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TECHNICAL MEMORANDUM REGARDING CONFIRMATORY GROUNDWATER SAMPLING RESULTS SITE 27 SARATOGA AVENUE MANHOLE 31NAS KEY WEST FL

02/09/2011

AGVIQ ENVIRONMENTAL SERVICES

Confirmatory Groundwater Sample Results, Site 27, Saratoga Avenue Manhole 31 NAS Key West, Key West, Florida

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DATE: February 9, 2011

Introduction

AGVIQ-CH2M HILL Constructors, Inc. Joint Venture III (AGVIQ-CH2M HILL) was contracted by U.S. Naval Facilities Engineering Command Southeast (NAVFAC SE) to perform groundwater confirmation sampling at Site 27, Saratoga Avenue Manhole 31 (MH-31), at the Naval Air Station (NAS) Key West (Figure 1). Activities included the sampling of two existing groundwater monitoring wells and six direct push technology (DPT) temporary groundwater monitoring points at the site (Figure 2). Sample results were used to verify groundwater impacts in the monitoring wells previously discovered under separate investigations.

The purpose of this Technical Memorandum (TM) is to document the confirmatory sample results from this groundwater investigation, consistent with the conditions of Part V.5 (Corrective [Remedial] Action Conditions) of the Draft Operating/Corrective Action Permit 63182-HO-00 (the Permit). Additionally, this TM documents the historical records review completed by AGVIQ-CH2M HILL as part of this investigation.

The work was performed under NAVFAC SE, Small Business Remedial Action Contract No. N62470-08-D-1006, Task Order (TO) No. JM26 and in accordance with the Sampling and Analysis Plan (SAP) (AGVIQ-CH2M HILL, 2010).

Site Background

In July 2005, petroleum product was discovered along a ditch and nearby underground electrical distribution system including several manholes and utility vaults located along a major length of Saratoga Avenue within NAS Key West (Figure 3). Emergency response actions were initiated on the day the release was discovered by the Navy to remove the petroleum product and water from the underground conduit system and to locate the source of the petroleum free product. During the emergency response, visual staining of the soil around MH-31 was also observed. The MH-31 area includes an approximately 11.5-foot by 15-foot concrete below-surface vault with four cast iron covers for access to the vault. The vault has been identified as a communication system vault. In August 2005, CH2M HILL Constructors, Inc. (CH2M HILL), removed the contaminated surface soil surrounding the

vault, which was excavated as part of the additional emergency response (CH2M HILL Constructors, Inc., 2008). Groundwater sampled during a subsequent investigation indicated the groundwater at the site also contained chlorinated volatile organic compounds (VOCs).

Project Objective

The scope of work performed at Site 27 by AGVIQ-CH2M HILL in 2010 included gathering historical site data for potential source area(s), preparation of work plan documents, sampling of two existing groundwater monitoring wells, six temporary groundwater monitoring points, and reporting. The primary objective of the groundwater sampling activities conducted by AGVIQ-CH2M HILL was to assess whether the groundwater quality meets the Florida Department of Environmental Protection (FDEP) Groundwater Cleanup Target Levels (GCTLs) (FDEP, 2005a) for unrestricted use at the property or if additional investigations is required. All work was conducted in accordance with the *Sampling and Analysis Plan, Saratoga Avenue Manhole 31, Site 27, Naval Air Station Key West, Key West Florida* (AGVIQ-CH2M HILL, 2010).

Historical Data Review

As part of this scope, AGVIQ-CH2M HILL was asked to review the previous Project Completion Report, and to gather current and historical data on any potential source area(s) that may have contributed to the impact of groundwater at or near this site. Attachment A includes documents reviewed over the course of the investigation. It should be noted that several storms including Hurricane Wilma directly impacted Key West after the initial discovery of petroleum product in 2005 and some records were destroyed.

Spill Notification

According to the Incident Report Briefing ICS #201-OS, on Friday July 22, 2005, at 0810 hours, Mr. Joe Fugitt from the Public Works Department of NAS Key West reported to Mr. Robert Courtright, Remedial Project Manager for NAS Key West Environmental Department, that he saw fuel oil products in the ditch during excavation activities performed by the subcontractor for Navy Marine Corps Internet (NMCI) near the flag pole along Saratoga Avenue (NAS Key West, 2005). Mr. Courtright went to the scene and met with Mr. Marvin Farley (Foreman for ADA Communications, a subcontractor for NMCI). Mr. Farley showed Mr. Courtright the conduit ditch where two 4-inch polyvinyl chloride (PVC) conduits had been placed. In an area of approximately 10 feet in length, there was trace evidence of fuel oil floating on the water in the ditch (NAS Key West, 2005).

Mr. Fugitt had reported seeing an unidentified contractor dump the contents of two 55-gallon drums into the adjacent manhole/vault. The adjacent manhole, MH-31, was opened and 200 to 300 gallons of fuel oil were observed to be inside of the vault (NAS Key West, 2005). It was also noted the fuel had been spilled or dumped onto the ground surface around the vault.

The Quarterdeck, Base Fire Department, Navy Occupational Safety and Health, Security, and Oil Spill Team were immediately notified of the release. The Fire Department arrived on scene and began to insert sorbent materials into the ditch area. Mr. Courtright requested

the Oil Spill Response Team bring vacuum trucks to the site to remove the fuel from the ditch and the vault. At 0855 hours, the Oil Spill Response Team arrived and began emergency response operations by pumping out approximately 2,500 gallons of liquid and 300 gallons of product from MH-31 using two vacuum trucks (NAS Key West, 2005).

An internal spill report (221821Z) was filed on July 22, 2005, reporting the details of the spill to multiple military agencies (Attachment A). The spill report noted that the fuel released was approximately 300 gallons of diesel fuel. Also on this day, the National Response Center was notified (Report #766245) as well as State Warning Point (Report #050722-4994).

On July 26, 2005, Mr. Courtright notified via email the FDEP District (Marathon) representative, Ms. Lisa Gordon in Marathon, Florida, of the release and described the path forward of emergency response activities. Ms. Gordon forwarded the release and path forward information to FDEP Tallahassee representative, Tracie Bolanos (formerly Tracie Vaught), on August 3, 2005, and requested that she guide the NAS Key West investigation and response to the discharge.

In his notification to FDEP, Mr. Courtright noted that a thorough investigation of the affected area around MH-31 was conducted on July 25, 2005, to ascertain the nature and extent of the release (Courtright, 2005, personal communication). Mr. Courtright reported that fuel had been visually identified in six manholes along Saratoga Avenue that were part of an electrical duct bank system. He also reported that ancillary branch feeder lines had been checked and that no trace oil residuals were found (Courtright, 2005, personnel communication). Documentation of the conversations supporting the notification of FDEP by NAS Key West and the transfer of responsibilities from FDEP Marathon to FDEP Tallahassee are included in Attachment A.

This notification and reporting fulfilled the Permit requirement to notify FDEP of the discovery of potential new release of contaminants to the environment (Part V.3).

Additional Emergency Response and Removal Actions

On August 3, 2005, CH2M HILL mobilized to the site to inspect all manholes potentially associated with the release and perform additional emergency response. CH2M HILL reported that of all of the electrical vaults, manholes, and storm basins inspected, only MH-31 (a double manhole) and Storm Basin 61were impacted at the time of the August inspection; both are located on Saratoga Avenue near the flag pole. Emergency response activities took place from August 5 through August 11, 2005. Absorbent boom installed by the Navy was removed from MH-31, and both MH-31 and Storm Basin 61 were vacuumed to remove remaining product.

After the free product was removed, the interiors of the manholes, storm drains, and vaults were washed using high pressure potable water (with a mild surfactant to emulsify the petroleum products) jetting. The fluids generated from this activity were also removed using a vacuum truck. The product/water mixture was transferred to Boca Chica Fuel Farm aboveground storage tank (AST) #A-925 and the Trumbo Point Fuel Farm 20,000-gallon AST for temporary storage. An additional 1,000 gallons of free product and water recovered by the Navy was transferred to the 20,000-gallon AST on August 31, 2005.

Waste characterization samples for the product and waste water were collected and analyzed for disposal purposes. The analytical data package for the waste characterization samples was provided in Appendix A of the Project Completion Report (CH2M HILL, 2008). The waste samples were analyzed for total recoverable petroleum hydrocarbons (TRPH), VOCs, semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), herbicides, metals, flashpoint, and pH. Based on these results, the water was characterized as non-hazardous petroleum contact water. On September 14, 2005, 17,833 gallons of product/water mixture accumulated in the Trumbo Fuel Farm 20,000-gallon AST were transported by Environmental Remediation Services, Inc. (ERS), Barnett Transportation, and One Hump Transportation to Industrial Water Services (IWS) in Jacksonville, Florida, for disposal. On January 19, 2006, 3,625 gallons of product/water mixture was removed from the Boca Chica Fuel Farm AST #A-925 and transported by ERS to IWS for disposal. Both ASTs used for temporary storage were cleaned by ERS and confirmed clean by base Fuel Farm personnel. Disposal documentation is provided in Appendix B of the Project Completion Report (CH2M HILL, 2008).

Excavation of the petroleum-contaminated surface soil in the vicinity of MH-31 was conducted by CH2M HILL on October 11, 2006 (CH2M HILL Constructors, Inc., 2008). Excavation limits were identified by visually stained soils and excessively contaminated soils (as defined by Chapter 62-770 Florida Administrative Code) with organic vapor analyzer/flame ionization detector (OVA/FID) headspace values greater than 50 parts per million (ppm) corrected for methane. Excavation was conducted by hand digging on top of the vault and continued until stained and excessively contaminated soil was removed and the top of the concrete vault was reached. Stained material was found only between the four manhole covers of the MH-31 vault. The depth of the soil on top of the concrete vault was approximately 6 inches.

Confirmation soil samples were collected from the four walls of the excavation and sent to Gulf Coast Analytical Laboratories in Baton Rouge, Louisiana, for analysis of TRPH, target compound list (TCL) VOCs, polycyclic aromatic hydrocarbons (PAHs), and metals (arsenic, cadmium, chromium, and lead). The floor of the excavation was the top of the vault; therefore, no sample could be collected from the bottom of the excavation. The results of the confirmation sample analyses were below the FDEP Residential Exposure Soil Cleanup Target Levels; therefore, additional excavation was not required.

Two 4-inch diameter monitoring wells, 37-MW-2 and 37-MW-3, were installed on February 19, 2007, at the MH-31 site. The monitoring well borings were advanced using hollow-stem auger drilling techniques. The monitoring wells were installed in accordance with the FDEP Standard Operating Procedures (SOPs) and requirements (FDEP, 2008a).

CH2M HILL conducted groundwater sampling of monitoring wells 37-MW-2, and 37-MW-3 on February 23, 2007 (first event) and June 8, 2007 (second event). Groundwater samples were analyzed for TRPH, TCL VOCs, PAHs, and metals (cadmium, chromium, arsenic, and lead).

Although low-level TRPH was detected, petroleum-related compounds were not detected at concentrations exceeding FDEP GCTLs in groundwater sampled from monitoring wells 37-MW-2 and 37-MW-3 in February or June 2007. Based on these results, groundwater was deemed not adversely impacted by petroleum-contaminated soils in the vicinity of MH-31.

