/Final: 0.55 g / 100 mL

Source Sample Name: BCHMS-SO-FD02-1210

% Solids: 86.85

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/Kg dry)	DUPLICATE CONCENTRATION (mg/Kg dry)	RPD %	Q	METHOD
Iron	20		126.2	3.61		SW6010C
Magnesium	20	1060	1050 I	2.52		SW6010C
Potassium	20	1030 U	1050 U			SW6010C
Sodium	20	1180	1050 I	13.2		SW6010C
Vanadium	20	1.24 I	2.62 I	9.38		SW6010C

## LCS / LCS DUPLICATE RECOVERY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Batch: 0L28005

Laboratory ID: 0L28005-BS1

Preparation: MET 3050B

Initial/Final: 1 g / 100 mL

ANALYTE	SPIKE ADDED (mg/Kg wet)	LCS CONCENTRATION (mg/Kg wet)	LCS % REC.	QC LIMITS REC.
Aluminum	200.0	181.1	90.5	80 - 120
Antimony	25.00	20.38	81.5	80 - 120
Arsenic	25.00	20.72	82.9	80 - 120
Barium	200.0	186.7	93.3	80 - 120
Beryllium	5.000	4.858	97.2	80 - 120
Cadmium	12.50	10.77	86.2	80 - 120
Chromium	20.00	23.40	117	80 - 120
Cobalt	50.00	47.59	95.2	80 - 120
Copper	25.00	21.58	86.3	80 - 120
Lead	25.00	22.57	90.3	80 - 120
Manganese	50.00	57.18	114	80 - 120
Nickel	50.00	47.23	94.5	80 - 120
Selenium	25.00	20.20	80.8	80 - 120
Silver	25.00	24.26	97.1	80 - 120
Thallium	25.00	20.38	81.5	80 - 120
Zinc	50.00	58.32	117	80 - 120

# LCS / LCS DUPLICATE RECOVERY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Batch: 0L28005

Laboratory ID: 0L28005-BS2

Preparation: MET\_3050B

Initial/Final: 1 g / 100 mL

ANALYTE	SPIKE ADDED (mg/Kg wet)	LCS CONCENTRATION (mg/Kg wet)	LCS % REC.	QC LIMITS REC.
Calcium	500.0	491.2	98.2	80 - 120
Iron	100.0	112.5	112	80 - 120
Magnesium	500.0	481.8	96.4	80 - 120
Potassium	500.0	483.0	96.6	80 - 120
Sodium	500.0	505.2	101	80 - 120
Vanadium	50.00	50.28	101	80 - 120

**SERIAL DILUTION**  
**SW6010C**

BCHMS-SO-FD02-1210
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Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 0L28005-DUP1

Sequence: 0L36404

Lab Source ID: 1012153-34

Preparation: MET 3050B

Initial/Final: 0.56 / 100

Analyte	Initial Sample Result (I) ug/L	Serial Dilution Result (S) ug/L	% Difference	Q	Method	QC Limits % Difference
Antimony	ND	ND			SW6010C	10.00
Arsenic	ND	ND			SW6010C	10.00
Barium	36.516	35.28	-3.38		SW6010C	10.00
Beryllium	ND	ND			SW6010C	10.00
Cadmium	ND	ND			SW6010C	10.00
Chromium	13.914	12.887	-7.38		SW6010C	10.00
Cobalt	ND	ND			SW6010C	10.00
Copper	ND	ND			SW6010C	10.00
Manganese	12.289	ND			SW6010C	10.00
Nickel	ND	ND			SW6010C	10.00
Selenium	ND	ND			SW6010C	10.00
Silver	ND	ND			SW6010C	10.00
Thallium	ND	ND			SW6010C	10.00

**SERIAL DILUTION**  
**SW6010C**

<u>BCHMS-SO-FD02-1210</u>
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Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 0L28005-DUP3

Sequence: 1A00414

Lab Source ID: 1012153-34RE1

Preparation: MET\_3050B

Initial/Final: 0.56 / 100

Analyte	Initial Sample Result (I) ug/L	Serial Dilution Result (S) ug/L	% Difference	Q	Method	QC Limits % Difference
Iron	592.04	600.9	1.5		SW6010C	10.00
Magnesium	5137.4	5347	4.08		SW6010C	10.00
Potassium	ND	ND			SW6010C	10.00
Sodium	5734.1	6012.5	4.86		SW6010C	10.00
Vanadium	6.0531	ND			SW6010C	10.00

# SERIAL DILUTION

SW6010C

BCHMS-SO-FD02-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 0L28005-DUP5

Sequence: 1A00503

Lab Source ID: 1012153-34RE2

Preparation: MET\_3050B

Initial/Final: 0.55 / 100

Analyte	Initial Sample Result (I) ug/L	Serial Dilution Result (S) ug/L	% Difference	Q	Method	QC Limits % Difference
Aluminum	227.1	626.6	176		SW6010C	10.00
Calcium	384320	383520	-0.209		SW6010C	10.00
Lead	ND	ND			SW6010C	10.00
Zinc	ND	ND			SW6010C	10.00

# ANALYSIS SEQUENCE SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Sequence: 0L36404  
 Calibration: 1004002

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Instrument: ME-ICP

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0L36404-CAL1	122910A-001	12/29/10 12:07
Cal Standard	0L36404-CAL2	122910A-002	12/29/10 12:12
Cal Standard	0L36404-CAL3	122910A-003	12/29/10 12:19
Cal Standard	0L36404-CAL4	122910A-004	12/29/10 12:26
Cal Standard	0L36404-CAL5	122910A-005	12/29/10 12:37
Cal Standard	0L36404-CAL6	122910A-007	12/29/10 12:51
Cal Standard	0L36404-CAL7	122910A-008	12/29/10 12:59
Cal Standard	0L36404-CAL8	122910A-009	12/29/10 13:06
Initial Cal Check	0L36404-ICV1	122910B-001	12/29/10 13:43
Initial Cal Blank	0L36404-ICB1	122910B-002	12/29/10 13:50
Instrument RL Check	0L36404-CRL1	122910B-003	12/29/10 13:55
Instrument RL Check	0L36404-CRL2	122910B-004	12/29/10 13:59
Instrument RL Check	0L36404-CRL4	122910B-007	12/29/10 14:31
Interference Check A	0L36404-IFA1	122910B-008	12/29/10 14:36
Interference Check B	0L36404-IFB1	122910B-013	12/29/10 15:09
Calibration Check	0L36404-CCV1	122910B-017	12/29/10 15:45
Calibration Blank	0L36404-CCB1	122910B-018	12/29/10 16:04
Calibration Check	0L36404-CCV3	122910B-047	12/29/10 18:30
Calibration Blank	0L36404-CCB3	122910B-048	12/29/10 18:38
Blank	0L27010-BLK1	122910B-049	12/29/10 18:42
LCS	0L27010-BS1	122910B-050	12/29/10 18:47
BCHMS-FD001-1210	1012153-01	122910B-051	12/29/10 18:53
BCHMS-GW-004-1210	1012153-02	122910B-052	12/29/10 18:58
BCHMS-GW-005-1210	1012153-03	122910B-053	12/29/10 19:03
BCHMS-GW-006-1210	1012153-04	122910B-054	12/29/10 19:08
BCHMS-GW-007-1210	1012153-05	122910B-055	12/29/10 19:13
BCHMS-FD002-1210	1012153-06	122910B-056	12/29/10 19:18
BCHMS-GW-008-1210	1012153-07	122910B-057	12/29/10 19:23
BCHMS-GW-009D-1210	1012153-08	122910B-058	12/29/10 19:28
BCHMS-GW-010-1210	1012153-09	122910B-059	12/29/10 19:33
BCHMS-GW-011-1210	1012153-10	122910B-060	12/29/10 19:38
Calibration Check	0L36404-CCV4	122910B-061	12/29/10 19:44

# ANALYSIS SEQUENCE SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36404

Instrument: ME-ICP

Calibration: 1004002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	0L36404-CCB4	122910B-062	12/29/10 19:51
BCHMS-GW-012-1210	1012153-11	122910B-063	12/29/10 19:56
BCHMS-GW-012-1210	0L27010-MS1	122910B-064	12/29/10 20:01
BCHMS-GW-012-1210	0L27010-MSD1	122910B-065	12/29/10 20:05
BCHMS-GW-012-1210	0L27010-PS1	122910B-066	12/29/10 20:10
BCHMS-GW-012-1210	0L27010-DUP1	122910B-067	12/29/10 20:16
Calibration Check	0L36404-CCV5	122910B-078	12/29/10 21:08
Calibration Blank	0L36404-CCB5	NCL10 <sup>79</sup> 122910B-079	12/29/10 21:16
Blank	0L28004-BLK1	122910B-080	12/29/10 21:20
LCS	0L28004-BS1	122910B-081	12/29/10 21:25
BCHMS-SO-002-1210	1012153-13	122910B-082	12/29/10 21:29
BCHMS-SO-004-1210	1012153-14	122910B-083	12/29/10 21:34
BCHMS-SO-007-1210	1012153-15	122910B-084	12/29/10 21:39
BCHMS-SO-010-1210	1012153-16	122910B-085	12/29/10 21:44
BCHMS-SO-012-1210	1012153-17	122910B-086	12/29/10 21:48
BCHMS-SO-013-1210	1012153-18	122910B-087	12/29/10 21:53
BCHMS-SO-014-1210	1012153-19	122910B-088	12/29/10 21:58
BCHMS-SO-015-1210	1012153-20	122910B-089	12/29/10 22:03
BCHMS-SO-016-1210	1012153-21	122910B-090	12/29/10 22:08
BCHMS-SO-017-1210	1012153-22	122910B-091	12/29/10 22:12
Calibration Check	0L36404-CCV6	122910B-092	12/29/10 22:18
Calibration Blank	0L36404-CCB6	N4762 122910B-093	12/29/10 22:25
BCHMS-SO-018-1210	1012153-23	122910B-094	12/29/10 22:30
BCHMS-SO-019-1210	1012153-24	122910B-095	12/29/10 22:35
BCHMS-SO-020-1210	1012153-25	122910B-096	12/29/10 22:40
BCHMS-SO-022-1210	1012153-27	122910B-098	12/29/10 22:49
BCHMS-SO-023-1210	1012153-28	122910B-099	12/29/10 22:54
BCHMS-SO-024-1210	1012153-29	122910B-100	12/29/10 22:59
BCHMS-SO-025-1210	1012153-30	122910B-101	12/29/10 23:04
BCHMS-SO-026-1210	1012153-31	122910B-102	12/29/10 23:09
BCHMS-SO-028-1210	1012153-32	122910B-103	12/29/10 23:14
BCHMS-SO-028-1210	0L28004-MS1	122910B-104	12/29/10 23:19

## ANALYSIS SEQUENCE SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36404

Instrument: ME-ICP

Calibration: 1004002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
BCHMS-SO-028-1210	0L28004-PS1	122910B-105	12/29/10 23:23
BCHMS-SO-028-1210	0L28004-DUP1	122910B-106	12/29/10 23:29
BCHMS-SO-028-1210	0L28004-DUP2	122910B-107	12/29/10 23:34
Calibration Check	0L36404-CCV7	122910B-108	12/29/10 23:40
Calibration Blank	0L36404-CCB7	122910B-109	12/29/10 23:47
Blank	0L28005-BLK1	122910B-110	12/29/10 23:52
LCS	0L28005-BS1	122910B-111	12/29/10 23:56
BCHMS-SO-FD01-1210	1012153-33	122910B-112	12/30/10 00:01
BCHMS-SO-FD02-1210	1012153-34	122910B-113	12/30/10 00:06
BCHMS-SO-FD02-1210	0L28005-MS1	122910B-114	12/30/10 00:11
BCHMS-SO-FD02-1210	0L28005-PS1	122910B-115	12/30/10 00:15
BCHMS-SO-FD02-1210	0L28005-DUP1	122910B-116	12/30/10 00:21
BCHMS-SO-FD02-1210	0L28005-DUP2	122910B-117	12/30/10 00:26
Calibration Check	0L36404-CCV8	122910B-122	12/30/10 00:51
Calibration Blank	0L36404-CCB8	122910B-123	12/30/10 00:59

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 0L36404

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
0L36404-ICV1	Aluminum	10000	9888	98.9	ug/L	+/- 10.00%
	Antimony	1000	1002	100	ug/L	+/- 10.00%
	Arsenic	1000	996.3	99.6	ug/L	+/- 10.00%
	Barium	1000	994.9	99.5	ug/L	+/- 10.00%
	Beryllium	1000	1066	107	ug/L	+/- 10.00%
	Cadmium	1000	1051	105	ug/L	+/- 10.00%
	Chromium	1000	960.9	96.1	ug/L	+/- 10.00%
	Cobalt	1000	1014	101	ug/L	+/- 10.00%
	Copper	1000	1022	102	ug/L	+/- 10.00%
	Lead	1000	1011	101	ug/L	+/- 10.00%
	Magnesium	50000	50480	101	ug/L	+/- 10.00%
	Manganese	1000	1060	106	ug/L	+/- 10.00%
	Nickel	1000	1005	100	ug/L	+/- 10.00%
	Potassium	10000	9504	95.0	ug/L	+/- 10.00%
	Selenium	1000	998.7	99.9	ug/L	+/- 10.00%
	Silver	500.0	507.5	102	ug/L	+/- 10.00%
	Sodium	50000	51560	103	ug/L	+/- 10.00%
	Thallium	1000	967.2	96.7	ug/L	+/- 10.00%
	Vanadium	1000	1032	103	ug/L	+/- 10.00%
	Zinc	1000	1020	102	ug/L	+/- 10.00%
0L36404-CCV1	Aluminum	10000	8636	86.4	ug/L	+/- 10.00%
	Antimony	1000	760.4	76.0	ug/L	+/- 10.00%
	Arsenic	1000	808.9	80.9	ug/L	+/- 10.00%
	Barium	1000	930.5	93.0	ug/L	+/- 10.00%
	Beryllium	1000	1120	112	ug/L	+/- 10.00%
	Cadmium	1000	918.8	91.9	ug/L	+/- 10.00%
	Chromium	1000	1160	116	ug/L	+/- 10.00%
	Cobalt	1000	943.9	94.4	ug/L	+/- 10.00%
	Copper	1000	845.3	84.5	ug/L	+/- 10.00%
	Lead	1000	949.5	95.0	ug/L	+/- 10.00%
	Magnesium	50000	55540	111	ug/L	+/- 10.00%
	Manganese	1000	1231	123	ug/L	+/- 10.00%
	Nickel	1000	943.2	94.3	ug/L	+/- 10.00%
	Potassium	10000	7726	77.3	ug/L	+/- 10.00%
	Selenium	1000	768.7	76.9	ug/L	+/- 10.00%
Silver	500.0	503.6	101	ug/L	+/- 10.00%	
Sodium	50000	40120	80.2	ug/L	+/- 10.00%	
Thallium	1000	860.3	86.0	ug/L	+/- 10.00%	

No Samples Bracket ↗

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 0L36404

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
0L36404-CCV1	Vanadium	1000	1126	113	ug/L	+/- 10.00%
	Zinc	1000	1158	116	ug/L	+/- 10.00%
0L36404-CCV3	Aluminum	10000	10730	107	ug/L	+/- 10.00%
	Antimony	1000	1106	111	ug/L	+/- 10.00%
	Arsenic	1000	1053	105	ug/L	+/- 10.00%
	Barium	1000	987.8	98.8	ug/L	+/- 10.00%
	Beryllium	1000	998.2	99.8	ug/L	+/- 10.00%
	Cadmium	1000	1075	108	ug/L	+/- 10.00%
	Chromium	1000	927.8	92.8	ug/L	+/- 10.00%
	Cobalt	1000	1040	104	ug/L	+/- 10.00%
	Copper	1000	1087	109	ug/L	+/- 10.00%
	Lead	1000	1036	104	ug/L	+/- 10.00%
	Magnesium	50000	46570	93.1	ug/L	+/- 10.00%
	Manganese	1000	982.2	98.2	ug/L	+/- 10.00%
	Nickel	1000	1018	102	ug/L	+/- 10.00%
	Potassium	10000	12380	124	ug/L	+/- 10.00%
	Selenium	1000	1083	108	ug/L	+/- 10.00%
	Silver	500.0	490.7	98.1	ug/L	+/- 10.00%
	Sodium	50000	62020	124	ug/L	+/- 10.00%
	Thallium	1000	1030	103	ug/L	+/- 10.00%
	Vanadium	1000	975.3	97.5	ug/L	+/- 10.00%
Zinc	1000	982.6	98.3	ug/L	+/- 10.00%	
0L36404-CCV4	Aluminum	10000	11220	112	ug/L	+/- 10.00%
	Antimony	1000	1189	119	ug/L	+/- 10.00%
	Arsenic	1000	1106	111	ug/L	+/- 10.00%
	Barium	1000	1012	101	ug/L	+/- 10.00%
	Beryllium	1000	1015	102	ug/L	+/- 10.00%
	Cadmium	1000	1119	112	ug/L	+/- 10.00%
	Chromium	1000	897.2	89.7	ug/L	+/- 10.00%
	Cobalt	1000	1081	108	ug/L	+/- 10.00%
	Copper	1000	1144	114	ug/L	+/- 10.00%
	Lead	1000	1076	108	ug/L	+/- 10.00%
	Magnesium	50000	46730	93.5	ug/L	+/- 10.00%
	Manganese	1000	974.0	97.4	ug/L	+/- 10.00%
	Nickel	1000	1051	105	ug/L	+/- 10.00%
	Potassium	10000	13170	132	ug/L	+/- 10.00%
Selenium	1000	1154	115	ug/L	+/- 10.00%	
Silver	500.0	488.5	97.7	ug/L	+/- 10.00%	

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 0L36404

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
0L36404-CCV4	<b>Sodium</b>	<b>50000</b>	<b>65880</b>	<b>132</b>	ug/L	+/- 10.00%
	Thallium	1000	1068	107	ug/L	+/- 10.00%
	Vanadium	1000	988.8	98.9	ug/L	+/- 10.00%
	Zinc	1000	982.4	98.2	ug/L	+/- 10.00%
0L36404-CCV5	Aluminum	10000	10060	101	ug/L	+/- 10.00%
	Antimony	1000	1017	102	ug/L	+/- 10.00%
	Arsenic	1000	980.7	98.1	ug/L	+/- 10.00%
	Barium	1000	921.5	92.1	ug/L	+/- 10.00%
	Beryllium	1000	934.2	93.4	ug/L	+/- 10.00%
	Cadmium	1000	996.4	99.6	ug/L	+/- 10.00%
	<b>Chromium</b>	<b>1000</b>	<b>880.8</b>	<b>88.1</b>	ug/L	+/- 10.00%
	Cobalt	1000	961.9	96.2	ug/L	+/- 10.00%
	Copper	1000	1014	101	ug/L	+/- 10.00%
	Lead	1000	962.3	96.2	ug/L	+/- 10.00%
	<b>Magnesium</b>	<b>50000</b>	<b>41640</b>	<b>83.3</b>	ug/L	+/- 10.00%
	Manganese	1000	931.6	93.2	ug/L	+/- 10.00%
	Nickel	1000	950.3	95.0	ug/L	+/- 10.00%
	<b>Potassium</b>	<b>10000</b>	<b>11650</b>	<b>117</b>	ug/L	+/- 10.00%
	Selenium	1000	1006	101	ug/L	+/- 10.00%
	Silver	500.0	464.0	92.8	ug/L	+/- 10.00%
	<b>Sodium</b>	<b>50000</b>	<b>56970</b>	<b>114</b>	ug/L	+/- 10.00%
	Thallium	1000	954.8	95.5	ug/L	+/- 10.00%
	Vanadium	1000	923.5	92.4	ug/L	+/- 10.00%
	Zinc	1000	930.0	93.0	ug/L	+/- 10.00%
0L36404-CCV6	Aluminum	10000	9624	96.2	ug/L	+/- 10.00%
	Antimony	1000	970.6	97.1	ug/L	+/- 10.00%
	Arsenic	1000	954.9	95.5	ug/L	+/- 10.00%
	Barium	1000	924.2	92.4	ug/L	+/- 10.00%
	Beryllium,	1000	943.1	94.3	ug/L	+/- 10.00%
	Cadmium	1000	969.9	97.0	ug/L	+/- 10.00%
	Chromium	1000	943.7	94.4	ug/L	+/- 10.00%
	Cobalt	1000	953.1	95.3	ug/L	+/- 10.00%
	Copper	1000	963.5	96.3	ug/L	+/- 10.00%
	Lead	1000	952.0	95.2	ug/L	+/- 10.00%
	<b>Magnesium</b>	<b>50000</b>	<b>40840</b>	<b>81.7</b>	ug/L	+/- 10.00%
	Manganese	1000	974.0	97.4	ug/L	+/- 10.00%
	Nickel	1000	948.8	94.9	ug/L	+/- 10.00%
	Potassium	10000	11010	110	ug/L	+/- 10.00%

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 0L36404

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
0L36404-CCV6	Selenium	1000	960.1	96.0	ug/L	+/- 10.00%
	Silver	500.0	471.3	94.3	ug/L	+/- 10.00%
	Sodium	50000	52880	106	ug/L	+/- 10.00%
	Thallium	1000	936.2	93.6	ug/L	+/- 10.00%
	Vanadium	1000	944.8	94.5	ug/L	+/- 10.00%
	Zinc	1000	969.8	97.0	ug/L	+/- 10.00%
	0L36404-CCV7	<b>Aluminum</b>	<b>10000</b>	<b>8954</b>	<b>89.5</b>	ug/L
Antimony		1000	914.1	91.4	ug/L	+/- 10.00%
Arsenic		1000	904.8	90.5	ug/L	+/- 10.00%
Barium		1000	927.6	92.8	ug/L	+/- 10.00%
Beryllium		1000	973.0	97.3	ug/L	+/- 10.00%
Cadmium		1000	928.1	92.8	ug/L	+/- 10.00%
Chromium		1000	1014	101	ug/L	+/- 10.00%
Cobalt		1000	966.4	96.6	ug/L	+/- 10.00%
Copper		1000	905.7	90.6	ug/L	+/- 10.00%
Lead		1000	953.6	95.4	ug/L	+/- 10.00%
<b>Magnesium</b>		<b>50000</b>	<b>40950</b>	<b>81.9</b>	ug/L	+/- 10.00%
Manganese		1000	1042	104	ug/L	+/- 10.00%
Nickel		1000	946.0	94.6	ug/L	+/- 10.00%
Potassium		10000	10130	101	ug/L	+/- 10.00%
Selenium		1000	907.3	90.7	ug/L	+/- 10.00%
Silver		500.0	459.4	91.9	ug/L	+/- 10.00%
Sodium		50000	49040	98.1	ug/L	+/- 10.00%
Thallium		1000	912.6	91.3	ug/L	+/- 10.00%
Vanadium		1000	995.8	99.6	ug/L	+/- 10.00%
Zinc		1000	1050	105	ug/L	+/- 10.00%
0L36404-CCV8	Aluminum	10000	9695	96.9	ug/L	+/- 10.00%
	Antimony	1000	974.6	97.5	ug/L	+/- 10.00%
	Arsenic	1000	941.4	94.1	ug/L	+/- 10.00%
	Barium	1000	912.1	91.2	ug/L	+/- 10.00%
	<b>Beryllium</b>	<b>1000</b>	<b>895.5</b>	<b>89.6</b>	ug/L	+/- 10.00%
	Cadmium	1000	959.9	96.0	ug/L	+/- 10.00%
	Chromium	1000	913.2	91.3	ug/L	+/- 10.00%
	Cobalt	1000	948.4	94.8	ug/L	+/- 10.00%
	Copper	1000	951.7	95.2	ug/L	+/- 10.00%
	Lead	1000	945.3	94.5	ug/L	+/- 10.00%
	<b>Magnesium</b>	<b>50000</b>	<b>37750</b>	<b>75.5</b>	ug/L	+/- 10.00%
	Manganese	1000	918.7	91.9	ug/L	+/- 10.00%

No Sample

# CRDL STANDARD

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 0L36404

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limits
0L36404-CRL1	Antimony	8.000	8.672	108	ug/L	80 - 120
	Barium	10.00	10.45	105	ug/L	80 - 120
	Beryllium	2.000	2.054	103	ug/L	80 - 120
	Cadmium	2.000	1.849	92.5	ug/L	80 - 120
	Chromium	4.000	3.653	91.3	ug/L	80 - 120
	Cobalt	10.00	9.754	97.5	ug/L	80 - 120
	Copper	8.000	7.582	94.8	ug/L	80 - 120
	Magnesium	3000	2944	98.1	ug/L	80 - 120
	Manganese	6.000	6.502	108	ug/L	80 - 120
	Nickel	6.000	5.594	93.2	ug/L	80 - 120
	Potassium	3000	2899	96.6	ug/L	80 - 120
	Silver	2.000	1.920	96.0	ug/L	80 - 120
	Sodium	3000	3076	103	ug/L	80 - 120
	Thallium	4.000	3.476	86.9	ug/L	80 - 120
	Vanadium	10.00	10.08	101	ug/L	80 - 120
	Zinc	10.00	10.86	109	ug/L	80 - 120
0L36404-CRL2	Arsenic	5.000	4.512	90.2	ug/L	80 - 120
	Selenium	5.000	5.282	106	ug/L	80 - 120
0L36404-CRL4	Aluminum	100.0	94.12	94.1	ug/L	80 - 120
	Lead	3.000	3.347	112	ug/L	80 - 120

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 0L36404

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L36404-ICB1	Aluminum	-0.3340	50.0	200	ug/L	U	SW6010C
	Antimony	2.170	5.00	10.0	ug/L	U	SW6010C
	Arsenic	0.9005	3.00	10.0	ug/L	U	SW6010C
	Barium	-0.05657	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.09495	1.00	5.00	ug/L	U	SW6010C
	Cadmium	-0.2199	1.00	5.00	ug/L	U	SW6010C
	Chromium	-0.1117	2.00	10.0	ug/L	U	SW6010C
	Cobalt	-0.3159	5.00	12.5	ug/L	U	SW6010C
	Copper	-0.1964	4.00	10.0	ug/L	U	SW6010C
	Lead	-0.9668	1.50	3.00	ug/L	U	SW6010C
	Magnesium	1.350	1000	5000	ug/L	U	SW6010C
	Manganese	0.08480	3.00	15.0	ug/L	U	SW6010C
	Nickel	-0.4580	3.00	10.0	ug/L	U	SW6010C
	Potassium	-78.66	200	5000	ug/L	U	SW6010C
	Selenium	1.117	3.00	10.0	ug/L	U	SW6010C
	Silver	0.004240	1.00	10.0	ug/L	U	SW6010C
	Sodium	6.710	200	5000	ug/L	U	SW6010C
	Thallium	0.5833	3.00	8.00	ug/L	U	SW6010C
	Vanadium	-0.01490	5.00	12.5	ug/L	U	SW6010C
Zinc	0.2647	5.00	20.0	ug/L	U	SW6010C	
0L36404-CCB1	Aluminum	-0.801	50.0	200	ug/L	U	SW6010C
	Antimony	0.972	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-0.158	3.00	10.0	ug/L	U	SW6010C
	Barium	-0.0925	5.00	40.0	ug/L	U	SW6010C
	Beryllium	-0.0133	1.00	5.00	ug/L	U	SW6010C
	Cadmium	-0.326	1.00	5.00	ug/L	U	SW6010C
	Chromium	-0.203	2.00	10.0	ug/L	U	SW6010C
	Cobalt	-0.253	5.00	12.5	ug/L	U	SW6010C
	Copper	-0.335	4.00	10.0	ug/L	U	SW6010C
	Lead	-1.42	1.50	3.00	ug/L	U	SW6010C
	Magnesium	-0.990	1000	5000	ug/L	U	SW6010C
Manganese	0.000730	3.00	15.0	ug/L	U	SW6010C	
Nickel	-0.138	3.00	10.0	ug/L	U	SW6010C	

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 0L36404

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L36404-CCB1	Potassium	7.69	200	5000	ug/L	U	SW6010C
	Selenium	0.368	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.0981	1.00	10.0	ug/L	U	SW6010C
	Sodium	268	200	5000	ug/L	I	SW6010C
	Thallium	1.26	3.00	8.00	ug/L	U	SW6010C
	Vanadium	0.0681	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.254	5.00	20.0	ug/L	U	SW6010C
0L36404-CCB3	Aluminum	3.21	50.0	200	ug/L	U	SW6010C
	Antimony	1.08	5.00	10.0	ug/L	U	SW6010C
	Arsenic	0.448	3.00	10.0	ug/L	U	SW6010C
	Barium	0.101	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.138	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.180	1.00	5.00	ug/L	U	SW6010C
	Chromium	-0.0672	2.00	10.0	ug/L	U	SW6010C
	Cobalt	-0.0637	5.00	12.5	ug/L	U	SW6010C
	Copper	-0.249	4.00	10.0	ug/L	U	SW6010C
	Lead	-0.784	1.50	3.00	ug/L	U	SW6010C
	Magnesium	83.0	1000	5000	ug/L	U	SW6010C
	Manganese	0.0796	3.00	15.0	ug/L	U	SW6010C
	Nickel	0.514	3.00	10.0	ug/L	U	SW6010C
	Potassium	147	200	5000	ug/L	U	SW6010C
	Selenium	1.08	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.00779	1.00	10.0	ug/L	U	SW6010C
	Sodium	2500	200	5000	ug/L	I	SW6010C
Thallium	0.731	3.00	8.00	ug/L	U	SW6010C	
Vanadium	0.0347	5.00	12.5	ug/L	U	SW6010C	
Zinc	-0.0123	5.00	20.0	ug/L	U	SW6010C	
0L27010-BLK1	Barium	0.225	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.0202	1.00	5.00	ug/L	U	SW6010C
	Chromium	-0.346	2.00	10.0	ug/L	U	SW6010C
	Cobalt	-0.152	5.00	12.5	ug/L	U	SW6010C
	Magnesium	13.8	1000	5000	ug/L	U	SW6010C
	Manganese	0.0334	3.00	15.0	ug/L	U	SW6010C

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 0L36404

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L27010-BLK1	Nickel	1.20	3.00	10.0	ug/L	U	SW6010C
0L36404-CCB4	Aluminum	4.13	50.0	200	ug/L	U	SW6010C
	Antimony	0.0200	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-0.729	3.00	10.0	ug/L	U	SW6010C
	Barium	0.111	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.0928	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.686	1.00	5.00	ug/L	U	SW6010C
	Chromium	-0.413	2.00	10.0	ug/L	U	SW6010C
	Cobalt	0.0537	5.00	12.5	ug/L	U	SW6010C
	Copper	0.0365	4.00	10.0	ug/L	U	SW6010C
	Lead	-2.29 X	1.50	3.00	ug/L	I	SW6010C
	Magnesium	46.4	1000	5000	ug/L	U	SW6010C
	Manganese	0.0853	3.00	15.0	ug/L	U	SW6010C
	Nickel	0.944	3.00	10.0	ug/L	U	SW6010C
	Potassium	168	200	5000	ug/L	U	SW6010C
	Selenium	1.90	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.128	1.00	10.0	ug/L	U	SW6010C
	Sodium	2220	200	5000	ug/L	I	SW6010C
	Thallium	1.07	3.00	8.00	ug/L	U	SW6010C
	Vanadium	0.137	5.00	12.5	ug/L	U	SW6010C
	Zinc	-0.143	5.00	20.0	ug/L	U	SW6010C
0L36404-CCB5	Aluminum	4.41	50.0	200	ug/L	U	SW6010C
	Antimony	0.233	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-0.215	3.00	10.0	ug/L	U	SW6010C
	Barium	0.0422	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.0588	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.0756	1.00	5.00	ug/L	U	SW6010C
	Chromium	-0.130	2.00	10.0	ug/L	U	SW6010C
	Cobalt	-0.186	5.00	12.5	ug/L	U	SW6010C
	Copper	-0.503	4.00	10.0	ug/L	U	SW6010C
	Lead	-1.66 X	1.50	3.00	ug/L	I	SW6010C
	Magnesium	1.09	1000	5000	ug/L	U	SW6010C
	Manganese	0.273	3.00	15.0	ug/L	U	SW6010C

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 0L36404

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L36404-CCB5	Nickel	0.745	3.00	10.0	ug/L	U	SW6010C
	Potassium	-22.2	200	5000	ug/L	U	SW6010C
	Selenium	2.38	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.151	1.00	10.0	ug/L	U	SW6010C
	Sodium	1030	200	5000	ug/L	I	SW6010C
	Thallium	0.980	3.00	8.00	ug/L	U	SW6010C
	Vanadium	0.0395	5.00	12.5	ug/L	U	SW6010C
	Zinc	-0.0516	5.00	20.0	ug/L	U	SW6010C
0L28004-BLK1	Aluminum	1.04	5.00	20.0	mg/Kg wet	U	SW6010C
	Antimony	-0.0311	0.500	1.00	mg/Kg wet	U	SW6010C
	Arsenic	-0.143	0.300	1.00	mg/Kg wet	U	SW6010C
	Barium	0.00838	0.500	4.00	mg/Kg wet	U	SW6010C
	Beryllium	0.00113	0.100	0.500	mg/Kg wet	U	SW6010C
	Cadmium	0.0254	0.100	0.500	mg/Kg wet	U	SW6010C
	Cobalt	-0.0322	0.500	1.25	mg/Kg wet	U	SW6010C
	Copper	0.136	0.400	1.00	mg/Kg wet	U	SW6010C
	Manganese	0.0248	0.300	1.50	mg/Kg wet	U	SW6010C
	Nickel	0.0634	0.300	1.00	mg/Kg wet	U	SW6010C
	Silver	-0.0396	0.100	1.00	mg/Kg wet	U	SW6010C
	Vanadium	-0.00234	0.500	1.25	mg/Kg wet	U	SW6010C
0L36404-CCB6	Aluminum	2.65	50.0	200	ug/L	U	SW6010C
	Antimony	0.427	5.00	10.0	ug/L	U	SW6010C
	Arsenic	0.939	3.00	10.0	ug/L	U	SW6010C
	Barium	0.0439	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.114	1.00	5.00	ug/L	U	SW6010C
	Cadmium	-0.157	1.00	5.00	ug/L	U	SW6010C
	Chromium	-0.137	2.00	10.0	ug/L	U	SW6010C
	Cobalt	-0.0618	5.00	12.5	ug/L	U	SW6010C
	Copper	-0.717	4.00	10.0	ug/L	U	SW6010C
	Lead	-0.427	1.50	3.00	ug/L	U	SW6010C
	Magnesium	6.26	1000	5000	ug/L	U	SW6010C
	Manganese	0.0986	3.00	15.0	ug/L	U	SW6010C
Nickel	-0.177	3.00	10.0	ug/L	U	SW6010C	

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 0L36404

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L36404-CCB6	Potassium	-104	200	5000	ug/L	U	SW6010C
	Selenium	0.727	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.0299	1.00	10.0	ug/L	U	SW6010C
	Sodium	762	200	5000	ug/L	I	SW6010C
	Thallium	0.808	3.00	8.00	ug/L	U	SW6010C
	Vanadium	0.137	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.0445	5.00	20.0	ug/L	U	SW6010C
0L36404-CCB7	Aluminum	-1.29	50.0	200	ug/L	U	SW6010C
	Antimony	-0.0684	5.00	10.0	ug/L	U	SW6010C
	Arsenic	0.287	3.00	10.0	ug/L	U	SW6010C
	Barium	-0.0653	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.0874	1.00	5.00	ug/L	U	SW6010C
	Cadmium	-1.26	1.00	5.00	ug/L	I	SW6010C
	Chromium	-0.0236	2.00	10.0	ug/L	U	SW6010C
	Cobalt	-0.286	5.00	12.5	ug/L	U	SW6010C
	Copper	-2.07	4.00	10.0	ug/L	U	SW6010C
	Lead	-0.663	1.50	3.00	ug/L	U	SW6010C
	Magnesium	-2.81	1000	5000	ug/L	U	SW6010C
	Manganese	0.125	3.00	15.0	ug/L	U	SW6010C
	Nickel	-1.44	3.00	10.0	ug/L	U	SW6010C
	Potassium	-133	200	5000	ug/L	U	SW6010C
	Selenium	-0.00650	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.0896	1.00	10.0	ug/L	U	SW6010C
	Sodium	400	200	5000	ug/L	I	SW6010C
Thallium	1.99	3.00	8.00	ug/L	U	SW6010C	
Vanadium	-0.0988	5.00	12.5	ug/L	U	SW6010C	
Zinc	0.335	5.00	20.0	ug/L	U	SW6010C	
0L28005-BLK1	Aluminum	0.276	5.00	20.0	mg/Kg wet	U	SW6010C
	Antimony	0.0578	0.500	1.00	mg/Kg wet	U	SW6010C
	Arsenic	0.108	0.300	1.00	mg/Kg wet	U	SW6010C
	Barium	-0.00872	0.500	4.00	mg/Kg wet	U	SW6010C
	Beryllium	-0.000380	0.100	0.500	mg/Kg wet	U	SW6010C
	Chromium	0.204	0.200	1.00	mg/Kg wet	I	SW6010C

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 0L36404

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L28005-BLK1	Cobalt	-0.0302	0.500	1.25	mg/Kg wet	U	SW6010C
	Copper	-0.196	0.400	1.00	mg/Kg wet	U	SW6010C
	Lead	-0.0330	0.150	0.300	mg/Kg wet	U	SW6010C
	Manganese	0.0464	0.300	1.50	mg/Kg wet	U	SW6010C
	Nickel	-0.172	0.300	1.00	mg/Kg wet	U	SW6010C
	Selenium	0.131	0.300	1.00	mg/Kg wet	U	SW6010C
	Silver	0.00616	0.100	1.00	mg/Kg wet	U	SW6010C
	Thallium	-0.377 X	0.300	0.800	mg/Kg wet	I	SW6010C
	0L36404-CCB8	Aluminum	-2.17	50.0	200	ug/L	U
Antimony		1.14	5.00	10.0	ug/L	U	SW6010C
Arsenic		2.26	3.00	10.0	ug/L	U	SW6010C
Barium		-0.479	5.00	40.0	ug/L	U	SW6010C
Beryllium		-0.0279	1.00	5.00	ug/L	U	SW6010C
Cadmium		-1.89	1.00	5.00	ug/L	I	SW6010C
Chromium		-0.575	2.00	10.0	ug/L	U	SW6010C
Cobalt		-1.03	5.00	12.5	ug/L	U	SW6010C
Copper		-4.34	4.00	10.0	ug/L	I	SW6010C
Lead		0.132	1.50	3.00	ug/L	U	SW6010C
Magnesium		1.75	1000	5000	ug/L	U	SW6010C
Manganese		-0.0424	3.00	15.0	ug/L	U	SW6010C
Nickel		-5.46	3.00	10.0	ug/L	I	SW6010C
Potassium		-106	200	5000	ug/L	U	SW6010C
Selenium		-1.88	3.00	10.0	ug/L	U	SW6010C
Silver		-0.181	1.00	10.0	ug/L	U	SW6010C
Sodium		11.8	200	5000	ug/L	U	SW6010C
Thallium		1.78	3.00	8.00	ug/L	U	SW6010C
Vanadium		-0.912	5.00	12.5	ug/L	U	SW6010C
Zinc		0.439	5.00	20.0	ug/L	U	SW6010C

*100 Samples.*

# ANALYSIS SEQUENCE SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 1A00414

Instrument: ME-ICP

Calibration: 1004002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	1A00414-CAL1	1-03-11A-001	01/03/11 12:26
Cal Standard	1A00414-CAL2	1-03-11A-002	01/03/11 12:30
Cal Standard	1A00414-CAL3	1-03-11A-003	01/03/11 12:35
Cal Standard	1A00414-CAL4	1-03-11A-004	01/03/11 12:40
Cal Standard	1A00414-CAL5	1-03-11A-005	01/03/11 12:45
Cal Standard	1A00414-CAL6	1-03-11A-006	01/03/11 12:50
Cal Standard	1A00414-CAL7	1-03-11A-007	01/03/11 12:55
Cal Standard	1A00414-CAL8	1-03-11A-008	01/03/11 13:00
Initial Cal Check	1A00414-ICV1	1-03-11B-001	01/03/11 13:52
Initial Cal Blank	1A00414-ICB1	1-03-11B-002	01/03/11 13:59
Instrument RL Check	1A00414-CRL1	1-03-11B-003	01/03/11 14:04
Instrument RL Check	1A00414-CRL2	1-03-11B-005	01/03/11 14:14
Interference Check A	1A00414-IFA1	1-03-11B-006	01/03/11 14:19
Interference Check B	1A00414-IFB1	1-03-11B-007	01/03/11 14:25
Interference Check B	1A00414-IFB2	1-03-11B-008	01/03/11 14:33
Calibration Check	1A00414-CCV1	1-03-11B-010	01/03/11 14:44
Calibration Blank	1A00414-CCB1	1-03-11B-011	01/03/11 14:51
Calibration Check	1A00414-CCV4	1-03-11C-017	01/03/11 18:14
Calibration Blank	1A00414-CCB4	<i>n/a 15/2/11</i> 1-03-11C-018	01/03/11 18:21
Blank	0L27010-BLK2	1-03-11C-019	01/03/11 18:26
LCS	0L27010-BS2	1-03-11C-020	01/03/11 18:30
BCHMS-FD001-1210	1012153-01RE1	1-03-11C-021	01/03/11 18:37
BCHMS-GW-004-1210	1012153-02RE1	1-03-11C-022	01/03/11 18:42
BCHMS-GW-005-1210	1012153-03RE1	1-03-11C-023	01/03/11 18:47
BCHMS-GW-006-1210	1012153-04RE1	1-03-11C-024	01/03/11 18:52
BCHMS-GW-007-1210	1012153-05RE1	1-03-11C-025	01/03/11 18:57
BCHMS-FD002-1210	1012153-06RE1	1-03-11C-026	01/03/11 19:02
BCHMS-GW-008-1210	1012153-07RE1	1-03-11C-027	01/03/11 19:07
BCHMS-GW-009D-1210	1012153-08RE1	1-03-11C-028	01/03/11 19:13
BCHMS-GW-010-1210	1012153-09RE1	1-03-11C-029	01/03/11 19:17
BCHMS-GW-011-1210	1012153-10RE1	1-03-11C-030	01/03/11 19:22
Calibration Check	1A00414-CCV5	1-03-11C-031	01/03/11 19:28

# ANALYSIS SEQUENCE SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Sequence: 1A00414  
 Calibration: 1004002

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Instrument: ME-ICP

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	1A00414-CCB5 <i>N9580</i>	1-03-11C-032	01/03/11 19:36
BCHMS-GW-012-1210	1012153-11RE1	1-03-11C-033	01/03/11 19:40
BCHMS-GW-012-1210	0L27010-MS3	1-03-11C-034	01/03/11 19:46
BCHMS-GW-012-1210	0L27010-MSD3	1-03-11C-035	01/03/11 19:51
BCHMS-GW-012-1210	0L27010-PS3	1-03-11C-036	01/03/11 19:55
BCHMS-GW-012-1210	0L27010-DUP3	1-03-11C-037	01/03/11 20:01
Calibration Check	1A00414-CCV6	1-03-11C-048	01/03/11 20:54
Calibration Blank	1A00414-CCB6 <i>N9537</i>	1-03-11C-049	01/03/11 21:01
Blank	0L28004-BLK2	1-03-11C-050	01/03/11 21:06
LCS	0L28004-BS2	1-03-11C-051	01/03/11 21:11
BCHMS-SO-002-1210 ✓	1012153-13RE1	1-03-11C-052	01/03/11 21:17
BCHMS-SO-004-1210 ✓	1012153-14RE1	1-03-11C-053	01/03/11 21:22
BCHMS-SO-007-1210 ✓	1012153-15RE1	1-03-11C-054	01/03/11 21:27
BCHMS-SO-010-1210 ✓	1012153-16RE1	1-03-11C-055	01/03/11 21:32
BCHMS-SO-012-1210 ✓	1012153-17RE1	1-03-11C-056	01/03/11 21:37
BCHMS-SO-013-1210 ✓	1012153-18RE1	1-03-11C-057	01/03/11 21:42
BCHMS-SO-014-1210 ✓	1012153-19RE1	1-03-11C-058	01/03/11 21:46
BCHMS-SO-015-1210 ✓	1012153-20RE1	1-03-11C-059	01/03/11 21:51
BCHMS-SO-016-1210 ✓	1012153-21RE1	1-03-11C-060	01/03/11 21:56
BCHMS-SO-017-1210 ✓	1012153-22RE1	1-03-11C-061	01/03/11 22:01
Calibration Check	1A00414-CCV7	1-03-11C-062	01/03/11 22:07
Calibration Blank	1A00414-CCB7 <i>N9202</i>	1-03-11C-063	01/03/11 22:14
BCHMS-SO-018-1210	1012153-23RE1	1-03-11C-064	01/03/11 22:19
BCHMS-SO-019-1210	1012153-24RE1	1-03-11C-065	01/03/11 22:24
BCHMS-SO-020-1210	1012153-25RE1	1-03-11C-066	01/03/11 22:29
BCHMS-SO-021-1210	1012153-26RE1	1-03-11C-067	01/03/11 22:34
BCHMS-SO-022-1210	1012153-27RE1	1-03-11C-068	01/03/11 22:38
BCHMS-SO-023-1210	1012153-28RE1	1-03-11C-069	01/03/11 22:43
BCHMS-SO-024-1210	1012153-29RE1	1-03-11C-070	01/03/11 22:48
BCHMS-SO-025-1210	1012153-30RE1	1-03-11C-071	01/03/11 22:53
BCHMS-SO-026-1210	1012153-31RE1	1-03-11C-072	01/03/11 22:58
BCHMS-SO-028-1210	1012153-32RE1	1-03-11C-073	01/03/11 23:03

# ANALYSIS SEQUENCE SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 1A00414

Instrument: ME-ICP

Calibration: 1004002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
BCHMS-SO-028-1210	0L28004-MS2	1-03-11C-074	01/03/11 23:08
BCHMS-SO-028-1210	0L28004-PS2	1-03-11C-075	01/03/11 23:13
BCHMS-SO-028-1210	0L28004-DUP3	1-03-11C-076	01/03/11 23:18
BCHMS-SO-028-1210	0L28004-DUP4	1-03-11C-077	01/03/11 23:23
Calibration Check	1A00414-CCV8 <i>NA-MP</i>	1-03-11C-078	01/03/11 23:29
Calibration Blank	1A00414-CCB8	1-03-11C-079	01/03/11 23:36
Blank	0L28005-BLK2	1-03-11C-080	01/03/11 23:41
LCS	0L28005-BS2	1-03-11C-081	01/03/11 23:46
BCHMS-SO-FD01-1210 ✓	1012153-33RE1	1-03-11C-082	01/03/11 23:52
BCHMS-SO-FD02-1210 ✓	1012153-34RE1	1-03-11C-083	01/03/11 23:57
BCHMS-SO-FD02-1210	0L28005-MS2	1-03-11C-084	01/04/11 00:02
BCHMS-SO-FD02-1210	0L28005-PS2	1-03-11C-085	01/04/11 00:07
BCHMS-SO-FD02-1210	0L28005-DUP3	1-03-11C-086	01/04/11 00:12
BCHMS-SO-FD02-1210	0L28005-DUP4	1-03-11C-087	01/04/11 00:17
Calibration Check	1A00414-CCV9	1-03-11C-093	01/04/11 00:47
Calibration Blank	1A00414-CCB9	1-03-11C-094	01/04/11 00:54

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 1A00414

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00414-ICV1	Aluminum	10000	9742	97.4	ug/L	+/- 10.00%
	Antimony	1000	1018	102	ug/L	+/- 10.00%
	Arsenic	1000	1004	100	ug/L	+/- 10.00%
	Barium	1000	1076	108	ug/L	+/- 10.00%
	Beryllium	1000	988.2	98.8	ug/L	+/- 10.00%
	Cadmium	1000	1084	108	ug/L	+/- 10.00%
	Calcium	50000	49900	99.8	ug/L	+/- 10.00%
	Chromium	1000	941.3	94.1	ug/L	+/- 10.00%
	Cobalt	1000	1009	101	ug/L	+/- 10.00%
	Copper	1000	984.6	98.5	ug/L	+/- 10.00%
	Iron	10000	10340	103	ug/L	+/- 10.00%
	Lead	1000	1007	101	ug/L	+/- 10.00%
	Magnesium	50000	50770	102	ug/L	+/- 10.00%
	Manganese	1000	1019	102	ug/L	+/- 10.00%
	Nickel	1000	990.9	99.1	ug/L	+/- 10.00%
	Potassium	10000	10070	101	ug/L	+/- 10.00%
	Selenium	1000	992.9	99.3	ug/L	+/- 10.00%
	Silver	500.0	506.5	101	ug/L	+/- 10.00%
	Sodium	50000	50730	101	ug/L	+/- 10.00%
	Thallium	1000	954.1	95.4	ug/L	+/- 10.00%
Vanadium	1000	966.3	96.6	ug/L	+/- 10.00%	
Zinc	1000	1029	103	ug/L	+/- 10.00%	
1A00414-CCV1	Aluminum	10000	9631	96.3	ug/L	+/- 10.00%
	Antimony	1000	1008	101	ug/L	+/- 10.00%
	Arsenic	1000	986.3	98.6	ug/L	+/- 10.00%
	Barium	1000	1046	105	ug/L	+/- 10.00%
	Beryllium	1000	995.0	99.5	ug/L	+/- 10.00%
	Cadmium	1000	1061	106	ug/L	+/- 10.00%
	Calcium	50000	49750	99.5	ug/L	+/- 10.00%
	Chromium	1000	963.2	96.3	ug/L	+/- 10.00%
	Cobalt	1000	994.8	99.5	ug/L	+/- 10.00%
	Copper	1000	990.5	99.0	ug/L	+/- 10.00%
	Iron	10000	10220	102	ug/L	+/- 10.00%
	Lead	1000	992.4	99.2	ug/L	+/- 10.00%
	Magnesium	50000	50520	101	ug/L	+/- 10.00%
	Manganese	1000	1011	101	ug/L	+/- 10.00%
Nickel	1000	983.8	98.4	ug/L	+/- 10.00%	
Potassium	10000	10450	104	ug/L	+/- 10.00%	

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 1A00414

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00414-CCV1	Selenium	1000	991.5	99.2	ug/L	+/- 10.00%
	Silver	500.0	498.6	99.7	ug/L	+/- 10.00%
	Sodium	50000	50230	100	ug/L	+/- 10.00%
	Thallium	1000	970.2	97.0	ug/L	+/- 10.00%
	Vanadium	1000	959.3	95.9	ug/L	+/- 10.00%
	Zinc	1000	1024	102	ug/L	+/- 10.00%
1A00414-CCV4	Aluminum	10000	10450	104	ug/L	+/- 10.00%
	Antimony	1000	1085	109	ug/L	+/- 10.00%
	Arsenic	1000	1028	103	ug/L	+/- 10.00%
	Barium	1000	1025	103	ug/L	+/- 10.00%
	Beryllium	1000	1045	105	ug/L	+/- 10.00%
	Cadmium	1000	1070	107	ug/L	+/- 10.00%
	Calcium	50000	45020	90.0	ug/L	+/- 10.00%
	Chromium	1000	942.4	94.2	ug/L	+/- 10.00%
	Cobalt	1000	1006	101	ug/L	+/- 10.00%
	Copper	1000	1073	107	ug/L	+/- 10.00%
	Iron	10000	9917	99.2	ug/L	+/- 10.00%
	Lead	1000	1019	102	ug/L	+/- 10.00%
	Magnesium	50000	53630	107	ug/L	+/- 10.00%
	Manganese	1000	978.6	97.9	ug/L	+/- 10.00%
	Nickel	1000	988.3	98.8	ug/L	+/- 10.00%
	<b>Potassium</b>	<b>10000</b>	<b>11880</b>	<b>119</b>	ug/L	+/- 10.00%
	Selenium	1000	1057	106	ug/L	+/- 10.00%
	Silver	500.0	486.6	97.3	ug/L	+/- 10.00%
	Sodium	50000	46910	93.8	ug/L	+/- 10.00%
	Thallium	1000	1017	102	ug/L	+/- 10.00%
Vanadium	1000	957.1	95.7	ug/L	+/- 10.00%	
Zinc	1000	960.4	96.0	ug/L	+/- 10.00%	
1A00414-CCV5	Aluminum	10000	10430	104	ug/L	+/- 10.00%
	Antimony	1000	1087	109	ug/L	+/- 10.00%
	Arsenic	1000	1022	102	ug/L	+/- 10.00%
	Barium	1000	1030	103	ug/L	+/- 10.00%
	Beryllium	1000	1024	102	ug/L	+/- 10.00%
	Cadmium	1000	1064	106	ug/L	+/- 10.00%
	<b>Calcium</b>	<b>50000</b>	<b>43780</b>	<b>87.6</b>	ug/L	+/- 10.00%
	Chromium	1000	924.8	92.5	ug/L	+/- 10.00%
	Cobalt	1000	1014	101	ug/L	+/- 10.00%
	Copper	1000	1063	106	ug/L	+/- 10.00%

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 1A00414

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00414-CCV5	Iron	10000	9881	98.8	ug/L	+/- 10.00%
	Lead	1000	1018	102	ug/L	+/- 10.00%
	Magnesium	50000	52830	106	ug/L	+/- 10.00%
	Manganese	1000	967.1	96.7	ug/L	+/- 10.00%
	Nickel	1000	989.5	99.0	ug/L	+/- 10.00%
	<b>Potassium</b>	<b>10000</b>	<b>11810</b>	<b>118</b>	<b>ug/L</b>	+/- 10.00%
	Selenium	1000	1054	105	ug/L	+/- 10.00%
	Silver	500.0	483.7	96.7	ug/L	+/- 10.00%
	<b>Sodium</b>	<b>50000</b>	<b>41390</b>	<b>82.8</b>	<b>ug/L</b>	+/- 10.00%
	Thallium	1000	1003	100	ug/L	+/- 10.00%
	Vanadium	1000	941.0	94.1	ug/L	+/- 10.00%
	Zinc	1000	970.5	97.1	ug/L	+/- 10.00%
	1A00414-CCV6	Aluminum	10000	9593	95.9	ug/L
Antimony		1000	1027	103	ug/L	+/- 10.00%
Arsenic		1000	1003	100	ug/L	+/- 10.00%
Barium		1000	1056	106	ug/L	+/- 10.00%
Beryllium		1000	1039	104	ug/L	+/- 10.00%
Cadmium		1000	1055	106	ug/L	+/- 10.00%
Calcium		50000	48410	96.8	ug/L	+/- 10.00%
Chromium		1000	968.4	96.8	ug/L	+/- 10.00%
Cobalt		1000	1015	101	ug/L	+/- 10.00%
Copper		1000	976.6	97.7	ug/L	+/- 10.00%
Iron		10000	10120	101	ug/L	+/- 10.00%
Lead		1000	1002	100	ug/L	+/- 10.00%
Magnesium		50000	50760	102	ug/L	+/- 10.00%
Manganese		1000	1000	100	ug/L	+/- 10.00%
Nickel		1000	999.8	100	ug/L	+/- 10.00%
Potassium		10000	9750	97.5	ug/L	+/- 10.00%
Selenium		1000	1015	101	ug/L	+/- 10.00%
Silver		500.0	478.2	95.6	ug/L	+/- 10.00%
Sodium		50000	45270	90.5	ug/L	+/- 10.00%
Thallium	1000	974.4	97.4	ug/L	+/- 10.00%	
Vanadium	1000	960.7	96.1	ug/L	+/- 10.00%	
Zinc	1000	1038	104	ug/L	+/- 10.00%	
1A00414-CCV7	Aluminum	10000	9512	95.1	ug/L	+/- 10.00%
	Antimony	1000	1043	104	ug/L	+/- 10.00%
	Arsenic	1000	1008	101	ug/L	+/- 10.00%
	Barium	1000	1076	108	ug/L	+/- 10.00%

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 1A00414

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00414-CCV7	Beryllium	1000	1050	105	ug/L	+/- 10.00%
	Cadmium	1000	1072	107	ug/L	+/- 10.00%
	Calcium	50000	49100	98.2	ug/L	+/- 10.00%
	Chromium	1000	1006	101	ug/L	+/- 10.00%
	Cobalt	1000	1043	104	ug/L	+/- 10.00%
	Copper	1000	987.0	98.7	ug/L	+/- 10.00%
	Iron	10000	10220	102	ug/L	+/- 10.00%
	Lead	1000	1022	102	ug/L	+/- 10.00%
	Magnesium	50000	50650	101	ug/L	+/- 10.00%
	Manganese	1000	1020	102	ug/L	+/- 10.00%
	Nickel	1000	1011	101	ug/L	+/- 10.00%
	Potassium	10000	9654	96.5	ug/L	+/- 10.00%
	Selenium	1000	1021	102	ug/L	+/- 10.00%
	Silver	500.0	479.7	95.9	ug/L	+/- 10.00%
	Sodium	50000	47980	96.0	ug/L	+/- 10.00%
	Thallium	1000	972.8	97.3	ug/L	+/- 10.00%
	Vanadium	1000	982.0	98.2	ug/L	+/- 10.00%
	Zinc	1000	1070	107	ug/L	+/- 10.00%
1A00414-CCV8	Aluminum	10000	9347	93.5	ug/L	+/- 10.00%
	Antimony	1000	1060	106	ug/L	+/- 10.00%
	Arsenic	1000	993.8	99.4	ug/L	+/- 10.00%
	Barium	1000	1084	108	ug/L	+/- 10.00%
	Beryllium	1000	1029	103	ug/L	+/- 10.00%
	Cadmium	1000	1073	107	ug/L	+/- 10.00%
	Calcium	50000	48360	96.7	ug/L	+/- 10.00%
	Chromium	1000	974.8	97.5	ug/L	+/- 10.00%
	Cobalt	1000	1057	106	ug/L	+/- 10.00%
	Copper	1000	972.4	97.2	ug/L	+/- 10.00%
	Iron	10000	10280	103	ug/L	+/- 10.00%
	Lead	1000	1027	103	ug/L	+/- 10.00%
	Magnesium	50000	49550	99.1	ug/L	+/- 10.00%
	Manganese	1000	997.9	99.8	ug/L	+/- 10.00%
	Nickel	1000	1009	101	ug/L	+/- 10.00%
	Potassium	10000	9541	95.4	ug/L	+/- 10.00%
	Selenium	1000	1016	102	ug/L	+/- 10.00%
	Silver	500.0	478.9	95.8	ug/L	+/- 10.00%
	Sodium	50000	47950	95.9	ug/L	+/- 10.00%
	Thallium	1000	960.9	96.1	ug/L	+/- 10.00%

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 1A00414

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00414-CCV8	Vanadium	1000	951.6	95.2	ug/L	+/- 10.00%
	Zinc	1000	1078	108	ug/L	+/- 10.00%
1A00414-CCV9	Aluminum	10000	9368	93.7	ug/L	+/- 10.00%
	Antimony	1000	1052	105	ug/L	+/- 10.00%
	Arsenic	1000	983.2	98.3	ug/L	+/- 10.00%
	Barium	1000	1069	107	ug/L	+/- 10.00%
	Beryllium	1000	1016	102	ug/L	+/- 10.00%
	Cadmium	1000	1056	106	ug/L	+/- 10.00%
	Calcium	50000	46970	93.9	ug/L	+/- 10.00%
	Chromium	1000	953.9	95.4	ug/L	+/- 10.00%
	Cobalt	1000	1045	104	ug/L	+/- 10.00%
	Copper	1000	967.5	96.7	ug/L	+/- 10.00%
	Iron	10000	10340	103	ug/L	+/- 10.00%
	Lead	1000	1018	102	ug/L	+/- 10.00%
	Magnesium	50000	49150	98.3	ug/L	+/- 10.00%
	Manganese	1000	979.0	97.9	ug/L	+/- 10.00%
	Nickel	1000	993.5	99.4	ug/L	+/- 10.00%
	Potassium	10000	9740	97.4	ug/L	+/- 10.00%
Selenium	1000	1006	101	ug/L	+/- 10.00%	
Silver	500.0	472.7	94.5	ug/L	+/- 10.00%	
Sodium	50000	49070	98.1	ug/L	+/- 10.00%	
Thallium	1000	945.6	94.6	ug/L	+/- 10.00%	
Vanadium	1000	933.1	93.3	ug/L	+/- 10.00%	
Zinc	1000	1058	106	ug/L	+/- 10.00%	

# CRDL STANDARD

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1004002

Sequence: 1A00414

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limits
1A00414-CRL1	Aluminum	100.0	97.88	97.9	ug/L	80 - 120
	Antimony	8.000	7.071	88.4	ug/L	80 - 120
	Barium	10.00	10.39	104	ug/L	80 - 120
	Beryllium	2.000	2.076	104	ug/L	80 - 120
	Cadmium	2.000	2.077	104	ug/L	80 - 120
	Calcium	2000	1893	94.6	ug/L	80 - 120
	Chromium	4.000	4.298	107	ug/L	80 - 120
	Cobalt	10.00	9.625	96.2	ug/L	80 - 120
	Copper	8.000	7.854	98.2	ug/L	80 - 120
	Iron	60.00	62.18	104	ug/L	80 - 120
	Lead	3.000	2.439	81.3	ug/L	80 - 120
	Magnesium	3000	2995	99.8	ug/L	80 - 120
	Manganese	6.000	6.533	109	ug/L	80 - 120
	Nickel	6.000	5.947	99.1	ug/L	80 - 120
	Potassium	3000	3108	104	ug/L	80 - 120
	Silver	2.000	1.865	93.3	ug/L	80 - 120
	Sodium	3000	3150	105	ug/L	80 - 120
	Thallium	4.000	3.457	86.4	ug/L	80 - 120
	Vanadium	10.00	9.908	99.1	ug/L	80 - 120
	Zinc	10.00	9.630	96.3	ug/L	80 - 120
1A00414-CRL2	Arsenic	5.000	4.124	82.5	ug/L	80 - 120
	Selenium	5.000	4.101	82.0	ug/L	80 - 120

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00414

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00414-ICB1	Aluminum	0.4080	50.0	200	ug/L	U	SW6010C
	Antimony	0.1885	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-0.6468	3.00	10.0	ug/L	U	SW6010C
	Barium	0.04249	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.1775	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.02031	1.00	5.00	ug/L	U	SW6010C
	Calcium	8.860	1000	5000	ug/L	U	SW6010C
	Chromium	0.2311	2.00	10.0	ug/L	U	SW6010C
	Cobalt	0.2302	5.00	12.5	ug/L	U	SW6010C
	Copper	-0.09508	4.00	10.0	ug/L	U	SW6010C
	Iron	1.816	30.0	100	ug/L	U	SW6010C
	Lead	-0.6107	1.50	3.00	ug/L	U	SW6010C
	Magnesium	7.800	1000	5000	ug/L	U	SW6010C
	Manganese	0.1006	3.00	15.0	ug/L	U	SW6010C
	Nickel	0.4737	3.00	10.0	ug/L	U	SW6010C
	Potassium	-9.870	200	5000	ug/L	U	SW6010C
	Selenium	-0.4994	3.00	10.0	ug/L	U	SW6010C
	Silver	0.02636	1.00	10.0	ug/L	U	SW6010C
	Sodium	-9.650	200	5000	ug/L	U	SW6010C
	Thallium	-0.2009	3.00	8.00	ug/L	U	SW6010C
Vanadium	0.2025	5.00	12.5	ug/L	U	SW6010C	
Zinc	0.08228	5.00	20.0	ug/L	U	SW6010C	
1A00414-CCB1	Aluminum	2.36	50.0	200	ug/L	U	SW6010C
	Antimony	-0.319	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-1.54	3.00	10.0	ug/L	U	SW6010C
	Barium	0.0929	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.178	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.0544	1.00	5.00	ug/L	U	SW6010C
	Calcium	19.2	1000	5000	ug/L	U	SW6010C
	Chromium	0.192	2.00	10.0	ug/L	U	SW6010C
	Cobalt	0.212	5.00	12.5	ug/L	U	SW6010C
	Copper	-0.192	4.00	10.0	ug/L	U	SW6010C
Iron	1.37	30.0	100	ug/L	U	SW6010C	

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00414

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00414-CCB1	Lead	-0.790	1.50	3.00	ug/L	U	SW6010C
	Magnesium	6.74	1000	5000	ug/L	U	SW6010C
	Manganese	0.0766	3.00	15.0	ug/L	U	SW6010C
	Nickel	0.440	3.00	10.0	ug/L	U	SW6010C
	Potassium	-6.15	200	5000	ug/L	U	SW6010C
	Selenium	-1.01	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.0791	1.00	10.0	ug/L	U	SW6010C
	Sodium	-14.4	200	5000	ug/L	U	SW6010C
	Thallium	0.0951	3.00	8.00	ug/L	U	SW6010C
	Vanadium	-0.00197	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.159	5.00	20.0	ug/L	U	SW6010C
	1A00414-CCB4	Aluminum	2.69	50.0	200	ug/L	U
Antimony		0.206	5.00	10.0	ug/L	U	SW6010C
Arsenic		-0.0342	3.00	10.0	ug/L	U	SW6010C
Barium		0.162	5.00	40.0	ug/L	U	SW6010C
Beryllium		0.196	1.00	5.00	ug/L	U	SW6010C
Cadmium		0.675	1.00	5.00	ug/L	U	SW6010C
Calcium		17.1	1000	5000	ug/L	U	SW6010C
Chromium		0.403	2.00	10.0	ug/L	U	SW6010C
Cobalt		0.241	5.00	12.5	ug/L	U	SW6010C
Copper		0.805	4.00	10.0	ug/L	U	SW6010C
Iron		0.622	30.0	100	ug/L	U	SW6010C
Lead		-1.10	1.50	3.00	ug/L	U	SW6010C
Magnesium		36.3	1000	5000	ug/L	U	SW6010C
Manganese		0.238	3.00	15.0	ug/L	U	SW6010C
Nickel		0.389	3.00	10.0	ug/L	U	SW6010C
Potassium		124	200	5000	ug/L	U	SW6010C
Selenium		-0.151	3.00	10.0	ug/L	U	SW6010C
Silver		-0.177	1.00	10.0	ug/L	U	SW6010C
Sodium		1540	200	5000	ug/L	I	SW6010C
Thallium		-0.298	3.00	8.00	ug/L	U	SW6010C
Vanadium	0.148	5.00	12.5	ug/L	U	SW6010C	
Zinc	0.171	5.00	20.0	ug/L	U	SW6010C	

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00414

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L27010-BLK2	Aluminum	-0.120	50.0	200	ug/L	U	SW6010C
	Antimony	-0.311	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-1.46	3.00	10.0	ug/L	U	SW6010C
	Cadmium	0.738	1.00	5.00	ug/L	U	SW6010C
	Calcium	4.42	1000	5000	ug/L	U	SW6010C
	Copper	0.731	4.00	10.0	ug/L	U	SW6010C
	Iron	-1.06	30.0	100	ug/L	U	SW6010C
	Lead	-1.41	1.50	3.00	ug/L	U	SW6010C
	Potassium	91.2	200	5000	ug/L	U	SW6010C
	Selenium	0.0720	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.205	1.00	10.0	ug/L	U	SW6010C
	Sodium	1240	200	5000	ug/L	I	SW6010C
	Thallium	-0.982	3.00	8.00	ug/L	U	SW6010C
	Vanadium	-0.0666	5.00	12.5	ug/L	U	SW6010C
Zinc	0.312	5.00	20.0	ug/L	U	SW6010C	
1A00414-CCB5	Aluminum	-0.0839	50.0	200	ug/L	U	SW6010C
	Antimony	-0.203	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-1.05	3.00	10.0	ug/L	U	SW6010C
	Barium	0.0797	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.0809	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.450	1.00	5.00	ug/L	U	SW6010C
	Calcium	6.87	1000	5000	ug/L	U	SW6010C
	Chromium	0.262	2.00	10.0	ug/L	U	SW6010C
	Cobalt	0.00892	5.00	12.5	ug/L	U	SW6010C
	Copper	0.417	4.00	10.0	ug/L	U	SW6010C
	Iron	-0.709	30.0	100	ug/L	U	SW6010C
	Lead	-1.35	1.50	3.00	ug/L	U	SW6010C
	Magnesium	8.32	1000	5000	ug/L	U	SW6010C
	Manganese	0.104	3.00	15.0	ug/L	U	SW6010C
Nickel	0.649	3.00	10.0	ug/L	U	SW6010C	
Potassium	161	200	5000	ug/L	U	SW6010C	
Selenium	-1.52	3.00	10.0	ug/L	U	SW6010C	
Silver	-0.144	1.00	10.0	ug/L	U	SW6010C	

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00414

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00414-CCB5	Sodium	1580	200	5000	ug/L	I	SW6010C
	Thallium	-0.150	3.00	8.00	ug/L	U	SW6010C
	Vanadium	0.0243	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.193	5.00	20.0	ug/L	U	SW6010C
1A00414-CCB6	Aluminum	-2.34	50.0	200	ug/L	U	SW6010C
	Antimony	0.264	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-0.629	3.00	10.0	ug/L	U	SW6010C
	Barium	0.0529	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.0535	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.0114	1.00	5.00	ug/L	U	SW6010C
	Calcium	6.16	1000	5000	ug/L	U	SW6010C
	Chromium	0.222	2.00	10.0	ug/L	U	SW6010C
	Cobalt	0.198	5.00	12.5	ug/L	U	SW6010C
	Copper	-0.263	4.00	10.0	ug/L	U	SW6010C
	Iron	-0.233	30.0	100	ug/L	U	SW6010C
	Lead	-1.81	1.50	3.00	ug/L	I	SW6010C
	Magnesium	-2.82	1000	5000	ug/L	U	SW6010C
	Manganese	0.0981	3.00	15.0	ug/L	U	SW6010C
	Nickel	0.627	3.00	10.0	ug/L	U	SW6010C
	Potassium	62.2	200	5000	ug/L	U	SW6010C
	Selenium	-0.894	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.168	1.00	10.0	ug/L	U	SW6010C
	Sodium	537	200	5000	ug/L	I	SW6010C
	Thallium	-0.237	3.00	8.00	ug/L	U	SW6010C
Vanadium	0.0498	5.00	12.5	ug/L	U	SW6010C	
Zinc	0.0386	5.00	20.0	ug/L	U	SW6010C	
0L28004-BLK2	Calcium	53.6	100	500	mg/Kg wet	U	SW6010C
	Chromium	0.222	0.200	1.00	mg/Kg wet	I	SW6010C
	Iron	0.837	3.00	10.0	mg/Kg wet	U	SW6010C
	Lead	-0.0863	0.150	0.300	mg/Kg wet	U	SW6010C
	Magnesium	0.0560	100	500	mg/Kg wet	U	SW6010C
	Potassium	8.53	100	500	mg/Kg wet	U	SW6010C
	Selenium	0.210	0.300	1.00	mg/Kg wet	U	SW6010C

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00414

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L28004-BLK2	Sodium	50.5	100	500	mg/Kg wet	U	SW6010C
	Thallium	-0.397	0.300	0.800	mg/Kg wet	I	SW6010C
	Zinc	0.845	0.500	2.00	mg/Kg wet	I	SW6010C
1A00414-CCB7	Aluminum	1.54	50.0	200	ug/L	U	SW6010C
	Antimony	0.458	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-0.0888	3.00	10.0	ug/L	U	SW6010C
	Barium	0.0440	5.00	40.0	ug/L	U	SW6010C
	Beryllium	-0.00249	1.00	5.00	ug/L	U	SW6010C
	Cadmium	-0.191	1.00	5.00	ug/L	U	SW6010C
	Calcium	2.97	1000	5000	ug/L	U	SW6010C
	Chromium	0.202	2.00	10.0	ug/L	U	SW6010C
	Cobalt	0.0432	5.00	12.5	ug/L	U	SW6010C
	Copper	-0.538	4.00	10.0	ug/L	U	SW6010C
	Iron	-1.25	30.0	100	ug/L	U	SW6010C
	Lead	-0.706	1.50	3.00	ug/L	U	SW6010C
	Magnesium	-3.78	1000	5000	ug/L	U	SW6010C
	Manganese	0.0271	3.00	15.0	ug/L	U	SW6010C
	Nickel	0.509	3.00	10.0	ug/L	U	SW6010C
	Potassium	18.1	200	5000	ug/L	U	SW6010C
	Selenium	-0.702	3.00	10.0	ug/L	U	SW6010C
Silver	-0.0299	1.00	10.0	ug/L	U	SW6010C	
Sodium	202	200	5000	ug/L	I	SW6010C	
Thallium	0.646	3.00	8.00	ug/L	U	SW6010C	
Vanadium	-0.0206	5.00	12.5	ug/L	U	SW6010C	
Zinc	0.127	5.00	20.0	ug/L	U	SW6010C	
1A00414-CCB8	Aluminum	-0.476	50.0	200	ug/L	U	SW6010C
	Antimony	-0.809	5.00	10.0	ug/L	U	SW6010C
	Arsenic	1.30	3.00	10.0	ug/L	U	SW6010C
	Barium	0.160	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.0400	1.00	5.00	ug/L	U	SW6010C
	Cadmium	-0.149	1.00	5.00	ug/L	U	SW6010C
	Calcium	13.6	1000	5000	ug/L	U	SW6010C
Chromium	0.207	2.00	10.0	ug/L	U	SW6010C	

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00414

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00414-CCB8	Cobalt	0.241	5.00	12.5	ug/L	U	SW6010C
	Copper	-0.832	4.00	10.0	ug/L	U	SW6010C
	Iron	-0.575	30.0	100	ug/L	U	SW6010C
	Lead	-0.419	1.50	3.00	ug/L	U	SW6010C
	Magnesium	-1.15	1000	5000	ug/L	U	SW6010C
	Manganese	0.0546	3.00	15.0	ug/L	U	SW6010C
	Nickel	0.697	3.00	10.0	ug/L	U	SW6010C
	Potassium	11.0	200	5000	ug/L	U	SW6010C
	Selenium	-1.37	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.122	1.00	10.0	ug/L	U	SW6010C
	Sodium	113	200	5000	ug/L	U	SW6010C
	Thallium	0.492	3.00	8.00	ug/L	U	SW6010C
	Vanadium	-0.0740	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.223	5.00	20.0	ug/L	U	SW6010C
0L28005-BLK2	Cadmium	0.0232	0.100	0.500	mg/Kg wet	U	SW6010C
	Calcium	10.5	100	500	mg/Kg wet	U	SW6010C
	Iron	3.18	3.00	10.0	mg/Kg wet	I	SW6010C
	Magnesium	-0.133	100	500	mg/Kg wet	U	SW6010C
	Potassium	2.26	100	500	mg/Kg wet	U	SW6010C
	Sodium	13.3	100	500	mg/Kg wet	U	SW6010C
	Vanadium	-0.0100	0.500	1.25	mg/Kg wet	U	SW6010C
	Zinc	1.16	0.500	2.00	mg/Kg wet	I	SW6010C
1A00414-CCB9	Aluminum	1.45	50.0	200	ug/L	U	SW6010C
	Antimony	-0.758	5.00	10.0	ug/L	U	SW6010C
	Arsenic	-0.840	3.00	10.0	ug/L	U	SW6010C
	Barium	0.0870	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.0768	1.00	5.00	ug/L	U	SW6010C
	Cadmium	-0.178	1.00	5.00	ug/L	U	SW6010C
	Calcium	3.55	1000	5000	ug/L	U	SW6010C
	Chromium	0.425	2.00	10.0	ug/L	U	SW6010C
	Cobalt	0.166	5.00	12.5	ug/L	U	SW6010C
	Copper	-0.811	4.00	10.0	ug/L	U	SW6010C
	Iron	0.507	30.0	100	ug/L	U	SW6010C

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00414

Calibration: 1004002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00414-CCB9	Lead	-0.705	1.50	3.00	ug/L	U	SW6010C
	Magnesium	1.33	1000	5000	ug/L	U	SW6010C
	Manganese	0.0916	3.00	15.0	ug/L	U	SW6010C
	Nickel	0.854	3.00	10.0	ug/L	U	SW6010C
	Potassium	-4.25	200	5000	ug/L	U	SW6010C
	Selenium	-0.457	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.235	1.00	10.0	ug/L	U	SW6010C
	Sodium	68.4	200	5000	ug/L	U	SW6010C
	Thallium	0.415	3.00	8.00	ug/L	U	SW6010C
	Vanadium	-0.112	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.0340	5.00	20.0	ug/L	U	SW6010C

**ANALYSIS SEQUENCE SUMMARY**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Sequence: 1A00503  
 Calibration: 1005001

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Instrument: ME-ICP

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	1A00503-CAL1	010411A-001	01/04/11 09:29
Cal Standard	1A00503-CAL2	010411A-002	01/04/11 09:34
Cal Standard	1A00503-CAL3	010411A-003	01/04/11 09:39
Cal Standard	1A00503-CAL5	010411A-005	01/04/11 09:48
Cal Standard	1A00503-CAL6	010411A-006	01/04/11 09:53
Cal Standard	1A00503-CAL7	010411A-007	01/04/11 09:58
Cal Standard	1A00503-CAL8	010411A-008	01/04/11 10:03
Initial Cal Check	1A00503-ICV1	010411B-001	01/04/11 10:35
Initial Cal Blank	1A00503-ICB1	010411B-002	01/04/11 10:42
Instrument RL Check	1A00503-CRL1	010411B-003	01/04/11 10:47
Interference Check A	1A00503-IFA1	010411B-006	01/04/11 11:03
Interference Check B	1A00503-IFB1	010411B-007	01/04/11 11:09
Interference Check B	1A00503-IFB2	010411B-010	01/04/11 11:32
Calibration Check	1A00503-CCV1	010411B-012	01/04/11 11:43
Calibration Blank	1A00503-CCB1	010411B-013	01/04/11 11:51
Calibration Check	1A00503-CCV4	010411D-012	01/04/11 15:08
Calibration Blank	1A00503-CCB4	010411D-013	01/04/11 15:15
BCHMS-FD001-1210	1012153-01RE2	010411E-007	01/04/11 15:54
BCHMS-FD001-1210	1012153-01RE3	010411E-008	01/04/11 15:59
BCHMS-FD001-1210	1012153-01RE4	010411E-009	01/04/11 16:04
BCHMS-GW-004-1210	1012153-02RE2	010411E-010	01/04/11 16:09
BCHMS-GW-004-1210	1012153-02RE3	010411E-011	01/04/11 16:14
BCHMS-GW-004-1210	1012153-02RE4	010411E-012	01/04/11 16:19
BCHMS-GW-005-1210	1012153-03RE2	010411E-013	01/04/11 16:23
Calibration Check	1A00503-CCV5	010411E-014	01/04/11 16:30
Calibration Blank	1A00503-CCB5	010411E-015	01/04/11 16:37
BCHMS-GW-005-1210	1012153-03RE3	010411F-001	01/04/11 16:44
BCHMS-GW-005-1210	1012153-03RE4	010411F-002	01/04/11 16:49
BCHMS-GW-006-1210	1012153-04RE2	010411F-003	01/04/11 16:54
BCHMS-GW-006-1210	1012153-04RE3	010411F-004	01/04/11 16:58
BCHMS-GW-007-1210	1012153-05RE2	010411F-005	01/04/11 17:03
BCHMS-GW-007-1210	1012153-05RE3	010411F-006	01/04/11 17:08

*K & AL High  
Ca - LOW*

# ANALYSIS SEQUENCE SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 1A00503

Instrument: ME-ICP

Calibration: 1005001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
BCHMS-GW-007-1210	1012153-05RE4	010411F-007	01/04/11 17:13
BCHMS-FD002-1210	1012153-06RE2	010411F-008	01/04/11 17:18
BCHMS-FD002-1210	1012153-06RE3	010411F-009	01/04/11 17:23
BCHMS-FD002-1210	1012153-06RE4	010411F-010	01/04/11 17:27
Calibration Check	1A00503-CCV6	010411F-011	01/04/11 17:33
Calibration Blank	1A00503-CCB6	010411F-012	01/04/11 17:41
BCHMS-GW-008-1210	1012153-07RE2	010411F-013	01/04/11 17:45
BCHMS-GW-008-1210	1012153-07RE3	010411F-014	01/04/11 17:50
BCHMS-GW-010-1210	1012153-09RE2	010411F-015	01/04/11 17:55
BCHMS-GW-010-1210	1012153-09RE3	010411F-016	01/04/11 18:00
BCHMS-GW-011-1210	1012153-10RE2	010411F-017	01/04/11 18:05
BCHMS-GW-011-1210	1012153-10RE3	010411F-018	01/04/11 18:09
BCHMS-GW-012-1210	1012153-11RE2	010411F-019	01/04/11 18:14
BCHMS-GW-012-1210	1012153-11RE3	010411F-020	01/04/11 18:19
BCHMS-GW-012-1210	0L27010-DUP5	010411F-021	01/04/11 18:24
BCHMS-GW-012-1210	0L27010-DUP6	010411F-022	01/04/11 18:28
BCHMS-SO-002-1210	1012153-13RE2	010411F-023	01/04/11 18:33
BCHMS-SO-002-1210	1012153-13RE3	010411F-024	01/04/11 18:38
Calibration Check	1A00503-CCV7	010411F-025	01/04/11 18:44
Calibration Blank	1A00503-CCB7	010411F-026	01/04/11 18:51
BCHMS-SO-004-1210	1012153-14RE2	010411F-027	01/04/11 18:56
BCHMS-SO-004-1210	1012153-14RE3	010411F-028	01/04/11 19:01
BCHMS-SO-007-1210	1012153-15RE2	010411F-029	01/04/11 19:06
BCHMS-SO-007-1210	1012153-15RE3	010411F-030	01/04/11 19:11
BCHMS-SO-010-1210	1012153-16RE2	010411F-031	01/04/11 19:16
BCHMS-SO-010-1210	1012153-16RE3	010411F-032	01/04/11 19:21
BCHMS-SO-012-1210	1012153-17RE2	010411F-033	01/04/11 19:25
BCHMS-SO-013-1210	1012153-18RE2	010411F-034	01/04/11 19:30
BCHMS-SO-013-1210	1012153-18RE3	010411F-035	01/04/11 19:35
BCHMS-SO-014-1210	1012153-19RE2	010411F-036	01/04/11 19:40
BCHMS-SO-014-1210	1012153-19RE3	010411F-037	01/04/11 19:45
Calibration Check	1A00503-CCV8	010411F-038	01/04/11 19:51

50% < 90%  
K > 110%

## ANALYSIS SEQUENCE SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 1A00503

Instrument: ME-ICP

Calibration: 1005001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	1A00503-CCB8	010411F-039	01/04/11 19:58
BCHMS-SO-015-1210	1012153-20RE2	010411F-040	01/04/11 20:03
BCHMS-SO-015-1210	1012153-20RE3	010411F-041	01/04/11 20:08
BCHMS-SO-016-1210	1012153-21RE2	010411F-042	01/04/11 20:13
BCHMS-SO-017-1210	1012153-22RE2	010411F-043	01/04/11 20:18
BCHMS-SO-018-1210	1012153-23RE2	010411F-044	01/04/11 20:23
BCHMS-SO-018-1210	1012153-23RE3	010411F-045	01/04/11 20:28
BCHMS-SO-019-1210	1012153-24RE2	010411F-046	01/04/11 20:33
BCHMS-SO-019-1210	1012153-24RE3	010411F-047	01/04/11 20:38
BCHMS-SO-020-1210	1012153-25RE2	010411F-048	01/04/11 20:43
BCHMS-SO-021-1210	1012153-26RE2	010411F-050	01/04/11 20:53
Calibration Check	1A00503-CCV9	010411F-051	01/04/11 20:58
Calibration Blank	1A00503-CCB9	010411F-052	01/04/11 21:06
BCHMS-SO-022-1210	1012153-27RE2	010411F-053	01/04/11 21:11
BCHMS-SO-023-1210	1012153-28RE2	010411F-054	01/04/11 21:15
BCHMS-SO-023-1210	1012153-28RE3	010411F-055	01/04/11 21:20
BCHMS-SO-024-1210	1012153-29RE2	010411F-056	01/04/11 21:25
BCHMS-SO-025-1210	1012153-30RE2	010411F-057	01/04/11 21:30
BCHMS-SO-025-1210	1012153-30RE3	010411F-058	01/04/11 21:35
BCHMS-SO-026-1210	1012153-31RE2	010411F-059	01/04/11 21:40
BCHMS-SO-028-1210	1012153-32RE2	010411F-060	01/04/11 21:45
BCHMS-SO-028-1210	0L28004-DUP5	010411F-061	01/04/11 21:50
BCHMS-SO-FD01-1210	1012153-33RE2	010411F-062	01/04/11 21:55
BCHMS-SO-FD02-1210	1012153-34RE2	010411F-063	01/04/11 22:00
BCHMS-SO-FD02-1210	0L28005-DUP5	010411F-064	01/04/11 22:05
Calibration Check	1A00503-CCVA	010411F-065	01/04/11 22:10
Calibration Blank	1A00503-CCBA	010411F-066	01/04/11 22:18

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1005001

Sequence: 1A00503

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00503-ICV1	Aluminum	10000	9989	99.9	ug/L	+/- 10.00%
	Cadmium	1000	1065	106	ug/L	+/- 10.00%
	Calcium	50000	50460	101	ug/L	+/- 10.00%
	Chromium	1000	933.9	93.4	ug/L	+/- 10.00%
	Copper	1000	984.9	98.5	ug/L	+/- 10.00%
	Lead	1000	985.6	98.6	ug/L	+/- 10.00%
	Magnesium	50000	50040	100	ug/L	+/- 10.00%
	Potassium	10000	9450	94.5	ug/L	+/- 10.00%
	Sodium	50000	49220	98.4	ug/L	+/- 10.00%
	Thallium	1000	967.1	96.7	ug/L	+/- 10.00%
	Zinc	1000	1007	101	ug/L	+/- 10.00%
	1A00503-CCV1	Aluminum	10000	10010	100	ug/L
Cadmium		1000	1064	106	ug/L	+/- 10.00%
Calcium		50000	49060	98.1	ug/L	+/- 10.00%
Chromium		1000	989.7	99.0	ug/L	+/- 10.00%
Copper		1000	1019	102	ug/L	+/- 10.00%
Lead		1000	993.2	99.3	ug/L	+/- 10.00%
Magnesium		50000	50130	100	ug/L	+/- 10.00%
Potassium		10000	10060	101	ug/L	+/- 10.00%
Sodium		50000	51000	102	ug/L	+/- 10.00%
Thallium		1000	1009	101	ug/L	+/- 10.00%
Zinc		1000	1005	100	ug/L	+/- 10.00%
1A00503-CCV4		Aluminum	10000	10460	105	ug/L
	Cadmium	1000	1086	109	ug/L	+/- 10.00%
	Calcium	50000	47000	94.0	ug/L	+/- 10.00%
	Chromium	1000	943.8	94.4	ug/L	+/- 10.00%
	Copper	1000	1031	103	ug/L	+/- 10.00%
	Lead	1000	1017	102	ug/L	+/- 10.00%
	Magnesium	50000	50110	100	ug/L	+/- 10.00%
	Potassium	10000	10840	108	ug/L	+/- 10.00%
	Sodium	50000	51800	104	ug/L	+/- 10.00%
	Thallium	1000	1049	105	ug/L	+/- 10.00%
	Zinc	1000	997.9	99.8	ug/L	+/- 10.00%
	1A00503-CCV5	Aluminum	10000	11070	111	ug/L
Cadmium		1000	1102	110	ug/L	+/- 10.00%
Calcium		50000	42120	84.2	ug/L	+/- 10.00%
Chromium		1000	918.0	91.8	ug/L	+/- 10.00%
Copper		1000	1104	110	ug/L	+/- 10.00%