However, trichloroethene (TCE) and tetrachloroethene (PCE) were detected at concentrations exceeding GCTLs in the groundwater samples collected from monitoring well 37-MW-2 during both sampling events. These compounds were detected in monitoring well 37-MW-3, at estimated levels below the laboratory's reporting limit of 3 micrograms per liter (µg/L) but above the method detection limit for both sampling events. The results are summarized in Table 1.

TCE and PCE were not detected in fluids removed during the emergency response free product removal, and neither compound was detected in the soil confirmation samples after soil excavation activities. Accordingly, these compounds were not anticipated to be found in the groundwater. The source of these chlorinated solvent compounds is unknown.

The complete results of the emergency response activities were presented in the *Project Completion Report, Saratoga Avenue Free Product and Contaminated Soil Excavation at Transformer 230 and Manhole 31, Naval Air Station Key West, Key West Florida* (CH2M HILL, 2008), which is included in Attachment A. FDEP Tallahassee representative, Ms. Tracie Bolanos, granted approval of this project completion report in an email dated March 25, 2008. This email is also included in Attachment A.

Groundwater Sampling

Approach

To assess the current groundwater conditions at the site, additional sampling was conducted. The groundwater sampling approach was developed in accordance with U.S. Environmental Protection Agency (EPA) Region 4 Field Branches Quality System and Technical Procedures, (EPA, 2007) and FDEP SOPs for Field Activities, DEP-SOP-001/01 (FDEP, 2008a).

Groundwater Sampling from Existing Wells - May 2010

Groundwater samples were collected from monitoring wells 37-MW-2 and 37-MW-3 on May 12, 2010 (third event). Because these monitoring wells had not been sampled since 2007 (first and second events), 37-MW-2 and 37-MW-3 were redeveloped on May 11, 2010, to remove stagnant water and deleterious material from the well screen making the post development sample more representative of groundwater in the area. Monitoring well redevelopment activities were conducted in accordance with the FDEP *SOP PCS 06, Design, Installation and Placement of Monitoring Wells* (FDEP, 2005b). During the redevelopment, field parameters (pH, temperature, specific conductance, and turbidity) were measured for each well volume removed. The monitoring wells were redeveloped by pumping water from each monitoring well via a submersible pump. Approximately 55 gallons of water were removed from monitoring well 37-MW-2 and 150 gallons of water were removed from monitoring well 37-MW-3. A relatively slow water recharge rate at 37-MW-2 made purging the originally anticipated 150 gallons not feasible. The monitoring well development records are included in Attachment B. Development water was containerized in four 55-gallon drums, with one drum dedicated to 37-MW-2 and three drums dedicated to 37-MW-3. The liquid waste was managed in accordance with the Waste Management Plan (Section 3.0 of the Work Plan [CH2M HILL, 2005]) and is discussed in Waste Characterization and Disposal section of this document.

Within approximately 24 hours after the monitoring wells were redeveloped, the monitoring wells were purged using a Monsoon submersible pump and low-flow techniques to minimize both agitation of the groundwater and sample turbidity. This procedure also reduces the quantity of water removed as waste. Purge water was added to the respective drums of development water from each monitoring well. The monitoring wells were purged at the low-flow rate until the field parameters (pH, temperature, specific conductance, dissolved oxygen [DO], oxidation reduction potential [ORP], turbidity and salinity [in monitoring well 37-MW-2 only]) stabilized, with the exception of temperature in one well. Salinity was tested in one well to assess whether saltwater intrusion had impacted the aquifer in the vicinity of the site (discussed in the section below). Groundwater samples were then collected via low flow techniques using the Monsoon submersible pump. The monitoring well sampling records are included in Attachment B.

Groundwater samples were submitted to PEL, a division of Spectrum Analytical Inc., in Tampa, Florida, and analyzed for TCL VOCs by EPA SW-846 Method 8260B and total dissolved solids (TDS) (EPA Standard Method [SM] 2540C). The groundwater sample collected from 37-MW-2 was also analyzed for salinity by EPA SM A2520B. Quality Assurance/Quality Control (QA/QC) samples, including a field duplicate and an equipment rinsate blank, were collected and analyzed for TCL VOCs and TDS as part of this sampling event.

Groundwater Sampling from Temporary Monitoring Points - November 2010

On November 16, 2010 six DPT temporary groundwater monitoring points (SB-01 through SB-06) were pushed to a maximum of 13.5 feet bls to collect grab groundwater samples through the DPT rod. The boring locations were selected based on previous investigation results and positioned to further delineate the chlorinated solvent plume in the vicinity of well 37-MW-2.

DPT borings were advanced to approximately 13.5 feet bls using a DPT outer casing with a cone tip, which was pushed directly into the ground. Once the borings reached the desired depth, the DPT outer casing was pulled up approximately 4 feet to expose the DPT inner perforated screen interval to the formation from 9.5 to 13.5 feet bls. Sufficient groundwater yield was not encountered at the 9.5-13.5 feet interval at SB-03 and SB-06, so the screen was raised and groundwater yield was encountered at 4 to 8 feet bls in SB-03 and 6 to 10 feet bls in SB-06. The temporary monitoring points were purged using a peristaltic pump at low-flow rates until the field parameters (pH, temperature, specific conductance, DO, ORP, and turbidity) stabilized (except SB-02 and SB-03 where temperature did not stabilize) or if the temporary groundwater monitoring point went dry during purging (as in SB-04 and SB-05) prior to sample collection.

Groundwater samples were collected according to FDEP SOP FS-2200 for low flow techniques using a peristaltic pump. The monitoring well sampling records are included in Attachment B. After sample collection, each boring was located in the field with a handheld GPS unit. The boreholes were then backfilled with any residual soil, plugged and abandoned by grouting the length of the boring from the bottom to the ground surface with bentonite/grout slurry.

Groundwater samples were submitted to PEL and analyzed for TCL VOCs by EPA SW-846 Method 8260B. QA/QC samples, including a field duplicate, equipment blank, trip blank,

matrix spike and matrix spike duplicate were collected and analyzed for TCL VOCs as part of this sampling event.

Groundwater Analytical Results

Groundwater analytical data were validated by an AGVIQ-CH2M HILL chemist for precision, accuracy, representativeness, comparability, and completeness (PARCC) limits. The laboratory analytical results and the data validation report are provided in Attachment C.

The groundwater samples collected from monitoring wells 37-MW-2 and 37-MW-3 in May 2010 and temporary groundwater monitoring points collected in November 2010 were screened against FDEP GCTLs. The May and November 2010 data is shown in Table 1.

Several chlorinated compounds were detected in the monitoring wells including TCE, PCE, cis-1,2-dichloroethene, trans-1,2-dichloroethene, and vinyl chloride. In monitoring well 37-MW-2, TCE and PCE were detected at concentrations of 20.2 micrograms per liter (µg/L) and 32.1 µg/L, respectively, which are above the FDEP GCTL for unrestricted land use of 3 µg/L for both TCE and PCE. As shown in Table 1, these concentrations have decreased since 2007. Additionally, several daughter products were also noted to increase since 2007, indicating that chlorinated solvents are naturally degrading. No constituents were detected above the FDEP GCTL in 37-MW-3, therefore the plume appears delineated to the north.

As shown on Figure 4, temporary monitoring points SB-01 and SB-06 were located west of well 37-MW-2. No exceedances were detected in samples collected from these well points; therefore the plume is delineated to the west. Groundwater samples collected from temporary monitoring points SB-02 and SB-05, located south of well 37-MW-2, exhibited concentrations of TCE and PCE above the FDEP GCTLs. The concentrations of contaminants were higher in SB-02 than SB-05 indicating the plume is less intense to the south. The plume has not been delineated to the south. The groundwater sample collected from temporary monitoring point SB-03, located east of 37-MW-2, also exhibited concentrations of TCE and PCE above the FDEP GCTLs. However, the easternmost temporary monitoring point, SB-04, did not exhibit concentrations of contaminants above their respective GCTLs. This suggests the plume is delineated to the east. The groundwater exceedances are shown on Figure 4.

TDS was analyzed in groundwater samples collected from the two permanent wells to help determine the overall water quality of the shallow aquifer beneath the site. TDS results were 12,300 J milligrams per liter (mg/L) in monitoring well 37-MW-2 and 13,800 mg/L in monitoring well 37-MW-3. According to Table 1 of FDEP's Secondary Drinking Water Standards [Chapter 62-550, Florida Administrative Code (FAC)] the criteria for TDS in drinking water is 500 mg/L (FDEP, 2007). According to FDEP's Ground Water Classes, Standards, and Exemptions (Chapter 62-520 FAC), Class G-II aquifers are defined as potable water use, groundwater in aquifers with a TDS content of less than 10,000 mg/L, unless otherwise classified by the Environmental Regulation Commission (FDEP, 2009). Class G-III aquifers are defined as non-potable water use, groundwater in unconfined aquifers with a TDS content of 10,000 mg/L or greater or with a TDS content of 3,000 to 10,000 mg/L; either has been reclassified by the Commission as having no reasonable potential as a future source of drinking water, or has been designated by FDEP as an exempted aquifer pursuant to Rule 62-528.300(3), FAC (FDEP, 2008b). Since the groundwater in

both monitoring wells at Site 27 exceeds 10,000 mg/L TDS, the aquifer may be considered poor quality and does not meet the definition of a Class G-II aquifer.

In accordance with Chapter 62-777 FAC, alternative GCTLs can be developed and used under certain circumstances in Risk Management Option Levels II and III. One such alternative is to use values intended specifically for low yield/poor quality aquifers. When aquifer conditions are such that groundwater yields are low, or groundwater is of poor quality, a separate set of default GCTLs can be used (refer to column for "Groundwater of Low Yield/Poor Quality Criteria" in Table 1 of Chapter 62-777 FAC). These criteria are 10 times higher than the usual default GCTLs (FDEP, 2005a).

Aqueous Waste Characterization and Disposal

Development and purge water generated from sampling activities was stored in four 55-gallon drums and sampled for waste characterization. Aqueous waste characterization samples were collected on May 12 and 18, 2010, from the development and purge water drums and analyzed for eight Resource Conservation and Recovery Act (RCRA) metals (EPA SW-846 Method 6010B/7470A), TCL VOCs (EPA SW-846 Method 8260B), TCL SVOCs (EPA SW-846 Method 8270C), TCL pesticides (EPA SW-846 Method 8081A), TCL herbicides (EPA SW-846 Method 8151A) corrosivity (E150.1), ignitability (EPA SW-846 Method 1010) and PCBs (EPA SW-846 Method 8082). A laboratory data summary table is included as Table D-1 in Attachment D. The laboratory analytical data report is provided in Attachment D.

The liquid waste characterization results were compared to the toxicity characteristic criteria in 40 Code of Federal Regulations Part 261 Subpart C, adopted by reference in 62-730.030, FAC. No results exceeded these criteria; therefore, the liquid waste was characterized as non-hazardous. A copy of the fully executed waste profile and manifest are provided in Attachment E.

Environmental Management Conservation Oil Corporation transported and disposed of 220 gallons of development and purge water from Site 27on June 28, 2010, and 55 gallons on November 24, 2010 using a vacuum-truck. The liquid waste was pumped from the four 55-gallon drums into the vacuum-truck, and transported to Cliff Berry, Incorporated, a recycling facility in Miami, Florida. Waste documentation is included in Attachment E.

Conclusions and Recommendations

This TM provides the confirmatory sample results from the groundwater investigation of Site 27, consistent with the conditions of Part V.5 of the Permit.