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1005001

Sequence: 1A00503

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00503-CCV5	Lead	1000	1052	105	ug/L	+/- 10.00%
	Magnesium	50000	51990	104	ug/L	+/- 10.00%
	Potassium	10000	12070	121	ug/L	+/- 10.00%
	Sodium	50000	51180	102	ug/L	+/- 10.00%
	Thallium	1000	1099	110	ug/L	+/- 10.00%
	Zinc	1000	972.1	97.2	ug/L	+/- 10.00%
	1A00503-CCV6	Aluminum	10000	10490	105	ug/L
Cadmium		1000	1074	107	ug/L	+/- 10.00%
Calcium		50000	43570	87.1	ug/L	+/- 10.00%
Chromium		1000	887.1	88.7	ug/L	+/- 10.00%
Copper		1000	1034	103	ug/L	+/- 10.00%
Lead		1000	1022	102	ug/L	+/- 10.00%
Magnesium		50000	49260	98.5	ug/L	+/- 10.00%
Potassium		10000	11060	111	ug/L	+/- 10.00%
Sodium		50000	50300	101	ug/L	+/- 10.00%
Thallium		1000	1047	105	ug/L	+/- 10.00%
Zinc		1000	988.2	98.8	ug/L	+/- 10.00%
1A00503-CCV7	Aluminum	10000	10260	103	ug/L	+/- 10.00%
	Cadmium	1000	1071	107	ug/L	+/- 10.00%
	Calcium	50000	46510	93.0	ug/L	+/- 10.00%
	Chromium	1000	964.7	96.5	ug/L	+/- 10.00%
	Copper	1000	1033	103	ug/L	+/- 10.00%
	Lead	1000	1007	101	ug/L	+/- 10.00%
	Magnesium	50000	49850	99.7	ug/L	+/- 10.00%
	Potassium	10000	10480	105	ug/L	+/- 10.00%
	Sodium	50000	51880	104	ug/L	+/- 10.00%
	Thallium	1000	1030	103	ug/L	+/- 10.00%
	Zinc	1000	991.6	99.2	ug/L	+/- 10.00%
1A00503-CCV8	Aluminum	10000	10150	102	ug/L	+/- 10.00%
	Cadmium	1000	1071	107	ug/L	+/- 10.00%
	Calcium	50000	46620	93.2	ug/L	+/- 10.00%
	Chromium	1000	968.9	96.9	ug/L	+/- 10.00%
	Copper	1000	1028	103	ug/L	+/- 10.00%
	Lead	1000	1006	101	ug/L	+/- 10.00%
	Magnesium	50000	49430	98.9	ug/L	+/- 10.00%
	Potassium	10000	10360	104	ug/L	+/- 10.00%
	Sodium	50000	52410	105	ug/L	+/- 10.00%
Thallium	1000	1028	103	ug/L	+/- 10.00%	

# INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JMI7

Instrument ID: ME-ICP

Calibration: 1005001

Sequence: 1A00503

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00503-CCV8	Zinc	1000	988.1	98.8	ug/L	+/- 10.00%
1A00503-CCV9	Aluminum	10000	10290	103	ug/L	+/- 10.00%
	Cadmium	1000	1089	109	ug/L	+/- 10.00%
	Calcium	50000	47310	94.6	ug/L	+/- 10.00%
	Chromium	1000	990.1	99.0	ug/L	+/- 10.00%
	Copper	1000	1044	104	ug/L	+/- 10.00%
	Lead	1000	1026	103	ug/L	+/- 10.00%
	Magnesium	50000	50040	100	ug/L	+/- 10.00%
	Potassium	10000	10510	105	ug/L	+/- 10.00%
	Sodium	50000	53280	107	ug/L	+/- 10.00%
	Thallium	1000	1053	105	ug/L	+/- 10.00%
	Zinc	1000	998.7	99.9	ug/L	+/- 10.00%
1A00503-CCVA	Aluminum	10000	10130	101	ug/L	+/- 10.00%
	Cadmium	1000	1070	107	ug/L	+/- 10.00%
	Calcium	50000	47380	94.8	ug/L	+/- 10.00%
	Chromium	1000	979.6	98.0	ug/L	+/- 10.00%
	Copper	1000	1024	102	ug/L	+/- 10.00%
	Lead	1000	1002	100	ug/L	+/- 10.00%
	Magnesium	50000	49090	98.2	ug/L	+/- 10.00%
	Potassium	10000	10350	103	ug/L	+/- 10.00%
	Sodium	50000	52190	104	ug/L	+/- 10.00%
	Thallium	1000	1033	103	ug/L	+/- 10.00%
	Zinc	1000	997.3	99.7	ug/L	+/- 10.00%

# CRDL STANDARD

SW6010C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-ICP

Calibration: 1005001

Sequence: 1A00503

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limits
1A00503-CRL1	Aluminum	100.0	105.7	106	ug/L	80 - 120
	Cadmium	2.000	2.156	108	ug/L	80 - 120
	Calcium	2000	1952	97.6	ug/L	80 - 120
	Chromium	4.000	3.895	97.4	ug/L	80 - 120
	Copper	8.000	8.115	101	ug/L	80 - 120
	Lead	3.000	2.836	94.5	ug/L	80 - 120
	Magnesium	3000	2942	98.1	ug/L	80 - 120
	Potassium	3000	2952	98.4	ug/L	80 - 120
	Sodium	3000	2986	99.5	ug/L	80 - 120
	Thallium	4.000	4.424	111	ug/L	80 - 120
	Zinc	10.00	9.532	95.3	ug/L	80 - 120

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00503

Calibration: 1005001

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00503-ICB1	Aluminum	0.4040	50.0	200	ug/L	U	SW6010C
	Cadmium	-0.03761	1.00	5.00	ug/L	U	SW6010C
	Calcium	6.140	1000	5000	ug/L	U	SW6010C
	Chromium	-0.04553	2.00	10.0	ug/L	U	SW6010C
	Copper	0.1186	4.00	10.0	ug/L	U	SW6010C
	Lead	-0.1000	1.50	3.00	ug/L	U	SW6010C
	Magnesium	9.440	1000	5000	ug/L	U	SW6010C
	Potassium	-13.12	200	5000	ug/L	U	SW6010C
	Sodium	-24.68	200	5000	ug/L	U	SW6010C
	Thallium	0.8377	3.00	8.00	ug/L	U	SW6010C
	Zinc	0.1072	5.00	20.0	ug/L	U	SW6010C
	1A00503-CCB1	Aluminum	1.31	50.0	200	ug/L	U
Cadmium		0.0967	1.00	5.00	ug/L	U	SW6010C
Calcium		5.56	1000	5000	ug/L	U	SW6010C
Chromium		-0.0631	2.00	10.0	ug/L	U	SW6010C
Copper		0.323	4.00	10.0	ug/L	U	SW6010C
Lead		0.0517	1.50	3.00	ug/L	U	SW6010C
Magnesium		7.05	1000	5000	ug/L	U	SW6010C
Potassium		-12.4	200	5000	ug/L	U	SW6010C
Sodium		-40.6	200	5000	ug/L	U	SW6010C
Thallium		0.402	3.00	8.00	ug/L	U	SW6010C
Zinc		0.121	5.00	20.0	ug/L	U	SW6010C
1A00503-CCB4		Aluminum	1.26	50.0	200	ug/L	U
	Cadmium	0.326	1.00	5.00	ug/L	U	SW6010C
	Calcium	6.71	1000	5000	ug/L	U	SW6010C
	Chromium	0.0568	2.00	10.0	ug/L	U	SW6010C
	Copper	0.400	4.00	10.0	ug/L	U	SW6010C
	Lead	-0.533	1.50	3.00	ug/L	U	SW6010C
	Magnesium	8.60	1000	5000	ug/L	U	SW6010C
	Potassium	6.26	200	5000	ug/L	U	SW6010C
	Sodium	138	200	5000	ug/L	U	SW6010C
	Thallium	0.0750	3.00	8.00	ug/L	U	SW6010C
	Zinc	0.0793	5.00	20.0	ug/L	U	SW6010C

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00503

Calibration: 1005001

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00503-CCB5	Aluminum	1.42	50.0	200	ug/L	U	SW6010C
	Cadmium	0.732	1.00	5.00	ug/L	U	SW6010C
	Calcium	7.33	1000	5000	ug/L	U	SW6010C
	Chromium	-0.00125	2.00	10.0	ug/L	U	SW6010C
	Copper	0.448	4.00	10.0	ug/L	U	SW6010C
	Lead	-0.320	1.50	3.00	ug/L	U	SW6010C
	Magnesium	13.4	1000	5000	ug/L	U	SW6010C
	Potassium	67.0	200	5000	ug/L	U	SW6010C
	Sodium	573	200	5000	ug/L	I	SW6010C
	Thallium	0.0876	3.00	8.00	ug/L	U	SW6010C
	Zinc	0.136	5.00	20.0	ug/L	U	SW6010C
	1A00503-CCB6	Aluminum	0.692	50.0	200	ug/L	U
Cadmium		0.374	1.00	5.00	ug/L	U	SW6010C
Calcium		1.92	1000	5000	ug/L	U	SW6010C
Chromium		-0.0582	2.00	10.0	ug/L	U	SW6010C
Copper		0.0678	4.00	10.0	ug/L	U	SW6010C
Lead		-0.229	1.50	3.00	ug/L	U	SW6010C
Magnesium		2.23	1000	5000	ug/L	U	SW6010C
Potassium		35.9	200	5000	ug/L	U	SW6010C
Sodium		334	200	5000	ug/L	I	SW6010C
Thallium		0.522	3.00	8.00	ug/L	U	SW6010C
Zinc		0.249	5.00	20.0	ug/L	U	SW6010C
1A00503-CCB7		Aluminum	1.52	50.0	200	ug/L	U
	Cadmium	0.353	1.00	5.00	ug/L	U	SW6010C
	Calcium	4.58	1000	5000	ug/L	U	SW6010C
	Chromium	0.0424	2.00	10.0	ug/L	U	SW6010C
	Copper	0.294	4.00	10.0	ug/L	U	SW6010C
	Lead	-1.07	1.50	3.00	ug/L	U	SW6010C
	Magnesium	5.11	1000	5000	ug/L	U	SW6010C
	Potassium	11.3	200	5000	ug/L	U	SW6010C
	Sodium	139	200	5000	ug/L	U	SW6010C
	Thallium	1.51	3.00	8.00	ug/L	U	SW6010C
	Zinc	0.249	5.00	20.0	ug/L	U	SW6010C

**BLANKS**  
**SW6010C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-ICP

Project: NAS Key West CTO JM17

Sequence: 1A00503

Calibration: 1005001

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00503-CCB8	Aluminum	3.35	50.0	200	ug/L	U	SW6010C
	Cadmium	0.409	1.00	5.00	ug/L	U	SW6010C
	Calcium	4.87	1000	5000	ug/L	U	SW6010C
	Chromium	0.0753	2.00	10.0	ug/L	U	SW6010C
	Copper	0.252	4.00	10.0	ug/L	U	SW6010C
	Lead	-0.279	1.50	3.00	ug/L	U	SW6010C
	Magnesium	3.08	1000	5000	ug/L	U	SW6010C
	Potassium	6.92	200	5000	ug/L	U	SW6010C
	Sodium	48.0	200	5000	ug/L	U	SW6010C
	Thallium	0.422	3.00	8.00	ug/L	U	SW6010C
1A00503-CCB9	Zinc	0.0924	5.00	20.0	ug/L	U	SW6010C
	Aluminum	0.122	50.0	200	ug/L	U	SW6010C
	Cadmium	0.397	1.00	5.00	ug/L	U	SW6010C
	Calcium	1.84	1000	5000	ug/L	U	SW6010C
	Chromium	-0.0338	2.00	10.0	ug/L	U	SW6010C
	Copper	0.367	4.00	10.0	ug/L	U	SW6010C
	Lead	0.295	1.50	3.00	ug/L	U	SW6010C
	Magnesium	5.82	1000	5000	ug/L	U	SW6010C
	Potassium	-2.15	200	5000	ug/L	U	SW6010C
	Sodium	12.5	200	5000	ug/L	U	SW6010C
1A00503-CCBA	Thallium	-0.250	3.00	8.00	ug/L	U	SW6010C
	Zinc	0.147	5.00	20.0	ug/L	U	SW6010C
	Aluminum	0.781	50.0	200	ug/L	U	SW6010C
	Cadmium	0.314	1.00	5.00	ug/L	U	SW6010C
	Calcium	3.81	1000	5000	ug/L	U	SW6010C
	Chromium	-0.0582	2.00	10.0	ug/L	U	SW6010C
	Copper	0.350	4.00	10.0	ug/L	U	SW6010C
	Lead	0.128	1.50	3.00	ug/L	U	SW6010C
	Magnesium	3.29	1000	5000	ug/L	U	SW6010C
	Potassium	-7.21	200	5000	ug/L	U	SW6010C
	Sodium	1.65	200	5000	ug/L	U	SW6010C
	Thallium	0.826	3.00	8.00	ug/L	U	SW6010C
	Zinc	0.0966	5.00	20.0	ug/L	U	SW6010C

# PREPARATION BATCH SUMMARY

SW7471A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L29002      Batch Matrix: Solid

Preparation: MET HG S

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L29002-BLK1	12/29/10 08:15	0.30	50.00
LCS	0L29002-BS1	12/29/10 08:15	0.30	50.00
BCHMS-SO-028-1210	0L29002-DUP1	12/29/10 08:15	0.32	50.00
BCHMS-SO-028-1210	0L29002-MS1	12/29/10 08:15	0.34	50.00
BCHMS-SO-002-1210	1012153-13	12/29/10 08:15	0.38	50.00
BCHMS-SO-004-1210	1012153-14	12/29/10 08:15	0.37	50.00
BCHMS-SO-007-1210	1012153-15	12/29/10 08:15	0.28	50.00
BCHMS-SO-010-1210	1012153-16	12/29/10 08:15	0.33	50.00
BCHMS-SO-012-1210	1012153-17	12/29/10 08:15	0.32	50.00
BCHMS-SO-013-1210	1012153-18	12/29/10 08:15	0.31	50.00
BCHMS-SO-014-1210	1012153-19	12/29/10 08:15	0.33	50.00
BCHMS-SO-015-1210	1012153-20	12/29/10 08:15	0.38	50.00
BCHMS-SO-016-1210	1012153-21	12/29/10 08:15	0.38	50.00
BCHMS-SO-017-1210	1012153-22	12/29/10 08:15	0.28	50.00
BCHMS-SO-018-1210	1012153-23	12/29/10 08:15	0.31	50.00
BCHMS-SO-019-1210	1012153-24	12/29/10 08:15	0.31	50.00
BCHMS-SO-020-1210	1012153-25	12/29/10 08:15	0.38	50.00
BCHMS-SO-021-1210	1012153-26	12/29/10 08:15	0.28	50.00
BCHMS-SO-022-1210	1012153-27	12/29/10 08:15	0.36	50.00
BCHMS-SO-023-1210	1012153-28	12/29/10 08:15	0.29	50.00
BCHMS-SO-024-1210	1012153-29	12/29/10 08:15	0.31	50.00
BCHMS-SO-025-1210	1012153-30	12/29/10 08:15	0.29	50.00
BCHMS-SO-026-1210	1012153-31	12/29/10 08:15	0.28	50.00
BCHMS-SO-028-1210	1012153-32	12/29/10 08:15	0.32	50.00

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SW7471A

BCHMS-SO-028-1210

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Batch: 0L29002

% Solids: 87.44

Source Sample Name: 1012153-32

ANALYTE	SPIKE ADDED (mg/Kg dry)	SAMPLE CONCENTRATION (mg/Kg dry)	MS CONCENTRATION (mg/Kg dry)	MS % REC.	Q	QC LIMITS REC.
Mercury	0.3364	ND	0.3675	109		80 - 120

# DUPLICATES

BCHMS-SO-028-1210

SW7471A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 0L29002-DUP1

Batch: 0L29002

Lab Source ID: 1012153-32

Preparation: MET\_HG\_S

Initial/Final: 0.32 g / 50 mL

Source Sample Name: BCHMS-SO-028-1210

% Solids: 87.44

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/Kg dry)	DUPLICATE CONCENTRATION (mg/Kg dry)	RPD %	Q	METHOD
Mercury	20	0.0354 U	0.0354 U			SW7471A

# LCS / LCS DUPLICATE RECOVERY

SW7471A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Batch: 0L29002

Laboratory ID: 0L29002-BS1

Preparation: MET HG S

Initial/Final: 0.3 g / 50 mL

ANALYTE	SPIKE ADDED (mg/Kg wet)	LCS CONCENTRATION (mg/Kg wet)	LCS % REC.	QC LIMITS REC.
Mercury	0.3333	0.3601	108	80 - 120

# PREPARATION BATCH SUMMARY

SW7471A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L29003 Batch Matrix: Solid

Preparation: MET HG S

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L29003-BLK1	12/29/10 08:17	0.30	50.00
LCS	0L29003-BS1	12/29/10 08:17	0.30	50.00
BCHMS-SO-FD02-1210	0L29003-DUP1	12/29/10 08:17	0.33	50.00
BCHMS-SO-FD02-1210	0L29003-MS1	12/29/10 08:17	0.34	50.00
BCHMS-SO-FD01-1210	1012153-33	12/29/10 08:17	0.34	50.00
BCHMS-SO-FD02-1210	1012153-34	12/29/10 08:17	0.34	50.00

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY**

SW7471A

**BCHMS-SO-FD02-1210**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Batch: 0L29003

% Solids: 86.85

Source Sample Name: 1012153-34

ANALYTE	SPIKE ADDED (mg/Kg dry)	SAMPLE CONCENTRATION (mg/Kg dry)	MS CONCENTRATION (mg/Kg dry)	MS % REC.	Q	QC LIMITS REC.
Mercury	0.3387	ND	0.3649	108		80 - 120

# DUPLICATES

**BCHMS-SO-FD02-1210**

SW7471A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Laboratory ID: 0L29003-DUP1

Batch: 0L29003

Lab Source ID: 1012153-34

Preparation: MET\_HG\_S

Initial/Final: 0.33 g / 50 mL

Source Sample Name: BCHMS-SO-FD02-1210

% Solids: 86.85

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/Kg dry)	DUPLICATE CONCENTRATION (mg/Kg dry)	RPD %	Q	METHOD
Mercury	20	0.0335 U	0.0345 U			SW7471A

# LCS / LCS DUPLICATE RECOVERY

SW7471A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Solid

Batch: 0L29003

Laboratory ID: 0L29003-BS1

Preparation: MET HG S

Initial/Final: 0.3 g / 50 mL

ANALYTE	SPIKE ADDED (mg/Kg wet)	LCS CONCENTRATION (mg/Kg wet)	LCS % REC.	QC LIMITS REC.
Mercury	0.3333	0.3638	109	80 - 120

## ANALYSIS SEQUENCE SUMMARY

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36110

Instrument: ME-FIMS

Calibration: 0361002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0L36110-CAL1	COPY122210W-002	12/22/10 12:41
Cal Standard	0L36110-CAL2	COPY122210W-003	12/22/10 12:43
Cal Standard	0L36110-CAL3	COPY122210W-004	12/22/10 12:45
Cal Standard	0L36110-CAL4	COPY122210W-005	12/22/10 12:46
Cal Standard	0L36110-CAL5	COPY122210W-006	12/22/10 12:48
Cal Standard	0L36110-CAL6	COPY122210W-007	12/22/10 12:50
Cal Standard	0L36110-CAL8	COPY122210W-008	12/22/10 12:54
Initial Cal Check	0L36110-ICV1	COPY122210W-009	12/22/10 12:57
Initial Cal Blank	0L36110-ICB1	COPY122210W-010	12/22/10 12:58
LCS	0L21002-BS1	COPY122210W-011	12/22/10 13:01
Blank	0L21002-BLK1	COPY122210W-012	12/22/10 13:03
BCHMS-FD001-1210	1012153-01	COPY122210W-013	12/22/10 13:04
BCHMS-GW-004-1210	1012153-02	COPY122210W-014	12/22/10 13:05
BCHMS-GW-005-1210	1012153-03	COPY122210W-015	12/22/10 13:07
BCHMS-GW-006-1210	1012153-04	COPY122210W-016	12/22/10 13:08
BCHMS-GW-007-1210	1012153-05	COPY122210W-017	12/22/10 13:09
BCHMS-FD002-1210	1012153-06	COPY122210W-018	12/22/10 13:11
BCHMS-GW-008-1210	1012153-07	COPY122210W-019	12/22/10 13:13
Calibration Check	0L36110-CCV1	COPY122210W-020	12/22/10 13:13
Calibration Blank	0L36110-CCB1	COPY122210W-021	12/22/10 13:17
BCHMS-GW-009D-1210	1012153-08	COPY122210W-022	12/22/10 13:22
Calibration Check	0L36110-CCV2	COPY122210W-025	12/22/10 13:35
Calibration Blank	0L36110-CCB2	COPY122210W-026	12/22/10 13:37
LCS	0L21003-BS1	COPY122210W-033	12/22/10 13:47
Blank	0L21003-BLK1	COPY122210W-034	12/22/10 13:48
BCHMS-GW-010-1210	1012153-09	COPY122210W-035	12/22/10 13:49
BCHMS-GW-011-1210	1012153-10	COPY122210W-036	12/22/10 13:51
Calibration Check	0L36110-CCV3	COPY122210W-037	12/22/10 13:54
Calibration Blank	0L36110-CCB3	COPY122210W-038	12/22/10 13:55
BCHMS-GW-012-1210	1012153-11	COPY122210W-039	12/22/10 13:56
BCHMS-GW-012-1210	0L21003-MS1	COPY122210W-040	12/22/10 13:58
BCHMS-GW-012-1210	0L21003-MSD1	COPY122210W-041	12/22/10 13:59

# ANALYSIS SEQUENCE SUMMARY

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36110

Instrument: ME-FIMS

Calibration: 0361002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	0L36110-CCV4	COPY122210W-042	12/22/10 14:06
Calibration Blank	0L36110-CCB4	COPY122210W-043	12/22/10 14:07

# INITIAL AND CONTINUING CALIBRATION CHECK

SW7470A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-FIMS

Calibration: 0361002

Sequence: 0L36110

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
0L36110-ICV1	Mercury	4.000	4.346	109	ug/L	+/- 15.00%
0L36110-CCV1	Mercury	4.000	4.414	110	ug/L	+/- 15.00%
0L36110-CCV2	Mercury	4.000	4.542	114	ug/L	+/- 15.00%
0L36110-CCV3	Mercury	2.000	2.285	114	ug/L	+/- 15.00%
0L36110-CCV4	Mercury	2.000	2.258	113	ug/L	+/- 15.00%

**BLANKS**  
**SW7470A**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-FIMS

Project: NAS Key West CTO JM17

Sequence: 0L36110

Calibration: 0361002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
0L36110-ICB1	Mercury	-0.09186	0.0800	0.200	ug/L	I	SW7470A
0L21002-BLK1	Mercury	-0.0993	0.0800	0.200	ug/L	I	SW7470A
0L36110-CCB1	Mercury	-0.0822	0.0800	0.200	ug/L	I	SW7470A
0L36110-CCB2	Mercury	-0.0785	0.0800	0.200	ug/L	U	SW7470A
0L21003-BLK1	Mercury	-0.103	0.0800	0.200	ug/L	I	SW7470A
0L36110-CCB3	Mercury	-0.0453	0.0800	0.200	ug/L	U	SW7470A
0L36110-CCB4	Mercury	-0.0582	0.0800	0.200	ug/L	U	SW7470A

# ANALYSIS SEQUENCE SUMMARY

SW7471A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 1A00306

Instrument: ME-FIMS

Calibration: 1003001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	1A00306-CAL1	010311S-002	01/03/11 09:38
Cal Standard	1A00306-CAL2	010311S-003	01/03/11 09:39
Cal Standard	1A00306-CAL3	010311S-004	01/03/11 09:41
Cal Standard	1A00306-CAL4	010311S-005	01/03/11 09:43
Cal Standard	1A00306-CAL5	010311S-006	01/03/11 09:45
Cal Standard	1A00306-CAL6	010311S-007	01/03/11 09:47
Cal Standard	1A00306-CAL7	010311S-008	01/03/11 09:49
Cal Standard	1A00306-CAL8	010311S-009	01/03/11 09:51
Initial Cal Check	1A00306-ICV1	010311S-010	01/03/11 10:09
Initial Cal Blank	1A00306-ICB1	010311S-011	01/03/11 10:10
Instrument RL Check	1A00306-CRL1	010311S-012	01/03/11 10:12
LCS	0L29002-BS1	010311S-013	01/03/11 10:15
Blank	0L29002-BLK1	010311S-014	01/03/11 10:16
BCHMS-SO-002-1210	1012153-13	010311S-015	01/03/11 10:18
BCHMS-SO-004-1210	1012153-14	010311S-016	01/03/11 10:20
BCHMS-SO-007-1210	1012153-15	010311S-017	01/03/11 10:21
BCHMS-SO-010-1210	1012153-16	010311S-018	01/03/11 10:23
BCHMS-SO-012-1210	1012153-17	010311S-019	01/03/11 10:25
BCHMS-SO-013-1210	1012153-18	010311S-020	01/03/11 10:27
BCHMS-SO-014-1210	1012153-19	010311S-021	01/03/11 10:29
Calibration Check	1A00306-CCV1	010311S-022	01/03/11 10:31
Calibration Blank	1A00306-CCB1	010311S-023	01/03/11 10:32
BCHMS-SO-015-1210	1012153-20	010311S-024	01/03/11 10:34
BCHMS-SO-016-1210	1012153-21	010311S-025	01/03/11 10:36
BCHMS-SO-017-1210	1012153-22	010311S-026	01/03/11 10:37
BCHMS-SO-018-1210	1012153-23	010311S-027	01/03/11 10:39
BCHMS-SO-019-1210	1012153-24	010311S-028	01/03/11 10:41
BCHMS-SO-020-1210	1012153-25	010311S-029	01/03/11 10:43
BCHMS-SO-021-1210	1012153-26	010311S-030	01/03/11 10:45
BCHMS-SO-022-1210	1012153-27	010311S-031	01/03/11 10:47
BCHMS-SO-023-1210	1012153-28	010311S-032	01/03/11 10:48
BCHMS-SO-024-1210	1012153-29	010311S-033	01/03/11 10:50

## ANALYSIS SEQUENCE SUMMARY

SW7471A

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Sequence: 1A00306  
 Calibration: 1003001

SDG: CTOJM17KW\_003  
 Project: NAS Key West CTO JM17  
 Instrument: ME-FIMS

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	1A00306-CCV2	010311S-034	01/03/11 10:52
Calibration Blank	1A00306-CCB2	010311S-035	01/03/11 10:53
BCHMS-SO-025-1210	1012153-30	010311S-036	01/03/11 10:55
BCHMS-SO-026-1210	1012153-31	010311S-037	01/03/11 10:57
BCHMS-SO-028-1210	1012153-32	010311S-038	01/03/11 10:59
BCHMS-SO-028-1210	0L29002-MS1	010311S-039	01/03/11 11:01
BCHMS-SO-028-1210	0L29002-DUP1	010311S-040	01/03/11 11:03
LCS	0L29003-BS1	010311S-041	01/03/11 11:04
Blank	0L29003-BLK1	010311S-042	01/03/11 11:06
BCHMS-SO-FD01-1210	1012153-33	010311S-043	01/03/11 11:08
BCHMS-SO-FD02-1210	1012153-34	010311S-044	01/03/11 11:09
BCHMS-SO-FD02-1210	0L29003-MS1	010311S-045	01/03/11 11:11
Calibration Check	1A00306-CCV3	010311S-046	01/03/11 11:13
Calibration Blank	1A00306-CCB3	010311S-047	01/03/11 11:15
BCHMS-SO-FD02-1210	0L29003-DUP1	010311S-048	01/03/11 11:17
Instrument RL Check	1A00306-CRL2	010311S-049	01/03/11 11:19
Calibration Check	1A00306-CCV4	010311S-050	01/03/11 11:20
Calibration Blank	1A00306-CCB4	010311S-051	01/03/11 11:22

# INITIAL AND CONTINUING CALIBRATION CHECK

SW7471A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-FIMS

Calibration: 1003001

Sequence: 1A00306

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
1A00306-ICV1	Mercury	4.000	4.291	107	ug/L	+/- 15.00%
1A00306-CCV1	Mercury	4.000	4.043	101	ug/L	+/- 15.00%
1A00306-CCV2	Mercury	4.000	4.070	102	ug/L	+/- 15.00%
1A00306-CCV3	Mercury	2.000	2.022	101	ug/L	+/- 15.00%
1A00306-CCV4	Mercury	2.000	2.043	102	ug/L	+/- 15.00%

# CRDL STANDARD

SW7471A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: ME-FIMS

Calibration: 1003001

Sequence: 1A00306

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limits
1A00306-CRL1	Mercury	0.2000	0.2278	114	ug/L	70 - 130
1A00306-CRL2	Mercury	0.2000	0.2355	118	ug/L	70 - 130

**BLANKS**  
**SW7471A**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_003

Client: Tetra Tech NUS, Inc. (T010)

Instrument ID: ME-FIMS

Project: NAS Key West CTO JM17

Sequence: 1A00306

Calibration: 1003001

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
1A00306-ICB1	Mercury	0.05602	0.0780	0.198	ug/L	U	SW7471A
0L29002-BLK1	Mercury	0.0104	0.0130	0.0330	mg/Kg wet	U	SW7471A
1A00306-CCB1	Mercury	0.0610	0.0780	0.198	ug/L	U	SW7471A
1A00306-CCB2	Mercury	0.0596	0.0780	0.198	ug/L	U	SW7471A
0L29003-BLK1	Mercury	0.00936	0.0130	0.0330	mg/Kg wet	U	SW7471A
1A00306-CCB3	Mercury	0.0595	0.0780	0.198	ug/L	U	SW7471A
1A00306-CCB4	Mercury	0.0567	0.0780	0.198	ug/L	U	SW7471A



TO: S. Stotler-Hardy  
FROM: A. Cognetti  
SDG: CTOJM17KW\_1  
DATE: February 7, 2011

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### VOC

The continuing calibration percent differences (%Ds) for bromodichloromethane, bromomethane and dibromochloromethane were greater than the 20% quality control limit on December 16, 2010 @ 13:19 on instrument MS-VOA3 affecting samples BCHMS-GW-017-1210, BCHMS-GW-018-1210, BCHMS-GW-020D-1210, BCHMS-GW-021-1210, BCHMS-GW-022-1210, BCHMS-GW-023D-1210, BCHMS-GW-025-1210, BCHMS-GW-026-1210 and BCHMS-TB01-1210. The nondetected bromodichloromethane, bromomethane and dibromochloromethane results in the affected samples were qualified as estimated (UJ).

The continuing calibration %Ds for several analytes were greater than the 20% quality control limit on December 17, 2010 @ 13:42 on instrument MS-VOA3 affecting samples BCHMS-GW-024-1210 and BCHMS-GW-027-1210. The analytes were acetone, bromodichloromethane, bromomethane, carbon disulfide, carbon tetrachloride, chloroform, dibromochloromethane, dichlorodifluoromethane, 1,2-dichloroethane, methyl acetate, 1,1,1-trichloroethane, trichlorofluoromethane and 1,1,2-trichlorotrifluoroethane. The nondetected results of the aforementioned compounds were qualified as estimated (UJ) in the affected samples BCHMS-GW-024-1210 and BCHMS-GW-027-1210.

### SVOC

The continuing calibration %Ds for several SVOC analytes were greater than the 20% quality control limit on December 28, 2010 @ 15:41 on instrument MS-BNA1 affecting all samples. The analytes were benzaldehyde, 1,1-biphenyl, caprolactam, 4-chloro-3-methylphenol, 2,4-dinitrophenol, di-n-octylphthalate, 2-nitroaniline and 2-nitrophenol. The nondetected results of the aforementioned compounds were qualified as estimated (UJ) in the affected samples.

It was noted by the data validator on the form 1 for sample BCHMS-GW-023D-1210 that all of the surrogates had percent recoveries (%Rs) less than the lower quality control limit. Acid surrogates, 2-fluorophenol and phenol-d6 had %Rs less than 10% in sample BCHMS-GW-023D-1210. The nondetected acid compounds in sample BCHMS-GW-023D-1210 were qualified as rejected (UR).

### PEST

The continuing calibration verification (CCV) CCV-4 on December 23, 2010 @ 20:20 had several pesticides with %Ds greater than the quality control limit on column 1. The pesticides were 4,4'-DDT, alpha-BHC, delta-BHC, gamma-BHC and heptachlor. These noncompliances affect both samples analyzed for pesticides. The positive gamma-BHC result in sample BCHMS-GW-024-1210 was taken from column 1 and qualified as estimated (J).

### ADDITIONAL COMMENTS

The chain of custody has several samples listed to be analyzed for SIM PAHs. The project manager via an email informed the laboratory per the SAP, PAHs are not to be analyzed. (See attached memo dated 12/13/2010).

The trip blank, BCHMS-TB01-1210, contained the contaminant methylene chloride.

<u>Contaminant</u>	<u>Maximum Concentration (ug/L)</u>
Methylene chloride	1.08

No action was taken on the nondetected methylene chloride results in the associated samples.

TO: S. Stotler-Hardy  
FROM: A. Cognetti  
SDG: CTOJM17KW\_1  
DATE: February 7, 2011

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The CCV-5 on December 23, 2010 @ 20:57 had a %D for toxaphene greater than the quality control limit on column 2. No action was taken on the nondetected toxaphene results.

The CCV-3 on December 23, 2010 @ 14:46 had a %D for Aroclor 1260 greater than the quality control limit on column 2. No action was taken on the nondetected Aroclor 1260 results.

The CCV-3 on December 15, 2010 @ 15:02 had a %D greater than the 20% quality control limit affecting the blank. No action was taken.

Nondetected results were reported to the method detection limit (MDL).

Positive results less than the reporting limit (RL) and greater than the MDL were qualified as estimated (J).

### **EXECUTIVE SUMMARY**

**Laboratory Performance Issues:** The continuing calibration %D for several compounds exceeded quality control limits in the VOC, SVOC and PEST fractions.

**Other factors affecting data quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (October 1999) and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (January 2006). The text of this report has been formulated to address only those problem areas affecting data quality.



Tetra Tech NUS  
Ann Cognetti  
Chemist/Data Validator



TetraTech NUS  
Joseph A. Samchuck  
Data Validation Quality Assurance Officer

#### Attachments:

- Appendix A – Qualified Analytical Results
- Appendix B – Results as Reported by the Laboratory
- Appendix C – Support Documentation

**APPENDIX A**

**QUALIFIED ANALYTICAL RESULTS**

**Data Validation Qualifier Codes:**

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS - GFAA MSA's  $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ( $< 2 \times$  IDL for inorganics and  $< CRQL$  for organics)
- Q = Other problems (can be any number of issues; e.g. poor chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = % Difference between columns/detectors  $> 25\%$  for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient  $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids  $< 30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-017-1210	BCHMS-GW-018-1210	BCHMS-GW-020D-1210	BCHMS-GW-021-1210				
SDG: CTOJM17KW_1	LAB_ID	1012118-06	1012118-07	1012118-08	1012118-01				
FRACTION: OV	SAMP_DATE	12/9/2010	12/9/2010	12/9/2010	12/8/2010				
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/L	UG/L	UG/L	UG/L				
	PCT_SOLIDS	0.0	0.0	0.0	0.0				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE	0.25 U			0.25 U			0.25 U		
1,1,2,2-TETRACHLOROETHANE	0.2 U			0.2 U			0.2 U		
1,1,2-TRICHLOROETHANE	0.25 U			0.25 U			0.25 U		
1,1,2-TRICHLOROTRIFLUOROETHANE	0.5 U			0.5 U			0.5 U		
1,1-DICHLOROETHANE	0.25 U			0.25 U			0.25 U		
1,1-DICHLOROETHENE	0.25 U			0.25 U			0.387 J		P
1,2,3-TRICHLOROETHENE	0.25 U			0.25 U			0.25 U		
1,2,4-TRICHLOROETHENE	0.25 U			0.25 U			0.25 U		
1,2-DIBROMO-3-CHLOROPROPANE	0.2 U			0.2 U			0.2 U		
1,2-DIBROMOETHANE	0.25 U			0.25 U			0.25 U		
1,2-DICHLOROETHENE	0.25 U			0.25 U			0.25 U		
1,2-DICHLOROETHANE	0.25 U			0.25 U			0.25 U		
1,2-DICHLOROPROPANE	0.25 U			0.25 U			0.25 U		
1,3-DICHLOROETHENE	0.25 U			0.25 U			0.25 U		
1,4-DICHLOROETHENE	0.25 U			0.25 U			0.25 U		
2-BUTANONE	2.5 U			2.5 U			2.5 U		
2-HEXANONE	1.25 U			1.25 U			1.25 U		
4-METHYL-2-PENTANONE	1.25 U			1.25 U			1.25 U		
ACETONE	2.5 U			3.51 J			2.5 U		P
BENZENE	0.25 U			0.25 U			0.25 U		
BROMOCHLOROMETHANE	0.25 U			0.25 U			0.25 U		
BROMODICHLOROMETHANE	0.25 U			0.25 U			0.25 U		
BROMOFORM	0.25 U			0.25 U			0.25 U		
BROMOMETHANE	0.5 U			0.5 U			0.5 U		
CARBON DISULFIDE	0.25 U			0.25 U			0.25 U		
CARBON TETRACHLORIDE	0.25 U			0.25 U			0.25 U		
CHLOROBENZENE	0.25 U			0.25 U			0.25 U		
CHLORODIBROMOMETHANE	0.25 U			0.25 U			0.25 U		
CHLOROETHANE	0.5 U			0.5 U			0.5 U		
CHLOROFORM	0.25 U			0.25 U			0.25 U		
CHLOROMETHANE	0.25 U			0.25 U			0.25 U		
CIS-1,2-DICHLOROETHENE	0.25 U			0.25 U			7.31		
CIS-1,3-DICHLOROPROPENE	0.25 U			0.25 U			0.25 U		
CYCLOHEXANE	0.25 U			0.25 U			0.25 U		
DICHLORODIFLUOROMETHANE	0.5 U			0.5 U			0.5 U		

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-022-1210	BCHMS-GW-023D-1210	BCHMS-GW-024-1210	BCHMS-GW-025-1210
SDG: CTOJM17KW_1	LAB_ID	1012118-02	1012118-03	1012118-04RE1	1012118-09
FRACTION: OV	SAMP_DATE	12/8/2010	12/8/2010	12/8/2010	12/9/2010
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM
	UNITS	UG/L	UG/L	UG/L	UG/L
	PCT_SOLIDS	0.0	0.0	0.0	0.0
	DUP_OF				
PARAMETER	RESULT	RESULT	RESULT	RESULT	RESULT
1,1,1-TRICHLOROETHANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2,2-TETRACHLOROETHANE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-TRICHLOROETHANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-DICHLOROETHANE	0.25 U	2.69	0.25 U	0.25 U	0.25 U
1,1-DICHLOROETHENE	0.25 U	9.24	0.25 U	0.25 U	0.25 U
1,2,3-TRICHLOROETHENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2,4-TRICHLOROETHENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-DIBROMO-3-CHLOROPROPANE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-DIBROMOETHANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-DICHLOROETHENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-DICHLOROETHANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-DICHLOROPROPANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-DICHLOROETHENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,4-DICHLOROETHENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2-BUTANONE	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
2-HEXANONE	1.25 U	1.25 U	1.25 U	1.25 U	1.25 U
4-METHYL-2-PENTANONE	1.25 U	1.25 U	1.25 U	1.25 U	1.25 U
ACETONE	2.5 U	2.5 U	3.57 U	CP	2.5 U
BENZENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
BROMOCHLOROMETHANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
BROMODICHLOROMETHANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
BROMOFORM	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
BROMOMETHANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CARBON DISULFIDE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CARBON TETRACHLORIDE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CHLOROBENZENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CHLORODIBROMOMETHANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CHLOROETHANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CHLOROFORM	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CHLOROMETHANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CIS-1,2-DICHLOROETHENE	0.25 U	15.8	0.25 U	0.25 U	0.25 U
CIS-1,3-DICHLOROPROPENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CYCLOHEXANE	0.25 U	0.25 U	0.611 U	P	0.25 U
DICHLORODIFLUOROMETHANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

PARAMETER	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD
PROJ_NO: 02608	NSAMPLE	BCHMS-GW-026-1210		BCHMS-GW-027-1210		BCHMS-TB01-1210			
SDG: CTOJM17KW_1	LAB_ID	1012118-10		1012118-05RE1		1012118-11			
FRACTION: OV	SAMP_DATE	12/9/2010		12/8/2010		12/9/2010			
MEDIA: WATER	QC_TYPE	NM		NM		NM			
	UNITS	UG/L		UG/L		UG/L			
	PCT_SOLIDS	0.0		0.0		0.0			
	DUP_OF								
1,1,1-TRICHLOROETHANE	0.25 U			0.25 UJ	C	0.25 U			
1,1,2,2-TETRACHLOROETHANE	0.2 U			0.2 U		0.2 U			
1,1,2-TRICHLOROETHANE	0.25 U			0.25 U		0.25 U			
1,1,2-TRICHLOROTRIFLUOROETHANE	0.5 U			0.5 UJ	C	0.5 U			
1,1-DICHLOROETHANE	0.25 U			0.25 U		0.25 U			
1,1-DICHLOROETHENE	0.25 U			0.25 U		0.25 U			
1,2,3-TRICHLOROETHENE	0.25 U			0.25 U		0.25 U			
1,2,4-TRICHLOROETHENE	0.25 U			0.25 U		0.25 U			
1,2-DIBROMO-3-CHLOROPROPANE	0.2 U			0.2 U		0.2 U			
1,2-DIBROMOETHANE	0.25 U			0.25 U		0.25 U			
1,2-DICHLOROETHENE	0.25 U			0.25 U		0.25 U			
1,2-DICHLOROETHANE	0.25 U			0.25 UJ	C	0.25 U			
1,2-DICHLOROPROPANE	0.25 U			0.25 U		0.25 U			
1,3-DICHLOROETHENE	0.25 U			0.25 U		0.25 U			
1,4-DICHLOROETHENE	0.25 U			0.25 U		0.25 U			
2-BUTANONE	2.5 U			2.5 U		2.5 U			
2-HEXANONE	1.25 U			1.25 U		1.25 U			
4-METHYL-2-PENTANONE	1.25 U			1.25 U		1.25 U			
ACETONE	2.5 U			3 J	CP	2.5 U			
BENZENE	0.25 U			0.25 U		0.25 U			
BROMOCHLOROMETHANE	0.25 U			0.25 U		0.25 U			
BROMODICHLOROMETHANE	0.25 UJ	C		0.25 UJ	C	0.25 UJ	C		
BROMOFORM	0.25 U			0.25 U		0.25 U			
BROMOMETHANE	0.5 UJ	C		0.5 UJ	C	0.5 UJ	C		
CARBON DISULFIDE	0.25 U			0.25 UJ	C	0.25 U			
CARBON TETRACHLORIDE	0.25 U			0.25 UJ	C	0.25 U			
CHLOROETHENE	0.25 U			0.25 U		0.25 U			
CHLORODIBROMOMETHANE	0.25 UJ	C		0.25 UJ	C	0.25 UJ	C		
CHLOROETHANE	0.5 U			0.5 U		0.5 U			
CHLOROFORM	0.25 U			0.25 UJ	C	0.25 U			
CHLOROMETHANE	0.25 U			0.25 U		0.25 U			
CIS-1,2-DICHLOROETHENE	0.25 U			0.25 U		0.25 U			
CIS-1,3-DICHLOROPROPENE	0.25 U			0.25 U		0.25 U			
CYCLOHEXANE	0.25 U			0.25 U		0.25 U			
DICHLORODIFLUOROMETHANE	0.5 U			0.5 UJ	C	0.5 U			

PARAMETER	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD
PROJ NO: 02608	NSAMPLE	BCHMS-GW-017-1210		BCHMS-GW-018-1210		BCHMS-GW-020D-1210		BCHMS-GW-021-1210				
SDG: CTOJM17KW_1	LAB_ID	1012118-06		1012118-07		1012118-08		1012118-01				
FRACTION: OV	SAMP_DATE	12/9/2010		12/9/2010		12/9/2010		12/8/2010				
MEDIA: WATER	QC_TYPE	NM		NM		NM		NM				
	UNITS	UG/L		UG/L		UG/L		UG/L				
	PCT SOLIDS	0.0		0.0		0.0		0.0				
	DUP OF											
ETHYLBENZENE	0.25 U			0.25 U		0.25 U		0.25 U		0.25 U		
ISOPROPYLBENZENE	0.25 U			0.25 U		0.25 U		0.25 U		0.25 U		
M+P-XYLENES	0.5 U			0.5 U		0.5 U		0.5 U		0.5 U		
METHYL ACETATE	0.5 U			0.5 U		0.5 U		0.5 U		0.5 U		
METHYL CYCLOHEXANE	0.25 U			0.25 U		0.25 U		0.25 U		0.25 U		
METHYL TERT-BUTYL ETHER	0.25 U			0.25 U		0.25 U		0.25 U		0.25 U		
METHYLENE CHLORIDE	0.5 U			0.5 U		0.5 U		0.5 U		0.5 U		
O-XYLENE	0.25 U			0.25 U		0.25 U		0.25 U		0.25 U		
STYRENE	0.25 U			0.25 U		0.25 U		0.25 U		0.25 U		
TETRACHLOROETHENE	0.25 U			0.25 U		0.25 U		0.25 U		0.25 U		
TOLUENE	0.25 U			0.25 U		0.25 U		0.25 U		0.25 U		
TRANS-1,2-DICHLOROETHENE	0.25 U			0.25 U		0.675 J	P	0.25 U		0.25 U		
TRANS-1,3-DICHLOROPROPENE	0.25 U			0.25 U		0.25 U		0.25 U		0.25 U		
TRICHLOROETHENE	0.25 U			0.299 J	P	0.25 U		0.25 U		0.25 U		
TRICHLOROFLUOROMETHANE	0.5 U			0.5 U		0.5 U		0.5 U		0.5 U		
VINYL CHLORIDE	0.25 U			0.25 U		0.25 U		0.25 U		0.25 U		

PARAMETER	NSAMPLE	RESULT	VQL	QLCD	NSAMPLE	RESULT	VQL	QLCD	NSAMPLE	RESULT	VQL	QLCD	NSAMPLE	RESULT	VQL	QLCD
ETHYLBENZENE	BCHMS-GW-022-1210	0.25 U			BCHMS-GW-023D-1210	0.25 U			BCHMS-GW-024-1210	1.55			BCHMS-GW-025-1210	0.25 U		
ISOPROPYLBENZENE	1012118-02	0.25 U			1012118-03	0.25 U			1012118-04RE1	1.17			1012118-09	0.25 U		
M+P-XYLENES	12/8/2010	0.5 U			12/8/2010	0.5 U			12/8/2010	0.5 U			12/9/2010	0.5 U		
METHYL ACETATE	NM	0.5 U			NM	0.5 U			NM	0.5 U	C		NM	0.5 U		
METHYL CYCLOHEXANE	UG/L	0.25 U			UG/L	0.25 U			UG/L	1.78			UG/L	0.25 U		
METHYL TERT-BUTYL ETHER	0.0	0.25 U			0.0	0.25 U			0.0	0.25 U			0.0	0.25 U		
METHYLENE CHLORIDE		0.5 U				0.5 U				0.5 U				0.5 U		
O-XYLENE		0.25 U				0.25 U				0.25 U				0.25 U		
STYRENE		0.25 U				0.25 U				0.25 U				0.25 U		
TETRACHLOROETHENE		0.25 U				0.25 U				0.25 U				0.25 U		
TOLUENE		0.25 U				0.25 U				0.25 U				0.25 U		
TRANS-1,2-DICHLOROETHENE		0.25 U				3.49				0.25 U				0.25 U		
TRANS-1,3-DICHLOROPROPENE		0.25 U				0.25 U				0.25 U				0.25 U		
TRICHLOROETHENE		0.25 U				0.25 U				0.25 U				0.25 U		
TRICHLOROFLUOROMETHANE		0.5 U				0.5 U				0.5 U	C			0.5 U		
VINYL CHLORIDE		0.25 U				0.341 U		P		0.25 U				0.25 U		

PARAMETER	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD
ETHYL BENZENE	0.25 U			0.25 U			0.25 U		
ISOPROPYLBENZENE	0.25 U			0.25 U			0.25 U		
M+P-XYLENES	0.5 U			0.5 U			0.5 U		
METHYL ACETATE	0.5 U			0.5 U	C		0.5 U		
METHYL CYCLOHEXANE	0.25 U			0.25 U			0.25 U		
METHYL TERT-BUTYL ETHER	0.25 U			0.25 U			0.25 U		
METHYLENE CHLORIDE	0.5 U			0.5 U			1.08 U	P	
O-XYLENE	0.25 U			0.25 U			0.25 U		
STYRENE	0.25 U			0.25 U			0.25 U		
TETRACHLOROETHENE	0.25 U			0.25 U			0.25 U		
TOLUENE	0.25 U			0.25 U			0.25 U		
TRANS-1,2-DICHLOROETHENE	0.25 U			0.25 U			0.25 U		
TRANS-1,3-DICHLOROPROPENE	0.25 U			0.25 U			0.25 U		
TRICHLOROETHENE	0.25 U			0.25 U			0.25 U		
TRICHLOROFLUOROMETHANE	0.5 U			0.5 U	C		0.5 U		
VINYL CHLORIDE	0.25 U			0.25 U			0.25 U		

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-026-1210	BCHMS-GW-027-1210	BCHMS-TB01-1210
SDG: CTOJM17KW_1	LAB_ID	1012118-10	1012118-05RE1	1012118-11
FRACTION: OV	SAMP_DATE	12/9/2010	12/8/2010	12/9/2010
MEDIA: WATER	QC_TYPE	NM	NM	NM
	UNITS	UG/L	UG/L	UG/L
	PCT SOLIDS	0.0	0.0	0.0
	DUP_OF			

PARAMETER	RESULT	UQL	QLCD	RESULT	UQL	QLCD	RESULT	UQL	QLCD	RESULT	UQL	QLCD	
PROJ NO: 02608	NSAMPLE	ECHMS-GW-017-1210		ECHMS-GW-018-1210		ECHMS-GW-020D-1210		ECHMS-GW-021-1210					
SDG: CTOJM17KW_1	LAB_ID	1012118-06		1012118-07		1012118-08		1012118-01					
FRACTION: PAH	SAMP_DATE	12/9/2010		12/9/2010		12/9/2010		12/8/2010					
MEDIA: WATER	QC_TYPE	NM		NM		NM		NM					
	UNITS	UG/L		UG/L		UG/L		UG/L					
	PCT_SOLIDS	0.0		0.0		0.0		0.0					
	DUP_OF												
1,1-BIPHENYL	RESULT	0.467	UJ	C	0.469	UJ	C	0.472	UJ	C	0.467	UJ	C
1,2,4,5-TETRACHLOROBENZENE	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
1,4-DIOXANE	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
2,2-OXYBIS(1-CHLOROPROPANE)	RESULT	0.467	U		0.469	U		0.472	U		0.467	U	
2,3,4,6-TETRACHLOROPHENOL	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
2,4,5-TRICHLOROPHENOL	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
2,4,6-TRICHLOROPHENOL	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
2,4-DICHLOROPHENOL	RESULT	0.28	U		0.282	U		0.283	U		0.28	U	
2,4-DIMETHYLPHENOL	RESULT	2.34	U		2.35	U		2.36	U		2.34	U	
2,4-DINITROPHENOL	RESULT	5.84	UJ	C	5.87	UJ	C	5.9	UJ	C	5.84	UJ	C
2,4-DINITROTOLUENE	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
2,6-DINITROTOLUENE	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
2-CHLORONAPHTHALENE	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
2-CHLOROPHENOL	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
2-METHYLPHENOL	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
2-NITROANILINE	RESULT	2.34	UJ	C	2.35	UJ	C	2.36	UJ	C	2.34	UJ	C
2-NITROPHENOL	RESULT	0.584	UJ	C	0.587	UJ	C	0.59	UJ	C	0.584	UJ	C
3,3-DICHLOROBENZIDINE	RESULT	0.467	U		0.469	U		0.472	U		0.467	U	
3-NITROANILINE	RESULT	1.4	U		1.41	U		1.42	U		1.4	U	
4,6-DINITRO-2-METHYLPHENOL	RESULT	2.34	U		2.35	U		2.36	U		2.34	U	
4-BROMOPHENYL PHENYL ETHER	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
4-CHLORO-3-METHYLPHENOL	RESULT	0.584	UJ	C	0.587	UJ	C	0.59	UJ	C	0.584	UJ	C
4-CHLOROANILINE	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
4-CHLOROPHENYL PHENYL ETHER	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
4-METHYLPHENOL	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
4-NITROANILINE	RESULT	1.4	U		1.41	U		1.42	U		1.4	U	
4-NITROPHENOL	RESULT	2.34	U		2.35	U		2.36	U		2.34	U	
ACETOPHENONE	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
ATRAZINE	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
BENZALDEHYDE	RESULT	0.584	UJ	C	0.587	UJ	C	0.59	UJ	C	0.584	UJ	C
BIS(2-CHLOROETHOXY)METHANE	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
BIS(2-CHLOROETHYL)ETHER	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
BIS(2-ETHYLHEXYL)PHTHALATE	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
BUTYL BENZYL PHTHALATE	RESULT	0.584	U		0.587	U		0.59	U		0.584	U	
CAPROLACTAM	RESULT	0.584	UJ	C	0.587	UJ	C	0.59	UJ	C	0.584	UJ	C

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-022-1210	BCHMS-GW-023D-1210	BCHMS-GW-024-1210	BCHMS-GW-025-1210				
SDG: CTOUM7KW_1	LAB_ID	1012118-02	1012118-03	1012118-04	1012118-09				
FRACTION: PAH	SAMP_DATE	12/8/2010	12/8/2010	12/8/2010	12/9/2010				
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/L	UG/L	UG/L	UG/L				
	PCT_SOLIDS	0.0	0.0	0.0	0.0				
	DUP_OF								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL	0.467	UJ	C	0.463	UJ	C	0.467	UJ	C
1,2,4,5-TETRACHLORO BENZENE	0.584	U		0.579	U		0.584	U	
1,4-DIOXANE	0.584	U		1.32	J	P	0.584	U	
2,2'-OXYBIS(1-CHLOROPROPANE)	0.467	U		0.463	U		0.467	U	
2,3,4,6-TETRACHLOROPHENOL	0.584	U		0.579	UR	R	0.584	U	
2,4,5-TRICHLOROPHENOL	0.584	U		0.579	UR	R	0.584	U	
2,4,6-TRICHLOROPHENOL	0.584	U		0.579	UR	R	0.584	U	
2,4-DICHLOROPHENOL	0.28	U		0.278	UR	R	0.28	U	
2,4-DIMETHYLPHENOL	2.34	U		2.31	UR	R	2.34	U	
2,4-DINITROPHENOL	5.84	UJ	C	5.79	UR	R	5.84	UJ	C
2,4-DINITROTOLUENE	0.584	U		0.579	U		0.584	U	
2,6-DINITROTOLUENE	0.584	U		0.579	U		0.584	U	
2-CHLORONAPHTHALENE	0.584	U		0.579	U		0.584	U	
2-CHLOROPHENOL	0.584	U		0.579	UR	R	0.584	U	
2-METHYLPHENOL	0.584	U		0.579	UR	R	0.584	U	
2-NITROANILINE	2.34	UJ	C	2.31	UJ	C	2.34	UJ	C
2-NITROPHENOL	0.584	UJ	C	0.579	UR	R	0.584	UJ	C
3,3'-DICHLOROBENZIDINE	0.467	U		0.463	U		0.467	U	
3-NITROANILINE	1.4	U		1.39	U		1.4	U	
4,6-DINITRO-2-METHYLPHENOL	2.34	U		2.31	UR	R	2.34	U	
4-BROMOPHENYL PHENYL ETHER	0.584	U		0.579	U		0.584	U	
4-CHLORO-3-METHYLPHENOL	0.584	UJ	C	0.579	UR	R	0.584	UJ	C
4-CHLOROANILINE	0.584	U		0.579	U		0.584	U	
4-CHLOROPHENYL PHENYL ETHER	0.584	U		0.579	U		0.584	U	
4-METHYLPHENOL	0.584	U		0.579	UR	R	0.584	U	
4-NITROANILINE	1.4	U		1.39	U		1.4	U	
4-NITROPHENOL	2.34	U		2.31	UR	R	2.34	U	
ACETOPHENONE	0.584	U		0.579	U		0.584	U	
ATRAZINE	0.584	U		0.579	U		0.584	U	
BENZALDEHYDE	0.584	UJ	C	0.579	UJ	C	0.584	UJ	C
BIS(2-CHLOROETHOXY)METHANE	0.584	U		0.579	U		0.584	U	
BIS(2-CHLOROETHYL)ETHER	0.584	U		0.579	U		0.584	U	
BIS(2-ETHYLHEXYL)PHTHALATE	0.584	U		0.579	U		0.584	U	
BUTYL BENZYL PHTHALATE	0.584	U		0.579	U		0.584	U	
CAPROLACTAM	0.584	UJ	C	0.579	UJ	C	0.584	UJ	C

PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD
PROJ_NO: 02608	NSAMPLE	BCHMS-GW-026-1210		BCHMS-GW-027-1210		
SDG: CTOJM17KW_1	LAB_ID	1012118-10		1012118-05		
FRACTION: PAH	SAMP_DATE	12/9/2010		12/8/2010		
MEDIA: WATER	QC_TYPE	NM		NM		
	UNITS	UG/L		UG/L		
	PCT_SOLIDS	0.0		0.0		
	DUP_OF					
1,1-BIPHENYL	0.463	UJ	C	0.467	UJ	C
1,2,4,5-TETRACHLORO BENZENE	0.579	U		0.584	U	
1,4-DIOXANE	0.579	U		0.584	U	
2,2-OXYBIS(1-CHLOROPROPANE)	0.463	U		0.467	U	
2,3,4,6-TETRACHLOROPHENOL	0.579	U		0.584	U	
2,4,5-TRICHLOROPHENOL	0.579	U		0.584	U	
2,4,6-TRICHLOROPHENOL	0.579	U		0.584	U	
2,4-DICHLOROPHENOL	0.278	U		0.28	U	
2,4-DIMETHYLPHENOL	2.31	U		2.34	U	
2,4-DINITROPHENOL	5.79	UJ	C	5.84	UJ	C
2,4-DINITROTOLUENE	0.579	U		0.584	U	
2,6-DINITROTOLUENE	0.579	U		0.584	U	
2-CHLORONAPHTHALENE	0.579	U		0.584	U	
2-CHLOROPHENOL	0.579	U		0.584	U	
2-METHYLPHENOL	0.579	U		0.584	U	
2-NITROANILINE	2.31	UJ	C	2.34	UJ	C
2-NITROPHENOL	0.579	UJ	C	0.584	UJ	C
3,3'-DICHLOROBENZIDINE	0.463	U		0.467	U	
3-NITROANILINE	1.39	U		1.4	U	
4,6-DINITRO-2-METHYLPHENOL	2.31	U		2.34	U	
4-BROMOPHENYL PHENYL ETHER	0.579	U		0.584	U	
4-CHLORO-3-METHYLPHENOL	0.579	UJ	C	0.584	UJ	C
4-CHLOROANILINE	0.579	U		0.584	U	
4-CHLOROPHENYL PHENYL ETHER	0.579	U		0.584	U	
4-METHYLPHENOL	0.579	U		0.584	U	
4-NITROANILINE	1.39	U		1.4	U	
4-NITROPHENOL	2.31	U		2.34	U	
ACETOPHENONE	0.579	U		0.584	U	
ATRAZINE	0.579	U		0.584	U	
BENZALDEHYDE	0.579	UJ	C	0.584	UJ	C
BIS(2-CHLOROETHOXY)METHANE	0.579	U		0.584	U	
BIS(2-CHLOROETHYL)ETHER	0.579	U		0.584	U	
BIS(2-ETHYLHEXYL)PHTHALATE	0.579	U		0.584	U	
BUTYL BENZYL PHTHALATE	0.579	U		0.584	U	
CAPROLACTAM	0.579	UJ	C	0.584	UJ	C

PARAMETER	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD
PROJ_NO: 02608	NSAMPLE	BCHMS-GW-017-1210		BCHMS-GW-018-1210		BCHMS-GW-020D-1210		BCHMS-GW-021-1210				
SDG: CTOJM17KW_1	LAB_ID	1012118-06		1012118-07		1012118-08		1012118-01				
FRACTION: PAH	SAMP_DATE	12/9/2010		12/9/2010		12/9/2010		12/8/2010				
MEDIA: WATER	QC_TYPE	NM		NM		NM		NM				
	UNITS	UG/L		UG/L		UG/L		UG/L				
	PCT_SOLIDS	0.0		0.0		0.0		0.0				
	DUP_OF											
CARBAZOLE	0.584	U		0.587	U		0.59	U		0.584	U	
DIBENZOFURAN	0.584	U		0.587	U		0.59	U		0.584	U	
DIETHYL PHTHALATE	0.584	U		0.587	U		0.59	U		0.584	U	
DIMETHYL PHTHALATE	0.584	U		0.587	U		0.59	U		0.584	U	
DI-N-BUTYL PHTHALATE	0.584	U		0.587	U		0.59	U		0.584	U	
DI-N-OCTYL PHTHALATE	0.584	UU	C	0.587	UU	C	0.59	UU	C	0.584	UU	C
HEXACHLORO BENZENE	0.584	U		0.587	U		0.59	U		0.584	U	
HEXACHLORO BUTADIENE	0.584	U		0.587	U		0.59	U		0.584	U	
HEXACHLORO CYCLOPENTADIENE	0.584	U		0.587	U		0.59	U		0.584	U	
HEXACHLORO ETHANE	0.584	U		0.587	U		0.59	U		0.584	U	
ISOPHORONE	0.584	U		0.587	U		0.59	U		0.584	U	
NAPHTHALENE	0.584	U		0.587	U		0.59	U		0.584	U	
NITROBENZENE	0.584	U		0.587	U		0.59	U		0.584	U	
N-NITROSO-DI-N-PROPYLAMINE	0.467	U		0.469	U		0.472	U		0.467	U	
N-NITROSDIPHENYLAMINE	0.584	U		0.587	U		0.59	U		0.584	U	
PENTACHLOROPHENOL	0.935	U		0.939	U		0.943	U		0.935	U	
PHENOL	0.584	U		0.587	U		0.59	U		0.584	U	

PARAMETER	RESULT	SQL	QLCD	RESULT	SQL	QLCD	RESULT	SQL	QLCD	RESULT	SQL	QLCD
PROJ_NO: 02608	NSAMPLE	BCHMS-GW-022-1210		BCHMS-GW-023D-1210		BCHMS-GW-024-1210		BCHMS-GW-025-1210				
SDG: CTOJM17KW_1	LAB_ID	1012118-02		1012118-03		1012118-04		1012118-09				
FRACTION: PAH	SAMP_DATE	12/8/2010		12/8/2010		12/8/2010		12/9/2010				
MEDIA: WATER	QC_TYPE	NM		NM		NM		NM				
	UNITS	UG/L		UG/L		UG/L		UG/L				
	PCT_SOLIDS	0.0		0.0		0.0		0.0				
	DUP_OF											
CARBAZOLE	0.584	U		0.579	U	0.584	U	0.579	U			
DIBENZOFURAN	0.584	U		0.579	U	0.584	U	0.579	U			
DIETHYL PHTHALATE	0.816	J	P	0.579	U	0.584	U	0.579	U			
DIMETHYL PHTHALATE	0.584	U		0.579	U	0.584	U	0.579	U			
DI-N-BUTYL PHTHALATE	0.584	U		0.579	U	0.584	U	0.579	U			
DI-N-OCTYL PHTHALATE	0.584	UU	C	0.579	UU	0.584	UU	0.579	UU			C
HEXACHLORO BENZENE	0.584	U		0.579	U	0.584	U	0.579	U			
HEXACHLOROBUTADIENE	0.584	U		0.579	U	0.584	U	0.579	U			
HEXACHLOROCYCLOPENTADIENE	0.584	U		0.579	U	0.584	U	0.579	U			
HEXACHLOROETHANE	0.584	U		0.579	U	0.584	U	0.579	U			
ISOPHORONE	0.584	U		0.579	U	0.584	U	0.579	U			
NAPHTHALENE	0.584	U		0.72	J	30.6		0.579	U			
NITROBENZENE	0.584	U		0.579	U	0.584	U	0.579	U			
N-NITROSO-DI-N-PROPYLAMINE	0.467	U		0.463	U	0.467	U	0.463	U			
N-NITROSODIPHENYLAMINE	0.584	U		0.579	U	0.584	U	0.579	U			
PENTACHLOROPHENOL	0.935	U		0.926	UR	0.935	U	0.926	U			
PHENOL	0.584	U		0.579	UR	0.584	U	0.579	U			

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-026-1210	BCHMS-GW-027-1210			
SDG: CTOJMI17KW_1	LAB_ID	1012118-10	1012118-05			
FRACTION: PAH	SAMP_DATE	12/9/2010	12/8/2010			
MEDIA: WATER	QC_TYPE	NM	NM			
	UNITS	UG/L	UG/L			
	PCT_SOLIDS	0.0	0.0			
	DUP_OF					
PARAMETER	RESULT	VOL	QLCD	RESULT	VOL	QLCD
CARBAZOLE	0.579 U			0.584 U		
DIBENZOFURAN	0.579 U			0.584 U		
DIETHYL_PHTHALATE	0.579 U			0.584 U		
DIMETHYL_PHTHALATE	0.579 U			0.584 U		
D1-N-BUTYL_PHTHALATE	0.579 U			0.584 U		
D1-N-OCTYL_PHTHALATE	0.579 UJ		C	0.584 UJ		C
HEXACHLOROBENZENE	0.579 U			0.584 U		
HEXACHLOROBUTADIENE	0.579 U			0.584 U		
HEXACHLOROCYCLOPENTADIENE	0.579 U			0.584 U		
HEXACHLOROETHANE	0.579 U			0.584 U		
ISOPHORONE	0.579 U			0.584 U		
NAPHTHALENE	0.579 U			0.584 U		
NITROBENZENE	0.579 U			0.584 U		
N-NITROSO-D1-N-PROPYLAMINE	0.463 U			0.467 U		
N-NITROSODIPHENYLAMINE	0.579 U			0.584 U		
PENTACHLOROPHENOL	0.926 U			0.935 U		
PHENOL	0.579 U			0.584 U		

PROJ_NO: 02608	NSAMPLE	BCHMS-GW-024-1210	BCHMS-GW-025-1210			
SDG: CTOJM17KW_1	LAB_ID	1012118-04	1012118-09			
FRACTION: PCB	SAMP_DATE	12/8/2010	12/9/2010			
MEDIA: WATER	QC_TYPE	NM	NM			
	UNITS	UG/L	UG/L			
	PCT_SOLIDS	0.0	0.0			
	DUP_OF					
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD
AROCLOR-1016	0.0556 U			0.0561 U		
AROCLOR-1221	0.0556 U			0.0561 U		
AROCLOR-1232	0.0556 U			0.0561 U		
AROCLOR-1242	0.0556 U			0.0561 U		
AROCLOR-1248	0.0556 U			0.0561 U		
AROCLOR-1254	0.0556 U			0.0561 U		
AROCLOR-1260	0.0556 U			0.0561 U		

PARAMETER	RESULT	SQL	QLCD	RESULT	SQL	QLCD
PROJ_NO: 02608	NSAMPLE	BCHMS-GW-024-1210		BCHMS-GW-025-1210		
SDG: CTOJM17KW_1	LAB_ID	1012118-04		1012118-09		
FRACTION: PEST	SAMP_DATE	12/8/2010		12/9/2010		
MEDIA: WATER	QC_TYPE	NM		NM		
	UNITS	UG/L		UG/L		
	PCT_SOLIDS	0.0		0.0		
	DUP_OF					
4,4'-DDD	0.00231 U			0.00234 U		
4,4'-DDE	0.00231 U			0.00234 U		
4,4'-DDT	0.00231 U			0.00234 U		
ALDRIN	0.00153 U			0.00154 U		
ALPHA-BHC	0.00295 J	P		0.00154 U		
ALPHA-CHLORDANE	0.00331 J	P		0.00154 U		
BETA-BHC	0.00216 J	P		0.00154 U		
DELTA-BHC	0.00153 U			0.00154 U		
DIELDRIN	0.00231 U			0.00234 U		
ENDOSULFAN I	0.00153 U			0.00154 U		
ENDOSULFAN II	0.00477 J	P		0.00234 U		
ENDOSULFAN SULFATE	0.00594 J	P		0.00234 U		
ENDRIN	0.00231 U			0.00234 U		
ENDRIN ALDEHYDE	0.00231 U			0.00234 U		
ENDRIN KETONE	0.00231 U			0.00234 U		
GAMMA-BHC (LINDANE)	0.00434 J	CP		0.00154 U		
GAMMA-CHLORDANE	0.00153 U			0.00154 U		
HEPTACHLOR	0.00216 J	P		0.00154 U		
HEPTACHLOR EPOXIDE	0.00153 U			0.00154 U		
METHOXYCHLOR	0.00153 U			0.00154 U		
TOXAPHENE	0.153 U			0.154 U		



PROJ_NO: 02608		NSAMPLE		BCHMS-GW-022-1210		BCHMS-GW-023D-1210		BCHMS-GW-024-1210		BCHMS-GW-025-1210			
SDG: CTOJM17KW_1		LAB_ID		1012118-02		1012118-03		1012118-04		1012118-09			
FRACTION: PET		SAMP_DATE		12/8/2010		12/8/2010		12/8/2010		12/9/2010			
MEDIA: WATER		QC_TYPE		NM		NM		NM		NM			
		UNITS		MG/L		MG/L		MG/L		MG/L			
		PCT_SOLIDS		0.0		0.0		0.0		0.0			
		DUP_OF											
PARAMETER		RESULT		VQL		QLCD		RESULT		VQL		QLCD	
TPH (C08-C40)		0.157 U						0.157 U					
		119								0.159 U			

PROJ_NO: 02608		NSAMPLE		BCHMS-GW-026-1210		BCHMS-GW-027-1210	
SDG: CTOJM17KW_1		LAB_ID		1012118-10		1012118-05	
FRACTION: PET		SAMP_DATE		12/9/2010		12/8/2010	
MEDIA: WATER		QC_TYPE		NM		NM	
		UNITS		MG/L		MG/L	
		PCT_SOLIDS		0.0		0.0	
		DUP_OF					
PARAMETER		RESULT		VQL		QLCD	
TPH (C08-C40)		0.159 U				0.17 U	

**APPENDIX B**

**RESULTS AS REPORTED BY THE LABORATORY**





# ANALYSIS DATA SHEET

**BCHMS-GW-018-1210**

Laboratory:	Empirical Laboratories, LLC	SDG:	CTOJM17KW_001
Client:	Tetra Tech NUS, Inc. (T010)	Project:	NAS Key West CTO JM17
Matrix:	Water	Laboratory ID:	1012118-07
		File ID:	1211807.D
Sampled:	12/09/10 15:00	Prepared:	12/16/10 00:00
		Analyzed:	12/16/10 19:23
Solids:		Preparation:	5030B
		Dilution:	1
Batch:	0L16012	Sequence:	0L35101
		Calibration:	0349001
		Instrument:	MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	3.51	2.50	5.00	10.0	I
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	X, Q U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	Y U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	X U
96-12-8	1,2-Dibromo-3-chloropropane		0.200	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U



















# ANALYSIS DATA SHEET

**BCHMS-GW-024-1210**

Laboratory:	<u>Empirical Laboratories, LLC</u>	SDG:	<u>CTOJM17KW_001</u>
Client:	<u>Tetra Tech NUS, Inc. (T010)</u>	Project:	<u>NAS Key West CTO JM17</u>
Matrix:	<u>Ground Water</u>	Laboratory ID:	<u>1012118-04RE1</u>
Sampled:	<u>12/08/10 14:30</u>	Prepared:	<u>12/17/10 00:00</u>
Solids:		Preparation:	<u>5030B</u>
Batch:	<u>0L17010</u>	Sequence:	<u>0L35202</u>
		Calibration:	<u>0349001</u>
			Instrument: <u>MS-VOA3</u>
			Dilution: <u>1</u>
			File ID: <u>1211804R.D</u>
			Analyzed: <u>12/17/10 23:04</u>

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	3.57	2.50	5.00	10.0	X I
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	X, Q U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	Y U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	X U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	X U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	X U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane	0.611	0.250	0.500	1.00	I
124-48-1	Dibromochloromethane		0.250	0.500	1.00	X U
96-12-8	1,2-Dibromo-3-chloropropane		0.200	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	X U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	X, Q U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene	1.55	0.250	0.500	1.00	
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene	1.17	0.250	0.500	1.00	
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	X U
108-87-2	Methylcyclohexane	1.78	0.250	0.500	1.00	
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U



















## ANALYSIS DATA SHEET

BCHMS-GW-017-1210

Laboratory: Empirical Laboratories, LLC SDG: CTOJM17KW\_001  
 Client: Tetra Tech NUS, Inc. (T010) Project: NAS Key West CTO JM17  
 Matrix: Water Laboratory ID: 1012118-06 File ID: 1211806.D  
 Sampled: 12/09/10 14:00 Prepared: 12/14/10 17:51 Analyzed: 12/28/10 20:07  
 Solids: Preparation: EXT 3510 Dilution: 1  
 Batch: 0L13015 Sequence: 0L36407 Calibration: 0362004 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
91-94-1	3,3'-Dichlorobenzidine		0.467	1.17	2.34	QU
98-86-2	Acetophenone		0.584	1.17	2.34	U
1912-24-9	Atrazine		0.584	1.17	2.34	QU
100-52-7	Benzaldehyde		0.584	1.17	2.34	YU
92-52-4	1,1-Biphenyl		0.467	1.17	2.34	YU
101-55-3	4-Bromophenyl-phenylether		0.584	1.17	2.34	QU
85-68-7	Butylbenzylphthalate		0.584	1.17	2.34	QU
105-60-2	Caprolactam		0.584	1.17	2.34	XU
86-74-8	Carbazole		0.584	1.17	2.34	QU
59-50-7	4-Chloro-3-methylphenol		0.584	1.17	2.34	XU
106-47-8	4-Chloroaniline		0.584	1.17	2.34	U
111-91-1	Bis(2-chloroethoxy)methane		0.584	1.17	2.34	U
111-44-4	Bis(2-chloroethyl)ether		0.584	1.17	2.34	U
108-60-1	2,2'-Oxybis-1-chloropropane		0.467	1.17	2.34	U
91-58-7	2-Chloronaphthalene		0.584	1.17	2.34	U
95-57-8	2-Chlorophenol		0.584	1.17	2.34	U
7005-72-3	4-Chlorophenyl phenyl ether		0.584	1.17	2.34	U
132-64-9	Dibenzofuran		0.584	1.17	2.34	U
84-74-2	Di-n-butylphthalate		0.584	1.17	2.34	QU
120-83-2	2,4-Dichlorophenol		0.280	1.17	2.34	U
84-66-2	Diethylphthalate		0.584	1.17	2.34	QU
105-67-9	2,4-Dimethylphenol		2.34	4.67	9.35	U
131-11-3	Dimethyl phthalate		0.584	1.17	2.34	QU
534-52-1	4,6-Dinitro-2-methylphenol		2.34	4.67	9.35	QU
51-28-5	2,4-Dinitrophenol		5.84	11.7	23.4	X, QU
121-14-2	2,4-Dinitrotoluene		0.584	1.17	2.34	QU
606-20-2	2,6-Dinitrotoluene		0.584	1.17	2.34	QU
117-84-0	Di-n-octylphthalate		0.584	1.17	2.34	X, QU
123-91-1	1,4-Dioxane		0.584	1.17	2.34	U
117-81-7	Bis(2-ethylhexyl)phthalate		0.584	1.17	2.34	QU
118-74-1	Hexachlorobenzene		0.584	1.17	2.34	QU
87-68-3	Hexachlorobutadiene		0.584	1.17	2.34	U
77-47-4	Hexachlorocyclopentadiene		0.584	1.17	2.34	U
67-72-1	Hexachloroethane		0.584	1.17	2.34	U
78-59-1	Isophorone		0.584	1.17	2.34	U
95-48-7	2-Methylphenol		0.584	1.17	2.34	U
106-44-5	4-Methylphenol		0.584	1.17	2.34	U
91-20-3	Naphthalene		0.584	1.17	2.34	U
100-01-6	4-Nitroaniline		1.40	4.67	9.35	QU











# ANALYSIS DATA SHEET

BCHMS-GW-021-1210

Laboratory: Empirical Laboratories, LLC SDG: CTOJM17KW 001  
 Client: Tetra Tech NUS, Inc. (T010) Project: NAS Key West CTO JM17  
 Matrix: Ground Water Laboratory ID: 1012118-01 File ID: 1211801.D  
 Sampled: 12/08/10 10:00 Prepared: 12/14/10 17:51 Analyzed: 12/28/10 17:48  
 Solids: Preparation: EXT 3510 Dilution: 1  
 Batch: 0L13015 Sequence: 0L36407 Calibration: 0362004 Instrument: MS-BNA1

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
91-94-1	3,3'-Dichlorobenzidine		0.467	1.17	2.34	Q U
98-86-2	Acetophenone		0.584	1.17	2.34	U
1912-24-9	Atrazine		0.584	1.17	2.34	Q U
100-52-7	Benzaldehyde		0.584	1.17	2.34	Y U
92-52-4	1,1-Biphenyl		0.467	1.17	2.34	Y U
101-55-3	4-Bromophenyl-phenylether		0.584	1.17	2.34	Q U
85-68-7	Butylbenzylphthalate		0.584	1.17	2.34	Q U
105-60-2	Caprolactam		0.584	1.17	2.34	X U
86-74-8	Carbazole		0.584	1.17	2.34	Q U
59-50-7	4-Chloro-3-methylphenol		0.584	1.17	2.34	X U
106-47-8	4-Chloroaniline		0.584	1.17	2.34	U
111-91-1	Bis(2-chloroethoxy)methane		0.584	1.17	2.34	U
111-44-4	Bis(2-chloroethyl)ether		0.584	1.17	2.34	U
108-60-1	2,2'-Oxybis-1-chloropropane		0.467	1.17	2.34	U
91-58-7	2-Chloronaphthalene		0.584	1.17	2.34	U
95-57-8	2-Chlorophenol		0.584	1.17	2.34	U
7005-72-3	4-Chlorophenyl phenyl ether		0.584	1.17	2.34	U
132-64-9	Dibenzofuran		0.584	1.17	2.34	U
84-74-2	Di-n-butylphthalate		0.584	1.17	2.34	Q U
120-83-2	2,4-Dichlorophenol		0.280	1.17	2.34	U
84-66-2	Diethylphthalate		0.584	1.17	2.34	Q U
105-67-9	2,4-Dimethylphenol		2.34	4.67	9.35	U
131-11-3	Dimethyl phthalate		0.584	1.17	2.34	Q U
534-52-1	4,6-Dinitro-2-methylphenol		2.34	4.67	9.35	Q U
51-28-5	2,4-Dinitrophenol		5.84	11.7	23.4	X, Q U
121-14-2	2,4-Dinitrotoluene		0.584	1.17	2.34	Q U
606-20-2	2,6-Dinitrotoluene		0.584	1.17	2.34	Q U
117-84-0	Di-n-octylphthalate		0.584	1.17	2.34	X, Q U
123-91-1	1,4-Dioxane		0.584	1.17	2.34	U
117-81-7	Bis(2-ethylhexyl)phthalate		0.584	1.17	2.34	Q U
118-74-1	Hexachlorobenzene		0.584	1.17	2.34	Q U
87-68-3	Hexachlorobutadiene		0.584	1.17	2.34	U
77-47-4	Hexachlorocyclopentadiene		0.584	1.17	2.34	U
67-72-1	Hexachloroethane		0.584	1.17	2.34	U
78-59-1	Isophorone		0.584	1.17	2.34	U
95-48-7	2-Methylphenol		0.584	1.17	2.34	U
106-44-5	4-Methylphenol		0.584	1.17	2.34	U
91-20-3	Naphthalene		0.584	1.17	2.34	U
100-01-6	4-Nitroaniline		1.40	4.67	9.35	Q U

# ANALYSIS DATA SHEET

**BCHMS-GW-021-1210**

Laboratory:	<u>Empirical Laboratories, LLC</u>	SDG:	<u>CTOJM17KW_001</u>
Client:	<u>Tetra Tech NUS, Inc. (T010)</u>	Project:	<u>NAS Key West CTO JM17</u>
Matrix:	<u>Ground Water</u>	Laboratory ID:	<u>1012118-01</u>
		File ID:	<u>1211801.D</u>
Sampled:	<u>12/08/10 10:00</u>	Prepared:	<u>12/14/10 17:51</u>
		Analyzed:	<u>12/28/10 17:48</u>
Solids:		Preparation:	<u>EXT_3510</u>
		Dilution:	<u>1</u>
Batch:	<u>0L13015</u>	Sequence:	<u>0L36407</u>
		Calibration:	<u>0362004</u>
		Instrument:	<u>MS-BNA1</u>

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
99-09-2	3-Nitroaniline		1.40	4.67	9.35	U
88-74-4	2-Nitroaniline		2.34	4.67	9.35	X, Q U
98-95-3	Nitrobenzene		0.584	1.17	2.34	U
100-02-7	4-Nitrophenol		2.34	4.67	9.35	U
88-75-5	2-Nitrophenol		0.584	1.17	2.34	X U
86-30-6	N-Nitrosodiphenylamine		0.584	1.17	2.34	U
621-64-7	N-Nitroso-di-n-propylamine		0.467	1.17	2.34	U
87-86-5	Pentachlorophenol		0.935	4.67	9.35	Q U
108-95-2	Phenol		0.584	1.17	2.34	U
95-94-3	1,2,4,5-Tetrachlorobenzene		0.584	1.17	2.34	U
58-90-2	2,3,4,6-Tetrachlorophenol		0.584	1.17	2.34	U
88-06-2	2,4,6-Trichlorophenol		0.584	1.17	2.34	Q U
95-95-4	2,4,5-Trichlorophenol		0.584	1.17	2.34	Q U
SYSTEM MONITORING COMPOUND		ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl		23.36	15.98	68.4	50 - 110	
2-Fluorophenol		46.73	12.35	26.4	20 - 110	
Nitrobenzene-d5		23.36	20.37	87.2	40 - 110	
Phenol-d6		46.73	9.854	21.1	10 - 110	
Terphenyl-d14		23.36	11.29	48.3	50 - 135	*
2,4,6-Tribromophenol		46.73	36.86	78.9	40 - 125	













# ANALYSIS DATA SHEET

**BCHMS-GW-025-1210**

Laboratory:	<u>Empirical Laboratories, LLC</u>	SDG:	<u>CTOJM17KW_001</u>
Client:	<u>Tetra Tech NUS, Inc. (T010)</u>	Project:	<u>NAS Key West CTO JM17</u>
Matrix:	<u>Ground Water</u>	Laboratory ID:	<u>1012118-09</u>
Sampled:	<u>12/09/10 09:00</u>	Prepared:	<u>12/14/10 17:51</u>
Solids:		Preparation:	<u>EXT 3510</u>
Batch:	<u>0L13015</u>	Sequence:	<u>0L36407</u>
		Calibration:	<u>0362004</u>
			Instrument: <u>MS-BNA1</u>

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
91-94-1	3,3'-Dichlorobenzidine		0.463	1.16	2.31	Q U
98-86-2	Acetophenone		0.579	1.16	2.31	U
1912-24-9	Atrazine		0.579	1.16	2.31	Q U
100-52-7	Benzaldehyde		0.579	1.16	2.31	Y U
92-52-4	1,1-Biphenyl		0.463	1.16	2.31	Y U
101-55-3	4-Bromophenyl-phenylether		0.579	1.16	2.31	Q U
85-68-7	Butylbenzylphthalate		0.579	1.16	2.31	Q U
105-60-2	Caprolactam		0.579	1.16	2.31	X U
86-74-8	Carbazole		0.579	1.16	2.31	Q U
59-50-7	4-Chloro-3-methylphenol		0.579	1.16	2.31	X U
106-47-8	4-Chloroaniline		0.579	1.16	2.31	U
111-91-1	Bis(2-chloroethoxy)methane		0.579	1.16	2.31	U
111-44-4	Bis(2-chloroethyl)ether		0.579	1.16	2.31	U
108-60-1	2,2'-Oxybis-1-chloropropane		0.463	1.16	2.31	U
91-58-7	2-Chloronaphthalene		0.579	1.16	2.31	U
95-57-8	2-Chlorophenol		0.579	1.16	2.31	U
7005-72-3	4-Chlorophenyl phenyl ether		0.579	1.16	2.31	U
132-64-9	Dibenzofuran		0.579	1.16	2.31	U
84-74-2	Di-n-butylphthalate		0.579	1.16	2.31	Q U
120-83-2	2,4-Dichlorophenol		0.278	1.16	2.31	U
84-66-2	Diethylphthalate		0.579	1.16	2.31	Q U
105-67-9	2,4-Dimethylphenol		2.31	4.63	9.26	U
131-11-3	Dimethyl phthalate		0.579	1.16	2.31	Q U
534-52-1	4,6-Dinitro-2-methylphenol		2.31	4.63	9.26	Q U
51-28-5	2,4-Dinitrophenol		5.79	11.6	23.1	X, Q U
121-14-2	2,4-Dinitrotoluene		0.579	1.16	2.31	Q U
606-20-2	2,6-Dinitrotoluene		0.579	1.16	2.31	Q U
117-84-0	Di-n-octylphthalate		0.579	1.16	2.31	X, Q U
123-91-1	1,4-Dioxane		0.579	1.16	2.31	U
117-81-7	Bis(2-ethylhexyl)phthalate		0.579	1.16	2.31	Q U
118-74-1	Hexachlorobenzene		0.579	1.16	2.31	Q U
87-68-3	Hexachlorobutadiene		0.579	1.16	2.31	U
77-47-4	Hexachlorocyclopentadiene		0.579	1.16	2.31	U
67-72-1	Hexachloroethane		0.579	1.16	2.31	U
78-59-1	Isophorone		0.579	1.16	2.31	U
95-48-7	2-Methylphenol		0.579	1.16	2.31	U
106-44-5	4-Methylphenol		0.579	1.16	2.31	U
91-20-3	Naphthalene		0.579	1.16	2.31	U
100-01-6	4-Nitroaniline		1.39	4.63	9.26	Q U































# ANALYSIS DATA SHEET

BCHMS-GW-024-1210
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Laboratory:	<u>Empirical Laboratories, LLC</u>	SDG:	<u>CTOJM17KW 001</u>
Client:	<u>Tetra Tech NUS, Inc. (T010)</u>	Project:	<u>NAS Key West CTO JM17</u>
Matrix:	<u>Ground Water</u>	Laboratory ID:	<u>1012118-04</u>
		File ID:	<u>041F4101.D</u>
Sampled:	<u>12/08/10 14:30</u>	Prepared:	<u>12/14/10 12:45</u>
		Analyzed:	<u>12/21/10 14:39</u>
Solids:		Preparation:	<u>EXT 3510</u>
		Dilution:	<u>10</u>
Batch:	<u>0L13001</u>	Sequence:	<u>0L35614</u>
		Calibration:	<u>0354003</u>
		Instrument:	<u>GL-GCFID2</u>

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
	Petroleum Range Organics	119	1.59	3.18	6.36	
SYSTEM MONITORING COMPOUND		ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl		0.04673	0.07731	165	50 - 150	*
o-Terphenyl		0.04673	0.06716	144	82 - 142	*



# ANALYSIS DATA SHEET

<b>BCHMS-GW-026-1210</b>
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Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_001</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Matrix: <u>Water</u>	Laboratory ID: <u>1012118-10</u>
Sampled: <u>12/09/10 09:50</u>	Prepared: <u>12/14/10 12:45</u>
Solids:	Preparation: <u>EXT_3510</u>
Batch: <u>0L13001</u>	Sequence: <u>0L35103</u>
	Calibration: <u>0327002</u>
	Instrument: <u>GL-GCFID2</u>

CAS NO.	COMPOUND	CONC. (mg/L)	DL	LOD	LOQ	Q
	Petroleum Range Organics		0.159	0.318	0.636	U
SYSTEM MONITORING COMPOUND		ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl		0.04673	0.02826	60.5	50 - 150	X
o-Terphenyl		0.04673	0.01497	32.0	82 - 142	*



**APPENDIX C**

**SUPPORT DOCUMENTATION**

*Handwritten:* 2.7%  
 12-10-10 08:15  
 12-10-10



TETRA TECH NUS, INC

CHAIN OF CUSTODY  
 NUMBER: ED00000143-1

Project No: <b>112G02608</b>	Facility: <b>KEY WEST NAS</b>	Project Manager: <b>Sauna Stotler-Hardy</b>	Carrier: <b>Federal Express</b>	Laboratory Name: <b>Empirical Laboratories, LLC 621 Mainstream Drive Nashville, TN 37228</b>
Task No: <b>JM17</b>	Turn Around Time: <b>Standard</b>	Field Ops Leader: <b>Gary Braganza</b>	Carrier/Waybill No.	Point of Contact: <b>Kim Kostzer (615) 345-1115</b>

Date	Sample ID #	Time	Analysis	Loc ID	Matrix	Description	Preservative	Count	Container	Type	Reqs	Container	Comments
12/08/2010	BCHMS-GW-021-1210	10:00	SW846 8260B	BCHMS-GW021	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials			
12/08/2010	BCHMS-GW-021-1210	10:00	SW846 8720D/8270DSIM	BCHMS-GW021	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L			
12/08/2010	BCHMS-GW-021-1210	10:00	SW846 6020A	BCHMS-GW021	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml			
12/08/2010	BCHMS-GW-021-1210	10:00	FL PRO	BCHMS-GW021	GW	TRPH	4°C/HCL	2	Glass - Amber	1L			
12/08/2010	BCHMS-GW-022-1210	10:50	SW846 8260B	BCHMS-GW022	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials			
12/08/2010	BCHMS-GW-022-1210	10:50	SW846 8720D/8270DSIM	BCHMS-GW022	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L			
12/08/2010	BCHMS-GW-022-1210	10:50	SW846 6020A	BCHMS-GW022	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml			
12/08/2010	BCHMS-GW-022-1210	10:50	FL PRO	BCHMS-GW022	GW	TRPH	4°C/HCL	2	Glass - Amber	1L			
12/08/2010	BCHMS-GW-023D-1210	15:00	SW846 8260B	BCHMS-GW023D	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials			
12/08/2010	BCHMS-GW-023D-1210	15:00	SW846 8720D/8270DSIM	BCHMS-GW023D	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L			
12/08/2010	BCHMS-GW-023D-1210	15:00	SW846 6020A	BCHMS-GW023D	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml			
12/08/2010	BCHMS-GW-023D-1210	15:00	FL PRO	BCHMS-GW023D	GW	TRPH	4°C/HCL	2	Glass - Amber	1L			
12/08/2010	BCHMS-GW-024-1210	14:30	SW846 8260B	BCHMS-GW024	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials			
12/08/2010	BCHMS-GW-024-1210	14:30	SW846 8720D/8270DSIM	BCHMS-GW024	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L			
12/08/2010	BCHMS-GW-024-1210	14:30	SW846 6020A	BCHMS-GW024	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml			
12/08/2010	BCHMS-GW-024-1210	14:30	FL PRO	BCHMS-GW024	GW	TRPH	4°C/HCL	2	Glass - Amber	1L			
12/08/2010	BCHMS-GW-024-1210	14:30	SW846 8082A/8081B	BCHMS-GW024	GW	PCBs/Pesticides	4°C	3	Glass - Amber	1L			
12/08/2010	BCHMS-GW-027-1210	13:30	SW846 8260B	BCHMS-GW027	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials			
12/08/2010	BCHMS-GW-027-1210	13:30	SW846 8720D/8270DSIM	BCHMS-GW027	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber	1L			
12/08/2010	BCHMS-GW-027-1210	13:30	SW846 6020A	BCHMS-GW027	GW	Metals	4°C/HNO3	2	Plastic - PE	125ml			
12/08/2010	BCHMS-GW-027-1210	13:30	FL PRO	BCHMS-GW027	GW	TRPH	4°C/HCL	2	Glass - Amber	1L			
12/09/2010	BCHMS-GW-017-1210	14:00	SW846 8260B	BCHMS-GW017	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear	40ml vials			

*Handwritten:* 01  
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12/09/2010	BCHMS-GW-017-1210	14:00	SW846 8720D/8270DSIM	BCHMS-GW017	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-017-1210	14:00	SW846 6020A	BCHMS-GW017	GW	Metals	4°C/HNO3	2	Plastic - PE 125ml
12/09/2010	BCHMS-GW-017-1210	14:00	FL PRO	BCHMS-GW017	GW	TRPH	4°C/HCL	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-018-1210	15:00	SW846 8260B	BCHMS-GW018	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear 40ml vials
12/09/2010	BCHMS-GW-018-1210	15:00	SW846 8720D/8270DSIM	BCHMS-GW018	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-018-1210	15:00	SW846 6020A	BCHMS-GW018	GW	Metals	4°C/HNO3	2	Plastic - PE 125ml
12/09/2010	BCHMS-GW-019-1210	15:00	FL PRO	BCHMS-GW018	GW	TRPH	4°C/HCL	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-020D-1210	10:40	SW846 8260B	BCHMS-GW020D	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear 40ml vials
12/09/2010	BCHMS-GW-020D-1210	10:40	SW846 8720D/8270DSIM	BCHMS-GW020D	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-020D-1210	10:40	SW846 6020A	BCHMS-GW020D	GW	Metals	4°C/HNO3	2	Plastic - PE 125ml
12/09/2010	BCHMS-GW-025-1210	09:00	FL PRO	BCHMS-GW025	GW	TRPH	4°C/HCL	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-025-1210	09:00	SW846 8260B	BCHMS-GW025	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear 40ml vials
12/09/2010	BCHMS-GW-025-1210	09:00	SW846 8720D/8270DSIM	BCHMS-GW025	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-025-1210	09:00	SW846 6020A	BCHMS-GW025	GW	Metals	4°C/HNO3	2	Plastic - PE 125ml
12/09/2010	BCHMS-GW-025-1210	09:00	FL PRO	BCHMS-GW025	GW	TRPH	4°C/HCL	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-025-1210	09:00	SW846 8082A/8081B	BCHMS-GW025	GW	PCBs/Pesticides	4°C	3	Glass - Amber 1L
12/09/2010	BCHMS-GW-026-1210	09:50	SW846 8260B	BCHMS-GW026	GW	VOCs (low level analysis)	4°C/HCL	3	Glass - Clear 40ml vials
12/09/2010	BCHMS-GW-026-1210	09:50	SW846 8720D/8270DSIM	BCHMS-GW026	GW	SVOCs (low level) and SIM PAHs	4°C	2	Glass - Amber 1L
12/09/2010	BCHMS-GW-026-1210	09:50	SW846 6020A	BCHMS-GW026	GW	Metals	4°C/HNO3	2	Plastic - PE 125ml
12/09/2010	BCHMS-GW-026-1210	09:50	FL PRO	BCHMS-GW026	GW	TRPH	4°C/HCL	2	Glass - Amber 1L
12/09/2010	BCHMS-TB01-1210	00:00	SW846 8260B	QC	AQ	VOCs (low level analysis)	4°C/HCL	2	Glass - Clear 40ml vials Trip Blank

1012118

107  
108  
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111

1. Relinquished By: Gary Braganza  
Date: 12/09/2010  
Time: 17:04  
Received By: Federal Express  
Date: 12/09/2010  
Time: 18:04

2. Relinquished By: \_\_\_\_\_  
Date: \_\_\_\_\_  
Time: \_\_\_\_\_  
Received By: \_\_\_\_\_  
Date: \_\_\_\_\_  
Time: \_\_\_\_\_

3. Relinquished By: \_\_\_\_\_  
Date: \_\_\_\_\_  
Time: \_\_\_\_\_  
Received By: \_\_\_\_\_  
Date: 12-10-10  
Time: 08:15

Comments: 2-7°C

## Sample Delivery Group Case Narrative

### Receipt Information

The samples were received within the preservation guidelines for the associated methods. The information associated with sample receipt and the Sample Delivery Group (SDG) are included within section 4 of this package, which also provides information on the link between the client sample ID listed on the COC and laboratory's assigned unique sample ID or WorkOrder #. The sample is tracked through the laboratory for all analysis via the assigned WorkOrder #.