Petroleum related parameters were not detected at concentrations exceeding FDEP GCTLs in groundwater sampled from monitoring wells 37-MW-2 and 37-MW-3 in February 2007, June 2007, or May 2010 or from temporary groundwater monitoring points SB-01 through SB-06 in November 2010. Based on these results, groundwater was not impacted by petroleum spilled in the area of Site 27.

TCE and PCE were the only compounds detected at concentrations exceeding GCTLs during the May and November 2010 investigation. TCE and PCE were detected above GCTLs in the groundwater samples collected from monitoring well 37-MW-2 during the

three groundwater sampling events and in temporary groundwater monitoring points SB-02, SB-3, and SB-05 during the November 2010 investigation. The groundwater plume appears to be delineated to the north, east and west; however the plume is not delineated to the south. TCE and PCE concentrations in 37 MW-2 have decreased since 2007. Additionally, the concentrations of several daughter products were noted to have increased since 2007, indicating that chlorinated solvents are naturally degrading. These compounds were detected in 37-MW-3, but below the laboratory's reporting limit of 3 µg/L and the GCTL during the 2007 events, and were not detected during the May 2010 event.

TCE and PCE were not detected in fluids removed during the emergency response free product removal, and neither compound was detected in the soil confirmation samples after soil excavation activities. Accordingly, these compounds were not anticipated to be found in the groundwater. The source of these chlorinated compounds is unknown.

Based on confirmation of groundwater contamination at Site 27, the site is considered an Area of Concern (AOC) as defined by the Permit. The site should be added to Appendix A as an AOC during the next Permit modification and may require further investigation and remedial action required under RCRA Section 3005(c)(3) and 40 CFR 270.32(b)(2) in order to ensure adequate protection of human health and the environment. Upon notification by the Department (FDEP), the Navy shall commence additional site investigation and/or site rehabilitation in accordance with Rule 62-730.225 and Chapter 62-780, FAC, or a remedial action in accordance with Rule 62-780.500, FAC, for all AOCs ("contaminated sites") identified in the notification. Unless the notification letter specifically establishes a different time frame to commence or complete site assessment, the Navy shall commence and complete site assessment in the manner and within the time limits set forth in Rule 62-780.600, FAC, as indicated in Parts V.5 and V.7 of the Permit.

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This Groundwater Investigation Technical Memorandum for Site 27, Saratoga Avenue Manhole 31, at Naval Air Station Key West was prepared under the direction of a Florida Registered Professional Geologist.

Amy T. Twitty, P.G. No. 1703

February 9, 2011
Date

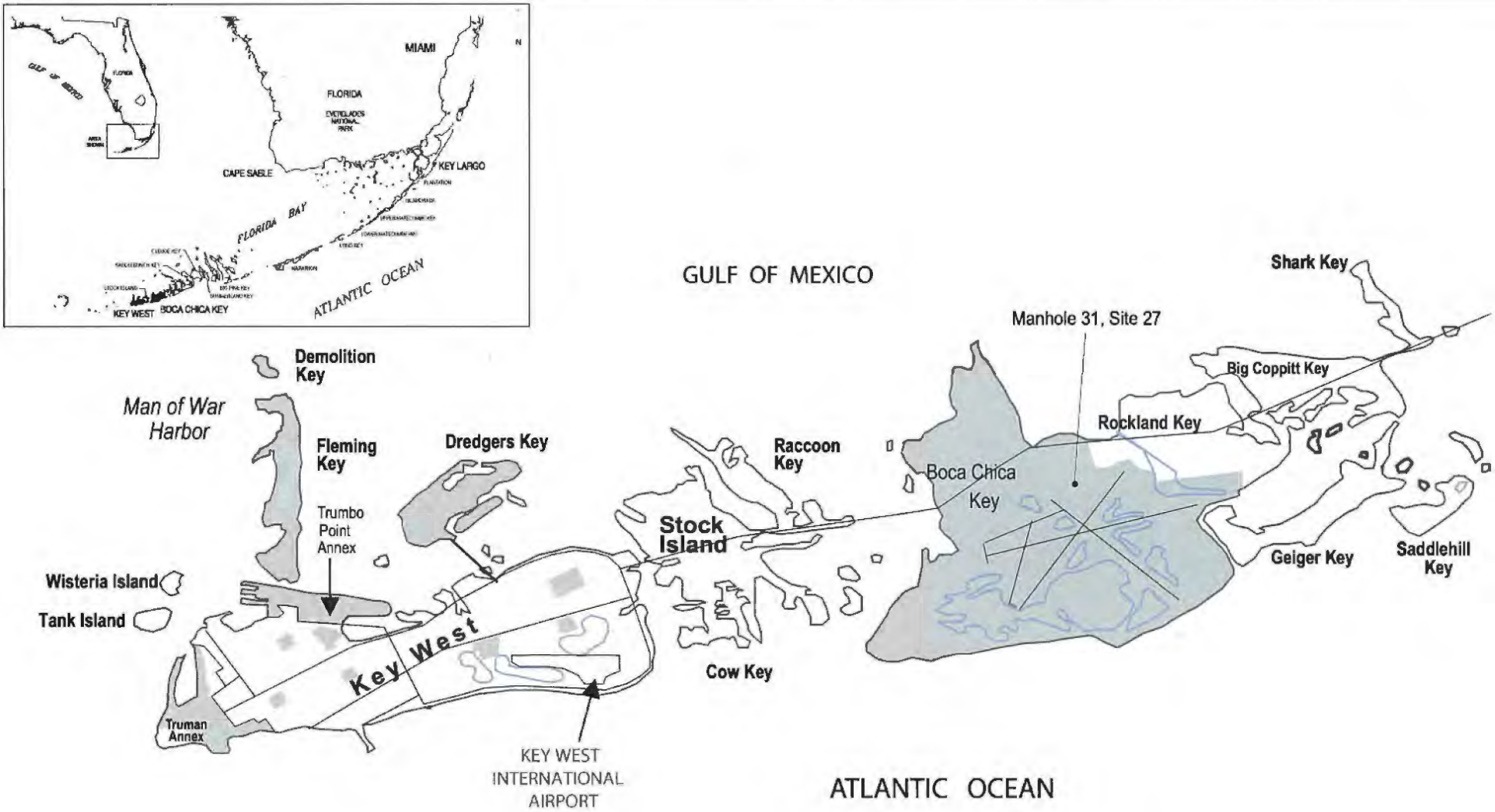
Table

TABLE 1
Groundwater Data Summary Table from 2007 and 2010
Site 27, Saratoga Avenue Manhole 31
NAS Key West, Key West Florida

	Station ID	37-MW-2			37-MW-3			SB-01	SB-02	SB-03	SB-04	SB-05	SB-06
	Sample ID	37MW2070223	37MW2070608	37MW2051210	37MW3070223	37MW3070608	37MW3051210	JM26-SB-01-W-111610	JM26-SB-01-W-111610	JM26-SB-01-W-111610	JM26-SB-01-W-111610	JM26-SB-01-W-111610	JM26-SB-01-W-111610
	Sample Date	2/23/2007	6/8/2007	5/12/2010	2/23/2007	6/8/2007	5/12/2010	11/16/2010	11/16/2010	11/16/2010	11/16/2010	11/16/2010	11/16/2010
Parameter	GCTL[1]												
1,1-Dichloroethene	7	5 U	0.37 J	**.24 J**	5 U	5 U	1.3 U	1.3 U	**0.2 J**	**0.28 J**	1.3 U	1.3 U	1.3 U
Acetone	6300	2.19 J	11 J8	**2 J8**	3.13 J	10.6 J8	**2.4 J8**	4.2 J	18 UJ	**5.3 JB**	**4.5 J**	**9.7 J**	18 UJ
Carbon disulfide	700	5.0 U	5.0 U	**0.24 J8**	5.0 U	5.0 U	**0.4 J8**	1.1 U	1.1 U	**0.4 B**	1.1 U	1.1 U	**0.45 B**
cis-1,2-Dichloroethene	70	**16.7**	24.4 J	**26.2 J8**	**68.6 J**	**35.9 J**	**68.6 J8**	12.4 J	**24.3**	**32.3 B**	**64.6**	**8.6**	**0.36 B**
Methylene chloride	5	5 U	5 U	2 U	5 U	1.27 J8	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Tetrachloroethene	3	**21.1**	**36.2 J8**	**32.1**	3 U	3 U	1.7 U	**0.83 J**	**38.9**	**40.7**	**0.52 J**	**7.7**	1.7 U
trans-1,2-Dichloroethene	100	0.786 J	1.62 J	**7**	4.77 J	2.43 J	**4.2**	**0.79 J**	**1.4**	**1.9**	**19.8**	1.2 U	1.2 U
Trichloroethene	3	**13.3**	**28.6 J**	**20.2**	3 U	3 U	1.1 U	**0.93 J**	**26.5**	**28.6**	**2**	**8.1**	**0.21 J**
Vinyl Chloride	1	**1.0 U**	1.0 U	1.0 U	1.0 U	1.0 U	**0.51 J**	1 U	1 U	1 U	1 U	1 U	1 U
Salinity*	--	NA	NA	**7.7**	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids**	500	NA	NA	**12,300**	NA	NA	**13,800**	NA	NA	NA	NA	NA	NA

Notes:
All values reported in micrograms per liter (µg/L), except where otherwise noted.
*parts per trillion (ppt)
** milligrams per liter (mg/L)
NA – Not Analyzed
Bold indicates the analyte was detected.
Bold and highlight indicates analyte is above GCTL
1 = Chapter 62-777, F.A.C. Groundwater Cleanup Target Levels (GCTLs) reported in µg/L
GCTL - Groundwater Cleanup Target Level
J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
JB - The analyte detected in the associated field, equipment, and/or trip blank.
U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
µg/L - micrograms per liter

Figures



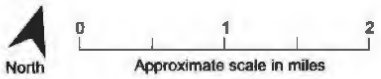


FIGURE 1
Site Location Map
Saratoga Avenue Manhole 31, Site 27
Naval Air Station Key West
Key West, Florida

AGVIQ CH2M HILL

CG092009001ATL KeyWest105.ai

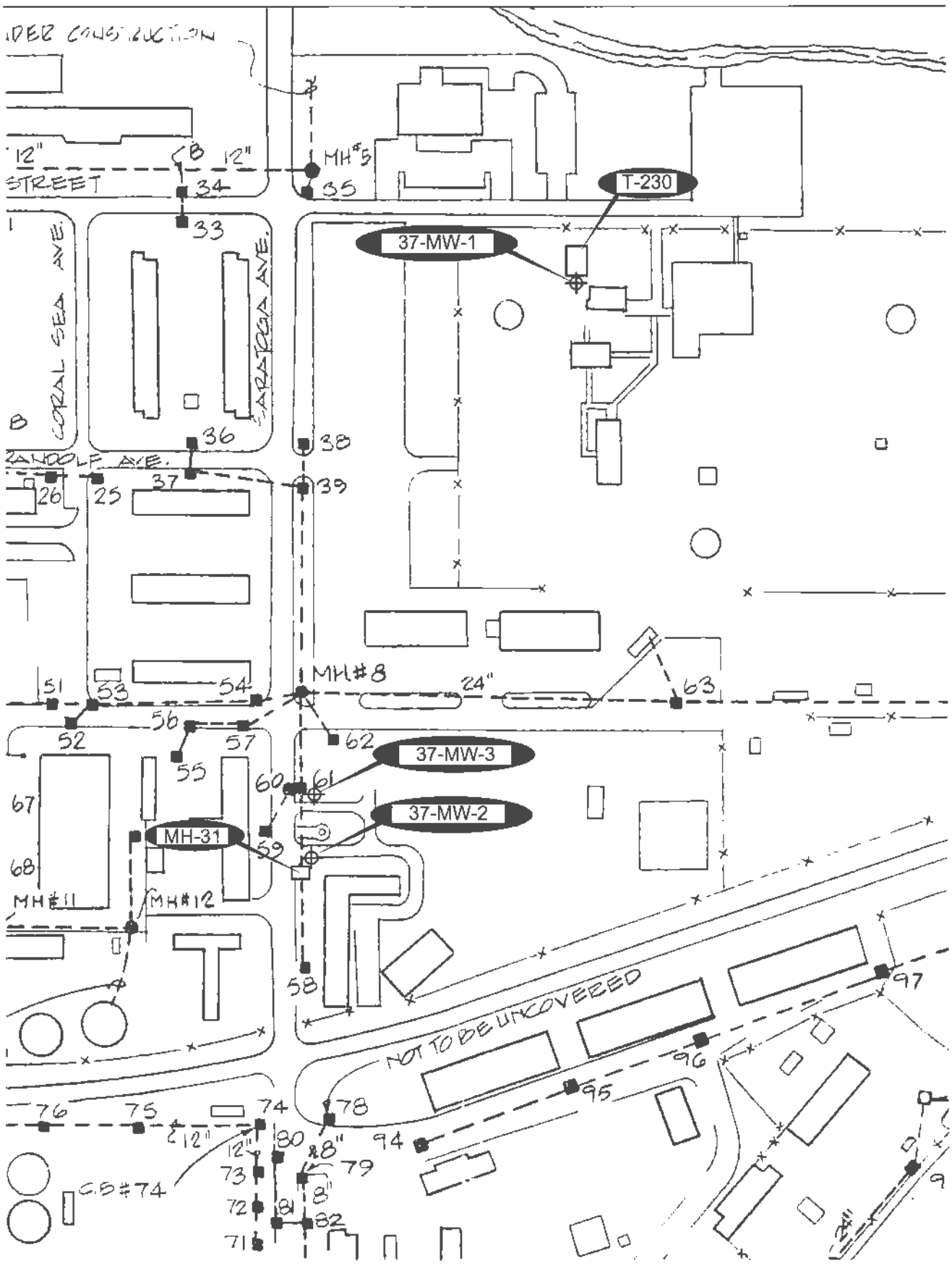
Legend

- Temporary Groundwater Monitoring Point
- Monit[illegible] Well
- Manh[illegible]

0 100 2[illegible]

FIGURE 2
Sample Location Map
Saratoga Avenue Manhole 31, Site 27
Naval Air Station Key West
Key West, Florida

[illegible]GVIO
[illegible]M HILL



North

0 100 200

Approximate scale in feet

FIGURE 3
Manhole and Stormdrain Locations
Saratoga Avenue Manhole 31, Site 27
Naval Air Station Key West
Key West, Florida

AGVIO
CH2M HILL

CG072006001ATL keyWest100.ai

Legend

- Temporary Groundwater Monitoring Point
- Monitoring Well
- Manh

Analyte	GCTL (µg/L)
TCE	3
PCE	3

N

0 100 Feet

FIGURE 4

Groundwater Exceedance
Saratoga Avenue Manhole 31, Site 27
Naval Air Station Key West
Key West, Florida

AECOM

ATTACHMENT A

Spill Records

Incident Name Fuel Leak (Underground) at Boca Chica Post Office Area	2. Prepared By (name) Robert Courtright	INCIDENT BRIEFING ICS #201-OS

4. Initial Incident Objectives

Identify location of spill, contain area of spill, isolate area from non-response personnel and perform Cleanup mitigation

5. Summary of Current Actions / SPILL REPORT LOG

Time	Action / Note
0810 Hours	Mr. Joe Fugitt (Public Works FMED Employee) came to Environmental's Offices and reported that he saw fuel oil products in the ditch being dug by the Sub-Contractor for NMCI. Robert Courtright went to the scene and met with Mr Marvin Farley (Foreman for ADA Communications – a subcontractor for NMCI). Mr Farley showed Courtright the conduit ditch where two (2) four (4") PVC conduits had been placed. In an area of approximately 10' Long, there was trace evidence of fuel oil floating on the water.
0830 Hours	Courtright immediately notified the Quarterdeck and asked that the Fire Department, NAVOSH, Security and the Oil Spill Team were notified. Courtright contacted John Dickinson with Oil Spill Team to send personnel and equipment to the scene.
0832 Hours	Fire Department arrived on scene and began to insert sorbent material blankets to the ditch area. Mr Farley also mentioned that he had just opened a manhole by the flagpole and saw petroleum products floating on the water of the manhole. Fire Department, Contractor and Courtright view the contents of the manhole and see the entire area within the manhole is full of fuel oil. Also adjacent ground surface demonstrates that fuel had been spilled or dumped into these manholes adjacent to the flagpole. Courtright requested the Oil Spill Team send their Vacuum Trucks to the scene.
0845	PO1 Langston with Security Department arrives on scene and secures the area at Post Office
0855	Oil Spill Response Team and two (2) Vacuum Truck arrive on scene
0905	NAVOSH representative Ed Donahue arrives on scene and using a PID determines that the weathered fuels in the ditch do not represent an explosive situation as the meter reading was less then 1 LEL. Ed Donahue then tested the manhole area and the PID read 2 LEL which meant there was explosive vapor capabilities. An approximate 200-300 gallons of fuel oil products were estimated to be present in the manhole.
0910	Security secures the main roadway and establishes route of egress for traffic

0930 – 1030 1030	Oil Spill response team pumps out manhole into both vacuum trucks. An estimated total of 2,500 gallons of liquid was extracted and 300 gallons of product was removed. Scene secured
	Recommendation
	1.) Follow up cleanup of the manhole by pumping out any additional fuel product

From: COMNAVREG SE JACKSONVILLE FL(uc) [COMNAVREGSEV3@dms-jax.navy.mil]
Posted At: Friday, July 22, 2005 2:24 PM
Conversation: 221821Z JUL 05 NAS KEY WEST FL(uc) UNIT SITREP P
Posted To: Archive-07/05

Subject: 221821Z JUL 05 NAS KEY WEST FL(uc) UNIT SITREP P

TO COMNAVREG SE JACKSONVILLE FL(uc)//N3//
NAVY REGION SOUTHEAST
CC NAS KEY WEST FL(uc)//
COMSC WASHINGTON DC(uc)
CNO WASHINGTON DC(uc)//
CHINFO WASHINGTON DC(uc)
NFESC PORT HUENEME CA(uc)
COGARD NATIONAL RESPONSE CENTER WASHINGTON DC
COMLANTFLT NORFOLK VA//
NAVY JAG WASHINGTON DC(uc)
COGARD STA KEY WEST FL

BT
UNCLAS
MSGID/GENADMIN/UNIT SITREP NAS KEY WESTFL/24/JUL//
SUBJ/DIESEL FUEL SPILL REPORT, 300 GALS,BOCA CHICA//
GENTEXT/REMARKS/1. 220845L JUL 05 RELEASE OCCURRED/ DISCOVERED.
2. ENVIRONMENTAL ENGINEER
3. SPILL LOCATION: NASKW BOCA CHICA FIELD,FL, ADJACENT TO BASE POST OFFICE
4. AMOUNT SPILLED: APPROXIMATELY 300 GALLONS DIESEL
5. TYPE OF OIL SPILLED: DIESEL
6. OPERATION UNDERWAY WHEN SPILL OCCURRED: UNKNOWN INDIVIDUAL(S) DUMPED OIL INTO MANHOLE
7. SPILL CAUSE: UNKNOWN AND UNDETERMINED REASON FOR RELEASE
8. SLICK DESCRIPTION AND MOVEMENT: SPILL CONTAINED IN ELECTRICAL MANHOLE
9. SPILL ENVIRONMENT: CLEAR/WINDS 10 KTS NNE
10. AREAS DAMAGED OR THREATENED: VERY LIGHT SHEEN ON WATER WITHIN MANHOLE
11. TELEPHONIC REPORT TO NATIONAL RESPONSE CENTER WAS MADE: NRC REPORT #766425JONES (1140 HOURS)
12. SAMPLES WERE TAKEN: VISUAL INSPECTION OF AREA DEMONSTRATES SHEEN RAPIDLY BURNING OFF IN HEATED WEATHER
13. CONTAINMENT METHOD PLANNED/USED: SPILL WAS CONTAINED INSIDE OF ELECTRICAL MANHOLE
14. SPILL REMOVAL METHOD PLANNED/USED: DIESEL FUEL WAS PUMPED OUT OF MANHOLE USING TWO VACUUM TRUCKS
15. VOLUME OF PRODUCT RECOVERED IN GALLONS: APPROXIMATELY 300 GALLONS DIESEL
16. PARTIES PERFORMING SPILL REMOVAL: NASKW OIL SPILL RESPONSE TEAM
17. FEDERAL, STATE OR LOCAL REGULATORY ACTIVITY DURING THIS INCIDENT: NONE
18. ASSISTANCE REQUIRED/ADDITIONAL COMMENTS: N/A
19. LESSONS LEARNED: MONTHLY INSPECTION OF ALL MANHOLE COVERS
20. ACTIVITY CONTACT FOR FURTHER INFORMATION: ROBERT COURTRIGHT DSN 483-2881 OIL SPILL RESPONSE MANAGER//RHFJKXFNAS KEY WEST FLN00//

keyWest100.pdf

From: Bolanos, Tracie
Sent: Tuesday, March 25, 2008 2:48 PM
To: Bahr, Tim; Bolanos, Tracie; Chuck Bryan (Chuck.Bryan@TtNUS.com); Courtright, Robert E CIV CNRSE, N4L6; Davidson, Mark E CIV EFDSOUTH; Gordon, Lisa; Mcgill, Harold C CIV EFDSOUTH; Mele, Vince; Michael Davenport (E-mail); Rios, Gus; Ron GS Demes (NASKW 188) (E-mail); Russell, Edward; Steve Tsangaris; Steve.Offner@CH2M.com; Venky.Venkatesh@CH2M.com; Washington, Beverly S CIV NAVFAC SE
Subject: FDEP Approval of the Project Completion Report for Saratoga Avenue at NAS Key West

This email is to provide FDEP Approval of the Project Completion Report for Saratoga Avenue at NAS Key West, dated March 28 ,2008. This document was reviewed during the partnering meeting in March 2008 in Key West, Florida. This email is being sent in lieu of a formal approval letter.

This email will close action item 0318-10, and documents consensus item number 3 as listed in the meeting minutes from this meeting.

Tracie L. Bolanos
Project Manager
Florida Department of Environmental Protection
2600 Blairstone Road
Tallahassee, Florida 32399
Phone (850) 245-8998

From: Steve.Offner@CH2M.com [mailto:Steve.Offner@CH2M.com]
Sent: Wednesday, March 19, 2008 9:18 AM
To: Bolanos, Tracie
Subject: PCR CTO 37_Saratoga.pdf - Adobe Acrobat Standard

Tracie, as requested the cover page for the project completion report for the is attached...