All samples that were received were analyzed and none of the samples were placed on hold without analyses. There were no subcontracted analyses for this SDG.

As per the client, SIM PAH that is listed on the CoC is not required but SW7470 for Mercury that is not listed is required.

### Changes to the Revision

This is an original submittal of the final report package.

### Analytical Information

All samples were prepped (where applicable) and analyzed within the standard allowed holding times, unless noted within the exceptions listed below. The laboratory analyzed all samples within the program and method guidelines. The following information is provided specific to individual methods:

### Chromatographic Flags for Manual Integration:

The following letters are used to denote manual integrations on the laboratory's raw data in association with chromatographic integrations:

- A:** The peak was manually integrated as it was not integrated in the original chromatogram.
- B:** The peak was manually integrated due to resolution or coelution issues in the original chromatogram.
- C:** The peak was manually integrated to correct the baseline from the original chromatogram.
- D:** The peak was manually integrated to identify the correct peak as the wrong peak was identified in the original chromatogram.
- E:** The peak was manually integrated to include the entire peak as the original chromatogram only integrated part of the peak.

### SW8260B:

The batch spike associated to batch 0L16012 exceeded criteria with a positive bias for Bromodichloromethane. The batch spike associated to batch 0L17010 exceeded criteria with a positive bias for Bromodichloromethane and 1,2-Dichloroethane.

The continuing calibration verifications exceeded criteria in 0L35101-CCV1 with a positive bias for Bromodichloromethane and Dibromochloromethane and with a

negative bias for Bromomethane and in 0L35202-CCV1 with a negative bias for Bromomethane and with a positive bias for Acetone, Bromodichloromethane, Carbon Disulfide, Carbon Tetrachloride, Chloroform, Dibromochloromethane, Dichlorodifluoromethane, 1,2-Dichloroethane, Methyl Acetate, 1,1,1-Trichloroethane, Trichlorofluoromethane and 1,1,2-Trichloro-1,2,2-trifluoroethane.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8270C:**

The surrogate Terphenyl-d14 exceeded criteria with a negative bias in sample 1012118-01. The surrogate Nitrobenzene-d5 exceeded criteria with a positive bias in sample 1012118-04. The surrogates 2-Fluorobiphenyl and 2-Fluorophenol exceeded criteria with a negative bias in sample 1012118-06. All surrogates recovered low in samples 1012118-03 but when this was discovered, the sample was already two times outside the EPA recommended holding time.

The batch spikes associated to batch 0L13015 exceeded recovery criteria with a positive bias for 3,3'-Dichlorobenzidine, Atrazine, 4-Bromophenyl-phenyl ether, Butylbenzylphthalate, Carbazole, Di-n-butylphthalate, Diethylphthalate, 4,6-Dinitro-2-methylphenol, 2,4-Dinitrophenol, 2,4-Dinitrotolene, 2,6-Dinitrotoluene, Di-n-octylphthalate, Bis(2-ethylhexyl)phthalate, Hexachlorobenzene, 4-Nitro-3-chlorophenol, 2-Nitroaniline, Pentachlorophenol, 2,4,6-Trichlorophenol, 2,4,5-Trichlorophenol and Dimethyl phthalate and exceeded the relative percent difference criteria for 4-Nitroaniline.

The internal standards Acenaphthene-d10 and Phenanthrene-d10 exceeded criteria in sample 1012118-04. Compounds associated to these internal standards are qualified with an "S".

The continuing calibration verification 0L36407-CCV1 exceeded criteria with a negative bias for Benzaldehyde and 1,1'-Biphenyl and with a positive bias for Caprolactam, 4-Chloro-3-methylphenol, 2,4-Dinitrophenol, Di-n-octylphthalate, 2-Nitroaniline and 2-Nitrophenol.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8081B:**

The surrogate Decachlorobiphenyl exceeded criteria on both columns with a negative bias in samples 1012118-04 and -09.

The continuing calibration verification 0L36218-CCV4 exceeded criteria with a positive bias on column 1 for 4,4'-DDT, Alpha-BHC, Delta-BHC, Gamma-BHC and Heptachlor.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW8082A:**

The surrogate Decachlorobiphenyl exceeded criteria on both columns with a negative bias in samples 1012118-04 and -09.

The continuing calibration verification 0L36218-CCV3 exceeded criteria with a positive bias on column 2 for Aroclor-1260.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**FL-PRO:**

The surrogate o-Terphenyl exceeded criteria with a negative bias in 0L13001-BLK1, -BS1, 1012118-01, -02, -03, -05, -06, -07, -08, -09 and -10. The surrogates 2-Fluorobiphenyl and o-Terphenyl exceeded criteria with a positive bias in sample 1012118-04.

The continuing calibration verifications exceeded criteria in 0L35103-CCV3 with a positive bias for Petroleum Range Organics and 2-Fluorobiphenyl and in 0L35103-CCV4 and -CCV5 with a positive bias for 2-Fluorobiphenyl.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**SW6010B/SW7470A:**

Samples 1012118-02, -05 and -07 are qualified with an M for Lead to indicate that the DL was raised due to interference.

The continuing calibration verification 1A00414-CCV3 exceeded criteria with a positive bias for Potassium and Sodium.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

**EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM**

LIMS Number: 1012118 Number of Coolers: 1 of 6

Client: TTNUS Project: Key West NAS

Date/Time Received: 12/10/10 08:15 Date cooler(s) opened: 12/10/10

Opened By (print): Will Schwarz (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 2069

2. Were custody seals on outside of cooler(s)?  Yes  No  
How many: 1 Seal date: 12/9/10 Seal Initials: ?

- 3. Were custody seals unbroken and intact at the date and time of arrival?  Yes  No  N/A
- 4. Were custody papers sealed in a plastic bag included in the sample cooler?  Yes  No  N/A
- 5. Were custody papers filled out properly (ink, signed, etc.)?  Yes  No  N/A
- 6. Did you sign custody papers in the appropriate place for acceptance?  Yes  No  N/A
- 7. Was project identifiable from custody papers?  Yes  No  N/A
- 8. If required, was enough ice present in the cooler(s)?  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE

Temperature of Samples upon Receipt: Initial Value: 3.0 °C Correction Factor: -0.3 °C Final Value: 2.7 °C

Dates samples were logged-in: 12/10/10

9. Initial this form to acknowledge login of sample(s): (Name): Chris Donald (Initial): CP

- 10. Were all bottle lids intact and sealed tightly?  Yes  No  N/A
- 11. Did all bottles arrive unbroken?  Yes  No  N/A *ph 2*
- 12. Was all required bottle label information complete?  Yes  No  N/A *for 11*
- 13. Did all bottle labels agree with custody papers?  Yes  No  N/A *7900 + models*
- 14. Were correct containers used for the analyses indicated?  Yes  No  N/A *containers*
- 15. Were preservative levels correct in all applicable sample containers?  Yes  No  N/A
- 16. Was residual chlorine present in any applicable sample containers?  Yes  No  N/A
- 17. Was sufficient amount of sample sent for the analyses required?  Yes  No  N/A
- 18. Was headspace present in any included VOA vials?  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

*received BCHA MS-GW027-1210 / Liter Amber Broken. Tagged and noted in element for low sample volume.*

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012118 Number of Coolers: 2 of 6  
Client: TTNUS Project: Key West NAS  
Date/Time Received: 12/10/10 08:15 Date cooler(s) opened: 12/10/10  
Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive? FedEx UPS DHL Hand Delivered  
EL Courier Other: \_\_\_\_\_

If applicable, enter airbill number here: 2220

2. Were custody seals on outside of cooler(s)? .....  Yes No  
How many: 1 Seal date: 12/9/10 Seal Initials: ?

- 3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes No N/A
- 4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes No N/A
- 5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes No N/A
- 6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes No N/A
- 7. Was project identifiable from custody papers? .....  Yes No N/A
- 8. If required, was enough ice present in the cooler(s)? .....  Yes No N/A

Type of Coolant:  WET DRY BLUE NONE  
Temperature of Samples upon Receipt: Initial Value: -0.9 °C Correction Factor: -0.3 °C Final Value: -1.2 °C

Dates samples were logged-in: 12/10/10

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
- 10. Were all bottle lids intact and sealed tightly? ..... Yes No N/A
  - 11. Did all bottles arrive unbroken? ..... Yes No N/A
  - 12. Was all required bottle label information complete? ..... Yes No N/A
  - 13. Did all bottle labels agree with custody papers? ..... Yes No N/A
  - 14. Were correct containers used for the analyses indicated? ..... Yes No N/A
  - 15. Were preservative levels correct in all applicable sample containers? ..... Yes No N/A
  - 16. Was residual chlorine present in any applicable sample containers? ..... Yes No N/A
  - 17. Was sufficient amount of sample sent for the analyses required? ..... Yes No N/A
  - 18. Was headspace present in any included VOA vials? ..... Yes No N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

Direct Contact

See Page 1 of 6

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012118 Number of Coolers: 3 of 6  
Client: TTNUS Project: Key West NAS  
Date/Time Received: 12/10/10 08:15 Date cooler(s) opened: 12/10/10  
Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 1934

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
How many: 1 Seal date: 12/9/10 Seal Initials: ?

- 3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A
- 4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A
- 5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A
- 6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A
- 7. Was project identifiable from custody papers? .....  Yes  No  N/A
- 8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE

Temperature of Samples upon Receipt: Initial Value: 1.9 °C Correction Factor: -0.3 °C Final Value: 1.6 °C

Dates samples were logged-in: 12/10/10

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
- 10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A
  - 11. Did all bottles arrive unbroken? .....  Yes  No  N/A
  - 12. Was all required bottle label information complete? .....  Yes  No  N/A
  - 13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A
  - 14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A
  - 15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A
  - 16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A
  - 17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A
  - 18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

House TR

see page 1 of 6

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012118 Number of Coolers: 4 of 6  
Client: TTNUS Project: Key West NAS  
Date/Time Received: 12/10/10 08:15 Date cooler(s) opened: 12/10/10  
Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 1452

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
How many: 1 Seal date: 12/9/10 Seal Initials: ?

3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A  
4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A  
5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A  
6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A  
7. Was project identifiable from custody papers? .....  Yes  No  N/A  
8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
Temperature of Samples upon Receipt: Initial Value: 4.8 °C Correction Factor: -0.3 °C Final Value: 4.5 °C

Dates samples were logged-in: 12/10/10

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_  
10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A  
11. Did all bottles arrive unbroken? .....  Yes  No  N/A  
12. Was all required bottle label information complete? .....  Yes  No  N/A  
13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A  
14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A  
15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A  
16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A  
17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A  
18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

see  
page  
1 of 6

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012118 Number of Coolers: 5 of 6  
Client: TTNUS Project: Key West NAS  
Date/Time Received: 12/10/10 08:15 Date cooler(s) opened: 12/10/10  
Opened By (print): Will Schmal (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive? FedEx UPS DHL Hand Delivered  
EL Courier Other: \_\_\_\_\_

If applicable, enter airbill number here: 1740

2. Were custody seals on outside of cooler(s)? .....  Yes No  
How many: 1 Seal date: 12/9/10 Seal Initials: ?

3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes No N/A  
4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes No N/A  
5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes No N/A  
6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes No N/A  
7. Was project identifiable from custody papers? .....  Yes No N/A  
8. If required, was enough ice present in the cooler(s)? .....  Yes No N/A

Type of Coolant:  WET DRY BLUE NONE

Temperature of Samples upon Receipt: Initial Value: 3.9 °C Correction Factor: -0.3 °C Final Value: 3.6 °C

Dates samples were logged-in: 12/10/10

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_  
10. Were all bottle lids intact and sealed tightly? ..... Yes No N/A  
11. Did all bottles arrive unbroken? ..... Yes No N/A  
12. Was all required bottle label information complete? ..... Yes No N/A  
13. Did all bottle labels agree with custody papers? ..... Yes No N/A  
14. Were correct containers used for the analyses indicated? ..... Yes No N/A  
15. Were preservative levels correct in all applicable sample containers? ..... Yes No N/A  
16. Was residual chlorine present in any applicable sample containers? ..... Yes No N/A  
17. Was sufficient amount of sample sent for the analyses required? ..... Yes No N/A  
18. Was headspace present in any included VOA vials? ..... Yes No N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

see  
page  
1 of 6

EMPIRICAL LABORATORIES  
COOLER RECEIPT FORM

LIMS Number: 1012118 Number of Coolers: 6 of 6  
Client: TTNUS Project: Key West NAS  
Date/Time Received: 12/10/10 08:15 Date cooler(s) opened: 12/10/10  
Opened By (print): Will Schwab (signature): [Signature]

Circle response below as appropriate

1. How did the samples arrive?  FedEx  UPS  DHL  Hand Delivered  
 EL Courier  Other: \_\_\_\_\_

If applicable, enter airbill number here: 1599

2. Were custody seals on outside of cooler(s)? .....  Yes  No  
How many: 1 Seal date: 12/9/10 Seal Initials: ?
3. Were custody seals unbroken and intact at the date and time of arrival? .....  Yes  No  N/A
4. Were custody papers sealed in a plastic bag included in the sample cooler? .....  Yes  No  N/A
5. Were custody papers filled out properly (ink, signed, etc.)? .....  Yes  No  N/A
6. Did you sign custody papers in the appropriate place for acceptance? .....  Yes  No  N/A
7. Was project identifiable from custody papers? .....  Yes  No  N/A
8. If required, was enough ice present in the cooler(s)? .....  Yes  No  N/A

Type of Coolant:  WET  DRY  BLUE  NONE  
Temperature of Samples upon Receipt: Initial Value: 3.4 °C Correction Factor: -0.3 °C Final Value: 3.1 °C

Dates samples were logged-in: 12/10/10

9. Initial this form to acknowledge login of sample(s): (Name): \_\_\_\_\_ (Initial): \_\_\_\_\_
10. Were all bottle lids intact and sealed tightly? .....  Yes  No  N/A
11. Did all bottles arrive unbroken? .....  Yes  No  N/A
12. Was all required bottle label information complete? .....  Yes  No  N/A
13. Did all bottle labels agree with custody papers? .....  Yes  No  N/A
14. Were correct containers used for the analyses indicated? .....  Yes  No  N/A
15. Were preservative levels correct in all applicable sample containers? .....  Yes  No  N/A
16. Was residual chlorine present in any applicable sample containers? .....  Yes  No  N/A
17. Was sufficient amount of sample sent for the analyses required? .....  Yes  No  N/A
18. Was headspace present in any included VOA vials? .....  Yes  No  N/A

If Non-Conformance issues were present, list by sample ID: \_\_\_\_\_

See  
Page  
1 of 6

**Kim Kostzer**

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**From:** Stotler-Hardy, Shauna [Shauna.Stotler-Hardy@tetrattech.com]  
**Sent:** Monday, December 13, 2010 8:40 AM  
**To:** kkostzer@empirlabs.com; Carper, Kelly  
**Cc:** 'William Schwab'; cdonald@empirlabs.com; 'Rick Davis'  
**Subject:** RE: CTO17 clarification

Kim,

Per the SAP, we are not to analyze for PAHs at this site, however we need all the SVOCs listed in the SAP by 8270. Also, according to the SAP mercury is to be tested for and we can use 7470A for it. The remaining metals listed on Worksheet 15 of the SAP should be run per 6010C.

Thanks and I'm in the office all week if you need to call me.

**Shauna Stotler-Hardy | Scientist/Chemist**  
Direct: 803.641.4944 | Main: 803.649.7963 | Personal Fax: 803.642.8454  
Shauna.StotlerHardy@tetrattech.com

Tetra Tech | Aiken Office  
900 Trail Ridge Road | Aiken, SC 29803 | www.tetrattech.com

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**From:** Kim Kostzer [mailto:kkostzer@empirlabs.com]  
**Sent:** Friday, December 10, 2010 6:07 PM  
**To:** Stotler-Hardy, Shauna  
**Cc:** 'William Schwab'; cdonald@empirlabs.com; 'Rick Davis'  
**Subject:** CTO17 clarification

Shauna,

Please see attached COC. This COC indicates that we are to do Low level 8270 and PAH SIM. The PAH SIM is not in our SOW. Was this added? Also for the metals. There is no method for Hg, so we should not do Hg for these samples correct. What list are you looking for? The complete one in the SOW?

Thank you and have a nice weekend.

Kim

PLEASE NOTE: For the Christmas holiday, our laboratory will be closed on Friday, December 24<sup>th</sup>; we will resume accepting shipments/coolers on Monday, December 27<sup>th</sup>. For the New Year holiday, our laboratory will be closed on Friday, December 31<sup>st</sup>; we will resume accepting shipments/coolers on Monday, January 3<sup>rd</sup>.

**Kim Kostzer**  
Project Manager  
**Empirical Laboratories, LLC**  
"Your National Small Business Partner"

**HOLDING TIME SUMMARY**  
**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-GW-021-1210	12/08/10 10:00	12/10/10 08:15	12/16/10 00:00	N/A	14.00	12/16/10 17:25	8.35	14.00	
BCHMS-GW-022-1210	12/08/10 10:50	12/10/10 08:15	12/16/10 00:00	N/A	14.00	12/16/10 17:54	8.34	14.00	
BCHMS-GW-023D-1210	12/08/10 15:00	12/10/10 08:15	12/16/10 00:00	N/A	14.00	12/16/10 18:24	8.18	14.00	
BCHMS-GW-024-1210	12/08/10 14:30	12/10/10 08:15	12/17/10 00:00	N/A	14.00	12/17/10 23:04	9.40	14.00	
BCHMS-GW-027-1210	12/08/10 13:30	12/10/10 08:15	12/17/10 00:00	N/A	14.00	12/17/10 16:39	9.17	14.00	
BCHMS-GW-017-1210	12/09/10 14:00	12/10/10 08:15	12/16/10 00:00	N/A	14.00	12/16/10 18:54	7.25	14.00	
BCHMS-GW-018-1210	12/09/10 15:00	12/10/10 08:15	12/16/10 00:00	N/A	14.00	12/16/10 19:23	7.22	14.00	
BCHMS-GW-20D-1210	12/09/10 10:40	12/10/10 08:15	12/16/10 00:00	N/A	14.00	12/16/10 19:53	7.43	14.00	
BCHMS-GW-025-1210	12/09/10 09:00	12/10/10 08:15	12/16/10 00:00	N/A	14.00	12/16/10 20:23	7.52	14.00	
BCHMS-GW-026-1210	12/09/10 09:50	12/10/10 08:15	12/16/10 00:00	N/A	14.00	12/16/10 20:52	7.50	14.00	
BCHMS-TB01-1210	12/09/10 00:00	12/10/10 08:15	12/16/10 00:00	N/A	14.00	12/16/10 16:25	7.73	14.00	

## HOLDING TIME SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-GW-021-1210	12/08/10 10:00	12/10/10 08:15	12/14/10 17:51	6.37	7.00	12/28/10 17:48	14.00	40.00	
BCHMS-GW-022-1210	12/08/10 10:50	12/10/10 08:15	12/14/10 17:51	6.33	7.00	12/28/10 18:16	14.02	40.00	
BCHMS-GW-023D-1210	12/08/10 15:00	12/10/10 08:15	12/14/10 17:51	6.16	7.00	12/28/10 18:43	14.04	40.00	
BCHMS-GW-024-1210	12/08/10 14:30	12/10/10 08:15	12/14/10 17:51	6.18	7.00	12/28/10 19:11	14.06	40.00	
BCHMS-GW-027-1210	12/08/10 13:30	12/10/10 08:15	12/14/10 17:51	6.22	7.00	12/28/10 19:39	14.08	40.00	
BCHMS-GW-017-1210	12/09/10 14:00	12/10/10 08:15	12/14/10 17:51	5.20	7.00	12/28/10 20:07	14.09	40.00	
BCHMS-GW-018-1210	12/09/10 15:00	12/10/10 08:15	12/14/10 17:51	5.16	7.00	12/28/10 20:34	14.11	40.00	
BCHMS-GW-20D-1210	12/09/10 10:40	12/10/10 08:15	12/14/10 17:51	5.34	7.00	12/28/10 21:02	14.13	40.00	
BCHMS-GW-025-1210	12/09/10 09:00	12/10/10 08:15	12/14/10 17:51	5.41	7.00	12/28/10 21:30	14.15	40.00	
BCHMS-GW-026-1210	12/09/10 09:50	12/10/10 08:15	12/14/10 17:51	5.38	7.00	12/28/10 21:58	14.17	40.00	

# HOLDING TIME SUMMARY

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-GW-024-1210	12/08/10 14:30	12/10/10 08:15	12/14/10 10:00	5.85	7.00	12/23/10 16:37	9.28	40.00	
BCHMS-GW-025-1210	12/09/10 09:00	12/10/10 08:15	12/14/10 10:00	5.08	7.00	12/23/10 16:55	9.29	40.00	

# HOLDING TIME SUMMARY

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-GW-024-1210	12/08/10 14:30	12/10/10 08:15	12/14/10 10:00	5.85	7.00	12/23/10 16:37	9.28	40.00	
BCHMS-GW-025-1210	12/09/10 09:00	12/10/10 08:15	12/14/10 10:00	5.08	7.00	12/23/10 16:55	9.29	40.00	

## HOLDING TIME SUMMARY

### FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
BCHMS-GW-021-1210	12/08/10 10:00	12/10/10 08:15	12/14/10 12:45	6.16	7.00	12/16/10 00:10	1.48	40.00	
BCHMS-GW-022-1210	12/08/10 10:50	12/10/10 08:15	12/14/10 12:45	6.12	7.00	12/16/10 00:52	1.50	40.00	
BCHMS-GW-023D-1210	12/08/10 15:00	12/10/10 08:15	12/14/10 12:45	5.95	7.00	12/16/10 01:34	1.53	40.00	
BCHMS-GW-024-1210	12/08/10 14:30	12/10/10 08:15	12/14/10 12:45	5.97	7.00	12/21/10 14:39	7.08	40.00	
BCHMS-GW-027-1210	12/08/10 13:30	12/10/10 08:15	12/14/10 12:45	6.01	7.00	12/16/10 02:59	1.59	40.00	
BCHMS-GW-017-1210	12/09/10 14:00	12/10/10 08:15	12/14/10 12:45	4.99	7.00	12/16/10 03:41	1.62	40.00	
BCHMS-GW-018-1210	12/09/10 15:00	12/10/10 08:15	12/14/10 12:45	4.95	7.00	12/16/10 04:23	1.65	40.00	
BCHMS-GW-20D-1210	12/09/10 10:40	12/10/10 08:15	12/14/10 12:45	5.13	7.00	12/16/10 05:06	1.68	40.00	
BCHMS-GW-025-1210	12/09/10 09:00	12/10/10 08:15	12/14/10 12:45	5.20	7.00	12/16/10 05:48	1.71	40.00	
BCHMS-GW-026-1210	12/09/10 09:50	12/10/10 08:15	12/14/10 12:45	5.16	7.00	12/16/10 06:31	1.74	40.00	

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	BCHMS-GW-005-1210	1012153-03RE2	NM	12/12/2010	12/27/2010	01/04/2011	15	8	23
OV	UG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/20/2010	12/20/2010	6	0	6
OV	UG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/17/2010	12/18/2010	3	1	4
OV	UG/KG	BCHMS-SO-023-1210	1012153-28	NM	12/14/2010	12/17/2010	12/18/2010	3	1	4
OV	UG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/17/2010	12/18/2010	3	1	4
OV	UG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-020-1210	1012153-25REF1	NM	12/14/2010	12/22/2010	12/22/2010	8	0	8
OV	UG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3

Wednesday, January 26, 2011

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/17/2010	12/17/2010	3	0	3
OV	UG/KG	BCHMS-SO-021-1210	1012153-26	NM	12/14/2010	12/17/2010	12/18/2010	3	1	4
OV	UG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/16/2010	12/16/2010	8	0	8
OV	UG/L	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/16/2010	12/16/2010	8	0	8
OV	UG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/16/2010	12/16/2010	6	0	6
OV	UG/L	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7
OV	UG/L	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/16/2010	12/16/2010	8	0	8
OV	UG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/16/2010	12/16/2010	6	0	6
OV	UG/L	BCHMS-TB01-1210	1012118-11	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7
OV	UG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7
OV	UG/L	BCHMS-GW-024-1210	1012118-04RE1	NM	12/08/2010	12/17/2010	12/17/2010	9	0	9
OV	UG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7
OV	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/16/2010	12/16/2010	5	0	5
OV	UG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7

Wednesday, January 26, 2011

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/L	BCHMS-TB02-1210	1012134-11	NM	12/13/2010	12/16/2010	12/16/2010	3	0	3
OV	UG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/16/2010	12/16/2010	6	0	6
OV	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/16/2010	12/16/2010	7	0	7
OV	UG/L	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/16/2010	12/16/2010	5	0	5
OV	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/17/2010	12/17/2010	5	0	5
OV	UG/L	BCHMS-GW-027-1210	1012118-05RE1	NM	12/08/2010	12/17/2010	12/17/2010	9	0	9
OV	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/17/2010	12/17/2010	5	0	5
OV	UG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/16/2010	12/16/2010	5	0	5
OV	UG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/16/2010	12/16/2010	5	0	5
OV	UG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/16/2010	12/16/2010	6	0	6
OV	UG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/16/2010	12/16/2010	5	0	5
OV	UG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/17/2010	12/18/2010	4	1	5
OV	UG/L	BCHMS-GW-005-1210	1012153-03	NM	12/12/2010	12/17/2010	12/17/2010	5	0	5
OV	UG/L	BCHMS-GW-006-1210	1012153-04RE1	NM	12/12/2010	12/21/2010	12/21/2010	9	0	9
OV	UG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/17/2010	12/18/2010	5	1	6
OV	UG/L	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/17/2010	12/18/2010	4	1	5
OV	UG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/17/2010	12/18/2010	4	1	5
OV	UG/L	BCHMS-GW-010-1210	1012153-09RE1	NM	12/13/2010	12/21/2010	12/21/2010	8	0	8

Wednesday, January 26, 2011

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/17/2010	12/18/2010	4	1	5
OV	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/17/2010	12/18/2010	4	1	5
OV	UG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/16/2010	12/16/2010	6	0	6
SIM	UG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-019-1210	1012153-24	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-018-1210	1012153-23	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-018-1210	1012153-23	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-017-1210	1012153-22	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-017-1210	1012153-22	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-019-1210	1012153-24	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-016-1210	1012153-21	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-016-1210	1012153-21	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-015-1210	1012153-20	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-015-1210	1012153-20	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-014-1210	1012153-19	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-020-1210	1012153-25	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-013-1210	1012153-18	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-025-1210	1012153-30	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17

Wednesday, January 26, 2011

SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
SIM	UG/KG	BCHMS-SO-013-1210	1012153-18	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-012-1210	1012153-17	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-014-1210	1012153-19	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-028-1210	1012153-32	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/20/2010	12/29/2010	6	9	15
SIM	UG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/20/2010	12/29/2010	6	9	15
SIM	UG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-026-1210	1012153-31	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-024-1210	1012153-29	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-021-1210	1012153-26	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-023-1210	1012153-28	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-022-1210	1012153-27	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
SIM	UG/KG	BCHMS-SO-022-1210	1012153-27	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-021-1210	1012153-26	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-026-1210	1012153-31RE1	NM	12/14/2010	01/04/2011	01/05/2011	21	1	22
SIM	UG/KG	BCHMS-SO-010-1210	1012153-16	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-007-1210	1012153-15	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-004-1210	1012153-14	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-002-1210	1012153-13	SUR	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-002-1210	1012153-13	NM	12/14/2010	12/16/2010	12/31/2010	2	15	17
SIM	UG/KG	BCHMS-SO-FD01-1210	1012153-33	SUR	12/14/2010	12/20/2010	12/29/2010	6	9	15
SIM	UG/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-014-1210	1012134-02	SUR	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-015-1210	1012134-03	NM	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-015-1210	1012134-03	SUR	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-016-1210	1012134-04	NM	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-016-1210	1012134-04	SUR	12/10/2010	12/16/2010	12/30/2010	6	14	20

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
SIM	UG/L	BCHMS-GW-013-1210	1012134-01	SUR	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-017-1210	1012118-06	SUR	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-017-1210	1012118-06	NM	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-012-1210	1012153-11	SUR	12/13/2010	12/16/2010	12/24/2010	3	8	11
SIM	UG/L	BCHMS-GW-011-1210	1012153-10	SUR	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-022-1210	1012118-02	NM	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-010-1210	1012153-09	SUR	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-009D-1210	1012153-08	SUR	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-008-1210	1012153-07	SUR	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-008-1210	1012153-07	NM	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/16/2010	12/24/2010	3	8	11
SIM	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-20D-1210	1012118-08	SUR	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-20D-1210	1012118-08	NM	12/09/2010	12/14/2010	12/28/2010	5	14	19

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
SIM	UG/L	BCHMS-GW-029D-1210	1012134-10	SUR	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-029D-1210	1012134-10	NM	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-028-1210	1012134-09	SUR	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-027-1210	1012118-05	SUR	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-027-1210	1012118-05	NM	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-026-1210	1012118-10	SUR	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-021-1210	1012118-01	NM	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-025-1210	1012118-09	SUR	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-018-1210	1012118-07	SUR	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-024-1210	1012118-04	SUR	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-023D-1210	1012118-03	SUR	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-023D-1210	1012118-03	NM	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-022-1210	1012118-02	SUR	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-018-1210	1012118-07	NM	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-GW-021-1210	1012118-01	SUR	12/08/2010	12/14/2010	12/28/2010	6	14	20
SIM	UG/L	BCHMS-GW-007-1210	1012153-05	SUR	12/12/2010	12/16/2010	12/31/2010	4	15	19

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
SIM	UG/L	BCHMS-GW-019-1210	1012134-05	SUR	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-GW-026-1210	1012118-10	NM	12/09/2010	12/14/2010	12/28/2010	5	14	19
SIM	UG/L	BCHMS-FD002-1210	1012153-06	SUR	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/16/2010	12/31/2010	4	15	19
SIM	UG/L	BCHMS-GW-019-1210	1012134-05	NM	12/10/2010	12/16/2010	12/30/2010	6	14	20
SIM	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-FD002-1210	1012153-06	NM	12/13/2010	12/16/2010	12/31/2010	3	15	18
SIM	UG/L	BCHMS-GW-001-1210	1012134-06	NM	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-001-1210	1012134-06	SUR	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-003-1210	1012134-08	SUR	12/11/2010	12/16/2010	12/30/2010	5	14	19
SIM	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-004-1210	1012153-02	SUR	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-006-1210	1012153-04	SUR	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-005-1210	1012153-03	NM	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-005-1210	1012153-03	SUR	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/16/2010	12/30/2010	5	14	19

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SORT	UNITS	NSAMPLE	LAB ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
SIM	UG/L	BCHMS-FD001-1210	1012153-01	SUR	12/12/2010	12/16/2010	12/30/2010	4	14	18
SIM	UG/L	BCHMS-GW-006-1210	1012153-04	NM	12/12/2010	12/16/2010	12/30/2010	4	14	18
PCB	UG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PCB	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/14/2010	12/23/2010	5	9	14
PCB	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/17/2010	12/23/2010	4	6	10
PCB	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/15/2010	12/23/2010	4	8	12
PCB	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/17/2010	12/23/2010	5	6	11
PCB	UG/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/17/2010	12/23/2010	5	6	11
PCB	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/14/2010	12/23/2010	6	9	15
PCB	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/17/2010	12/23/2010	4	6	10
PEST	UG/KG	BCHMS-SO-004-1210	1012153-14	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/KG	BCHMS-SO-010-1210	1012153-16	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
PEST	UG/KG	BCHMS-SO-012-1210	1012153-17	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/KG	BCHMS-SO-024-1210	1012153-29	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/KG	BCHMS-SO-025-1210	1012153-30	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/22/2010	12/29/2010	8	7	15
PEST	UG/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/17/2010	12/23/2010	4	6	10
PEST	UG/L	BCHMS-GW-028-1210	1012134-09	NM	12/11/2010	12/15/2010	12/23/2010	4	8	12
PEST	UG/L	BCHMS-GW-025-1210	1012118-09	NM	12/09/2010	12/14/2010	12/23/2010	5	9	14
PEST	UG/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/17/2010	12/23/2010	4	6	10
PEST	UG/L	BCHMS-FD001-1210	1012153-01	NM	12/12/2010	12/17/2010	12/23/2010	5	6	11
PEST	UG/L	BCHMS-GW-024-1210	1012118-04	NM	12/08/2010	12/14/2010	12/23/2010	6	9	15
TPH	MG/KG	BCHMS-SO-007-1210	1012153-15	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-FD01-1210	1012153-33	NM	12/14/2010	12/23/2010	12/30/2010	9	7	16
TPH	MG/KG	BCHMS-SO-028-1210	1012153-32	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-020-1210	1012153-25	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-026-1210	1012153-31	NM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-FD02-1210	1012153-34	NM	12/14/2010	12/23/2010	12/30/2010	9	7	16

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
TPH	MG/KG	BCHMS-SO-025-1210	1012153-30	NIM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-024-1210	1012153-29	NIM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-023-1210	1012153-28	NIM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-022-1210	1012153-27	NIM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-021-1210	1012153-26	NIM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-010-1210	1012153-16	NIM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-019-1210	1012153-24	NIM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-012-1210	1012153-17	NIM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-004-1210	1012153-14	NIM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-013-1210	1012153-18	NIM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-014-1210	1012153-19	NIM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-015-1210	1012153-20	NIM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-016-1210	1012153-21	NIM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-017-1210	1012153-22	NIM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-018-1210	1012153-23	NIM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/KG	BCHMS-SO-002-1210	1012153-13	NIM	12/14/2010	12/22/2010	12/30/2010	8	8	16
TPH	MG/L	BCHMS-GW-027-1210	1012118-05	NIM	12/08/2010	12/14/2010	12/16/2010	6	2	8
TPH	MG/L	BCHMS-GW-021-1210	1012118-01	NIM	12/08/2010	12/14/2010	12/16/2010	6	2	8

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP EXTR	EXTR ANL	SMP ANL
TPH	MG/L	BCHMS-GW-016-1210	1012134-04	NIM	12/10/2010	12/15/2010	12/18/2010	5	3	8
TPH	MG/L	BCHMS-GW-017-1210	1012118-06	NIM	12/09/2010	12/14/2010	12/16/2010	5	2	7
TPH	MG/L	BCHMS-GW-018-1210	1012118-07	NIM	12/09/2010	12/14/2010	12/16/2010	5	2	7
TPH	MG/L	BCHMS-GW-019-1210	1012134-05	NIM	12/10/2010	12/15/2010	12/18/2010	5	3	8
TPH	MG/L	BCHMS-GW-022-1210	1012118-02	NIM	12/08/2010	12/14/2010	12/16/2010	6	2	8
TPH	MG/L	BCHMS-GW-023D-1210	1012118-03	NIM	12/08/2010	12/14/2010	12/16/2010	6	2	8
TPH	MG/L	BCHMS-GW-024-1210	1012118-04	NIM	12/08/2010	12/14/2010	12/21/2010	6	7	13
TPH	MG/L	BCHMS-GW-015-1210	1012134-03	NIM	12/10/2010	12/15/2010	12/18/2010	5	3	8
TPH	MG/L	BCHMS-GW-026-1210	1012118-10	NIM	12/09/2010	12/14/2010	12/16/2010	5	2	7
TPH	MG/L	BCHMS-GW-008-1210	1012153-07	NIM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	MG/L	BCHMS-GW-028-1210	1012134-09	NIM	12/11/2010	12/15/2010	12/18/2010	4	3	7
TPH	MG/L	BCHMS-GW-029D-1210	1012134-10	NIM	12/11/2010	12/15/2010	12/18/2010	4	3	7
TPH	MG/L	BCHMS-GW-025-1210	1012118-09	NIM	12/09/2010	12/14/2010	12/16/2010	5	2	7
TPH	MG/L	BCHMS-GW-005-1210	1012153-03	NIM	12/12/2010	12/17/2010	12/21/2010	5	4	9
TPH	MG/L	BCHMS-GW-20D-1210	1012118-08	NIM	12/09/2010	12/14/2010	12/16/2010	5	2	7
TPH	MG/L	BCHMS-FD001-1210	1012153-01	NIM	12/12/2010	12/17/2010	12/21/2010	5	4	9
TPH	MG/L	BCHMS-FD002-1210	1012153-06	NIM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	MG/L	BCHMS-GW-001-1210	1012134-06	NIM	12/11/2010	12/15/2010	12/18/2010	4	3	7

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SORT	UNITS	NSAMPLE	LAB ID	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
TPH	M/G/L	BCHMS-GW-002-1210	1012134-07	NM	12/11/2010	12/15/2010	12/18/2010	4	3	7
TPH	M/G/L	BCHMS-GW-010-1210	1012153-09	NM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	M/G/L	BCHMS-GW-004-1210	1012153-02	NM	12/12/2010	12/17/2010	12/21/2010	5	4	9
TPH	M/G/L	BCHMS-GW-014-1210	1012134-02	NM	12/10/2010	12/15/2010	12/18/2010	5	3	8
TPH	M/G/L	BCHMS-GW-006-1210	1012153-04	NM	12/12/2010	12/17/2010	12/21/2010	5	4	9
TPH	M/G/L	BCHMS-GW-007-1210	1012153-05	NM	12/12/2010	12/17/2010	12/21/2010	5	4	9
TPH	M/G/L	BCHMS-GW-009D-1210	1012153-08	NM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	M/G/L	BCHMS-GW-011-1210	1012153-10	NM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	M/G/L	BCHMS-GW-012-1210	1012153-11	NM	12/13/2010	12/17/2010	12/21/2010	4	4	8
TPH	M/G/L	BCHMS-GW-013-1210	1012134-01	NM	12/10/2010	12/15/2010	12/18/2010	5	3	8
TPH	M/G/L	BCHMS-GW-003-1210	1012134-08	NM	12/11/2010	12/15/2010	12/18/2010	4	3	7

## ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTOJM17

Sequence: 0L34801

Instrument: MS-VOA3

Calibration: 0349001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L34801-TUN1	1213TU1.D	12/13/10 15:51
Cal Standard	0L34801-CAL1	SEQ-CAL1.D	12/13/10 16:19
Cal Standard	0L34801-CAL2	SEQ-CAL2.D	12/13/10 16:49
Cal Standard	0L34801-CAL3	SEQ-CAL3.D	12/13/10 17:18
Cal Standard	0L34801-CAL4	SEQ-CAL4.D	12/13/10 17:48
Cal Standard	0L34801-CAL5	SEQ-CAL5.D	12/13/10 18:18
Cal Standard	0L34801-CAL6	SEQ-CAL6.D	12/13/10 18:47
Cal Standard	0L34801-CAL7	SEQ-CAL7.D	12/13/10 19:17
Cal Standard	0L34801-CAL8	SEQ-CAL8.D	12/13/10 19:47
Cal Standard	0L34801-CAL9	SEQ-CAL9.D	12/13/10 20:16
Initial Cal Check	0L34801-ICV1	SEQ-ICV1.D	12/13/10 20:46
Cal Standard	0L34801-CALA	SEQ-CALA.D	12/13/10 21:46
Cal Standard	0L34801-CALB	SEQ-CALB.D	12/13/10 22:15
Cal Standard	0L34801-CALC	SEQ-CALC.D	12/13/10 22:45
Cal Standard	0L34801-CALD	SEQ-CALD.D	12/13/10 23:15
Cal Standard	0L34801-CALE	SEQ-CALE.D	12/13/10 23:44
Cal Standard	0L34801-CALF	SEQ-CALF.D	12/14/10 00:14
Cal Standard	0L34801-CALG	SEQ-CALG.D	12/14/10 00:44
Cal Standard	0L34801-CALH	SEQ-CALH.D	12/14/10 01:13
Cal Standard	0L34801-CALI	SEQ-CALI.D	12/14/10 01:43
Initial Cal Check	0L34801-ICV4	SEQ-ICV3x.D	12/14/10 02:13

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: 1213TUI.D

Injection Date: 12/13/10

Instrument ID: MS-VOA3

Injection Time: 15:51

Sequence: 0L34801

Lab Sample ID: 0L34801-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	19.9	PASS
75	30 - 60% of 95	47.4	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.48	PASS
173	Less than 2% of 174	0.696	PASS
174	50 - 200% of 95	80.7	PASS
175	5 - 9% of 174	7.13	PASS
176	95 - 101% of 174	96.3	PASS
177	5 - 9% of 176	7.31	PASS

# INITIAL CALIBRATION DATA (Continued)

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0349001

Instrument: MS-VOA3

Matrix: Water

Calibration Date: 12/13/2010 4:19:50PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acetone	7.141267E-02	2.283392	5.380222	0.1161561			15	
Acrolein	3.837883E-02 <sup>NPT</sup>	6.679093	5.221333	6.921031E-02			15	
Acrylonitrile	8.164535E-02	3.702574	6.065333	9.991203E-02			15	
Benzene	0.8693201	5.723872	12.115	3.879217E-02			15	
Bromobenzene	0.6203722	5.562394	17.223	2.639792E-02			15	
Bromochloromethane	0.1138001	5.402698	9.639	8.055648E-02			15	
Tert-Amyl Methyl Ether	0.7127696	9.54379	12.46114	1.033009E-02			15	
Bromodichloromethane	0.3079503	5.224727	13.11622	1.620503E-02			15	
Bromoform	0.293042	20.56356	16.51433	2.448315E-02	0.9987915		SPCC (0.1)	
Bromomethane	0.1212823	15.88542	4.390333	6.191229E-02	0.9994355		0.995	
Bromofluorobenzene	0.9798013	1.870278	17.055	2.105815E-02			15	
n-Butylbenzene	1.521531	8.125579	18.40633	1.570071E-02			15	
2-Butanone	9.313386E-02	27.54904	8.8875	0.2775983	0.999558		0.995	
sec-Butylbenzene	1.942098	7.067644	17.95633	1.042928E-02			15	
tert-Butylbenzene	1.517573	7.911336	18.08433	2.031522E-02			15	
Carbon disulfide	0.622022	6.829421	6.605667	4.366265E-02			15	
Carbon tetrachloride	0.297389	10.39837	12.07333	1.440845E-02			15	
Chlorobenzene	1.346299	8.860194	16.10867	1.499684E-02			SPCC (0.3)	
Chloroethane	0.1180991	14.87566	4.557667	0.1098222			15	
Chloroform	0.4195814	3.427673	9.799	0.1016528			CCC (20)	
2-Chloroethyl vinyl ether	0.1608573	4.686945	13.711	4.719969E-02			15	
Chloromethane	0.2231797	11.20807	3.729889	0.1126941			SPCC (0.1)	
1-Chlorohexane	1.123854	12.93171	16.06833	2.076101E-02			15	
2-Chlorotoluene	1.640755	6.330958	17.44133	2.088678E-02			15	
4-Chlorotoluene	1.644672	6.956288	17.49967	1.775187E-02			15	
Cyclohexane	0.3540904	4.974101	11.96367	0.0279755			15	
Dibromochloromethane	0.4234378	14.40268	15.09467	2.312328E-02			15	
1,2-Dibromo-3-chloropropane	0.1104092	20.47113	18.75733	2.486783E-02	0.9987271		0.995	
1,2-Dibromoethane (EDB)	0.4713652	5.069841	15.32833	1.248373E-02			15	
Dibromomethane	0.1573576	7.291752	12.938	4.494394E-02			15	
1,2-Dichlorobenzene	0.9980283	5.39051	18.38033	3.976783E-03			15	
1,3-Dichlorobenzene	0.9972267	4.614311	18.036	1.195149E-02			15	

# INITIAL CALIBRATION DATA (Continued)

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0349001

Instrument: MS-VOA3

Matrix: Water

Calibration Date: 12/13/2010 4:19:50PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,4-Dichlorobenzene	1.050547	10.70503	18.08433	2.031522E-02			15	
Dichlorodifluoromethane	0.196978	14.45822	3.521667	9.130799E-02	0.9996804		0.995	
1,1-Dichloroethane	0.3970346	2.173926	7.909	0.1001988			SPCC (0.1)	
1,2-Dichloroethane	0.3618399	3.117376	11.27444	5.922584E-02			15	
1,1-Dichloroethene	0.1848867	7.173388	6.027667	0.1119975			CCC (20)	
cis-1,2-Dichloroethene	0.2321957	6.51156	9.263333	0.1166118			15	
trans-1,2-Dichloroethene	0.2143621	6.699331	7.398667	6.897512E-02			15	
1,2-Dichloroethene (total)	0.2232789	3.538246	0	0			15	
1,2-Dichloropropane	0.2374431	4.113964	13.00033	3.669978E-02			CCC (20)	
1,3-Dichloropropane	0.6742105	13.69647	14.853	1.392896E-02			15	
2,2-Dichloropropane	0.3499551	3.946072	10.03344	0.0892213			15	
1,1-Dichloropropene	0.3096047	4.004482	11.82367	3.756467E-02			15	
cis-1,3-Dichloropropene	0.3885811	4.067808	13.95333	2.095492E-02			15	
trans-1,3-Dichloropropene	0.6394469	7.377868	14.443	3.121757E-02			15	
Diisopropyl Ether	0.8524412	5.59544	9.040222	0.1016453			15	
Ethylbenzene	2.227076	10.4301	16.27267	2.137116E-02			CCC (20)	
Ethyl tert-Butyl Ether	0.7641753	4.286409	10.1225	7.275247E-02			15	
Ethyl Methacrylate	0.5619364	7.945655	14.91922	3.445866E-02			15	
Hexachlorobutadiene	0.2918512	5.293205	20.315	1.883089E-02			15	
2-Hexanone	0.3017843	12.94959	15.0305	6.273039E-02			15	
Iodomethane	0.2521788	14.37537	6.07	4.826222E-02	0.9997996		0.995	
Isopropylbenzene	1.851838	9.416512	17.02478	2.088716E-02			15	
p-Isopropyltoluene	1.366312	5.016463	17.78767	5.717893E-03			15	
Methylene chloride	0.2407745	8.997654	6.24	0.1166582			15	
Methyl Acetate	0.1660347	6.750793	6.2855	0.1506604			15	
Methylcyclohexane	0.2943189	2.884429	13.74367	2.768822E-02			15	
Naphthalene	1.517986	3.801356	20.27433	2.092311E-02			15	
Methyl Methacrylate	0.2182298	14.6991	13.39375	6.718718E-02			15	
4-Methyl-2-pentanone	0.2314244	7.970874	14.0965	3.427182E-02			15	
Methyl t-Butyl Ether	0.6135292	4.639121	7.661333	0.1385543			15	
n-Propylbenzene	2.348363	8.559379	17.36033	0.0247832			15	
Styrene	1.518926	7.533105	16.68667	2.514641E-02			15	

## INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0349001

Instrument: MS-VOA3

Matrix: Water

Calibration Date: 12/13/2010 4:19:50PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,1,2,2-Tetrachloroethane	0.5410486	7.051772	16.752	1.727606E-02			SPCC (0.3)	
1,1,1,2-Tetrachloroethane	0.4179322	5.143498	16.05033	0.0131012			15	
tert-Butyl alcohol	2.221799E-02	4.415061	6.02425	0.1354799			15	
Tetrachloroethene	0.4850248	3.904585	15.51789	1.665171E-02			15	
Toluene	1.183272	5.857981	14.78989	2.991216E-02			CCC (20)	
1,2,3-Trichlorobenzene	0.5813175	2.795132	20.51667	5.221391E-03			15	
1,2,4-Trichlorobenzene	0.6601423	4.682353	20.00911	1.387888E-02			15	
1,1,2-Trichloroethane	0.3486098	6.477077	14.595	2.904031E-02			15	
1,1,1-Trichloroethane	0.3704875	5.232186	11.47467	4.130506E-02			15	
Tetrahydrofuran	6.159011E-02	8.996479	10.63586	0.1499273			15	
Trichloroethene	0.257347	9.517283	13.07867	2.338694E-02			15	
Trichlorofluoromethane	0.3662788	2.644332	5.268333	0.116333			15	
1,2,3-Trichloropropane	0.1678733	7.878045	16.85667	7.977424E-03			15	
1,3,5-Trimethylbenzene	1.752559	7.324779	17.56333	1.933134E-02			15	
1,2,4-Trimethylbenzene	1.817454	7.825182	17.86667	0.0186587			15	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.1889	5.13942	6.346556	9.148294E-02			15	
Vinyl chloride	0.1909905	8.770908	3.933778	0.1326098			CCC (20)	
m,p-Xylene	1.82297	13.41064	16.4295	2.639917E-02			15	
o-Xylene	1.885961	12.69374	16.745	7.701285E-03			15	
Vinyl acetate	0.2839432	6.688655	8.19775	0.1540793			15	
Xylenes (total)	1.862121	12.07325	0	0			15	
Dibromofluoromethane	0.2604259	1.982991	10.10711	7.492134E-02			15	
1,2-Dichloroethane-d4	5.522748E-02	2.834664	11.12567	3.965812E-02			15	
Toluene-d8	2.048621	1.787892	14.714	2.238763E-02			15	
tert-Amyl alcohol	0.0146775	12.62285	10.97786	7.327972E-02			15	
tert-Amyl ethyl ether	0.6842477	4.766204	13.63533	1.971528E-02			15	

# INITIAL CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA3

Calibration: 0349001

Lab File ID: SEQ-ICV1.D

Calibration Date: 12/13/10 16:19

Sequence: 0L34801

Injection Date: 12/13/10

Lab Sample ID: 0L34801-ICV1

Injection Time: 20:46

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Benzene	A	50.00	51.43	0.8693201	0.8941339		2.9	20
Bromochloromethane	A	50.00	50.91	0.1138001	0.1158683		1.8	20
Bromodichloromethane	A	50.00	56.24	0.3079503	0.3463787		12.5	20
Bromoform	L	50.00	48.51	0.293042	0.3440534	0.1	-3.0	20
Bromomethane	L	50.00	47.02	0.1212823	0.130657		-6.0	20
Carbon disulfide	A	50.00	54.66	0.622022	0.6799749		9.3	20
Carbon tetrachloride	A	50.00	55.16	0.297389	0.3281006		10.3	20
Chlorobenzene	A	50.00	50.62	1.346299	1.363055	0.3	1.2	20
Chloroethane	A	50.00	50.21	0.1180991	0.118603		0.4	20
Chloroform	A	50.00	49.64	0.4195814	0.4165235		-0.7	20
Chloromethane	A	50.00	55.57	0.2231797	0.2480287	0.1	11.1	20
Cyclohexane	A	50.00	51.46	0.3540904	0.364431		2.9	20
Dibromochloromethane	A	50.00	57.97	0.4234378	0.4908968		15.9	20
1,2-Dibromo-3-chloropropane	L	50.00	47.54	0.1104092	0.1254699		-4.9	20
1,2-Dibromoethane (EDB)	A	50.00	51.46	0.4713652	0.4851486		2.9	20
1,2-Dichlorobenzene	A	50.00	49.90	0.9980283	0.9960596		-0.2	20
1,3-Dichlorobenzene	A	50.00	49.95	0.9972267	0.9962532		-0.1	20
1,4-Dichlorobenzene	A	50.00	47.84	1.050547	1.005097		-4.3	20
Dichlorodifluoromethane	L	50.00	58.50	0.196978	0.2561483		17.0	20
1,1-Dichloroethane	A	50.00	51.14	0.3970346	0.4061262	0.1	2.3	20
1,2-Dichloroethane	A	50.00	50.93	0.3618399	0.3685509		1.9	20
1,1-Dichloroethene	A	50.00	52.91	0.1848867	0.1956321		5.8	20
cis-1,2-Dichloroethene	A	50.00	50.70	0.2321957	0.2354322		1.4	20
trans-1,2-Dichloroethene	A	50.00	51.72	0.2143621	0.2217261		3.4	20
1,2-Dichloropropane	A	50.00	51.40	0.2374431	0.2440868		2.8	20
cis-1,3-Dichloropropene	A	50.00	50.31	0.3885811	0.3910017		0.6	20
trans-1,3-Dichloropropene	A	50.00	58.02	0.6394469	0.742055		16.0	20
Ethylbenzene	A	50.00	51.52	2.227076	2.29469		3.0	20
Isopropylbenzene	A	50.00	54.85	1.851838	2.031544		9.7	20

# INITIAL CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA3

Calibration: 0349001

Lab File ID: SEQ-ICV1.D

Calibration Date: 12/13/10 16:19

Sequence: 0L34801

Injection Date: 12/13/10

Lab Sample ID: 0L34801-ICV1

Injection Time: 20:46

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Methylene chloride	A	50.00	48.88	0.2407745	0.235388		-2.2	20
Methyl Acetate	A	50.00	49.37	0.1660347	0.1639309		-1.3	20
Methylcyclohexane	A	50.00	50.68	0.2943189	0.2983378		1.4	20
Methyl t-Butyl Ether	A	50.00	50.46	0.6135292	0.6192344		0.9	20
Styrene	A	50.00	50.98	1.518926	1.548676		2.0	20
1,1,2,2-Tetrachloroethane	A	50.00	48.92	0.5410486	0.5293168	0.3	-2.2	20
Tetrachloroethene	A	50.00	51.57	0.4850248	0.5002247		3.1	20
Toluene	A	50.00	50.57	1.183272	1.196834		1.1	20
1,2,3-Trichlorobenzene	A	50.00	50.02	0.5813175	0.5815979		0.05	20
1,2,4-Trichlorobenzene	A	50.00	48.77	0.6601423	0.6438994		-2.5	20
1,1,2-Trichloroethane	A	50.00	49.67	0.3486098	0.3462764		-0.7	20
1,1,1-Trichloroethane	A	50.00	52.03	0.3704875	0.3854951		4.1	20
Trichloroethene	A	50.00	49.96	0.257347	0.2571358		-0.08	20
Trichlorofluoromethane	A	50.00	53.48	0.3662788	0.3917564		7.0	20
1,1,2-Trichloro-1,2,2-trifluoroethane	A	50.00	54.12	0.1889	0.2044511		8.2	20
Vinyl chloride	A	50.00	55.27	0.1909905	0.2111267		10.5	20
m,p-Xylene	A	100.0	95.81	1.82297	1.746599		-4.2	20
o-Xylene	A	50.00	50.14	1.885961	1.891283		0.3	20
Bromofluorobenzene	A	30.00	30.31	0.9798013	0.9898197		1.0	20
Dibromofluoromethane	A	30.00	30.97	0.2604259	0.2688347		3.2	20
1,2-Dichloroethane-d4	A	30.00	31.16	5.522748E-02	5.736291E-02		3.9	20
Toluene-d8	A	30.00	30.80	2.048621	2.103532		2.7	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# INITIAL CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA3

Calibration: 0349001

Lab File ID: SEQ-ICV3x.D

Calibration Date: 12/13/10 16:19

Sequence: 0L34801

Injection Date: 12/14/10

Lab Sample ID: 0L34801-ICV4

Injection Time: 02:13

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Acetone	A	200.0	203.4	7.141267E-02	7.264121E-02		1.7	20
2-Butanone	L	200.0	205.1	9.313386E-02	0.1091943		2.5	20
2-Hexanone	A	200.0	225.3	0.3017843	0.3400184		12.7	20
4-Methyl-2-pentanone	A	200.0	215.1	0.2314244	0.2488677		7.5	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35101

Instrument: MS-VOA3

Calibration: 0349001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L35101-TUN1	1216TU1.D	12/16/10 12:50
Calibration Check	0L35101-CCV1	1216CC1.D	12/16/10 13:19
LCS	0L16012-BS1	1216LS1.D	12/16/10 13:59
Blank	0L16012-BLK1	1216BL1.D	12/16/10 15:26
BCHMS-TB01-1210	1012118-11	1211811.D	12/16/10 16:25
BCHMS-GW-021-1210	1012118-01	1211801.D	12/16/10 17:25
BCHMS-GW-022-1210	1012118-02	1211802.D	12/16/10 17:54
BCHMS-GW-023D-1210	1012118-03	1211803.D	12/16/10 18:24
BCHMS-GW-017-1210	1012118-06	1211806.D	12/16/10 18:54
BCHMS-GW-018-1210	1012118-07	1211807.D	12/16/10 19:23
BCHMS-GW-20D-1210	1012118-08	1211808.D	12/16/10 19:53
BCHMS-GW-025-1210	1012118-09	1211809.D	12/16/10 20:23
BCHMS-GW-026-1210	1012118-10	1211810.D	12/16/10 20:52

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: 1216TUI.D

Injection Date: 12/16/10

Instrument ID: MS-VOA3

Injection Time: 12:50

Sequence: 0L35101

Lab Sample ID: 0L35101-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	21.5	PASS
75	30 - 60% of 95	47.7	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.32	PASS
173	Less than 2% of 174	0.862	PASS
174	50 - 200% of 95	72.1	PASS
175	5 - 9% of 174	8.04	PASS
176	95 - 101% of 174	96.1	PASS
177	5 - 9% of 176	6.75	PASS

# CONTINUING CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Instrument ID: MS-VOA3  
 Lab File ID: I216CCI.D  
 Sequence: 0L35101  
 Lab Sample ID: 0L35101-CCV1

SDG: CTOJM17KW\_001  
 Project: NAS Key West CTO JM17  
 Calibration: 0349001  
 Calibration Date: 12/13/10 16:19  
 Injection Date: 12/16/10  
 Injection Time: 13:19

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	200.0	230.3	7.141267E-02	8.223323E-02		15.2	20
Benzene	A	100.0	99.63	0.8693201	0.866082		-0.4	20
Bromochloromethane	A	100.0	109.2	0.1138001	0.1242172		9.2	20
Bromodichloromethane	A	100.0	120.8	0.3079503	0.3720764		20.8	20 *
Bromoform	L	100.0	105.7	0.293042	0.3826281	0.1	5.7	20
Bromomethane	L	100.0	72.35	0.1212823	0.1015089		-27.6	20 *
2-Butanone	L	200.0	209.4	9.313386E-02	0.111472		4.7	20
Carbon disulfide	A	100.0	111.3	0.622022	0.6925701		11.3	20
Carbon tetrachloride	A	100.0	118.4	0.297389	0.3521126		18.4	20
Chlorobenzene	A	100.0	96.34	1.346299	1.29697	0.3	-3.7	20
Chloroethane	A	100.0	98.51	0.1180991	0.1163356		-1.5	20
Chloroform	A	100.0	110.0	0.4195814	0.4616068		10.0	20
Chloromethane	A	100.0	96.03	0.2231797	0.2143262	0.1	-4.0	20
Cyclohexane	A	100.0	100.4	0.3540904	0.3554354		0.4	20
Dibromochloromethane	A	100.0	123.0	0.4234378	0.5206725		23.0	20 *
1,2-Dibromo-3-chloropropane	L	100.0	108.0	0.1104092	0.1453213		8.0	20
1,2-Dibromoethane (EDB)	A	100.0	107.2	0.4713652	0.505454		7.2	20
1,2-Dichlorobenzene	A	100.0	102.4	0.9980283	1.02257		2.5	20
1,3-Dichlorobenzene	A	100.0	103.6	0.9972267	1.032815		3.6	20
1,4-Dichlorobenzene	A	100.0	96.74	1.050547	1.016247		-3.3	20
Dichlorodifluoromethane	L	100.0	104.6	0.196978	0.2294494		4.6	20
1,1-Dichloroethane	A	100.0	106.5	0.3970346	0.4228515	0.1	6.5	20
1,2-Dichloroethane	A	100.0	115.4	0.3618399	0.4177408		15.4	20
1,1-Dichloroethene	A	100.0	101.5	0.1848867	0.187616		1.5	20
cis-1,2-Dichloroethene	A	100.0	104.7	0.2321957	0.2431592		4.7	20
trans-1,2-Dichloroethene	A	100.0	102.3	0.2143621	0.219225		2.3	20
1,2-Dichloropropane	A	100.0	102.0	0.2374431	0.2421631		2.0	20
cis-1,3-Dichloropropene	A	100.0	109.3	0.3885811	0.4248562		9.3	20
trans-1,3-Dichloropropene	A	100.0	112.0	0.6394469	0.7159925		12.0	20

## CONTINUING CALIBRATION CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA3

Calibration: 0349001

Lab File ID: 1216CC1.D

Calibration Date: 12/13/10 16:19

Sequence: 0L35101

Injection Date: 12/16/10

Lab Sample ID: 0L35101-CCV1

Injection Time: 13:19

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Ethylbenzene	A	100.0	99.80	2.227076	2.222581		-0.2	20
2-Hexanone	A	200.0	239.0	0.3017843	0.3606982		19.5	20
Isopropylbenzene	A	100.0	100.2	1.851838	1.855335		0.2	20
Methylene chloride	A	100.0	97.16	0.2407745	0.2339292		-2.8	20
Methyl Acetate	A	100.0	113.6	0.1660347	0.1886752		13.6	20
Methylcyclohexane	A	100.0	99.29	0.2943189	0.2922248		-0.7	20
4-Methyl-2-pentanone	A	200.0	234.4	0.2314244	0.2712934		17.2	20
Methyl t-Butyl Ether	A	100.0	107.6	0.6135292	0.660483		7.7	20
Styrene	A	100.0	99.37	1.518926	1.509366		-0.6	20
1,1,2,2-Tetrachloroethane	A	100.0	100.6	0.5410486	0.5443313	0.3	0.6	20
Tetrachloroethene	A	100.0	100.8	0.4850248	0.4886784		0.8	20
Toluene	A	100.0	95.20	1.183272	1.12644		-4.8	20
1,2,3-Trichlorobenzene	A	100.0	105.6	0.5813175	0.6139228		5.6	20
1,2,4-Trichlorobenzene	A	100.0	101.5	0.6601423	0.6700482		1.5	20
1,1,2-Trichloroethane	A	100.0	101.7	0.3486098	0.354659		1.7	20
1,1,1-Trichloroethane	A	100.0	116.1	0.3704875	0.4300953		16.1	20
Trichloroethene	A	100.0	105.5	0.257347	0.271477		5.5	20
Trichlorofluoromethane	A	100.0	108.5	0.3662788	0.3974001		8.5	20
1,1,2-Trichloro-1,2,2-trifluoroethane	A	100.0	112.6	0.1889	0.2126478		12.6	20
Vinyl chloride	A	100.0	97.95	0.1909905	0.1870842		-2.0	20
m,p-Xylene	A	200.0	180.0	1.82297	1.640289		-10.0	20
o-Xylene	A	100.0	98.28	1.885961	1.853574		-1.7	20
Bromofluorobenzene	A	30.00	31.03	0.9798013	1.013439		3.4	20
Dibromofluoromethane	A	30.00	31.07	0.2604259	0.2697408		3.6	20
1,2-Dichloroethane-d4	A	30.00	29.54	5.522748E-02	5.437204E-02		-1.5	20
Toluene-d8	A	30.00	28.96	2.048621	1.977791		-3.5	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# PREPARATION BATCH SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L16012

Batch Matrix: Water

Preparation: 5030B

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L16012-BLK1	12/16/10 00:00	5.00	5.00
LCS	0L16012-BS1	12/16/10 00:00	5.00	5.00
BCHMS-GW-021-1210	1012118-01	12/16/10 00:00	5.00	5.00
BCHMS-GW-022-1210	1012118-02	12/16/10 00:00	5.00	5.00
BCHMS-GW-023D-1210	1012118-03	12/16/10 00:00	5.00	5.00
BCHMS-GW-017-1210	1012118-06	12/16/10 00:00	5.00	5.00
BCHMS-GW-018-1210	1012118-07	12/16/10 00:00	5.00	5.00
BCHMS-GW-20D-1210	1012118-08	12/16/10 00:00	5.00	5.00
BCHMS-GW-025-1210	1012118-09	12/16/10 00:00	5.00	5.00
BCHMS-GW-026-1210	1012118-10	12/16/10 00:00	5.00	5.00
BCHMS-TB01-1210	1012118-11	12/16/10 00:00	5.00	5.00





# ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35202

Instrument: MS-VOA3

Calibration: 0349001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L35202-TUN1	1217TUI.D	12/17/10 13:16
Calibration Check	0L35202-CCV1	1217CC1.D	12/17/10 13:42
LCS	0L17010-BS1	1217LS1.D	12/17/10 14:13
Blank	0L17010-BLK1	1217BL1.D	12/17/10 15:39
BCHMS-GW-027-1210	1012118-05RE1	1211805R.D	12/17/10 16:39
BCHMS-GW-024-1210	1012118-04RE1	1211804R.D	12/17/10 23:04

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

**SW8260B**

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_001</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Lab File ID: <u>1217TUI.D</u>	Injection Date: <u>12/17/10</u>
Instrument ID: <u>MS-VOA3</u>	Injection Time: <u>13:16</u>
Sequence: <u>0L35202</u>	Lab Sample ID: <u>0L35202-TUN1</u>

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	17.9	PASS
75	30 - 60% of 95	51.5	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.05	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	86.2	PASS
175	5 - 9% of 174	6.73	PASS
176	95 - 101% of 174	99.5	PASS
177	5 - 9% of 176	6.62	PASS

# CONTINUING CALIBRATION CHECK

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA3

Calibration: 0349001

Lab File ID: 1217CC1.D

Calibration Date: 12/13/10 16:19

Sequence: 0L35202

Injection Date: 12/17/10

Lab Sample ID: 0L35202-CCV1

Injection Time: 13:42

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	200.0	242.9	7.141267E-02	8.672168E-02		21.4	20 *
Benzene	A	100.0	106.6	0.8693201	0.9263931		6.6	20
Bromochloromethane	A	100.0	115.8	0.1138001	0.1318008		15.8	20
Bromodichloromethane	A	100.0	131.4	0.3079503	0.4047488		31.4	20 *
Bromoform	L	100.0	105.2	0.293042	0.3805565	0.1	5.2	20
Bromomethane	L	100.0	72.32	0.1212823	0.1014748		-27.7	20 *
2-Butanone	L	200.0	207.6	9.313386E-02	0.1105282		3.8	20
Carbon disulfide	A	100.0	122.5	0.622022	0.7619126		22.5	20 *
Carbon tetrachloride	A	100.0	129.0	0.297389	0.3836525		29.0	20 *
Chlorobenzene	A	100.0	95.92	1.346299	1.291356	0.3	-4.1	20
Chloroethane	A	100.0	109.5	0.1180991	0.1293704		9.5	20
Chloroform	A	100.0	122.2	0.4195814	0.5127359		22.2	20 *
Chloromethane	A	100.0	109.8	0.2231797	0.2451246	0.1	9.8	20
Cyclohexane	A	100.0	108.4	0.3540904	0.3838586		8.4	20
Dibromochloromethane	A	100.0	122.3	0.4234378	0.5179125		22.3	20 *
1,2-Dibromo-3-chloropropane	L	100.0	104.2	0.1104092	0.1400401		4.2	20
1,2-Dibromoethane (EDB)	A	100.0	108.7	0.4713652	0.5123065		8.7	20
1,2-Dichlorobenzene	A	100.0	103.0	0.9980283	1.028092		3.0	20
1,3-Dichlorobenzene	A	100.0	105.7	0.9972267	1.05434		5.7	20
1,4-Dichlorobenzene	A	100.0	96.12	1.050547	1.009821		-3.9	20
Dichlorodifluoromethane	L	100.0	142.7	0.196978	0.3134515		42.7	20 *
1,1-Dichloroethane	A	100.0	115.1	0.3970346	0.4570644	0.1	15.1	20
1,2-Dichloroethane	A	100.0	129.8	0.3618399	0.4696491		29.8	20 *
1,1-Dichloroethene	A	100.0	105.8	0.1848867	0.195618		5.8	20
cis-1,2-Dichloroethene	A	100.0	110.6	0.2321957	0.256801		10.6	20
trans-1,2-Dichloroethene	A	100.0	110.9	0.2143621	0.2377765		10.9	20
1,2-Dichloropropane	A	100.0	109.4	0.2374431	0.2598897		9.5	20
cis-1,3-Dichloropropene	A	100.0	119.9	0.3885811	0.4658645		19.9	20
trans-1,3-Dichloropropene	A	100.0	112.1	0.6394469	0.7169483		12.1	20

## CONTINUING CALIBRATION CHECK

**SW8260B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-VOA3

Calibration: 0349001

Lab File ID: 1217CCI.D

Calibration Date: 12/13/10 16:19

Sequence: 0L35202

Injection Date: 12/17/10

Lab Sample ID: 0L35202-CCV1

Injection Time: 13:42

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Ethylbenzene	A	100.0	98.52	2.227076	2.194092		-1.5	20
2-Hexanone	A	200.0	224.7	0.3017843	0.3391035		12.4	20
Isopropylbenzene	A	100.0	101.0	1.851838	1.870159		1.0	20
Methylene chloride	A	100.0	108.0	0.2407745	0.2600071		8.0	20
Methyl Acetate	A	100.0	120.9	0.1660347	0.200693		20.9	20 *
Methylcyclohexane	A	100.0	107.0	0.2943189	0.31501		7.0	20
4-Methyl-2-pentanone	A	200.0	235.6	0.2314244	0.27257		17.8	20
Methyl t-Butyl Ether	A	100.0	118.7	0.6135292	0.7283631		18.7	20
Styrene	A	100.0	98.04	1.518926	1.489129		-2.0	20
1,1,2,2-Tetrachloroethane	A	100.0	96.48	0.5410486	0.5219886	0.3	-3.5	20
Tetrachloroethene	A	100.0	99.50	0.4850248	0.4826047		-0.5	20
Toluene	A	100.0	95.35	1.183272	1.128292		-4.6	20
1,2,3-Trichlorobenzene	A	100.0	106.3	0.5813175	0.6180555		6.3	20
1,2,4-Trichlorobenzene	A	100.0	103.1	0.6601423	0.6807415		3.1	20
1,1,2-Trichloroethane	A	100.0	103.5	0.3486098	0.3607726		3.5	20
1,1,1-Trichloroethane	A	100.0	127.1	0.3704875	0.4709028		27.1	20 *
Trichloroethene	A	100.0	114.0	0.257347	0.29334		14.0	20
Trichlorofluoromethane	A	100.0	126.9	0.3662788	0.4649333		26.9	20 *
1,1,2-Trichloro-1,2,2-trifluoroethane	A	100.0	121.1	0.1889	0.228832		21.1	20 *
Vinyl chloride	A	100.0	114.1	0.1909905	0.2178957		14.1	20
m,p-Xylene	A	200.0	181.0	1.82297	1.649522		-9.5	20
o-Xylene	A	100.0	97.94	1.885961	1.847129		-2.1	20
Bromofluorobenzene	A	30.00	30.64	0.9798013	1.000682		2.1	20
Dibromofluoromethane	A	30.00	33.31	0.2604259	0.2891966		11.0	20
1,2-Dichloroethane-d4	A	30.00	29.48	5.522748E-02	5.427263E-02		-1.7	20
Toluene-d8	A	30.00	28.00	2.048621	1.911994		-6.7	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# PREPARATION BATCH SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L17010

Batch Matrix: Water

Preparation: 5030B

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L17010-BLK1	12/17/10 00:00	5.00	5.00
LCS	0L17010-BS1	12/17/10 00:00	5.00	5.00
BCHMS-GW-024-1210	1012118-04RE1	12/17/10 00:00	5.00	5.00
BCHMS-GW-027-1210	1012118-05RE1	12/17/10 00:00	5.00	5.00





## ANALYSIS SEQUENCE SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35702

Instrument: MS-BNA1

Calibration: 0362004

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L35702-TUN1	SEQ-TUN1.D	12/18/10 18:01
Cal Standard	0L35702-CAL1	SEQ-CAL1.D	12/18/10 18:25
Cal Standard	0L35702-CAL2	SEQ-CAL2.D	12/18/10 18:53
Cal Standard	0L35702-CAL3	SEQ-CAL3.D	12/18/10 19:21
Cal Standard	0L35702-CAL4	SEQ-CAL4.D	12/18/10 19:49
Cal Standard	0L35702-CAL5	SEQ-CAL5.D	12/18/10 20:17
Cal Standard	0L35702-CAL6	SEQ-CAL6.D	12/18/10 20:45
Cal Standard	0L35702-CAL7	SEQ-CAL7.D	12/18/10 21:12
Cal Standard	0L35702-CAL8	SEQ-CAL8.D	12/18/10 21:40
Cal Standard	0L35702-CAL9	SEQ-CAL9.D	12/18/10 22:08
Cal Standard	0L35702-CALA	SEQ-CALA.D	12/18/10 22:36
Cal Standard	0L35702-CALB	SEQ-CALB.D	12/18/10 23:03
Cal Standard	0L35702-CALC	SEQ-CALC.D	12/18/10 23:31
Cal Standard	0L35702-CALD	SEQ-CALD.D	12/18/10 23:59
Cal Standard	0L35702-CALE	SEQ-CALE.D	12/19/10 00:26
Cal Standard	0L35702-CALF	SEQ-CALF.D	12/19/10 00:54
Cal Standard	0L35702-CALG	SEQ-CALG.D	12/19/10 01:21
Cal Standard	0L35702-CALH	SEQ-CALH.D	12/19/10 01:49
Cal Standard	0L35702-CALI	SEQ-CALI.D	12/19/10 02:16
Cal Standard	0L35702-CALJ	SEQ-CALJ.D	12/19/10 02:43
Cal Standard	0L35702-CALK	SEQ-CALK.D	12/19/10 03:11
Initial Cal Check	0L35702-ICV1	SEQ-ICV1.D	12/19/10 03:38
Initial Cal Check	0L35702-ICV2	SEQ-ICV2.D	12/19/10 04:05
MS Tune	0L35702-TUN2	SEQ-TUN1.D	12/22/10 15:21
Initial Cal Check	0L35702-ICV3	SEQ-ICV3.D	12/22/10 17:47

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: SEQ-TUN1.D

Injection Date: 12/18/10

Instrument ID: MS-BNA1

Injection Time: 18:01

Sequence: 0L35702

Lab Sample ID: 0L35702-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	32.2	PASS
68	Less than 2% of 69	0	PASS
69	Less than 200% of 198	53.3	PASS
70	Less than 2% of 69	0.467	PASS
127	40 - 60% of 198	41.1	PASS
197	Less than 1% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.15	PASS
275	10 - 30% of 198	17.1	PASS
365	1 - 200% of 198	2.04	PASS
441	0.001 - 100% of 443	73	PASS
442	40 - 200% of 198	48.8	PASS
443	17 - 23% of 442	19.6	PASS

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_001</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Lab File ID: <u>SEQ-TUN1.D</u>	Injection Date: <u>12/22/10</u>
Instrument ID: <u>MS-BNA1</u>	Injection Time: <u>15:21</u>
Sequence: <u>0L35702</u>	Lab Sample ID: <u>0L35702-TUN2</u>

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	35.4	PASS
68	Less than 2% of 69	0	PASS
69	Less than 200% of 198	58.2	PASS
70	Less than 2% of 69	0.498	PASS
127	40 - 60% of 198	42.2	PASS
197	Less than 1% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.78	PASS
275	10 - 30% of 198	17.9	PASS
365	1 - 200% of 198	1.91	PASS
441	0.001 - 100% of 443	72.5	PASS
442	40 - 200% of 198	51.3	PASS
443	17 - 23% of 442	21.8	PASS

## INITIAL CALIBRATION DATA (Continued)

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362004

Instrument: MS-BNA1

Matrix: Water

Calibration Date: 12/18/2010 6:01:14PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
3,3'-Dichlorobenzidine	0.3561386	13.74607	14.00913	1.853712E-02			15	
Acenaphthene	1.158212	14.29994	9.0893	6.863698E-02			CCC (30)	
Acenaphthylene	1.891103	11.23367	8.8751	5.824126E-02			15	
Acetophenone	1.491383	10.09705	5.9345	3.533817E-02			15	
Aniline	1.814495	8.712649	5.0947	0.1061016			15	
Anthracene	1.061887	11.50453	10.9213	4.956257E-02			15	
Atrazine	0.2180254	7.203989	10.55367	8.976036E-02			15	
Benzaldehyde	1.030353	13.61947	4.9567	3.368076E-02			15	
Benzidine	0.5252211	18.55429	12.485	2.056556E-02		0.9933875	0.99	
Benzo(a)anthracene	1.118893	3.791406	14.0132	2.141849E-02			15	
Benzo(a)pyrene	1.004932	13.00593	15.629	4.329081E-02			CCC (30)	
Benzo(b)fluoranthene	1.095916	8.306519	15.26688	3.715737E-02			15	
Benzo(g,h,i)perylene	0.7554867	8.063221	17.10713	0.0522402			15	
Benzoic acid	0.1412433	53.15864	6.784714	0.7332219		0.9914056	0.99	
Benzo(k)fluoranthene	1.257887	9.666064	15.29933	5.295254E-02			15	
Benzyl alcohol	0.7414899	10.21932	5.6468	0.1073651			15	
1,1-Biphenyl	1.474029	14.84233	8.37475	5.904494E-02			15	
4-Bromophenyl-phenylether	0.2483237	5.338416	10.3185	3.246559E-02			15	
Butylbenzylphthalate	0.6249408	8.167292	13.416	1.919134E-02			15	
Caprolactam	0.1169195	11.68998	7.443	0.305151			15	
Carbazole	0.9724047	9.694398	11.1316	0.0413017			15	
4-Chloro-3-methylphenol	0.2456948	8.186533	7.667444	6.040722E-02			CCC (30)	
4-Chloroaniline	0.4601545	4.713541	7.0595	5.065824E-02			15	
Bis(2-chloroethoxy)methane	0.4619607	7.81565	6.7025	0.1092234			15	
Bis(2-chloroethyl)ether	1.28714	6.76312	5.1907	0.1134156			15	
2,2'-Oxybis-1-chloropropane	2.042516	9.79913	5.8131	7.244105E-02			15	
2-Chloronaphthalene	1.215542	11.50754	8.3821	6.350785E-02			15	
2-Chlorophenol	1.374726	6.133877	5.2255	4.223994E-02			15	
4-Chlorophenyl phenyl ether	0.6417793	9.286445	9.7325	3.644994E-02			15	
Chrysene	1.17179	10.57778	14.054	5.595642E-02			15	
Dibenz(a,h)anthracene	0.6639614	17.30742	16.8445	4.159269E-02	0.9971858		0.995	
Dibenzofuran	1.589755	11.16221	9.2984	5.427527E-02			15	

## INITIAL CALIBRATION DATA (Continued)

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362004

Instrument: MS-BNA1

Matrix: Water

Calibration Date: 12/18/2010 6:01:14PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Di-n-butylphthalate	1.363182	9.847762	11.615	3.805597E-02			15	
1,4-Dichlorobenzene	1.479315	6.637054	5.482	5.867455E-02			CCC (30)	
1,3-Dichlorobenzene	1.504545	7.519585	5.3966	3.201965E-02			15	
1,2-Dichlorobenzene	1.412773	12.37593	5.6559	2.437379E-02			15	
2,6-Dichlorophenol	0.3126971	8.052077	7.060778	3.303276E-02			15	
2,4-Dichlorophenol	0.3078656	5.011903	6.8009	7.686769E-02			CCC (30)	
Diethylphthalate	1.341364	11.18514	9.635286	5.717583E-02			15	
2,4-Dimethylphenol	0.3101379	4.520934	6.601222	0.1065945			15	
Dimethyl phthalate	1.287341	10.51153	8.78025	0.1342213			15	
4,6-Dinitro-2-methylphenol	0.1397071	34.78978	9.802286	0.1288307	0.9974412		0.995	
2,4-Dinitrophenol	0.1320693	45.30627	9.150857	8.498765E-02		0.9967507	SPCC (0.05)	
2,4-Dinitrotoluene	0.3776842	15.36291	9.312125	0.1020181	0.9956458		0.995	
2,6-Dinitrotoluene	0.3424953	11.08749	8.831625	0.1060668			15	
Di-n-octylphthalate	1.294711	22.16871	14.90171	1.483539E-02	0.9968773		CCC (30)	
1,4-Dioxane	0.5733591	6.453446	2.0327	0.2131685			15	
1,2-Diphenylhydrazine	0.8207919	9.68715	9.922	5.045649E-02			15	
Bis(2-ethylhexyl)phthalate	0.7833096	11.84578	14.13843	2.094629E-02			15	
Fluoranthene	1.101978	10.57929	12.2919	4.765323E-02			CCC (30)	
Fluorene	1.2694	10.2778	9.71	4.731986E-02			15	
2-Fluorobiphenyl	1.335882	12.27071	8.2631	3.988867E-02			15	
2-Fluorophenol	1.268175	6.87474	4.0035	8.664369E-02			15	
Hexachlorobenzene	0.2933641	7.288823	10.3804	0.0528239			15	
Hexachlorobutadiene	0.2005462	5.992858	7.151111	4.343702E-02			CCC (30)	
Hexachlorocyclopentadiene	0.3593771	12.41399	8.011125	1.441213E-02			SPCC (0.05)	
Hexachloroethane	0.5747469	8.915124	6.0437	3.935189E-02			15	
Indeno(1,2,3-cd)pyrene	0.842443	13.64429	16.82237	3.707439E-02			15	
Isophorone	0.7029211	4.306087	6.425375	0.119834			15	
1-Methylnaphthalene	0.5420947	8.67814	7.9182	5.411778E-02			15	
2-Methylnaphthalene	0.5291538	8.531085	7.8047	0.0352344			15	
2-Methylphenol	1.091088	9.197364	5.7956	0.0658841			15	
3-Methylphenol	1.084733	9.91475	5.9863	0.1342931			15	
4-Methylphenol	1.084733	9.91475	5.9863	0.1342931			15	

## INITIAL CALIBRATION DATA (Continued)

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362004

Instrument: MS-BNA1

Matrix: Water

Calibration Date: 12/18/2010 6:01:14PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Naphthalene	0.9686374	11.16622	6.971667	6.066103E-02			15	
4-Nitroaniline	0.274633	9.568577	9.758375	0.1446812			15	
3-Nitroaniline	0.3791395	9.873316	9.024375	0.1126044			15	
2-Nitroaniline	0.2983051	14.13219	8.5225	7.053652E-02			15	
Nitrobenzene	0.3472915	3.633122	6.13175	9.818485E-02			15	
Nitrobenzene-d5	0.3378513	6.332655	6.1091	7.110683E-02			15	
4-Nitrophenol	0.1686802	19.4349	9.266571	0.1040449	0.9970496		SPCC (0.05)	
2-Nitrophenol	0.2082983	14.5601	6.50725	0.0466271			CCC (30)	
N-Nitrosodimethylamine	0.5404532	9.072787	2.409222	0.188559			15	
N-Nitrosodiphenylamine	0.6683254	8.697682	9.8824	8.152393E-02			CCC (30)	
N-Nitroso-di-n-propylamine	0.8216103	11.46883	5.965444	0.1554278			SPCC (0.05)	
Pentachlorophenol	0.1576577	25.81916	10.62586	3.551647E-02	0.9974932		CCC (30)	
Phenanthrene	1.079608	13.62309	10.8597	5.063865E-02			15	
Phenol	1.69783	8.697325	5.1152	0.2175782			CCC (30)	
Phenol-d6	1.469798	9.364761	5.1008	0.2206916			15	
Pyrene	1.346	12.31461	12.5586	4.906139E-02			15	
Pyridine	1.496743	12.09185	2.411	0.3967962			15	
Terphenyl-d14	0.8665087	7.049283	12.79067	3.376688E-02			15	
1,2,4,5-Tetrachlorobenzene	0.3428869	12.96305	8.011125	2.979072E-02			15	
2,3,4,6-Tetrachlorophenol	0.3542598	13.64632	9.464375	4.771478E-02			15	
2,4,6-Tribromophenol	0.153572	11.17439	10.00625	0.0738055			15	
1,2,4-Trichlorobenzene	0.3787939	9.82728	6.8905	5.750424E-02			15	
2,4,6-Trichlorophenol	0.3935328	13.39547	8.159555	4.247603E-02			CCC (30)	
2,4,5-Trichlorophenol	0.4280447	8.85813	8.197625	5.860378E-02			15	

# INITIAL CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-ICV1.D

Calibration Date: 12/18/10 18:01

Sequence: 0L35702

Injection Date: 12/19/10

Lab Sample ID: 0L35702-ICV1

Injection Time: 03:38

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Acetophenone	A	50.00	48.29	1.491383	1.440482		-3.4	20
Atrazine	A	50.00	43.66	0.2180254	0.1903756		-12.7	20
Benzaldehyde	A	50.00	43.80	1.030353	0.9025793		-12.4	20
1,1-Biphenyl	A	50.00	41.87	1.474029	1.234423		-16.3	20
4-Bromophenyl-phenylether	A	50.00	52.00	0.2483237	0.2582525		4.0	20
Butylbenzylphthalate	A	50.00	55.16	0.6249408	0.6894927		10.3	20
Carbazole	A	50.00	50.47	0.9724047	0.9816045		0.9	20
4-Chloro-3-methylphenol	A	50.00	55.48	0.2456948	0.2726439		11.0	20
4-Chloroaniline	A	50.00	48.94	0.4601545	0.4504155		-2.1	20
Bis(2-chloroethoxy)methane	A	50.00	47.74	0.4619607	0.441091		-4.5	20
Bis(2-chloroethyl)ether	A	50.00	51.32	1.28714	1.321147		2.6	20
2,2'-Oxybis-1-chloropropane	A	50.00	47.57	2.042516	1.94344		-4.9	20
2-Chloronaphthalene	A	50.00	54.25	1.215542	1.318904		8.5	20
2-Chlorophenol	A	50.00	49.73	1.374726	1.3673		-0.5	20
4-Chlorophenyl phenyl ether	A	50.00	46.50	0.6417793	0.5968565		-7.0	20
Dibenzofuran	A	50.00	47.75	1.589755	1.518321		-4.5	20
Di-n-butylphthalate	A	50.00	54.83	1.363182	1.494901		9.7	20
2,4-Dichlorophenol	A	50.00	54.75	0.3078656	0.3371061		9.5	20
Diethylphthalate	A	50.00	49.32	1.341364	1.323204		-1.4	20
2,4-Dimethylphenol	A	50.00	49.35	0.3101379	0.3060793		-1.3	20
Dimethyl phthalate	A	50.00	52.04	1.287341	1.339882		4.1	20
4,6-Dinitro-2-methylphenol	L	50.00	51.10	0.1397071	0.165349		2.2	20
2,4-Dinitrophenol	Q	50.00	54.92	0.1320693	0.1707222	0.05	9.8	20
2,4-Dinitrotoluene	L	50.00	51.53	0.3776842	0.4129243		3.1	20
2,6-Dinitrotoluene	A	50.00	52.01	0.3424953	0.3562346		4.0	20
Di-n-octylphthalate	L	50.00	57.02	1.294711	1.608453		14.0	20
Bis(2-ethylhexyl)phthalate	A	50.00	57.09	0.7833096	0.8943582		14.2	20
Hexachlorobenzene	A	50.00	48.70	0.2933641	0.2857311		-2.6	20
Hexachlorobutadiene	A	50.00	51.47	0.2005462	0.2064304		2.9	20

# INITIAL CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-ICV1.D

Calibration Date: 12/18/10 18:01

Sequence: 0L35702

Injection Date: 12/19/10

Lab Sample ID: 0L35702-ICV1

Injection Time: 03:38

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Hexachlorocyclopentadiene	A	50.00	54.18	0.3593771	0.389443	0.05	8.4	20
Hexachloroethane	A	50.00	51.46	0.5747469	0.5915205		2.9	20
Isophorone	A	50.00	53.56	0.7029211	0.7529099		7.1	20
2-Methylphenol	A	50.00	49.81	1.091088	1.086859		-0.4	20
4-Methylphenol	A	50.00	53.59	1.084733	1.162538		7.2	20
Naphthalene	A	50.00	49.60	0.9686374	0.9609029		-0.8	20
4-Nitroaniline	A	50.00	41.61	0.274633	0.2285265		-16.8	20
3-Nitroaniline	A	50.00	45.94	0.3791395	0.3483779		-8.1	20
Nitrobenzene	A	50.00	53.85	0.3472915	0.3740237		7.7	20
4-Nitrophenol	L	50.00	50.26	0.1686802	0.1824608	0.05	0.5	20
N-Nitrosodiphenylamine	A	50.00	47.07	0.6683254	0.6291773		-5.9	20
N-Nitroso-di-n-propylamine	A	50.00	53.45	0.8216103	0.8782842	0.05	6.9	20
Pentachlorophenol	L	50.00	51.10	0.1576577	0.1778665		2.2	20
Phenol	A	50.00	48.02	1.69783	1.630678		-4.0	20
1,2,4,5-Tetrachlorobenzene	A	50.00	45.13	0.3428869	0.3094861		-9.7	20
2,3,4,6-Tetrachlorophenol	A	50.00	51.52	0.3542598	0.3650355		3.0	20
2,4,6-Trichlorophenol	A	50.00	56.73	0.3935328	0.4465026		13.5	20
2,4,5-Trichlorophenol	A	50.00	54.52	0.4280447	0.4667338		9.0	20
2-Fluorobiphenyl	A	50.00	45.32	1.335882	1.21073		-9.4	20
2-Fluorophenol	A	100.0	95.12	1.268175	1.206292		-4.9	20
Nitrobenzene-d5	A	50.00	54.60	0.3378513	0.3689055		9.2	20
Phenol-d6	A	100.0	92.37	1.469798	1.357598		-7.6	20
Terphenyl-d14	A	50.00	48.13	0.8665087	0.8340641		-3.7	20
2,4,6-Tribromophenol	A	100.0	103.4	0.153572	0.1587617		3.4	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# INITIAL CALIBRATION CHECK

**SW8270C**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-ICV2.D

Calibration Date: 12/18/10 18:01

Sequence: 0L35702

Injection Date: 12/19/10

Lab Sample ID: 0L35702-ICV2

Injection Time: 04:05

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
3,3'-Dichlorobenzidine	A	50.00	52.75	0.3561386	0.3757319		5.5	20
1,4-Dioxane	A	50.00	52.44	0.5733591	0.60133		4.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# INITIAL CALIBRATION CHECK

SW8270C

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW 001</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Instrument ID: <u>MS-BNA1</u>	Calibration: <u>0362004</u>
Lab File ID: <u>SEQ-ICV3.D</u>	Calibration Date: <u>12/18/10 18:01</u>
Sequence: <u>0L35702</u>	Injection Date: <u>12/22/10</u>
Lab Sample ID: <u>0L35702-ICV3</u>	Injection Time: <u>17:47</u>

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Caprolactam	A	50.00	58.27	0.1169195	0.1362487		16.5	20
2-Nitroaniline	A	50.00	52.06	0.2983051	0.3106067		4.1	20
2-Nitrophenol	A	50.00	53.21	0.2082983	0.22166		6.4	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## ANALYSIS SEQUENCE SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36407

Instrument: MS-BNA1

Calibration: 0362004

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	0L36407-TUN1	SEQ-TUN1.D	12/28/10 15:18
Calibration Check	0L36407-CCV1	SEQ-CCV1.D	12/28/10 15:41
LCS	0L13015-BS1	L13015L1.D	12/28/10 16:25
LCS Dup	0L13015-BSD1	L13015L2.D	12/28/10 16:52
Blank	0L13015-BLK1	L13015B1.D	12/28/10 17:20
BCHMS-GW-021-1210	1012118-01	1211801.D	12/28/10 17:48
BCHMS-GW-022-1210	1012118-02	1211802.D	12/28/10 18:16
BCHMS-GW-023D-1210	1012118-03	1211803.D	12/28/10 18:43
BCHMS-GW-024-1210	1012118-04	1211804.D	12/28/10 19:11
BCHMS-GW-027-1210	1012118-05	1211805.D	12/28/10 19:39
BCHMS-GW-017-1210	1012118-06	1211806.D	12/28/10 20:07
BCHMS-GW-018-1210	1012118-07	1211807.D	12/28/10 20:34
BCHMS-GW-20D-1210	1012118-08	1211808.D	12/28/10 21:02
BCHMS-GW-025-1210	1012118-09	1211809.D	12/28/10 21:30
BCHMS-GW-026-1210	1012118-10	1211810.D	12/28/10 21:58

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Lab File ID: SEQ-TUN1.D

Injection Date: 12/28/10

Instrument ID: MS-BNA1

Injection Time: 15:18

Sequence: 0L36407

Lab Sample ID: 0L36407-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	35.7	PASS
68	Less than 2% of 69	0	PASS
69	Less than 200% of 198	56.6	PASS
70	Less than 2% of 69	0.731	PASS
127	40 - 60% of 198	43.6	PASS
197	Less than 1% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.7	PASS
275	10 - 30% of 198	19.1	PASS
365	1 - 200% of 198	2.56	PASS
441	0.001 - 100% of 443	78	PASS
442	40 - 200% of 198	57.1	PASS
443	17 - 23% of 442	19.2	PASS

# CONTINUING CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-CCV1.D

Calibration Date: 12/18/10 18:01

Sequence: 0L36407

Injection Date: 12/28/10

Lab Sample ID: 0L36407-CCV1

Injection Time: 15:41

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
3,3'-Dichlorobenzidine	A	50.00	40.11	0.3561386	0.2856936		-19.8	20
Acetophenone	A	50.00	47.78	1.491383	1.425187		-4.4	20
Atrazine	A	50.00	43.09	0.2180254	0.187889		-13.8	20
Benzaldehyde	A	50.00	25.63	1.030353	0.5280874		-48.7	20 *
1,1-Biphenyl	A	50.00	39.57	1.474029	1.166567		-20.9	20 *
4-Bromophenyl-phenylether	A	50.00	49.02	0.2483237	0.2434594		-2.0	20
Butylbenzylphthalate	A	50.00	57.74	0.6249408	0.7217371		15.5	20
Caprolactam	A	50.00	63.29	0.1169195	0.1479957		26.6	20 *
Carbazole	A	50.00	44.98	0.9724047	0.8747346		-10.0	20
4-Chloro-3-methylphenol	A	50.00	60.80	0.2456948	0.2987928		21.6	20 *
4-Chloroaniline	A	50.00	43.05	0.4601545	0.3962197		-13.9	20
Bis(2-chloroethoxy)methane	A	50.00	51.02	0.4619607	0.4714102		2.0	20
Bis(2-chloroethyl)ether	A	50.00	53.84	1.28714	1.385867		7.7	20
2,2'-Oxybis-1-chloropropane	A	50.00	48.60	2.042516	1.985514		-2.8	20
2-Chloronaphthalene	A	50.00	52.04	1.215542	1.265077		4.1	20
2-Chlorophenol	A	50.00	52.56	1.374726	1.445214		5.1	20
4-Chlorophenyl phenyl ether	A	50.00	48.42	0.6417793	0.6214945		-3.2	20
Dibenzofuran	A	50.00	47.86	1.589755	1.521713		-4.3	20
Di-n-butylphthalate	A	50.00	50.13	1.363182	1.36685		0.3	20
2,4-Dichlorophenol	A	50.00	52.93	0.3078656	0.3259287		5.9	20
Diethylphthalate	A	50.00	51.08	1.341364	1.370223		2.2	20
2,4-Dimethylphenol	A	50.00	56.47	0.3101379	0.3502923		12.9	20
Dimethyl phthalate	A	50.00	48.68	1.287341	1.253429		-2.6	20
4,6-Dinitro-2-methylphenol	L	50.00	52.05	0.1397071	0.1691058		4.1	20
2,4-Dinitrophenol	Q	50.00	63.50	0.1320693	0.2082047	0.05	27.0	20 *
2,4-Dinitrotoluene	L	50.00	55.54	0.3776842	0.44572		11.1	20
2,6-Dinitrotoluene	A	50.00	51.94	0.3424953	0.3558163		3.9	20
Di-n-octylphthalate	L	50.00	63.63	1.294711	1.807086		27.3	20 *
1,4-Dioxane	A	50.00	55.06	0.5733591	0.6314139		10.1	20

## CONTINUING CALIBRATION CHECK

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: MS-BNA1

Calibration: 0362004

Lab File ID: SEQ-CCV1.D

Calibration Date: 12/18/10 18:01

Sequence: 0L36407

Injection Date: 12/28/10

Lab Sample ID: 0L36407-CCV1

Injection Time: 15:41

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Bis(2-ethylhexyl)phthalate	A	50.00	58.44	0.7833096	0.9154611		16.9	20
Hexachlorobenzene	A	50.00	50.67	0.2933641	0.2972884		1.3	20
Hexachlorobutadiene	A	50.00	49.55	0.2005462	0.1987599		-0.9	20
Hexachlorocyclopentadiene	A	50.00	48.00	0.3593771	0.3450336	0.05	-4.0	20
Hexachloroethane	A	50.00	51.01	0.5747469	0.5863689		2.0	20
Isophorone	A	50.00	57.32	0.7029211	0.8059105		14.7	20
2-Methylphenol	A	50.00	50.34	1.091088	1.098463		0.7	20
4-Methylphenol	A	50.00	55.03	1.084733	1.193947		10.1	20
Naphthalene	A	50.00	50.08	0.9686374	0.9701187		0.2	20
4-Nitroaniline	A	50.00	58.02	0.274633	0.3187073		16.0	20
3-Nitroaniline	A	50.00	47.57	0.3791395	0.3607224		-4.9	20
2-Nitroaniline	A	50.00	64.72	0.2983051	0.3861263		29.4	20 *
Nitrobenzene	A	50.00	54.69	0.3472915	0.3798878		9.4	20
4-Nitrophenol	L	50.00	59.30	0.1686802	0.218738	0.05	18.6	20
2-Nitrophenol	A	50.00	60.18	0.2082983	0.2506941		20.4	20 *
N-Nitrosodiphenylamine	A	50.00	47.43	0.6683254	0.6340357		-5.1	20
N-Nitroso-di-n-propylamine	A	50.00	56.20	0.8216103	0.9235805	0.05	12.4	20
Pentachlorophenol	L	50.00	53.02	0.1576577	0.1854122		6.0	20
Phenol	A	50.00	46.02	1.69783	1.562715		-8.0	20
1,2,4,5-Tetrachlorobenzene	A	50.00	43.09	0.3428869	0.2955214		-13.8	20
2,3,4,6-Tetrachlorophenol	A	50.00	50.35	0.3542598	0.3567586		0.7	20
2,4,6-Trichlorophenol	A	50.00	50.66	0.3935328	0.3987417		1.3	20
2,4,5-Trichlorophenol	A	50.00	48.75	0.4280447	0.4173437		-2.5	20
2-Fluorobiphenyl	A	50.00	47.29	1.335882	1.263527		-5.4	20
2-Fluorophenol	A	100.0	99.16	1.268175	1.257561		-0.8	20
Nitrobenzene-d5	A	50.00	57.31	0.3378513	0.3872271		14.6	20
Phenol-d6	A	100.0	99.00	1.469798	1.455048		-1.0	20
Terphenyl-d14	A	50.00	47.44	0.8665087	0.8222015		-5.1	20
2,4,6-Tribromophenol	A	100.0	92.15	0.153572	0.1415211		-7.8	20

## PREPARATION BATCH SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L13015

Batch Matrix: Water

Preparation: EXT\_3510

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L13015-BLK1	12/14/10 17:51	1,000.00	0.50
LCS	0L13015-BS1	12/14/10 17:51	1,000.00	0.50
LCS Dup	0L13015-BSD1	12/14/10 17:51	1,000.00	0.50
BCHMS-GW-021-1210	1012118-01	12/14/10 17:51	1,070.00	0.50
BCHMS-GW-022-1210	1012118-02	12/14/10 17:51	1,070.00	0.50
BCHMS-GW-023D-1210	1012118-03	12/14/10 17:51	1,080.00	0.50
BCHMS-GW-024-1210	1012118-04	12/14/10 17:51	1,070.00	0.50
BCHMS-GW-027-1210	1012118-05	12/14/10 17:51	1,070.00	0.50
BCHMS-GW-017-1210	1012118-06	12/14/10 17:51	1,070.00	0.50
BCHMS-GW-018-1210	1012118-07	12/14/10 17:51	1,065.00	0.50
BCHMS-GW-20D-1210	1012118-08	12/14/10 17:51	1,060.00	0.50
BCHMS-GW-025-1210	1012118-09	12/14/10 17:51	1,080.00	0.50
BCHMS-GW-026-1210	1012118-10	12/14/10 17:51	1,080.00	0.50





# ANALYSIS SEQUENCE SUMMARY

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35607

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0L35607-CAL1	010R0901.D	12/21/10 15:58
Cal Standard	0L35607-CAL1	010F0901.D	12/21/10 15:58
Cal Standard	0L35607-CAL2	011R1001.D	12/21/10 16:17
Cal Standard	0L35607-CAL2	011F1001.D	12/21/10 16:17
Cal Standard	0L35607-CAL3	012R1101.D	12/21/10 16:36
Cal Standard	0L35607-CAL3	012F1101.D	12/21/10 16:36
Cal Standard	0L35607-CAL4	013R1201.D	12/21/10 16:54
Cal Standard	0L35607-CAL4	013F1201.D	12/21/10 16:54
Cal Standard	0L35607-CAL5	014R1301.D	12/21/10 17:13
Cal Standard	0L35607-CAL5	014F1301.D	12/21/10 17:13
Cal Standard	0L35607-CAL6	015R1401.D	12/21/10 17:31
Cal Standard	0L35607-CAL6	015F1401.D	12/21/10 17:31
Initial Cal Check	0L35607-ICV1	016R1501.D	12/21/10 17:50
Initial Cal Check	0L35607-ICV1	016F1501.D	12/21/10 17:50

# INITIAL CALIBRATION STANDARDS

SW8081B

Laboratory: Empirical Laboratories, LLC  
Client: Tetra Tech NUS, Inc. (T010)  
Sequence: 0L35607  
Calibration: 0362003

SDG: CTOJM17KW\_001  
Project: NAS Key West CTO JM17  
Instrument: GL-ECD3

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
10L0486	Toxaphene CAL1 @2000ppb	0L35607-CAL1	010F0901.D	12/21/10 15:58
10L0486	Toxaphene CAL1 @2000ppb	0L35607-CAL1	010R0901.D	12/21/10 15:58
10L0487	Toxaphene CAL2 @1000ppb	0L35607-CAL2	011F1001.D	12/21/10 16:17
10L0487	Toxaphene CAL2 @1000ppb	0L35607-CAL2	011R1001.D	12/21/10 16:17
10L0488	Toxaphene CAL3 @750ppb	0L35607-CAL3	012R1101.D	12/21/10 16:36
10L0488	Toxaphene CAL3 @750ppb	0L35607-CAL3	012F1101.D	12/21/10 16:36
10L0489	Toxaphene CAL4 @500ppb	0L35607-CAL4	013F1201.D	12/21/10 16:54
10L0489	Toxaphene CAL4 @500ppb	0L35607-CAL4	013R1201.D	12/21/10 16:54
10L0490	Toxaphene CAL5 @250ppb	0L35607-CAL5	014F1301.D	12/21/10 17:13
10L0490	Toxaphene CAL5 @250ppb	0L35607-CAL5	014R1301.D	12/21/10 17:13
10L0491	Toxaphene CAL6 @100ppb	0L35607-CAL6	015F1401.D	12/21/10 17:31
10L0491	Toxaphene CAL6 @100ppb	0L35607-CAL6	015R1401.D	12/21/10 17:31

# INITIAL CALIBRATION CHECK

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 016F1501.D

Calibration Date: 12/23/10 15:56

Sequence: 0L35607

Injection Date: 12/21/10

Lab Sample ID: 0L35607-ICV1

Injection Time: 17:50

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Toxaphene (1)	A	1000	1071	1185.298	1268.998		7.1	20
Toxaphene (2)	A	1000	1050	484.1924	508.485		5.0	20
Toxaphene (3)	A	1000	1039	980.2943	1018.5		3.9	20
Toxaphene (4)	A	1000	1053	1118.753	1177.873		5.3	20
Toxaphene (5)	A	1000	1036	593.4394	614.842		3.6	20
Toxaphene (1) [2C]	A	1000	1058	1792.252	1895.322		5.8	20
Toxaphene (2) [2C]	A	1000	1033	569.9496	588.834		3.3	20
Toxaphene (3) [2C]	A	1000	990.0	982.375	972.543		-1.0	20
Toxaphene (4) [2C]	A	1000	1069	898.0156	960.209		6.9	20
Toxaphene (5) [2C]	A	1000	1089	501.7398	546.571		8.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## ANALYSIS SEQUENCE SUMMARY

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36212

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Performance Mix	0L36212-PEM1	002F0201.D	12/23/10 10:39
Performance Mix	0L36212-PEM1	002R0201.D	12/23/10 10:39
Cal Standard	0L36212-CAL1	003R0301.D	12/23/10 11:01
Cal Standard	0L36212-CAL1	003F0301.D	12/23/10 11:01
Cal Standard	0L36212-CAL2	004F0401.D	12/23/10 11:20
Cal Standard	0L36212-CAL2	004R0401.D	12/23/10 11:20
Cal Standard	0L36212-CAL3	005F0501.D	12/23/10 11:39
Cal Standard	0L36212-CAL3	005R0501.D	12/23/10 11:39
Cal Standard	0L36212-CAL4	006R0601.D	12/23/10 11:58
Cal Standard	0L36212-CAL4	006F0601.D	12/23/10 11:58
Cal Standard	0L36212-CAL5	007R0701.D	12/23/10 12:16
Cal Standard	0L36212-CAL5	007F0701.D	12/23/10 12:16
Cal Standard	0L36212-CAL6	008F0801.D	12/23/10 12:35
Cal Standard	0L36212-CAL6	008R0801.D	12/23/10 12:35
Cal Standard	0L36212-CAL7	009F0901.D	12/23/10 12:54
Cal Standard	0L36212-CAL7	009R0901.D	12/23/10 12:54
Initial Cal Check	0L36212-ICV1	010F1001.D	12/23/10 13:12
Initial Cal Check	0L36212-ICV1	010R1001.D	12/23/10 13:12

## INITIAL CALIBRATION STANDARDS

**SW8081B**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Sequence: 0L36212  
 Calibration: 0362003

SDG: CTOJM17KW\_001  
 Project: NAS Key West CTO JM17  
 Instrument: GL-ECD3

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
10I0162	Pest_ICAL7@1ppb	0L36212-CAL1	003F0301.D	12/23/10 11:01
10I0162	Pest_ICAL7@1ppb	0L36212-CAL1	003R0301.D	12/23/10 11:01
10I0161	Pest_ICAL6@5ppb	0L36212-CAL2	004F0401.D	12/23/10 11:20
10I0161	Pest_ICAL6@5ppb	0L36212-CAL2	004R0401.D	12/23/10 11:20
10I0160	Pest_ICAL5@10ppb	0L36212-CAL3	005R0501.D	12/23/10 11:39
10I0160	Pest_ICAL5@10ppb	0L36212-CAL3	005F0501.D	12/23/10 11:39
10I0159	Pest_ICAL4@25ppb	0L36212-CAL4	006F0601.D	12/23/10 11:58
10I0159	Pest_ICAL4@25ppb	0L36212-CAL4	006R0601.D	12/23/10 11:58
10I0158	Pest_ICAL3@50ppb	0L36212-CAL5	007F0701.D	12/23/10 12:16
10I0158	Pest_ICAL3@50ppb	0L36212-CAL5	007R0701.D	12/23/10 12:16
10I0157	Pest. AB/Sur CCV @ 100ppb	0L36212-CAL6	008F0801.D	12/23/10 12:35
10I0157	Pest. AB/Sur CCV @ 100ppb	0L36212-CAL6	008R0801.D	12/23/10 12:35
10I0155	Pest_ICAL1@200ppb	0L36212-CAL7	009R0901.D	12/23/10 12:54
10I0155	Pest_ICAL1@200ppb	0L36212-CAL7	009F0901.D	12/23/10 12:54

## INITIAL CALIBRATION DATA (Continued)

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362003

Instrument: GL-ECD3

Matrix: Water

Calibration Date: 12/23/2010 3:56:36PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
4,4'-DDE	32487.67	3.4341	8.387	2.074454E-02			20	
4,4'-DDE [2C]	26340.12	12.49006	7.008857	2.738972E-02			20	
4,4'-DDD	27017.65	5.01139	9.020857	9.781635E-03			20	
4,4'-DDD [2C]	23386.3	11.67646	7.631571	1.725168E-02			20	
4,4'-DDT	22729.73	8.948656	9.402714	1.156269E-02			20	
4,4'-DDT [2C]	19739.9	10.33025	7.918429	1.767381E-02			20	
Aldrin	35385.12	3.960454	7.323	0.0140873			20	
Aldrin [2C]	29075.31	12.43675	5.993429	1.491937E-02			20	
alpha-BHC	37461.78	9.180577	6.005429	2.456044E-02			20	
alpha-BHC [2C]	33203.06	7.431464	5.124286	1.066946E-02			20	
alpha-Chlordane	32028.89	1.957585	8.191857	2.547424E-02			20	
alpha-Chlordane [2C]	27010.77	14.56833	6.814572	2.367613E-02			20	
beta-BHC	14540.77	1.342717	6.556143	2.689054E-02			20	
beta-BHC [2C]	13100.81	16.8622	5.701	2.629542E-02			20	
delta-BHC	29594.3	13.05101	6.820571	0.028336			20	
delta-BHC [2C]	26517.58	7.979185	5.918714	1.875432E-02			20	
Dieldrin	33539.54	3.62564	8.585571	2.450331E-02			20	
Dieldrin [2C]	28037.98	12.79026	7.164429	1.017671E-02			20	
Endosulfan I	30042.71	2.728627	8.257571	1.945018E-02			20	
Endosulfan I [2C]	25435.04	15.44957	6.880857	2.508662E-03			20	
Endosulfan II	28085.93	2.834552	9.143	1.221745E-02			20	
Endosulfan II [2C]	23959.83	16.19936	7.814286	1.54268E-03			20	
Endosulfan sulfate	23222.1	5.558567	9.594857	0.0127251			20	
Endosulfan sulfate [2C]	20348.02	14.11604	8.286	6.351399E-03			20	
Endrin	25585.52	3.881781	8.866	8.771973E-03			20	
Endrin [2C]	22655.16	14.5884	7.473286	1.710032E-02			20	
Endrin aldehyde	22673.51	6.844148	9.303857	2.943207E-03			20	
Endrin aldehyde [2C]	20614.57	18.62793	8.023429	1.785149E-02			20	
Endrin ketone	31625.1	4.355536	10.20814	1.408748E-02			20	
Endrin ketone [2C]	26909.9	14.8903	8.897286	1.618363E-02			20	
gamma-BHC (Lindane)	32719.69	8.117297	6.343857	4.258502E-03			20	
gamma-BHC (Lindane) [2C]	29406.27	8.18205	5.422571	1.048786E-02			20	

## INITIAL CALIBRATION DATA (Continued)

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362003

Instrument: GL-ECD3

Matrix: Water

Calibration Date: 12/23/2010 3:56:36PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
gamma-Chlordane	33690.5	5.070707	8.102286	2.684738E-02			20	
gamma-Chlordane [2C]	27718.95	13.69303	6.749286	1.868481E-02			20	
Heptachlor	28021.52	10.2639	6.949143	1.927336E-02			20	
Heptachlor [2C]	26505.56	14.8275	5.727572	6.113767E-03			20	
Heptachlor epoxide	32114.34	4.310704	7.806857	1.672935E-02			20	
Heptachlor epoxide [2C]	27492.98	16.02793	6.493571	1.584557E-02			20	
Methoxychlor	12736.61	4.878609	10.00386	0.0206292			20	
Methoxychlor [2C]	11247.63	19.13666	8.613143	1.657359E-02			20	
Chlordane (tech)	2265.814	2.036435	9.007667	7.207414E-03			20	
Chlordane (1)	4560.136	2.206321	7.989	1.416297E-02			20	
Chlordane (2)	1011.213	4.748592	6.536	1.188001E-02			20	
Chlordane (3)	1003.996	8.624511	6.760834	8.797502E-03			20	
Chlordane (4)	3753.811	2.957383	7.897833	8.880134E-03			20	
Chlordane (5)	999.9125	4.559042	9.007667	7.207414E-03			20	
Chlordane (tech) [2C]	1234.277	10.59888	7.605	3.28691E-03			20	
Chlordane (1) [2C]	2188.726	14.89601	6.6265	1.838167E-02			20	
Chlordane (2) [2C]	750.7542	8.135717	5.401333	1.394675E-02			20	
Chlordane (3) [2C]	797.21	5.579656	5.56	3.498735E-03			20	
Chlordane (4) [2C]	1630.041	13.84368	6.581167	8.453161E-03			20	
Chlordane (5) [2C]	804.6533	7.142321	7.605	3.28691E-03			20	
Toxaphene (1)	1185.298	17.60246	10.15483	1.163139E-02			20	
Toxaphene (2)	484.1924	16.99113	8.840667	9.882717E-03			20	
Toxaphene (3)	980.2943	10.31703	9.5105	1.633135E-02			20	
Toxaphene (4)	1118.753	18.26761	9.6235	0.0199586			20	
Toxaphene (5)	593.4394	16.38404	10.60983	1.414172E-02			20	
Toxaphene (1) [2C]	1792.252	12.55136	8.7885	1.583008E-02			20	
Toxaphene (2) [2C]	569.9496	12.09974	7.845833	1.217741E-02			20	
Toxaphene (3) [2C]	982.375	13.04506	8.191834	1.640441E-02			20	
Toxaphene (4) [2C]	898.0156	12.24894	9.1715	1.758355E-02			20	
Toxaphene (5) [2C]	501.7398	14.1256	9.3375	1.331971E-02			20	
Tetrachloro-m-xylenc	28756.09	6.436385	5.549333	1.124923E-02			20	
Tetrachloro-m-xylenc [2C]	28081.79	12.60113	4.667286	3.784695E-02			20	

# INITIAL CALIBRATION DATA (Continued)

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362003

Instrument: GL-ECD3

Matrix: Water

Calibration Date: 12/23/2010 3:56:36PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Decachlorobiphenyl	28655.66	7.832286	11.845	9.537063E-03			20	
Decachlorobiphenyl [2C]	20853.67	18.98494	10.21386	3.150825E-03			20	

# INITIAL CALIBRATION CHECK

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 010F1001.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36212

Injection Date: 12/23/10

Lab Sample ID: 0L36212-ICV1

Injection Time: 13:12

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
4,4'-DDE	A	100.0	111.5	32487.67	36236.25		11.5	20
4,4'-DDE [2C]	A	100.0	97.60	26340.12	25707.42		-2.4	20
4,4'-DDD	A	100.0	109.4	27017.65	29549.77		9.4	20
4,4'-DDD [2C]	A	100.0	97.16	23386.3	22721.31		-2.8	20
4,4'-DDT	A	100.0	113.8	22729.73	25868.11		13.8	20
4,4'-DDT [2C]	A	100.0	98.18	19739.9	19380.89		-1.8	20
Aldrin	A	100.0	112.7	35385.12	39869.4		12.7	20
Aldrin [2C]	A	100.0	97.52	29075.31	28353.53		-2.5	20
alpha-BHC	A	100.0	119.2	37461.78	44657.16		19.2	20
alpha-BHC [2C]	A	100.0	104.1	33203.06	34559.06		4.1	20
alpha-Chlordane	A	100.0	111.0	32028.89	35552.09		11.0	20
alpha-Chlordane [2C]	A	100.0	97.58	27010.77	26355.97		-2.4	20
beta-BHC	A	100.0	112.6	14540.77	16376.48		12.6	20
beta-BHC [2C]	A	100.0	99.79	13100.81	13072.9		-0.2	20
delta-BHC	A	100.0	119.2	29594.3	35284.3		19.2	20
delta-BHC [2C]	A	100.0	104.6	26517.58	27734.09		4.6	20
Dieldrin	A	100.0	110.4	33539.54	37043.24		10.4	20
Dieldrin [2C]	A	100.0	96.17	28037.98	26963.3		-3.8	20
Endosulfan I	A	100.0	112.5	30042.71	33798		12.5	20
Endosulfan I [2C]	A	100.0	96.35	25435.04	24507.63		-3.6	20
Endosulfan II	A	100.0	107.9	28085.93	30318.26		7.9	20
Endosulfan II [2C]	A	100.0	92.94	23959.83	22268.47		-7.1	20
Endosulfan sulfate	A	100.0	110.0	23222.1	25544.17		10.0	20
Endosulfan sulfate [2C]	A	100.0	96.56	20348.02	19647.45		-3.4	20
Endrin	A	100.0	112.4	25585.52	28750.05		12.4	20
Endrin [2C]	A	100.0	96.05	22655.16	21760.26		-4.0	20
Endrin aldehyde	A	100.0	99.69	22673.51	22604.24		-0.3	20
Endrin aldehyde [2C]	A	100.0	89.11	20614.57	18370.21		-10.9	20
Endrin ketone	A	100.0	109.2	31625.1	34536.53		9.2	20

# INITIAL CALIBRATION CHECK

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 010R1001.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36212

Injection Date: 12/23/10

Lab Sample ID: 0L36212-ICV1

Injection Time: 13:12

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Endrin ketone [2C]	A	100.0	95.68	26909.9	25746.32		-4.3	20
gamma-BHC (Lindane)	A	100.0	118.0	32719.69	38595.94		18.0	20
gamma-BHC (Lindane) [2C]	A	100.0	103.2	29406.27	30349.35		3.2	20
gamma-Chlordane	A	100.0	109.1	33690.5	36764.93		9.1	20
gamma-Chlordane [2C]	A	100.0	98.24	27718.95	27229.94		-1.8	20
Heptachlor	A	100.0	117.0	28021.52	32788.96		17.0	20
Heptachlor [2C]	A	100.0	96.85	26505.56	25671.91		-3.1	20
Heptachlor epoxide	A	100.0	113.3	32114.34	36396.72		13.3	20
Heptachlor epoxide [2C]	A	100.0	95.96	27492.98	26383.23		-4.0	20
Methoxychlor	A	100.0	109.2	12736.61	13908.66		9.2	20
Methoxychlor [2C]	A	100.0	94.91	11247.63	10675.47		-5.1	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## ANALYSIS SEQUENCE SUMMARY

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36218

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Performance Mix	0L36218-PEM1	002F0201.D	12/23/10 10:39
Performance Mix	0L36218-PEM1	002R0201.D	12/23/10 10:39
Calibration Check	0L36218-CCV1	012F1201.D	12/23/10 13:49
Calibration Check	0L36218-CCV1	012R1201.D	12/23/10 13:49
Calibration Check	0L36218-CCV2	014R1401.D	12/23/10 14:27
Calibration Check	0L36218-CCV2	014F1401.D	12/23/10 14:27
Blank	0L13014-BLK1	016F1601.D	12/23/10 15:04
Blank	0L13014-BLK1	016R1601.D	12/23/10 15:04
LCS	0L13014-BS1	017F1701.D	12/23/10 15:23
LCS	0L13014-BS1	017R1701.D	12/23/10 15:23
LCS Dup	0L13014-BSD1	018R1801.D	12/23/10 15:41
LCS Dup	0L13014-BSD1	018F1801.D	12/23/10 15:41
BCHMS-GW-024-1210	1012118-04	021F2101.D	12/23/10 16:37
BCHMS-GW-024-1210	1012118-04	021R2101.D	12/23/10 16:37
BCHMS-GW-025-1210	1012118-09	022R2201.D	12/23/10 16:55
BCHMS-GW-025-1210	1012118-09	022F2201.D	12/23/10 16:55
Calibration Check	0L36218-CCV4	033F3301.D	12/23/10 20:20
Calibration Check	0L36218-CCV4	033R3301.D	12/23/10 20:20
Calibration Check	0L36218-CCV5	035F3501.D	12/23/10 20:57
Calibration Check	0L36218-CCV5	035R3501.D	12/23/10 20:57

## CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 012F1201.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV1

Injection Time: 13:49

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDE	A	100.0	107.2	32487.67	34819.64		7.2	20
4,4'-DDE [2C]	A	100.0	93.01	26340.12	24498.39		-7.0	20
4,4'-DDD	A	100.0	108.4	27017.65	29290.98		8.4	20
4,4'-DDD [2C]	A	100.0	93.01	23386.3	21751.34		-7.0	20
4,4'-DDT	A	100.0	115.0	22729.73	26148.27		15.0	20
4,4'-DDT [2C]	A	100.0	98.71	19739.9	19485.38		-1.3	20
Aldrin	A	100.0	107.3	35385.12	37982.73		7.3	20
Aldrin [2C]	A	100.0	92.53	29075.31	26903.94		-7.5	20
alpha-BHC	A	100.0	111.3	37461.78	41703.58		11.3	20
alpha-BHC [2C]	A	100.0	97.86	33203.06	32494.14		-2.1	20
alpha-Chlordane	A	100.0	105.1	32028.89	33672.58		5.1	20
alpha-Chlordane [2C]	A	100.0	93.01	27010.77	25123.12		-7.0	20
beta-BHC	A	100.0	104.3	14540.77	15165.84		4.3	20
beta-BHC [2C]	A	100.0	94.08	13100.81	12325.83		-5.9	20
delta-BHC	A	100.0	114.4	29594.3	33865.2		14.4	20
delta-BHC [2C]	A	100.0	99.65	26517.58	26424.31		-0.4	20
Dieldrin	A	100.0	107.0	33539.54	35888.93		7.0	20
Dieldrin [2C]	A	100.0	94.04	28037.98	26366.09		-6.0	20
Endosulfan I	A	100.0	106.3	30042.71	31942.54		6.3	20
Endosulfan I [2C]	A	100.0	92.01	25435.04	23402.06		-8.0	20
Endosulfan II	A	100.0	107.2	28085.93	30107.79		7.2	20
Endosulfan II [2C]	A	100.0	91.84	23959.83	22004.68		-8.2	20
Endosulfan sulfate	A	100.0	106.7	23222.1	24777.08		6.7	20
Endosulfan sulfate [2C]	A	100.0	93.94	20348.02	19116.09		-6.1	20
Endrin	A	100.0	108.4	25585.52	27743.21		8.4	20
Endrin [2C]	A	100.0	92.78	22655.16	21019.56		-7.2	20
Endrin aldehyde	A	100.0	104.5	22673.51	23689		4.5	20
Endrin aldehyde [2C]	A	100.0	90.98	20614.57	18754.38		-9.0	20
Endrin ketone	A	100.0	106.1	31625.1	33567.12		6.1	20

## CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 012R1201.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV1

Injection Time: 13:49

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Endrin ketone [2C]	A	100.0	94.20	26909.9	25348.05		-5.8	20
gamma-BHC (Lindane)	A	100.0	110.9	32719.69	36278.39		10.9	20
gamma-BHC (Lindane) [2C]	A	100.0	97.49	29406.27	28667.93		-2.5	20
gamma-Chlordane	A	100.0	103.8	33690.5	34981.39		3.8	20
gamma-Chlordane [2C]	A	100.0	93.18	27718.95	25828		-6.8	20
Heptachlor	A	100.0	112.8	28021.52	31601.78		12.8	20
Heptachlor [2C]	A	100.0	90.95	26505.56	24107.14		-9.0	20
Heptachlor epoxide	A	100.0	107.7	32114.34	34602.29		7.7	20
Heptachlor epoxide [2C]	A	100.0	89.99	27492.98	24739.89		-10.0	20
Methoxychlor	A	100.0	106.2	12736.61	13526.52		6.2	20
Methoxychlor [2C]	A	100.0	90.01	11247.63	10124.08		-10.0	20
Tetrachloro-m-xylene	A	100.0	98.58	28756.09	28347.21		-1.4	20
Tetrachloro-m-xylene [2C]	A	100.0	91.96	28081.79	25825.3		-8.0	20
Decachlorobiphenyl	A	100.0	101.1	28655.66	28966.29		1.1	20
Decachlorobiphenyl [2C]	A	100.0	93.06	20853.67	19406.62		-6.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

**SW8081B**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 014F1401.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV2

Injection Time: 14:27

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Toxaphene (1)	A	1000	976.7	1185.298	1157.703		-2.3	20
Toxaphene (2)	A	1000	996.5	484.1924	482.489		-0.4	20
Toxaphene (3)	A	1000	956.3	980.2943	937.493		-4.4	20
Toxaphene (4)	A	1000	956.6	1118.753	1070.227		-4.3	20
Toxaphene (5)	A	1000	876.4	593.4394	520.061		-12.4	20
Toxaphene (1) [2C]	A	1000	953.7	1792.252	1709.248		-4.6	20
Toxaphene (2) [2C]	A	1000	962.3	569.9496	548.44		-3.8	20
Toxaphene (3) [2C]	A	1000	1174	982.375	1152.882		17.4	20
Toxaphene (4) [2C]	A	1000	913.2	898.0156	820.079		-8.7	20
Toxaphene (5) [2C]	A	1000	918.8	501.7398	461		-8.1	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 033F3301.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV4

Injection Time: 20:20

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDE	A	100.0	113.8	32487.67	36975.47		13.8	20
4,4'-DDE [2C]	A	100.0	87.88	26340.12	23146.76		-12.1	20
4,4'-DDD	A	100.0	116.3	27017.65	31417.27		16.3	20
4,4'-DDD [2C]	A	100.0	89.48	23386.3	20927.32		-10.5	20
4,4'-DDT	A	100.0	126.7	22729.73	28802.16		26.7	20 *
4,4'-DDT [2C]	A	100.0	96.87	19739.9	19121.32		-3.1	20
Aldrin	A	100.0	113.6	35385.12	40198.37		13.6	20
Aldrin [2C]	A	100.0	89.24	29075.31	25947.69		-10.8	20
alpha-BHC	A	100.0	120.4	37461.78	45124.31		20.5	20 *
alpha-BHC [2C]	A	100.0	94.13	33203.06	31255.4		-5.9	20
alpha-Chlordane	A	100.0	111.6	32028.89	35753.62		11.6	20
alpha-Chlordane [2C]	A	100.0	86.37	27010.77	23328.84		-13.6	20
beta-BHC	A	100.0	110.0	14540.77	15999.85		10.0	20
beta-BHC [2C]	A	100.0	87.53	13100.81	11467.47		-12.5	20
delta-BHC	A	100.0	126.6	29594.3	37464.97		26.6	20 *
delta-BHC [2C]	A	100.0	99.64	26517.58	26422.2		-0.4	20
Dieldrin	A	100.0	113.5	33539.54	38064.1		13.5	20
Dieldrin [2C]	A	100.0	88.54	28037.98	24825.27		-11.5	20
Endosulfan I	A	100.0	113.0	30042.71	33943.23		13.0	20
Endosulfan I [2C]	A	100.0	87.04	25435.04	22138.27		-13.0	20
Endosulfan II	A	100.0	113.4	28085.93	31851.36		13.4	20
Endosulfan II [2C]	A	100.0	87.82	23959.83	21042.67		-12.2	20
Endosulfan sulfate	A	100.0	117.6	23222.1	27322.14		17.7	20
Endosulfan sulfate [2C]	A	100.0	91.11	20348.02	18539.52		-8.9	20
Endrin	A	100.0	113.9	25585.52	29140.72		13.9	20
Endrin [2C]	A	100.0	88.17	22655.16	19976.01		-11.8	20
Endrin aldehyde	A	100.0	110.9	22673.51	25151.87		10.9	20
Endrin aldehyde [2C]	A	100.0	86.93	20614.57	17920.51		-13.1	20
Endrin ketone	A	100.0	117.2	31625.1	37054.7		17.2	20

## CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 033R3301.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV4

Injection Time: 20:20

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Endrin ketone [2C]	A	100.0	90.70	26909.9	24406.52		-9.3	20
gamma-BHC (Lindane)	A	100.0	120.6	32719.69	39460.68		20.6	20 *
gamma-BHC (Lindane) [2C]	A	100.0	94.78	29406.27	27870.66		-5.2	20
gamma-Chlordane	A	100.0	109.8	33690.5	36985.46		9.8	20
gamma-Chlordane [2C]	A	100.0	86.52	27718.95	23982.93		-13.5	20
Heptachlor	A	100.0	126.4	28021.52	35428.15		26.4	20 *
Heptachlor [2C]	A	100.0	93.27	26505.56	24722.3		-6.7	20
Heptachlor epoxide	A	100.0	114.1	32114.34	36655.53		14.1	20
Heptachlor epoxide [2C]	A	100.0	85.03	27492.98	23376.32		-15.0	20
Methoxychlor	A	100.0	114.7	12736.61	14604.25		14.7	20
Methoxychlor [2C]	A	100.0	86.34	11247.63	9711.27		-13.7	20
Tetrachloro-m-xylene	A	100.0	102.8	28756.09	29567.04		2.8	20
Tetrachloro-m-xylene [2C]	A	100.0	86.10	28081.79	24177.35		-13.9	20
Decachlorobiphenyl	A	100.0	107.6	28655.66	30834.86		7.6	20
Decachlorobiphenyl [2C]	A	100.0	86.14	20853.67	17962.47		-13.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 035F3501.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV5

Injection Time: 20:57

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Toxaphene (1)	A	1000	951.0	1185.298	1127.259		-4.9	20
Toxaphene (2)	A	1000	1024	484.1924	495.842		2.4	20
Toxaphene (3)	A	1000	943.6	980.2943	924.983		-5.6	20
Toxaphene (4)	A	1000	980.0	1118.753	1096.363		-2.0	20
Toxaphene (5)	A	1000	892.9	593.4394	529.871		-10.7	20
Toxaphene (1) [2C]	A	1000	797.5	1792.252	1429.361		-20.2	20 *
Toxaphene (2) [2C]	A	1000	864.2	569.9496	492.556		-13.6	20
Toxaphene (3) [2C]	A	1000	1127	982.375	1107.037		12.7	20
Toxaphene (4) [2C]	A	1000	792.6	898.0156	711.805		-20.7	20 *
Toxaphene (5) [2C]	A	1000	784.8	501.7398	393.793		-21.5	20 *

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## BREAKDOWN REPORT

Lab Sample ID: 0L36218-PEM1 Analyzed: 12/23/2010

---

Column Number: 1

Analyte	% Breakdown
4,4'-DDT	4.67
Endrin	9.94

---

Column Number: 2

Analyte	% Breakdown
4,4'-DDT	7.59
Endrin	9.39

---

## BREAKDOWN REPORT

Lab Sample ID: 0L36212-PEM1 Analyzed: 12/23/2010

---

Column Number: 1

Analyte	% Breakdown
4,4'-DDT	4.67
Endrin	9.94

---

Column Number: 2

Analyte	% Breakdown
4,4'-DDT	7.59
Endrin	9.39

---

# PREPARATION BATCH SUMMARY

SW8081B

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L13014

Batch Matrix: Water

Preparation: EXT\_3510

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L13014-BLK1	12/14/10 10:00	1,000.00	5.00
LCS	0L13014-BS1	12/14/10 10:00	1,000.00	5.00
LCS Dup	0L13014-BSD1	12/14/10 10:00	1,000.00	5.00
BCHMS-GW-024-1210	1012118-04	12/14/10 10:00	1,080.00	5.00
BCHMS-GW-025-1210	1012118-09	12/14/10 10:00	1,070.00	5.00



FORM X  
IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES

BCHMS-GW-024-1210

Lab Name: Empirical Laboratories, LLC

Lab Sample ID: 1012118-04 Date(s) Analyzed: 12/23/2010 12/23/2010

Instrument ID (1): GL-ECD3 Instrument ID (2): GL-ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
alpha-BHC	1	6.01	5.98	6.04	0.0164	
	2	5.14	5.09	5.15	0.00295	139
alpha-Chlordane	1	8.19	8.16	8.22	0.00290	
	2	6.80	6.78	6.84	0.00331	13
beta-BHC	1	6.57	6.53	6.59	0.0560	
	2	5.69	5.67	5.73	0.00216	185
Endosulfan II	1	9.14	9.11	9.17	0.00477	
	2	7.82	7.78	7.84	0.00242	65
Endosulfan sulfate	1	9.59	9.56	9.62	0.00258	
	2	8.28	8.26	8.32	0.00594	79
gamma-BHC (Lindane)	1	6.35	6.31	6.37	0.00434	
	2	5.41	5.39	5.45	0.00316	31
Heptachlor	1	6.95	6.92	6.98	0.00761	
	2	5.73	5.70	5.76	0.00216	112

## METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Instrument: GL-ECD3

Analyte	MDL	MRL	Units	Method
4,4'-DDD	0.00500	0.0200	ug/L	SW8081B
4,4'-DDE	0.00500	0.0200	ug/L	SW8081B
4,4'-DDE [2C]	0.00500	0.0200	ug/L	SW8081B
4,4'-DDT	0.00500	0.0200	ug/L	SW8081B
Aldrin	0.00330	0.0200	ug/L	SW8081B
Aldrin [2C]	0.00330	0.0200	ug/L	SW8081B
alpha-BHC	0.00330	0.0200	ug/L	SW8081B
alpha-BHC [2C]	0.00330	0.0200	ug/L	SW8081B
alpha-Chlordane	0.00330	0.0200	ug/L	SW8081B
alpha-Chlordane [2C]	0.00330	0.0200	ug/L	SW8081B
beta-BHC	0.00330	0.0200	ug/L	SW8081B
beta-BHC [2C]	0.00330	0.0200	ug/L	SW8081B
delta-BHC	0.00330	0.0200	ug/L	SW8081B
delta-BHC [2C]	0.00330	0.0200	ug/L	SW8081B
Dieldrin	0.00500	0.0200	ug/L	SW8081B
Dieldrin [2C]	0.00500	0.0200	ug/L	SW8081B
Endosulfan I	0.00330	0.0200	ug/L	SW8081B
Endosulfan II	0.00500	0.0200	ug/L	SW8081B
Endosulfan II [2C]	0.00500	0.0200	ug/L	SW8081B
Endosulfan sulfate	0.00500	0.0200	ug/L	SW8081B
Endosulfan sulfate [2C]	0.00500	0.0200	ug/L	SW8081B
Endrin	0.00500	0.0200	ug/L	SW8081B
Endrin [2C]	0.00500	0.0200	ug/L	SW8081B
Endrin aldehyde	0.00500	0.0200	ug/L	SW8081B
Endrin ketone	0.00500	0.0200	ug/L	SW8081B
gamma-BHC (Lindane)	0.00330	0.0200	ug/L	SW8081B
gamma-Chlordane	0.00330	0.0200	ug/L	SW8081B
gamma-Chlordane [2C]	0.00330	0.0200	ug/L	SW8081B
Heptachlor	0.00330	0.0200	ug/L	SW8081B
Heptachlor [2C]	0.00330	0.0200	ug/L	SW8081B
Heptachlor epoxide	0.00330	0.0200	ug/L	SW8081B
Heptachlor epoxide [2C]	0.00330	0.0200	ug/L	SW8081B
Methoxychlor	0.00330	0.0200	ug/L	SW8081B
Toxaphene	0.330	1.00	ug/L	SW8081B

# ANALYSIS SEQUENCE SUMMARY

SW8082A

Laboratory:	<u>Empirical Laboratories, LLC</u>	SDG:	<u>CTOJM17KW_001</u>
Client:	<u>Tetra Tech NUS, Inc. (T010)</u>	Project:	<u>NAS Key West CTO JM17</u>
Sequence:	<u>0K32606</u>	Instrument:	<u>GL-ECD3</u>
Calibration:	<u>0362003</u>		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0K32606-CAL1	001R0101.D	11/18/10 12:48
Cal Standard	0K32606-CAL1	001F0101.D	11/18/10 12:48
Cal Standard	0K32606-CAL2	002R0201.D	11/18/10 13:07
Cal Standard	0K32606-CAL2	002F0201.D	11/18/10 13:07
Cal Standard	0K32606-CAL3	003R0301.D	11/18/10 13:25
Cal Standard	0K32606-CAL3	003F0301.D	11/18/10 13:25
Cal Standard	0K32606-CAL4	004R0401.D	11/18/10 13:44
Cal Standard	0K32606-CAL4	004F0401.D	11/18/10 13:44
Cal Standard	0K32606-CAL5	005R0501.D	11/18/10 14:03
Cal Standard	0K32606-CAL5	005F0501.D	11/18/10 14:03
Cal Standard	0K32606-CAL6	006R0601.D	11/18/10 14:22
Cal Standard	0K32606-CAL6	006F0601.D	11/18/10 14:22
Initial Cal Check	0K32606-ICV1	007R0701.D	11/18/10 14:40
Initial Cal Check	0K32606-ICV1	007F0701.D	11/18/10 14:40

## INITIAL CALIBRATION STANDARDS

SW8082A

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Sequence: 0K32606  
 Calibration: 0362003

SDG: CTOJM17KW\_001  
 Project: NAS Key West CTO JM17  
 Instrument: GL-ECD3

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
10G0158	Aro-1660 Cal1@2500/125	0K32606-CAL1	001R0101.D	11/18/10 12:48
10G0158	Aro-1660 Cal1@2500/125	0K32606-CAL1	001F0101.D	11/18/10 12:48
10G0159	Aro-1660 Cal2@1000/50 (CCV)	0K32606-CAL2	002F0201.D	11/18/10 13:07
10G0159	Aro-1660 Cal2@1000/50 (CCV)	0K32606-CAL2	002R0201.D	11/18/10 13:07
10G0160	Aro-1660 Cal3@750/37.5	0K32606-CAL3	003F0301.D	11/18/10 13:25
10G0160	Aro-1660 Cal3@750/37.5	0K32606-CAL3	003R0301.D	11/18/10 13:25
10G0161	Aro-1660 Cal4@500/25	0K32606-CAL4	004F0401.D	11/18/10 13:44
10G0161	Aro-1660 Cal4@500/25	0K32606-CAL4	004R0401.D	11/18/10 13:44
10G0162	Aro-1660 Cal5@100/5	0K32606-CAL5	005F0501.D	11/18/10 14:03
10G0162	Aro-1660 Cal5@100/5	0K32606-CAL5	005R0501.D	11/18/10 14:03
10G0163	Aro-1660 Cal6@50/2.5	0K32606-CAL6	006R0601.D	11/18/10 14:22
10G0163	Aro-1660 Cal6@50/2.5	0K32606-CAL6	006F0601.D	11/18/10 14:22

## ANALYSIS SEQUENCE SUMMARY

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36212

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0L36212-CAL1	003R0301.D	12/23/10 11:01
Cal Standard	0L36212-CAL1	003F0301.D	12/23/10 11:01
Cal Standard	0L36212-CAL2	004R0401.D	12/23/10 11:20
Cal Standard	0L36212-CAL2	004F0401.D	12/23/10 11:20
Cal Standard	0L36212-CAL3	005R0501.D	12/23/10 11:39
Cal Standard	0L36212-CAL3	005F0501.D	12/23/10 11:39
Cal Standard	0L36212-CAL4	006R0601.D	12/23/10 11:58
Cal Standard	0L36212-CAL4	006F0601.D	12/23/10 11:58
Cal Standard	0L36212-CAL5	007R0701.D	12/23/10 12:16
Cal Standard	0L36212-CAL5	007F0701.D	12/23/10 12:16
Cal Standard	0L36212-CAL6	008R0801.D	12/23/10 12:35
Cal Standard	0L36212-CAL6	008F0801.D	12/23/10 12:35
Cal Standard	0L36212-CAL7	009R0901.D	12/23/10 12:54
Cal Standard	0L36212-CAL7	009F0901.D	12/23/10 12:54

## INITIAL CALIBRATION STANDARDS

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36212

Instrument: GL-ECD3

Calibration: 0362003

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
1010162	Pest_ICAL7@1ppb	0L36212-CAL1	003R0301.D	12/23/10 11:01
1010162	Pest_ICAL7@1ppb	0L36212-CAL1	003F0301.D	12/23/10 11:01
1010161	Pest_ICAL6@5ppb	0L36212-CAL2	004F0401.D	12/23/10 11:20
1010161	Pest_ICAL6@5ppb	0L36212-CAL2	004R0401.D	12/23/10 11:20
1010160	Pest_ICAL5@10ppb	0L36212-CAL3	005F0501.D	12/23/10 11:39
1010160	Pest_ICAL5@10ppb	0L36212-CAL3	005R0501.D	12/23/10 11:39
1010159	Pest_ICAL4@25ppb	0L36212-CAL4	006F0601.D	12/23/10 11:58
1010159	Pest_ICAL4@25ppb	0L36212-CAL4	006R0601.D	12/23/10 11:58
1010158	Pest_ICAL3@50ppb	0L36212-CAL5	007F0701.D	12/23/10 12:16
1010158	Pest_ICAL3@50ppb	0L36212-CAL5	007R0701.D	12/23/10 12:16
1010157	Pest. AB/Sur CCV @ 100ppb	0L36212-CAL6	008F0801.D	12/23/10 12:35
1010157	Pest. AB/Sur CCV @ 100ppb	0L36212-CAL6	008R0801.D	12/23/10 12:35
1010155	Pest_ICAL1@200ppb	0L36212-CAL7	009R0901.D	12/23/10 12:54
1010155	Pest_ICAL1@200ppb	0L36212-CAL7	009F0901.D	12/23/10 12:54

**INITIAL CALIBRATION DATA (Continued)**

**SW8082A**

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW 001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0362003

Instrument: GL-ECD3

Matrix: Water

Calibration Date: 12/23/2010 3:56:36PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Aroclor-1016 (1)	1377.504	4.536308	6.700333	3.426844E-02			20	
Aroclor-1016 (2)	444.0847	4.44248	5.826833	3.181603E-02			20	
Aroclor-1016 (3)	649.9719	4.621188	6.179167	3.737598E-02			20	
Aroclor-1016 (4)	648.8554	3.928386	6.382333	4.135933E-02			20	
Aroclor-1016 (5)	518.3258	5.712167	6.986333	4.281168E-02			20	
Aroclor-1016 (1) [2C]	1116.305	22.05288	5.6205	8.742721E-02			20	*
Aroclor-1016 (2) [2C]	482.1738	15.65584	5.207667	6.233316E-02			20	
Aroclor-1016 (3) [2C]	538.2843	19.29511	5.3845	6.561467E-02			20	
Aroclor-1016 (4) [2C]	685.3173	23.96236	5.673333	7.372141E-02			20	*
Aroclor-1016 (5) [2C]	518.0925	18.33539	6.050167	3.093481E-02			20	
Aroclor-1260 (1)	3707.263	5.739381	9.985833	4.225337E-02			20	
Aroclor-1260 (2)	1987.077	5.271371	8.871167	0.0462616			20	
Aroclor-1260 (3)	2134.259	6.546249	9.215667	0.0358565			20	
Aroclor-1260 (4)	1615.479	6.430938	9.3155	3.563058E-02			20	
Aroclor-1260 (5)	907.6331	8.228581	11.0785	2.856956E-02			20	
Aroclor-1260 (1) [2C]	2013.278	16.31731	8.419	8.340063E-03			20	
Aroclor-1260 (2) [2C]	1028.947	20.55875	7.164667	1.777219E-02			20	*
Aroclor-1260 (3) [2C]	1227.66	19.18172	7.3915	0.0314888			20	
Aroclor-1260 (4) [2C]	1169.368	18.45489	7.554333	1.416947E-02			20	
Aroclor-1260 (5) [2C]	921.5547	18.06768	8.109833	0.0215561			20	
Tetrachloro-m-xylene	28756.09	6.436385	5.549333	1.124923E-02			20	
Tetrachloro-m-xylene [2C]	28081.79	12.60113	4.667286	3.784695E-02			20	
Decachlorobiphenyl	28655.66	7.832286	11.845	9.537063E-03			20	
Decachlorobiphenyl [2C]	20853.67	18.98494	10.21386	3.150825E-03			20	

} 198

# INITIAL CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 007F0701.D

Calibration Date: 12/23/10 15:56

Sequence: OK32606

Injection Date: 11/18/10

Lab Sample ID: OK32606-ICV1

Injection Time: 14:40

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Aroclor-1016 (1)	A	1000	965.8	1377.504	1330.475		-3.4	20
Aroclor-1016 (2)	A	1000	954.1	444.0847	423.696		-4.6	20
Aroclor-1016 (3)	A	1000	990.4	649.9719	643.709		-1.0	20
Aroclor-1016 (4)	A	1000	1001	648.8554	649.524		0.1	20
Aroclor-1016 (5)	A	1000	1007	518.3258	521.878		0.7	20
Aroclor-1016 (1) [2C]	A	1000	770.6	1116.305	860.241		-22.9	20 *
Aroclor-1016 (2) [2C]	A	1000	955.3	482.1738	460.605		-4.5	20
Aroclor-1016 (3) [2C]	A	1000	884.8	538.2843	476.271		-11.5	20
Aroclor-1016 (4) [2C]	A	1000	869.8	685.3173	596.06		-13.0	20
Aroclor-1016 (5) [2C]	A	1000	893.4	518.0925	462.882		-10.7	20
Aroclor-1260 (1)	A	1000	914.4	3707.263	3390.072		-8.6	20
Aroclor-1260 (2)	A	1000	999.0	1987.077	1985.004		-0.1	20
Aroclor-1260 (3)	A	1000	1044	2134.259	2227.99		4.4	20
Aroclor-1260 (4)	A	1000	845.2	1615.479	1365.422		-15.5	20
Aroclor-1260 (5)	A	1000	819.7	907.6331	744.024		-18.0	20
Aroclor-1260 (1) [2C]	A	1000	848.7	2013.278	1708.677		-15.1	20
Aroclor-1260 (2) [2C]	A	1000	914.8	1028.947	941.29		-8.5	20
Aroclor-1260 (3) [2C]	A	1000	939.9	1227.66	1153.839		-6.0	20
Aroclor-1260 (4) [2C]	A	1000	917.8	1169.368	1073.231		-8.2	20
Aroclor-1260 (5) [2C]	A	1000	816.1	921.5547	752.068		-18.4	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## ANALYSIS SEQUENCE SUMMARY

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L36218

Instrument: GL-ECD3

Calibration: 0362003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	0L36218-CCV1	012R1201.D	12/23/10 13:49
Calibration Check	0L36218-CCV1	012F1201.D	12/23/10 13:49
Calibration Check	0L36218-CCV3	015R1501.D	12/23/10 14:46
Calibration Check	0L36218-CCV3	015F1501.D	12/23/10 14:46
Blank	0L13014-BLK1	016F1601.D	12/23/10 15:04
Blank	0L13014-BLK1	016R1601.D	12/23/10 15:04
LCS	0L13014-BS2	019R1901.D	12/23/10 16:00
LCS	0L13014-BS2	019F1901.D	12/23/10 16:00
LCS Dup	0L13014-BSD2	020R2001.D	12/23/10 16:18
LCS Dup	0L13014-BSD2	020F2001.D	12/23/10 16:18
BCHMS-GW-024-1210	1012118-04	021F2101.D	12/23/10 16:37
BCHMS-GW-024-1210	1012118-04	021R2101.D	12/23/10 16:37
BCHMS-GW-025-1210	1012118-09	022R2201.D	12/23/10 16:55
BCHMS-GW-025-1210	1012118-09	022F2201.D	12/23/10 16:55
Calibration Check	0L36218-CCV4	033F3301.D	12/23/10 20:20
Calibration Check	0L36218-CCV4	033R3301.D	12/23/10 20:20
Calibration Check	0L36218-CCV6	036R3601.D	12/23/10 21:16
Calibration Check	0L36218-CCV6	036F3601.D	12/23/10 21:16

# CONTINUING CALIBRATION CHECK

SW8082A

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_001</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Instrument ID: <u>GL-ECD3</u>	Calibration: <u>0362003</u>
Lab File ID: <u>012F1201.D</u>	Calibration Date: <u>12/23/10 15:56</u>
Sequence: <u>0L36218</u>	Injection Date: <u>12/23/10</u>
Lab Sample ID: <u>0L36218-CCV1</u>	Injection Time: <u>13:49</u>

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Tetrachloro-m-xylene	A	100.0	98.58	28756.09	28347.21		-1.4	20
Tetrachloro-m-xylene [2C]	A	100.0	91.96	28081.79	25825.3		-8.0	20
Decachlorobiphenyl	A	100.0	101.1	28655.66	28966.29		1.1	20
Decachlorobiphenyl [2C]	A	100.0	93.06	20853.67	19406.62		-6.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 015F1501.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV3

Injection Time: 14:46

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor-1016 (1)	A	1000	988.4	1377.504	1361.566		-1.2	20
Aroclor-1016 (2)	A	1000	1018	444.0847	452.034		1.8	20
Aroclor-1016 (3)	A	1000	1002	649.9719	651.285		0.2	20
Aroclor-1016 (4)	A	1000	999.9	648.8554	648.801		-0.008	20
Aroclor-1016 (5)	A	1000	1003	518.3258	520.106		0.3	20
Aroclor-1016 (1) [2C]	A	1000	1076	1116.305	1201.189		7.6	20
Aroclor-1016 (2) [2C]	A	1000	1216	482.1738	586.564		21.6	20 *
Aroclor-1016 (3) [2C]	A	1000	1135	538.2843	611.142		13.5	20
Aroclor-1016 (4) [2C]	A	1000	1093	685.3173	749.238		9.3	20
Aroclor-1016 (5) [2C]	A	1000	1244	518.0925	644.572		24.4	20 *
Aroclor-1260 (1)	A	1000	1103	3707.263	4089.587		10.3	20
Aroclor-1260 (2)	A	1000	1069	1987.077	2124.085		6.9	20
Aroclor-1260 (3)	A	1000	1045	2134.259	2230.917		4.5	20
Aroclor-1260 (4)	A	1000	1068	1615.479	1725.094		6.8	20
Aroclor-1260 (5)	A	1000	1122	907.6331	1017.991		12.2	20
Aroclor-1260 (1) [2C]	A	1000	1312	2013.278	2640.902		31.2	20 *
Aroclor-1260 (2) [2C]	A	1000	1236	1028.947	1271.271		23.6	20 *
Aroclor-1260 (3) [2C]	A	1000	1260	1227.66	1547.022		26.0	20 *
Aroclor-1260 (4) [2C]	A	1000	1258	1169.368	1471.273		25.8	20 *
Aroclor-1260 (5) [2C]	A	1000	1275	921.5547	1175.058		27.5	20 *

15.3

26.8

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 033F3301.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV4

Injection Time: 20:20

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Tetrachloro-m-xylene	A	100.0	102.8	28756.09	29567.04		2.8	20
Tetrachloro-m-xylene [2C]	A	100.0	86.10	28081.79	24177.35		-13.9	20
Decachlorobiphenyl	A	100.0	107.6	28655.66	30834.86		7.6	20
Decachlorobiphenyl [2C]	A	100.0	86.14	20853.67	17962.47		-13.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-ECD3

Calibration: 0362003

Lab File ID: 036F3601.D

Calibration Date: 12/23/10 15:56

Sequence: 0L36218

Injection Date: 12/23/10

Lab Sample ID: 0L36218-CCV6

Injection Time: 21:16

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor-1016 (1)	A	1000	982.0	1377.504	1352.642		-1.8	20
Aroclor-1016 (2)	A	1000	1020	444.0847	453.099		2.0	20
Aroclor-1016 (3)	A	1000	1004	649.9719	652.838		0.4	20
Aroclor-1016 (4)	A	1000	1012	648.8554	656.811		1.2	20
Aroclor-1016 (5)	A	1000	1017	518.3258	526.997		1.7	20
Aroclor-1016 (1) [2C]	A	1000	970.0	1116.305	1082.86		<del>3.0</del>	20
Aroclor-1016 (2) [2C]	A	1000	1214	482.1738	585.202		21.4	20 *
Aroclor-1016 (3) [2C]	A	1000	1116	538.2843	600.787		11.6	20
Aroclor-1016 (4) [2C]	A	1000	1096	685.3173	751.135		9.6	20
Aroclor-1016 (5) [2C]	A	1000	1170	518.0925	606.071		17.0	20
Aroclor-1260 (1)	A	1000	1065	3707.263	3948.096		6.5	20
Aroclor-1260 (2)	A	1000	1054	1987.077	2095.547		5.5	20
Aroclor-1260 (3)	A	1000	1030	2134.259	2199.215		3.0	20
Aroclor-1260 (4)	A	1000	1053	1615.479	1701.398		5.3	20
Aroclor-1260 (5)	A	1000	1064	907.6331	966.245		6.5	20
Aroclor-1260 (1) [2C]	A	1000	1182	2013.278	2378.81		18.2	20
Aroclor-1260 (2) [2C]	A	1000	1140	1028.947	1172.568		14.0	20
Aroclor-1260 (3) [2C]	A	1000	1163	1227.66	1427.768		16.3	20
Aroclor-1260 (4) [2C]	A	1000	1152	1169.368	1346.53		15.2	20
Aroclor-1260 (5) [2C]	A	1000	1168	921.5547	1076.398		16.8	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## PREPARATION BATCH SUMMARY

SW8082A

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L13014

Batch Matrix: Water

Preparation: EXT\_3510

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L13014-BLK1	12/14/10 10:00	1,000.00	5.00
LCS	0L13014-BS2	12/14/10 10:00	1,000.00	5.00
LCS Dup	0L13014-BSD2	12/14/10 10:00	1,000.00	5.00
BCHMS-GW-024-1210	1012118-04	12/14/10 10:00	1,080.00	5.00
BCHMS-GW-025-1210	1012118-09	12/14/10 10:00	1,070.00	5.00



## METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Instrument: GL-ECD3

Analyte	MDL	MRL	Units	Method
Aroclor-1016	0.120	0.500	ug/L	SW8082A
Aroclor-1221	0.120	0.500	ug/L	SW8082A
Aroclor-1232	0.120	0.500	ug/L	SW8082A
Aroclor-1242	0.120	0.500	ug/L	SW8082A
Aroclor-1248	0.120	0.500	ug/L	SW8082A
Aroclor-1254	0.120	0.500	ug/L	SW8082A
Aroclor-1260	0.120	0.500	ug/L	SW8082A
Aroclor-1262	0.120	0.500	ug/L	SW8082A
Aroclor-1268	0.120	0.500	ug/L	SW8082A

**ANALYSIS SEQUENCE SUMMARY**  
**FLPRO**

Laboratory: Empirical Laboratories, LLC  
 Client: Tetra Tech NUS, Inc. (T010)  
 Sequence: 0K32712  
 Calibration: 0327002

SDG: CTOJM17KW\_001  
 Project: NAS Key West CTO JM17  
 Instrument: GL-GCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0K32712-CAL6	003F0301.D	11/19/10 12:39
Cal Standard	0K32712-CAL5	004F0401.D	11/19/10 13:32
Cal Standard	0K32712-CAL4	005F0501.D	11/19/10 14:24
Cal Standard	0K32712-CAL3	006F0601.D	11/19/10 15:17
Cal Standard	0K32712-CAL2	007F0701.D	11/19/10 16:09
Cal Standard	0K32712-CAL1	008F0801.D	11/19/10 17:02
Initial Cal Check	0K32712-ICV1	009F1001.D	11/22/10 09:08

# INITIAL CALIBRATION STANDARDS

## FLPRO

Laboratory: Empirical Laboratories, LLC  
Client: Tetra Tech NUS, Inc. (T010)  
Sequence: 0K32712  
Calibration: 0327002

SDG: CTOJM17KW\_001  
Project: NAS Key West CTO JM17  
Instrument: GL-GCFID2

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
10K0198	FLPRO CAL6 85ppm	0K32712-CAL6	003F0301.D	11/19/10 12:39
10K0199	FLPRO CAL5 850ppm	0K32712-CAL5	004F0401.D	11/19/10 13:32
10K0200	FLPRO CAL4 2550ppm	0K32712-CAL4	005F0501.D	11/19/10 14:24
10K0201	FLPRO CAL3 4250ppm	0K32712-CAL3	006F0601.D	11/19/10 15:17
10K0202	FLPRO CAL2 5950ppm	0K32712-CAL2	007F0701.D	11/19/10 16:09
10K0203	FLPRO CAL1 8500ppm	0K32712-CAL1	008F0801.D	11/19/10 17:02

## INITIAL CALIBRATION DATA (Continued)

### FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0327002

Instrument: GL-GCFID2

Matrix: Water

Calibration Date: 11/19/2010 12:00:47AM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Petroleum Range Organics	1881.629	7.149452	3.61	2.085746E-02			20	
2-Fluorobiphenyl	2530.638	8.67643	12.84083	0.2299164			20	
o-Terphenyl	3902.968	5.139546	19.69633	0.1115215			20	

# INITIAL CALIBRATION CHECK

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-GCFID2

Calibration: 0327002

Lab File ID: 009F1001.D

Calibration Date: 11/19/10 00:00

Sequence: 0K32712

Injection Date: 11/22/10

Lab Sample ID: 0K32712-ICV1

Injection Time: 09:08

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Petroleum Range Organics	A	4000	4122	1881.629	1938.788		3.0	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## ANALYSIS SEQUENCE SUMMARY

### FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35103

Instrument: GL-GCFID2

Calibration: 0327002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	0L35103-CCV1	002F0201.D	12/14/10 17:20
LCS	0L13001-BS1	005F0501.D	12/14/10 19:26
Calibration Check	0L35103-CCV2	020F2001.D	12/15/10 05:55
Calibration Check	0L35103-CCV3	033F3301.D	12/15/10 15:02
Blank	0L13001-BLK1	039F3901.D	12/15/10 19:15
Calibration Check	0L35103-CCV4	045F4501.D	12/15/10 23:27
BCHMS-GW-021-1210	1012118-01	046F4601.D	12/16/10 00:10
BCHMS-GW-022-1210	1012118-02	047F4701.D	12/16/10 00:52
BCHMS-GW-023D-1210	1012118-03	048F4801.D	12/16/10 01:34
BCHMS-GW-027-1210	1012118-05	050F5001.D	12/16/10 02:59
BCHMS-GW-017-1210	1012118-06	051F5101.D	12/16/10 03:41
BCHMS-GW-018-1210	1012118-07	052F5201.D	12/16/10 04:23
BCHMS-GW-20D-1210	1012118-08	053F5301.D	12/16/10 05:06
BCHMS-GW-025-1210	1012118-09	054F5401.D	12/16/10 05:48
BCHMS-GW-026-1210	1012118-10	055F5501.D	12/16/10 06:31
Calibration Check	0L35103-CCV5	056F5601.D	12/16/10 07:13

# CONTINUING CALIBRATION CHECK

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-GCFID2

Calibration: 0327002

Lab File ID: 002F0201.D

Calibration Date: 11/19/10 00:00

Sequence: 0L35103

Injection Date: 12/14/10

Lab Sample ID: 0L35103-CCV1

Injection Time: 17:20

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	3756	1881.629	1662.927		-11.6	25
2-Fluorobiphenyl	A	25.00	30.01	2530.638	3037.56		20.0	25
o-Terphenyl	A	25.00	19.48	3902.968	3041.4		-22.1	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

### FLPRO

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_001</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Instrument ID: <u>GL-GCFID2</u>	Calibration: <u>0327002</u>
Lab File ID: <u>020F2001.D</u>	Calibration Date: <u>11/19/10 00:00</u>
Sequence: <u>0L35103</u>	Injection Date: <u>12/15/10</u>
Lab Sample ID: <u>0L35103-CCV2</u>	Injection Time: <u>05:55</u>

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	3839	1881.629	1699.716		-9.7	25
2-Fluorobiphenyl	A	25.00	30.88	2530.638	3126.08		23.5	25
o-Terphenyl	A	25.00	20.06	3902.968	3132.32		-19.7	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

### FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-GCFID2

Calibration: 0327002

Lab File ID: 033F3301.D

Calibration Date: 11/19/10 00:00

Sequence: 0L35103

Injection Date: 12/15/10

Lab Sample ID: 0L35103-CCV3

Injection Time: 15:02

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	5383	1881.629	2383.381		26.7	25 *
2-Fluorobiphenyl	A	25.00	41.63	2530.638	4213.96		66.5	25 *
o-Terphenyl	A	25.00	27.20	3902.968	4245.96		8.8	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

## FLPRO

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_001</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Instrument ID: <u>GL-GCFID2</u>	Calibration: <u>0327002</u>
Lab File ID: <u>045F4501.D</u>	Calibration Date: <u>11/19/10 00:00</u>
Sequence: <u>0L35103</u>	Injection Date: <u>12/15/10</u>
Lab Sample ID: <u>0L35103-CCV4</u>	Injection Time: <u>23:27</u>

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	4166	1881.629	1844.397		-2.0	25
2-Fluorobiphenyl	A	25.00	31.73	2530.638	3211.92		26.9	25 *
o-Terphenyl	A	25.00	20.88	3902.968	3259.68		-16.5	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Instrument ID: GL-GCFID2

Calibration: 0327002

Lab File ID: 056F5601.D

Calibration Date: 11/19/10 00:00

Sequence: 0L35103

Injection Date: 12/16/10

Lab Sample ID: 0L35103-CCV5

Injection Time: 07:13

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	5304	1881.629	2348.289		24.8	25
2-Fluorobiphenyl	A	25.00	42.74	2530.638	4326.4		71.0	25 *
o-Terphenyl	A	25.00	28.00	3902.968	4370.92		12.0	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## PREPARATION BATCH SUMMARY

### FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Batch: 0L13001

Batch Matrix: Water

Preparation: EXT\_3510

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Blank	0L13001-BLK1	12/14/10 12:45	1,000.00	2.00
LCS	0L13001-BS1	12/14/10 12:45	1,000.00	2.00
BCHMS-GW-021-1210	1012118-01	12/14/10 12:45	1,070.00	2.00
BCHMS-GW-022-1210	1012118-02	12/14/10 12:45	1,080.00	2.00
BCHMS-GW-023D-1210	1012118-03	12/14/10 12:45	1,080.00	2.00
BCHMS-GW-024-1210	1012118-04	12/14/10 12:45	1,070.00	2.00
BCHMS-GW-027-1210	1012118-05	12/14/10 12:45	1,000.00	2.00
BCHMS-GW-017-1210	1012118-06	12/14/10 12:45	1,060.00	2.00
BCHMS-GW-018-1210	1012118-07	12/14/10 12:45	1,060.00	2.00
BCHMS-GW-20D-1210	1012118-08	12/14/10 12:45	1,060.00	2.00
BCHMS-GW-025-1210	1012118-09	12/14/10 12:45	1,070.00	2.00
BCHMS-GW-026-1210	1012118-10	12/14/10 12:45	1,070.00	2.00



# ANALYSIS SEQUENCE SUMMARY

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35416

Instrument: GL-GCFID2

Calibration: 0354003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	0L35416-CAL6	003F0401.D	12/17/10 16:36
Cal Standard	0L35416-CAL5	004F0501.D	12/17/10 17:18
Cal Standard	0L35416-CAL4	005F0601.D	12/17/10 18:00
Cal Standard	0L35416-CAL3	006F0701.D	12/17/10 18:42
Cal Standard	0L35416-CAL2	007F0801.D	12/17/10 19:24
Cal Standard	0L35416-CAL1	008F0901.D	12/17/10 20:07
Initial Cal Check	0L35416-ICV1	009F1001.D	12/17/10 20:49

# INITIAL CALIBRATION STANDARDS

## FLPRO

Laboratory: Empirical Laboratories, LLC  
Client: Tetra Tech NUS, Inc. (T010)  
Sequence: 0L35416  
Calibration: 0354003

SDG: CTOJM17KW\_001  
Project: NAS Key West CTO JM17  
Instrument: GL-GCFID2

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
10K0198	FLPRO CAL6 85ppm	0L35416-CAL6	003F0401.D	12/17/10 16:36
10K0199	FLPRO CAL5 850ppm	0L35416-CAL5	004F0501.D	12/17/10 17:18
10K0200	FLPRO CAL4 2550ppm	0L35416-CAL4	005F0601.D	12/17/10 18:00
10L0688	FLPRO CAL3 4250ppm	0L35416-CAL3	006F0701.D	12/17/10 18:42
10K0202	FLPRO CAL2 5950ppm	0L35416-CAL2	007F0801.D	12/17/10 19:24
10K0203	FLPRO CAL1 8500ppm	0L35416-CAL1	008F0901.D	12/17/10 20:07

## INITIAL CALIBRATION DATA (Continued)

### FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Calibration: 0354003

Instrument: GL-GCFID2

Matrix: Water

Calibration Date: 12/17/2010 12:00:26AM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Petroleum Range Organics	1161.673	7.581268	2.9	1.880959E-02			20	
2-Fluorobiphenyl	1907.535	7.252165	11.5235	0.0596244			20	
o-Terphenyl	2029.693	5.729139	17.02467	2.901856E-02			20	

# INITIAL CALIBRATION CHECK

## FLPRO

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_001</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Instrument ID: <u>GL-GCFID2</u>	Calibration: <u>0354003</u>
Lab File ID: <u>009F1001.D</u>	Calibration Date: <u>12/17/10 00:00</u>
Sequence: <u>0L35416</u>	Injection Date: <u>12/17/10</u>
Lab Sample ID: <u>0L35416-ICV1</u>	Injection Time: <u>20:49</u>

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Petroleum Range Organics	A	4000	4535	1161.673	1316.997		13.4	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# ANALYSIS SEQUENCE SUMMARY

## FLPRO

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Sequence: 0L35614

Instrument: GL-GCFID2

Calibration: 0354003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	0L35614-CCV1	014F1401.D	12/20/10 19:39
Calibration Check	0L35614-CCV2	028F2801.D	12/21/10 05:31
BCHMS-GW-024-1210	1012118-04	041F4101.D	12/21/10 14:39
Calibration Check	0L35614-CCV3	042F4201.D	12/21/10 15:21

# CONTINUING CALIBRATION CHECK

## FLPRO

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_001</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Instrument ID: <u>GL-GCFID2</u>	Calibration: <u>0354003</u>
Lab File ID: <u>014F1401.D</u>	Calibration Date: <u>12/17/10 00:00</u>
Sequence: <u>0L35614</u>	Injection Date: <u>12/20/10</u>
Lab Sample ID: <u>0L35614-CCV1</u>	Injection Time: <u>19:39</u>

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	4280	1161.673	1169.886		0.7	25
2-Fluorobiphenyl	A	25.00	27.12	1907.535	2069.6		8.5	25
o-Terphenyl	A	25.00	26.37	2029.693	2141.04		5.5	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

# CONTINUING CALIBRATION CHECK

## FLPRO

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_001</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Instrument ID: <u>GL-GCFID2</u>	Calibration: <u>0354003</u>
Lab File ID: <u>028F2801.D</u>	Calibration Date: <u>12/17/10 00:00</u>
Sequence: <u>0L35614</u>	Injection Date: <u>12/21/10</u>
Lab Sample ID: <u>0L35614-CCV2</u>	Injection Time: <u>05:31</u>

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	4489	1161.673	1226.935		5.6	25
2-Fluorobiphenyl	A	25.00	27.82	1907.535	2122.96		11.3	25
o-Terphenyl	A	25.00	27.34	2029.693	2220.12		9.4	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## CONTINUING CALIBRATION CHECK

### FLPRO

Laboratory: <u>Empirical Laboratories, LLC</u>	SDG: <u>CTOJM17KW_001</u>
Client: <u>Tetra Tech NUS, Inc. (T010)</u>	Project: <u>NAS Key West CTO JM17</u>
Instrument ID: <u>GL-GCFID2</u>	Calibration: <u>.0354003</u>
Lab File ID: <u>042F4201.D</u>	Calibration Date: <u>12/17/10 00:00</u>
Sequence: <u>0L35614</u>	Injection Date: <u>12/21/10</u>
Lab Sample ID: <u>0L35614-CCV3</u>	Injection Time: <u>15:21</u>

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Petroleum Range Organics	A	4250	4638	1161.673	1267.761		9.1	25
2-Fluorobiphenyl	A	25.00	28.42	1907.535	2168.2		13.7	25
o-Terphenyl	A	25.00	28.24	2029.693	2292.88		13.0	25

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

## METHOD DETECTION AND REPORTING LIMITS

Laboratory: Empirical Laboratories, LLC

SDG: CTOJM17KW\_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NAS Key West CTO JM17

Matrix: Water

Instrument: GL-GCFID2

Analyte	MDL	MRL	Units	Method
Petroleum Range Organics	0.170	0.680	mg/L	FLPRO

**APPENDIX I**

**REFERENCES**



VOL. LXXXIII No. 255

# Looking South Brief Glances

SAN JUAN, Puerto Rico (AP)—The Cuban crisis is taking its toll of Puerto Rico's multi-million dollar tourist industry.