CH2 has found some PCE and TCE in the groundwater, these findings are being confirmed. The team will discuss these findings in the next few monthes.

Hello All,

Attached is the proposed location for the groundwater sampling wells for the Saratoga Street ER project.

Steven Bivone CHMM REM

Project Manager
CH2MHill Constructors Inc.
115 Perimeter Center PL NE S-700
Atlanta GA 30346
sbivone@ch2m.com
Work (770) 604-9182 Ext. 267
Fax (770) 604-9282
Cell (770) 329-5827

11/2/05

Steve,

I have reviewed the subject document and find it to be adequate. I have a question for you prior to submitting final comment though. I agree with the approach proposed in the work plan, but I want to know what the game plan is if you find any contamination in the soil or groundwater? You seem to be skipping straight to the Completion Report. What I am getting at is do you have any technical data to support this decision? I would be primarily interested in knowing if you have any groundwater data that would be taken from groundwater that is directly down gradient from the known source areas?

Tracie Vaught
Project Manager
Florida Department of Environmental Protection
2600 Blairstone Road
Tallahassee, Florida 32399
Phone (850) 245-8998

-----Original Message-----
From: Steve.Bivone@CH2M.com [mailto:Steve.Bivone@CH2M.com]
Sent: Monday, August 08, 2005 11:32 AM
To: CourtrightRO@NASKW.NAVY.MIL; dwight.burke@navy.mil
Subject: Status of last weeks ER response...Summary.....

Hello Robert,

I needed to give you an update on our activities last week for your records.....

As you know we jointly view the site and set up the ER activities on Tues of last week.

My subcontractor mobilized on Wed 8/3/05.....

I, along with the assistance of Base personnel (electrical department) inspected suspected electrical vaults and a suspect transformer T230, [west of Building 325 and north of Building 325] on Wed morning.....

FINDINGS

1. all the electrical vaults inspected did not have any signs of impact from an oil release.....some where dusty and reflected light that looked black or "oily" but **did not** have any oil in or around the vaults

2. as a result....impact from the oil event seems to be limited to communication vaults and conduits.....subsequent, we inspect the vaults for the communication system to determine the extent of the oil release impact.....

3. Manhole number 31 (a double manhole next to the flag pole on Saratoga Street) seems to be the only manhole that has been impacted by an oil release.....

4. During the site inspection, in the same area, storm basin number 61 (on Saratoga Street next to the flag pole) looked to be impacted.....

5. On Thursday 8/4/05 the following remedial activities occurred.....

a. removal of Base installed absorbents booms in manhole (mh) 31....
b. vacuum cleaning of mh 31.....
c. vacuum cleaning of storm basin 61.....Note: approximately 40 to 50 gallons of clean oil was removed from storm basin 61.....
d. additional storm sewer vaults where inspected for oil release impact...no others found impacted.....
e. mh 31 was vacuumed dry.....
f. new absorbents boom installed in mh 31....
g. storm basin 61 was vacuum dry and impacted sediment removed.....
h. for protection of the storm sewer system the next major storm sewer man hole (vault) was protected for possible oil impact .....absorbents boom and pads where installed in manhole number 8
i. also for the storm sewer system protection the next storm basin after mh number 8 was filled with absorbents pads to act as an indicator for the presence of oil and oil collection.....

NOTE it rained on Thurs afternoon...standard summer storm event.....all the oil was removed from the storm sewer system before the rain event.....

j. after the rain event all the absorbents booms and pads where inspected for oil impact.....all where found clean.....little on no impact oil impact....
k. transfer of all collected materials to the on Base storage tank in the fuel tank farm.....
l. bagging of all spent boom and pads.....storage in the secure tank farm area for future disposition

6. On Friday August 5, 2005 the following activities occurred.....

a. inspection and maintenance of all of the installed booms and pads.....
b. sediment cleaning of storm basin 61 and storm sewer inlet number 60
c. vacuum dry mh 31 surface oil sheen cleaning of mh 31.....
e. inspection of the complete site to maintain environmental compliance.....
f. bagging and storage of spent boom and pads....

Remedial activities will start up again today....August 8, 2005.....

please contact me if you have any questions....thank you.....

Steve

The Project Completion Report is provided on CD.

ATTACHMENT B

Well Purge Logs

PROJECT NUMBER	WELL ID	
404625	37-MW-3	PAGE 1 OF 1

MONITORING WELL DEVELOPMENT LOG

PROJECT: JM-26
CLIENT/LOCATION: Navy - NAS KW Boca Chica
SITE NO: Site 27
SITE NAME: Manhole 31 DATE: 5/11/2010
DEVELOPMENT CONTRACTOR: AGVIQ-CH2MHILL WEATHER: Mostly Sunny
DEVELOPMENT METHOD AND EQUIPMENT USED: Submersible (Monsoon) LOGGED BY: Nicole Monroe

PERTINENT WELL INFORMATION

SCREEN INTERVAL: 7.5 - 12.5 (FT BGS)
INSIDE DIAMETER OF WELL: 4 (IN)
TOTAL DEPTH OF WELL: 12.52 (FT BTOC)
INITIAL DEPTH TO WATER: (-) 1.96 (FT BTOC)
WATER COLUMN: 10.56 (FT)
VOLUME CONVERSION: (x) 0.653 (GAL/FT)
SINGLE WELL VOLUME: 6.9 (GAL)

TOTAL PURGE VOLUME: 150 (GAL)

WELL DIAMETER/VOLUME CONVERSIONS (GAL/FT):
3/4" = 0.023
1" = 0.041
2" = 0.163
4" = 0.653
6" = 1.469
8" = 2.611

FIELD PARAMETERS

Time	Depth to Water (ft btoc)	Purge Rate (gal/min)	Cummulative Purge Vol. (gal)	pH (Std. units)	Temp. (°C)	Cond. (mS/cm)	Turbidity (NTU)	Remarks (color, odor, sheen, sediment, etc.)
1355	3.33	1.25	10	7.36	27.35	22.2	>1000	white, cloudy, no odor, no sheen
1400	3.85	1.25	17	7.36	27.37	21.4	>1000	white, cloudy, no odor, no sheen
1405	3.8	1.25	24	7.37	27.25	21.3	>1000	white, cloudy, no odor, no sheen
1410	3.75	1.25	30	7.37	27.21	21.6	>1000	white, cloudy, no odor, no sheen
1415	3.65	1.25	36	7.39	27.24	21.8	>1000	white, cloudy, sulfur odor, no sheen
1420	3.55	1.25	40	7.41	27.27	20.7	>800	white, cloudy, sulfur odor, no sheen
1425	4.33	1.25	46	7.38	27.13	20.3	>800	white, cloudy, sulfur odor, no sheen
1430	4.33	1.25	52	7.38	27.18	20.4	>800	white, cloudy, sulfur odor, no sheen
1435	4.01	1.25	58	7.37	27.19	20.5	645	white, cloudy, sulfur odor, no sheen
1440	5.15	1.25	62	7.37	27.21	20.4	675	white, cloudy, sulfur odor, no sheen
1445	5.55	1.25	68	7.37	27.17	20.4	>800	white, cloudy, sulfur odor, no sheen
1450	5.5	1.25	74	7.38	27.13	20.3	>800	white, cloudy, sulfur odor, no sheen
1455	5.45	1.25	80	7.38	27.08	20.3	>800	white, cloudy, sulfur odor, no sheen
1500	5.65	1.25	86	7.38	27.08	20.3	>800	white, cloudy, sulfur odor, no sheen
1505	5.85	1.25	92	7.39	27.09	20.4	794	white, cloudy, sulfur odor, no sheen
1510	6.04	1.25	98	7.4	27.09	20.4	>800	white, cloudy, sulfur odor, no sheen
1515	6.25	1.25	104	7.41	27.09	20.4	>800	white, cloudy, sulfur odor, no sheen
1520	6.4	1.25	110	7.42	27.09	20.4	>1000	white, cloudy, sulfur odor, no sheen
1525	7.03	1.25	116	7.43	27.09	20.4	>1000	white, cloudy, sulfur odor, no sheen
1530	7.65	1.25	122	7.44	27.09	20.4	>1000	white, cloudy, sulfur odor, no sheen
1535	8.25	1.25	128	7.45	27.1	20.5	>1000	white, cloudy, sulfur odor, no sheen
1540	8.84	1.25	134	7.46	27.1	20.5	>1000	white, cloudy, sulfur odor, no sheen
1545	9.33	1.25	140	7.46	27.1	20.5	>1000	white, cloudy, sulfur odor, no sheen
1550	9.57	1.25	146	7.43	27.07	20	>800	white, cloudy, sulfur odor, no sheen
1555	10.12	1.25	150	7.42	27.03	19.9	765	white, cloudy, sulfur odor, no sheen

PROJECT NUMBER	WELL ID	PAGE 1 OF 1
404625	37-MW-2	

MONITORING WELL DEVELOPMENT LOG

PROJECT: JM-26
CLIENT/LOCATION: Navy - NAS KW Boca Chica
SITE NO: Site 27
SITE NAME: Manhole 31 — DATE: 5/11/2010
DEVELOPMENT CONTRACTOR: CH2MHILL — WEATHER: Mostly Sunny
DEVELOPMENT METHOD AND EQUIPMENT USED: Submersible (Monsoon) — LOGGED BY: Nicole Monroe

PERTINENT WELL INFORMATION

SCREEN INTERVAL: 8.5 - 13.5 (FT BGS)
INSIDE DIAMETER OF WELL: 4 (IN)
TOTAL DEPTH OF WELL: 13.47 (FT BTOC)
INITIAL DEPTH TO WATER: (-) 2.7 (FT BTOC)
WATER COLUMN: 10.77 (FT)
VOLUME CONVERSION: (x) 0.653 (GAL/FT)
SINGLE WELL VOLUME: 7.03 (GAL)

TOTAL PURGE VOLUME: 55 (GAL)

WELL DIAMETER/VOLUME CONVERSIONS (GAL/FT):
3/4" = 0.023
1" = 0.041
2" = 0.163
4" = 0.653
6" = 1.469
8" = 2.611

FIELD PARAMETERS

Time	Depth to Water (ft btoc)	Purge Rate (gal/min)	Cummulative Purge Vol. (gal)	pH (Std. units)	Temp. (°C)	Cond. (mS/cm)	Turbidity (NTU)	Remarks (color, odor, sheen, sediment, etc.)
1645	4.1	1.25	0	7.61	27.1	17.1	>1000	white, cloudy, no odor, no sheen
1650	12.5	0.5	25	7.59	27.05	16.2	>1000	Recharge
1655	8.55	0.5	5					
1700	8.91	0.5	75	7.55	26.84	14.4	>800	cloudy, no odor, no sheen
1705	9.38	0.5	10	7.54	26.71	13.7	>800	cloudy, no odor, no sheen
1710	9.81	0.5	125	7.52	26.6	13.4	>800	cloudy, no odor, no sheen
1715	10.25	0.5	15	7.49	26.59	13.5	>1000	cloudy, no odor, no sheen
1720	11.7	0.5	175	7.46	26.59	13.5	>1000	cloudy, no odor, no sheen
1725	12.5	0.5	20	7.47	26.77	13.4	627	Recharge
1730	10.41	0.5						cloudy, no odor, no sheen
1735	8.65	0.5	25	7.46	26.55	13.5	467	cloudy, no odor, no sheen
1740	9.35	0.5	27	7.45	26.55	13.2	365	cloudy, no odor, no sheen
1745	10.05	0.5	30	7.45	26.55	13	262	cloudy, no odor, no sheen
1750	10.58	0.5	32	7.44	26.51	13.1	270	cloudy, no odor, no sheen
1755	10.95	0.5	35	7.43	26.48	13.2	279	cloudy, no odor, no sheen
1800	11.75	0.5	37	7.42	26.59	13.4	227	Recharge
1805								
1810								
1815	8.5	0.5	40	7.42	26.6	13.4	107	cloudy, no odor, no sheen
1820	8.84	0.5	12	7.41	26.56	13.2	111	cloudy, no odor, no sheen
1825	9.15	0.5	45	7.41	26.52	12.9	115	cloudy, no odor, no sheen
1830	9.58	0.5	47	7.4	26.68	13	121	cloudy, no odor, no sheen
1835	10.32	0.5	50	7.4	26.64	13	128	cloudy, no odor, no sheen
1840		0.5	52	7.4	26.68	13.2	117	cloudy, no odor, no sheen
1845	12.25	0.5	55	7.4	26.72	13.3	107	cloudy, no odor, no sheen