Seven hotels reported about 100 unexpected checkouts since Monday night, when President Kennedy announced the naval blockade of Communist Cuba.

Last year 446,000 tourists brought Puerto Rico \$65.5 million in revenue. Substantially larger revenues had been anticipated for this season.

Recent news releases over television and radio emanating from out of town sources claim the Florida Keys have been blockaded and motels taken over by the military forces, said Chamber of Commerce members yesterday.

The irresponsible reporting following the Monday night speech of President Kennedy's seven-point program of action against Communist Cuba has alarmed and kept away prospective visitors here, said Sam Golan, and other board members.

Philip Murphy, immediate past president of the chamber, revealed at the meeting that the county commission agreed Tuesday to provide funds to refute the rumors by concentrated radio broadcasts from two stations in Miami.

Golan reported that gas station attendants in the Homestead and Miami area were passing the misinformation along to tourists and he added that motels in Homestead are full as a result.

Newly-elected chamber president Zake O'Farrell, who took over his responsibilities with vigor yesterday, will contact Governor Farris Bryant, Miami's television stations and Chambers of Commerce to tell them the true story of conditions here and ask their cooperation in informing the public that at present Monroe County is doing business as usual.

The Florida Development Commission in Tallahassee has been alerted to refute the rumors and is at present informing the public of this on a national scale.

SAN SEBASTIAN, Spain (AP)—

# City Cooperation Pledged Army Leases Wickers Field For \$1 A Year

City action to facilitate the military build-up in the Key West area was taken along several lines last night by the Key West City Commission.

The major steps taken include: Grating a 12-month, \$1 per

# Casa Marina Turned Over To Military

Key West's biggest luxury resort hotel, the Casa Marina, was leased this morning to the U. S. Army and troops will be moving in at 2 p. m. It was learned from Sam Hyman, owner of the hotel.

Hyman said the entire hotel, the grounds, cabana club, and servants quarters across the street, will be occupied.

He estimated there would be "about 500 men" going into the Casa Marina today. Under a barracks style arrangement, however, Hyman pointed out the resort could accommodate 1,000.

The lease, he said, is for one year, with the "usual" 30-day cancellation clause.

The financial terms of the lease were not revealed.

Asked if the Army was considering leasing the 178 vacant units in Ponce de Leon, Hyman said they were but nothing final has been done about it.

The Casa Marina has 185 rooms and has been closed to business this past summer, although Hyman stated he had intended to open in December and "had about 70 reservations" which he will divert to the Town House Motor Inn.

Meanwhile, Army trucks have shifted to Wickers Field but not in great force. There were 10 moved in last night while families in the neighborhood watched interestedly.

In a phone call this morning to

year lease to the Army Corps of Engineers for Wickers Field.

Offering space in the Greene Street City Hall for a public information office for news media.

Passing a resolution to the effect that Key West will cooperate 100 per cent with the military and directing a telegram be sent to

Following action on leasing Wickers Field to the Army at last night's city commission meeting, the city this morning agreed to the use of Smathers Beach for a 30-day period.

President Kennedy talking him that Key West fully supports his decision in the Cuban crisis.

Mayor C. B. Harvey made a statement to the citizens of the city asking them to remain calm and be assured of their safety. "If real danger develops, the commission and civil defense will keep the people informed," announced the mayor.

All these steps were taken with general consent of the commissioners — with the exception of offering the city hall for the benefit of the visiting newsmen. Commissioners Terry Lee Garcia and John DePoo voted no. DePoo said the news media usually set up their own organizations and would probably do so in this action without any help from the city.

"How about the city commission meetings and city court?" asked DePoo.

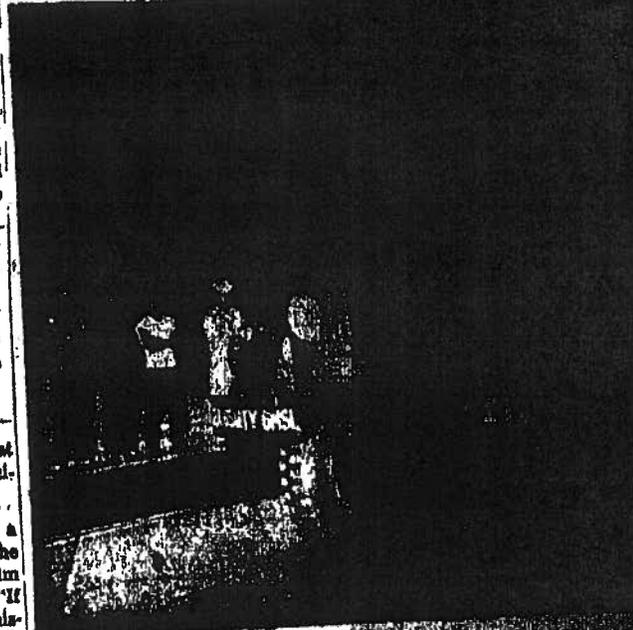
The commission seemed a bit concerned over leasing Wickers Field as it apparently had scanty information on what the intended use is.

Harvey asked, "Are they going to build anything there?"

"Just a rocket base," quipped Garcia.

The terms didn't strike the commissioners as too favorable but the situation offered — as Commissioner Harry Knight noted — "no choice." The field had been

# U.S. Lets Pass



EN ROUTE TO WICKERS FIELD... and was routed to Wickers Field... a persistent group of observers... were stationed in the ball park.—AP Photo

# Emergency Plans Made CD Is Ready For Trouble

By KAY KERSEY  
The Civil Defense organization for Monroe County is in direct 24-hour communication with the Navy," said Civil Defense director Bill Warner today. "The civilian population of the keys and Navy families will receive the same instructions simultaneously in case an emergency does arise," he added.

In Warner's news conference this morning he compared the precarious situation here in regard to Cuba to that of a hurricane warning, and said that people should

However, the... factor said that... for people to... of their daily lives... military... should be... rather than... instructions... locally from the... The... faces... on...

day night, when President Kennedy announced the naval blockade of Communist Cuba,

Last year 448,000 tourists brought Puerto Rico \$85.5 million in revenue. Substantially larger revenues had been anticipated for this season.

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The Florida Development Commission in Tallahassee has been alerted to refute the rumors and is at present informing the public of this on a national scale.

SAN SEBASTIAN, Spain (AP)—Fulgencio Batista, Cuba's dictator before Fidel Castro, believes time is working in his favor.

Found Wednesday kneeling in the Jesuit monastery of Loyola, Batista said he had spent three hours praying for peace.

He said, "It is with deep emotion that I am following the affair of Cuba. I profoundly hope that the political directors of the world will be able to effect a happy solution to resolve the Cuba crisis."

Batista, who fled before Castro Jan. 1, 1960, said, "Time is working in my favor. They will realize that I was right."

Charles Heiberg, owner of the

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The financial terms of the lease were not revealed.

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Meanwhile, Army trucks have shifted to Wickers Field but not in great force. There were 10 moved in last night while families in the neighborhood watched interestedly.

In a phone call this morning to the Pentagon The Citizen learned through the Press Office, there that as far as was known there would be no public information officer dispatched to Key West.

The 200 newsmen, cameramen and technicians currently roaming the streets of the city looking for any kind of news lead will continue to do so without any official source of information.

Three missiles, apparently of the Nike variety, were observed today from the highway at Boca Chica.

The missiles are in their temporary launching sites and can be seen poking skyward.

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"Just a rocket base," quipped Garcia.

The terms didn't strike the commissioners as too favorable but the situation offered — as Commissioner Harry Knight noted — "no choice." The field had been already occupied.

City Manager Bazel Crowe informed the commission that the military was seeking additional land and wanted a lease for Smathers Beach. He said a short term lease for the beach would be offered.

Commissioner Jay Stricker suggested wangling in a clause in leases giving rights to use the beach when the military wasn't putting it to use.

DePoe suggested the telegram be sent to President Kennedy and Crowe was directed to send it today.

# Emergency Plans Made CD Is Ready For Trouble

By KAY KERSEY  
The Civil Defense organization for Monroe County is in direct communication with the Navy," said Civil Defense director Bill Warner today. "The civilian population of the keys and Navy families will receive the same instructions simultaneously in case an emergency does arise."

In Warner's news conference this morning he compared the precarious situation here in regard to Cuba to that of a hurricane warning and said that people should take much the same precautions in storing a reasonable amount of food and water.

Automobile tanks should be full of gas, candles and flashlight batteries are on the list of necessities for every family should the occasion arise, he said.

Warner assures the public everything that can be done for their behalf is being done. He said that plans have been formulated for the past year and a half which include an intensive evacuation by sea, road and sky for the keys and Navy families should the emergency call for such action.

IN ROUTE TO WICKERS FIELD and was routed to Wickers Field by a targeted group of observers who were stationed in the hall part...

# Army Missile Battalion To Be

The U. S. Army's 6th Missile Battalion, based at the Casa Marina Hotel, will settle in Key West permanently. The Citizen learned today from Congressman Danie H. Fassel.

The Department of the Army, said Fassel from Washington, made the decision this morning which will also implement the shifts of two other battalions and

an air defense artillery group to Homestead.

Col. Marvin Nolta, commanding the Key West Battalion, said the word has gone to the families of 300 men in the 6th "to move to Key West from Ft. Meade, Maryland."

The 6th Missile Battalion arrived in force in Key West last October at the time of the Cuban crisis.

Various detachments are spread through the keys.

This announcement means Key West now has a full representation of all services in the armed forces — Navy, Army, Marine, Air Force and Coast Guard.

The Army said the movement of the battalion from their former home bases effectively establishes a permanent air defense area for the Miami - Homestead - Key

West area.

The 6th Missile Battalion will be in charge of the defense of the keys which are now being manned by the 1st Air Force from their positions at Beach.

In Homestead, under the 6th Battalion, is the 1st Air Force artillery, manning the

Key West, Florida has the most equable climate in the country, with an average range of only 14° Fahrenheit

# The Key West

THE SOUTHERNMOST NEWSPAPER

KEY WEST, FLORIDA, FRIDAY, MARCH 1961

VOL. LXXXIV No. 76

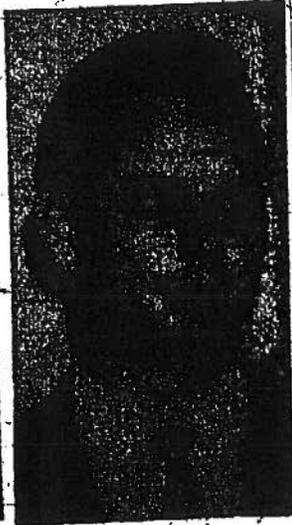
# MIG Jets Shoot At Merchant

## Here and There

FORMER PRESIDENT Harry Truman has promised to "embarrass" Senator John M. Spottswood by visiting him at an unspecified date.

In wishing Spottswood "an overwhelming majority" in his race for the State Senate, the former chief executive wrote concerning the race, "I will promise not to embarrass you — but, if you are nominated and elected I will embarrass you in this way — I'll come to see you."

THERE WILL BE NO Royal Castle at the corner of Duval and Caroline Streets, nor any place within the area designated for preservation of old island architecture by the State between the Old Island Restoration Foundation, the new county Public Works Board and the city commission.



LOOKS PROBABLE—With Sheriff John M. Spottswood on his way to Tallahassee today, possibly to take the oath of office as the county's new senator this weekend, the hottest prospect for the \$10,000 yearly post appeared to be front-runner Kermit Lewis in (left), prominent in civic and business circles. On the right, Chief Investigator Bobby Brown was strongly rumored today for the slot as Chief Deputy in the department, a post vacated some three years ago by Hans Raleigh.

## Congressmen Ask To Aid Bereft Wives

CHARLESTON, W.Va. (AP) — Two U. S. senators and a representative have been asked to aid two families who were left without means of support when a pair of American fliers disappeared on a reported secret mission over Cuba in December 1961.

The two, Robert Thompson, 29, of Charleston, W.Va., and Robert Swanner, 26, of Miami, left Ft. Lauderdale, Fla., Dec. 14, 1961 in a twin-engine private plane after telling friends they had been hired for a leaflet-dropping mission over Cuba.

The most positive word so far on their fate came recently when a refugee, brought from Cuba aboard the mercy ship Shirley Lykes, told newsmen he had seen the plane crash after it had been hit by Cuban anti-aircraft fire.

The case is reminiscent of that involving two former American fliers who were shot down over Cuba while flying B-26 bombers in the East of Pigeon Division in April

## U.S. Blamed For Ship D Pay W

By [illegible] of [illegible] MOSCOW (AP) — The United States is blamed for the Cuban crisis, a Soviet official said today. A Soviet official said today that the United States is responsible for the Cuban crisis. The official said that the United States is the cause of the Cuban crisis. The official said that the United States is the cause of the Cuban crisis.

## Water Board Action Questioned Insurance Bid

# Battalion To Be Permanently Based

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The Army said the movement of the battalion from their former home bases effectively establishes a permanent air defense area for the Miami - Homestead - Key

West circuit.

The 6th Missile Battalion of the 65th Artillery, in Key West is in charge of the Hawk missile batteries which, during the crisis, poked their deadly noses over the waters of the Florida Straits from their positions on Smathers Beach.

In Homestead, said the Army, the 2nd Battalion of the 63rd Artillery, manning the Nike-Hercu-

let missile emplacements will be stationed.

This battalion was home-based in Ft. Worth, Tex.

The 8th Battalion of 15th Artillery, manning Hawk missiles, will also be stationed in Homestead. They were once based at Ft. Lewis, Wash., a few miles away from Seattle.

Joining these in the Miami area, will be the 13th Air Defense Ar-

my Group, based at Key West.

Nike-Hercules missiles of the 6th Artillery include the 2nd Battalion and the 8th Battalion.

On the way to the Miami-Homestead-Key West detachment, said the Army, will be the 2nd Hawk Battery of the 13th Air Defense Battalion, temporarily based at

# Key West Citizen

THE SOUTHERNMOST NEWSPAPER IN THE U.S.A.

KEY WEST, FLORIDA, FRIDAY, MARCH 23, 1963

# Boat At Merchant Ship Near



John M. Spottswood on his way to take the oath of office as... the hottest prospect for the... front-runner Kermit Low...

## Congressmen Ask To Aid Bereft Wives

CHARLESTON, W.Va. (AP) — Two U. S. senators and a representative have been asked to aid two families who were left without means of support when a pair of American fliers disappeared on a reported secret mission over Cuba in December 1961.

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The most positive word so far on their fate came recently when a refugee, brought from Cuba aboard the mercy ship Shirley Lykes, told newsmen he had seen the plane crash after it had been hit by Cuban anti-aircraft fire.

## U.S. Blasted For Exile Action Ship Damage Pay Wanted

By REINHOLD G. ENSZ  
MOSCOW (AP) — The Soviet Union today demanded that the United States pay damages for a Cuban exile commando raid that crippled the Soviet freighter Baku three days ago.

A note delivered to the U.S. Embassy also threatened to take unspecified measures to protect Soviet shipping from attacks by anti-Castro guerrillas operating in Cuban waters.

The U.S. government has said repeatedly it is doing all it can to discourage such raids by Cuban exile groups.

But Moscow's note charged that the U.S. had "aided and abetted" the Baku attack, "a not accidental and isolated action, but planned and executed from a ship-

such protest this week. In both notes, the Soviets accused the United States of giving support to the exiles.

Today's note said on this point:

"The Soviet government has already called the attention of the government of the U.S.A. to the fact that, without the furnishing of American arms and ships and the provision by the U.S.A. of other forms of support to groups of traitors to the Cuban people, they could not accomplish their criminal plans."

To this accusation, the semi-official Havana paper Revolution added the charge today that the commando raid against the Baku followed an American reconnaissance mission over the port of

## Crew Of B-57 Describes Attack

MIAMI (AP) — Crew members of a B-57 bomber said today two Soviet-built MIG jet fighters sprayed the bow and stern of the vessel 130 miles off the Cuban coast near Miami.

The attack was timed to coincide with the arrival of the Navy intelligence officer who was aboard the vessel as she approached Miami.

## Council Meet Called On New Cuba

WASHINGTON (AP) — The Senate today called for a meeting of the Senate Foreign Relations Committee to discuss the

on Questioned

# Permanently Based Here



... missile emplacements will be stationed.

This battalion was home based in Ft. Worth, Tex.

The 8th Battalion of 15th Artillery, manning Hawk missiles, will also be stationed in Homestead. They were once based at Ft. Lewis, Wash., a few miles away from Seattle.

Joining these in the Miami area, will be the 18th Air Defense Ar-

tillery Group, from Ft. Meade, Md.

Units mentioned today that of the 6th Missile Battalion includes the 237th Ordnance Detachment and the 35th Signal Detachment.

On the way to the Miami-Homestead-Key West defense sector, said the Army, will be units of the 2nd Hawk Battery of the 8th Battalion, temporarily based at Pat-

rick and ... Air Force Base.

... units by ... Wick's Field ... moved to the ... section near Roosevelt Blvd. and Bertha Street.

There have been unconfirmed rumors within the last few weeks that the Army might buy the Casa Marina from its present owner, Sam Hyman, but there has never been a definite transaction.

### Weather Summary

Fair and warm. Low tonight, 72. High tomorrow, 81. Tomorrow's tides: High 12:40 a. m., 12:20 p. m. Low 5:51 a. m., 7:16 p. m. NEly to Ely winds 10 - 15 mph.

# at Citizen

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PRICE FIVE CENTS

4 29, 1963

# ant Ship Near Cuba

## \* \* \* usted For Exile Action ip Damage ty Wanted

**HOLD G. ENSZ** (AP) — The Soviet demanded that the pay damages for a commando raid that Soviet freighter Baku \$0.

delivered to the U.S. threatened to take measures to protect ing from attacks by guerrillas operating in

government has said. is doing all it can to such raids by Cuban

ow's note charged that are not accidental

such protest this week. In both notes, the Soviets accused the United States of giving support to the exiles.

Today's note said on this point:

"The Soviet government has already called the attention of the government of the U.S.A. to the fact that, without the furnishing of American arms and ships and the provision by the U.S.A. of other forms of support to groups of traitors to the Cuban people, they could not accomplish their criminal plans."

To this accusation, the semi-official Havana paper Revolution added the charge today that the commando raid against the Baku followed an American reconnaissance

## Crew Of Floridian Describes Attack

By JOE MCGOWAN JR.

MIAMI (AP) — Crewmen of the merchant ship Floridian said today two 600-mile-an-hour Russian-built MIG jet fighters sprayed cannon fire close to the bow and stern of the vessel Thursday as she cruised 20 miles off the Cuban coast and 175 miles southeast of Miami.

The attack was filmed by Jack Nelson, able-bodied seaman, but he turned his film over to U. S. Navy intelligence officers who boarded the 400-foot vessel as she approached Miami under U. S. fighter escort.

## \* \* \* Council Meet Called On New Cuba Tension

WASHINGTON (AP) — President Kennedy called the executive

Chief Mate Harold Keane also photographed the MIGs in action but said the Navy men also asked for and took his film.

"I could see the wink of the guns," Nelson said, as he aimed his camera at the Russian-built planes swooping in toward the ship on one of three cannon- firing runs.

A distress call from the Florid-

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# Missile Battalion

split second timing by the United States Army (HAWK) missile units is a major factor in the stalwart air defense of cities and air bases around the world.

Combining their special skills under the critical eye of Lt. Col. Joseph E. Muckerman II, Battalion commander, Battery of the 6th Battalion (HAWK) 4th Artillery, is participating in the annual Integrated Unit Training (IUT).

The training, a grueling four days of evaluation, is held at the McGregor Guided Missile Range, New Mexico. The evaluation program is required by the Army Air Defense Command to ensure top operational efficiency of its missile units.

IUT is programmed to test the efficiency of the missilemen in the areas of preparedness, operational readiness and firing.

At the McGregor site, members of A Battery, commanded by Capt. James M. McDonald, will obtain the required equipment for the evaluation. During the following four days, the unit will be allowed eight hours to check the components of the HAWK system before an Air Defense inspection team evaluates the units operational readiness.

Once the operational readiness evaluation is complete, the battery will launch two missiles. The unit is then graded on operational and firing procedures during the launching period.

The operational efficiency of these units remains one of the major deterrents in the country's defense against attack.

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- Features oversized 12-inch carriage in. papers sideways. Great for envelopes. A rugged worker.

Now it's wonderfully easy to type. The keys gives legible copy. Simply by holding them: x, y, z, ... ing. 1,2,3-line and variable spacing at Sears and save \$20.07.

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The operational efficiency of these units remains one of the major deterrents in the country's defense against attack by enemy planes.

Members of the Key West unit will return to their battalion headquarters Sunday after completing their training and spending several days in El Paso, Texas.

# Service Notes

Lt. Jerry W. Baber

The Air Force son of a Key West, Fla., couple has entered the Air University's Squadron Officer School, Maxwell AFB, Ala.

First Lieutenant Jerry W. Baber, son of Major and Mrs

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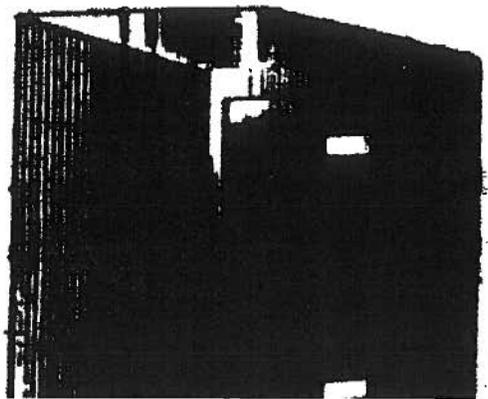
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Now it's wonderfully easy to type. The keys gives legible copy. Simply by holding them: xxx, ... ing. 1,2,3-line and variable spacing at Sears and save \$20.07.

## POSSIBLE FEDERAL TAX DEDUCTION

Federal Income Tax depreciation or cost may be available if business equipment used in your trade or business or if you who is required to work at home. You in circumstances also be entitled to an credit against your Federal Income Tax for a cost. Consult your tax advisor for more information.



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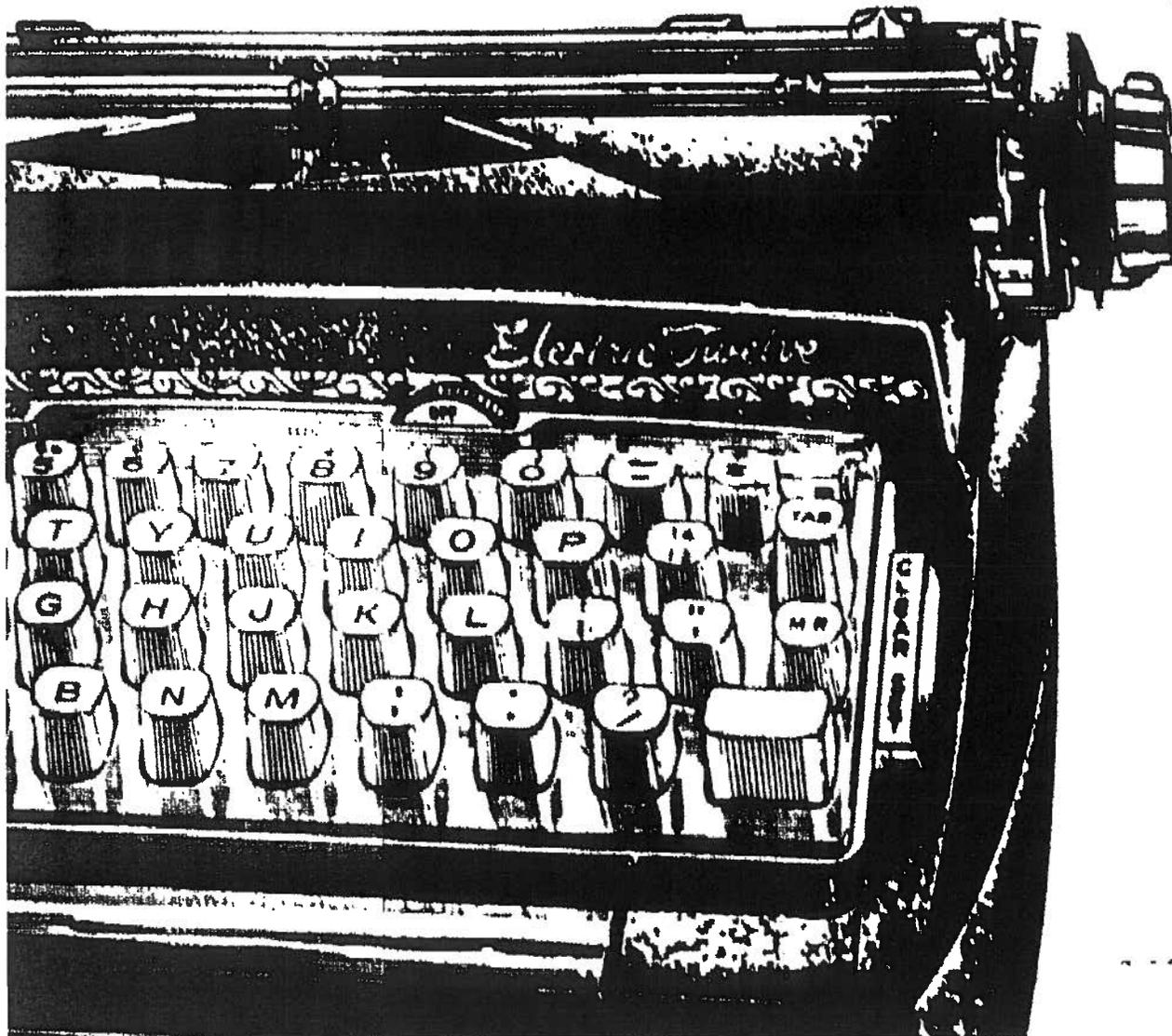


Wednesday, January 26, 1966

THE KEY WEST

# Unit Training Course

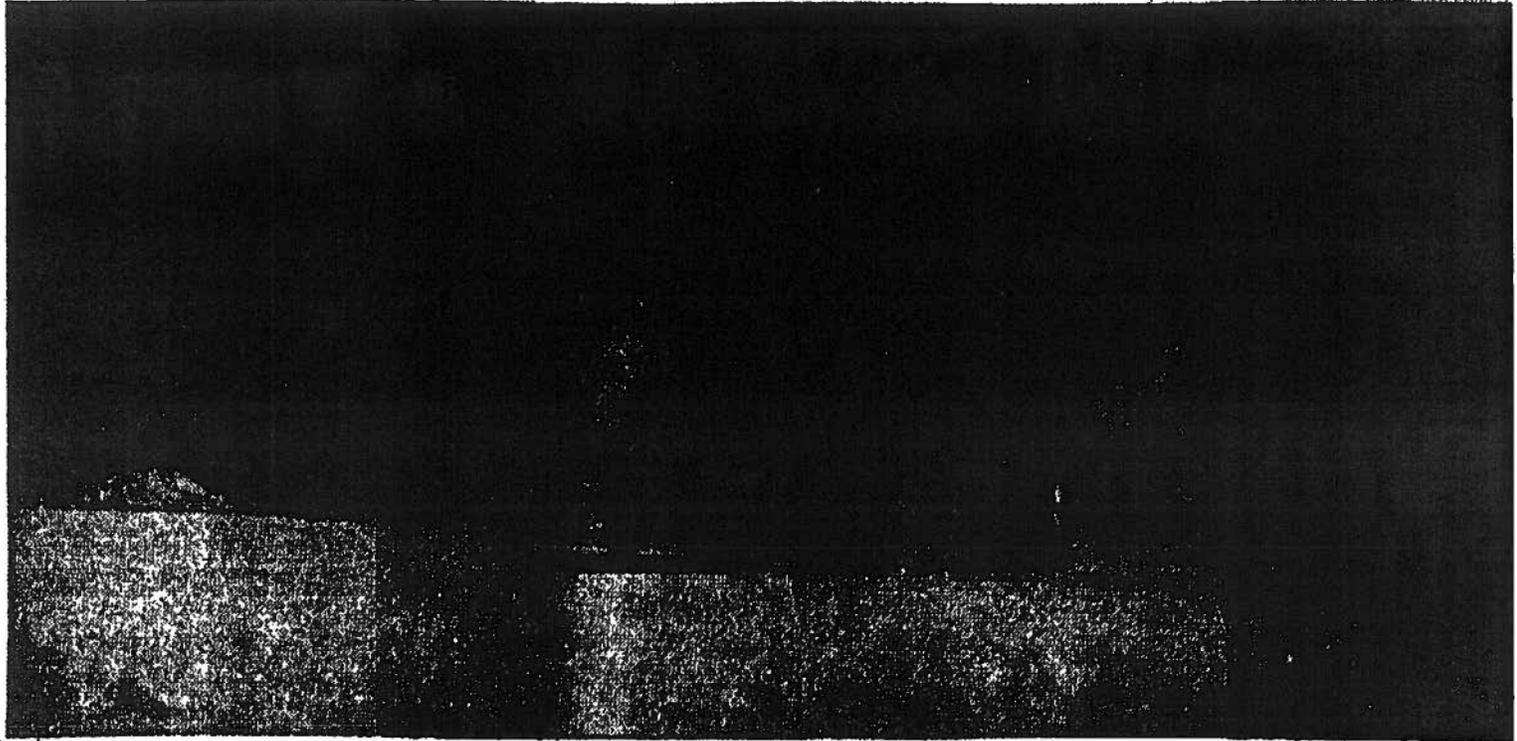
# Office Supply Sale







# Army's HAWK Missile



**FILLING AND LEVELING OPERATIONS UNDER WAY FOR HAWK MISSILE SITE AT A**  
**... Key West Air Defense Command was set up during 1962 Cuban Crisis—and now it**

The Army's Sixth HAWK Missile Battalion is obviously here to stay.

The permanent nature of the installation is evident by the fact construction is proceeding rapidly on a \$3.3 million missile complex spread from Key West to Boca Chica. Completion of the project is scheduled for next year.

The air - defense unit moved into the Keys during the 1962 missile crisis and has since been stationed here on a temporary basis.

The new facilities will be a far cry from the original sand-bagged emplacements hastily erected to counter the threat

posed by Russian weapons in Cuba, just 90 miles across the Florida Straits in Cuba.

On completion, personnel will be moved from their quarters in the old Casa Marina Hotel to air conditioned barracks being constructed at the Boca Chica Naval Air Station. Also located at the air station will be headquarters of the Key West Air Defense Command, the 35th Signal Detachment, and headquarters and maintenance shops of the Third Army Logistic Support Facility now housed in temporary quarters at the Poinciana Shopping Center on Duck Avenue.

Plans call for four missile firing batteries, each consisting of

a raised and contoured installation divided into missile, fire control and administrative areas.

Officials say the sites will be "attractive as well as functional."

Filling and leveling is already under way at the missile sites at Geiger Key, Boca Chica and Key West International Airport. Work will begin shortly at the final battery site on Fleming Key.

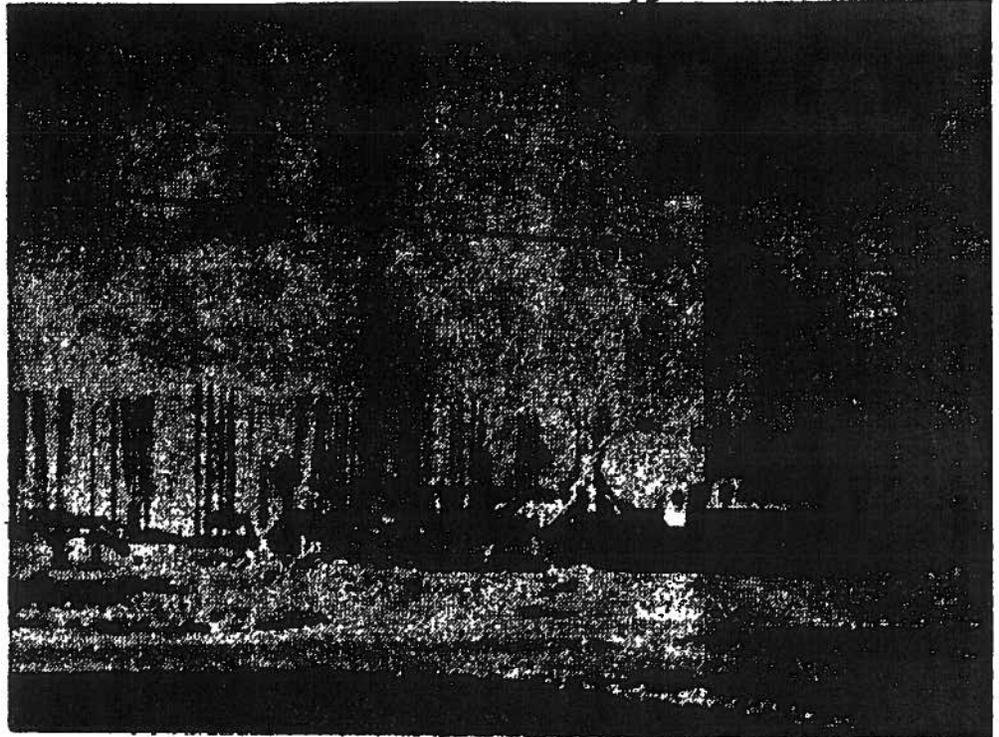
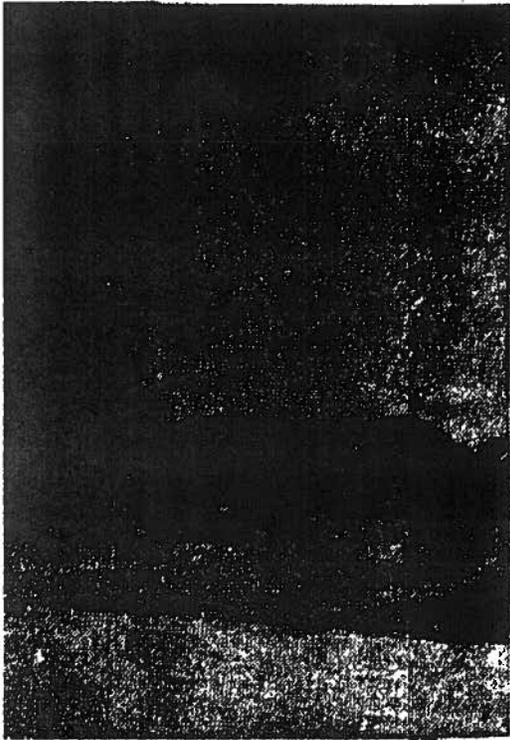
Awarded the contract for the huge project was the Allen M. Campbell Co. of Clearwater. Construction is under the supervision of Lt. Cmdr. Marshall N. Whitehurst, Naval Air Station resident engineer.

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# Missile Battalion Digs In



**SILE SITE AT AIRPORT**

Crisis—and now they're here to stay.

**FOUNDATION RISES FOR MISSILE UNIT HEADQUARTERS**

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## Pick Up Broken Threads Of Life

# Hilda Victims Are Returning Slowly

NEW ORLEANS, La. (AP) — Thousands of families were back to pick up the pieces of their hurricane-shattered homes in coastal Louisiana today and more were going despite warnings to wait.

They didn't care about lack of electricity, water, sewage, telephones or other conveniences.

Some slipped in by back

flattened by Hurricane Hilda last week.

Fishermen, businessmen, housewives, oil field workers, trappers and others wanted to get to the job of restoring their possessions to some semblance of what they were before the storm's onslaught.

A. L. Stansbury, owner of a sporting goods and liquor store

# It's On The

### CITY

William R. Hardesty, vagrancy, drunk and disorderly, fighting, \$40.

Michael E. Markiewicz, speeding, \$15.

Edward Rogowski, reckless driving, \$15.

James H. Williams, speeding, \$20.

Fined \$15 each for fighting: Minnie White, Bobby Wright.

Donald Francis, public nuisance, \$15.

Kathr Steed J confess

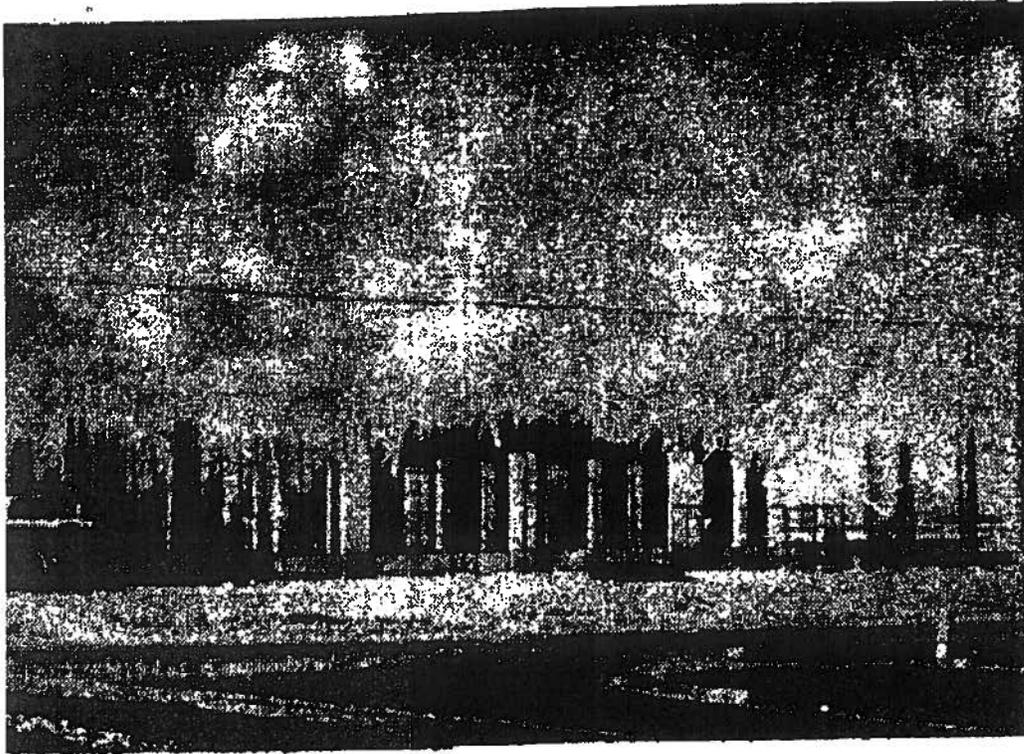
Mildr Smith, fesso.

Dolor Stephen decree

Julius A. Berr lief, fin

Earl Grafton

# In Permanently



—Citizen Staff Photos, Jack Burka.

**HEADQUARTERS AT BOCA CHICA NAVAL AIR STATION**  
ing more than \$3 million into four Key West area anti-aircraft installations.

## The Record

y, vagran- Kathryn B. Steed vs. W. R. Steed Jr., divorce, decree pro confesso.

icz, speed- Mildred Smith vs. James W. Smith, divorce, decree pro confesso.

reckless Dolores M. Poplawski vs. Stephen J. Poplawski, divorce, decree pro confesso.

speeding, Julius Schwartzberg vs. Harry A. Berry, suit for equitable relief, final decree.

fighting: Wright. Earl E. Lofland vs. Jessie T. Grafton, J. S. Hess Jr., and the

## OIRF Seeks Membership Renewals

Merchants, motel and restaurant owners who profited by the record season Key West enjoyed last winter, can insure another good year by taking \$25 memberships in Old Island Restoration Foundation, headquarters said today.

Membership gives the contributor advertising space in the

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# HAWK missile battalion dedicates four batteries

The 6th Battalion (HAWK) 65th Artillery Sunday afternoon dedicated its four firing batteries to four Key West Army men who lost their lives in Vietnam and also re-named the batteries after the four men, Peter Knight, Richard Recuperero, Florentino Roque, Eckwood Solomon.

The solemn ceremonies took place at the "A" battery site on Fleming Key before a large crowd of Key Westers, many of whom stood because the stands and extra seating provided filled up early.

The wives and children of Knight, Recuperero, and Solomon and the parents of Roque occupied special seats and each group of survivors arrived in an Army car and was escorted by a 6th Battalion officer.

Edward B. Knight, the principal speaker, paid tribute to the four fallen heroes, saying

that they have demonstrated that America will remain the "land of the free as long as it is also the home of the brave."

Knight contrasted their patriotism and supreme sacrifices with those who advocate a "let well enough alone" policy and also those who burn draft cards and refuse to serve their country. He said the deaths of these four must not be in vain and called upon all citizens to take inspiration from them and renew our individualism, our industriousness, and our patriotic enthusiasm.

Lt. Col. Joseph E. Muckerman II, Commanding Officer of the Battalion, eulogized the Key Westers "who had given their all in the cause of freedom." He declared that henceforth Battery "A" would be known as the Eckwood Solomon HAWK Missile Site in honor of Capt. Eck-

wood Solomon. Battery "B" would be known as the Richard Recuperero site in honor of PFC Richard Recuperero. Battery "C" would be called the Florentino Roque site, in honor of Specialist Four Florentino Roque, and the Battery "D" site would be designated the Peter Knight site in honor of Major Peter Knight.

Capt. Jack Sutherland, battery chaplain, unveiled the Fleming Key marker dedicated to Capt. Solomon in the presence of his widow. Similar markers at the other batteries were later unveiled in the presence of the other surviving wives and parents.

Father Robert Nilon gave the invocation, Rabbi Nathan Zwitman pronounced the benediction, Major Grover Burdette, Battalion Executive Officer, presided as an Army color guard stood at attention, and the Fleet Sonar School Choir sang and the Key West High School Band played.

Rear Admiral Frederick J. Brush, Commander Key West Force, Capt. John N. Myers, Commanding Officer of the Naval Air Station and Claude (Duke) Freeman, chairman of the Chamber of Commerce's Military Affairs Committee sat with Lt. Col. Muckerman and Major Burdette at the speaker's stand.

The Military Affairs Committee had provided the bronze plates for the site markers.

## (LEGAL NOTICE)

NOTICE OF CALLING FOR BIDS  
NOTICE IS HEREBY GIVEN  
TO WHOM IT MAY CONCERN

# Erroneous reports spiked by boosters

Mr. and Mrs. W. Winston McLaughlin 1516 19th Street at Sunrise Drive, Key West, are right on the ball as boosters for the island and bearers of the standard of truth.

They received the May 22 issue of the Daily News Record, Harrisonburg, Va., with a column, "Massanutten Musings," by Herbert Garst, in which it was said

Then for good measure, the McLaughlins touched on the subject of hurricanes and how facts were distorted as to the state of Key West during Alma of June, 1966 and Inez of October of that year.

"As we ate our lunch during Alma, we heard on our radio via one of the national networks, that Key West was under water

# MILSITE RECON

Military Site Reclamation and Conversion

*Army*

2 July 1993

Tom Hambright  
Monroe County Library  
700 Fleming St.  
Key West, FL 33040

Dear Mr. Hambright:

Thanks for spending some time with me on the phone this week, and for sharing some of your recollections from Hawk days in the Keys. As a Cold War military historian with a special interest in CONUS surface-to-air missile [SAM] installations, I'm trying to learn as much as possible about Florida's SAM batteries, temporary or permanent. So, anything you can provide me in terms of text or photographs would be greatly appreciated. [Sonny Hardin, long-time NAS Key West-er, told me that numerous Hawk photos were in files stored in old ammo bunkers near the station's front gate; is he correct?]

Now, as promised, here for your files is some of the material I've collected on Florida's Hawk and Nike batteries.

Big things first -- I got the ARADCOM report on Florida's post-Cuban crisis SAM defenses from the Army's Center for Military History in Washington, DC. The Center has, I believe, at least two other reports on Florida's SAM defenses (of earlier vintage, I think; cited in the report); so, you might want to contact the Center about getting copies of those. Be advised that it took two years for the Army to get this report reviewed and cleared for release to me!

Finally, also enclosed are some site rosters and maps. I prepared the site rosters of the Key West and Homestead-Miami Defenses; if you spot any errors, or if you have any additional information about any of the sites (e. g., what the Navy is doing with the former Nike battery on Key Largo; the street address for the Casa Marina Hotel), I'd like to learn about it. The large Homestead-Miami map is colored to show the locations of individual Nike and Hawk sites -- the separate launch (missile) and control (radar) sites of the Nike-Hercules batteries are marked in blue and green, respectively; the Hawk sites are red. The last set of maps are ARADCOM maps showing the disposition of units in the Key West and Homestead-Miami Defenses; if any of the maps is illegible, I should be able to find some clearer copies.

Well, that should do it for now. Thanks very much for your interest and assistance. I look forward to hearing from you.

Sincerely,

*Michael Binder*

Enclosures

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HEADQUARTERS  
UNITED STATES ARMY AIR DEFENSE COMMAND

ARADCOM's FLORIDA DEFENSES  
IN THE  
AFTERMATH OF THE CUBAN MISSILE CRISIS  
1963 - 1968 (U)

(OCMH Monograph ARAD 6 M)

by

Lieutenant Colonel Timothy Osato  
and  
Mrs. Sherryl Straup

31 December 1968

Office of the Historian

Deputy Chief of Staff, Operations

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DAMH-HSR-D#8  
DATE: 11 SEP 1991

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OCMH, S C No. 66952-5

S-2860-1969

ARADCOM's FLORIDA DEFENSES  
IN THE  
AFTERMATH OF THE CUBAN MISSILE CRISIS  
1963 - 1968



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Homestead AFB"<sup>4</sup> on 5 December, it departed for whence it so suddenly came on 15-17 December. Considering the fact that Castro's capabilities for air attack against Florida were known -- at least to NORAD -- to feature supersonic and near-supersonic MIG aircraft,<sup>5</sup> the military value of this battery's brief contribution to the air defense effort in Florida appears, in retrospect, to have been primarily psychological.<sup>6</sup>

Headquarters and Headquarters Battery (HHB) of the 13th Artillery Group (AD), a Strategic Army Corps (STRAC) unit from Fort George G. Meade, Maryland, was alerted for movement to Florida at 0400 hours on 28 October, and arrived by rail at Homestead AFB on 30 October.<sup>7</sup> By 8 November the Group had moved to Princeton, about four miles north of Homestead AFB, whence it exercised "supervision," under the operational control of ARADCOM's 2d Region, of all four of the ADA units dispatched to Florida.<sup>8</sup>

The 8th Battalion (HAWK), 15th Artillery, a STRAC unit attached to the 4th Infantry Division at Fort Lewis, Washington, received its orders for movement to several field locations in Florida on 25 October.<sup>9</sup> Battery "B" arrived on site at Patrick AFB, near Cape Canaveral (now Cape Kennedy) on 1 November. Little more than

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24 hours later, Battery "D" arrived at MacDill AFB, near Tampa, and the rest of the battalion (HHB and Batteries "A" and "C") at Homestead AFB, with all units of the battalion reporting attainment of operational status within 24 hours of arrival.

Three line batteries<sup>10</sup> and HHB of the 2d Battalion (Nike-Hercules), 52d Artillery, another STRAC unit, entrained for Florida from Fort Bliss, Texas on 28 October, and arrived at Homestead AFB on the 31st. The unit's missiles, with HE (high explosive) warheads only,<sup>11</sup> arrived the next day. By 14 November, all units of the battalion had achieved operational status.

The 6th Battalion (HAWK), 65th Artillery, a unit of the joint STRIKE Command which had been stationed at Fort Meade since August 1962, received orders for a temporary change of station (TCS) to Key West on 20 October, two days before President Kennedy's quarantine challenge to Khrushchev; but owing largely to poor performance by the rail carrier, the movement (continued by road from Homestead AFB to Key West) was not completed until 26 October.<sup>12</sup> The unit's missiles arrived shortly thereafter, and by 29 October the battalion's Army Air Defense Command Post (AADCP) and four firing batteries

Florida as a tropical tourist trap has posed special problems by generating an inordinately high volume of official visitations to these units and defenses -- particularly, and predictably, in the wintertime.<sup>15</sup>

4. (U) The HAWK System.

The Florida defenses present yet another feature unique within ARADCOM: the HAWK weapon system, with its distinctive characteristics, capabilities, requirements and problems.<sup>16</sup> This circumstance in turn has compelled special considerations -- in mission assignment as well as in operational, logistical, and personnel matters -- hitherto foreign to a command armed solely with the Nike Hercules system.

5. (U) The Continuing Importance of Florida.

The importance of effective air defense for the southeastern United States did not vanish with the turnaround of Khrushchev's missile-laden freighters or the general exodus of U. S. troops from emergency assembly areas in Florida. If the current concern in the Congress for the future air defense of the area can be viewed as a valid index of that importance, it has in fact been enhanced since that fateful fall of 1962.<sup>17</sup> As the Army component of the joint Continental Air

<sup>9</sup>All information in this subparagraph is drawn from the unclassified unit history of the 8/15 Arty, pp. 2-3. Hereafter cited as 8/15 History.

<sup>10</sup>Btry "B" was participating in Project HOLECARD on Johnston Island in the Pacific at the time of the rest of the battalion's move to Florida. It did not join its parent unit there until 25 Jun 63. Unless otherwise indicated, the information in this subparagraph comes from the unclassified and unpaginated unit history of the 2/52 Arty, hereafter cited as 2/52 History.

<sup>11</sup>According to an Interv of 26 Jul 68 with Lt. Col. Fred I. Baker, Jr., Asst S-3 of the 13th Arty Gp at the time of the 2/52 Arty's move to Florida, nuclear warheads were not moved because of likely difficulties in providing adequate security for them on "temporary" field sites. According to ARADCOM Commanders Conference Brochure (S), 20-22 Apr 65, p. 81, the 2/52's war reserve of nuclear warheads was not to be moved on site until eight weeks after occupancy of permanent sites, i.e., the summer of 1965.

<sup>12</sup>All information in this subparagraph is drawn from a report (C) of the 6/65 Arty, sub: The Role of the 6th Missile Battalion (HAWK) 65th Artillery in the Cuban Crisis, 1 May 63, pp. 2-8. Hereafter cited as 6/65 in Cuban Crisis.

<sup>13</sup>Two classified (S) ARADCOM monographs by Jean Martin on the Cuban missile crisis and the Florida ADA units, to which the present study is a sequel, collectively cover the period indicated in detail: ARADCOM in the Cuban Crisis, September-December 1962, and The Florida Units, January-December 1963.

<sup>14</sup>According to an Interv of 14 May 68 with SFC Thomas L. Hurley, S-4 Sgt of the 6/65 Arty, the effects of coral (as well as salt air) on issue footwear are such as to render boots and shoes unsalvageable after seven to nine months' wear.

<sup>15</sup>According to an informal fact sheet provided the writer on 15 May 68 by the 13th Arty Gp, there were some 148 visits to the Group and its subordinate units, by a total of 465 individuals from 20 separate agencies, during the period 1 May 67 through 1 May 68.

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<sup>16</sup>See Appendix C for a classified (C) description of HAWK system characteristics.

<sup>17</sup>See the statement of Lt. Gen. Alfred D. Starbird, SENTINEL System Manager, Department of the Army (DA) before the House Defense Appropriations Sub-committee, as released on 29 Jun 68 and published in The Washington News of that date.

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11. (C) Developments in the Key West Defense.

As an homogeneous HAWK defense, Key West had fewer problems in the field of command and control than Homestead-Miami, with its mixed HAWK-Hercules weapon systems. Also contributing to the defense's comparative freedom from complications in this field was the fact that NORAD, for reasons which lie beyond the classification limits of this study, has always eschewed the possibility of SAGE-directed control of air defense operations off the littoral of southern Florida.<sup>18</sup> The NORAD Control Center (NCC), established at Key West in 1963 thus operates in a manual rather than automatic mode, obviating for the 6/65 those problems of SAGE compatibility which so plagued the 13th Group's AADCP at Richmond NAS.

This is by no means to say that Key West did not have its problems or major developments in the field of command and control. The most relevant topics under these headings are three in number: the AADCP-NCC collocation problem; the ill-starred effort to replace the AADCP's AN/TSQ-38 with an AN/GSG-9; and the replacement of the TSQ-38 by a Missile Mentor (AN-TSQ-51).

The 6/65 in 1962 brought to Florida, as did the 8/15, an AN/TSQ-38 as its FDS. Because there has

never been a requirement for SAGE compatibility at the Key West Defense, this equipment, which was not replaced until 1968, proved adequate to local needs and functioned "extremely satisfactorily."<sup>19</sup> The rub came in collocating the AADCP with the manual NCC at Boca Chica NAS, a step necessary to rapid correlation of target information prior to engagement by the HAWK fire units.

The obstacles to such collocation, which took some 41 months to overcome, were interservice as well as technical in nature. For one thing, the building which housed the NCC had been "conceived and funded by the Navy prior to the Cuban crisis and originally was intended for exclusive Navy use."<sup>20</sup> The assignment of ADA to Key West, on either a temporary or permanent basis, had thus been understandably unforeseen by Navy planners, and the superimposition of ARADCOM as well as NORAD requirements upon those of the Navy combined to put a high premium upon the limited space available within the building. ARADCOM could not expect to eject the Navy from its own premises; on the other hand, both the Navy and NORAD accepted, at least in principle, the need for AADCP-NCC collocation.

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The long road out of this impasse led through conferences, surveys, correspondence (which in one case reached a total of some 14 indorsements over a period of 15 months<sup>21</sup>), proposals, and counter-proposals from July 1963, when the collocation question was raised by Hq 2d ARADCOM Region, to December 1966, when collocation was physically achieved.<sup>22</sup>

The eventual solution saw a miniscule enclave (measuring 8 feet by 8½ feet) provided in the NCC proper for three or four AADCP personnel<sup>23</sup> and two remote consoles of the TSQ-38 FDS. This left residual administrative, maintenance, and communications requirements of the AADCP which -- after Navy rejection of a "permanent gypsy camp"<sup>24</sup> concept embodying use of vans for the necessary facilities -- were met by Army-funded Navy construction of an AADCP support building near the NCC.<sup>25</sup> Indeed, as the CG of ARADCOM's 5th Region observed, "it would seem that since July 1963 an inordinate amount of time [had] been consumed in determining what would appear to be the solution to a relatively simple problem."<sup>26</sup>

The abortive effort to replace Key West's TSQ-38 with a reconfigured version of the BIRDIE-5 system was triggered in the spring of 1966 by tentative plans at

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DA and DOD to redeploy the defense's field army-type FDS to Southeast Asia.<sup>27</sup> From this point of departure began an experiment which ended as an operational and financial fiasco.

Using a BIRDIE-5 rendered available by the phase-out of ARADCOM's Lincoln-Offutt Defense in Nebraska, the Martin Company, under contract from the U. S. Army Missile Command (MICOM), reconfigured the BIRDIE-5 into a prototype AN/GSG-9 which hopefully would meet the special requirements of the Key West Defense.<sup>28</sup> This BIRDIE-9 was installed at Key West in August 1966 and underwent testing by MICOM and the Test and Evaluation Command, Army Materiel Command (AMC), throughout a six-month period ending 3 February 1967.<sup>29</sup> Fortunately, the tried-and-true TSQ-38 was not removed from Key West and was thus available when these tests found the bastardized BIRDIE to be "operationally unacceptable."<sup>30</sup> ARADCOM, never enthusiastic about this MICOM-sponsored experiment, succeeded in restoring the TSQ-38 to at least temporary grace.<sup>31</sup> The Martin Company's original cost estimate for this venture, it is of more than parenthetical interest to note, had been "between \$110,000 and \$150,000";<sup>32</sup> the eventual actual cost proved to be some \$1,900,000.<sup>33</sup>

As these [BOD] dates slipped and slipped, I was sure that all my staff and I were going to have dog crates, with dogs, in our back yards for two or more months. Fortunately for me, after many frantic messages . . .<sup>25</sup> ARADCOM changed the schedule for arrival of the dogs.

16. (C) Problems and Costs.

Other than Hurricane Cleo, which hit Florida in August 1964, numerous and varied problems help to account for the delay in meeting scheduled BOD's. These problems can be lumped into three general categories: acquisition of privately owned real estate; medical requirements; and unforeseen height obstructions.

The problem of land acquisition -- "a critical factor in establishing the completion date for construction"<sup>26</sup> -- on occasion had many facets. A case in point was site HM-03, the future home of Battery "C" of the 2/52, near Coral City. The above-ground magazines made necessary by the swampy terrain would in turn require purchase or easement of considerable acreage in order to comply with quantity-safety distance criteria for Nike Hercules missiles.<sup>27</sup> Although most of the proposed site was used only for cattle-grazing, the realtor-owner in December 1963 objected, through Senator Spessard L. Holland of Florida, that he had "future plans" for "a suburban development in the



Permanent Tactical Site of Battery "C", 6/65,  
on Geiger Key, Florida

action, long procurement leadtime, and . . . lack of repair parts for the rebuild program at depot level."<sup>41</sup>

As previously stated, this situation caused Lt. Gen. Robert Hackett, then CG ARADCOM, to generate "at least 24 items of correspondence"<sup>42</sup> in 1966, but in 1967 General Hackett could only reiterate that "our HAWK units are experiencing great difficulties in obtaining repair parts" as a function in large part of "increased world-wide demands."<sup>43</sup> Although Chart 20 shows that the situation was improving as 1968 drew to a close, the record in this critical area of HAWK repair-parts availability was such that one could only hope, with General Hackett, that this improvement was not a "one-time affair."<sup>44</sup>

The adverse effects of Florida's climate upon ADA equipment -- particularly the HAWK system<sup>45</sup> -- were felt immediately upon arrival of the units during the Cuban crisis of 1962, and constant, gradually successful struggle against this baleful natural handicap was a leitmotiv of their experience after that time. Heat, humidity, salt air -- these tropical tourist delights produced serious problems for the air-conditioning equipment and the missiles of the HAWK system, as well as radomes and the AN/TSQ-51 FDS.

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The gravity of the failure of air-conditioning equipment in HAWK units soon after their arrival in Florida was underlined by the CO of the 6/65 in his after-action report: "The operational capability of a (HAWK) firing battery depends upon an operational Battery Control Central (BCC) and the BCC depends upon its air conditioner."<sup>46</sup> After about four weeks of continuous operation<sup>47</sup> the "overrated quality"<sup>48</sup> of materials and components used in the air conditioners was shown up and the equipment broke down. No repair parts were available in the supply system;<sup>49</sup> temporary replacements were obtained only by stripping conditioners from the vans of supporting Ordnance detachments;<sup>50</sup> and a lasting solution was arrived at only through modification or eventual replacement of each HAWK equipment air conditioner in the Florida area.<sup>51</sup>

A more chronic and complex problem was presented by the vulnerability of the HAWK missile to moisture contamination and corrosion -- a problem intensified by the close proximity of the missiles to salt water.<sup>52</sup>

In 1963 this problem was attacked by "maintenance personnel from ARADCOM, Third Army, Redstone Arsenal, and Raytheon" who "tried changing desiccant, adding desiccant, coating parts with rust-resisting solutions,

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taping missile openings and seams, "and various other methods, none of which was successful."<sup>53</sup> Periodic purging of the guidance package with nitrogen by July 1963 emerged as a helpful maintenance practice,<sup>54</sup> but the problem remained throughout the following year, during which such local modifications as rubber "O" rings and clear-lacquer sealers, suggested by the Raytheon manufacturer, were applied.<sup>55</sup> In April 1965 a complete exchange of missiles for reconfigured models, which belatedly featured adequate sealing, greatly alleviated the corrosion problem,<sup>56</sup> but special procedures, such as use of a 150-watt "hot closet" dehumidifier, were still necessary as the unending struggle against corrosion continued in 1968.<sup>57</sup>

The Raytheon Company's somewhat porous radome also posed problems for the Florida HAWK units.<sup>58</sup> At Key West the ever-helpful Navy in 1964 recoated these fiberglass bubbles, effectively eliminating the problem,<sup>59</sup> and similar measures by TUSALOG aided the 8/15 at Homestead-Miami.<sup>60</sup>

Saline micro-corrosion of the AN/TSQ-51 FDS, which uses ambient air for cooling, was a serious problem for the Homestead-Miami Defense from installation of the system in March 1967 through 1968, when

the problem was getting worse and no final solution was yet in sight.<sup>61</sup> Saline micro-crystals got into the system's circuitry through ambient-air cooling, distorting voltages and seriously affecting system reliability. Despite "hundreds of hours" spent on the problem by representatives of the Hughes manufacturer and MICOM, as well as submission of two equipment-improvement reports by the 13th Group, the problem remained serious as 1968 drew to a close. Lacking test equipment, Group personnel could only conduct a ceaseless search for the saline crystals, a search which did not await scheduled maintenance but went on all the time. Here, as in other problem areas of maintenance in Florida, there was no substitute for "the most obvious preventive measure . . . hard work."<sup>62</sup>

29. (C) Interservice Agreements.

Given the absence of a major Army installation in Florida and the distance of over 500 airline miles between the Florida ADA units and Fort Stewart, the nearest big Army post in Georgia, the permanent assignment of these units to ARADCOM probably would have been impossible without the support provided by other services, specifically the Air Force and Navy. With

Appendix B

HAWK System Characteristics\*

1. The HAWK Missile.

a. It is 14" in diameter, 16½ ft long, and weighs approximately 1295 lbs.

b. The warhead is 120 lbs HE. The lethal radius of this warhead is in excess of 25 ft.

c. The horizontal range of the missile is about 17 nm on a 3 square meter target.

d. Can handle individual targets up to 50,000 ft on a 3 square meter target.

e. The speed of the missile is approximately Mach 2.2.

2. Radars. The radars consist of the following:

a. [REDACTED]

b. [REDACTED]

c. [REDACTED]

d. [REDACTED]

\* As set forth in Incl 8 to Memo (S), Brig. Gen. Kenneth I. Curtis, G-3 ARADCOM to Brig. Gen. Thomas K. McGhee, Director of Operations, NORAD, sub: Air Defense for Southeastern United States, 18 Oct 62, ADGC.

3.  Launchers. There are six HAWK launchers to the battery. Each launcher is capable of launching three missiles. The launchers can be re-loaded rapidly and the battery can maintain a sustained firing rate of one missile every 30 seconds. They can be fired individually or in ripples. L

4.  One battery can handle two widely separated targets simultaneously. L

5.  C

6. (U) Area to position a HAWK battery - 3 to 5 acres.

7. (U) Time of emplacement (complete battery) - 23 minutes.

8. (U) Transportable by helicopter and standard Army vehicles.\*\*

9. (U) Assault Phase Firing Unit consisting of:

1 CW Acquisition Radar

1 Illuminator

3 Launchers (3 missiles each)

1 Assault Fire Control Console

Time to emplace - 7 minutes.

\*\* Towed version. Self-propelled version of launcher has a combat-loaded weight of 28,300 lbs. Florida HAWK units are equipped with towed version.

Key West Defense

13th Arty Gp (AD)/47th Arty Bde (AD)

Site No.	Installation/Location	Acreage	Radar Data	Launch Sections	Missile/ Service Life	Current Owner	Current Use(s)
KW 10	NW corner of Boca Chica Key S of Long Point			6	<b>HAWK</b> 9 Apr 65 - ~April 1979	U.S. Navy	preserved for future Army reuse
KW 15	N of US1 and Saddlebunch No 2 Channel, Saddlebunch Keys			6?	<b>HAWK</b> ~Oct 62 - ~Mar 65	U.S. Navy	communications site
KW 18	NAS Key West, Boca Chica Key		AADCP: TSQ-38/ TSQ-51 FPS-67 [USAF]	xxx	Dec 66 - ~April 79	U.S. Navy	Navy personnel ofc, barracks, warehouse; dismantling JSS radar?
KW 24	SW end of Geiger Key		QRA bty	6	<b>HAWK</b> 4 Mar 65 - ~April 79	U.S. Navy	preserved for future Army reuse
KW 65	N of Key West Intl A/P, Key West Island		SMFU	6	<b>HAWK</b> 23 Apr 65 - ~April 79	U.S. Navy	preserved for future Army reuse
KW 80	N end of Fleming Key			6	<b>HAWK</b> 20 Mar 65 - ~April 79	U.S. Army	Special Forces training facility
KW 95	Casa Marina Hotel [Reynolds St.]		AADCP: TSQ-38 GSS-7 FPS-75 HHB 6/65	xxx	Oct 62 - ~ Dec 66	private interests	luxury resort hotel

## BATTALION HISTORY 1961-1965

The 6<sup>th</sup> Missile Battalion (HAWK), 65<sup>th</sup> Artillery was activated at Fort Bliss, Texas, 22 December 1961. An intensive training program followed and was completed in June 1962. The Battalion achieved an enviable training record during this period by destroying 15 out of 16 targets during missile firings at McGregor Guided Missile Range. By 15 August 1962, movement of the Battalion was completed to Fort George G. Meade, Maryland, where the unit was assigned to the Strategic Army Corps with the mission of being able to furnish air defense in any part of the world, if needed.

In October 1962, at the beginning of the Cuban crisis, the Battalion was ordered to Key West, Florida, and given the mission of providing air defenses for the Florida Keys. A rapid movement by rail and motor convoy followed and air defense missile sites suddenly appeared in Key West. Battery A was stationed at Fleming Key on the US Naval Station. Battery B was first located on the Monroe County Beach, but was later moved to its present location at the Key West International Airport. Battery C was located at the US Naval Air Station, Boca Chica, but was subsequently moved to Bay Point, Saddlebunch Keys. Battery D was stationed at US Naval Air Station, Boca Chica. The Battalion Headquarters was established in the Casa Marina Hotel.

Since October 1962, the Battalion, an integral part of the North American Air Defense Command, has continued to furnish air defense to the Key West area.

## THE HAWK MISSILE SYSTEM

The HAWK Missile System is a reliable, mobile, and accurate system that was designed for destroying low-altitude, high-speed aircraft as well as medium- or high-altitude aircraft.

The four basic tasks which must be accomplished in any Air Defense system are detection, identification, tracking and target kill. Medium- or High-Altitude detection is accomplished by the Pulse Acquisition Radar.

Low-Altitude target detection is accomplished by the Continuous Wave Acquisition Radar. This particular radar can differentiate between moving objects (targets) and stationary objects (buildings, mountains, etc.).

Once target acquisition is completed, the High Power Illuminator Radar is manually moved to the target azimuth and begins to search for the target. Once it finds the target it begins to track or follow the target. This is called "lock on." When the target comes within range a missile is fired in the general direction of the target. The target is bathed or "illuminated" by transmitted energy from the High Power Illuminator Radar, and the missile uses this reflected energy to determine its own guidance commands. A receiver in the missile "locks on" to the reflected energy from the target and enables the missile to follow the target despite target evasive action. The missile follows this reflected energy until it is within killing range of the target. Automatic detonation of the warhead within the missile destroys the target.

### Pulse Acquisition Radar

The Pulse Acquisition Radar detects moving targets and furnishes target range and azimuth to the Battery Control Central. The antenna rotates one complete revolution every 3 seconds, and scans 360 degrees. Transmitted energy from the radar is reflected from the target and displayed as target video in the Battery Control Central.

### Continuous Wave Acquisition Radar

The Continuous Wave Acquisition Radar employs the doppler principle and transmits and receives a beam of energy to detect targets. The antenna rotates through 360 degrees. Targets moving through this beam reflect the energy which is displayed as target video in the Battery Control Central. Since the Continuous Wave Acquisition Radar rotates synchronously with the Pulse Acquisition Radar, the composite displays of target video can be easily correlated.

## High Power Illuminator Radar

The High Power Illuminator Radar automatically tracks the target, keeps the target illuminated with energy, and provides data to the Battery Control Central, launchers, and missiles. The missile utilizes reflected energy from the target to compute guidance commands. There are two separate antennas--one for transmitting and one for receiving. Two of these radars are found in each battery.

## Range Only Radar

The Range Only Radar is used during an electronic counter-measure (ECM) or "jamming" environment. As the name suggests, this radar provides only range data. It is a pulse-type, quick-response radar that operates on a frequency different from the other radars in the system. When the radar is activated it is slaved to the appropriate High Power Illuminator Radar and presents a range video signal to the Battery Control Central.

## Launcher

The Launcher receives tactical data from the Battery Control Central and positioning data from the High Power Illuminator Radar. As the illuminator radar antenna moves while automatically tracking the target, the three-place launcher automatically aims the missiles in Azimuth and Elevation. Three seconds after a fire command from the Battery Control Central the missile is launched.

## Missile

The HAWK, a semi-active homing missile, is propelled by a solid fuel rocket motor. It is 16 feet, 6 inches long, weighs 1,295 pounds, and has a dart configuration. There are three basic functional systems: propulsion, guidance, and warhead. The front body section consists of the radome, target tracking antenna with positioning system, guidance section and electrical power unit. The rear section consists of a warhead section, rocket motor, elevon section and four wing assemblies.

## Battery Control Central

Battery Control Central is the "brains" of the HAWK system. Systems within the Battery Control Central enable the Tactical Control Officer to detect, identify, evaluate, track, and kill hostile aircraft. With all equipment remoted to the Battery Control Central, it takes five people in the van to control the battery and run the Air Defense Mission.

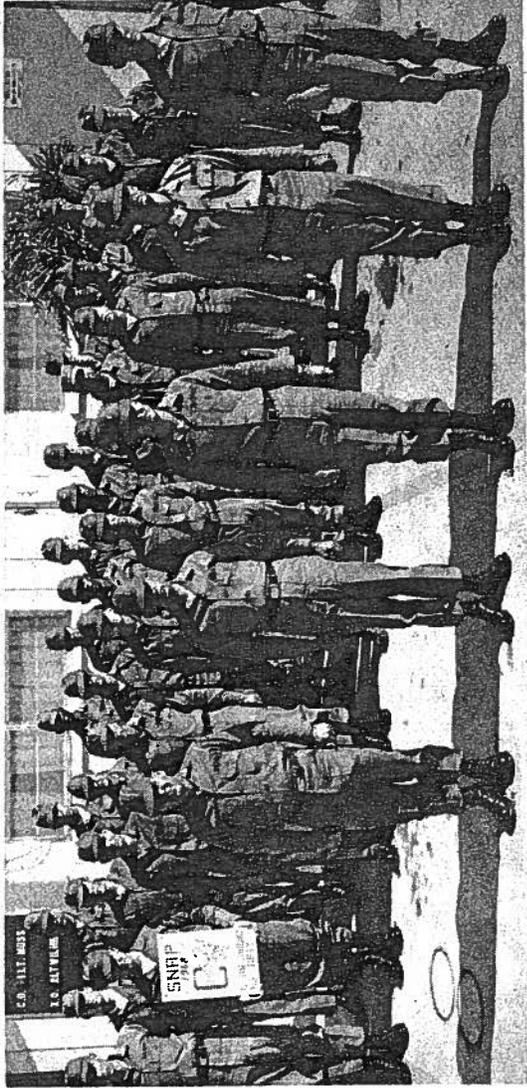
# C Battery has highest SNAP score

Thirty-six members of C Battery, 6th Battalion (HAWK), 65th Artillery recently returned to Key West with the highest SNAP score ever attained by a HAWK U. S. Army Defense Command unit.

SNAP is Short Notice Annual Practice and within 48 hours after receiving the word, C Battery flew to Fort Bliss, Texas and on to McGregor Range, New Mexico, where they piled up 1970 out of a possible 2,000 inspection points, scoring 98.5 per cent on the inspection.

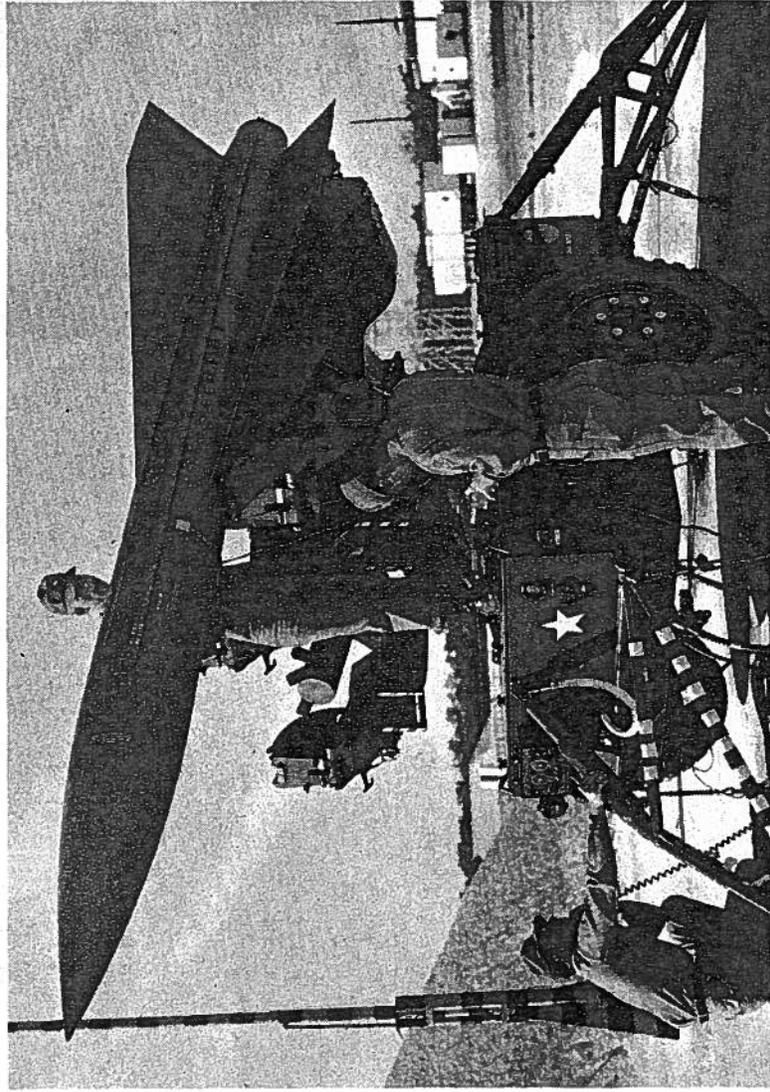
The battery left here on a Saturday night, rested on Sunday and during the next few days were evaluated on missile assembly, operational readiness, first and second firing phases and overtime, safety and use and misuse of tools.

SNAP provides missilemen with confidence in their equipment and in their own ability, helps maintain an individual state of preparedness, and a successful participation such as this one instills pride and keeps morale high.



Official U. S. Navy Photos, G. P. Cavalero, PH2

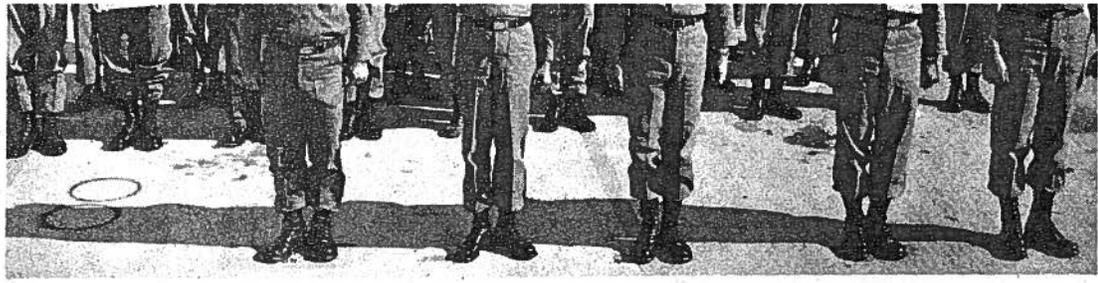
HAWKMEN OF C BATTERY SET INSPECTION RECORD  
 . . . front and center is Lt. Paul Moss, Battery Commander.



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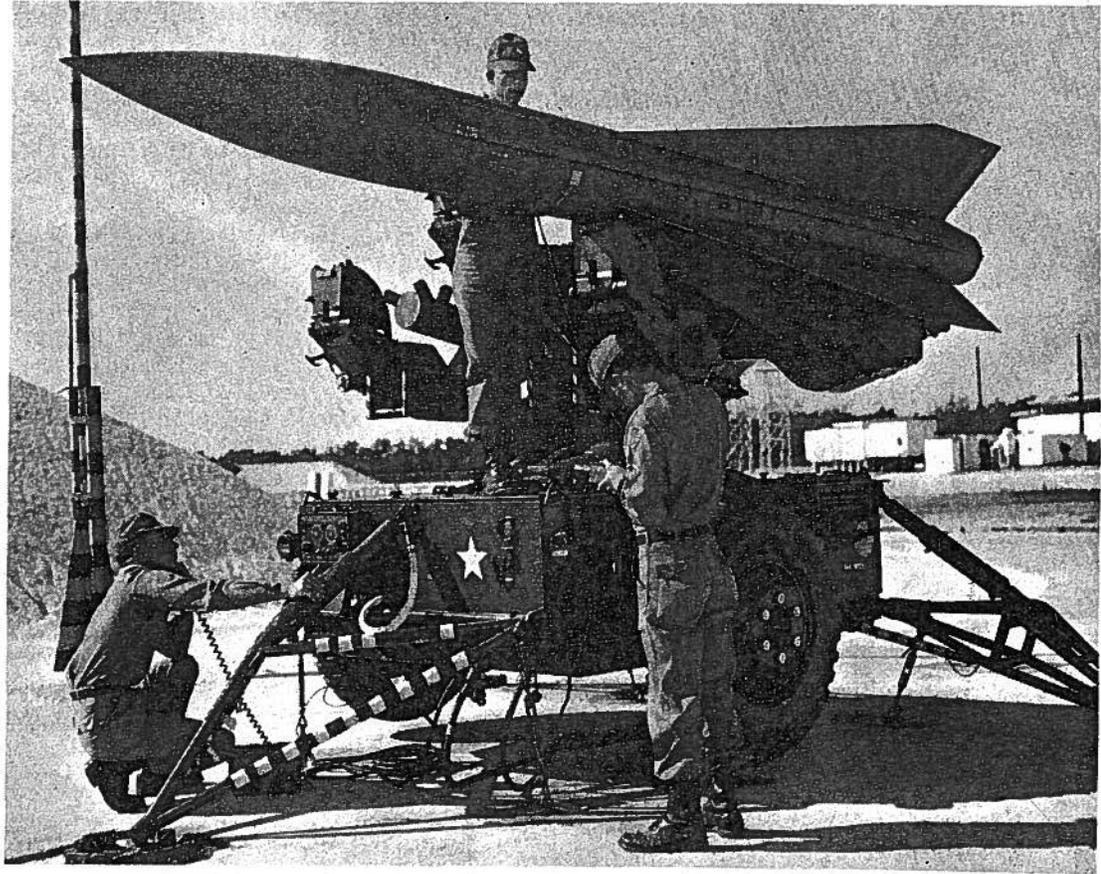
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Official U. S. Navy Photos, G. P. Cavolero, PH2

### HAWKMEN OF C BATTERY SET INSPECTION RECORD

. . . front and center is Lt. Paul Moss, Battery Commander.



### PART OF MISSILE CHECK FOR SNAP INSPECTION-

. . . from left, SSgt. T. Gentry, S4 R. Vandenbossche, S5 H. Wolfe.

# Temporary Bolstering Of Army Forces Told

The Army's local contingent of over 750 men, plus dependents, will be boosted somewhat by a group coming in shortly as a training unit for the new improved electronic HAWK system which the 1-65th will adapt in the next six months.

Lt. Col. Robert Kee, Army CO, told members of the Military Affairs Committee (MAC) at their monthly breakfast meeting at the BOQ that the new improved HAWK system would be one of two HAWK Battalions in the Army to have the new capability.

"It is a totally automated system and cuts the firing time to a matter of seconds. With targets now of considerably greater speed there is less time for defensive reaction," stated the officer.

He added that Key West would see and hear a great deal of heavy traffic of trucks and other



**Lt. Col. Robert Kee**

vehicles coming into the area very shortly. Also the build-up of civilians will be added to the military contingent. "All of this," Lt. Col. Kee said, "should be completed by February."

The HAWK, meaning 'Homing All the Way Killer,' were wiped out in the disaster.

missile and Army units have been in Key West since the 1962 Cuban Crisis.

Lt. Col. Kee gave the listeners a short slide film regarding the history of HAWK in Key West and then showed a movie of the new electronic firing procedure illustrating the incredible accuracy of the device.

The solid state electronics plates, plus the target illuminating capability, makes for fast repair of gear and deadly honing in on the speediest of targets.

"There are changes in every major piece of equipment," he added.

Capt. Hoover thanked members of the NAS Fire Department, the City Fire Department, his own Marines and the many civilians who not only helped in fighting the Barracks fire this week but also showed much concern for the men whose personal effects were wiped out in the disaster.

# Tourists Still Coming as Army Digs In

By STEPHEN TRUMBULL and BOB RENO

Herald Staff Writers

KEY WEST — Stepped up defense preparations in this front line American city present a series of cockeyed contrasts.

Kids on bicycles peddled past GI's digging machine-gun emplacements around anti-aircraft missile installations on the beaches.

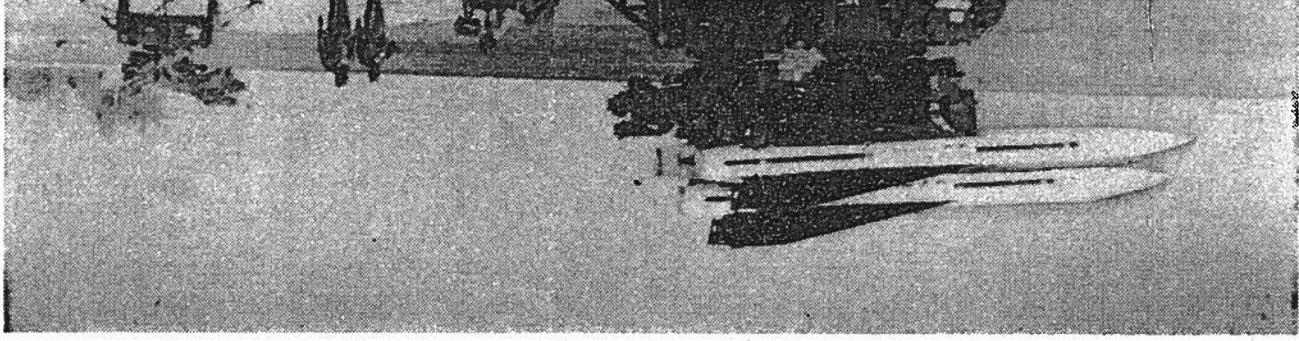
Home folks and tourists, taking advantage of the first day of bracing weather after the hot summer, parked nearby and some took pictures. An officer told one newsman there was no objection to photographing the equipment but "don't pose any soldiers so their unit identification will show."

It was Navy Day, a traditional day of open house and massed plane flyovers

In this town. But there was scarcely a plane in the cloudless blue sky. Presumably they are being kept ready behind the guarded gates for a far more grim eventuality.

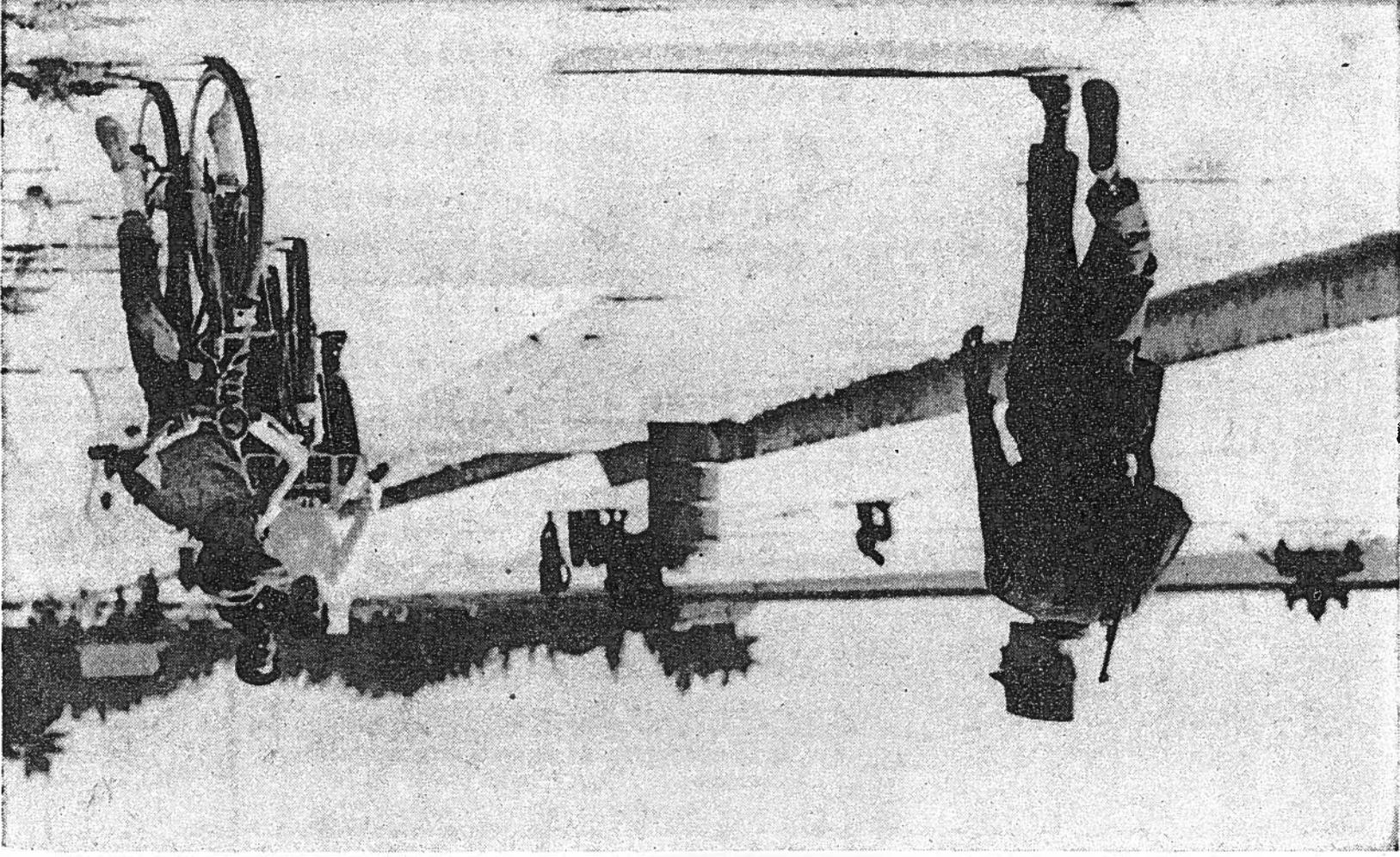
Newsmen couldn't put a foot inside the Navy property but tourists continue to ride through the Naval station on the Conch sightseeing train and past the now vacant submarine pens. For them there was only the normal requirement of turning their cameras over to the driver while in the station.

GI's not swinging shovels—a distasteful tool not yet replaced in this push-button era—stood about marveling at the blue water and the palm trees rattling their fronds in an invigorating breeze.



## Key West Kids Make Bicycle-Ride Inspection of Military Installations At Beach

—Herald Staff Photos by DOUG KENNEDY



and past the now vacant submarine pens. For them there was only the normal requirement of turning their cameras over to the driver while in the station.

GIs not swinging shovels—a distasteful tool not yet replaced in this push-button era—stood about marveling at the blue water and the palm trees rattling their fronds in an invigorating breeze.

“Man, is this something!” said Charles Andrews, a very youthful Army private whose hometown is Providence, R.I. “Back home I’d have everything I own on.”

Informed it was really a cool day compared to the past week, he flatly refused to believe it.

Although such an admission comes hard from a Texan, his buddy, Pvt. Paul Lemmer of Houston, also admitted that “This is pretty nice.”

Both were tremendously impressed with the cheers and shouts of welcome that had come from civilians along the streets as their unit came in.

“That never happened to us before,” said Andrews. “Sure makes a fellow feel good. And in a Navy town at that!”

The youths obviously had been security-indoctrinated. They would go for chit-chat, but they volunteered positively no information about the identity of their units, its strength, or its mission here.

Lemmer was a little teed off because he brought a snappy outfit of civilian clothes with him, and the order is “stay in uniform.” The uniform of the day is combat fatigues, definitely unglamorous.

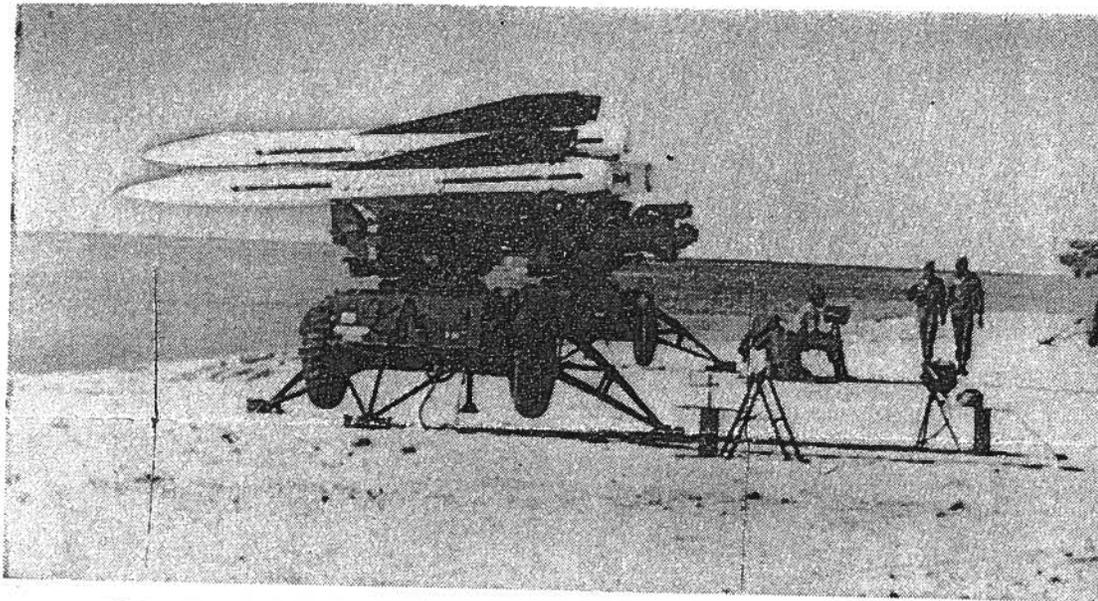
No liberty has been given to any military personnel late in the afternoon, but reports were current that small parts of some units would be allowed to go downtown later in the evening, providing the picture doesn’t change suddenly.

The bistros along Duval St. will cheer if this is true. With most of the Navy at sea and the remainder on standby alert it’s been pretty slow in the thirst-quenching trade here since Monday.

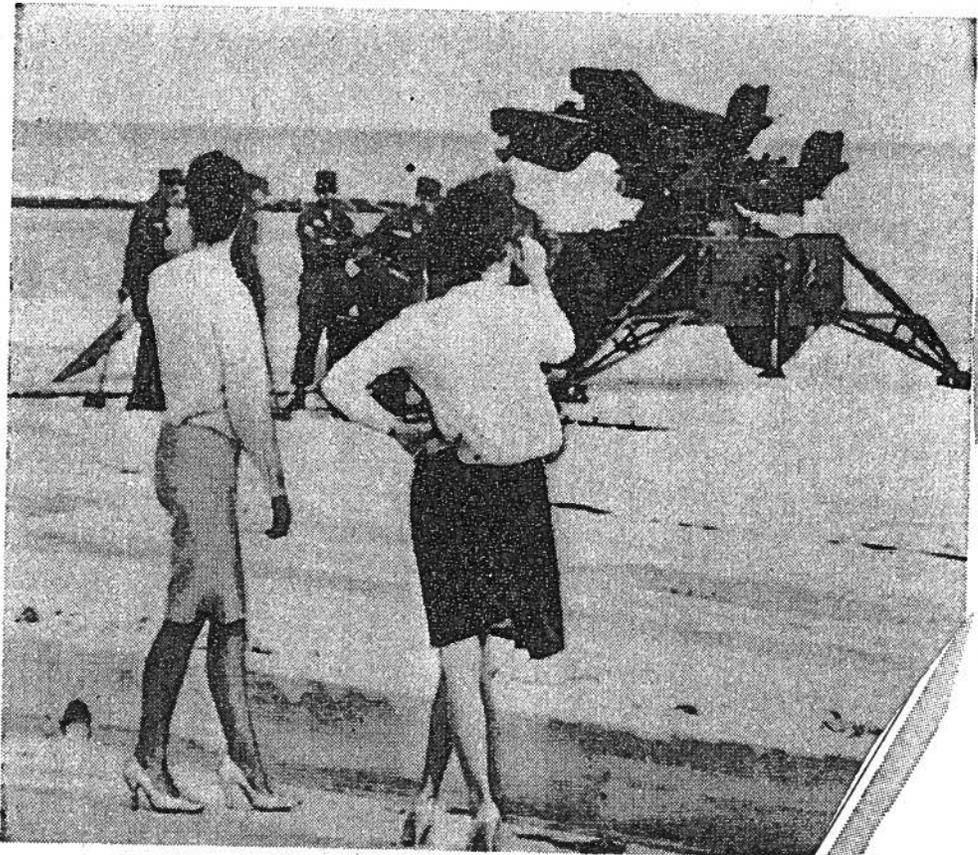
Cobwebs have gathered in the city jail cells reserved for the exuberant and there is little fresh ink on the police blotter.

The motels are doing slightly better since newspapers gave the lie to rumors of travel and tourist restrictions here. Some rooms have been taken by Air Force officers, but there are still vacancy signs all over town.

The toughness of security



## Beach At Key West Bristles With Newly Installed M



## Girls Watch Missiles, Soldiers Watch

1871-5  
top

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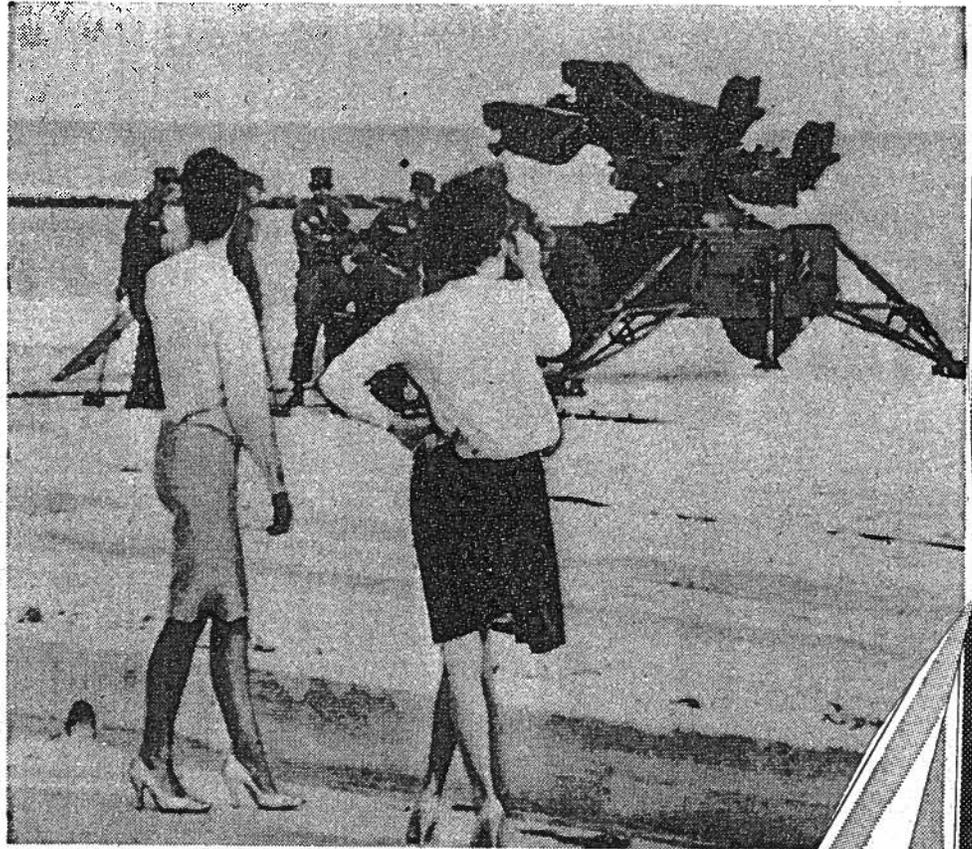
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The toughness of security measures around the Navy installation led to one smile-producing story Saturday. It illustrated the old wheeze, "the mail must go through."

As the story goes, mailman Charley Fry was ordered to step down from his mail truck and open it for a security search as he came to the gates of Boca Chica Naval Air Station. He blew his stack, informed the guards that he worked for the same government and that nobody — but

## Beach At Key West Bristles With Newly Installed



### Girls Watch Missiles, Soldiers Watch



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446-1481  
shop

# The Miami Herald

Section C

Thursday, Nov. 29, 1962

Keys

Complete State News

Or Until Castro Goes

## Army Missile Troops In Key West to Stay

### *They Won't Go With Other Units*

Herald Bureau

KEY WEST — Army troops in Key West supporting missile batteries are expected to become a permanent part of the local military scene.

Despite the defense department's announcement Tuesday of a withdrawal of troops from

day with three bands—one for each block.

Local Army and Air Force men are being invited along with the thousands of Navy servicemen regularly stationed at the Naval base.

It is expected to be the largest service entertainment held here since World War II.

# With Other Units

Herald Bureau

KEY WEST — Army troops in Key West supporting missile batteries are expected to become a permanent part of the local military scene.

Despite the defense department's announcement Tuesday of a withdrawal of troops from Florida unofficial military sources here said the Army units are in Key West for as long as Castro is in Cuba.

Meanwhile, the city of Key West which leased its baseball stadium to the Army for a dollar a year at the height of the Cuban crisis began to wonder when it might get it back.

A 200 man force of Air Force men at Marathon are also expected to remain. The force is part of the Air Force's security service charged with maintaining security in armed forces communications.

Unlike the combat-ready troops based in other parts of South Florida during the Cuban crisis, the Army units at Key West are strictly "support troops." An Army spokesman said during President Kennedy's visit Monday that they are here to maintain, guard and operate if necessary the anti-aircraft missile batteries stationed at four spots in the area.

There was no official word Wednesday from Rear Adm. B. Y. McElroy, commander of all the military units in the area, as to whether the missile batteries will follow the rest of the Army out of Florida or if they will remain a permanent part of Key West's defenses.

The beginning of the Cuban crisis more than a month ago found Key West almost totally lacking in ground based anti-aircraft defenses. There were no anti-aircraft ground to air missiles in the area and anti-aircraft guns have not been seen in the area for years.

Now the missiles are based next to Key West International Airport, at Boca Chica Naval Air Station, across the highway from the air station and at Saddlebunch Key.

Troops supporting the missiles are being housed at the Casa Marina Hotel which was leased by the Army. The hotel is also the Army's area headquarters. At Wicked Stadium, the city baseball park, the Army is maintaining a motor pool and equipment depot.

While the Army stayed put Wednesday the Navy was holding top level conferences at the Naval station. Fleet Adm. Robert L. Dennison's four star flag was the administrative

day with three bands—one for each block.

Local Army and Air Force men are being invited along with the thousands of Navy servicemen regularly stationed at the Naval base.

It is expected to be the largest service entertainment held here since World War II.

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As the plans of the local military remained uncertain, the local USO is working overtime keeping the troops happy. The USO is operating mobile canteens which distribute refreshments, stationery, and reading material to the various Army sites.

In cooperation with several local civic organizations it is planning a spectacular three block long street dance on downtown Duval Street Fri-

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# With Other Units

Herald Bureau

KEY WEST — Army troops in Key West supporting missile batteries are expected to become a permanent part of the local military scene.

Despite the defense department's announcement Tuesday of a withdrawal of troops from Florida unofficial military sources here said the Army units are in Key West for as long as Castro is in Cuba.

Meanwhile, the city of Key West which leased its baseball stadium to the Army for a dollar a year at the height of the Cuban crisis began to wonder when it might get it back.

A 200 man force of Air Force men at Marathon are also expected to remain. The force is part of the Air Force's security service charged with maintaining security in armed forces communications.

Unlike the combat-ready troops based in other parts of South Florida during the Cuban crisis, the Army units at Key West are strictly "support troops." An Army spokesman said during President Kennedy's visit Monday that they are here to maintain, guard and operate if necessary the anti-aircraft missile batteries stationed at four spots in the area.

There was no official word Wednesday from Rear Adm. R. V. McElroy, commander of all the units in the area, as to whether the missile batteries will follow the rest of the Army out of Florida or if they will remain a permanent part of Key West's defenses.

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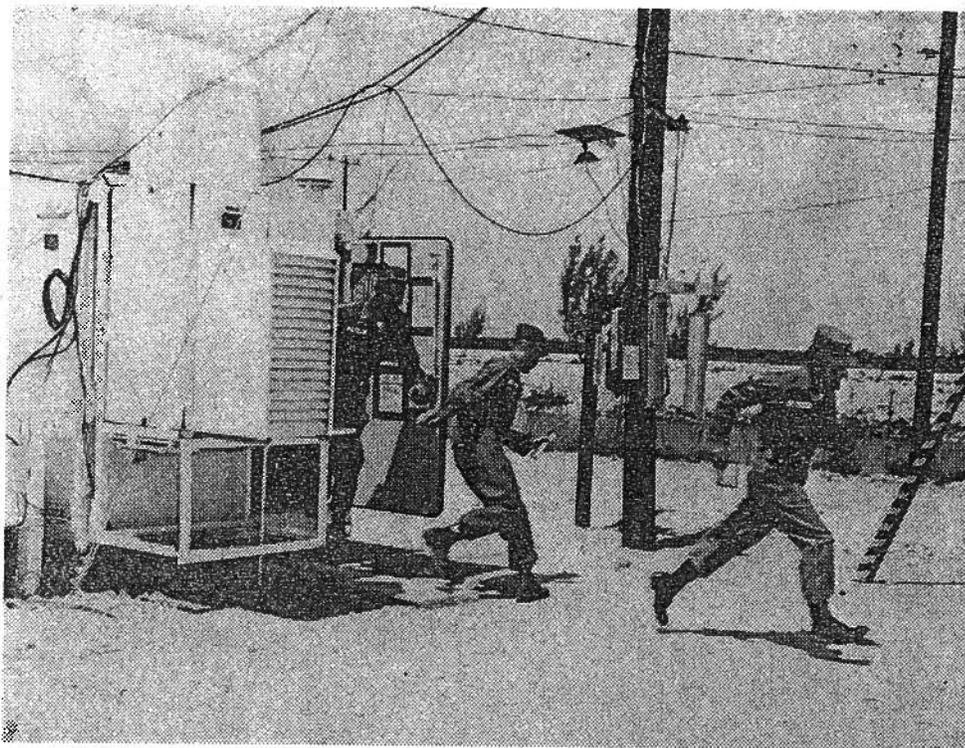
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—U.S. Navy Photos

**Missilemen Sprint to Their Positions During Crew Drill**  
*... all drills are carried out as if they were regular alerts*

# Army's Here to Stay

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## --At Permanent Sites

By FLORENCE RABON  
 Herald Correspondent

KEY WEST — With four permanent HAWK missile sites under construction in the lower Keys, it looks like the Army is here to stay. At least that's what an Army spokesman says.

The history of the Army in Key West has been one of moves — in and out. Dating back to pre-Civil War days and the famous old Ft. Taylor site, the Army was strengthened during the day of the Spanish-American War when more troops were billeted in the fort and Army barracks which is now the site of a Navy housing project, Peary Court.

In the early months of World War II, the Army was moved out again and this historic city went back to being a full-time Navy town.

Since the Cuban crisis of 1962, the HAWK missiles have been on temporary sites. Rapidly being completed are permanent locations at International Airport (Old Salt Ponds), Boca Chica, Fleming and Geiger Keys.

The construction program

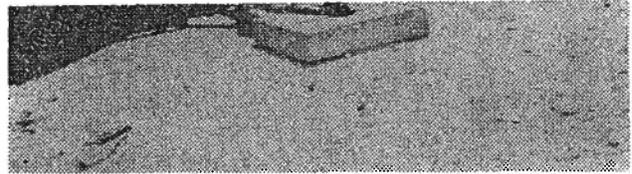


Since the Cuban crisis of 1962, the HAWK missiles have been on temporary sites. Rapidly being completed are permanent locations at International Airport (Old Salt Ponds), Boca Chica, Fleming and Geiger Keys.

The construction program is being done at the cost of some 3½ million dollars. Each site will have a central barracks and headquarters. Alert crews will sleep and live at each.

When the sites are completed the temporary headquarters at the Casa Marina Hotel will be returned to the owners.

**Missilemen of the HAWK batteries are on constant alert to intercept low flying aircraft and the name HAWK means Homing All the Way Killer.**



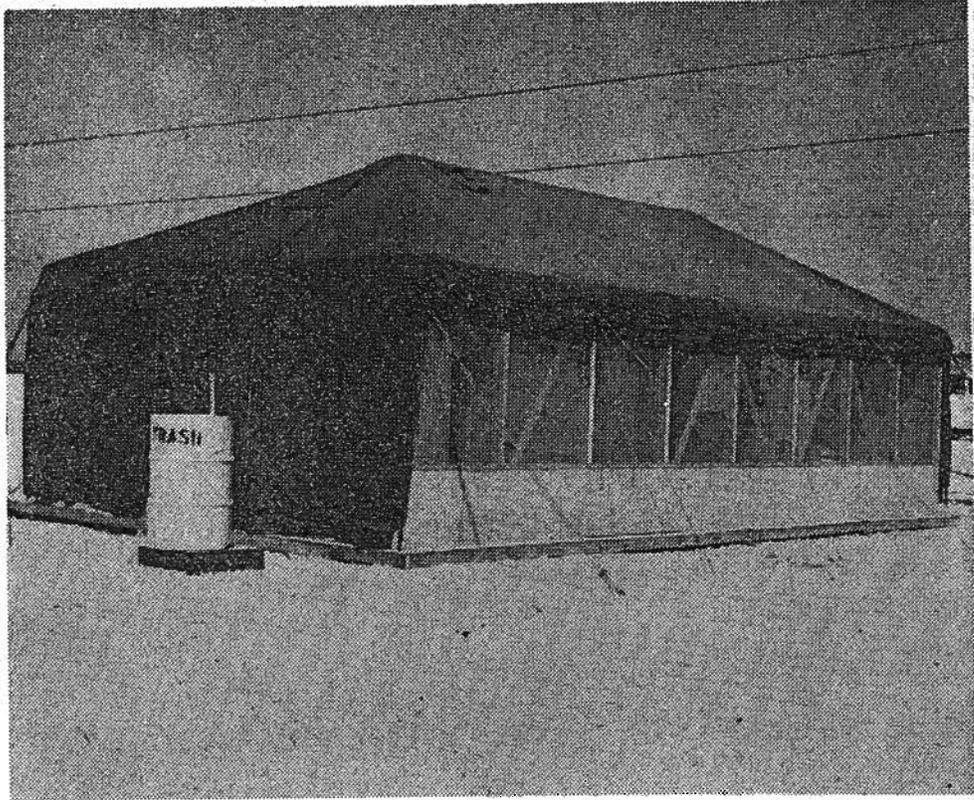
### Soldiers Checking Out a Missile ... HAWK means Homing All the Way Killer

They are a part of the Air Defense Command of South Florida (ARADCON). Their weapons have a range from 30,000 feet down to tree top level and they can detect aircraft on their radarscope which operates around the clock.

Each HAWK firing battery is a self-contained unit having its own radar for target detection as well as a substan-

tial complement of ready missiles. Their operators are trained in both operation and maintenance.

The economic impact of the Army presence in the Keys has been great. The annual payroll is more than ¼ million dollars. Their men and 37 officers, most of them married, live in rented homes and motels. Their commanding officer is Lt. Col. Harry N. Roller, a career Army man.



### Temporary Billets Being Occupied by Army Missilemen ... will be replaced at four sites by permanent structures

In the pork chop gang, said he is anxious for legislators to reapportion themselves rather than run the risk of the federal courts doing it. Carraway said he will move for "district elections" of senators in counties getting more than one seat. "That will assure at least some conservatives coming to Tallahassee from counties like Dade and will keep the newspapers and political machines from controlling the

Friday. New Smyrna Beach, and Sen. Connor hopes the committee will sift the many proposals and eliminate much of the preliminaries before the special reapportionment session in June. A slower approach is being taken in the House. Speaker- designate E. C. Rowell of Wildwood has shown no sign of commitment a special com-

courts "one man, one vote" order. This was especially true in the Senate where the small county "porkchop gang" is in control and where fair apportionment has been blocked. A 15-MEMBER apportionment committee headed by Sen. Dewey Johnson of Quinn has been named by Senate president-designate James E. Wildwood has shown no sign of commitment a special com-

*Under the authority of the National Historic Preservation Act (NHPA), as amended, and the Archaeological Resources Protection Act (ARPA), the ICRMP is not for public release due to the specific site locations included.*

Final Document

**Integrated Cultural Resource Management Plan  
for  
Naval Air Station Key West, Florida  
2003-2008**

Contract Number DACA01-02-D-0001  
Task Order 26

Prepared for

**Naval Air Facility Key West**  
Key West, Florida

Prepared by

**US Army Corps of Engineers, Mobile District**  
Mobile, Alabama

With technical assistance from

**Brockington and Associates, Inc.**  
Atlanta, Georgia

July 2003

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overview findings and recommendations (Greenhorne & O'Mara, Inc. 1991). The 1991 HARP Plan was funded by Naval Facilities Engineering Command (NAVFAC).

Also in 1991, USACE, Mobile District archaeologists conducted archaeological and historical investigations at the nineteenth century U.S. Army post and military cemetery at Peary Court (USACE, Mobile District 1991). With the exception of the post's military cemetery, little of significance was found at Peary Court.

In anticipation of updating the 1991 HARP plan, the USACE, Mobile District conducted additional architectural and archaeological studies at the installation. In 1995, the USACE, Mobile completed an architectural inventory, including all buildings and structures pre-dating 1946 and Cold War-era buildings and structures (USACE, Mobile District 1995). An additional architectural inventory and a Phase I archaeological survey was completed in 1996 for the U.S. Naval Branch Medical Clinic at Key West (USACE, Mobile District 1996). The archaeological survey of all installation lands was completed in 1997 (Butler 1997) and the report of those investigations was reviewed and approved by the Florida State Historic Preservation Office (SHPO). SHPO review comments for previous cultural resources studies at NAS Key West are provided in Appendix A.

Brockington and Associates, Inc. (Atlanta, Georgia) updated the 1991 HARP Plan in 1998, under a general services contract with the USACE, Mobile District (DACW01-94-D-0010, Delivery Order No. 17). The Florida SHPO reviewed and approved the 1998 HARP Plan on 2 April 1998. Much of the technical and logistical information in the current ICRMP was abstracted from the 1998 HARP Plan.

Between 1998 and 2000, the USACE, Mobile District examined 21 historic buildings, objects, and structures documented in the 1998 HARP plan and developed a Building Maintenance Plan (USACE, Mobile District 2000). During their on-site visit, preparers of this plan documented physical conditions of each property through photography and completion of condition assessment checklists. The Building Maintenance Plan is currently under review by NAS Key West personnel.

#### **4.2.1 Results of Archeological Studies at NAS Key West**

During the 1997 NAS Key West archaeological survey, Butler (1997) identified, located, and evaluated all prehistoric and historic archaeological sites within the boundaries of all government fee-owned lands at Naval Air Station, Key West, Monroe County, Florida. This project was designed to comply with Section 110 of the NHPA and to provide management information for the 1998 revision of the HARP Plan. The archaeological survey followed Florida survey and evaluation guidelines as developed by the Florida SHPO.

Butler (1997) surveyed the Main Facilities at Boca Chica Field (Boca Chica Key), the Naval Communications Station (Saddlebunch Key), three Hawk Missile Sites (Key West, Boca Chica Key and Geiger Key), Truman Annex (Key West), Poinciana Housing and White Street Trailer Park (Key West), and the International Missile Battery and East Battery (Key West). Archaeological potential for these areas ranged from very low to extremely high.

Other areas considered for survey included Trumbo Point Annex, Fleming Key, Sigsbee Park Annex, and Peary Court. Trumbo Point, Fleming Key, and Sigsbee Park Annex consist of dredge spoil created in the late 1940s to 1960s. The Florida SHPO agreed that no archaeological survey of these areas was necessary and they were excluded from the project scope. Previous archaeological investigations conducted at Peary Court by USACE, Mobile District archaeologists (USACE, Mobile District 1991) identified no intact archaeological deposits, and no archaeological site numbers were assigned. However, the USACE, Mobile District investigated a nineteenth century military cemetery (previously thought moved) and found intact human remains. The USACE, Mobile District recommended preservation in place of the cemetery, and a Memorandum of Agreement (MOA) was made between the Navy and the Florida SHPO outlining cemetery preservation and maintenance needs.

Butler (1997) identified seven sites and one archaeologically sensitive area. After intensive field investigations, he found that three previously recorded sites (8MO3, 8MO1267, and 8MO1268) no longer exist. Site 8MO3 was a stone circle recorded by Goggin in 1944. Avocational archaeologist Bill Fournier excavated site 8MO1267 (Boca Chica Mounds) in the 1950s and 1960s, and Carr and Fay (1990) reported that the site subsequently had been inadvertently bulldozed. Site 8MO1268 was a prehistoric shell midden on an island northwest of Boca Chica Key, recorded in 1968 by Felton and Tesar; Butler searched several islands and found no shell middens on Navy property.

Butler (1997) recommended Phase 2 investigations at two sites (8MO1448, 8MO1477). Site 8MO1488 is a reported sixteenth century Spanish vessel, originally found in 1974 but documented by Muir et al. (1991) and recorded in 1992 by Jim Dunbar. The 1991 report by Muir et al. indicates that at least a portion of the "Channel Wreck" site is on NAS Key West property. Butler's (1997) terrestrial survey did not investigate this site, but he recommended relocation and preservation of this vessel.

Butler recorded site 8MO1477, a small coral mound, during his survey. He suggested that this site could be a World War II-era pushpile or a shallow well from a late nineteenth/early twentieth century occupation, but recommended archaeological testing to determine site function and significance.

Butler (1997) documented two significant sites (8MO206 and 8MO1478). Site 8MO206, Fort Zachary Taylor, is listed on the National Register of Historic Places and was

previously considered eligible under Criterion A (significant events). Butler conducted investigations in the large sand coverface of the fort; this portion of the property is under the control of NAS Key West. Based on results of these investigations, Butler recommended the site potentially eligible for the NRHP under Criterion D (archaeological research potential). He recommended intensive archaeological testing to definitively evaluate this resource. Butler (1997) also found intact surface and subsurface archaeological features, representing a late nineteenth/early twentieth century house site, at site 8MO1478. Butler recommended that the Navy avoid and preserve this site.

During Butler's survey, one archaeologically sensitive area (the Antenna Field on Whitehead Spit at Truman Annex) could not be investigated. The original Key West lighthouse, a Civil War barracks compound, and a late nineteenth century cannon battery were located in this area. This area contains hazardous materials and archaeological excavations were not permitted. Despite removal and replacement of approximately two feet of soil across the area in 1994, Butler (1997) stated that high potential exists for significant archaeological deposits. He recommended archaeological monitoring of future cleanup efforts at this location.

On May 6, 1999, Mobile District archaeologists Dottie Gibbens and Jason Burns conducted an evaluation of Butler's site 8MO1477. Their investigations revealed modern asphalt fragments mixed with the coral rock. Gibbens and Burns determined that this site is actually a "modern cultural manifestation, clearly associated with repair and maintenance of the aircraft taxicabs and runways at Boca Chica Field" (10 June 1999 letter from Hugh McClellan [Chief, Environment and Resources Branch, USACE, Mobile] to George W. Percy [Florida SHPO]; see Appendix D). The Florida SHPO concurred with this evaluation and agreed that no further management actions were required at 8MO1477.

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**Table 4-1. Major Archaeological Resources at NAS Key West.**

Site	Location	Site Name/Description	NRHP Evaluation	Recommendation
8MO206	Truman Annex	Fort Taylor coverface	Listed	Phase 2 testing evaluation
8MO1448	Boca Chica Key	Spanish shipwreck	Underwater site, not evaluated	Ascertain site location; Phase 2 testing evaluation
8MO1478	Boca Chica Key	19-20 <sup>th</sup> century house site	Eligible	Preservation in place
Antenna Field	Key West- Truman Annex	Whitehead Spit/Antenna Field	Hazmat area, not evaluated	Archaeological monitoring during cleanup

#### 4.2.2 Results of Architectural Inventories and Assessments at NAS Key West

The first architectural survey of NAS Key West was conducted in the early 1990s as a result of an initial historic resources assessment recommending an inventory of World War II and earlier buildings, structures, sites, and objects at the installation (USACE, Mobile District 1989). A 1995 architectural inventory documented and evaluated these resources as well as post-1945 resources that might meet the criteria of exceptional significance and qualify as Cold War properties (USACE, Mobile District 1995). An architectural inventory and archaeological survey of the U.S. Naval Branch Medical Clinic at Key West resulted in recommendation of this station as a NRHP eligible district (USACE, Mobile District 1996). One year later, the U.S. Navy, Southern Division, Naval Facilities Engineering Command and the Florida SHPO executed a Memorandum of Agreement for demolition of 11 buildings at the medical clinic.

USACE, Mobile District historic resources staff began preparation of the first draft of a Building Maintenance Plan (BMP) in March 1998. In July 1999, on-site meetings were held with representatives of the Florida SHPO to inspect historic properties included in this plan. At that time, meeting participants noted modifications to several of the historic properties that had occurred since the 1998 inspections. Subsequent to these meetings, the U.S. Navy decided to place all real property at the Medical Clinic (except the new clinic building and Building L-8, the ca. 1928 Yates House) under the jurisdiction of NAS Key West. In addition, some properties have been excessed to the City of Key West and others removed from consideration for transfer from Navy control. With two exceptions, the current draft (USACE, Mobile District 2000) of the BMP includes individual property descriptions reflecting the current real property inventory. Structure 292 (a World War II Battery) and Building A-132 (a 1944 aircraft hangar currently used as a firehouse for Boca Chica Field) were documented using Level II Historic America Building Survey (HABS) standards and been removed from the inventory in preparation for demolition.

Currently, eighteen (18) significant architectural resources at NAS Key West are listed or are considered to be eligible for the NRHP. The U.S.S. Maine Memorial Cemetery is listed on the NRHP. The remaining resources have been determined eligible for the NRHP. These resources include: Structure F-26 (World War II munitions storage station); the Geiger Key Hawk Missile site; five officers' quarters (L-A, L-B, L-C, L-D, L-G), the Yates House (L-8; returned to NAS Key West jurisdiction), a flight pool (L-33), and a seawall (L-43) at the Navy Branch Medical Clinic; a seaplane hangar (C-1) and three seaplane ramps (C-2067, C-2068, C-2069) at Trumbo Point; senior officer's quarters (C-A) at Trumbo Point; a Spanish-American War battery (Structure 283) with later additions; and a ca. 1900 battery (Battery Covington) retaining wall. These resources are summarized in Table 4-2. Current (October 2002) photographs of these resources are provided in Appendix C.

**Table 4-2.** Significant Architectural Resources at NAS Key West.

Resource	Facility	Property Type	Historic Function	Date	NRHP Status
U.S.S. Maine Memorial	Key West	Object	Monument	1898	Listed
Structure F-26	Fleming Key	Structure	Ammo storage	1940s	Eligible
Hawk Missile Site	Geiger Key	Site/Structures	Missile site	1960s	Eligible
Quarters L-A	Medical Clinic	Building	Officer Housing	1942	Eligible
Quarters L-B	Medical Clinic	Building	Officer Housing	1942	Eligible
Quarters L-C	Medical Clinic	Building	Officer Housing	1942	Eligible
Quarters L-D	Medical Clinic	Building	Officer Housing	1939	Eligible
Quarters L-G	Medical Clinic	Building	Officer Housing	1939	Eligible
Yates House L-8	Medical Clinic	Building	Officer Housing	1928	Eligible
Flagpole L-33	Medical Clinic	Object	Flagpole	1942	Eligible
Sea Wall L-43	Medical Clinic	Structure	Sea Wall	1942-45	Eligible
Building C-1	Trumbo Point Annex	Building	Seaplane Hangar	1940	Eligible
Quarters C-A	Trumbo Point Annex	Building	Officer Housing	1941	Eligible
Seaplane Ramp C-2	Trumbo Point Annex	Structure	Seaplane Ramp	1920s	Eligible
Seaplane Ramp C-2	Trumbo Point Annex	Structure	Seaplane Ramp	1920s	Eligible
Seaplane Ramp C-2	Trumbo Point Annex	Structure	Seaplane Ramp	1920s	Eligible
Battery Seminole/Structure 283	Truman Annex	Structure	Battery	1900/1940s	Eligible
Battery Covington Wall	Truman Annex	Structure	Retaining Wall	ca. 1900	Eligible

# NAVAL AIR STATION KEY WEST, FLORIDA INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN 2007 - 2016



Photo: Florida Fish and Wildlife Conservation Commission

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# **Integrated Natural Resources Management Plan for Naval Air Station Key West Florida**

December 2007



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Prepared By:

**Department of the Navy**  
Naval Facilities Engineering Command Southeast

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## 2 HISTORY AND ORGANIZATION

### 2.1 Location, History, and Military Mission

NAS Key West is comprised of 6,249 acres of land distributed over fourteen (14) properties, as defined in this INRMP, located in the Florida Keys, Monroe County, Florida (Figure 2-1). Fourteen of the properties are located in the Lower Florida Keys within a seven-mile radius from the primary Boca Chica Field, on Boca Chica Key approximately 6.8 miles northeast of downtown Key West. Boca Chica Field encompasses 3,912 acres and consists of an airfield, administrative and industrial facilities, and recreational areas. The only property located outside the Lower Keys is a 68-acre, primarily undeveloped site in Key Largo. Location and mission/function information for each of the fourteen properties of NAS Key West is included in Table 2-1.

The U.S. Navy has maintained a presence at the southernmost point in the continental United States (i.e., Key West, Florida) for more than 125 years. In 1823, the first naval base in Key West was established to combat piracy in South Florida. Expansion of the base occurred in stages, between 1823 to 1917, and coincided with periods of military activity during the Mexican War, the Spanish-American War, and World War I. The first recorded naval flight from Key West took place on 22 September 1917, and on 18 December 1917 Naval Air Base Key West was commissioned. Construction of a small coastal air patrol station began 13 July 1917 on Trumbo Point Annex. Seaplane training began for student flight officers on 8 January of the following year, therein, launching the station's reputation as the premier training site for Naval aviators.

NAS Key West pilots developed naval aviation antisubmarine warfare technology. During World War I, the base was used primarily for antisubmarine patrol operations and as a flight training station. At the end of the war, the base was decommissioned and many of the buildings were destroyed, although the land holdings remained property of the United States government. At the onset of World War II, the base was re-opened to support Naval destroyers and PBV aircraft. Satellite facilities, including Meacham Field and a runway at Boca Chica were developed. On 15 December 1940, the seaplane base was designated a Naval Air Station. In

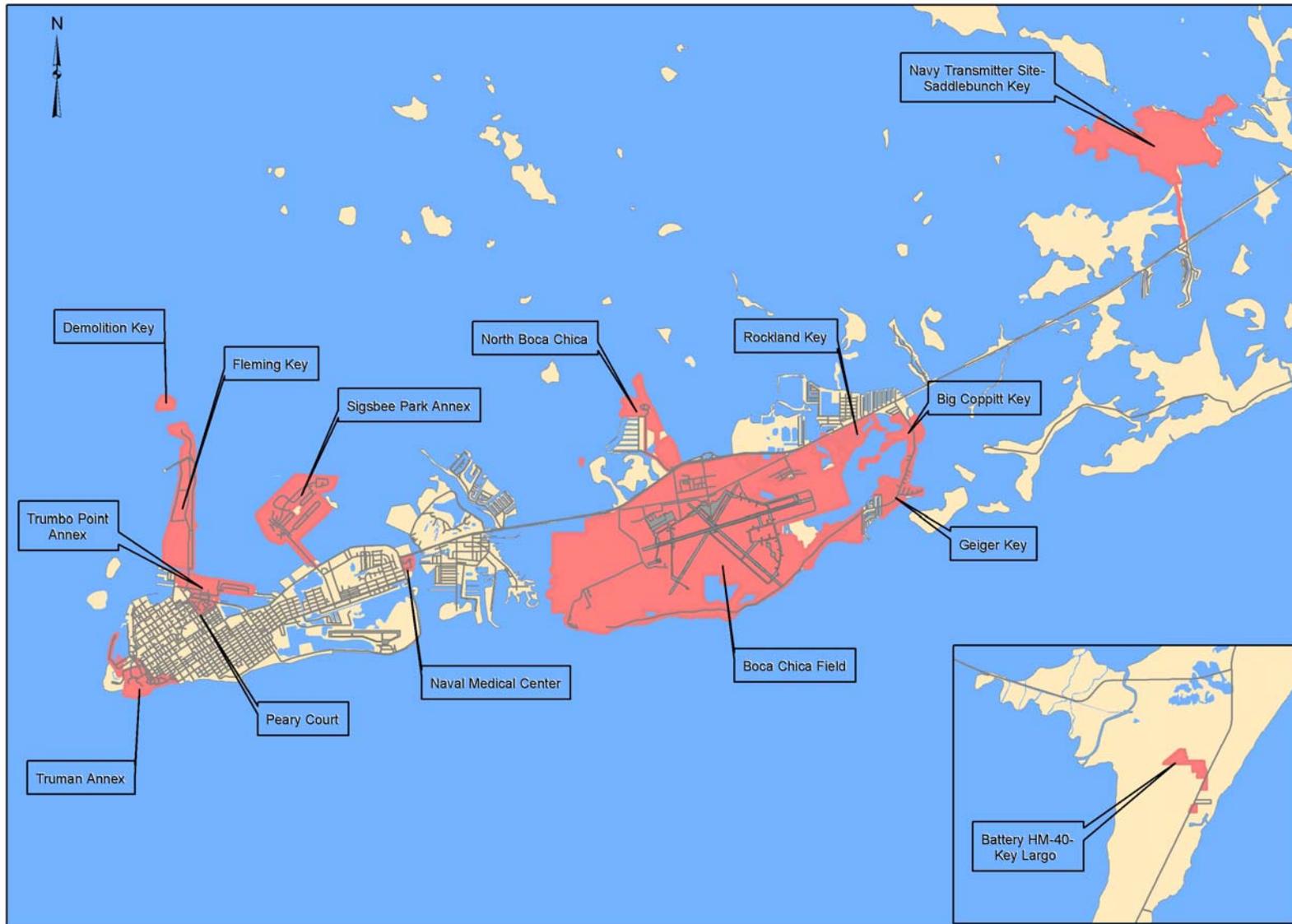


Figure 2-1 Location Map - NAS Key West, Florida

May 1945, the satellite fields were disestablished and combined into one aviation facility, NAS Key West.

After WWII, NAS Key West was retained as a training facility. During the subsequent Cuban missile crisis, operational and reconnaissance flights were flown in support of the blockade around Cuba. In March 1979, a decision was made to keep NAS Key West as a fully operational Naval Air Station.

NAS Key West's present-day mission is to provide pilot training facilities and services, as well as access to superior airspace and training ranges for tactical aviation squadrons. It is one of the primary range complexes in which aircrews of the U.S. Atlantic Fleet train. The NAS Key West Range Complex consist of an at-sea Operating Area (OPAREA) that includes surface and subsurface waters; offshore special use airspace (warning areas); a submerged surface target; and other special-use airspace. The Key West Range Complex encompasses 25,498 square nautical miles of ocean within the OPAREA. The primary operation conducted at the Key West Range Complex is Anti-Air Warfare (AAW), specifically, Air Combat Maneuver (ACM). The range complex provides critical support for Navy operational readiness training.

In addition, the range includes a Tactical Combat Training System (TCTS) – one of only four located on the East Coast of the United States – that is used for air-to-air combat training. The TCTS range includes specialized equipment both within the range and at NAS Key West to assist pilots in performing and assessing various training scenarios. This is vital in the training process for pilots to assess and learn from practiced maneuvers. As such, NAS Key West serves as the Navy's premier East Coast pilot training facility for tactical aviation squadrons. The mild tropical-maritime climate of the Key West area makes this an ideal area for year-round pilot training activities. In fact, the weather is suitable for flying approximately 360 days per year or 99% of the time. This ensures that squadrons that make the commitment to deploy to this area for training can accomplish their requirements with little or no loss of opportunity and expense.

Ideal weather throughout the year allows the Navy to complete necessary readiness requirements during fixed training windows. In addition, because many aviation-related assets are already in place, NAS Key West serves as an ideal operating base for opposition and aggressor forces that conduct operations during readiness exercises. Designated airspace and a TCTS are heavily utilized in the Key West area by military assets in training evolutions.

Active and reserve Navy fighter/strike fighter communities, Chief of Naval Training (CNATRA) units, Fleet Replacement Squadrons (FRSs), Department of Homeland Security, foreign allies, and other military service users all come to NAS Key West to take advantage of the airspace, weather, and facilities to accomplish pilot training. Specifically, over 20 types of fixed- and rotary-wing aircraft typically deploy to NAS Key West for various durations. The most common of these aircraft include F-5's, F-15s, F-16s, F/A-18s, T-45s, and E-2/C-2s (Navy 2007).

**Table 2-1**

**NAS Key West Property Location And Mission/Function**

<b>Property</b>	<b>Acreage</b>	<b>Location</b>	<b>Directions</b>	<b>Mission/Function</b>
Demolition Key	24	North Fleming Key	2000 feet N of Fleming Key.	Both islands are used by the Navy as weapons areas for Special Operations ground training using net explosive weight of $\leq 5$ lbs.
Fleming Key	264	Fleming Key	2 mi. N of the Southernmost Point Monument.	Non-residential IR site. Consists of Navy Research Laboratory, 200-acre weapons magazine, Special Forces Area, and City of Key West wastewater treatment plant.
Truman Annex	157	Key West	East of the Southernmost Point Monument.	Mixed Use area. Consists of Joint Interagency Task Force (JIATF) South, BEQ housing and recreational areas.
Trumbo Point Annex	135	Key West	1.75 mi. NE of the Southernmost Point Monument.	Mixed Use area. U.S. Coast Guard utilizes port facilities. Consists of a small fuel farm, helicopter pad, C-1 hanger, military housing, Visitors lodging with 300-500 rooms, water recreation park, and undesignated paved areas.
Peary Court Annex	28	Key West	0.25 mi. S of Trumbo Point Annex.	Residential area. 24-acre area with 50 houses.
Sigsbee Park Annex	352	Key West	Dredgers Key, 1.25 mi. E of Fleming Key.	Residential area and facilities. Microwave Radio Tower at eastern tip of Key. Consists of Navy housing, Commissary, Exchange, 93 site R/V campground, youth center, picnic sites, 3 boat ramps, fueling facilities, boat rentals, marina, playing fields, tennis courts.

**Table 2-1**

**NAS Key West Property Location And Mission/Function**

<b>Property</b>	<b>Acreage</b>	<b>Location</b>	<b>Directions</b>	<b>Mission/Function</b>
Navy Branch Health Clinic	15	Key West	SE of the intersection of US1 and South Roosevelt Boulevard, W of Cow Key Channel.	Naval branch medical clinic primarily for active duty members and civil service personnel.
Boca Chica Field	3958	Boca Chica Key	6.8 mi. NE of the Southernmost Point Monument.	To train Navy pilots and support for Naval aviation activities and units of the operating forces. Light industrial use and transient housing area. Consists of 3 runways, fuel farm, auto hobby shop, administrative facilities, playing fields, ball courts, bowling alley, fitness center, picnic areas, 83 to 103-slip marina, and 3 miles of oceanfront beach.
North Boca Chica	86	North Boca Chica Key	0.5 mi. NE of NAS Key West.	Mixed Use area and former IR site. Pistol range, wastewater treatment plant, hazardous waste facility, supply barn and administrative offices. bunkers used for storage. NOAA Radar with several buildings from inactive missile site, one building currently used.
Geiger Key	164	Geiger Key	2.25 mi. SE of NAS Key West.	Multiple-use management for research, recreation, and wildlife habitat. There is also an inactive missile site.
Big Coppitt Key	48	Big Coppitt Key	1.25 mi. N of Geiger Key, 1.5 mi. NE of Rockland Key	Former army antenna facility, service roads, weapons area.
Rockland Key	336	Rockland Key	1.5 mi. E of NAS Key West.	Air Installations Compatible Use Zones (AICUZ) with some residential use.

**Table 2-1**

**NAS Key West Property Location And Mission/Function**

<b>Property</b>	<b>Acreage</b>	<b>Location</b>	<b>Directions</b>	<b>Mission/Function</b>
Navy Computer and Telecommunications Station (NCTS)	615	Saddlebunch Key	At MM 15 follow the dirt road 1.5 mi. N of US1.	Supports frequency transmitters for various voice, telegraphy and data radio transmissions.
Battery HM-40/Key Largo Site	68	Key Largo	Approximately 113 mi. NE from Key West. 7 mi. N on Card Sound Road from fork at US1.	Inactive missile site.

## 3 EXISTING ENVIRONMENT

### 3.1 Climate and Air Quality

The Florida Keys climate is classified as subtropical marine, characterized by mild winters with hot, humid, but breezy summers. Key West has a year round average temperature of approximately 77 degrees Fahrenheit (° F) and receives an average of approximately 40 inches of rainfall per year (see Table 3-1). The temperature difference between summer and winter is only 14° F. The nearness of the Gulf Stream, combined with the effects of the Gulf of Mexico, tend to mitigate advancing cold fronts. Easterly tradewinds and sea breezes suppress the summer heat. January is typically the coldest month of the year, with an average temperature of 69.4° F. The month of July is typically the hottest of the year with an average temperature of 84.0° F.

Hurricane season in Florida extends from June through November; however, the frequency of hurricanes in the Gulf of Mexico is greatest during the months of August, September, and October. The majority of hurricanes approach Key West from the south and east, with their effects felt on the south, east, and west sides of the island; however severe hurricanes have struck Key West from all directions. An estimated 75 percent (%) of all damage from annual hurricanes is due to tidal flooding. The probability that a hurricane (winds exceeding 73 miles per hour) or a great hurricane (winds exceeding 125 miles per hour) will occur in a 50-mile segment of the U.S. coastline near Key West is 13% and 4%, respectively.

The Clean Air Act (CAA) is the primary federal statute governing the control of air pollution. The Clean Air Act (CAA) designates six pollutants as criteria pollutants for which National Ambient Air Quality Standards (NAAQSs) have been declared to protect public health and welfare: particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), carbon monoxide, sulfur dioxide, nitrogen dioxide, lead, and ozone. Areas that do not meet NAAQSs are designated as “nonattainment” for those criteria pollutants exceeding their respective NAAQS. Nonattainment status is further classified by the extent to which the standard is exceeded.

<b>Table 3-1</b>				
<b>Average Temperatures and Rainfall in the Key West Vicinity (1945-1991)</b>				
<b>Month</b>	<b>Average Temp (°F)</b>	<b>Average Low Temp (°F)</b>	<b>Average High Temp (°F)</b>	<b>Average Rainfall (inches)</b>
January	69.4	64.4	74.3	2.1
February	70.0	65.1	74.8	1.6
March	73.2	68.4	78.1	1.7
April	77.2	72.7	81.5	2.0
May	80.1	75.6	84.2	3.3
June	82.8	78.4	86.9	4.8
July	84.0	79.5	88.5	3.6
August	84.0	79.2	88.7	5.0
September	82.9	78.1	87.8	6.4
October	79.7	75.4	84.0	4.6
November	75.2	70.7	79.5	2.5
December	70.9	66.2	75.6	2.0
<b>Average/Total</b>	<b>77.4</b>	<b>72.7</b>	<b>81.9</b>	<b>39.7</b>

Source: Buttle and Tuttle, Ltd. 1996-1998.

Key:

Temp. = Temperature.

°F = degrees Fahrenheit.

The CAA, as amended, requires Federal actions to conform to an approved State Implementation Plan (SIP). The SIP is designed to achieve or maintain an attainment designation for air pollutants as defined by the NAAQSs. The General Conformity Rule (40 CFR Parts 51 and 93) implements these requirements for Federal actions occurring in air quality nonattainment areas.

NAS Key West is located in Monroe County, which is not in violation of any of the six criteria air pollutants of the NAAQS as established by the CAA (EPA 2005). Because of the excellent air dispersion characteristics and non-industrialized nature of Monroe County, most pollutants are not routinely measured. The closest monitoring stations are in Miami-Dade County, and these stations have documented attainment status for particulate matter and ozone (FDEP 2005).

Air quality is regulated nationally by the EPA, the standards of which have been documented in Title 40 Part 50 (Subchapter C-Air Programs) of the CFR. On the State level, FDEP has authority to regulate air quality in the State of Florida.

Currently, air pollutant emissions at NAS Key West are generated from stationary and mobile sources. Stationary sources include surface coating, fuel storage and handling, fire-fighting training facilities, and miscellaneous small stationary combustion sources. Mobile sources include aircraft, motor vehicles, and ground support equipment. Military aircraft operations are the most significant source of air pollutant emissions at NAS Key West.

## 3.2 Land Use

NAS Key West has a number of noncontiguous properties located in Key West, Boca Chica Key, Big Coppitt Key, Rockland Key, Geiger Key, Demolition Key, Dredgers Key, Fleming Key, Saddlebunch Key, and Key Largo. These properties include the Boca Chica Field, Sigsbee Park, Trumbo Point Annex, Truman Annex, and others totaling approximately 6,249 acres of land.

Land use among the Installations that make up NAS Key West is based on the operational needs and military mission requirements. Land use at NAS Key West ranges from “high intensity,” well-developed areas used for operational functions, to “low intensity” areas that serve as buffers from surrounding non-military lands. Airfields, administrative and training facilities, public works, housing, medical facilities, and other mission operations occur within the high intensity areas at each Installation, while the low intensity land use areas include natural resources such as forests, ponds, wetlands, and other unique habitats. The following is a brief description of the major NAS Key West facilities.

**Demolition Key (24 acres).** This land is a separate Navy-owned island located immediately north of Fleming Key, and used for demolition of explosives. It consists of two undeveloped spoil islands. The southern key consists primarily of red mangrove and saltwort within the interior. The northern key consists of a dense fringe of red and black mangrove with an almost pure stand of Australian pine and some Brazilian pepper in the interior. There is a bunker used for weapons observation and ordnance training. The natural communities in this area support important bird rookeries. Nearshore waters support seagrass and hard-bottom communities.

**Fleming Key (264 acres).** This Navy-owned island is located immediately north of Trumbo Point Annex. The north area contains a Navy Research Laboratory, 200-acre weapons magazine and a Special Forces area. The central portion consists of an old landfill and vacant parcels of land that appear to have been developed in the past. The south end is a leased area which consists of the City of Key West Wastewater Treatment Plant. The shoreline of the Gulf of

Mexico on the western side of Fleming Key consists mainly of mangroves with a mix of some Brazilian pepper and Australian pine. The F-26 Bunker is located on the north end and is considered a significant cultural resource. Nearshore waters support seagrass and hard-bottom communities.

**Truman Annex (157 acres).** This annex is bound on the south by the Atlantic Ocean; to the north-northeast by residences and commercial, warehouse and light industrial buildings; and to the west-northwest by Fort Zachary Taylor State Historic Site. The property includes bachelors enlisted quarters (BEQ) housing, a patio beach, numerous recreational areas (e.g., playing field, etc.) and historic sites. The property also contains building rooftops that support identified least or roseate tern nesting colonies. This property also contains historic sites. Nearshore waters support seagrass and hard-bottom communities.

**Trumbo Point Annex (135 acres).** This annex is bound on the north by the Gulf of Mexico; to the south by residences and commercial, warehouse and light industrial buildings; to the west by Key West Bight; and to the east by Garrison Bight. This property includes military housing, visitors quarters (VQ) lodging, recreational areas (e.g. ball courts, water fun park, tennis courts, etc.), and historic and potential geologic sites. In addition, the United States Coast Guard utilizes port facilities in this area and the City of Key West Port Authority Transit Association (PATA) leases land on the southeast side. The only area consisting of native vegetation is a mangrove fringe used to buffer the residential area from the coast. This property also contains historic sites. Nearshore waters support seagrass and hard-bottom communities.

**Peary Court Annex (28 acres).** This housing facility, located in the City of Key West adjacent to and south of Trumbo Point Annex, is used for residential and recreational purposes. Fifty houses are located on a 24-acre area. An area in the center of the property is leased to a credit union. Grounds are maintained and landscaped with several species of hardwood trees; no natural communities are present.

**Sigsbee Park Annex (352 acres).** This facility is located on Dredgers Key, which is surrounded by the Gulf of Mexico to the north, east, and west, and the Salt Pond Keys to the south. It is connected to Key West with a manmade causeway. Sigsbee Park houses MWR facilities, marina, public works operations, family housing, and community support services, including the Navy Exchange, a commissary, and the Sigsbee school. The western 40 acres of the site are tidal wetlands, consisting predominantly of red mangrove, with black and white mangroves. The property contains building rooftops that support identified least and/or roseate tern nesting habitat. Nearshore waters support seagrass and hard-bottom communities.

**Navy Branch Health Clinic (15 acres).** The Medical Clinic is located on the east end of the City of Key West. It is bound by Navy housing to the north, south, and west, and by Cow Key Channel to the east. The property also contains a naval branch medical clinic primarily for active duty members and civil service personnel and a deactivated multi-story hospital facility. This property also contains historic sites. Nearshore waters support seagrass and hard-bottom communities.

**Boca Chica Key (3,958 acres).** This property is the site of Boca Chica Field. The primary land uses of the airfield are the three runways and the associated safety clear zones that include large expanses of mowed apron areas, open water lagoons and wetland habitats; some which support endangered species (e.g., Lower Key marsh rabbit). The area located to the north of the runway includes air operations buildings, transient housing, administrative buildings and recreational facilities. In addition to airfield operations, Boca Chica contains a weapons area to the west-southwest of the airfield. This area contains a few buildings but is primarily

undeveloped because it is encumbered by safety requirements during explosive ordinance handling activities (i.e., Explosive Safety Quantity Distance arcs). The Boca Chica Marina is located on the western side of the Key and includes a recreational beach, boat slips and a mooring area. The natural communities on Boca Chica Key include more than 2,000 undeveloped acres consisting of tidal mangroves, transitional wetlands, hardwood hammocks, and coastal zones. Nearshore waters support seagrass, hard-bottom, and patch reef communities.

**North Boca Chica (86 acres).** This site is located on the north end of Boca Chica Key, northeast of the Airfield and is bordered to the south by U.S. Highway 1 and to the north, east, and west by mangrove fringe and the Gulf of Mexico. This area consists of administrative offices, a hazardous waste storage facility, a wastewater treatment facility (injection well), a supply barn, abandoned bunkers used for storage, a pistol range, a NOAA radar site and several buildings associated with an abandoned missile site. The natural communities within this area include mangrove areas, transitional areas, and coastal zones providing habitat for the endangered marsh rabbit. Nearshore waters support seagrass and hard-bottom communities.

**Geiger Key (164 acres).** This property is located southeast of Boca Chica Field and contains an inactive Hawk missile site that was transferred to the Navy. The property north of the residential community consists primarily of higher areas developed for residential purposes. The property south of the residential community consists of wetlands which include mangrove areas, coastal zones, and transitional areas. These areas contain habitat for the endangered marsh rabbit. Nearshore waters support seagrass and hard-bottom communities.

**Big Coppitt Key (48 acres).** This property is located north of Geiger Key and is bordered by residential homes and businesses to the north, by the oceanfront to the east and west, and by oceanfront and wetlands to the south. A two acre site on the northwest corner of the property contains a former army antenna facility and a few associated buildings. A canal runs through the center of the property east of Geiger road and fill road accesses a borrow pit and fill pad on the western side. The natural areas surrounding these disturbed areas consist of mangroves, transitional areas and coastal zones. Least terns have been observed nesting on the fill pad on the western side of the property. Nearshore waters support seagrass and hard-bottom communities.

**Rockland Key (336 acres).** This property located east of Boca Chica Field and is bound by the coast and some undeveloped land areas. The natural area is comprised of 75% tidal swamp, 15% coastal rock barren, and 10% lowland hammock. There are some uncontrolled land ownership patterns and unauthorized residential use (i.e. squatters). Nearshore waters support seagrass and hard-bottom communities.

**Naval Computer and Telecommunications Station/Saddlebunch Key (615 acres).** This facility is located on Saddlebunch Key, which is approximately seven miles east of Boca Chica Field. Except for the narrow fill pad for the access road and relatively small areas associated with buildings and antennas, this key is in natural condition. The natural areas consist of extensive tidal swamp, the Five Mile Creek, limited areas of hammock, and saltmarsh that supports the federally endangered silver rice rat and Lower Keys marsh rabbit. Nearshore waters support seagrass and hard-bottom communities.

**Battery HM-40/Key Largo Site (68 acres).** This facility is located in Key Largo, approximately 113 miles northeast of Key West. The site was used as a Navy Hawk missile site, but is currently an undeveloped area within Crocodile Lake National Wildlife Refuge. The natural communities consist of hardwood hammocks and tidal mangroves. These communities provide habitat for the American crocodile, Key Largo wood rat, Key Largo cotton mouse, Schauf swallowtail butterfly and the Eastern indigo snake. The area is also designated as

critical habitat for the American crocodile. Nearshore waters support seagrass and hard-bottom communities.

### **3.3 Physiography, Geology, and Topography**

The Florida Keys are a series of low limestone islands that extend 140 mi southwest of the mainland. Elevations in the islands rarely exceed 5 ft above sea level. A narrow shelf is present along the Atlantic Coast, where the seafloor drops sharply into the Straits of Florida. The Atlantic Coast is bathed in the clear, tropical waters of the Florida Current which is favorable to the development of coral reefs several miles offshore of the keys.

The Florida Keys are assigned to the Gold Coast-Florida Bay District where Pleistocene limestone and limestone cap rocks are prevalent. This province has also been referred to as the southern zone of the coastal lowlands, the Florida Plateau. This eustatically formed archipelago is then subdivided into three island groups of limestone or carbonate sand and mud: 1) Coral Reef Keys, the northern linear island chain of coral rock with a living coral reef offshore; 2) Oolitic Keys or “western keys,” the southern chain of east-west aligned keys (including the Key West area) of oolitic limestone with Pleistocene and Holocene coral reef tracts to the southeast and south; and 3) Dry Tortugas, shoals, and islands of bioclastic carbonate sand and mud.

All of the Lower Keys are composed of Miami oolite. These formations are soft, white to yellow, stratified to massive, cross-bedded and are constituted of pure calcium carbonate which may contain shell fragments and minor quartz sand. Its major constituents are tiny oolids, which are spherical calcareous grains with concentric structure and cemented to form oolitic rock.

Key Largo Limestone underlies the Miami Oolite on all of the Lower Keys. Its major constituents are the cemented remains of ancient coral reefs and a subsidiary amount of fossils or coral, shell algae and echinids. Unconsolidated to consolidated Miocene sediments of the Tamiami, Hawthorn, and Tampa formations, Oligocene Suwannee Limestone, and Eocene Avon Park Formation underlie recent and Pleistocene deposits. The Pleistocene Miami Limestone is about 100,000 years old. The oolitic facies of this formation overlie the Key Largo Limestone Formation. This formation probably originated as an east-west mound of unstable oolite in a high-energy environment at the shelf margin where sediments were stirred up and deposited over the southern portion of the active reef.

The topography at NAS Key West is flat with elevations averaging 4 to 5 feet above mean sea level (MSL). The airfield elevation (highest point of the runway system) at Boca Chica is 6 feet above MSL. Large interior areas at Boca Chica range from 0 to 2 feet below sea level. The elevation on Truman Annex ranges between 5 and 10 feet above MSL.

### **3.4 Soils**

The soils in the Key West area belong to the Rock Island or Urban Land Association (USDA 1995). These soils have been created as a result of dredge and fill activities or have accumulated as a result of the physical and chemical weathering of the parent oolitic limestone. The soils consist of sand, shell, and limestone fragments mixed with small amounts of marine sediments. These unconsolidated soils are very permeable and, therefore, despite the flat topography, drainage is good. The original soils in the Key West area are mostly entisols, dominated by level, very poorly drained organic soils underlain by limestone. Soils found at the NAS Key West are described in Table 3-2.

<b>Table 3-2</b>			
<b>Soils of NAS Key West</b>			
<b>Map Unit</b>	<b>Soil</b>	<b>Hydric Soils</b>	<b>Series Description</b>
<b>Demolition Key</b>			
7	Udorthents, Urban land complex.	----	No description
15	Cudjoe marl, tidal, 0-1% slopes	Hydric	Loamy, carbonatic, isohyperthermic, shallow Tropic Fluvaquents. Poorly drained soil, shallow to rippable coral or oolitic limestone bedrock
<b>Fleming Key</b>			
5	Islamorada muck, tidal, <1% slopes	Hydric	Euic, isohyperthermic Lithic Troposapristis. Very poorly drained soil, moderately deep to rippable coral or oolitic limestone bedrock
7	Udorthents, Urban land complex.	-----	No description.
<b>Truman Annex</b>			
11	Urban Land	-----	No description.
<b>Trumbo Point Annex</b>			
11	Urban Land	-----	No description.
<b>Peary Court Annex</b>			
11	Urban Land	-----	No description.
<b>Sigsbee Park Annex</b>			
11	Urban Land	-----	No description.
15	Cudjoe marl, tidal, 0-1% slopes	Hydric	Loamy, carbonatic, isohyperthermic, shallow Tropic Fluvaquents. Poorly drained soil, shallow to rippable coral or oolitic limestone bedrock
<b>Navy Branch Medical Center</b>			
11	Urban Land	-----	No description.
<b>Boca Chica Field</b>			
3	Matecumbe muck, occasionally flooded, 0-1% slopes	-----	Euic, isohyperthermic Lithic Tropofolists. Moderately well drained soils, very shallow to rippable coral or oolitic limestone bedrock
5	Islamorada muck, tidal, <1% slopes	Hydric	Euic, isohyperthermic Lithic Troposapristis. Very poorly drained soils, moderately deep to rippable coral or oolitic limestone bedrock

<b>Table 3-2</b>			
<b>Soils of NAS Key West</b>			
<b>Map Unit</b>	<b>Soil</b>	<b>Hydric Soils</b>	<b>Series Description</b>
6	Key Largo muck, tidal, <1% slopes	Hydric	Euic, isohyperthermic Typic Troposaprists. Very poorly drained soils, deep to rippable coral or oolitic limestone bedrock
7	Udorthents, Urban land complex.	-----	No description.
15	Cudjoe marl, tidal, 0-1% slopes	Hydric	Loamy, carbonatic, isohyperthermic, shallow Tropic Fluvaquents. Poorly drained soil, shallow to rippable coral or oolitic limestone bedrock
19	Saddlebunch marl, occasionally flooded, 0-1% slopes	-----	Loamy, carbonatic, isohyperthermic, shallow Tropic Fluvaquents. Somewhat poorly drained soils, shallow to rippable coral or oolitic limestone bedrock.
<b>North Boca Chica</b>			
7	Udorthents, Urban land complex.	-----	No description.
15	Cudjoe marl, tidal, 0-1% slopes	Hydric	Loamy, carbonatic, isohyperthermic, shallow Tropic Fluvaquents. Poorly drained soil, shallow to rippable coral or oolitic limestone bedrock
<b>Geiger Key</b>			
5	Islamorada muck, tidal, <1% slopes	Hydric	Euic, isohyperthermic Lithic Troposaprists. Very poorly drained soils, moderately deep to rippable coral or oolitic limestone bedrock
6	Key Largo muck, tidal, <1% slopes	Hydric	Euic, isohyperthermic Typic Troposaprists. Very poorly drained soils, deep to rippable coral or oolitic limestone bedrock
7	Udorthents, Urban land complex.	-----	No description.
8	Rock outcrop-Cudjoe complex, tidal	Hydric	No description
15	Cudjoe marl, tidal, 0-1% slopes	Hydric	Loamy, carbonatic, isohyperthermic, shallow Tropic Fluvaquents. Poorly drained soil, shallow to rippable coral or oolitic limestone bedrock
<b>Big Coppitt Key</b>			
3	Matecumbe muck, occasionally flooded, 0-1% slopes	-----	Euic, isohyperthermic Lithic Tropofolists. Moderately well drained soils, very shallow to rippable coral or oolitic limestone bedrock

<b>Table 3-2</b>			
<b>Soils of NAS Key West</b>			
<b>Map Unit</b>	<b>Soil</b>	<b>Hydric Soils</b>	<b>Series Description</b>
5	Islamorada muck, tidal, <1% slopes	Hydric	Euic, isohyperthermic Lithic Troposaprists. Very poorly drained soils, moderately deep to rippable coral or oolitic limestone bedrock
7	Udorthents, Urban land complex.	-----	No description.
12	Rock oucrop-Cudjoe complex, frequently flooded	Hydric	No description.
15	Cudjoe marl, tidal, 0-1% slopes	Hydric	Loamy, carbonatic, isohyperthermic, shallow Tropic Fluvaquents. Poorly drained soil, shallow to rippable coral or oolitic limestone bedrock
<b>Rockland Key</b>			
3	Matecumbe muck, occasionally flooded, 0-1% slopes	-----	Euic, isohyperthermic Lithic Tropofolists. Moderately well drained soils, very shallow to rippable coral or oolitic limestone bedrock
5	Islamorada muck, tidal, <1% slopes	Hydric	Euic, isohyperthermic Lithic Troposaprists. Very poorly drained soils, moderately deep to rippable coral or oolitic limestone bedrock
6	Key Largo muck, tidal, <1% slopes	Hydric	Euic, isohyperthermic Typic Troposaprists. Very poorly drained soils, deep to rippable coral or oolitic limestone bedrock
7	Udorthents, Urban land complex.	-----	No description.
15	Cudjoe marl, tidal, 0-1% slopes	Hydric	Loamy, carbonatic, isohyperthermic, shallow Tropic Fluvaquents. Poorly drained soil, shallow to rippable coral or oolitic limestone bedrock
<b>Naval Computer and Telecommunications Station/Saddlebunch Key</b>			
5	Islamorada muck, tidal, <1% slopes	Hydric	Euic, isohyperthermic Lithic Troposaprists. Very poorly drained soils, moderately deep to rippable coral or oolitic limestone bedrock
6	Key Largo muck, tidal, <1% slopes	Hydric	Euic, isohyperthermic Typic Troposaprists. Very poorly drained soils, deep to rippable coral or oolitic limestone bedrock
7	Udorthents, Urban land complex.	-----	No description.

<b>Table 3-2</b>			
<b>Soils of NAS Key West</b>			
<b>Map Unit</b>	<b>Soil</b>	<b>Hydric Soils</b>	<b>Series Description</b>
15	Cudjoe marl, tidal, 0-1% slopes	Hydric	Loamy, carbonatic, isohyperthermic, shallow Tropic Fluvaquents. Poorly drained soil, shallow to rippable coral or oolitic limestone bedrock
<b>Battery HM-40/Key Largo Site</b>			
2	Pennekamp gravelly muck, 0-2% slopes, extremely stony	-----	Loamy-skeletal, carbonatic, isohyperthermic Lithic Rendolls. Well drained soils, shallow to rippable coral limestone bedrock.

Source: USDA 1995

## **3.5 Hydrology**

### **Watersheds and Hydrology**

Monroe County is located within the Florida Bay-Florida Keys Watershed, which encompasses approximately 2043 square miles. During the period of December through April, the Florida Keys receive approximately 25% of the total annual precipitation, which has averaged 38.5 inches over the last 40 years. The bulk of the annual rainfall, approximately 53%, falls in the period of June through October. Rainfall runoff from Key West is carried to the tidal waters by overland flow or storm drains that cover approximately 50% of the island; however, much of the rainfall percolates directly into the porous limestone.

The Lower Florida Keys are subject to mixed semidiurnal tides (i.e., generally two high and two low tides per day) with a mean range of 1.3 feet (0.4 meters) and spring tide range of 1.8 feet (0.5 meters). During flood tide, the tidal current flows toward the Gulf of Mexico, and during ebb tide, the current direction is toward the Atlantic Ocean. Tidal flats occur at approximately sea level and are subject to daily tidal inundation. Portions of this area are inundated most of the time. Some of the areas are covered with mangroves. The mangrove swamps are either flooded with each tide, or if cut off from tidal action, remain permanently wet. There are also some narrow strips of beach and adjacent coastal dunes.

### **Water Quality**

The waters surrounding the Florida Keys are designated by the State of Florida as Class III, Outstanding Florida Waters (OFW; Chapter 62-302, Florida Administrative Code [FAC]). This water classification essentially prohibits any significant decrease in ambient water quality. OFW's are designated to ensure greater protection with the intent of maintaining existing good water quality. Waters that are not in a federally or state-managed area may be designated as "special water" OFW's if certain requirements are met, including a public process of designation. The designation of "special water" may be made by the Environmental Regulation Commission if the waters are of exceptional recreational or ecological significance and if the environmental, social, and economic benefits of the action outweigh the environmental, social, and economic costs. The FKNMS is designated as a "special water" OFW and contains approximately 3,670 square miles (9,500 km<sup>2</sup>) of water and submerged lands (Florida Marine

Research Institute [FMRI] 2000; FDEP 2005). Because of the OFW designation, direct surface water discharges of pollutants have either been eliminated or are being phased out.

The degradation of water quality over the past two decades has been a major concern for the residents of the Florida Keys. Primary pollutants include pollution from stormwater runoff, improper wastewater treatment, marinas that improperly dispose of boater waste, landfill sites, hazardous material spills, pesticides and herbicides, and external influences. In response, Congress directed the EPA, in conjunction with the Department of Commerce, to develop a Water Quality Protection Program (WQPP). The WQPP for the Florida Keys consists of four interrelated components: corrective actions, monitoring, research/special studies, and public education and outreach.

## **Estuarine and Marine Waters**

NAS Key West property accounts for approximately 27 miles of shoreline that lies adjacent to the Florida Keys National Marina Sanctuary (FKNMS). Marine waters in close proximity to NAS Key West include Hawk Channel, Boca Chica Channel, Garrison Bight Channel, Man of War Harbor, Northwest Channel, Florida Bay, and the Gulf of Mexico. Tidal ranges in the Keys are low; the mean tidal range is 1.3 feet with a spring tide range of 1.6 feet. The tidal current is toward the Gulf of Mexico during flood and toward the Atlantic Ocean during ebb. Low elevations in the Keys make it necessary to consider tidal surge in site design and construction. Hurricane tidal surges for a 100-year storm and a 500-year storm are estimated at 8 feet MSL and 12 feet MSL, respectively.

The four main types of benthic habitat found within the Florida Keys, and in the vicinity of NAS Key West, are corals, seagrasses, hard bottom, and bare substrate. Benthic habitats in the Lower Keys as determined by aerial photography are dominated by seagrasses, and to a lesser extent by hard bottom, corals, and bare substrate (Florida Marine Research Institute [FMRI] 2000). Benthic habitats in the waters surrounding Key West, Fleming Key, Dredgers Key, Boca Chica Key, North Boca Chica Key, Rockland Key, Big Coppitt Key, Geiger Key, and the Saddlebunch Keys consist of moderate to dense continuous seagrass beds, interspersed with hard bottom areas containing a perceptible coverage of seagrass (Figures 3-1, 3-2, 3-3). Areas of sparse, continuous seagrass beds and dense seagrass patches are scattered throughout water

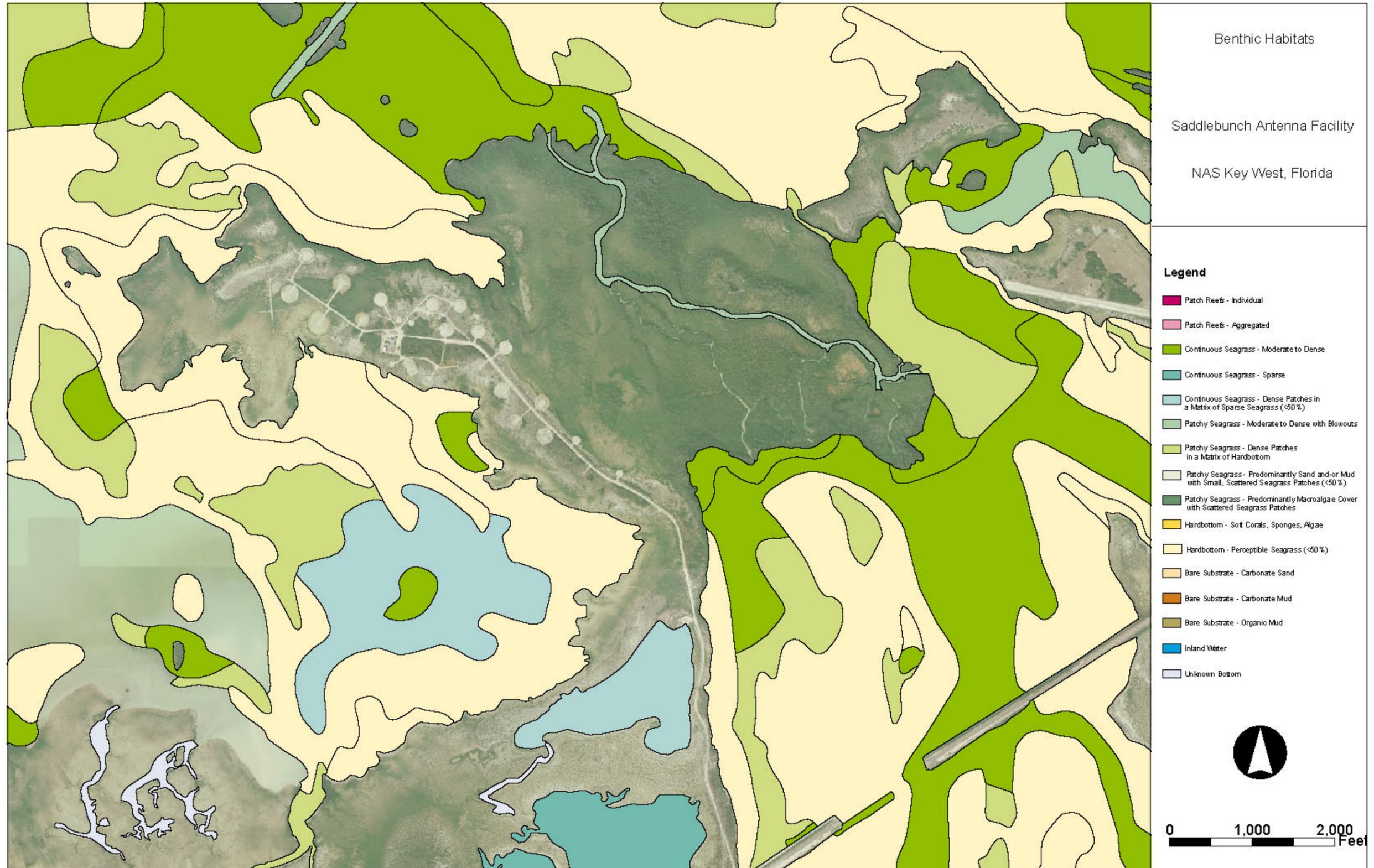
Figure 3-1



Figure 3-2



Figure 3-3



bodies in the vicinity of Boca Chica Key, Stock Island, and Key West. The lagoons located directly south of the Boca Chica Field, north of Old Boca Chica Road, contain a predominantly macroalgae cover with scattered seagrass patches. Several individual patch reefs are located south of Geiger Key and Boca Chica Key, and some aggregated patch reefs are located directly south of the Old Boca Chica Road.

Waters of the Florida Keys are utilized for several recreational activities including boating, diving, sport fishing, and recreational fishing in addition to commercial fishing. Between 20% and 30% of Keys visitors, scuba dive or snorkel at one of several dive spots including the Key Largo National Marine Sanctuary, John Pennekamp Coral Reef State Park, or Looe Key National Marine Sanctuary. Recreational fishing in the Keys contributes approximately \$500 million annually to the local economy. The “marine life” fishery generates \$30 million annually, and supplies small fishes, live rock and invertebrates to aquaria. Commercial fishing is the fourth largest industry in the region, and the Keys provide habitat for approximately 90% of the region’s commercially important species during at least one stage of their life history. Shrimp, stone crab, spiny lobster, snapper, grouper, king mackerels, and Spanish mackerels dominate commercial landings.

## **Wetlands**

Wetlands are generally considered to be transitional zones between the terrestrial and aquatic environment. These areas are characterized by physical, chemical and biological features indicative of hydrological conditions. Currently, wetlands are regulated at the federal level by the United States Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA) of 1977. Wetlands are defined by the USACE as “...*those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.*”

Jurisdictional wetland boundaries have not been delineated for NAS Key West using the USACE 1989 Wetland Delineation Manual. Currently, the best source of data for identifying wetland communities at NAS Key West and in the Florida Keys has been through a joint program of the EPA and ACOE, in cooperation with the USFWS, SFWMD, FFWCC, FMRI and

Monroe County. This program, known as the Florida Keys Advance Identification of Wetlands Program (ADID), has created an inventory and map of wetlands in the Keys utilizing a Geographic Information System (GIS). It classifies land cover into 15 types, based on photo-interpretation of 1991 Digital Orthophoto Quarter-Quadrangle (DOQQs) maps.

### **Wetland Permits**

NAS Key West occasionally undertakes activities to maintain or renovate existing facilities, such as the Boca Chica Marina Expansion and the Fleming Key Shoreline Stabilization. These activities may require state and/or federal permits, such as Florida Department of Environmental Protection (FDEP) Environmental Resource Permits (Chapter 62-340 F.A.C.) or USACE permits (CWA Section 404/Rivers and Harbors Act Section 10). The FDEP and the South Florida Water Management District (SFWMD) have an Interagency Operating Agreement that divides responsibilities for processing environmental resource permit applications in accordance with the type of activity involved. Each project must be reviewed in accordance with this operating agreement to determine the correct permitting agency. The Florida environmental resource permit program administered by the FDEP/SFWMD regulates any dredging, filling, or construction in, on, or over waters and wetlands. Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) prohibits the obstruction or alteration of navigable waters of the United States without a permit from the USACE. Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344) prohibits the discharge of dredged or fill material into waters of the United States without a permit from the USACE. If it is determined that wetland impacts are unavoidable, mitigation in the form of the creation of wetlands, or the restoration or enhancement of previously degraded ones, may be required under state and or/federal permits.

### **Groundwater**

The Biscayne Aquifer (commonly referred to as the Surficial Aquifer), and the Floridan Aquifer (a confined artesian aquifer), are the two main aquifers that underlie the Florida Keys. The Biscayne Aquifer is the primary system, and is considered one of the most productive and permeable in the world. However, because of its excessive chloride content in the Florida Keys, the Biscayne Aquifer is a nonpotable water source, although water from the aquifer is used for numerous other nonpotable water uses. The freshwater lens averages 5 feet (1.5 meters) below the center western half of Key West. The lens contains 20 to 30 million gallons (75.7 to 113.5

million liters) of freshwater depending on the season. The layer of freshwater beneath Key West is subject to salt water intrusion through the porous Key Largo limestone formation underlying the less porous Miami oolite limestone formation which forms the Key West Island. The fresh water is also exposed to pollution from exfiltrating sewer lines leading from the sewer system to Hawk Channel. No known source of potable artesian water exists in Key West.

## 3.6 Coastal and Marine Resources

### Flora

#### Near Shore Habitats

The Florida Keys region is dominated by three coastal marine habitats: mangroves, sea grass and coral reef. The near-shore, land/water interface, is dominated by the mangrove community (mangrove forest, scrub mangrove and buttonwood). Seagrass is the principal marine benthic vegetation in the Florida Keys region and is present in various levels of cover. Approximately 70% of the FKNMS consists of seagrass. Coral is present in different forms throughout the Lower Keys. There are patch reefs, coral reefs, and hardbottom coral communities throughout the FKNMS. These habitats cover approximately 27% of the benthos in the FKNMS (Florida International University, 2002).

#### Mangrove Community Habitat

Mangroves represent a major coastal wetland habitat in the Florida Keys region. Collectively, four species comprise the “mangrove” forest: the red (*Rhizophora mangle* L.), black (*Avicennia germinans*), and white (*Laguncularia racemosa*) mangroves, and the buttonwood tree (*Conocarpus erectus* L.). These species singularly or in combinations occupy wide ranges in the coastal zone from regularly flooded tidal regimes to higher elevations that may receive tidal waters only several times per year or during storm events. The growth of mangroves appears to be limited to estuarine systems and more inland areas that are subject to saline intrusions. A classification system for mangrove types based on gross differences in topography, surface hydrology, and salinity exists. A brief description of the mangrove types as summarized from Gilmore and Snedaker (1993) follows. This description is provided because the different forest types have somewhat different functional roles and fauna that utilize them.

***Mangrove fringe forests*** occur along sheltered coastlines with exposure to open water of lagoons and bays. The tree canopy foliage forms a vertical wall and these forests are almost exclusively dominated by red mangroves. The characteristics of this mangrove habitat type are related to the patterns of tidal inundation through which detrital materials and propagules (any portion of a plant, such as a bud or other offshoot, that aid in dispersal of the species and from which a new individual may develop) are exported from the system during ebb tides. These fringe forests commonly have a shoreline berm or an interior wrack line (i.e., build up of detritus). This is a very important habitat type for fishery organisms because of the presence of abundant food and refuge provided by the mangrove prop-roots, and has been more frequently studied relative to its links with adjacent systems than most other mangrove forest types (Thayer and Sheridan 1999).

***Overwash mangrove islands*** are ecologically similar to fringe forests because of their high frequency of tidal inundation, but here the entire area is completely covered by tidal waters on almost every tidal cycle. Because of the overwash phenomenon, there is an infrequent build up of a detrital berm or the development of a shoreline berm. Gilmore and Snedaker (1993) indicate that there is a high incidence of bird rookeries on overwash islands, presumably due to the limited habitat for predators and scavengers.

***Riverine mangrove forests*** occur in riverine areas that have estuarine water exchange and are considered to be the most productive forest type of the five described. This high productivity is attributed to the reduced salinity and the fact that freshwater runoff from land provides mineral nutrients required for growth. This high production provides organic detrital material to the adjoining low-salinity system, and also is an important habitat for fishery organisms (Ley 1992).

***Basin mangrove forests*** exist in inland topographic depressions that are not flushed by all high tides. This habitat type may experience seasonal periods of hypersaline soil water which can limit mangrove growth and induce mortality. These habitat types are normally dominated by black mangroves, but invasion by Australian pine (*Casuarina equisetifolia*) and Brazilian pepper (*Schinus terebinthifolius*) is very common. Odum *et al.* (1982) notes that this habitat type provides an extreme habitat in which few aquatic species can live because of the commonly low oxygen levels and presence of generally high levels of hydrogen sulfide. However, Gilmore and Snedaker (1993) suggest that because of the large aerial extent of the basin mangrove habitat

type, they probably contribute the largest absolute quantity of organic detritus to Florida's nearshore waters, and that this export occurs on a highly seasonal basis.

*Dwarf mangrove forests* occur in areas where nutrients, freshwater inflow, and tidal activity limit the growth of the plant. All of the species can exist in a dwarf form. These marginal habitats have received little attention relative to their role as fishery habitat.

#### *Threats to Mangrove Ecosystems*

While much of the total U.S. mangrove forest area is protected under the jurisdictions of parks, sanctuaries, and refuges (Gilmore and Snedaker 1993, Thayer *et al.* in press), this coastal habitat and resource is being progressively diminished by a variety of natural and anthropogenic (human-caused) actions such as removal for coastal development, deprivation of freshwater from upland watersheds, severe freezes, clearing for charcoal production, oil spills and water pollution, competitive exclusion by exotic tree species (e.g., Australian pine, Brazilian pepper), illegal cutting or removal, coastal erosion, and mosquito control activities. The majority of these threats have been discussed and/or documented by Odum *et al.* (1982) and Gilmore and Snedaker (1993).