PROJECT NUMBER	WELL ID	
404625	37-MW-2	PAGE 1 OF 1

GROUNDWATER PURGING AND SAMPLING LOG

PROJECT: JM-26
CLIENT/LOCATION: Navy - NAS KW Boca Chica
SITE NO: Site 27
SITE NAME: Manhole 31 DATE: 5/12/2010
DEVELOPMENT CONTRACTOR: **AGVIQ-CH2MHILL** WEATHER: Sunny Windy
DEVELOPMENT METHOD AND EQUIPMENT USED: Submersible (Monsoon) LOGGED BY: Nicole Monroe

PERTINENT WELL INFORMATION

SCREEN INTERVAL: 8.5 - 13.5 (FT BGS)
DIAMETER OF WELL: 4 (IN)
TAL DEPTH OF WELL: 13.47 (FT BTOC)
AL DEPTH TO WATER: (-) 2.62 (FT BTOC)
WATER COLUMN: 10.85 (FT)
OLUME CONVERSION: (x) 0.653 (GAL/FT)
NGLE WELL VOLUME: 7.09 (GAL)

INSIDE DIAMETER OF TUBING: 3/8 (IN)
LENGTH OF TUBING: 13.47 (FT BTOC)
INITIAL DEPTH TO WATER: (-) 2.62 (FT BTOC)
WATER COLUMN INSIDE TUBING: 10.85 (FT)
VOLUME CONVERSION: (x) 0.0057 (GAL/FT)
SINGLE TUBING VOLUME: 0.062 (GAL)

TAL PURGE VOLUME: 9 (GAL)

INSIDE DIAMETER OF WELL/VOLUME CONVERSIONS (GAL/FT): 4" = | INSIDE DIAMETER OF TUBING/VOLUME CONVERSIONS (GAL/FT): 3/8" = 0.0057

FIELD PARAMETERS

Time	Depth to Water (ft btoc)	Purge Rate (mL/min)	Cummulative Purge Vol. (gal)	pH (Std. units)	Temp. (°C)	Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Salinity (ppt)	Remarks (color, odor, sheen, etc.)
1650	2.85	250	0.25	7.31	29.51	12.8	2.4	94	44.4	7.4	Clear, no odor
1655		250	1.5								Clear, no odor
1700	2.9	250	2.75	7.32	28.89	13.1	2.01	92	44.1	7.5	Clear, no odor
1705	2.9	250	4	7.33	28.76	13.1	1.9	93	41.9	7.6	Clear, no odor
1710	2.9	250	5.25	7.33	28.7	13.2	1.9	95	44.6	7.6	Clear, no odor
1715	3.15	250	6.5	7.33	28.09	13.3	1.62	95	70	7.6	Clear, no odor
1720	3.17	250	7.75	7.32	27.98	13.2	1.4	93	62.6	7.6	Clear, no odor
1725	3.18	250	9	7.32	27.95	13.2	1.4	93	62.3	7.6	Clear, no odor

SAMPLE INFORMATION

Analytical Parameters/Methods:	Container Quantity, Size, Type:	Preservatives:
VOC	3 - 40 ml vials	HCl
TDS	1 - 580 ml poly	None
Salinity	1 - 250 ml poly	None

Notes (i.e. QA/QC Samples, etc.): JM-26-FD051216 @ ---

Sample ID: 37-MW2-051210
Sample Date/Time: 5/12/2010 1725
Sample Appearance:
Collected: No Size: N/A
Laboratory to Filter: No Size: N/A

Signed By: Nikki Monroe Date: 5/12/2010

PROJECT NUMBER	WELL ID	PAGE 1 OF 1
404625	37-MW-3	

MONITORING WELL DEVELOPMENT LOG

PROJECT: JM-26
CLIENT/LOCATION: Navy - NAS KW Boca Chica
SITE NO: Site 27
SITE NAME: Manhole 31 — DATE: 5/11/2010
DEVELOPMENT CONTRACTOR: AGVIQ-CH2MHILL — WEATHER: Mostly Sunny
DEVELOPMENT METHOD AND EQUIPMENT USED: Submersible (Monsoon) — LOGGED BY: Nicole Monroe

PERTINENT WELL INFORMATION

SCREEN INTERVAL: 7.5 - 12.5 (FT BGS)
INSIDE DIAMETER OF WELL: 4 (IN)
TOTAL DEPTH OF WELL: 12.52 (FT BTOC)
INITIAL DEPTH TO WATER: (-) 1.96 (FT BTOC)
WATER COLUMN: 10.56 (FT)
VOLUME CONVERSION: (x) 0.653 (GAL/FT)
SINGLE WELL VOLUME: 6.9 (GAL)

TOTAL PURGE VOLUME: 150 (GAL)

WELL DIAMETER/VOLUME CONVERSIONS (GAL/FT):
3/4" = 0.023
1" = 0.041
2" = 0.163
4" = 0.653
6" = 1.469
8" = 2.611

FIELD PARAMETERS

Time	Depth to Water (ft btoc)	Purge Rate (gal/min)	Cummulative Purge Vol. (gal)	pH (Std. units)	Temp. (°C)	Cond. (mS/cm)	Turbidity (NTU)	Remarks (color, odor, sheen, sediment, etc.)
1355	3.33	1.25	10	7.36	27.35	22.2	>1000	white, cloudy, no odor, no sheen
1400	3.85	1.25	17	7.36	27.37	21.4	>1000	white, cloudy, no odor, no sheen
1405	3.8	1.25	24	7.37	27.25	21.3	>1000	white, cloudy, no odor, no sheen
1410	3.75	1.25	30	7.37	27.21	21.6	>1000	white, cloudy, no odor, no sheen
1415	3.65	1.25	36	7.39	27.24	21.8	>1000	white, cloudy, sulfur odor, no sheen
1420	3.55	1.25	40	7.41	27.27	20.7	>800	white, cloudy, sulfur odor, no sheen
1425	4.33	1.25	46	7.38	27.13	20.3	>800	white, cloudy, sulfur odor, no sheen
1430	4.33	1.25	52	7.38	27.18	20.4	>800	white, cloudy, sulfur odor, no sheen
1435	4.01	1.25	58	7.37	27.19	20.5	645	white, cloudy, sulfur odor, no sheen
1440	5.15	1.25	62	7.37	27.21	20.4	675	white, cloudy, sulfur odor, no sheen
1445	5.55	1.25	68	7.37	27.17	20.4	>800	white, cloudy, sulfur odor, no sheen
1450	5.5	1.25	74	7.38	27.13	20.3	>800	white, cloudy, sulfur odor, no sheen
1455	5.45	1.25	80	7.38	27.08	20.3	>800	white, cloudy, sulfur odor, no sheen
1500	5.65	1.25	86	7.38	27.08	20.3	>800	white, cloudy, sulfur odor, no sheen
1505	5.85	1.25	92	7.39	27.09	20.4	794	white, cloudy, sulfur odor, no sheen
1510	6.04	1.25	98	7.4	27.09	20.4	>800	white, cloudy, sulfur odor, no sheen
1515	6.25	1.25	104	7.41	27.09	20.4	>800	white, cloudy, sulfur odor, no sheen
1520	6.4	1.25	110	7.42	27.09	20.4	>1000	white, cloudy, sulfur odor, no sheen
1525	7.03	1.25	116	7.43	27.09	20.4	>1000	white, cloudy, sulfur odor, no sheen
1530	7.65	1.25	122	7.44	27.09	20.4	>1000	white, cloudy, sulfur odor, no sheen
1535	8.25	1.25	128	7.45	27.1	20.5	>1000	white, cloudy, sulfur odor, no sheen
1540	8.84	1.25	134	7.46	27.1	20.5	>1000	white, cloudy, sulfur odor, no sheen
1545	9.33	1.25	140	7.46	27.1	20.5	>1000	white, cloudy, sulfur odor, no sheen
1550	9.57	1.25	146	7.43	27.07	20	>800	white, cloudy, sulfur odor, no sheen
1555	10.12	1.25	150	7.42	27.03	19.9	765	white, cloudy, sulfur odor, no sheen

PROJECT NUMBER	WELL ID	
404625	37-MW-3	PAGE 1 OF 1

GROUNDWATER PURGING AND SAMPLING LOG

PROJECT: JM-26
CLIENT/LOCATION: Navy - NAS KW Boca Chica
SITE NO: Site 27
SITE NAME: Manhole 31 — DATE: 5/12/2010
DEVELOPMENT CONTRACTOR: AGVIQ-CH2MHILL — WEATHER: Sunny Windy
DEVELOPMENT METHOD AND EQUIPMENT USED: Submersible (Monsoon) — LOGGED BY: Nicole Monroe

PERTINENT WELL INFORMATION

SCREEN INTERVAL: 7.5 - 12.5 (FT BGS)
INSIDE DIAMETER OF WELL: 4 (IN)
TOTAL DEPTH OF WELL: 12.52 (FT BTOC)
INITIAL DEPTH TO WATER: (-) 1.97 (FT BTOC)
WATER COLUMN: 10.55 (FT)
VOLUME CONVERSION: (x) 0.653 (GAL/FT)
SINGLE WELL VOLUME: 6.89 (GAL)

INSIDE DIAMETER OF TUBING: 3/8 (IN)
LENGTH OF TUBING: 12.52 (FT BTOC)
INITIAL DEPTH TO WATER: (-) 1.97 (FT BTOC)
WATER COLUMN INSIDE TUBING: 10.55 (FT)
VOLUME CONVERSION: (x) 0.0057 (GAL/FT)
SINGLE TUBING VOLUME: 0.06 (GAL)

TOTAL PURGE VOLUME: 8.5 (GAL)

INSIDE DIAMETER OF WELL/VOLUME CONVERSIONS (GAL/FT): 4" = 0.653
INSIDE DIAMETER OF TUBING/VOLUME CONVERSIONS (GAL/FT): 3/8" = 0.0057