Mangroves are considered resilient and display characteristics of some "pioneer species" in that they have broad tolerances to environmental factors, rapid growth and maturity, continuous or almost continuous flowering and propagule production, high propagule outputs in a wide range of environmental conditions, and adaptations for short and long distance dispersal by tides (Cintron-Molero 1992). Even with these characteristics, mangroves are both sensitive and vulnerable to disturbance. Odum *et al.* (1982) point out, however, that one of the adaptations of mangroves, the aerial root system, is also one of the plant's most vulnerable components because of their susceptibility to clogging, prolonged flooding, and boring damage from invertebrates. They note that any process that coats the aerial roots with fine sediments or covers them with water for long periods has the potential of being a destructive agent. Diking, impounding, and long-term flooding, as has occurred in mosquito control situations, has caused considerable damage, as have spraying of herbicides and inundation by oil spills.

#### *Ecological Roles and Function*

The relatively high primary productivity of mangrove ecosystems and the associated biological processes provide many goods and services that are of direct or indirect benefit to the

public and to the urban and industrial environment. In Asia and South America, mangroves have been managed for lumber, firewood, and charcoal. Mangrove habitats, particularly riverine, overwash and fringe forests, provide shelter for larval, juvenile, and adult fish and invertebrates and dissolved and particulate organic detritus to estuarine food webs. Because of this linkage, both as habitat and as food resources, mangroves are important exporters of material to coastal systems as well as to terrestrial systems (e.g., through bird use as a rookery and feeding on fish). They help shape local geomorphic processes and are important in the diversity of landforms that provide shelter, foraging grounds, and nursery areas for terrestrial organisms. The root system binds sediments, thereby contributing to sedimentation and sediment stabilization.

Based on the physical configuration, hydrologic nature, and information received from the South Atlantic Fishery Management Council (SAFMC 1998), much of the mangrove habitat found at NAS Key West can be considered as *mangrove basin* type.

### **Seagrass Habitat**

Seagrass habitat is found within many of the NAS Key West maritime areas, especially within several of the estuarine lagoons at Boca Chica Field. The east and west lagoons contain seagrass ranging from sparse to moderate cover. The most recent assessment of seagrass coverage can be found in the National Oceanic and Atmospheric Administration (NOAA) 1998 aerial surveys. The Navy is planning on updating these aerial surveys in the future. Project 6 in this INRMP involves the quantitative mapping of seagrass and coral resources within NAS Key West maritime facilities with updates to occur every five years.

Out of the estimated 250,000 flowering plants existing today, only about 60 species have adapted to life in the marine environment (den Hartog 1970). Collectively, this group is referred to as submerged aquatic vegetation (SAV) or seagrasses. Taxonomically, seagrasses are divided into two families and 12 genera (den Hartog 1971, Phillips and Meinez 1988). At least 13 species of seagrass occur in United States waters, with the exception of Georgia and South Carolina where highly turbid freshwater discharges, suspended sediments and large tidal amplitude combine to prevent their permanent establishment. In the remainder of the south Atlantic region there are six genera of seagrasses represented by eight species, ranging in size from the three smallest, paddle grass (*Halophila decipiens*), star grass (*Halophila engelmannii*) and Johnson's seagrass (*Halophila johnsonii*), to the relatively larger genera, eelgrass (*Zostera*

*marina*), widgeongrass (*Ruppia maritima*), shoal grass (*Halodule wrightii*), manatee grass (*Syringodium filiforme*) and turtle grass (*Thalassia testudinum*).

Paddle grass, star grass, Johnson's seagrass, shoal grass, manatee grass and turtle grass all occur in Florida and may be found in protected inland waters as well as oceanic environments. In southeast Florida, all of the seagrasses occur within protected coastal lagoons and in the Intracoastal Waterway (ICW). Beginning around the Palm Beach area and continuing south through the FKNMS, paddle grass is found on offshore sandy sediments to a depth of approximately 98 feet (30 meters). Open ocean meadows of shoal grass and turtle grass begin just south of Virginia Key in Biscayne Bay and continue through the Florida Keys National Marine Sanctuary (FKNMS) in water depths up to approximately 98 to 131 feet (30 to 40 meters). Several species of seagrass are found in Florida's coastal waters. In shallow-water areas on the Gulf side of the Lower Keys, turtle-grass (*Thalassia testudinum*) is the most common and most densely growing seagrass. The presence of the less common *Halophila spp.* has been documented only in the Lower Keys, where it has been found in relative abundance in the deep-water (24-30 meters) areas between Rebecca Shoal and the Dry Tortugas (FMRI 2000). The majority of seagrass biomass is distributed in the subtidal zone; however, all of the species, with the exception of paddle grass can be found growing in the intertidal zone where they may experience periods of exposure and desiccation.

#### *Threats to Seagrass Systems*

Like all other organisms and habitats in estuarine-near shore environments, seagrasses occur at the end of all watershed inputs: the juncture between riverine inflow and oceanic inputs as well as the interface between land and sea. This situation makes them extremely susceptible to perturbations by natural processes as well as being susceptible to damage by human activities. In the south Atlantic region, seagrasses experience natural disturbances such as bioturbation (stingray foraging), storm or wave-related scour (tropical storms and surges), and disease or disease-associated perturbations (*Labyrinthula*), as well as man-related impacts (Short and Wyllie-Echeverria 1996). Especially problematic are excessive epiphytic loads and smothering by transient macroalgae, both of which are often associated with nutrient enrichment. Excessive nutrient discharges and suspended sediments can also disrupt seagrass systems by causing water column algal blooms that diminish the amount of light available for bottom-dwelling seagrasses (Dennison et al. 1993). Often, nutrient enrichment will have detrimental effects that cascade up

and down the food webs of seagrass meadows by diminishing the dissolved oxygen concentrations, forming toxic concentrations of hydrogen sulfide and diminishing the ability of a meadow to filter and stabilize sediments, thus altering the water column environment for filter feeders and primary producers. Subtidal seagrasses have suffered little damage from oil spills whereas impacts on intertidal beds have been significant (Durako et al. 1993, Kenworthy et al. 1993). Oil spill related impacts on the seagrass-associated fauna can range from smothering to lowered stress tolerance, reduced market values and incorporation of carcinogenic and mutagenic substances into the food chain. Other well-known impacts such as dredge and fill operations are no longer a primary cause of major losses of seagrass habitat due to the recognition of their ecological role and vigilance of State and Federal regulatory activities relative to permits. This human-related impact, although still present, is now being replaced by that associated with propeller scouring (Sargent et al. 1995) and some fishing gear-related impacts (Fonseca et al. 1984). This physical damage is long-lasting and often results in sediment destabilization and continued habitat loss.

The increasing number of small boats traversing estuarine and coastal waters has made the prop-scarring impacts more widespread, and there has been a recognized need in some regions for both enhanced management of these systems and increased awareness by the boating public. Water quality and, in particular, water clarity are now considered among the most critical factors in the maintenance of healthy SAV habitats. In the past few years, it has become increasingly evident that, with few exceptions, seagrasses generally require light intensities reaching the leaves of 15 to 25% of the surface incident light (Kenworthy and Fonseca 1996, Gallegos and Kenworthy 1996, Onuf 1996). However, water transparency standards historically have been based on light requirements of phytoplankton which typically require only 1% of surface light (Kenworthy and Haunert 1991). Many factors act to reduce water column transparency, with excess suspended solids and nutrients being considered to be among the most important and most controllable through watershed management practices. The loss of seagrasses, regardless of the cause, leads to several undesirable, and often difficult to reverse, situations that reflect on aquatic vascular plant ecological values. Losses can and have led to reduced sediment binding and water motion baffling capability of the habitat allowing sediments to be more readily resuspended and moved (Fonseca 1996). The physical ramification includes

increased shoreline erosion (e.g., as occurred in some areas after the seagrass die-off in the 1930's) and water column turbidity.

## **Fauna**

Several marine species regularly utilize lower Florida Keys oceanic and estuarine habitats. Among these are federally managed fish species, marine mammal species, and sea turtles. Sea turtles and federally listed coral are also listed in the Section 3.8 (Threatened & Endangered Species).

### **Sea Turtles**

Five species of sea turtles are known to inhabit the waters in Monroe County and throughout the State of Florida. The loggerhead sea turtle (*Caretta caretta*) is the most common sea turtle in South Florida. Habitat for this reptile is relatively uncertain, as they seem to occupy and utilize a variety of marine habitats; consequently, no critical habitat has been designated for this species (USFWS 1999). Nesting season in the Florida Keys begins on April 15 and ends on October 31 (Save A Turtle, Inc. 2004). Loggerhead sea turtles are migratory animals, and breeding females may migrate hundreds of miles to the ideal beaches of Florida in order to nest (USFWS 1999). Approximately 80% of all loggerhead sea turtle nesting sites occur on the east coast of Florida in Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward Counties (NMFS and USFWS 1991).

Save-a-Turtle, Inc. has compiled nesting data for Boca Chica Key from 1986 to the present. The public beach area (south of Old Boca Chica Road) consists mostly of rocky shoreline with some sandy beach sections (Barham 2005e) and is considered nesting beach habitat. Portions of this shoreline are owned by the Navy, Monroe County, and the State of Florida. Surveys have been completed for this area, but they were sporadic, as surveys were not conducted during some years. All sea turtle activity for this area is considered to be from loggerhead turtles; however, no nests have been documented. Table 3-3 provides data on sea turtle nesting for the Boca Chica Key public beach area.

**Table 3-3  
Loggerhead Sea Turtle Nesting Data  
Boca Chica Key, Florida**

Year	Nests	False Crawls
1986	0	0
1987	0	3
1988	0	0
1989	0	2
1990	0	0
1991	0	1
1992	0	2
1993	0	1
1994	0	0
1995	0	0
1996	0	0
1997	0	0
1998	No survey	No survey
1999	0	0
2000	No survey	No survey
2001	0	1
2002	0	0
2003	No survey	No survey
2004	0	0
2005	4*	0*
2006	0	0

Source: Wells 2004.

\*

*\*Although the survey recorded 4 nests, there were no nest evaluations done. Therefore, these nests could have been false crawls*

*Note: False crawls are defined as an area on a nesting beach where a female has noticeably crawled onshore but failed to dig a nest.*

## Coral Reefs

The Florida reef tract is the most extensive living reef system in North America, and the third largest system in the world (FKNMS n.d.). The reef system extends from Looe Key Reef to Cosgrove Shoal, south of the Marquesas (FMRI 2000). All but the northernmost extent of this reef tract lies within the boundaries of the FKNMS, which also includes Boca Chica Key (NOAA 1996). Hundreds of marine species are found within the Florida reef tract, including sponges, jellyfish, firecorals, anemones, false corals, stony corals, and octocorals (NOAA 1996). The rigidity of coral reefs helps protect the shoreline from destructive tropical storm waves. Reefs provide habitats for hundreds of species of marine organisms, including commercially important finfish and shellfish.

Various coral and hardbottom benthic habitats occur immediately adjacent to Boca Chica Field. The predominant community found in the waters adjacent to the airfield is considered hardbottom. In relation to Boca Chica Field, this hardbottom community is found all along the

southern edge of the Field in open water, as well as adjacent to Runway 25. Further away from the airfield, it occurs from the northwest to the northeast, along with various seagrass communities. In the open water south of Boca Chica Field, both aggregated patch reefs and individual patch reefs occur. Patch reefs are discrete coral communities that are typically dome-shaped and circular, although they may form a line. They may range in size from tens to thousands of square meters and occur in depths of 3.3 feet to 65.6 feet (1 to 20 m; USACE 2003). Aggregated patch reefs are clustered patch reefs that individually are too close together to map separately, and individual patch reefs are distinctive single patch reefs. These patch reef habitats are found between 1,476 and 2,132 feet (450 and 650 meters) offshore of Boca Chica Field.

- Executive Order 13089 (*Coral Reef Protection of June 11, 1998*) provides Federal protection for coral reefs. In response to this Executive Order, the EPA and NOAA funded a coral reef monitoring project that the FMRI implemented in 1996. Data from this project indicated a 38% decline in coral cover within the FKNMS, and a reduction in coral species diversity at most sites between 1996 and 1999. Since 1999, coral cover has not declined significantly; however, coral cover does not seem to be increasing either, which could indicate a lack of resilience in the FKNMS coral reefs. Major contributors to coral reef decline in the Florida Keys include degraded water quality, physical impacts, and over-fishing (FKNMS n.d.). In addition, the scleractinian corals *Acropora cervicornis* (staghorn) and *Acropora palmate* (elkhorn) have recently been listed as threatened under the ESA. Pursuant to the National Defense Authorization Act of 2004, Public Law 108 -136, the Navy deems that this INRMP provides a conservation benefit to staghorn and elkhorn corals and has therefore determined that a critical habitat exclusion for these species is warranted for the nearshore environments owned and controlled by the Navy (Appendix C). These species of coral are particularly vulnerable to oceanic perturbations, and if any are found to exist adjacent to NAS Key West maritime facilities, they must be protected. Of this date, none of these two threatened species have been found adjacent to NAS Key West maritime facilities. The Navy conducted benthic marine surveys for several NASKW maritime areas in spring 2006. These areas include three finger piers perpendicular to Pier D-1 and located at Trumbo Point. In addition, the seawall along the Naval Research Laboratories (NRL) in the

Fleming Key area was quantitatively assessed. In addition, the Navy assessed the following NASKW maritime areas in the fall of 2006: Fleming Key Dock, Fleming Key Special Operations Area, Boca Chica Weapons Hammock Area, Mole and Truman Harbor Area, and the Trumbo Point Area. Neither assessment observed any threatened coral (*Acropora* spp.) colonies attached to, or in the vicinity of, any Navy owned maritime property.

## **Fish & Essential Fish Habitat**

There are 88 species of fish that occur in the waters proximate to the NAS Key West that are federally managed by the South Atlantic Fisheries Management Council (SAFMC). In addition, the National Marine Fisheries Service (NMFS) manages all the ‘highly migratory species’ and has developed fisheries management plans for each of these. Several of the SAFMC managed species have Essential Fish Habitat (EFH) listed for them, and future projects that may adversely affect any of these species would require consultation with the NMFS. The Magnuson-Stevens Fishery Conservation and Management Act of 1996 (MSFCMA) requires that the NMFS, the regional fishery management councils, and the Secretary of Commerce to describe and identify essential fish habitat (EFH) for important marine and anadromous fish habitat for species listed in federal Fishery Management Plans. EFH includes all waters and substrate necessary to fish for spawning, breeding feeding, or growth to maturity and extends from offshore habitats to inland areas to where the salt-water influence subsides. The EFH Final Rule defines EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” The following definitions apply for interpreting the definition of the EFH rule:

- “Waters” include aquatic areas and their physical, chemical, and biological properties that are used by fish and invertebrates and, where appropriate, may include areas historically used by fish and invertebrates;
- “Substrate” includes sediment, hard bottom, structures underlying the waters, and biological communities;
- “Necessary” means the habitat required to support a sustainable fishery and a healthy ecosystem; and

- “Spawning, breeding, feeding, or growth to maturity” covers species’ full life cycle.

Fish habitat is the geographic area where the species occurs at any time during its life. This area can be described by ecological characteristics, location, and time. EFH includes waters and substrate that focus on distribution (e.g., coral reefs, marshes, or submerged aquatic vegetation [SAV]), and other characteristics that are less distinct, such as turbidity zones, water quality, and salinity gradients. Habitat use may change or shift over time due to climatic change, human activities and impacts, and/or other factors such as change with life history stage, species abundance, competition from other species, and environmental variability in time and space. The type of habitat available, its attributes, and its functions are important to species productivity, diversity, health, and survival.

The MSFCMA requires federal agencies to consult with NMFS when any activity proposed to be permitted, funded, or undertaken by a federal agency may adversely affect EFH. Affects to EFH were considered when preparing this INRMP, and no projects considered within are expected to adversely affect EFH. Moreover, implementation of the INRMP would be expected to improve water quality and estuarine and marine habitats.

In 2006, a comprehensive Essential Fish Habitat Assessment was completed in support of the *Environmental Impact Statement for the Restoration of Clearzones and Stormwater Drainage Systems at Boca Chica Field, NASKW*. This assessment included a functional evaluation of mangrove habitat within the airfield clearzones. The assessment concluded that due to the physical configuration, hydrologic nature and information presented previously from the SAFMC (1998), much of the mangrove habitat found at NAS Key West is the ‘*mangrove basin*’ type. Based on field surveys and data presented in Sections 4, 5, and 6 of this assessment (Navy 2006), extreme variations in salinities throughout the lagoon system indicate minimal tidal exchange and suggests that the estuarine assemblage utilizing these environments is limited to euryhaline, tolerant species. The federally managed species most likely to be present adjacent to NAS Key West maritime facilities are members of the snapper-grouper fishery management plan (FMP) as many of these species are likely to be found in shallow, near-shore mangrove habitat.

## Marine Mammals

All of the marine mammals that may potentially occur within the NAS Key West area are federally protected under the Marine Mammal Protection Act (MMPA). The MMPA protects marine mammals within the territorial waters of the US, on the US Exclusive Economic Zone and on the high seas. The act prohibits marine mammal takes unless a permit is secured from the NMFS.

Approximately 29 species (Table 3-4) of marine mammals (baleen whales, toothed whales, and manatees) are found within the Gulf of Mexico. Many of these species are present within the Lower Keys region. For a current list and information on marine mammals that utilize the Key West area, please consult the Navy Marine Resource Assessment for the Gulf of Mexico (Navy 2007b).

**TABLE 3-4 – Marine Mammals Species Found in the Gulf of Mexico**

	Scientific Name	Status	Occurrence <sup>1</sup>
<b>Order Cetacea</b>			
Suborder Mysticeti (baleen whales)			
Family Balaenidae (right whales)			
North Atlantic right whale	<i>Eubalaena glacialis</i>	Endangered	Extralimital
Family Balaenopteridae (rorquals)			
Humpback whale	<i>Megaptera novaeangliae</i>	Endangered	Extralimital
Minke whale	<i>Balaenoptera acutorostrata</i>		Rare
Bryde's whale	<i>Balaenoptera edeni</i>		Regular
Sei whale	<i>Balaenoptera borealis</i>	Endangered	Extralimital
Fin whale	<i>Balaenoptera physalus</i>	Endangered	Rare
Blue whale	<i>Balaenoptera musculus</i>	Endangered	Extralimital
Suborder Odontoceti (toothed whales)			
Family Physeteridae (sperm whale)			
Sperm whale	<i>Physeter macrocephalus</i>	Endangered	Regular
Family Kogiidae (pygmy sperm whales)			
Pygmy sperm whale	<i>Kogia breviceps</i>		Regular
Dwarf sperm whale	<i>Kogia sima</i>		Regular
Family Ziphiidae (beaked whales)			
Cuvier's beaked whale	<i>Ziphius cavirostris</i>		Regular
Gervais' beaked whale	<i>Mesoplodon europaeus</i>		Rare
Sowerby's beaked whale	<i>Mesoplodon bidens</i>		Extralimital
Blainville's beaked whale	<i>Mesoplodon densirostris</i>		Regular
Family Delphinidae (dolphins)			
Rough-toothed dolphin	<i>Steno bredanensis</i>		Regular
Bottlenose dolphin	<i>Tursiops truncatus</i>		Regular
Pantropical spotted dolphin	<i>Stenella attenuata</i>		Regular

Atlantic spotted dolphin	<i>Stenella frontalis</i>		Regular
Spinner dolphin	<i>Stenella longirostris</i>		Regular
Clymene dolphin	<i>Stenella clymene</i>		Regular
Striped dolphin	<i>Stenella coeruleoalba</i>		Regular
Fraser's dolphin	<i>Lagenodelphis hosei</i>		Regular
Risso's dolphin	<i>Grampus griseus</i>		Regular
Melon-headed whale	<i>Peponocephala electra</i>		Regular
Pygmy killer whale	<i>attenuata</i>		
False killer whale	<i>Pseudorca crassidens</i>		Regular
Killer whale	<i>Orcinus orca</i>		Regular
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>		Regular
<b>Order Sirenia</b>			
Family Trichechidae (manatees)			
West Indian manatee	<i>Trichechus manatus</i>	Endangered	Extralimital*

Source: Navy2007b

<sup>1</sup> **Regular** = A species that occurs as a regular or normal part of the fauna of an area regardless of its abundance

**Rare** = A species that only occurs in an area sporadically

**Extralimital** = A species that does not normally occur in an area and occurrence is considered to be beyond the normal range of the species even though one or more occurrence records exist

\* The extralimital designation for this species specifically applies to the offshore area formally considered as the GOMEX MRA study area

There is no critical habitat within the lower Florida Keys for the West Indian Manatee (*Trichechus manatus*), due to low freshwater input to the region. However, the species may utilize the shallows adjacent to base maritime areas, especially the marina and shallow approach channels. Base personnel utilizing the Boca Chica marina should be made aware of the potential for manatees and reminded to adhere to 'no wake zones' within shallow areas. Signage should be displayed where appropriate. All base personnel should be made aware of marine mammal law and should stay clear of all marine mammals when they are spotted in and around NAS Key West waters.

## 3.7 Terrestrial Resources

### Flora

#### **Vegetative Communities**

Prior to colonization and development, the biological environment of NAS Key West was considerably different than it is today. Historically, the Keys were dominated by subtropical vegetative communities that are typical of the South Florida environment. Today, these

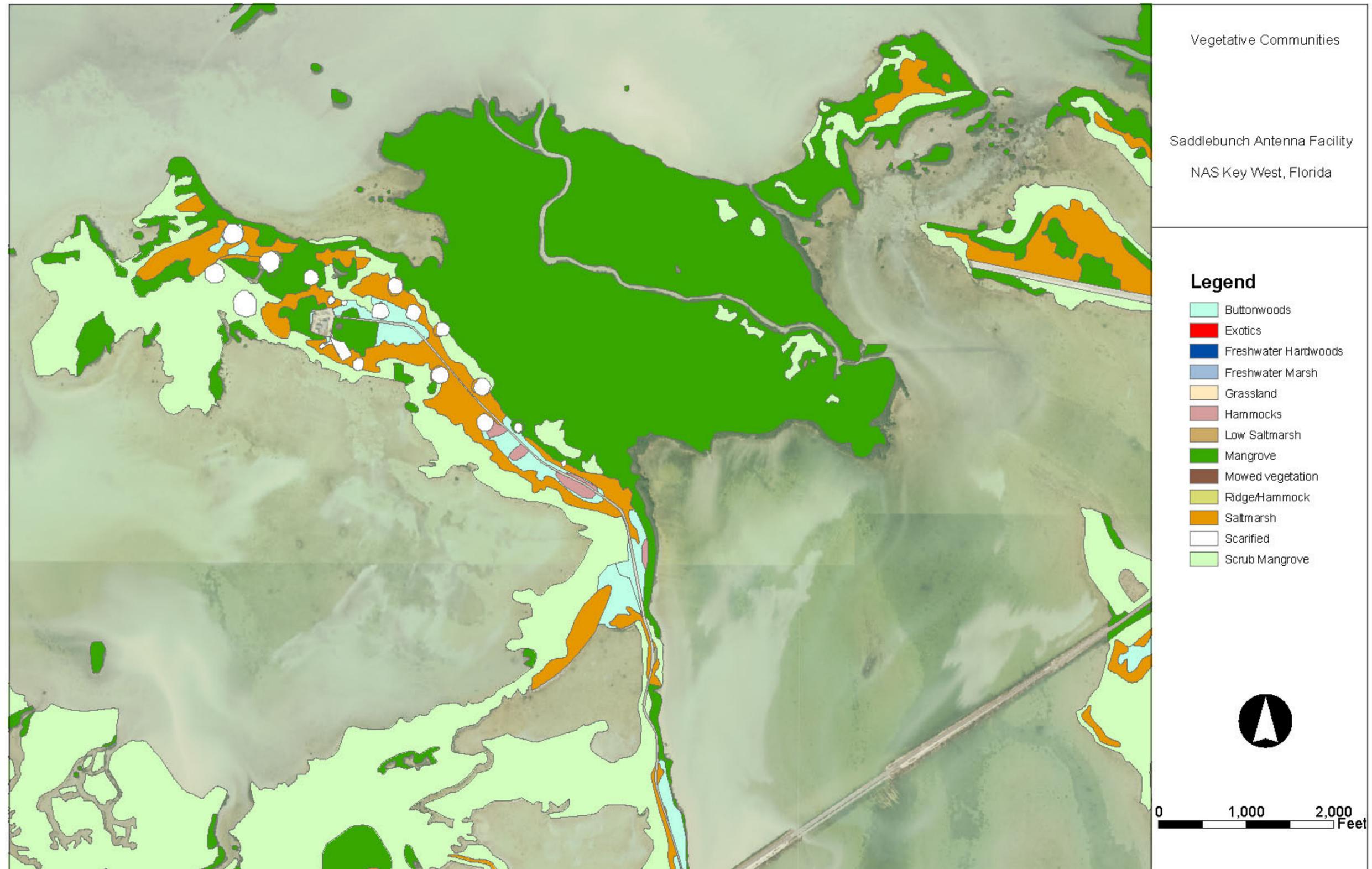
communities are found only scattered throughout NAS Key West. Terrestrial vegetative communities that characterize the Florida Keys and the majority of vegetative communities at NAS Key West include tropical hardwood hammocks, grasslands, buttonwoods, salt marsh, freshwater marsh, and mangrove forests.

Several spatial databases mapping terrestrial habitats are available for the Florida Keys. The Advanced Identification of Wetlands GIS layer is currently the source of spatial terrestrial habitat data used by NAS Key West which classifies land cover in the Florida Keys into 15 types (Figures 3-4 and 3-5).

Figure 3-4



Figure 3-5



## Natural Communities

Florida Natural Areas Inventory (FNAI) performed ecological surveys including a natural areas survey on the properties of Naval Air Station Key West from January through December, 2004 to supersede the previous 1994 ecological survey completed by FNAI. The natural communities surveyed were classified as described in the *Guide to the Natural Communities of Florida* developed by the FNAI and identified as collectively constituting the original, natural biological associations of Florida. A Natural Community (NC) is defined as a distinct and reoccurring assemblage of populations of plants, animals, fungi and microorganisms naturally associated with each other and their physical environment. Natural Communities are characterized and defined by a combination of physiognomy, vegetation structure and composition, topography, land form, substrate, soil moisture condition, climate, and fire. They are named for their most characteristic biological or physical feature.

Seventy five occurrences of five natural community types were identified on the properties at NAS Key West. Site specific descriptions of these natural communities are provided below.

***Tidal swamp.*** On NAS Key West, tidal swamp covers by far the greatest area. These tidal areas have relatively low plant species diversity and are dominated by three mangrove species, red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), and white mangrove (*Laguncularia racemosa*). The relative abundance of these species, their density, average height, degree of canopy closure and the diversity of associated herbaceous species varies from site to site. Buttonwood (*Conocarpus erectus*) may infrequently be included with the mangroves, but they tend toward a more scrub-like growth habit, occurring more frequently as a transition species as the tidal swamp grades into adjacent communities. The herbaceous species commonly found in Lower Keys tidal swamps are saltwort (*Batis maritima*), moonvines (*Ipomoea alba*), perennial glasswort (*Sarcocornia perennis*), key grass (*Monanthochloe littoralis*), Carolina sealavender (*Limonium carolinianum*), and sea oxeye daisy (*Borrchia frutescens*). In general, the herbaceous plants gradually increase in frequency as the community transitions into adjacent communities such as coastal rock barren, salt marsh or rockland hammock. Inclusions of saltmarsh are present within some of the mapped tidal swamp areas.

Tidal swamp communities are highly variable depending on the extent of tidal influence, salinity and substrate. Zones of vegetation typically develop along these environmental gradients. Red mangrove dominates the lowest or deep water zone, black mangrove the intermediate zone, and white mangrove and buttonwood the highest least tidally influenced zone. These typical zones are obvious at only a few sites on NAS Key West property; most of the tidal swamps in study area are composed of a mosaic of mangrove

species. Additional site specific tidal swamp descriptions are provided for each of the NAS Key West properties that support this community in the 2005 FNAI report.

**Coastal Rock Barren.** Coastal rock barren is an ecotonal community between tidal swamp and inland communities occurring along rocky coastlines in the Florida Keys. They are generally characterized as flat rocklands with much exposed and eroded limestone and are sparsely vegetated with stunted, xeric and halophytic shrubs, cacti, algae, and herbs. Coastal rock barrens are among the most endangered natural communities in Florida. Though they cover far less area of Navy land than the tidal swamps, the coastal rock barrens exhibit more variation than do the tidal swamp communities. The structure and composition vary with soils/substrates, salinity, and topography and range from sparsely vegetated rocky or marl flats to moderately dense shrub thickets on shallow organic soil.

Buttonwood is the dominant plant found in coastal rock barren. It varies from stunted sprawling multi-stemmed shrubs to 30 ft tall trees. Other typical species are saffron plum (*Sideroxylon celastrinum*), blackbead (*Pithecellobium keyense*), black torch (*Erithalis fruticosa*), bay cedar (*Suriana maritima*), randia (*Randia aculeata*), wild dilly (*Manilkara jaimiqui*), poisonwood (*Metopium toxiferum*), sea grape (*Coccoloba uvifera*), joewood (*Jacquinia keyensis*), rhacoma (*Crossopetalum rhacoma*), Spanish stopper (*Eugenia foetida*), Christmas berry (*Lycium carolinianum*), oxeye daisy species (*Borrchia frutescens* and *B. arborescens*), annual and perennial glassworts (*Salicornia bigelovii* and *Sarcocornia perennis*), key grass, saltgrass (*Distichlis spicata*), seashore dropseed (*Sporobolus virginicus*), cordgrass and saltmarsh fringe rush (*Fimbristylis spadicca*). Two rare plants are predominately found in coastal rock barren: manchineel (*Hippomane mancinella*) and Porter's broom spurge (*Chamaesyce porteriana* var. *scoparia*).

Coastal rock barrens also may be referred to as salt marshes, cactus barrens, or buttonwood perimeter zones. A marsh-like structure is often present where the surface rock/substrate has been disturbed. These areas often support gulf cordgrass (*Spartina spartinae*) and seashore dropseed, but are rarely inundated. Examples of this altered community are present around the Boca Chica Field.

**Beach Dune.** Beach dune is characterized as a wind-deposited, foredune and wave-deposited upper beach that are sparsely to densely vegetated with pioneer species, especially sea oats (*Uniola paniculata*). Very little of this community type naturally occurs in the Keys and even less on NAS Key West property; there are only two small areas, both on Boca Chica off the Old Boca Chica Road Coast. Both of these areas have some ruderal components, but nevertheless are important natural areas. The threats to this community are storm damage, borrow and fill, clearing, vegetation trampling, and outright development.

**Coastal Berm.** Coastal berm applies to a variety of plant associations that develop on ridges of storm deposited sand, shells, and debris. These associations include dense thickets of large shrubs and small trees, hammocks, or sparse shrubby vegetation with spiny xerophytic plants. In the Lower Keys on NAS Key West the coastal beach berm occurs occasionally in two general forms. One type of berm may be characterized as rather ephemeral, consisting of loosely deposited shell and marl sands forming small, low (a foot high, more or less) ridges which will partly define salt ponds or flats in a lagoon

setting, or will occur along outer edges of scrub mangroves or the rock barrens of these lagoons. In this form they will generally support scrub buttonwood and black or white mangroves, Christmas berry, sea purslane (*Sesuvium* sp.), key grass and saltgrass and/or seashore dropseed, sea oxeye, and bay cedar or sea grape or even 7-year apple (*Genipa clusiifolia*) and joewood. The second general form has a broader mound to several feet high made up of long-term deep storm deposits of shell/marl sands and detritus over rocky substrate adjacent to the rock barren or within or behind the mangrove communities. These soft ridges support large, old, diverse and xeric populations of buttonwood, saffron plum, prickly pear (*Opuntia* sp.), sea grape, cordgrass, poisonwood, Jamaican caper (*Capparis cynophallophora*), blackbead, and other woody and/or thorny shrubs and trees.

**Rockland Hammock.** Rockland hammock is a hardwood forest on upland sites where limestone is very near the surface and is often exposed. Vegetation can be similar to that of the coastal berms, but is typically more diverse and has a more developed canopy. Rockland hammock is the climax community and the most tree rich community in the Keys. Canopy species on NAS Key West include Jamaican dogwood (*Piscidia piscipula*), gumbo limbo (*Bursera simaruba*), poisonwood, buttonwood, sea grape, blolly (*Guapira discolor*), pigeon plum (*Coccoloba diversifolia*), black ironwood (*Krugiodendron ferreum*), inkwood (*Exothea paniculata*), willow bastic (*Sideroxylon salicifolium*), Spanish stopper, white stopper (*Eugenia axillaris*), darling plum (*Reynosa septentrionalis*), Keys thatch palm (*Thrinax morrisii*), Florida thatch palm (*Thrinax radiata*), wild dilly, black torch, blackbead, locustberry (*Byrsonima lucida*), rhacoma, and torchwood (*Amyris elemifera*). Additionally, wild tamarind (*Lysiloma latisiliquum*) and mahogany (*Swietenia mahagoni*) are present at Battery HM-40. Most of these species also make up the continuous understory, shrub and groundcover layers, with the addition of randia, saffron plum, and lancewood (*Ocotea coriacea*).

The Navy's rockland hammocks are found on Big Coppitt, Rockland Key, Boca Chica Field, Saddlebunch Key, north Boca Chica, and north Key Largo.

## Invasive and Exotic Plants

FNAI completed field surveys from January to December, 2004 to identify invasive and exotic plant species on properties at NAS Key West. The Florida Exotic Plant Pest Council's most recent version of the Florida Invasive Plant Species List was used to identify which species to consider for this survey (FLEPPC, 2003). Australian pine (*Casuarina equisetifolia*), Brazilian pepper (*Schinus terebinthifolius*), latherleaf (*Colubrina asiatica*), Lead tree (*Leucaena leucocephala*), sisal hemp (*Agave sisalana*) and melaleuca (*Melaleuca quinquenervia*) pose the greatest threat to natural areas and other vegetated areas on NAS Key West.

Two thousand three hundred and fifty three occurrences of 47 invasive exotic species were documented on NAS Key West. Occurrences small in size that could be adequately represented without delineating an area are mapped as a point. Polygons were created for larger

and more expansive infestations. It should be noted that polygons don't necessarily indicate a more severe condition, but merely provide a more accurate means of visual representation (Figures 3-6 – 3-8). The severity is represented by the count and density data for each occurrence. Twenty two of these species are ranked as Category I by FLEPPC; twenty are ranked as Category II; six are not currently ranked, but may be considered for ranking and merited recording (Table 3-5). Rank definitions are provided below the table.

Figure 3-6



Figure 3-7



Figure 3-8



**Table 3-5. Invasive Exotic Plants documented on Navy Properties in the Florida Keys**

Species	Common Name	Occurrences	EPPC Rank
<i>Acacia auriculiformis</i>	earleaf acacia	2	Category I
<i>Agave sisalana</i>	sisal hemp	8	Category II
<i>Agave sp.</i>	Agave	9	Category II
<i>Albizia lebbek</i>	woman's tongue	30	Category I
<i>Bauhinia variegata</i>	Orchid tree	6	Category I
<i>Calophyllum antillanum</i>	Santa Maria	9	Category I
<i>Casuarina equisetifolia</i>	Australian pine	362	Category I
<i>Colubrina asiatica</i>	Latherleaf	33	Category I
<i>Cryptostegia madagascariensis</i>	Madagascar rubbervine	4	Category II
<i>Eugenia uniflora</i>	Surinam cherry	1	Category I
<i>Ficus microcarpa</i>	laurel fig	54	Category I
<i>Flacourtia indica</i>	governor's plum	4	Category II
<i>Hibiscus tiliaceus</i>	Mahoe	5	Category II
<i>Hylocereus undatus</i>	night-blooming cereus	4	N*
<i>Jacquinia arborea</i>	Braceletwood	3	N*
<i>Jasminum fluminense</i>	Brazilian jasmine	15	Category I
<i>Kalanchoe pinnata</i>	life plant	77	Category II
<i>Lantana camara</i>	Lantana	5	Category I
<i>Leucaena leucocephala</i>	Lead tree	152	Category II
<i>Manilkara zapota</i>	Sapodilla	10	Category I
<i>Melaleuca quinquenervia</i>	Melaleuca	38	Category I
<i>Melia azederach</i>	Chinaberry	1	Category I
<i>Neyraudia reynaudiana</i>	Burma reed	2	Category I
<i>Panicum maximum</i>	Guinea grass	2	Category II
<i>Pennisetum purpureum</i>	Napier grass	3	Category I
<i>Pennisetum setaceum</i>	green fountaingrass	1	Category II
<i>Phoenix dactylifera</i>	date palm	1	Category II
<i>Phoenix reclinata</i>	Senegal date palm	1	Category II
<i>Phoenix sp.</i>	date palm	57	Category II
<i>Pteris vittata</i>	Chinese brake fern	4	Category II
<i>Ptychosperma elegans</i>	solitaire palm	1	Category II
<i>Ricinus communis</i>	castor bean	3	Category II
<i>Sansevieria hyacinthoides</i>	bowstring hemp	57	Category II
<i>Scaevola sericea</i>	beach naupaka	50	Category I
<i>Schefflera actinophylla</i>	umbrella tree	151	Category I
<i>Schinus terebinthifolius</i>	Brazilian pepper Brazilian pepper	703	Category I
<i>Sesbania sericea</i>	Sesban	56	N*
<i>Syngonium podophyllum</i>	arrowhead vine	2	Category I
<i>Tabebuia heterophylla</i>	trumpet tree	112	N*
<i>Tamarindus indica</i>	edible tamarind	4	N*
<i>Terminalia catappa</i>	tropical almond	56	Category II
<i>Thespesia populnea</i>	seaside mahoe	113	Category I
<i>Tradescantia fluminensis</i>	wandering Jew	3	Category I
<i>Tradescantia spathacea</i>	oyster plant	73	Category I

<i>Tribulus cistoides</i>	Puncturevine	2	Category II
<i>Washingtonia robusta</i>	Washington palm	62	N*
<i>Wedelia trilobata</i>	Wedelia	2	Category II
<p>* The Florida Keys Invasive Exotic Task Force (FKIETF) lists <i>Hylocereus</i> as Category II and <i>Tabebuia</i> as Category III on the to-be-watched list. <i>Sesbania sericea</i> is likely to be listed soon by FLEPPC and FKIETF as a Category II invasive. <i>Washingtonia</i> has been listed by FKIETF in the past, but its current invasion into natural areas appears very slow and it is not listed. <i>Tamarindus</i> and <i>Jacquinia</i> are invading hammocks on NAS KeyWest; these species deserve monitoring at the least, but are currently not listed, nor are they likely to be listed anytime soon (<i>Tamarindus</i> has been found in Cudjoe hammock as well).</p>			

**FLEPPC Category I** - Invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. *This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused.*

**FLEPPC Category II** - Invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species. *These species may become ranked Category I, if ecological damage is demonstrated*

## **Fauna**

The unique natural communities on NAS Key West provide habitat for a variety of mammal, bird, reptile and invertebrate species. These communities provide important nesting and roosting areas and offer prime foraging habitat for many migratory and resident birds such as passerines, raptors, shorebirds and wading birds. These communities also provide habitats for the general spectrum of native frogs, snakes, and lizards, native tree snails, and most of the few native mammal species found in the Keys (raccoon, Lower Keys marsh rabbit, Silver rice rat, Key Largo woodrat, Key Largo cotton mouse).

FNAI conducted rare animal survey which focused primarily on breeding birds and the Keys mole skink (*Eumeces egregius egregius*) on NAS Key West properties from April through August 2004. The FNAI report provides a list of those rare birds identified such as prairie warbler (*Dendroica discolor paludicola*) Cuban yellow warbler (*Dendroica petechia gundlachi*), mangrove cuckoo (*Coccyzus minor*) black-whiskered vireo (*Vireo altiloquus*) and white-crowned pigeon (*Columba leucocephala*). The natural communities remaining on NAS Key West properties provide important summer habitats as well as winter and stopover habitats for breeding and migrant birds including neotropical species. The Keys mole skink was not observed on NAS Key West.

## **3.8 Threatened and Endangered Species**

Table 3-6 provides a list of Federal and State listed threatened and endangered species that occur, or have the potential to occur on NAS Key West, including the 34 state and federal listed plant species observed on NAS Key West during the FNAI 2005 survey. Occupied and potential habitats occurring on NAS Key West property for certain rare, threatened and endangered species are depicted in Figures 3-9 – 3-11. Section 4.3 (Threatened and Endangered Species) provides the current status, survey information, and habitat conditions for each of the threatened and endangered species that occur, is likely to occur, and/or is actively managed on NAS Key West.

**TABLE 3-6 Federal & State Listed Candidate, Threatened And Endangered Species That Occur Or Potentially Occur On NAS Key West**

SPECIES		STATUS		
COMMON NAME	SCIENTIFIC NAME	USFWS/ NOAA	FFWCC	Known to Occur
<b>Mammals</b>				
Key Largo Woodrat	<i>Neotoma floridana smalli</i>	E	E	
Silver Rice Rat	<i>Oryzomys palustris natator</i>	E	E	✓
Key Largo Cotton Mouse	<i>Peromyscus gossypinus allapaticola</i>	E	E	
Lower Keys Marsh Rabbit	<i>Sylvilagus palustris hefneri</i>	E	E	✓
West Indian Manatee	<i>Trichechus manatus</i>	E	E	✓
<b>Birds</b>				
White-crowned Pigeon	<i>Columba leucocephalus</i>		T	✓
Peregrine Falcon	<i>Falco peregrinus</i>		E	✓
Bald Eagle	<i>Haliaeetus leucocephalus</i>	T	T	✓
Least Tern	<i>Sterna Antillarum</i>		T	✓
Roseate Tern	<i>Sterna dougallii dougallii</i>	T	T	✓
<b>Reptiles &amp; Amphibians</b>				
American Crocodile	<i>Crocodylus Acutus</i>	E	E	✓
Eastern Indigo Snake	<i>Drymarchon Corais Couperi</i>	T	T	
Green Sea Turtle	<i>Chelonia mydas</i>	E	E	
Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	E	E	
Leatherback Sea Turtle	<i>Dermochelys coriacea</i>	E	E	
Loggerhead Sea Turtle	<i>Caretta caretta</i>	T	T	✓
Key Ringneck Snake	<i>Diadophis punctatus acricus</i>		T	
Lower Keys Brown Snake	<i>Storeria dekayi victa</i>		T	
Rim Rock Crowned Snake	<i>Tantilla oolitica</i>		T	
Lower Keys Ribbon Snake	<i>Thamnophis sauritus sackenii</i>		T	
<b>Fish</b>				
Smalltooth Sawfish	<i>Pristis pectinata</i>	E	E	
<b>Invertebrates</b>				
Elkhorn Coral	<i>Acropora palmata</i>	T		
Miami Blue Butterfly	<i>Cyclargus thomasi bethunebakeri</i>	C	E	
Schaus Swallowtail Butterfly	<i>Heraclides aristodemus ponceanus</i>	E	E	
Staghorn Coral	<i>Acropora cervicornis</i>	T		
Stock Island Tree Snail	<i>Orthalicus reses (not incl. nesodryas)</i>	T	E	

**TABLE 3-6(CONT.)**

<b>Plants</b>				
Cinnecord, Tamarindillo	<i>Acacia choriophylla</i>		E	✓
Barbed-Wire Cactus	<i>Acanthocereus tetragonus</i>		T	✓
Seaside Ageratum	<i>Ageratum littorale</i>		E	✓
Sea Lavender	<i>Argusia gnaphalodes</i>		E	✓
Blodgett's Wild Mercury	<i>Argythamnia blodgettii</i>	C	E	✓
Pine Pink Orchid	<i>Bletia purpurea</i>		T	✓
Locustberry	<i>Byrsonima lucida</i>		T	✓
Wild Cinnamon	<i>Canella winterana</i>		E	✓
Garber's Spurge	<i>Chamaesyce garberi</i>	E	E	✓
Porter's Sandmat	<i>Chamaesyce porteriana</i>		E	✓
Silver Palm	<i>Coccothrinax argentata</i>		T	✓
Curacao Bush	<i>Cordia globosa</i>		E	✓
Rhacoma, Maidenberry	<i>Crossopetalum rhacoma</i>		T	✓
Milkbark	<i>Drypetes diversifolia</i>		E	✓
Red Stopper	<i>Eugenia rhombea</i>		E	✓
Caribbean Princewood	<i>Exostema caribaeum</i>		E	✓
Wild Cotton	<i>Gossypium hirsutum</i>		E	✓
Lignum-Vitae	<i>Guaiacum sanctum</i>		E	✓
Manchineel	<i>Hippomane mancinella</i>		E	✓
Joewood	<i>Jacquinia keyensis</i>		T	✓
Wild Dilly	<i>Manilkara jaimiqui</i>		T	✓
Prickly Pear Cactus	<i>Opuntia stricta</i>		T	✓
Smooth Devil's Claw	<i>Pisonia rotundata</i>		E	✓
Long-Stalked Stopper	<i>Psidium longipes</i>		T	✓
Bahama Wild Coffee	<i>Psychotria ligustrifolia</i>		E	✓
Bahama Brake Fern	<i>Pteris bahamensis</i>		T	✓
Inkberry, Half-Flower	<i>Scaevola plumieri</i>		T	✓
Florida Boxwood	<i>Schaefferia frutescens</i>		E	✓
Mahogany	<i>Swietenia mahagoni</i>		T	✓
Silver Thatch Palm	<i>Thrinax morissii</i>		E	✓
Green Thatch Palm	<i>Thrinax radiata</i>		E	✓
Twisted Airplant	<i>Tillandsia flexuosa</i>		T	✓
Giant Airplant	<i>Tillandsia utriculata</i>		E	✓
West Indian Trema	<i>Trema lamarckianum</i>		E	✓

SOURCE: USFWS & FFWCC 2006, FNAI 2005

**STATUS**

C = Candidate      T = Threatened  
 E = Endangered    PT = Proposed Threatened

✓ denotes species are known to occur on NAS Key West Property-(all plants listed were observed during FNAI surveys)

Figure 3-9



Figure 3-10

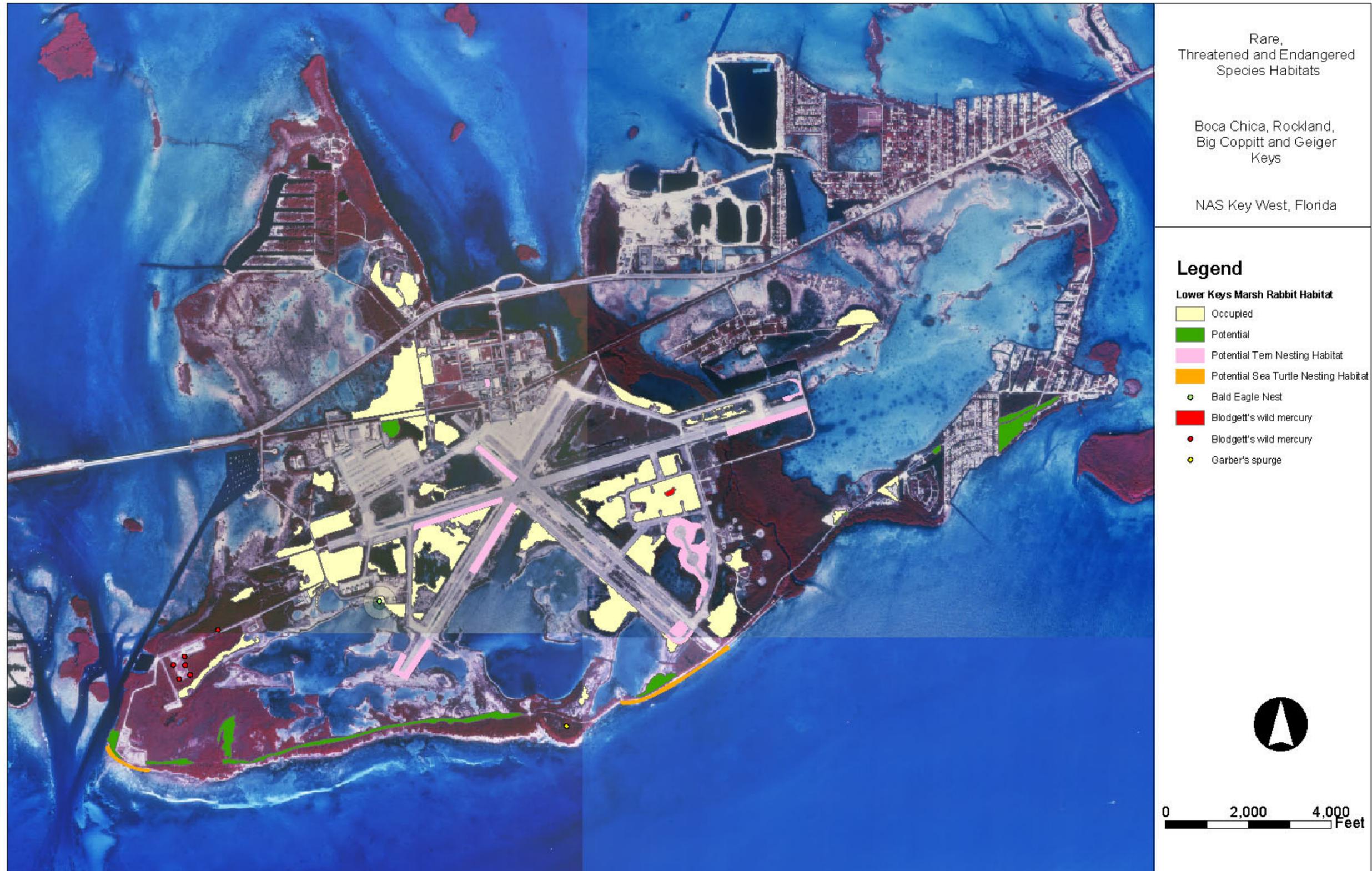
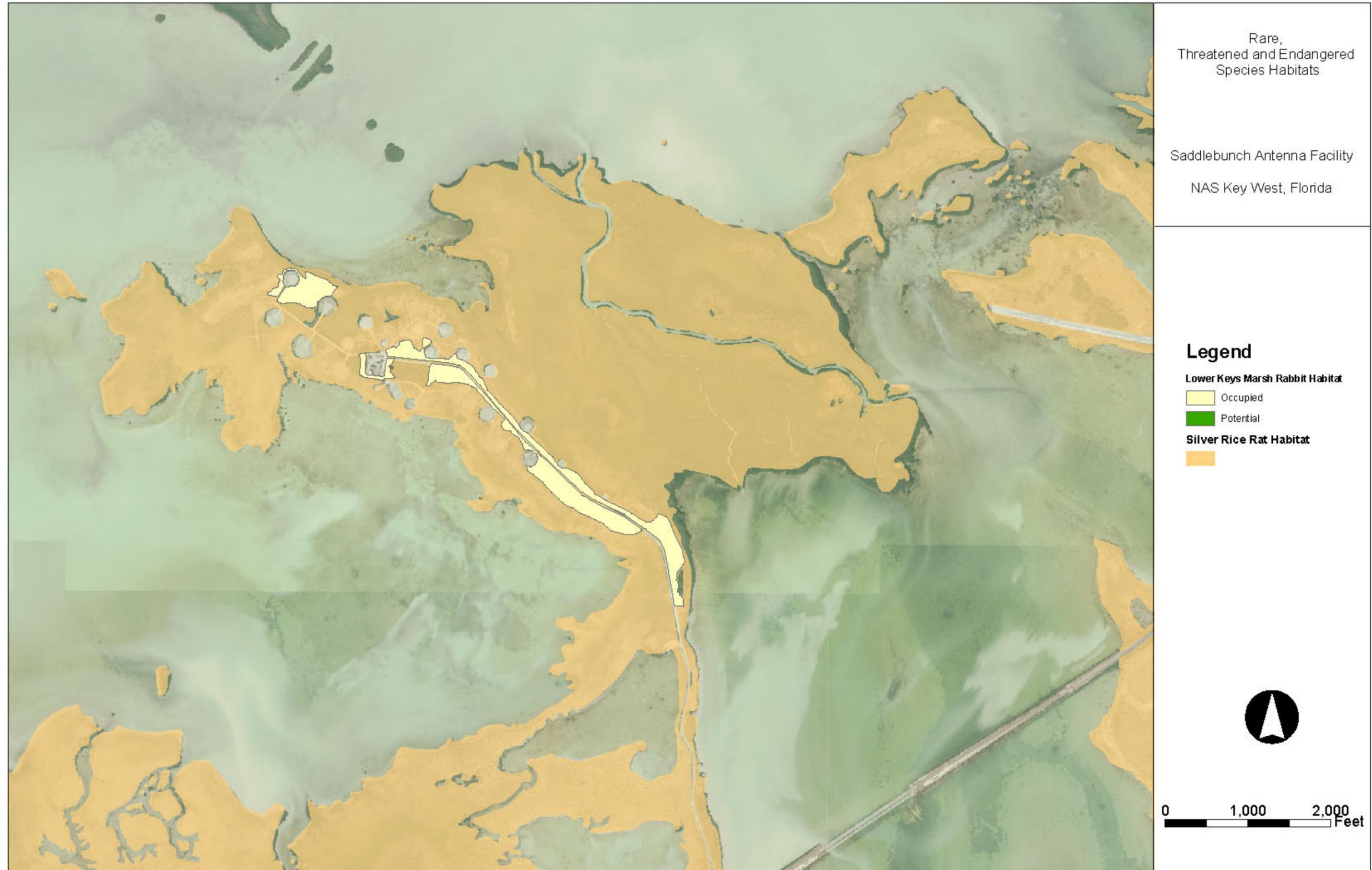
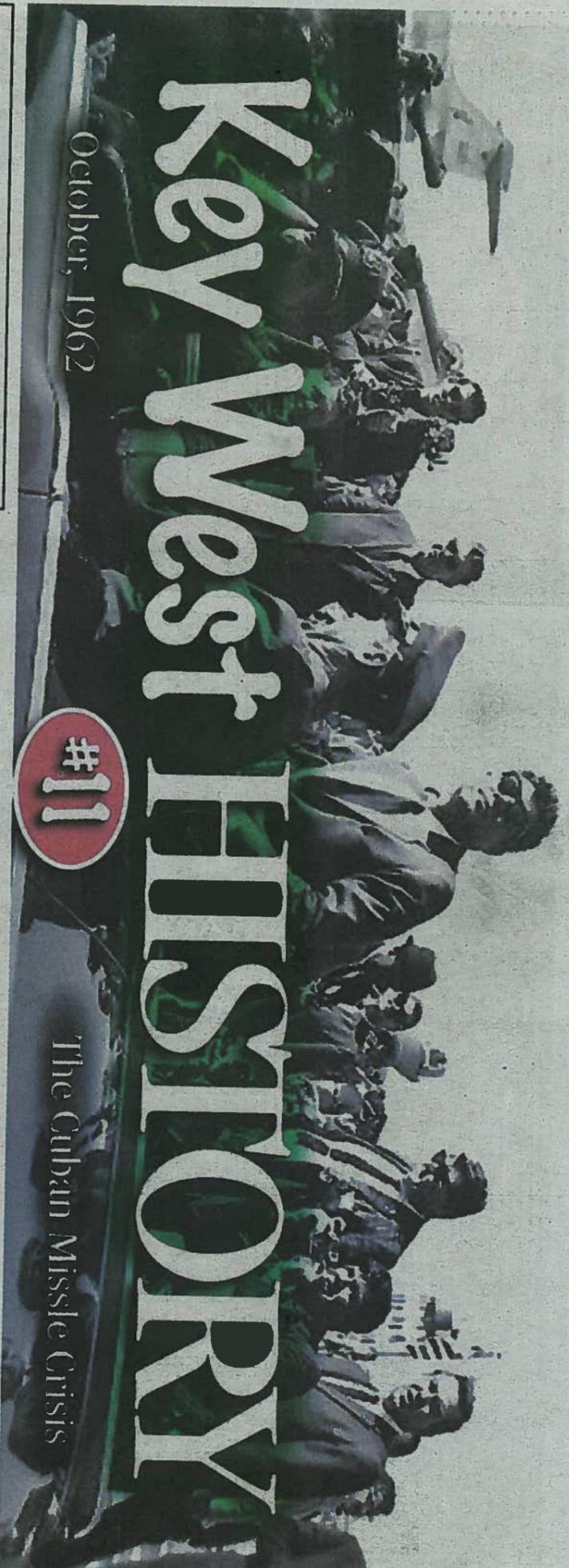


Figure 3-11





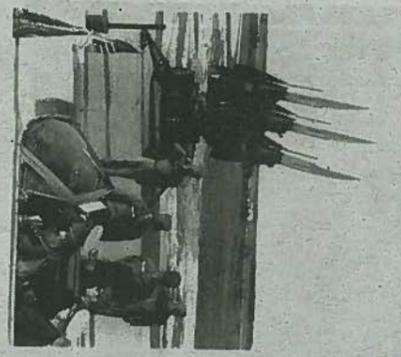
# Key West HISTORY

October, 1962

#11

The Cuban Missile Crisis

## JFK VISITS TROOPS, INSPECTS DEFENSES



On November 26, 1962 - the Monday following Thanksgiving in a year all of Key West had much to be thankful for - President John F. Kenanedy flew into Boca Chica to observe first-hand the troops and emplacements in the Keys.

## FOUND IN DALLAS Now Back in Key West

The lost 8mm film of JFK's motorcade along Duval Street



Full Story on Page 14

# MISSILES ON THE BEACH



by Joseph Butler

It was on Tuesday, October 23, 1962, that Key Westers awoke to find the military had taken over their island. HAWK missiles aboard their launchers

were parked on the sand beside A1A, soldiers were stringing triple strands of barbed wire along Smathers Beach, there was an army encampment on Rest Beach, and the military had commandeered the airport. "It

was like an armed camp had sprung up overnight," said *Gizzen* managing editor Margaret Foresman. Rumors had been flying for weeks that a military build-up was expected as part of an an-

nual Caribbean exercise, but no one had anticipated anything on this level. Just like no one had expected to hear what President Kennedy had told the country

See MISSILES on Page 3



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# Missile crisis brings Army back to Key West

By James E. Brooks

During the summer of 1962, Key West's military footprint grew after intelligence sources confirmed Soviet shipments of medium range bombers to Cuba and construction of surface-to-surface missile sites. So began one of the biggest military confrontations of the Cold War since the days of the Berlin Airlift.

In addition to Soviet merchant ships laden with shrouded cargo containers, there were other intelligence indicators hinting at something out-of-the-ordinary. Cuban military aggressiveness was on the rise. NAS Key West-based, anti-submarine warfare aircraft, S-2 "Trackers," were victims of unprecedented harassment. On Aug. 30, a Cuban patrol boat shot at a lone S-2. Eight days later, a Cuban Air Force, Russian-built, MiG 17 made a simulated attack on a pair of S-2 aircraft halfway between Key West and Cuba. As international relations between the United

States and Cuba unraveled, the Pentagon planned to rid Cuba of Russian nuclear missiles. Defending Key West from a preemptive air attack was part of the plan.

The Key West of the early 1960s was vastly different from today's beachfront and honky-tonk tourist destination. The Navy was the Southernmost City's largest employer boasting a thriving submarine base and air station. The Navy's sonar school continued a tradition of graduating trained submarine and "tin can" sailors in the fine art of anti-submarine warfare - a military warcraft that was growing in importance exponentially as ballistic submarines began to enter the U.S. and Soviet fleets.

Besides being a "Navy" town, Key West was viewed as an important strategic location as history proved time and again. Fort Taylor and the Martello Towers were built to defend the harbor and city from enemy warships capable of cannon-fire bombardment. The lessons learned from the War of 1812 and the burning of Washington, D.C. by

the British led to a series of coastal forts. In the era, the Army manned the forts and provided the necessary "force protection."

Almost a century later, the Army had all but disappeared from Key West as technology made forts obsolete and an unchallenged Navy eliminated any military threats in the Caribbean region. However, Castro's invitation to Krushchev for a Soviet military alliance seriously upset the security balance.

Key West was perhaps more anxious than the rest of the nation about an impending confrontation. Any conflict between the United States, Cuba and the Soviet Union would literally put the city on the front lines of the fighting. Warfare had changed since the days when Key West's brick forts were needed to protect the harbor and city. Attacks were most likely to come from jet aircraft and bombers. The responsibility for defending U.S. soil still belonged to the U.S. Army.

Two days before President Kennedy announced to the na-

tion the presence of Russian nuclear missile sites on Cuba, the Army ordered the 6th Battalion (HAWK), 65th Artillery to deploy to Key West and defend the Southernmost City and southern Florida from air attack.

Aerial defenses had evolved considerably since World War II. Back then, barrage balloons and anti-aircraft guns were the weapons of choice. In the modern era of the early 1960s, missiles joined the Army's air defense system.

Within hours of receiving orders, hundreds of Army soldiers boarded trains and were heading south to Homestead. From there, truck convoys brought the soldiers and their equipment to Key West snarling traffic on the narrow Overseas Highway. The missile defense system was ready for action by October 29, just nine days after receiving orders. For the Army, the time required to move and be ready to fight from four separate firing batteries and an Army Air Defense Command Post (AADCP) to coordinate the

## QUICK GUIDE To Key West's Museums & Historic Attractions Page 13

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## Where Were You in '62?

by ML McCarthy

Flung far out to sea at the end of a 150-mile string of tropical islands, and only 90 miles from Havana (but 5,863 miles from Moscow) is the island of Key West.

In 1962, the island's population was 33,956 (about 10,000 more than today's) while the entire U.S. population was only 186.5 million. Although Key West's residents had experiences that were unique to living on an island at the end of the road, they also shared the universal American experience of pop culture. On October 16 - two days following the U-2 over flight of Cuba that signaled the beginning of the crisis - a blissfully unaware public celebrated (or mourned) the New York Yankees' defeat of the San Francisco Giants in the seventh game of the World Series.

Issuing from jukebox speakers and the ubiquitous portable

transistor radios were hits like

*Danke Schoen* by Wayne Newton, the bossa nova masterpiece *The Girl from Ipanema*, and Lesley Gore's tale of teenage girl angst - *It's My Party*. Grammy winner for 1962's Record of the Year was *Moon River* and Album of the Year went to Judy Garland's *Judy at Carnegie Hall*.

On television, new shows premiering that fall included *The Jetsons*, *The Beverly Hillbillies*, and *McHale's Navy*. On October 1, Johnny Carson's *Tonight Show* premiered from New York City, with Carson, announcer Ed McMahon and band leader Stitch Henderson filling a five-night-a-week block of time that was an hour and forty-five minutes long.

Hollywood was as busy as usual in '62. Some of the great movies released that year were *To Kill a Mockingbird*, *Lawrence of*  
See '62 on Page 3

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# A Cold War Primer

**1941-1945** The Soviet Union is an ally of the United States during WWII. As the war ends, Germany and Berlin are partitioned, with sections of each coming under Russian influence.

**1946** Churchill first invokes the phrase "Iron Curtain" in a March speech at Westminster College in Fulton, Missouri. After his introduction by President (and soon-to-be part-time Key Wester) Harry Truman, the Prime Minister receives an honorary degree, then gives the speech that - in retrospect - is considered the start of the Cold War.

**1948** The Berlin Blockade is the first major crisis of the Cold War - when the USSR blocks access to sectors of Berlin, hoping to gain practical control over the city, the Allies respond with the Berlin Airlift and drop 4,000 tons of supplies per day.

**1949** China declares itself Communist and Russia announces development of the atomic bomb.

**1950** The Korean War begins, Senator Joseph McCarthy starts to purge alleged Communists from the entertainment industry, and the United States develops the hydrogen bomb.

**1953** On March 5, Josef Stalin dies and Nikita Khrushchev succeeds him in power. In the United States, Julius and Ethel Rosenberg are put to death as Communist spies.

**1955** In response to the West's acceptance of West Germany as a member of NATO, eight Eastern European countries, including Russia and East Germany,

form the Warsaw Pact - a collective defense organization.

**1956** A student-led revolution in Hungary captures the world's attention before it is crushed in three weeks' time by the Soviet Union.

**1957** The Soviets launch Sputnik, then later in the year send a dog - Laika - into space.

**1958** Boris Pasternak, author of *Dr. Zhivago* - the book that gave birth to the dissident movement in Russia - wins the Nobel Prize for Literature and is forced by his government to turn it down.

**1959** Fidel Castro and his revolutionaries triumphantly take power in Cuba while Khrushchev and U.S. Vice President Richard Nixon have their famous "kitchen debates" at a Florida contractor's model home built in the middle of Moscow - Nixon tours US accomplishments like dishwashers and Pepsi-Cola while Khrushchev calls them unnecessary luxuries. Later that year, on a visit to the U.S., Khrushchev is denied a visit to Disneyland.

**1960** Khrushchev famously bangs his shoe on the podium at the UN during arguments on colonialism.

**1961** On January 20, John Fitzgerald Kennedy takes the oath of office as President of the United States. The Berlin Wall is erected, the Soviets put a man into space, and the Bay of Pigs invasion that April fails embarrassingly.

**1962** In the spring, the first person is killed while trying to escape from East Berlin by climbing over the Wall. By fall, tensions between Russia and the United States have reached a boiling point.



Much animosity grew between the USSR and the United States in the years between 1946, when Winston Churchill coined the phrase "Iron Curtain," and 1962. If possible, Khrushchev seemed more evil than Stalin, promising to "bury" us and banging his shoe on the podium at the United Nations. Russia was winning the space race, and China and Cuba had both declared themselves Communist. By the spring of 1962, when the first person was killed attempting to escape from East Berlin, the US had faced failure at the Bay of Pigs. By fall, tensions between Russia and the US had reached a boiling point.

This is where those tensions almost boiled over - the front lines of the Cuban Missile Crisis. The cloudy, eastward flowing waters separating the Florida Keys from Cuba are the Florida Straits. To the top right of the photo, out from the tip of Florida and toward the Earth's horizon, are the Bahamas.

Those lines were drawn on October 22, 1962, when President Kennedy used CIA photographs to prove that Khrushchev - despite his vehement denials

- was secretly constructing offensive missile bases along Cuba's northern coast. Meanwhile, mobile missile launchers carrying nuclear-tipped ballistic missiles that could be fired in a sub-orbital arc kept moving along the back roads of Cuba. Not only could the missiles reach all the way to Washington, D.C., some were aimed directly at our military installation at Guantanamo Bay. And while Castro was imploring Khrushchev to "liquidate the imperialist enemy once and for all," the United States had three thousand nuclear warheads aimed at the USSR.

To counter the missile threat, Kennedy ordered the US Army to deploy a defensive line of HAWK anti-aircraft missiles along the southern coast of the Lower Keys, from Homestead to Key West. Kennedy also announced a naval quarantine (or a "do not cross" line) above the Bahamas to stop and search any Soviet ships suspected of carrying supplies, troops and/or missiles headed to Cuba via the Florida Straits. The residents of the sleepy, Navy town at the end of the road in the Florida Keys were about to get a rude awakening.

## MISSILES

From Page 1

on television the night before (read the president's speech in its entirety on page 6.) But nothing had really happened "overnight."

Although tension between

the United States and Cuba had been high since Castro had taken control of the government in January of 1959 and aligned with Russia, and although that tension had increased following the failed Bay of Pigs invasion in April of 1961, this particular chapter in the saga of the two countries

(three, including the USSR) had started on October 14. That was when a U-2 reconnaissance plane overflight of Cuba, piloted by Major Richard Heyser, took 928 photos that revealed suspicious construction at San Cristobal in Western Cuba.

By October 17 (Wednes-

day), the CIA's National Photographic Intelligence Center had reviewed the photographs and identified objects they believed to be medium range ballistic missiles. The CIA notified the State Department and National Security Adviser McGeorge Bundy. By mid-night, Bundy was briefing Sec-

retary of Defense Robert McNamara. At 8:30 on Thursday morning, Bundy was making his presentation to President Kennedy. That night the president convened a meeting of the nine members of the National Security Council and five other key advisers in a group he formally named the Executive

Committee of the National Security Council - EXCOMM. They had much to consider, and all was compounded by the speech given on September 11 by Andrei Gromyko, the Soviet Foreign Minister, stating that "an attack on Cuba could mean war with the U.S.S.R." **Continued on Page 4**

## From Page 1

*Arabia, Dr. No, Whatner Happened to Baby Jane, and The Longest Day.* The hit romcom of 1962 was *Boys Night Out*, starring James Garner, Kim Novak and Tony Randall. If *Boys Night Out* were a product of 2010 Hollywood it could star - matched age for age - Ryan Reynolds and Beyonce as the courtship couple, Owen Wilson as the fuddy-duddy buddy, and Sarah Jessica Parker in the cougarish role originally played by Zsa

Zsa Gabor. Key West loved its movies and supported three indoor theatres on Duval Street - the Monroe, the Strand and the San Carlos. Admission was 30 cents and a bag of popcorn cost a dime. Out on Stock Island, the two drive-in theatres next-door to one another were the Islander and the Riviera.

Over at City Hall, the search was underway for a new city manager at a salary of \$11,000 per year. *The Citizen* was an afternoon paper, coming out every day but Saturday. It cost a nickel, and the Sunday edition cost a dime. On

Saturday, to fill the void, locals read *The Coral Tribune*.

In addition to a number of small neighborhood stores, the main grocery stores were Fausto's, the Gulfstream, and Kwik Chek. Grocery prices from 1962 are flabbergastingly low, including ten pounds of potatoes for 29 cents and the same price for a pound of bacon. And there's an explanation for why the entire world seemed to smoke cigarettes - a carton of regular cigarettes sold for \$2.19, and it was a dime more if you wanted king size.

During the crisis you could

catch up on the latest news and rumors at the barbershop (flat top haircuts, all the rage then, were \$1.50) or the beauty parlor (wash and set, \$2.00.) There was a bowling alley on South Roosevelt Boulevard and a race car track on Stock Island. A popular hangout was the skating rink on Southard Street between Whitehead and Duval.

At the appliance store, a color TV cost \$400 (or \$2,846 in today's dollars.) The minimum wage was \$1.25 an hour. At the Two Friends Bar on Front Street, a girl could get a job as a waitress for \$60 a week plus tips. And, a

cold beer at Duffy's was 35 cents. You could live well back then - there were plenty of jobs and the cost of living was low. A first-class postage stamp was only four cents. And if you had to visit New York City, one-way fare from Key West to the Big Apple via Miami was \$45.00.

Besides, the island's economy was growing thanks to an expanding military buildup. Key West had three active Naval installations that pumped \$10,000,000 each year into the local economy: Boca Chica Air Station (above Stock Island but not shown in the aerial

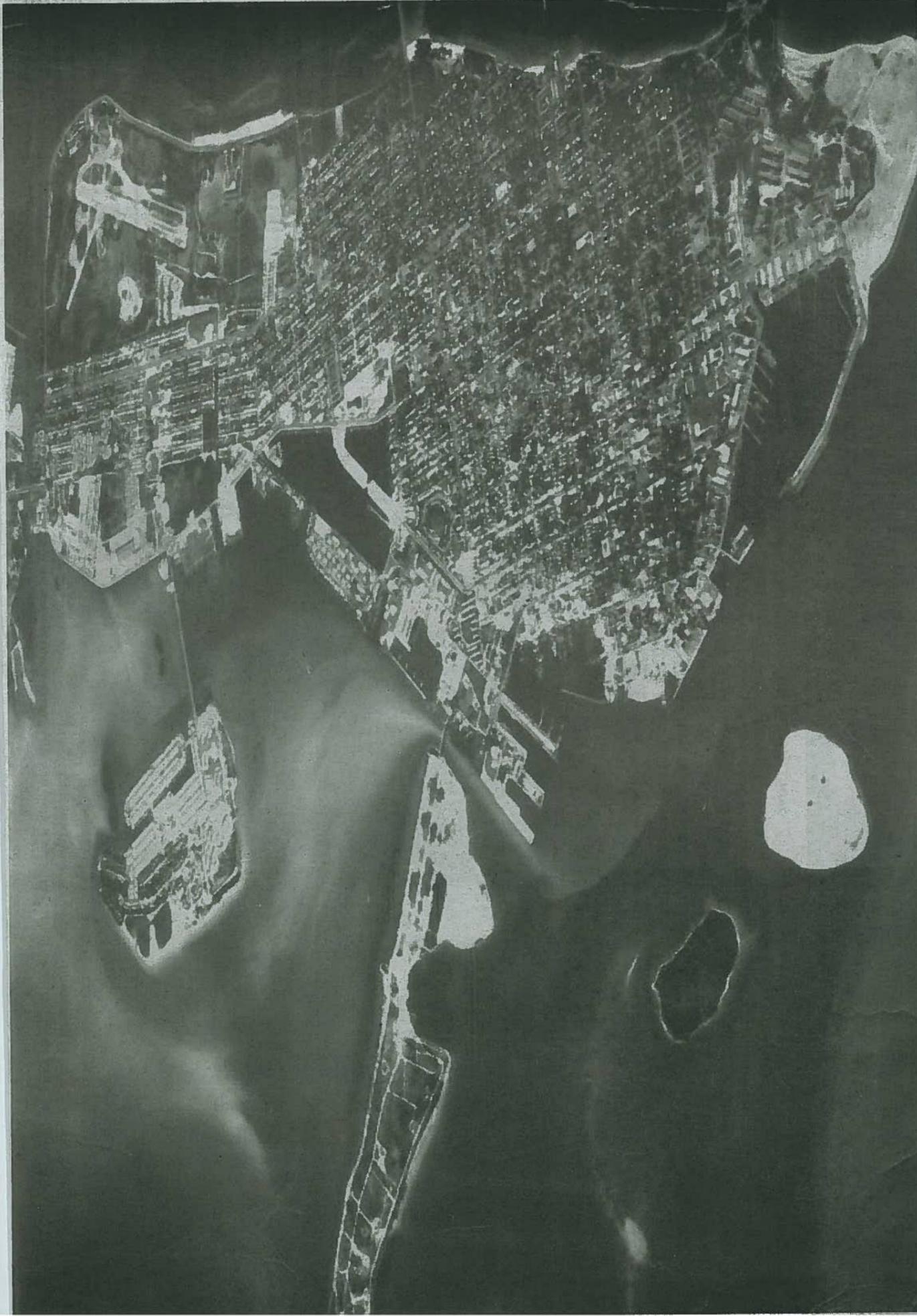


photo), the Seaplane Base (today's Trumbo), and the Key West Naval Base (today's Truman Annex.) Together they employed 12,000 officers and enlisted personnel. Easily a third of the country's school children were military dependants, and wives often worked in town. Key West and the military had a long history that had developed into a comfortable relationship.

Key West in 1962 - of the world at large, yet in its own private world as well. A unique - and suddenly frightening - place to be that October. □



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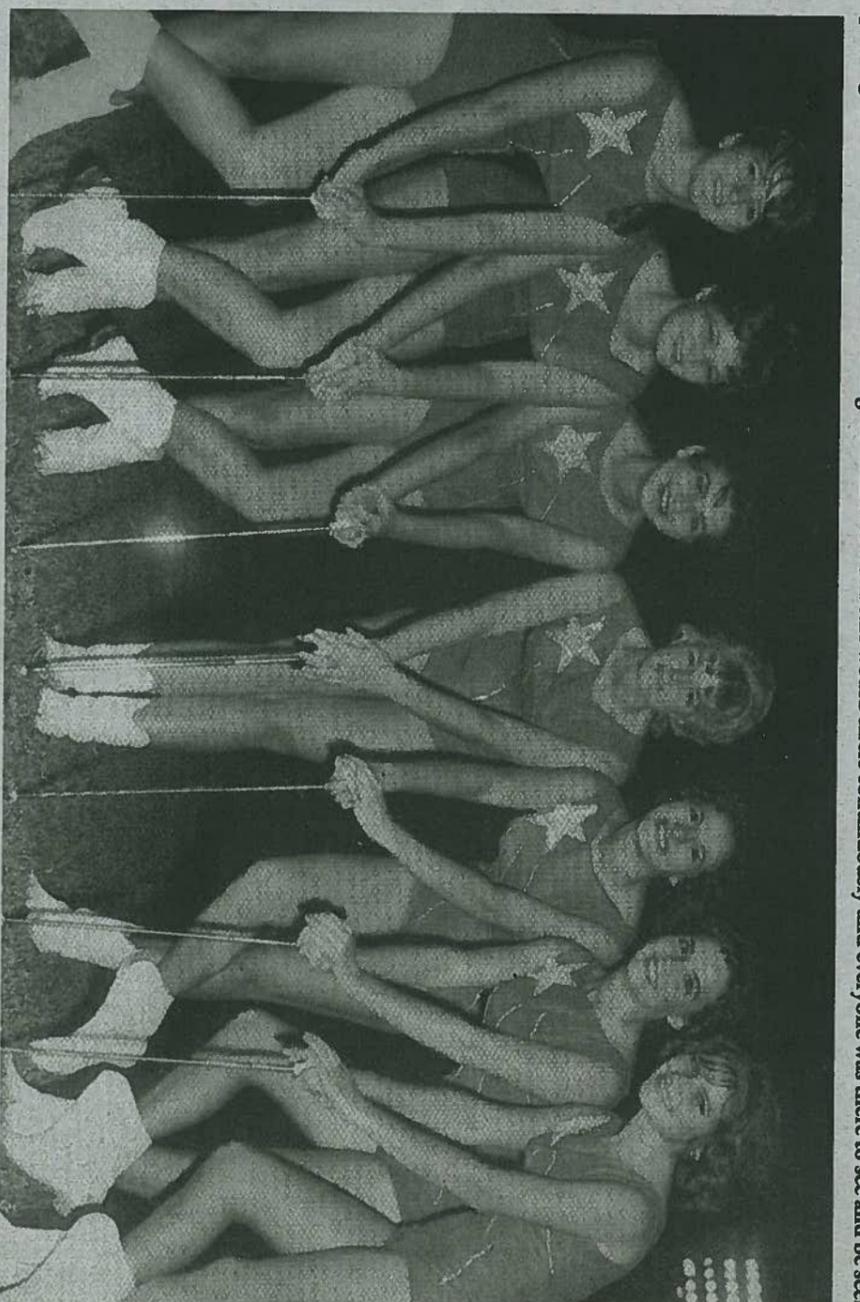
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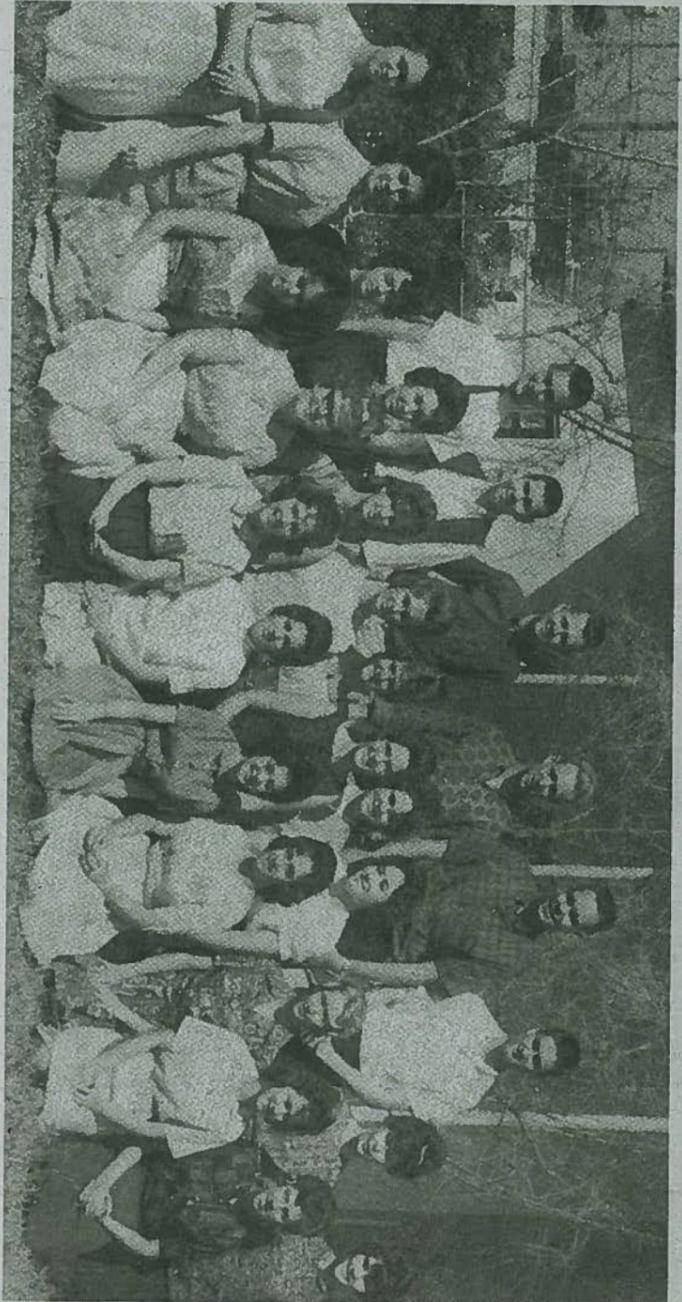
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(Above) The 1962 Key West High School Majorettes. From left to right: Patty Motto, Sheila Robinson, Sharon Hopy, Bernadette Parks, Rose Marie Barrera, Darlene Lovell, Judy Sawyer. (Below) The 1962 KWHHS National Honor Society. From left to right, front row: Linda Ford, Moraima Hernandez, Norma Forns, Dory Lanier, Susan Cassidy, Betty Perone, Jan Salas, Donna Ramelli, Nina Dowling, Pamela Pope, Martha Starak. Second row: Marguerita Lones, Jean Coen, Jeanne Collins, Julie Taylor, Sandra Dreschler, Martha Wallace, Tony Cates, Laura Lee Wills, Kathy Zuhorst, Annette Sykes. Third row: Steve Barre, Leonard Bone, Mike Gardner, John Davis, Ed Swift, Sammy Biow.



The hottest spot for teenagers was Pizio's Drive-In restaurant at the corner of N. Roosevelt and First Street. Always a busy spot, the parking lot would be full to overflowing on weekends when cars would circle continuously and everyone was there to see and be seen.

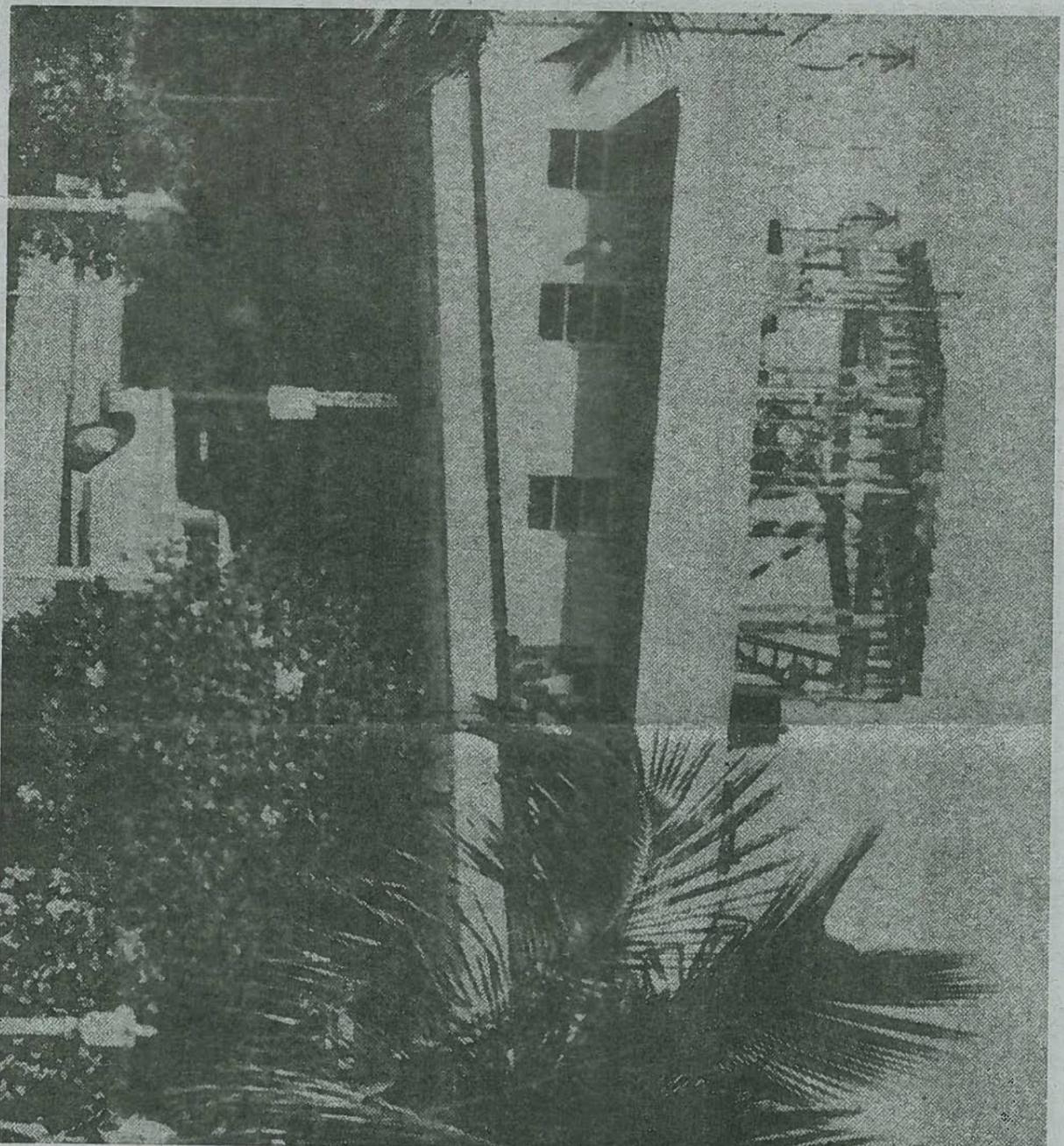
October 21, 1962

## Suddenly on Sunday...

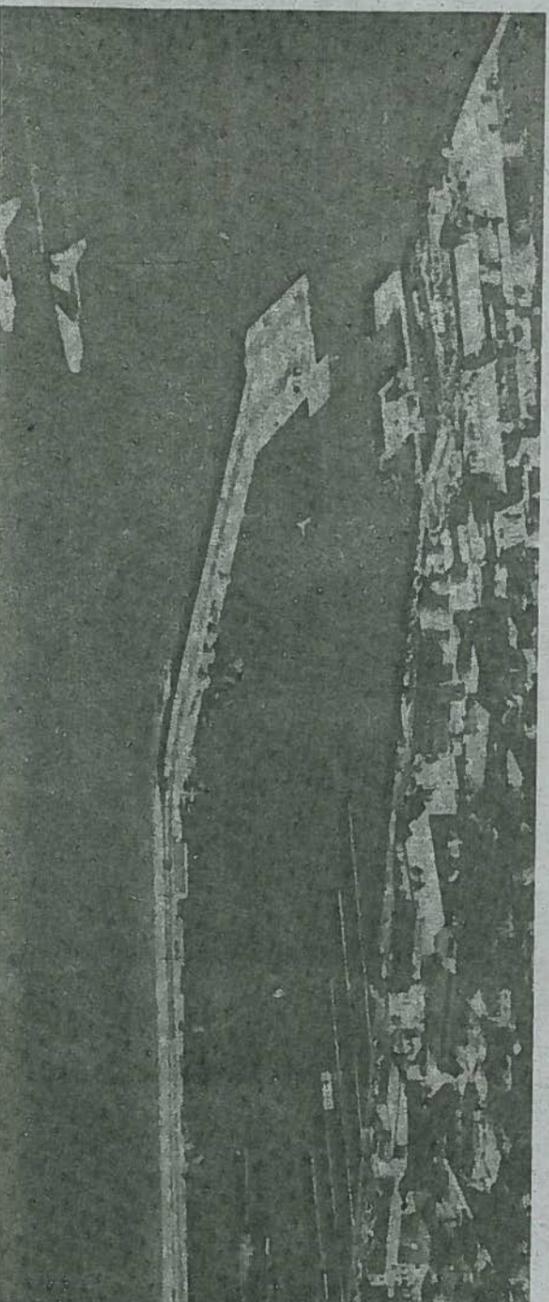
The island city awoke to the sight of convoys of US Army trucks moving about town. Military jets were constantly making take-offs and landings at Boca Chica. All the hotels were suddenly full with arriving military personnel. Yet there was no mention in Sunday's *Citizen* about the military's urgent strengthening and none of the officials in town would answer questions.

However, there was a lot going on out at the airport. Mid-afternoon George Faraldo, the FAA representative, was told to report to the airport immediately. Could he finish some Sunday projects around the house,

he asked? No, just go to the port, he was told. Upon arriving, Faraldo was stunned to a new control tower under construction. Key West had been lobbying for years for the permit to build a much needed control tower at the airport. Within twenty-four hours through Sunday night and into the dark on Monday night, FAA built them one "to handle the great influx of Marine Navy jet squadrons in the area. Before this day in 1962, the port was used to dealing with only one scheduled flight a day, and only one flight out.



The scene at the Key West Airport on Sunday, October 21st, was a busy one. Construction workers were rapidly building a new control tower on the roof of the terminal building. Within twenty-four hours the job was done.



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October 22, 1962

## Monday... Rumors of War

On Monday, almost every naval ship and submarine stationed at the Key West Naval Base had silently slipped away from port - and the harbor had been full of shipping of every description, including destroyers and subs plus small transports and supply craft. One submarine remained at the dock. She had been in minor overhaul alongside the pier, with her propellers removed. In the haste to make ready, the propellers were accidentally reinstalled backwards. As they tried

pulled out at the same time - a that was alarming. Only one destroyer remained in port.

Then the afternoon issue *The Citizen* hit the street. The headline splashed across the front page informed Key Westers that President Kennedy had requested television time that night to address the nation on "a subject of the highest national urgency. Said one previously skeptical young man, addressing the happenings around town, "now I knew this was real."

The empty submarine pens at the Key West Naval Base on October 22. Mallory Square is at the top left of the photo and the familiar roofline of the Custom House is just to the right of the entrance to the man-made harbor.



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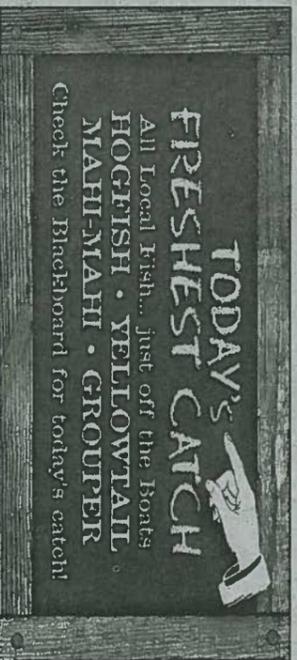
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(at least part of the year) and good soil meet the requirements for producing superior teas. Experienced "tea masters" oversee the delicate processes of preparing the harvest for export. Our ship has called at every port and selected only the very best to bring to Key West.

Learn more about the many varieties of tea by stopping in the Key West Tea & Spice Company. There, amid the pleasantly fragrant surroundings, you can conduct your own, informal "taste test." Brian Greager, the friendly and knowledgeable owner, is eager to introduce you to the finest of imported teas.

There's much to the study of tea, but the basics of selecting good tea and preparing it well are surprisingly simple. Visit Key West Tea & Spice today at the sign of the Clipper Ship - 614 Greene Street. Your "port call" is sure to be fun and informative. And you'll quench both your thirst and your curiosity.

third" became "all back two-thirds," "all back FULL," and the submarine dove forward and plowed slowly into the seawall. The accident may have brought a touch of levity to the Naval personnel who witnessed it, but residents only knew that almost every ship and submarine had a rapt American public, the last destroyer slipped past the breakwater - heading out, no doubt on his stated mission to blockade all shipping into Cuba. At the end of the president's speech, our country was at a state of DEFCON 3 alert.

Continued on Page 7

## Charles Weitzel CPA

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# The Key West Citizen

THE SOUTHERNMOST NEWSPAPER IN THE U.S.A.

KEY WEST, FLORIDA, MONDAY, OCTOBER 22, 1962

Price Five Cents

Price Five Cents

**Weekly Summary**  
This week, America...  
The Key West Citizen...  
Published by the Key West Citizen...  
Subscription rates...  
Key West, Florida 33401

## President To Address Nation Tonight Local Scene Is Alive With Signs Of Military Buildup



This is the transcript of President Kennedy's speech as seen and heard by Key Westers on Monday, October 22, 1962

### Good evening, my fellow citizens

This Government, as promised, has maintained the closest

in a world where only the actual firing of weapons represents a sufficient challenge to a nation's security to constitute maximum peril. Nuclear weapons are so destructive and ballistic missiles are so swift, that any substantially increased possibility of their use or any sudden change in their deployment may well be regarded as a definite threat to peace.

For many years, both the Soviet Union and the United States, recognizing this fact, have deployed strategic nuclear weapons with great care, never upsetting the precarious status quo which insured that these weapons would not be used in the absence of some vital challenge. Our own strategic missiles have never been transferred to the territory of any other nation under a cloak of secrecy and deception; and our history -- unlike that of the Soviets since the end of World War II -- demonstrates that we have no desire to dominate or conquer any other nation or impose our system upon its people. Nevertheless, American citizens have become adjusted to living daily on the bull's-eye of Soviet missiles located inside the U.S.S.R. or in submarines.

In that sense, missiles in Cuba add to an already clear and present danger -- although it should be noted the nations of Latin America have never previously been subjected to a poten-

weapons, be turned back. This quarantine will be extended, if needed, to other types of cargo and carriers. We are not at this time, however, denying the necessities of life as the Soviets attempted to do in their Berlin blockade of 1948.

Second: I have directed the continued and increased close surveillance of Cuba and its military buildup. The foreign ministers of the OAS [Organization of American States], in their communique of October 6, rejected secrecy on such matters in this hemisphere. Should these offensive military preparations continue, thus increasing the threat to the hemisphere, further action will be justified. I have directed the Armed Forces to prepare for any eventualities; and I trust that in the interest of both the Cuban people and the Soviet technicians at the sites, the hazards to all concerned of continuing this threat will be recognized.

Third: It shall be the policy of this nation to regard any nuclear missile launched from Cuba against any nation in the Western Hemisphere as an attack by the Soviet Union on the United States, requiring a full retaliatory response upon the Soviet Union.

Fourth: As a necessary military precaution, I have reinforced our base at Guantanamo, evacuated today the dependents of our

nuclear weapons. We have proposed the elimination of all arms and military bases in a fair and effective disarmament treaty. We are prepared to discuss new proposals for the removal of tensions on both sides, including the possibilities of a genuinely independent Cuba, free to determine its own destiny. We have no wish to war with the Soviet Union -- for we are a peaceful people who desire to live in peace with all other peoples.

But it is difficult to settle or even discuss these problems in an atmosphere of intimidation. That is why this latest Soviet threat -- or any other threat which is made either independently or in response to our actions this week -- must and will be met with determination. Any hostile move anywhere in the world against the safety and freedom of peoples to whom we are committed, including in particular the brave people of West Berlin, will be met by whatever action is needed.

Finally, I want to say a few words to the captive people of Cuba, to whom this speech is being directly carried by special radio facilities. I speak to you as a friend, as one who knows of your deep attachment to your fatherland, as one who shares your aspirations for liberty and justice for all. And I have watched and the American people have

ute nothing to your peace and well-being. They can only undermine it. But this country has no wish to cause you to suffer or to impose any system upon you. We know that your lives and land are being used as pawns by those who deny your freedom. Many times in the past, the Cuban people have risen to throw out tyrants who destroyed their liberty. And I have no doubt that most Cubans today look forward to the time when they will be truly free -- free from foreign domination, free to choose their own leaders, free to select their own system, free to own their own land, free to speak and write and worship without fear or degradation. And then shall Cuba be welcomed back to the society of free nations and to the associations of this hemisphere.

My fellow citizens, let no one doubt that this is a difficult and dangerous effort on which we have set out. No one can foresee precisely what course it will take or what costs or casualties will be incurred. Many months of sacrifice and self-discipline lie ahead -- months in which both our patience and our will be tested, months in which many threats and denunciations will keep us aware of our dangers. But the greatest danger of all would be to do nothing.

The path we have chosen for the present is full of hazards,

supervisors of the Soviet military buildup on the island of Cuba. Within the past week, unmistakable evidence has established the fact that a series of offensive missile sites is now in preparation on that imprisoned island. The purpose of these bases can be none other than to provide a nuclear strike capability against the Western Hemisphere.

Upon receiving the first preliminary hard information of this nature last Tuesday morning at 9 A.M., I directed that our surveillance be stepped up. And having now confirmed and completed our evaluation of the evidence and our decision on a course of action, this Government feels obliged to report this new crisis to you in fullest detail.

The characteristics of these new missile sites indicate two distinct types of installations. Several of them include medium range ballistic missiles, capable of carrying a nuclear warhead for a distance of more than 1,000 nautical miles. Each of these missiles, in short, is capable of striking Washington, D. C.; the Panama Canal, Cape Canaveral, Mexico City, or any other city in the southeastern part of the United States, in Central America, or in the Caribbean area.

Additional sites not yet completed appear to be designed for intermediate range ballistic missiles — capable of traveling more than twice as far — and thus capable of striking most of the major cities in the Western Hemisphere, ranging as far north as Hudson Bay, Canada, and as far south as Lima, Peru. In addition, jet bombers, capable of carrying nuclear weapons, are now being uncared and assembled in Cuba, while the necessary air bases are being prepared.

This urgent transformation of Cuba into an important strategic base — by the presence of these large, long-range, and clearly offensive weapons of sudden mass destruction — constitutes an explicit threat to the peace and security of all the Americas, in flagrant and deliberate defiance of the Rio Pact of 1947, the traditions of this nation and hemisphere, the joint resolution of the 87th Congress, the Charter of the United Na-

tion, and I. This action also contradicts the repeated assurances of Soviet spokesmen, both publicly and privately delivered, that the arms buildup in Cuba would retain its original defensive character, and that the Soviet Union had no need or desire to station strategic missiles on the territory of any other nation.

The size of this undertaking makes clear that it has been planned for some months. Yet, only last month, after I had made clear the distinction between any introduction of ground-to-ground missiles and the existence of defensive anti-aircraft missiles, the Soviet Government publicly stated on September 11 that, and I quote, "the armaments and military equipment sent to Cuba are designed exclusively for defensive purposes," that there is, and I quote the Soviet Government, "there is no need for the Soviet Government to shift its weapons for a retaliatory blow to any other country, for instance Cuba," and that, and I quote their government, "the Soviet Union has so powerful rockets to carry these nuclear warheads that there is no need to search for sites for them beyond the boundaries of the Soviet Union."

That statement was false.

Only last Thursday, as evidence of this rapid offensive buildup was already in my hand, Soviet Foreign Minister Gromyko told me in my office that he was instructed to make it clear once again, as he said his government had already done, that Soviet assistance to Cuba, and I quote, "pursued solely the purpose of contributing to the defense capabilities of Cuba," that, and I quote him, "training by Soviet specialists of Cuban nationals in handling defensive armaments was by no means offensive, and if it were otherwise," Mr. Gromyko went on, "the Soviet Government would never become involved in rendering such assistance."

That statement also was false.

Neither the United States of America nor the world community of nations can tolerate deliberate deception and offensive threats on the part of any nation, large or small. We no longer live

in a world of Communist military units to be on a stand-by alert basis. Fifth: We are calling tonight for an immediate meeting of the [Organization] of Consultation under the Organization of American States, to consider this threat to hemispheric security and to invoke articles 6 and 8 of the Rio Treaty in support of all necessary action. The United Nations Charter allows for regional security arrangements, and the nations of this hemisphere decided long ago against the military presence of outside powers. Our other allies around the world have also been alerted.

Sixth: Under the Charter of the United Nations, we are asking tonight that an emergency meeting of the Security Council be convoked without delay to take action against this latest Soviet threat to world peace. Our resolution will call for the prompt dismantling and withdrawal of all offensive weapons in Cuba, under the supervision of U.N. observers, before the quarantine can be lifted.

Seventh and finally: I call upon Chairman Khrushchev to halt and eliminate this clandestine, reckless, and provocative threat to world peace and to stable relations between our two nations. I call upon him further to abandon this course of world domination, and to join in an historic effort to end the perilous arms race and to transform the history of man. He has an opportunity now to move the world back from the abyss of destruction by returning to his government's own words that it had no need to station missiles outside its own territory; and withdrawing these weapons from Cuba by refraining from any action which will widen or deepen the present crisis, and then by participating in a search for peaceful and permanent solutions.

This nation is prepared to present its case against the Soviet threat to peace, and our own proposals for a peaceful world, at any time and in any forum — in the OAS, in the United Nations, or in any other meeting that could be useful — without limiting our freedom of action. We have in the past made strenuous efforts to limit the spread of

offensive military equipment under shipment to Cuba is being initiated. All ships of any kind bound for Cuba from whatever nation or port will, if found to contain cargoes of offensive

your nationalist revolution was betrayed — and how your fatherland fell under foreign domination. Now your leaders are no longer Cuban leaders inspired by Cuban ideals. They are puppets and agents of an international conspiracy which has turned Cuba against your friends and neighbors in the Americas, and turned it into the first Latin American country to become a target for nuclear war — the first Latin American country to have these weapons on its soil.

These new weapons are not in your interest. They contrib-

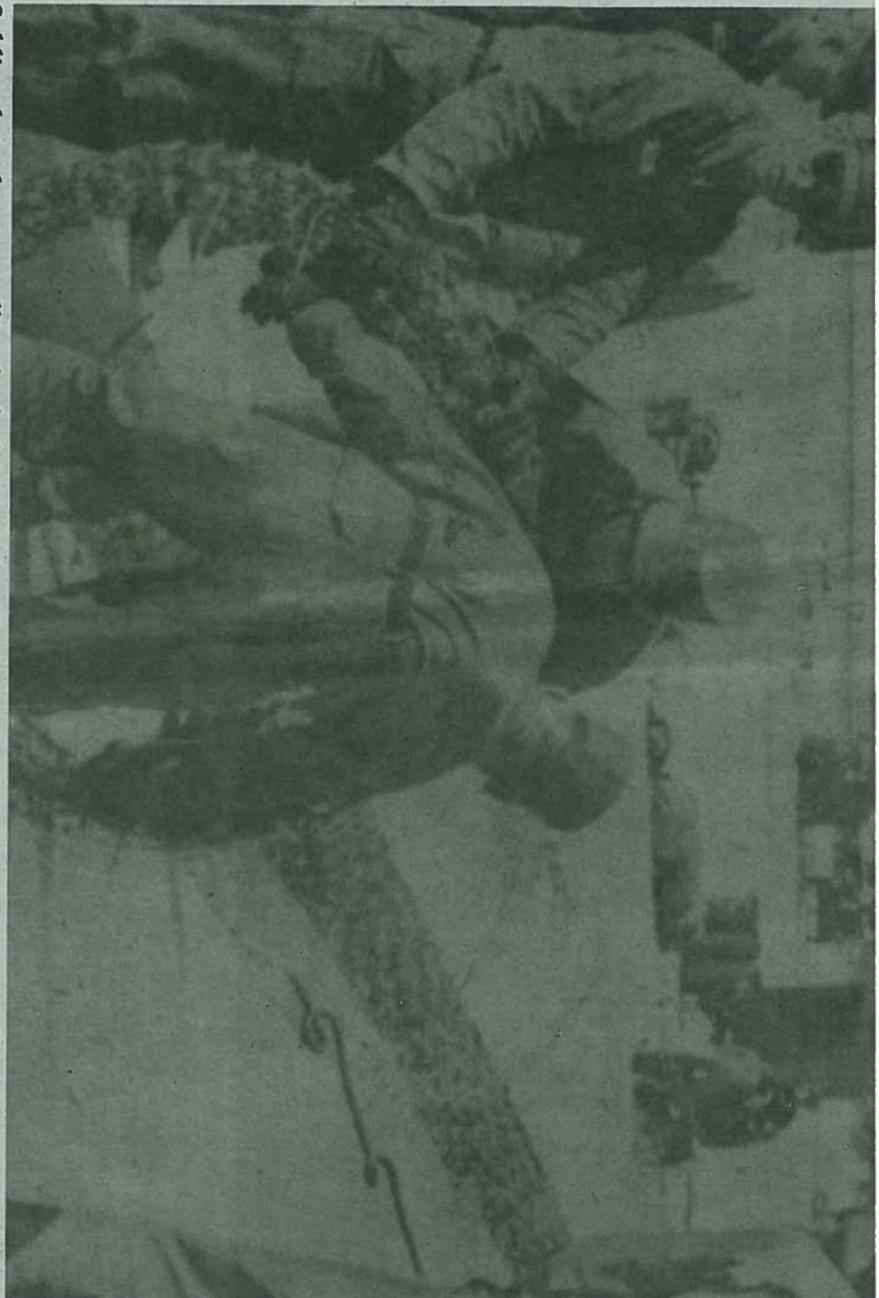
most consistent with our character and courage as a nation and our commitments around the world. The cost of freedom is always high, but Americans have always paid it. And one path we shall never choose, and that is the path of surrender or submission. Our goal is not the victory of might, but the vindication of right; not peace at the expense of freedom, but both peace and freedom, here in this hemisphere, and, we hope, around the world. God willing, that goal will be achieved.

Thank you and good night.



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Soldiers keep busy unrolling barbed wire at Smathers Beach while men in the background ready HAWK missile launchers with the missiles pointed towards Cuba.



This photo of "relaxed" soldiers made the front page of the *Miami Herald* that day, although there was nothing relaxed about the operation on Smathers Beach.

## DEFCON WARS

It's a **countdown**, not a count *up*. Hollywood often gets it wrong. DEFCON, for "defense readiness condition," was developed by the Joint Chiefs of Staff in 1959 as a way of maintaining a uniform readiness level among all branches of the armed forces. There are five levels of readiness, and, in the least-threatening of times, we maintain a level of DEFCON 5 - that's the current level in October of 2010.

DEFCON 4 indicates that there is an increased level of intelligence and security, level 3 indicates an increase in preparedness above the norm, level 2 an even greater increase.

We have gone to a level of DEFCON 3 three times in our history. The first was announced by President John F. Kennedy during his televised speech to the American public on the night of October 22, 1962. The second time was during the Yom Kippur War in 1973. And the third time the United States went on DEFCON 3 alert was on September 11, 2001.

The more chilling level of DEFCON 2 has, thankfully, been reached only once - the Strategic Air Command was put at this level on October 23, 1962 and remained at high alert until November 15. The rest of the armed forces maintained DEFCON 3 throughout the Cuban Missile Crisis.

DEFCON 1 - code named "cocked pistol" - is the maximum level of preparedness and reflects the highest possibility of nuclear attack.

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October 24, 1962

# Wednesday...

On Wednesday, the military decided they needed to secure a place to stay. The "biggest luxury resort hotel," the Casa Marina, released to the Army and troops here set to move in at 2:00 p.m. on Thursday. The Casa Marina had 185 rooms and, as usual, had been closed through the summer. The 70-or-so reservations on the books for the winter months were inverted downtown to the Townhouse Motor Inn (now known, since it was originally, as the La Concha.) Business at other motels in town was surprisingly steady - any thoughts that a wholesale exodus of tourists might take place following Kennedy's speech were proven wrong. The manager of the Santa Fe reported, "our tourists are trying put at present, although the majority of guests are commercial businessmen at this time. The Santa Maria is housing members of the press from the New York Herald Tribune, the Ft. Lauderdale News, the Miami News, and representatives of NBC and the Associated Press." The owners of the Ocean View Motel on South Street said, "we have lost no tourists due to the present alert, in fact some are coming in. Our guests

all have one thing in common, they say, 'It's about time we took decisive action against Communist Cuba!'"

While talks continued in Washington and car-and-mouse was played between there and Moscow, an interesting voice was heard from exile in San Sebastian, Spain - that of Fulgencio Batista, Cuba's dictator before Castro had taken power. Batista was found by reporters kneeling in the Jesuit monastery of Loyola where he said he had spent three hours praying for peace. He said, "It is with deep emotion that I am following the affair of Cuba. I profoundly hope that the political directors of the world will be able to effect a happy solution to resolve the Cuba crisis." Batista, who had fled Cuba on January 1, 1959, prior to Castro's victorious entry into Havana, then added, "Time is working in my favor. They will realize that I was right."

Unfortunately, Batista wasn't the only Cuban exile with stars in his eyes. Ramon Rodriguez, who had lived in Key West for a year, said, "I expect to be back in Havana by Christmas." Most of the Key West Cubans felt the Castro regime would collapse under the US actions.

The state of alert was lowered to DEFCON 2.  
Continued on Page 10

## The Theosophical Society In Key West

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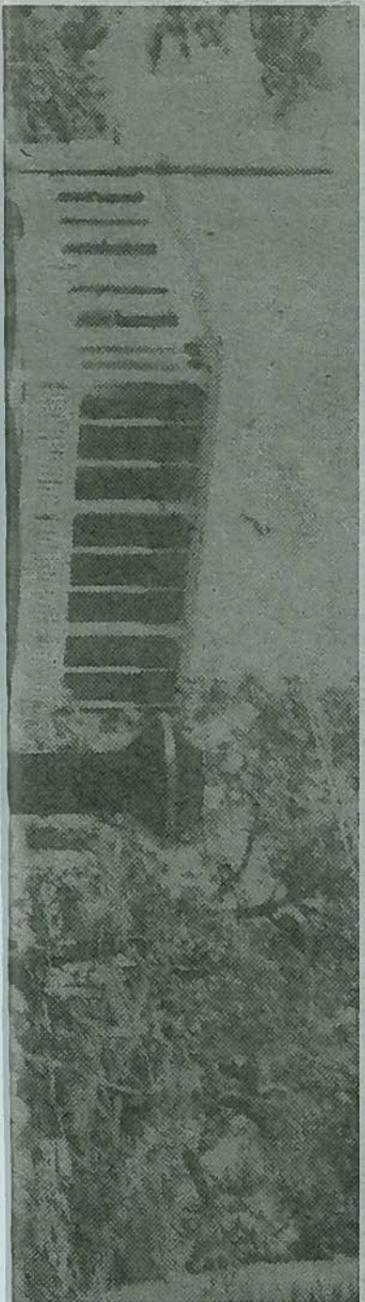
WEDNESDAYS, 8 P.M.

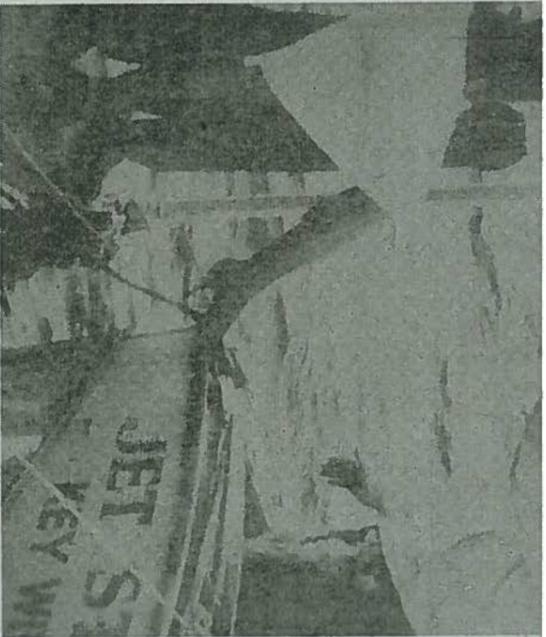
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ALL WELCOME



(Top) Taken after the crisis ended, this picture shows a gated Casa Marina. By then, the barbed wire had been removed from the top of the fence. On the right side of the photo, notice the missile in the background above the parked cars. (Above) A different photo taken after the crisis with a closer look at the HAWK missile - and it appears the Casa Marina is armed to the teeth. Though actually on static display, the missile isn't aimed toward Cuba but appears poised to take out rival La Concha.





## TOURISM IN CRISIS

On October 23rd, the Cuban Missile Crisis had yet to take over every inch of every newspaper in the US and the *Miami Herald* ran an entertaining little article entitled "A Little Train That Grows Into A Big Business" about the Conch Tour Train. In a charming nod to the home-grown business started by Bill and Olive Kroll, the *Herald's* Keys Correspondent, Florence Rabon, acknowledged the Conch Train's upcoming fifth anniversary and announced that a new train would soon be added to the thriving business - bringing the total to four. The com-

pany boasted a staff of seven in 1962, although Bill continued to drive one of the trains and Olive handled the office work assisted by Mary Anne Causey. Rabon informed us that "both girls are pinch-hit drivers if an emergency arises."

It was mentioned that between 60 and 75 thousand persons were riding the trains each year, and that the tour went through the Naval base and drove past "all the historical points such as the Convent, Marrello Towers, Old Malloy Square, oldest house and many others, while the driver treats



them to the story of each."

In actuality, by that Tuesday in Key West, newspapermen and other civilians were barred from entering the Navy Station, but the Conch Tour Train was still allowed in. And the word coming out from hotels and motels was "all is well."

But it wasn't. Not by the end of the week it wasn't. It was in an effort to get tourists to "come on down" that Mayor Harvey orchestrated the man-on-the-street interviews on the Today show that Friday morn-

ing. And it was in that spirit that an article entitled "Keys Disturbed by Tourist Lag" appeared on page three of the New York Times that Sunday, October 28th. It seems someone at the Chamber of Commerce, in cahoots with the Florida Development Commission in Tallahassee, was smart enough to import Miss Florida - Gloria Brody of Jacksonville - to help dispel the rumor that Key West was an armed camp.

Miss Florida was driven down the Overseas Highway,

stopping for photo ops along the way. She was the guest of honor at a dinner that Saturday night (the 27th), then taken on a night club tour. Plans for Sunday included a short fishing trip and a tour of the city's museums and beaches. The publicity helped, but not enough.

By November 12th, when the news that the missiles had all been removed from Smathers Beach and shifted to the "abandoned ammunition bunker at the west end of the airport runway" hit the paper, the article went on

to say that the majority of rooms at the city's motels were occupied by Marine fliers and crews (at the Key West), the Air Force (at the Holiday Inn), and the Army and Air Force at The Town House. It was then noted that "as far as tourists were concerned, the Conch Train was loaded for one trip yesterday, and this morning carried eight passengers."

Thankfully, the tourists came back. Today, there are fourteen trains in The Conch Train system, and 200,000 visitors ride it each year.

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October 25, 1962

# Thursday... Waiting for War

As a letter went from Washington to Moscow calling the current state of affairs the Soviets' fault, Key West remained on the front lines of the action. The local Civil Defense office went into high alert. It was announced that no Civil Defense drills or exercises would be held for the foreseeable future, so any CD information or instructions to the public would be the real thing. The real thing: War. There was no outdoor warning system on the island, so it was arranged that, if a warning was necessary, police and sheriff's vehicles would cruise the streets sounding their sirens. There were nine regulation fallout shelters in Key West, capable of holding close to a third of the city's population. Plans were also circulated that told people how to convert their cars into shelters. According to Monroe County Civil Defense executive director John

Robinson, after two weeks in a cistern, you'd be "sick, dirty and a mess, but you'd be alive."

The Civil Defense bunker out behind the airport was on 24-hour standby and plans were made to cover a number of contingencies, but Robinson didn't believe Cuba or Russia would waste a nuclear bomb on Key West - "Why - when ten guys could have blown up the water tanks and lines, detonated the oil tanks, blown out the bridges with just a few grenades? Maybe it wouldn't even take ten guys."

Nonetheless, plans were made for the worst possibilities - and 1,600 private boats, 18 feet or longer, were put into service to carry people out. Shrimp boat captains were trained to take the lead and carry Key West residents away from the island. Luckily, no one ever had to answer the question - then what?

October 26, 1962

# Friday. Still Waiting...

On October 26<sup>th</sup>, NBC's *Today Show* broadcast man-on-the-street interviews from Key West. Among those interviewed were Mayor C.B. Harvey and his wife, Wilhelmina, bar owner Riley Carbone and local musician Rick Martin. Mayor Harvey made it known that "the people of Key West are calm in the face of the local military buildup." Additional news from Key West that day said that crisis food buying wasn't happening here (unlike the rest of the country) - however, 111 children had been withdrawn from area

schools (Ed. note: a number much higher than the one published in the Miami Herald - but there was no need to alarm anyone.)

Ana Weckly, who ran Faustos' on Fleming Street with her husband, Carl, said, "We didn't know if they were going to shoot at us, or we were going to shoot at them."

And Nikita Khrushchev responded to President Kennedy with the offer to withdraw the missiles from Cuba if the United States would agree to never invade the country 90 miles to its south.

October 27, 1962

# Saturday... The most dangerous day in human history

Five days after Kennedy's speech to the nation, on Saturday, October 27, Navy ships forced to the surface a Soviet submarine. Unbeknownst to the Navy, it was carrying nuclear torpedoes - and one was almost launched at them. The Soviet Diesel Submarine

meeting when a news report came in - Khrushchev had gone on record on Radio Moscow saying that, if the United States would remove missiles from Turkey, Russia would in turn remove the missiles from Cuba. These missiles in Turkey - old and not particularly

U. S. NAVAL BASE  
KEY WEST, FLORIDA

24 October 1962

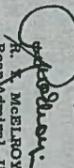
### LETTER TO DEPENDENTS IN THE KEY WEST AREA

During the past few days we have been subjected to a vast variety of news and rumor on the subject of military readiness and alerts. I must urge all of those persons in this area who are military dependents to guard against being misled by every fragment of information or mis-information which comes their way. We could be creating an atmosphere of hysteria with its tragic implications.

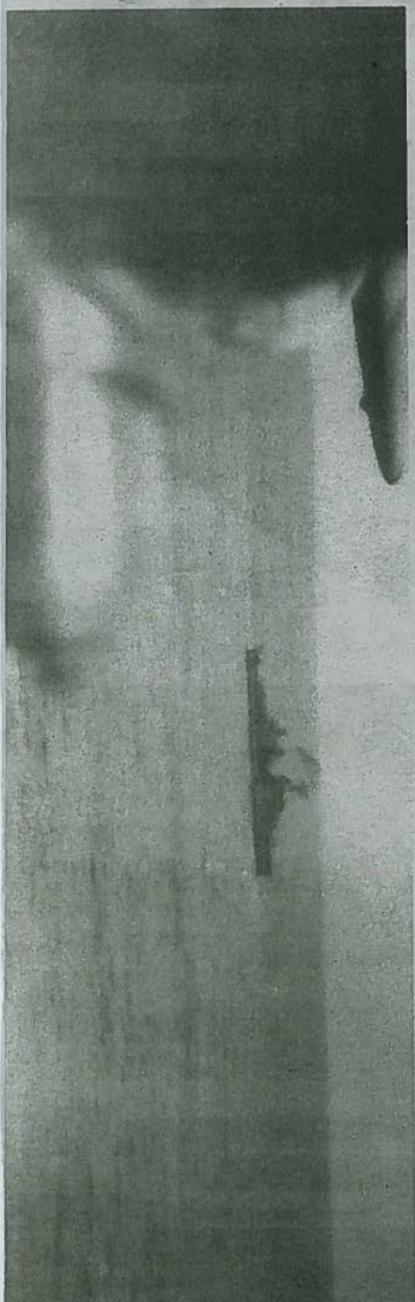
Let us face the fact that we live in an age of tension and at times uncertainty. This is true throughout the United States and was made evident to us in the President's address. This is a condition with which we have lived during the past fifteen years.

We look with pride on the fact that our dependents have always backed up their men in uniform. Perhaps there are some who fail to realize that what we say and do can and sometimes does influence other people. In this we have a great responsibility which we have met in the past and will always meet with honor.

I therefore urge you to continue to do your daily work in an atmosphere of confidence and depend upon those who are acquainted with the situation from day to day to take such action as is necessary to provide the best protection to dependents and the civilian population.

Sincerely,  
  
Rear Admiral, U. S. Navy  
Commander, U. S. Naval Base  
Key West, Florida

(Top, right) Prime Minister Fidel Castro declared on TV that Cuba will resist the U.S. blockade. (Right) Little used road on Boca Chica closed. (Below) Imported telephone operators relaxing in the sun. (Below) Girls watch soldiers. Soldiers watch girls.



east side of the Bahamas. The air inside was foul and unbreathable, and men were fainting for lack of oxygen. The sub's batteries were almost drained. US destroyers on the surface had been persistently tracking the sub for days, dropping practice depth charges (hand grenades) in an effort to force the submarine to leave the area.

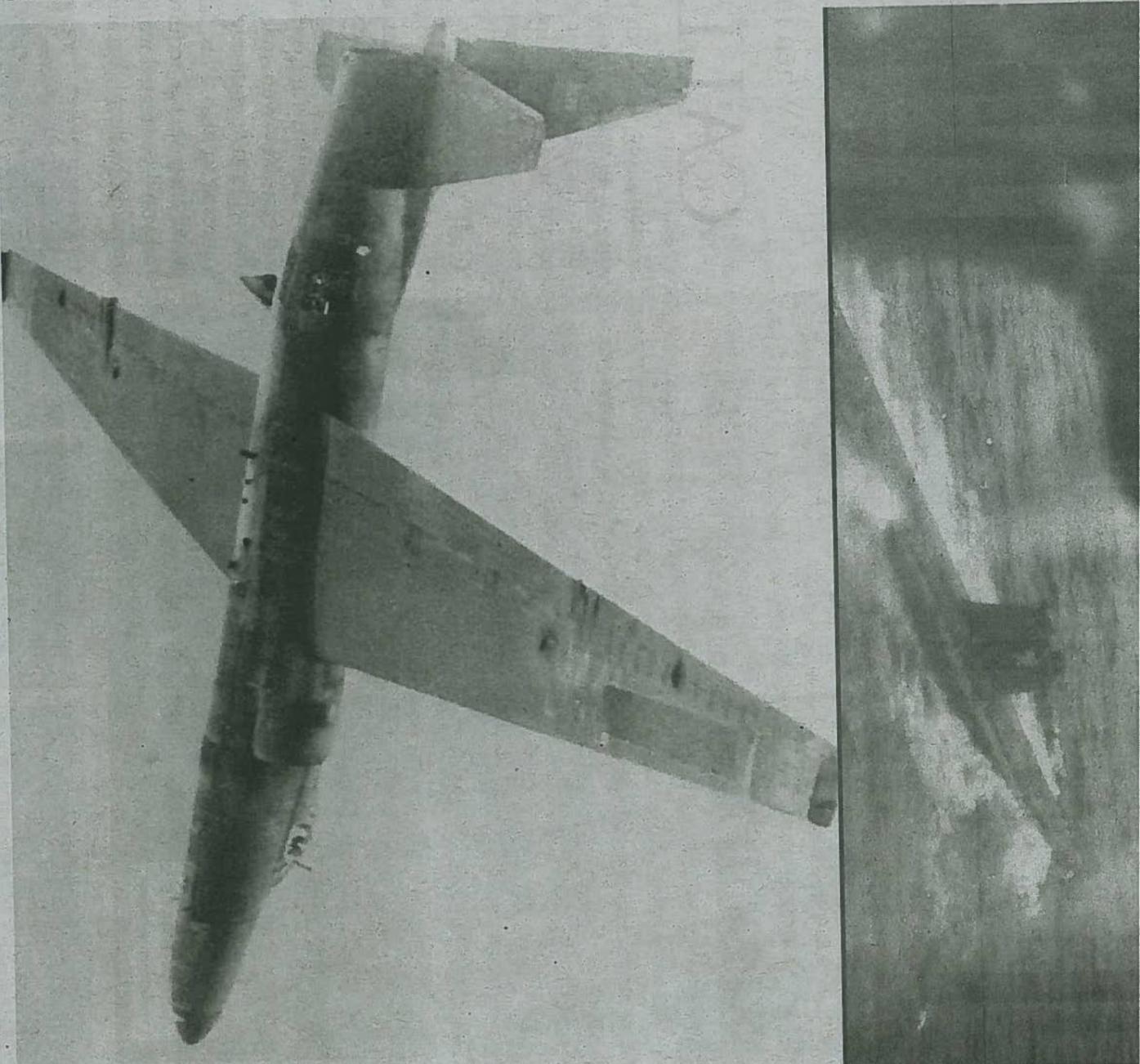
According to Russian crew members, a "totally exhausted" Capt. Valentin Savitsky, unable to establish communications with Moscow, "became furious" and ordered the nuclear torpedo to be assembled for launch. Savitsky roared, "We're going to blast them now! We will die, but we will sink them all." Deputy Brigade Commander Second Capt. Vasilii Archipov calmed Savitsky down. Together, they made the decision to surface the sub. But this wasn't the only life-and-death showdown to be averted that day.

At 10:00 a.m. on that Saturday, a US U-2 reconnaissance plane was shot down over Cuba and its pilot, Major Rudolph Anderson Jr., was killed. Sixteen F-100 pilots were briefed at Homestead Air Force Base to fly to Cuba, fire Zuni 5-inch high-velocity air-to-surface rockets and knock out the SAM site's sophisticated radar, then destroy the site with cluster bombs. Back in Washington, the EXCOMM group was

military consequence to the US. Then the word came of the U-2 downing over Cuba. Had Moscow ordered the plane be shot down? Or had a barely-trained Cuban contingent merely overreacted? It was a quandary - one that elicited varying responses. Some of the military members of EXCOMM were in favor of immediately attacking Cuba. But Kennedy hesitated, believing if the US blew up a Soviet SAM site, it would almost be begging for the Soviets to find a new way to retaliate. So, in an amazing exhibition of levelheadedness and self-control, Kennedy chose to wait a day. The planes at Homestead were put on stand-by. General Curtis LeMay, chief of the Strategic Air Command, simply stated that Kennedy had "chickened out." At 7:45 p.m., Bobby Kennedy informed the Soviet Ambassador, Anatoly Dobrynin, of the following: If the Soviets agreed to remove the missiles from Cuba, the US would publicly promise not to invade Cuba and would drop the blockade. It would also remove the missiles in Turkey - although there would not be a public announcement of that. Take it or leave it now, said RFK, or the US will unleash a military attack.

The state of alert was at DEFCON 2.

Continued on Page 11



(Top) The Soviet sub B-59 was brought to the surface following a tense standoff that could of started WWII (Above) The U-2 reconnaissance plane shot down over Cuba that same day.

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October 28, 1962

## Sunday... Prayers Answered

On Sunday, October 28, Key Westers awakened to the sound of combat-ready jets taking off from Boca Chica. Missile operators stood next to their launchers, ready to act. Giant radar installations swept the sky. But it was time to go to church. Every mass at St. Mary Star of the Sea Catholic Church was packed - many in the congregation wearing uniforms. Special services were held at St. Paul's Episcopal Church downtown, and a special observance of Navy Day was altered to include prayers for all servicemen involved in the current crisis. A prayer offered by the Rev. Bruce Powell for the Key West ships serving in the blockade said, "We do not know where our men are, but our prayers are offered without qualification for God's guidance and for the protection of all involved in the present critical days." Interestingly, the sound of planes flying overhead almost came to a stop during the regular hour of worship.

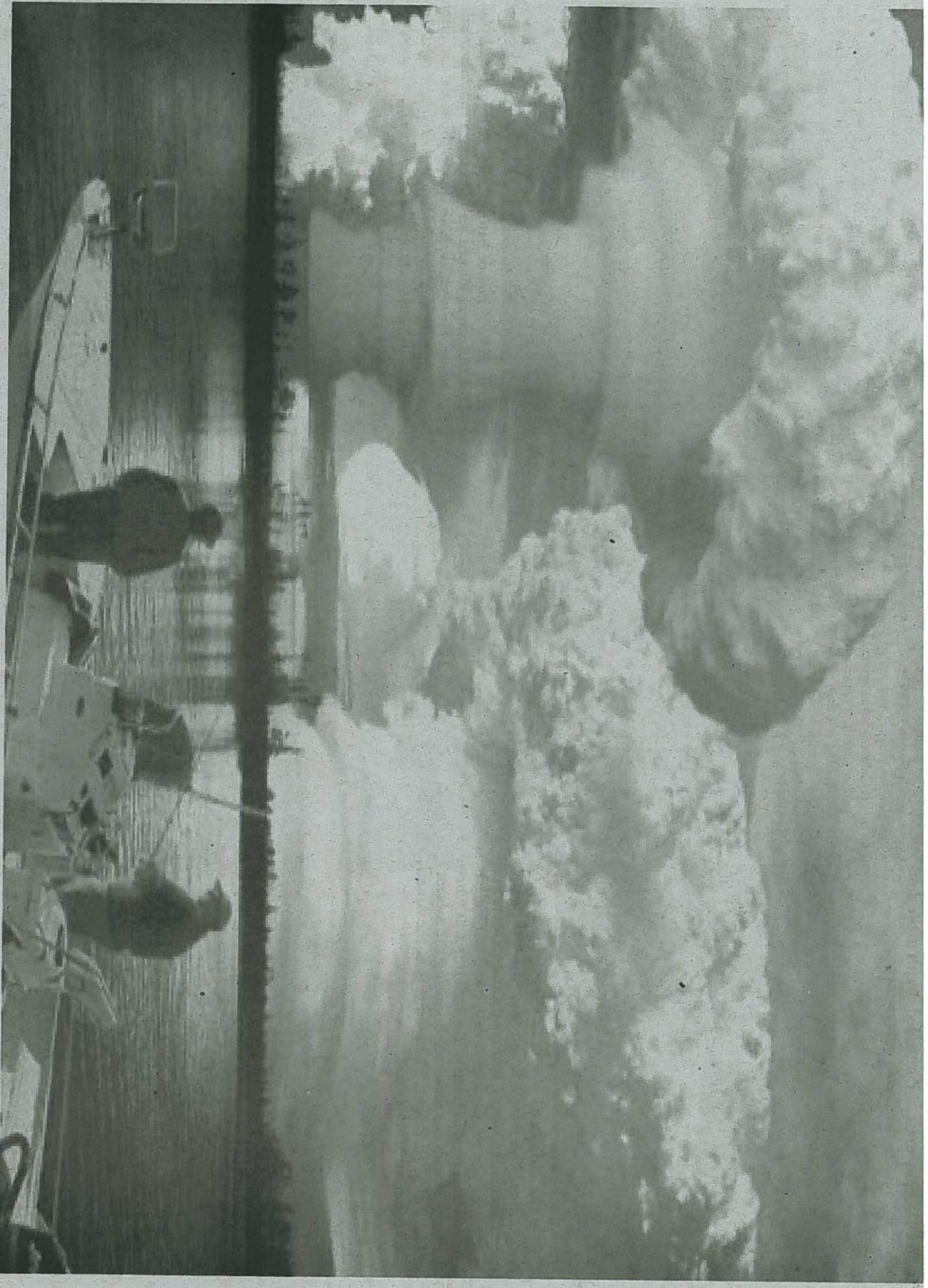
And as the prayers began, urgent news bulletins announced that Kennedy and Khrushchev had made a deal. At first the locals doubted the news, feeling as though Khrushchev was merely stalling for time. But as the day went on, a collective sigh of relief

was heard throughout the town.

These few days in October of 1962 were some of the scariest and most dangerous days ever faced by citizens of the United States - and the people of Key West were on the front lines. In the years since, many participants and observers have written of the experience and analyzed the military actions. One of the most interesting "takes" on the event was offered by Jorge Domínguez, a Harvard professor of government, in an article he wrote in 1992: "Fortunately for the world, an agreement between Kennedy and Khrushchev was already in the works (Ed. note: on Saturday, the 27<sup>th</sup>), so the United States did not retaliate against Cuba or the USSR for the shooting down of the U-2. Had that incident occurred even a few days earlier, or had Cuban antiaircraft batteries succeeded in shooting down several US aircraft, the US government would have retaliated with conventional weapons, to which the Soviets would have responded with tactical nuclear weapons, to which the United States would have responded with tactical nuclear weapons, and then . . . I would not have lived to write this article, nor would you have lived to read it."



(Top) So now it was back to life in Paradise. Only in Key West would three women stroll past an armed missile launcher on Smathers Beach - one with a camera close at hand, another cradling a baby. (Above) A modern view of the same scene, the missiles replaced by palm trees. Today, photographers shoot weddings here.



## Scary Thoughts...

Two significant after-the-fact occurrences have broadened our knowledge of what really happened on both sides of the equation in 1962. A cache of papers was located in a seventh-floor storage room of the State Department in 1987. Following several years of filing requests for the files under the Freedom of Information Act, more than two thousand

papers were studied and distilled into the book *The Cuban Missile Crisis, 1962* from the National Security Archive. In 2002, the fortieth anniversary of the crisis was marked with a unique summit meeting in Cuba that brought together all the old players from both sides, including Teddy Sorensen (personal counsel and chief speech writer to

Kennedy), Robert McNamara (secretary of defense), Arthur Schlesinger, Jr. (Aide to JFK, and a Pulitzer Prize-winning historian), Russian officers from the B-59 sub captured by the blockade, U-2 pilots, Robert Kennedy's widow, Ethel, and Fidel Castro. The knowledge exchanged was elucidating, including:

- U.S. intelligence sources had gauged Soviet troop strength on the island at about 10,000 that October. Russians have acknowl-

edged that troop strength was actually 42,000 in addition to 270,000 armed Cubans. McNamara has stated that, had the U.S. decided to invade Cuba at the height of the crisis, plans were to put 180,000 soldiers ashore.

- Before the observance of the missile build-up kick-started the crisis, both the Soviet Union and Cuba firmly believed that the U.S. intended to invade Cuba, possibly in October. McNamara

says no such plan existed.

- The U.S. had no confirmation of any nuclear warheads in Cuba until the U-2 photographs. We now know there were 42.

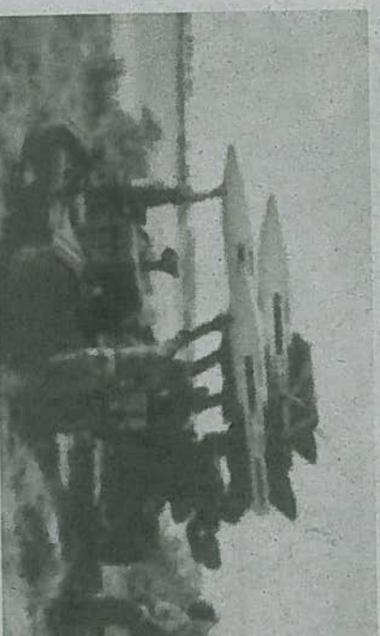
- The Joint Chiefs of Staff and other military members of EXCOMM who urged Kennedy to strike Cuba and destroy the missiles believed the Soviets would not retaliate militarily. Now, both Soviet and Cuban commanders have stated emphatically that they would've struck back.

- The U.S. didn't believe that the Soviet commanders in Cuba could utilize their short-range tactical nuclear weapons without receiving an okay from Moscow. Not true.

Robert McNamara stated in 1992 that, if the US had invaded and the local Soviet commanders had used the tactical nukes against advancing American troops, there would've been a U.S. nuclear response - and that would've quickly escalated to a nuclear war.



The Army rented the entire Casa Marina hotel for approximately \$63,000 between their arrival in 1962 through 1966. Up until that point, the hotel was allegedly in poor condition. The Army literally gave the hotel a new lease on life.



Following the missile crisis, the HAWK missile batteries were relocated to strategic locations around the lower Keys. This one was located at the tip of Fleming Key where the Army's Underwater Warfare School is today.



President John F. Kennedy inspects a HAWK missile battery during his visit to Key West after the 1962 Thanks-

## ARMY

From Page 1

fighting, was considered slow. Railroad service only as far as Florida City and the need to move via trucks down the Overseas Highway complicated the orchestrated military deployment.

Upon arrival in Key West, the Army dispersed its four missile batteries along Smathers Beach and South Roosevelt Boulevard near Key West Airport. The AADCP was set up on the corner of Bertha Street. This air defense stance was the proverbial "line in the sand" Cuba and the Soviet Union had better not cross.

The HAWK missile system was a relatively new air defense system when it arrived on the front lines of the missile crisis. Developed in the late 1950s, it only became operational two years before the missile crisis. The missile system was named after the predatory bird but shortly afterward, many in the Army suggested it was an acronym defined as "Homing All the Way Killer." The basic elements of a HAWK defense system like the one deployed to Key West were mobile radars to locate the target and help direct the fired missile, mobile missile launchers with a quiver of three missiles and a command post that could communicate and coordinate among all the dispersed missile batteries in a specific area. Each unit was self contained and could operate independently. After shooting three missiles, a good missile crew could reload the launchers in less than 10 minutes. The unclassified information regarding the missile's effectiveness boasted a range of about 15 miles and an ability to hit targets no higher than 30,000 feet.

The sudden arrival of soldiers created a serious housing crunch. Key West's former Army barracks, located where Peary Court housing is today, was razed after World War II. There was no room at Navy facilities either. Instead, Army officers contracted an aging and termite-infested hotel, the Casa Marina, and began moving in. The Army also benefited from the loan of flange canvas tents from the Navy. Army missile crews stood 24/7 alerts at their respective batteries and needed a place to eat and sleep.

The barracks were fit for the bill.

statesmanship trumped military might. Nikita Khrushchev ordered the removal of Soviet nuclear-capable weapons from Cuba and Kennedy agreed to remove American nuclear-tipped missiles in Turkey. A showdown of nuclear proportions was apparently averted.

Despite the agreement, Kennedy still didn't trust the Soviet Union. He wanted the military to keep an eye on the Soviet's to make sure the Russians didn't balk on the agreement by sneaking weapons back into Cuba. It was this level of distrust and uncertainty that seemed to forecast that the Army's stay here was going to be anything but temporary.

On November 17, President Kennedy suspended the Cuban quarantine. Navy ships and submarines homed ported at the Truman Annex naval station began returning to port. The announcement coupled with the upcoming Thanksgiving holiday raised spirits more than ever. Just a few weeks earlier, residents feared the worst and some even left town as war threatened like an approaching category-five hurricane. Thanksgiving 1962 was made more special with a surprise visitor: Kennedy himself! Following the holiday weekend, the President and an entourage of Pentagon brass boarded Air Force One on Monday, Nov. 26, and flew south to thank military personnel for their sacrifices during the Cuban missile crisis. After thanking Army units at Fort Stewart, Ga., and Air Force personnel at Homestead Air Force Base, Fla., Kennedy arrived at NAS Key West's Boca Chica Field. Florida Governor Farris Bryant and U.S. Representative Dante Fascell joined the official party in congratulating Key West's military people. Key West mayor C.B. Harvey also made an appearance hoping the publicity would boost tourism hard hit by the crisis.

After speeches and a presentation of awards to Navy squadrons at Boca Chica, Kennedy rode into Key West in the back seat of a convertible Lincoln Continental. Followed by a 10-car convoy, the Presidential parade made a short stop at Army Hawk missile batteries near Key West International Airport before heading to the Naval Station. There, the 6th Battalion (HAWK), 65th Artillery was pre-

Cuban missile crisis appeared officially over. But the capability of Cuba launching a surprise aerial attack was unchanged. The Army and defense officials determined it prudent to keep the HAWK missile unit in Key West.

In the weeks that followed, the missile batteries at Smathers Beach new defensive positions were reconnoitered and eventually moved. The four batteries were named Alpha, Bravo, Charlie and Delta, respectively. Alpha Battery was established at the tip of Fleming Key where the Army dive school is located today. Bravo Battery was located near Key West International Airport. Located first at Saddlebunch Key where a RV Park is now located and eventually moved to Geiger Key, next to what is now Tamarrac Park, was Charlie Battery. The last battery, Delta Battery, was located on the other side of the highway from NAS Key West Boca Chica, near an area locals refer to as the "sub pens." A golfball-shaped NOAA Doppler radar can be seen from US-1 designating the site. The AADCP left its Bertha Street location and moved to NAS Key West, Boca Chica.

While Florida's climate caused havoc with missile maintenance and concern arose about reliability of systems, the Army presence was no less a deterrent. The HAWK missile system required a great deal of maintenance and there were questions whether it would really work. While no HAWK missiles were fired in anger from Key West, the system performed admirably in future combat situations. During the first Gulf War, Kuwaiti troops shot down 22 Iraqi aircraft with the missile defense system.

By the mid-1960s, the Army roots spread in the Keys. Barracks were constructed at NAS Key West on Boca Chica replacing canvas and screen, wood-framed tents reminiscent of something out of the MASH television series. The AADCP was co-located with Air Force early warning air search radar personnel also on Boca Chica. Command and control functions among the four missile batteries improved. Later, the Army dedicated each battery in honor of a Key West-born soldier killed in Vietnam. Batteries Alpha through Delta honored the memory of Lt. Eckwood Solomon, Richard A. B...

batteries became part of the North American Aerospace Defense Command (NORAD) system to defend the United States from attack. By the late 1970's, relations between the United States and Soviet Union warmed and Cuba became less of a military threat. Military intelligence questioned the readiness and reliability of the Cuban military as problems there resulted in large cuts from the defense budget and loss of support from the Soviet military. The threat of an aerial attack from Cuba was decidedly less likely. On the home front large defense cuts were taking place in the post-Vietnam War era. It was little surprise, then, Army decided to pull the air defense unit from Key West and reassign it to Ft. Bliss, Texas in 1979. The Defense Department endorsed the decision and said modern Air Force F-16 fighters based at Homestead Air Force Base could fulfill the air defense mission. The barracks built at Boca Chica and the former Army property was transferred to NAS Key West. The barracks are still used today to provide temporary housing to Navy aviation detachments training here.

With reassignment of soldiers and equipment to Ft. Bliss the Army's presence in Key West virtually disappeared. Detritus vegetation has overrun abandoned missile posts on Boca Chica. Battery buildings' Fleming Key were transferred into the Army Underwater Warfare School and Key West International Airport's buildings were transferred to the FAA and local authorities.

The 1991 Department Defense Appropriations Act established the Department of Defense Legacy Resource Management Program in part to "protect, inventory, and conserve the artifacts of Native American civilization, settler communities, and others deemed to have historical, cultural, or spiritual significance." A major study group was organized to look at Cold War-spec areas. In October 1992, representatives of the study group visited Key West and inspected former HAWK missile sites. Reports were made but the resource management program was given no requirements or funding to serve areas like the former missile sites. The sites that once held

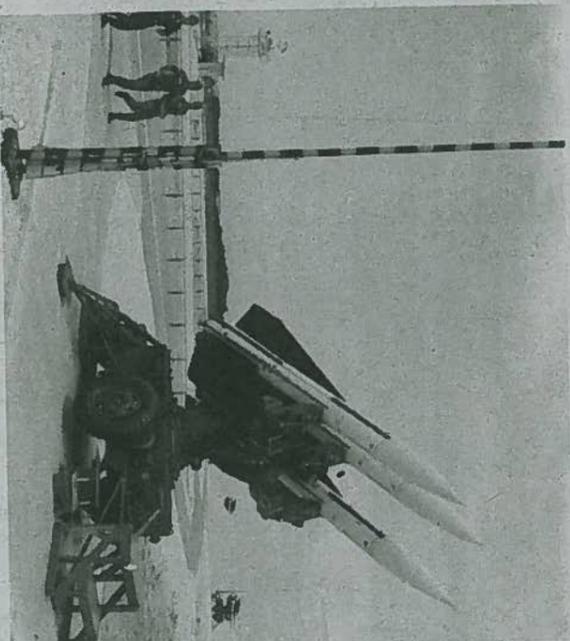
the Cold War are now

giving awards to the units with all military units and presented awards to the units who responded to the Cuban quarantine.



This is the old Ready Room at Charlie Battery on Geiger Key. The Ready Room was where the office spaces, recreation spaces, bathrooms and showers were located for the missile crews that stood 24/7 alerts. The concrete post in front of the building was where the brass plaque was mounted honoring the memory of Florentino R. Roque. The plaque is at the American Legion on Stock Island.

til permanent facilities were built. Even before the HAWK missile batteries became fully ready to engage Cuban or Soviet fighter and bomber aircraft, it appeared the missile crisis was over. Key West and the nation breathed a sigh of relief on October 28, 1962, when diplomacy and

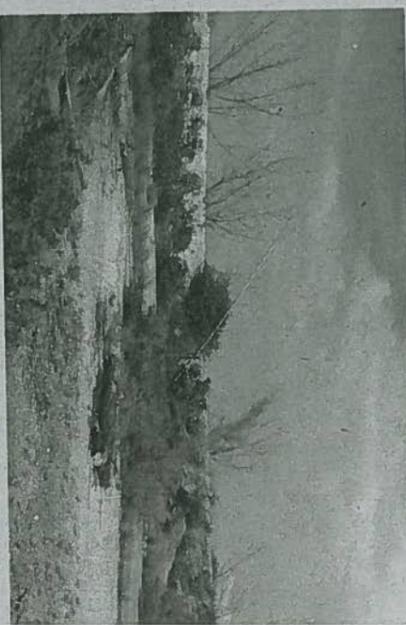


senior the Army's Unit Citation by the President for their quick reaction during the crisis.

Kennedy's second visit to Key West lasted two hours. With congratulations extended, hands shaken and citations awarded, Key West's involvement with the

Peter S. Knight, respectively. Brass plaques were mounted outside the ready room of each battery in memory of the fallen soldiers.

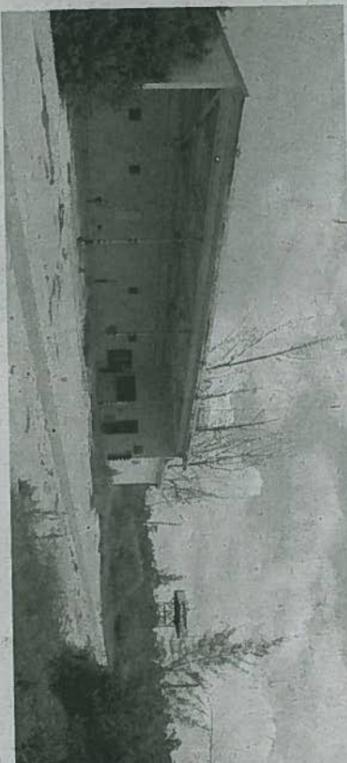
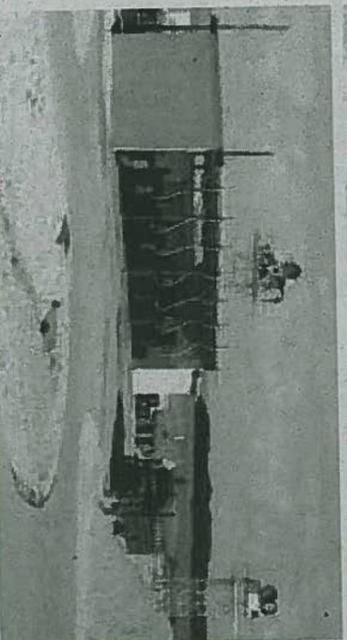
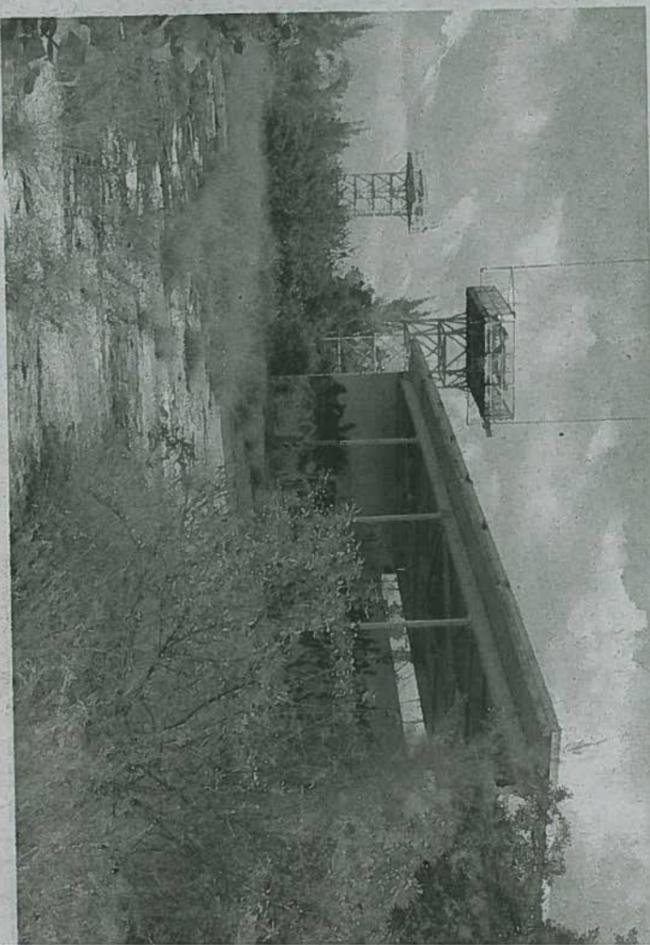
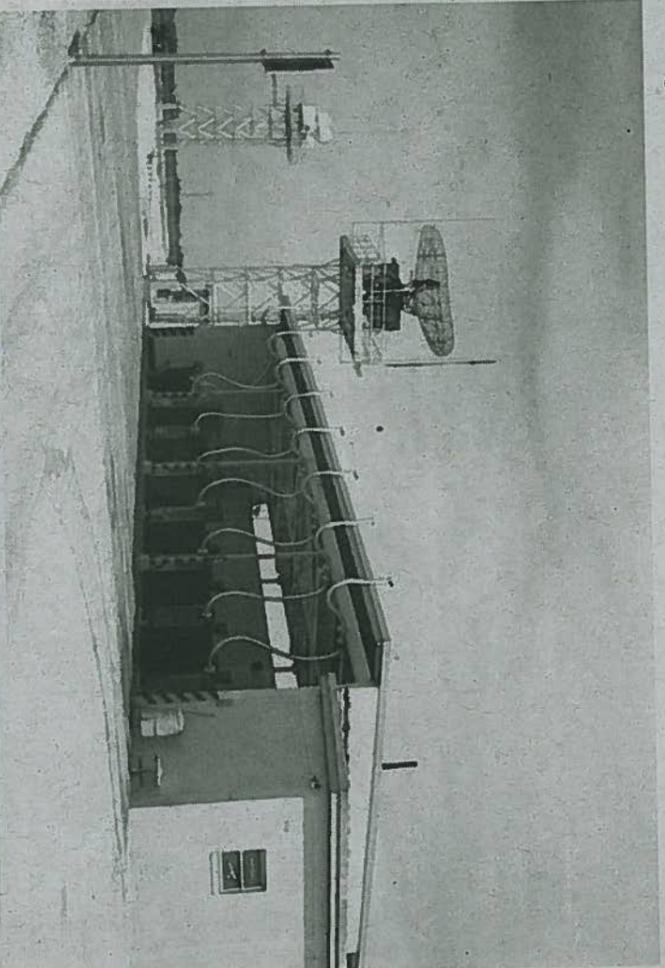
The Key's Army community numbered more than 700 soldiers. Key West's HAWK missile



(Left) HAWK missile battery. Soldiers from the HAWK DELTA battery located on Boca Chica run to a missile launcher. The second photo (above) shows the condition of the missile reventment today. First photo courtesy of Florio Memory Photo Archives. Second photo by James E. Brooks

weather and trespassers.

James E. "Jim" Brooks is NAS Key West Public Affairs Officer and student of Key West's military history - and he's chosen to share the knowledge with KWTx readers. Jim is a regular contributor to the pap



(Above) These are photos of the Generator Building of Geiger Key's Charlie I battery. The original photo was taken by former Army Lt. Ed Bayne in the 1960s. Recent photo taken by James E. Brooks. (Left) First photo is of the generator shed at Delta Battery on Boca Chica circa late 1960s, and the same generator building today. First photo is courtesy of Florio Memory Photo Archives. Second was taken by James E. Brooks.

# THE OFFICIAL VISIT OF PRESIDENT KENNEDY

Thirty days after the end of the crisis, President John F. Kennedy was in Key West to review the missile defenses in the Lower Keys.

At 3:35 p.m. Monday, November 26, 1962 - following stops to thank the troops at Fort Stewart, Georgia, and Homestead Air Force Base in Florida - the president landed at Boca Chica aboard Air Force One. Among those greeting the president were Florida Governor Patris Bryant and U.S. Representative Dante Fascell, as well as Key West Mayor C.B. Harvey, who told reporters that the nationally publicized tour would do "a world of good for Key West." However, Harvey did present the President with a bent key to the city - signifying the strain "which the Cuban crisis has put on the Key West economy." Kennedy beamed at the Mayor's choice of words and responded saying, "I certainly realize that and I hope my visit here will help things." Local lawmen recruited by the Secret Service to assist in security included Monroe County Sheriff John M. Sportwood and Key West Police Chief George G.

Gomez, Sportwood, known as a close friend to President Truman, chatted with Kennedy about *Pf 109* - the soon-to-be-released film about JFK's WWII heroism that had been shot on Sportwood's own Munson Key (now Little Palm Island.)

The guests at Boca Chica heard a speech from Kennedy thanking the Marine, Air Force and Navy fliers whose reconnaissance flights over Cuba during the missile crisis played the most important and most critical part... in the most dangerous days that America has faced since the end of World War II."

Police Chief Gomez had his entire force on the road as protection for the president, as were the Sheriff's Department, Border Patrol, Florida Highway Patrol and even the local game wardens. Marine and Navy guards were posted at the four bridges which the party would cross or pass - Boca Chica, Stock Island, Thompson Island and along South Roosevelt Boulevard - after the bridges had been completely searched for explosives.

The president then visited

US Army HAWK anti-aircraft missile sites at the base, after which a motorcade of 10 automobiles, led by the president's yellow Lincoln Continental convertible (acquired at a Miami dealership for the occasion) sped the half dozen miles from the air station to the Presidential Gates at NAS Key West on Whitehead Street.

Along the way the President reviewed troops outside the Casa Marina. On Duval Street, the fast-moving motorcade was greeted by crowds of onlookers and flag-wavers, though the mood of the crowd was somber. The convoy of cars finally arrived at the Little White House by way of a road that had been paved since Kennedy's previous visit eighteen months earlier when he met there with England's Prime Minister, Harold Macmillan. At the Naval Station, the 6th Battalion (HAWK), 65th Artillery was presented the Army's Meritorious Unit Citation by the President for their quick reaction during the crisis. Quickly, the motorcade sped back up the Overseas Highway to Boca Chica and President Kennedy was gone.

## The lost 8mm film KENNEDY'S MOTORCADE ALONG DUVAL STREET

Three years ago, when KWH's first researched the activities of October and November, 1962, we learned about a home movie taken that Monday, November 26, that captured Kennedy's trip down Duval Street. The film was in the 6th Floor Museum at Dealey Plaza in Dallas. We were fascinated - we love to be tipped off about artifacts - so we pursued our lead. Thanks to the museum's Gary Mack and Deborah Marine, we learned the film had come into the possession of the museum in 2003. It was donated by an individual who had picked up the 8mm bit of history at a garage sale in Key West. The filmmaker is unknown.

So, three years after curiosity sent us on a treasure hunt to Dallas, here they are - the best frames from a home movie that documents Kennedy's visit to Key West.

At 4:49 p.m., November 26, 1962, President Kennedy's motorcade left the Casa Marina and made

its way to Duval Street. Meanwhile our man-with-the-8mm-camera, standing in the 300-block of Duval, is ready and waiting. As the motorcade passes Eaton Street and heads toward him, he starts filming. (1&2) The Women's Club is on the left in the photograph, putting our man in the vicinity of Carolines Café.

(3) The motorcade then turned left onto Caroline Street and passed the Gallery Lounge - a combo bar and art gallery. Today the building houses The Bull and Whistle and The Garden of Eden.

(4) It's the next frame that's indelible - that face. Kennedy normally appeared so handsome, yet it can't be denied that the stress of the previous six weeks is evident. No doubt this man had felt the weight of the free world on his shoulders, no question he knew exactly how close we had come to war - it's written in every line, in every wrinkle, in those deep eyes, of that face. At this frozen moment in time, the

President had been on the ground for an hour and a half - he had reviewed the results of orders he had directly given since that first secret aerial photo was taken on October 14. Perhaps the Key West trip was lending the human experience to a situation he had heretofore experienced only intellectually.

(5) The last frame of the JFK home movie was captured just seconds after Kennedy and his motorcade passed through the Presidential Gates at Whitehead and Caroline onto the Naval Base. The sailors haven't yet broken formation - they've just shown the highest respect to their Commander in Chief, and the crowd is dispersing. According to the Secret Service itinerary, it is precisely 5 p.m.

That was the last time the Presidential Gates were opened for a seated President. Today, as part of the Truman Annex development, they are opened for visiting Heads of State - regardless of country.

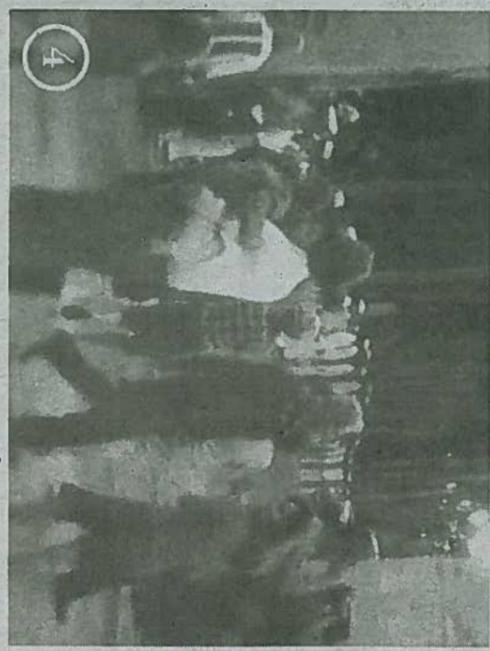
ENCLOSURE (1)      SEMI-TITLED NEGATIVE      26 November 1962

SCHEDULE FOR THE PRESIDENT'S VISIT TO THE U. S. NAVAL BASE, KEY WEST, 26 NOVEMBER 1962 (FINAL EDITION)

EVENT NO.	ARRIVE	EVENT	ELAPSED TIME	DEPART
7	1611	MOBILE FUELLING AIRCRAFT AND CREWS	----	1611
8	1612	TAXIWAY - MARINE AIR GROUP 14 F8U AIRCRAFT AND CREWS	1 MIN	1613
9	1614	NAVY AND MARINE BLUE MOON AIRCRAFT AND CREW PRESENTATION OF UNIT COMMENDATION BY PRESIDENT KENNEDY	15 MIN	1629
10	1644	HAWK MISSILE BATTERY "BRAVO"	----	1644
11	1649	CASA MARINA HOTEL - U. S. ARMY, COMMAND POST HEADQUARTERS AND BILLETING	----	1649
12	1700	ENTER U. S. NAVAL STATION PRESIDENTIAL GATE VIA CAROLINE STREET	----	1700
13	1701	U. S. NAVAL STATION WATERFRONT AND PARADE FORMATIONS	2 MIN	1703

TIME OF ARRIVAL: 1535 LOCAL TIME  
TIME OF DEPARTURE: 1735 LOCAL TIME  
TOTAL ELAPSED TIME: 2 HOURS





Note: Those famous moments when President John F. Kennedy came down Duval Street on November 26, 1962, are now viewable in Key West through the generosity of the 6th Floor Museum at Dealey Plaza. A DVD is available for viewing at the Florida History Room at the Monroe County Library. So now the movie is back where it started - Key West, Florida.

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John F. Kennedy's first visit to Key West was in March of 1961. At the Truman Little White House, he met British Prime Minister Harold Macmillan to discuss the Suez Canal.

In celebration of the fiftieth Anniversary of the Kennedy presidency, the Truman Little White House will present a special Kennedy exhibition starting in January 2011.

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## **Florida Administrative Code 62-780.680**

62-780.680 (3) Risk Management Options Level III - A No Further Action with institutional controls and, if appropriate, engineering controls shall apply if the controls are protective of human health, public safety, and the environment and are agreed to by the current real property owner(s) of all properties subject to the institutional or engineering controls. Fate and transport models, as defined in Rule 62-780.610, F.A.C., supported by a minimum of one year of monitoring data, may be utilized to justify the No Further Action Proposal. It shall be demonstrated to the Department that the following conditions are met for those contaminants that do not meet Risk Management Options Level I or Level II criteria of subsection 62-780.680(1) or 62-780.680(2), F.A.C.:

(a) Free product is not present and no fire or explosive hazard exists as a result of a release of non-aqueous phase liquids, or free product removal is not technologically feasible; or

(b) Alternative soil CTLs have been established by the PRSR and the following criteria are met for soil in the unsaturated zone:

1. Soil contaminant concentrations, or average soil contaminant concentrations calculated based on the 95% UCL approach pursuant to this subparagraph, do not exceed the alternative direct exposure soil CTLs established pursuant to paragraph 62-780.650(1)(d), F.A.C. If more than one contaminant is present in the soil in the unsaturated zone at the site, the soil CTLs for all contaminants detected in soil samples at the site shall be apportioned, as applicable [refer to Appendix D of the technical report referenced in subsection 62-780.100(2), F.A.C., for guidance on apportioning soil CTLs]. If the 95% UCL approach is utilized to calculate average soil contaminant concentrations pursuant to this subparagraph [refer to the technical report referenced in subsection 62-780.100(2), F.A.C., for guidance], the following criteria shall be met:

a. The Florida-UCL tool or other approved statistical method pursuant to subsection 62-780.610(2), F.A.C., shall be used to perform the 95% UCL calculations;

b. The maximum soil contaminant concentrations shall not exceed three times the applicable soil CTLs (apportioned pursuant to subparagraph 62-780.680(3)(b)1., F.A.C., if applicable); higher maximum soil contaminant concentrations may be utilized provided the maximum concentrations address the potential risk based on exposure to contaminants which may cause acute toxicity, and the potential for direct contact within the exposure unit that is not equal and random; and

c. The exposure unit shall reflect normal activity patterns for the existing land use, with supporting institutional controls if the exposure unit exceeds 1/4 acre. The institutional controls shall require recalculation of the 95% UCL if the property is subdivided or land use changes such that the exposure unit utilized in the original calculation is no longer appropriate; and

2. One or more of the following criteria for leachability are met, as applicable:

a. Soil contaminant concentrations do not exceed the alternative leachability-based soil CTLs established using the alternative groundwater CTLs derived pursuant to paragraph 62-780.680(3)(c), F.A.C., and, if applicable, the appropriate surface water CTLs pursuant to paragraph 62-780.680(1)(d), F.A.C.;

b. Direct leachability testing results pursuant to subparagraph 62-780.600(5)(c)4., F.A.C., demonstrate that leachate concentrations do not exceed the alternative groundwater CTLs established pursuant to paragraph 62-780.680(3)(b), F.A.C., and, if applicable, the appropriate surface water CTLs pursuant to paragraph 62-780.680(1)(d), F.A.C.;

c. An engineering control that prevents infiltration (for example, permanent impermeable cover material) is implemented, in which case the contaminant concentrations in the soil

below the impermeable cover may exceed the leachability-based soil CTLs. Prior to Department approval of a No Further Action with engineering controls, the PRSR shall provide certification by a registered Professional Engineer that, to the best of his or her knowledge, the engineering control is consistent with commonly accepted engineering practices, is appropriately designed and constructed for its intended purpose, and has been implemented. It shall be demonstrated to the Department by a minimum of one year of groundwater monitoring data that contaminants will not leach into the groundwater at concentrations that exceed the appropriate groundwater CTLs established pursuant to paragraph 62-780.680(1)(c), F.A.C., or, if the groundwater is already contaminated, at concentrations that exceed the alternative groundwater CTLs established pursuant to paragraph 62-780.680(3)(c), F.A.C., and, if applicable, the appropriate surface water CTLs pursuant to paragraph 62-780.680(1)(d), F.A.C.;

d. Soil contaminant concentrations do not exceed the alternative leachability-based soil CTLs established using site-specific soil properties pursuant to subparagraph 62-780.600(5)(c)2., F.A.C., the equation and appropriate default assumptions specified in Chapter 62-777, F.A.C., Figure 8, the alternative groundwater CTLs established pursuant to paragraph 62-780.680(3)(c), F.A.C., and, if applicable, the appropriate surface water CTLs pursuant to paragraph 62-780.680(1)(d), F.A.C.;

e. Soil concentrations of the site-specific fractions of TRPHs established pursuant to subparagraph 62-780.600(5)(c)3., F.A.C., do not exceed the alternative leachability-based soil CTLs for the TRPH fractions established using the equation and default assumptions specified in Chapter 62-777, F.A.C., Figure 8, the chemical/physical parameters provided in Appendix C of the technical report referenced in subsection 62-780.100(2), F.A.C., the alternative groundwater CTL for TRPHs established pursuant to paragraph 62-780.680(3)(c), F.A.C., and, if applicable, the appropriate surface water CTL for TRPHs pursuant to paragraph 62-780.680(1)(d), F.A.C.; and

f. It has been demonstrated to the Department by a minimum of one year of groundwater monitoring data and, if applicable, fate and transport modeling results that, based upon the site-specific conditions, contaminants will not leach into the groundwater at concentrations that exceed the alternative groundwater CTLs established pursuant to paragraph 62-780.680(3)(c), F.A.C., and, if applicable, the appropriate surface water CTLs pursuant to paragraph 62-780.680(1)(d), F.A.C.; and

(c) Alternative groundwater CTLs have been established by the PRSR depending on the current and projected use of groundwater in the vicinity of the site, and the following criteria are met:

1. Groundwater contaminant concentrations do not exceed the alternative groundwater CTLs established pursuant to paragraph 62-780.650(1)(d), F.A.C. [apportioned, if applicable; refer to Appendix E of the technical report referenced in subsection 62-780.100(2), F.A.C., for guidance on apportioning groundwater CTLs], and the plume has not affected, and will not affect, a freshwater or marine surface water body pursuant to subparagraph 62-780.680(1)(c)2., F.A.C.; and

2. It has been demonstrated to the Department by a minimum of one year of groundwater monitoring data and, if applicable, fate and transport modeling results, that the plume is stable or shrinking, and groundwater contaminant concentrations at the institutional control boundary do not, and will not, exceed the appropriate groundwater CTLs pursuant to paragraph 62-780.680(1)(c), F.A.C., and, if applicable, the appropriate surface water CTLs pursuant to paragraph 62-780.680(1)(d), F.A.C.

(4) Unless the No Further Action Proposal is included in a Site Assessment Report pursuant to subparagraph 62-780.600(8)(b)1., F.A.C., or a Risk Assessment Report pursuant to paragraph 62-780.650(4)(a), F.A.C., or a Site Rehabilitation Completion Report pursuant to subsection 62-780.690(10) or 62-780.750(6), F.A.C., the PRSR shall submit to

the Department two copies of the No Further Action Proposal for review when the criteria for No Further Action have been met. The No Further Action Proposal shall include the tables required pursuant to subparagraph 62-780.600(8)(a)27., F.A.C., updated as applicable. Prior to approval of a No Further Action Proposal with an institutional control or an engineering control accompanied by an institutional control, documentation of the agreement with the real property owner(s) of all properties subject to the institutional or engineering controls shall be submitted to the Department.

(5) The Department shall:

(a) Provide the PRSR with a Site Rehabilitation Completion Order that approves the No Further Action Proposal; or

(b) Notify the PRSR in writing, stating the reason(s) why the No Further Action Proposal does not contain information adequate to support the conclusion that the applicable No Further Action criteria of Rule 62-780.680, F.A.C., have been met. Site rehabilitation activities shall not be deemed complete until such time as a No Further Action Proposal is approved.

(6) If the No Further Action Proposal is incomplete in any respect, or is insufficient to satisfy the objectives of subsection 62-780.680(1), 62-780.680(2), or 62-780.680(3), F.A.C., the Department shall inform the PRSR pursuant to paragraph 62-780.680(5)(b), F.A.C., and the PRSR shall submit to the Department for review two copies of a revised No Further Action Proposal that addresses the deficiencies within 30 days after receipt of the notice. If the deficiencies are not timely corrected, or cannot be corrected, the PRSR shall submit to the Department for review, as appropriate, two copies of a Natural Attenuation with Monitoring Plan pursuant to Rule 62-780.690, F.A.C., or two copies of a Remedial Action Plan pursuant to Rule 62-780.700, F.A.C., within 60 days after receipt of the notice.

(7) When a No Further Action Proposal is approved pursuant to subparagraph 62-780.600(9)(a)1. or 62-780.650(5)(a)1., F.A.C., or paragraph 62-780.680(5)(a), 62-780.690(11)(a), or 62-780.750(7)(a), F.A.C., the Site Rehabilitation Completion Order shall contain, at a minimum, the following information:

(a) The facility identification number or other FDEP or USEPA tracking number, as applicable, that identifies the property where the source(s) of the contaminated site is(are) or was(were) located;

(b) The street address of the property where the source(s) of the contaminated site is(are) or was(were) located;

(c) The date(s) of the discharge(s), if known, that resulted in the contaminated site;

(d) A reference to an attached map or legal description that depicts or describes the contaminated site for which the Site Rehabilitation Completion Order is being issued;

(e) The most recent tables generated by the PRSR pursuant to subparagraph 62-780.600(8)(a)27., F.A.C., or subsection 62-780.650(4), 62-780.680(4), 62-780.690(10), or 62-780.750(6), F.A.C.;

(f) If applicable, a reference to all engineering and institutional controls that were implemented at the contaminated site. For engineering controls, a brief description of the physical control and any maintenance or monitoring requirements shall be included; for institutional controls, a copy of the restrictive covenant including a reference to the book and page numbers where recorded shall be attached;

(g) If applicable, a statement that the Site Rehabilitation Completion Order is conditioned upon such engineering and institutional controls being effective, properly maintained, and remaining in place. If applicable, the following statement shall be included: "If the real property owner proposes to remove the institutional controls or engineering controls, the real property owner shall obtain prior written approval from the Department. The removal of the controls shall be accompanied by the immediate resumption of site rehabilitation, or implementation of other approved controls, unless it is demonstrated to the

Department that the criteria of subsection 62-780.680(1), F.A.C., are met.”; and

(h) A statement that the Site Rehabilitation Completion Order is subject to specific statutory re-openers and a listing of those re-openers found in Section 376.30701(4), F.S.

(8) Prior to the Department’s approval of a No Further Action Proposal with institutional controls or with institutional and engineering controls, the PRSR shall provide constructive notice of the Department’s intent for such approval to the local government(s) with jurisdiction over the property(ies) subject to the institutional control, to real property owner(s) of any property subject to the institutional control, and to residents of any property subject to the institutional control. The PRSR shall provide the Department with proof of such notice that meets the requirements of subsections 62-110.106(5), (8), and (9), F.A.C., except that the notice shall be prepared and published by the PRSR within 30 days after the Department’s conditional approval of the No Further Action Proposal with institutional controls. The notice shall provide the local government(s) with jurisdiction over the property(ies) subject to the institutional control, real property owners of any property subject to the institutional control, and residents of any property subject to the institutional control, the opportunity to comment to the Department within 30 days after receipt of the notice of the Department’s intent of approval. Where subsection 62-110.106(8), F.A.C., requires a description of the agency action proposed, the notice shall contain "to issue a Site Rehabilitation Completion Order with institutional controls for a contaminated site". Additionally, the notice of rights language shall be replaced with "Local governments, real property owner(s) of any property subject to the institutional control, and residents of any property subject to the institutional control have 30 days from publication of this notice to provide comments to the Department." The notice also shall provide the appropriate mailing address to which comments should be sent.

(9) The Site Rehabilitation Completion Order shall constitute final agency action regarding cleanup activities at the site.

*Specific Authority 376.30701, 403.0877 FS. Law Implemented 376.30701, 403.0877 FS. History—New 4-17-05.*

**APPENDIX J**

**FDEP COMMENT RESPONSES**

**RESPONSE TO FDEP COMMENTS DATED OCTOBER 3, 2011  
PRELIMINARY ASSESMENT AND SITE INSPECTION  
U.S. ARMY HAWK MISSILE SITE, BOCA CHICA, SITE 25  
NAVAL AIR STATION KEY WEST, FLORIDA**

*Note that where the comment response provides revised text, text additions are shown in bold italics and deleted text is shown as strikethrough.*

**COMMENTS**

1. **General Comment:** Please note that the term Total Petroleum Hydrocarbons (TRPH) is not correct. The correct name is Total Recoverable Petroleum Hydrocarbons (TRPH). Please make necessary changes to this document.

**Response:** Total Petroleum Hydrocarbon (TPH) has been revised to Total Recoverable Petroleum Hydrocarbon (TRPH). Revisions have been made throughout the PA/SI to reflect this change.

2. **Comment - Page 4-1, Section 4.1, Groundwater:** This section describes several areas that could have served as possible sources of contamination at this site, both the generator building and the radar tower could have had chlorinated solvents on site. The Department feels that this information will need to be taken into consideration when conducting any future remedial investigation for this site.

**Response:** Through the research conducted during Preliminary Assessment (PA), the possibility of chlorinated solvents originated from the generator building and the radar towers was discovered. During the Site Inspection (SI), soil and groundwater samples were collected and analyzed for chlorinated solvents through volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) analysis. These analyses documented that chlorinated solvents are not an issue in soil, but the chlorinated solvent 1,1-dichloroethene was detected in groundwater. Based on these results, any future remedial investigations would include at the minimum analysis for 1,1-dichloroethene.

The Department's recommendation to consider the generator building and radar towers as possible sources of chlorinated solvent contamination will be noted for future remedial investigations at this site. The following has been inserted as the second sentence of Section 4.1, "***These potential sources will be taken into consideration during future remedial investigations at this site.***"

Additionally, the following has been added as the last sentence of Section 8.4, "***Note, based on these results, future remedial investigations at this site should include 1,1-dichloroethene analysis.***"

3. **Comment - Page 8-2, Section 8.1.3 Potential Contaminant Migration Pathways, 3<sup>rd</sup> paragraph last sentence:** This sentence states: "*At this time, it is not known if contaminated groundwater is discharging to any of the surface water features*

*surrounding the Site.*” The Department would expect this situation to be fully addressed in any future remedial investigations to be conducted at this site.

**Response:** The Department’s expectation to investigate possible groundwater interface with surface water has been noted for future remedial investigations for this site. Site-specific investigations would be addressed in future work plans or Uniform Federal Policy-Sampling and Analysis Plans (UFP-SAPs).

The last sentence of Section 8.1.3 has been revised, “At this time, it is not known if contaminated groundwater is discharging to any of the surface water features surrounding the Site, ***this possibility will be investigated during future remedial activities.***”

### **Addition Revision**

Note, Rule 62.780.680 (3) is included in Appendix I for reference Chapter 62.780.680 (3) “Risk Management Option Level III” of the Florida Administrative Code (April,2005) has been added to Appendix I, References. The following has been added as the last sentence of Section 8.5, “***Rule 62.780.680 (3) is included in Appendix I for reference.***”