FIELD PARAMETERS

Time	Depth to Water (ft btoc)	Purge Rate (mL/min)	Cummulative Purge Vol. (gal)	pH (Std. units)	Temp. (°C)	Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Remarks (color, odor, sheen, etc.)
1450	2.15	250	0.25	7.3	28.95	21.2	0.69	-154	60.2	clear, no odor, no sheen
1455	2.14	250	1.5	7.32	28.64	21.2	0.39	-164	65	clear, no odor, no sheen
1500	2.05	250	2.75	7.34	29.91	21.3	0.31	-151	80.4	clear, no odor, no sheen
1505	2.05	250	4	7.33	30.96	21.2	0.24	-158	81.6	cloudy, no odor, no sheen
1510	2.1	250	5.25	7.33	28.73	21	0.18	-162	89.2	cloudy, no odor, no sheen
1515	2.1	250	6.5	7.33	20.3	20.7	0.2	-149	79.2	cloudy, no odor, no sheen
1520	2.1	250	7.75	7.32	28.45	20.5	0.23	-145	75.1	cloudy, no odor, no sheen
1525	2.1	250	8.5	7.31	27.85	20	0.23	-152	70.2	clear, no odor, no sheen

SAMPLE INFORMATION

Analytical Parameters/Methods:	Container Quantity, Size, Type:	
TCL VOC	3 - 40 ml vials	HCl
TDS	1 - 500 ml poly	None

Notes (i.e. QA/QC Samples, etc.): Salinity from Drum = 11.8 ppt
JM-26EB-051210@1440
JM-26IDW-051210@1800
Plus MS/MSD samples named as original

Sample ID: 37-MW3-051210
Sample Date/Time: 5/12/2010 1520
Sample Appearance:
Filtered Metals Collected: No — Filter Size: N/A
Laboratory to Filter: No — Filter Size: N/A

Signed By: Nikki Monroe — Date: 5/12/2010

AGVIQ CH2M HILL

PROJECT NUMBER	WELL ID	PAGE 1 OF 1
404625	5801	

LOW-FLOW PURGING AND SAMPLING LOG

PROJECT: MH-31 Saratoga Ave
CLIENT/LOCATION: NAS KW
SITE NO: JM 26
SITE NAME: MH 31 Saratoga Ave — DATE: 11-16-10
PURGING METHOD AND EQUIPMENT USED: peristaltic — WEATHER: Sunny 73°
SAMPLING METHOD AND EQUIPMENT USED: straw — FIELD TEAM: NM / AM

PERTINENT WELL INFORMATION

SCREEN INTERVAL: 7.5-13.5 (FT BGS)
INSIDE DIAMETER OF WELL: 0.75 (IN)
TOTAL DEPTH OF WELL: 13.5 (FT BTOC)
INITIAL DEPTH TO WATER: (-) (2.5) (FT BTOC) estimated*
WATER COLUMN: 11.0 (FT)
VOLUME CONVERSION: (x) 0.023 (GAL/FT)
SINGLE WELL VOLUME: 0.25 (GAL)

TOTAL PURGE VOLUME: 0.25 (GAL)

INSIDE DIAMETER OF TUBING: 0.25 (IN)
LENGTH OF TUBING: 13.5 (FT BTOC)
INITIAL DEPTH TO WATER: (-) (2.5) (FT BTOC)
WATER COLUMN INSIDE TUBING: 11.0 (FT)
VOLUME CONVERSION: (x) 0.0026 (GAL/FT)
SINGLE TUBING VOLUME: 0.03 (GAL)

INSIDE DIAMETER OF WELL/VOLUME CONVERSIONS (GAL/FT):
3/4" = 0.023; 1" = 0.041; 2" = 0.163
4" = 0.653; 6" = 1.469; 8" = 2.611

INSIDE DIAMETER OF TUBING/VOLUME CONVERSIONS (GAL/FT):
3/16" = 0.0014; 1/4" = 0.0026; 3/8" = 0.0057; 1/2" = 0.0102
5/8" = 0.0159; 3/4" = 0.0230; 7/8" = 0.0313

FIELD PARAMETERS

Time	Depth to Water (ft btoc)	Purge Rate (mL/min)	Cummulative Purge Vol. (gal)	pH (Std. units)	Temp. (°C)	Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Remarks (color, odor, sheen, etc.)
0905	N/M	150	0	7.93	30.12	14.0	1.09	219	452	clear
0913	N/M	150	0.25	7.97	30.15	14.6	1.40	214	608	cloudy

SAMPLE INFORMATION

Analytical Parameters/Methods:	Container Quantity, Size, Type:	Preservatives:
TCL VOC 8260B	3 40 mL vials	HCl

Notes (i.e. QA/QC Samples, etc.): F.D. JM-26 FD-111610 @ —
* DTW/interface probe is too wide to fit down rod/drop screen

Sample ID: JM26-SB-01-W-111610
Sample Date/Time: 11-16-10 / 0930
Sample Appearance: Cloudy
Filtered Metals Collected: Yes (No) — Filter Size: N/A
Laboratory to Filter: Yes (No) — Filter Size: N/A
Depth Sample was Collected (ft btoc): 13.0'
Depth to Water at Sample Collection (ft btoc): N/M

Signed By: [signature] — Date: 11-16-10

AGVIQ
CH2M HILL

PROJECT NUMBER	WELL ID	PAGE 1 OF 1
404625	SB-02	

LOW-FLOW PURGING AND SAMPLING LOG

PROJECT: Manhole 31 Saratoga Ave
CLIENT/LOCATION: NAS KW
SITE NO: JM26
SITE NAME: MH 31 Saratoga Ave — DATE: 11-16-10
PURGING METHOD AND EQUIPMENT USED: peristaltic — WEATHER: Sunny
SAMPLING METHOD AND EQUIPMENT USED: straw — FIELD TEAM: 74

PERTINENT WELL INFORMATION

SCREEN INTERVAL: 7.5-13.5 (FT BGS)
INSIDE DIAMETER OF WELL: 0.75 (IN)
TOTAL DEPTH OF WELL: 13.5 (FT BTOC)
INITIAL DEPTH TO WATER: (-) (2.5) (FT BTOC) * Estimated
WATER COLUMN: 11.0 (FT)
VOLUME CONVERSION: (x) 0.023 (GAL/FT)
SINGLE WELL VOLUME: 0.25 (GAL)

TOTAL PURGE VOLUME: 0.56 (GAL)

INSIDE DIAMETER OF TUBING: 0.25 (IN)
LENGTH OF TUBING: 13.5 (FT BTOC)
INITIAL DEPTH TO WATER: (-) (2.5) (FT BTOC)
WATER COLUMN INSIDE TUBING: 11.0 (FT)
VOLUME CONVERSION: (x) 0.0026 (GAL/FT)
SINGLE TUBING VOLUME: 0.03 (GAL)

INSIDE DIAMETER OF WELL/VOLUME CONVERSIONS (GAL/FT):
3/4" = 0.023; 1" = 0.041; 2" = 0.163
4" = 0.653; 6" = 1.469; 8" = 2.611

INSIDE DIAMETER OF TUBING/VOLUME CONVERSIONS (GAL/FT):
3/16" = 0.0014; 1/4" = 0.0026; 3/8" = 0.0057; 1/2" = 0.0102
5/8" = 0.0159; 3/4" = 0.0230; 7/8" = 0.0313

FIELD PARAMETERS

Time	Depth to Water (ft btoc)	Purge Rate (mL/min)	Cummulative Purge Vol. (gal)	pH (Std. units)	Temp. (°C)	Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Remarks (color, odor, sheen, etc.)
0940	N/M	150	0	7.70	30.33	11.9	0.00	-192	>800	Cloudy
0945	N/M	150	0.13	7.71	30.13	11.8	0.00	-151	7800	"
0950	N/M	150	0.25	7.62	29.55	11.8	1.70	-139	652	"
0955	N/M	150	0.38	7.62	29.18	11.8	0.00	-118	7800	"
1000	N/M	150	0.50	7.56	29.04	11.8	0.00	-128	7800	"

SAMPLE INFORMATION

Analytical Parameters/Methods:	Container Quantity, Size, Type:	Preservatives:
TCL VOC 8260B	3-40 ml vials x3	HCl

Notes (i.e. QA/QC Samples, etc.): MS/MSD: JM-26-SB02-W-111610 @ 1010

Sample ID: JM26-SB02-W-111610
Sample Date/Time: 11-16-10 / 1000
Sample Appearance: Cloudy
Filtered Metals Collected: Yes (No) — Filter Size: N/A
Laboratory to Filter: Yes (No) — Filter Size: N/A
Depth Sample was Collected (ft btoc): 13.0
Depth to Water at Sample Collection (ft btoc): N/M
Signed By: [signature] — Date: 11-16-10

AGVIQ CH2M HILL

PROJECT NUMBER	WELL ID	PAGE 1 OF 1
404625	SB03	

LOW-FLOW PURGING AND SAMPLING LOG

PROJECT: MH-31 Saratoga Ave
CLIENT/LOCATION: NAS RW
SITE NO: JM-26
SITE NAME: Manhole 31 Saratoga Ave
DATE: 11-16-10
PURGING METHOD AND EQUIPMENT USED: peristaltic
WEATHER: Sunny 75°
SAMPLING METHOD AND EQUIPMENT USED: straw
FIELD TEAM: NM/AM

PERTINENT WELL INFORMATION

SCREEN INTERVAL: ~~4.5-13.5~~ (FT BGS) 4-8'
INSIDE DIAMETER OF WELL: 0.25 (IN)
TOTAL DEPTH OF WELL ~~13.5~~ (FT BTOC)
INITIAL DEPTH TO WATER: (-) (2.5) (FT BTOC)
WATER COLUMN: (11.0) (FT)
VOLUME CONVERSION: (x) 0.023 (GAL/FT)
SINGLE WELL VOLUME: 0.25 (GAL)

TOTAL PURGE VOLUME: _____ (GAL)

INSIDE DIAMETER OF TUBING: 0.25 (IN)
LENGTH OF TUBING: 13.5 (FT BTOC)
INITIAL DEPTH TO WATER: (-) (3.5) (FT BTOC)
WATER COLUMN INSIDE TUBING: (11.0) (FT)
VOLUME CONVERSION: (x) 0.0026 (GAL/FT)
SINGLE TUBING VOLUME: 0.03 (GAL)

INSIDE DIAMETER OF WELL/VOLUME CONVERSIONS (GAL/FT):
3/4" = 0.023; 1" = 0.041; 2" = 0.163
4" = 0.653; 6" = 1.469; 8" = 2.611

INSIDE DIAMETER OF TUBING/VOLUME CONVERSIONS (GAL/FT):
3/16" = 0.0014; 1/4" = 0.0026; 3/8" = 0.0057; 1/2" = 0.0102
5/8" = 0.0159; 3/4" = 0.0230; 7/8" = 0.0313

FIELD PARAMETERS

Time	Depth to Water (ft btoc)	Purge Rate (mL/min)	Cummulative Purge Vol. (gal)	pH (Std. units)	Temp. (°C)	Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Remarks (color, odor, sheen, etc.)
1315	N/M	100	0	7.95	32.50	11.4	1.35	66	>800	cloudy, white
1320	N/M	100	0.13	7.62	31.38	11.3	0.08	947	>800	" "
1325	N/M	100	0.25	7.58	30.98	11.4	0.00	1	>800	" "

SAMPLE INFORMATION

Analytical Parameters/Methods:	Container Quantity, Size, Type:	Preservatives:
TCL VOC 8260B	3-40 mL vials	HCl

Notes (i.e. QA/QC Samples, etc.): Had to offset and raise screen to 4'-8' BGS to get GW.

Sample ID: JM26-SB03-W-111610
Sample Date/Time: 11-16-10 / 13:15
Sample Appearance: cloudy, white
Filtered Metals Collected: Yes (No) — Filter Size: N/A
Laboratory to Filter: Yes (No) — Filter Size: N/A
Depth Sample was Collected (ft btoc): ~~13.0~~ 7.5'
Depth to Water at Sample Collection (ft btoc): N/A

Signed By: [signature] Date: 11-16-10

AGVIO
CH2M HILL

PROJECT NUMBER	WELL ID	PAGE 1 OF 1
404625	SB04	

LOW-FLOW PURGING AND SAMPLING LOG

PROJECT: MH-31 Saratoga Ave
CLIENT/LOCATION: NAS KLW
SITE NO: JM-26
SITE NAME: Manhole 31 Saratoga Ave — DATE: 11-16-10
PURGING METHOD AND EQUIPMENT USED: peristaltic — WEATHER: Sunny
SAMPLING METHOD AND EQUIPMENT USED: straw — FIELD TEAM: 74°

PERTINENT WELL INFORMATION

SCREEN INTERVAL: 4.5-13.5 (FT BGS)
INSIDE DIAMETER OF WELL: 0.75 (IN)
TOTAL DEPTH OF WELL: 13.5 (FT BTOC)
INITIAL DEPTH TO WATER: (-) (2.5) (FT BTOC) * Estimated
WATER COLUMN: 11.0 (FT)
VOLUME CONVERSION: (x) 0.023 (GAL/FT)
SINGLE WELL VOLUME: 0.25 (GAL)

TOTAL PURGE VOLUME: 0.13 (GAL)

INSIDE DIAMETER OF TUBING: 0.25 (IN)
LENGTH OF TUBING: 13.5 (FT BTOC)
INITIAL DEPTH TO WATER: (-) (2.5) (FT BTOC)
WATER COLUMN INSIDE TUBING: 11.0 (FT)
VOLUME CONVERSION: (x) 0.0026 (GAL/FT)
SINGLE TUBING VOLUME: 0.03 (GAL)

INSIDE DIAMETER OF WELL/VOLUME CONVERSIONS (GAL/FT):
3/4" = 0.023; 1" = 0.041; 2" = 0.163
4" = 0.653; 6" = 1.469; 8" = 2.611

INSIDE DIAMETER OF TUBING/VOLUME CONVERSIONS (GAL/FT):
3/16" = 0.0014; 1/4" = 0.0026; 3/8" = 0.0057; 1/2" = 0.0102
5/8" = 0.0159; 3/4" = 0.0230; 7/8" = 0.0313

FIELD PARAMETERS

Time	Depth to Water (ft btoc)	Purge Rate (mL/min)	Cummulative Purge Vol. (gal)	pH (Std. units)	Temp. (°C)	Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Remarks (color, odor, sheen, etc.)
1050	NM	100	0	7.78	32.79	12.6	2.01	66	>800	

SAMPLE INFORMATION

Analytical Parameters/Methods	Container Quantity, Size, Type:	Preservatives:
TCL VOC 8260B	3 40 mL vials	HCl

Notes (i.e. QA/QC Samples, etc.): EB: JM26-EB-111610 @ 10:30
Dry at 0.13 gal, allowed to recharge then sampled

Sample ID: JM-26 SB04-W-111610
Sample Date/Time: 11-16-10/1055
Sample Appearance: cloudy
Filtered Metals Collected: Yes (No) — Filter Size: N/A
Laboratory to Filter: Yes (No) — Filter Size: N/A
Depth Sample was Collected (ft btoc): 13.0
Depth to Water at Sample Collection (ft btoc): N/M

Signed By: [signature] — Date: 11-16-10

VIQ
12M HILL

PROJECT NUMBER	WELL ID	PAGE 1 OF 1
404625	JB05	

LOW-FLOW PURGING AND SAMPLING LOG

PROJECT: MH-31 Saratoga Ave
CLIENT/LOCATION: NAS KW
SITE NO: JM 26
SITE NAME: Manhole 31 Saratoga Ave
DATE: 11-16-10
PURGING METHOD AND EQUIPMENT USED: peristaltic
WEATHER: Sunny 75°
SAMPLING METHOD AND EQUIPMENT USED: straw
FIELD TEAM: ~~[illegible]~~ NM / AM

PERTINENT WELL INFORMATION

SCREEN INTERVAL: 9.5-13.5 (FT BGS)
INSIDE DIAMETER OF WELL: 0.75 (IN)
TOTAL DEPTH OF WELL: 13.5 (FT BTOC)
INITIAL DEPTH TO WATER: (-)(2.5) (FT BTOC) Estimated
WATER COLUMN: 11.0 (FT)
VOLUME CONVERSION: (x) 0.023 (GAL/FT)
SINGLE WELL VOLUME: 0.25 (GAL.)

TOTAL PURGE VOLUME: 0.25 (GAL)

INSIDE DIAMETER OF TUBING: 0.25 (IN)
LENGTH OF TUBING: 12.5 (FT BTOC)
INITIAL DEPTH TO WATER: (-)(2.5) (FT BTOC)
WATER COLUMN INSIDE TUBING: 11.0 (FT)
VOLUME CONVERSION: (x) 0.0026 (GAL/FT)
SINGLE TUBING VOLUME: 0.03 (GAL.)

INSIDE DIAMETER OF WELL/VOLUME CONVERSIONS (GAL/FT):
3/4" = 0.023; 1" = 0.041; 2" = 0.163
4" = 0.653; 6" = 1.469; 8" = 2.611

INSIDE DIAMETER OF TUBING/VOLUME CONVERSIONS (GAL/FT):
3/16" = 0.0014; 1/4" = 0.0026; 3/8" = 0.0057; 1/2" = 0.0102
5/8" = 0.0159; 3/4" = 0.0230; 7/8" = 0.0313

FIELD PARAMETERS

Time	Depth to Water (ft btoc)	Purge Rate (mL/min)	Cummulative Purge Vol. (gal)	pH (Std. units)	Temp. (°C)	Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Remarks (color, odor, sheen, etc.)
1335	N/M	150	0	8.02	30.80	5.19	0.00	-116	>800	Cloudy
1340	N/M	150	0.13	7.81	30.61	5.08	0.00	-153	>800	"
1345	N/M	150	0.25	7.76	30.66	4.98	0.0	-160	>800	"

SAMPLE INFORMATION

Analytical Parameters/Methods:	Container Quantity, Size, Type:	Preservatives:
TCL VOC 8260B	3 40 mL vials	HCl

Notes (i.e. QA/QC Samples, etc.): Dry at 13:45 allowed to recharge and sampled.

Sample ID: JM26-SB-05-W-101610
Sample Date/Time: 11-16-10 / 1350
Sample Appearance: Cloudy
Filtered Metals Collected: Yes (No) Filter Size: N/A
Laboratory to Filter: Yes (No) Filter Size: N/A
Depth Sample was Collected (ft btoc): 13.0'
Depth to Water at Sample Collection (ft btoc): N/M
Signed By: [signature] Date: 11-16-10

AGVIO
CH2M HILL

PROJECT NUMBER	WELL ID	PAGE 1 OF 1
404625	SB06	

LOW-FLOW PURGING AND SAMPLING LOG

PROJECT: MH-31 Saratoga Ave
CLIENT/LOCATION: NAS KW Boca Chica
SITE NO: JM26
SITE NAME: Manhole 31 Saratoga Ave
DATE: 11-16-10
PURGING METHOD AND EQUIPMENT USED: peristaltic
WEATHER: Sunny 75°
SAMPLING METHOD AND EQUIPMENT USED: straw
FIELD TEAM: NM/AM

PERTINENT WELL INFORMATION

SCREEN INTERVAL: ~~9.5-13.5~~ (FT BGS) 6-10
INSIDE DIAMETER OF WELL: 0.75 (IN)
TOTAL DEPTH OF WELL: ~~(13.5)~~ (FT BTOC) 10
INITIAL DEPTH TO WATER: (-) (2.5) (FT BTOC) Estimated
WATER COLUMN: ~~11.0~~ (FT) 7.5
VOLUME CONVERSION: (x) 0.023 (GAL/FT)
SINGLE WELL VOLUME: 0.25 (GAL)

TOTAL PURGE VOLUME: _____ (GAL)

INSIDE DIAMETER OF TUBING: 0.25" (IN)
LENGTH OF TUBING: (13.5) (FT BTOC)
INITIAL DEPTH TO WATER: (-) (2.5) (FT BTOC)
WATER COLUMN INSIDE TUBING: 11.0 (FT)
VOLUME CONVERSION: (x) 0.0026 (GAL/FT)
SINGLE TUBING VOLUME: 0.03 (GAL)

INSIDE DIAMETER OF WELL/VOLUME CONVERSIONS (GAL/FT):
3/4" = 0.023; 1" = 0.041; 2" = 0.163
4" = 0.653; 6" = 1.469; 8" = 2.611

INSIDE DIAMETER OF TUBING/VOLUME CONVERSIONS (GAL/FT):
3/16" = 0.0014; 1/4" = 0.0026; 3/8" = 0.0057; 1/2" = 0.0102
5/8" = 0.0159; 3/4" = 0.0230; 7/8" = 0.0313

FIELD PARAMETERS

Time	Depth to Water (ft btoc)	Purge Rate (mL/min)	Cummulative Purge Vol. (gal)	pH (Std. units)	Temp. (°C)	Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Remarks (color, odor, sheen, etc.)
14:15	N/M	150	0	7.63	30.70	4.34	2.01	6	>800	Cloudy, white
14:20	N/M	150	0.13	7.41	30.18	4.51	1.05	-3	>800	" "
14:25	N/M	150	0.25	7.32	29.85	4.49	0.14	-24	>800	" "
14:30	N/M	150	0.38	7.28	29.66	4.41	0.00	-56	>800	" "
14:35	N/M	150	0.50	7.25	29.65	4.33	0.00	-76	>800	" "
14:40	N/M	150	0.63	7.22	29.47	4.33	0.00	-82	>800	" "

SAMPLE INFORMATION

Analytical Parameters/Methods:	Container Quantity, Size, Type:	Preservatives:
TCL VOC 8260B	3-40 mL vials	HCL

Notes (i.e. QA/QC Samples, etc.): No water at 9.5'-13.5'. Raised screen to 6'-10', got water

Sample ID: JM26-SB-06-W-111610
Sample Date/Time: 11-16-10/1440
Sample Appearance: _____
Filtered Metals Collected: Yes (No) Filter Size: N/A
Laboratory to Filter: Yes (No) Filter Size: N/A
Depth Sample was Collected (ft btoc): _____
Depth to Water at Sample Collection (ft btoc): N/M
Signed By: Nikki Man Date: 11-16-10

CH2MHILL

PROJECT NUMBER		PAGE 1 OF 1
404625		

EQUIPMENT CALIBRATION LOG

PROJECT: JM-26 MH-31 Temp well sampling
CLIENT/LOCATION: NAS KW
SITE NO: JM-26
SITE NAME: Manhole 31 Saratoga AVE
DATE: 11-16-10
WEATHER: Sunny 72°
LOGGED BY: N. Monroe

Instrument	Make/Model/ Serial No.	Calibration Gas or Standard/Manufacturer	Concentrations/ Lot No./Expiration	Time	Initial Reading	Calibrated Reading
FID	Photo Vac microVac FID S/N: C25G317 Pine Env.	Zero Gas :	ppm	0820	0.0 ppm Ambient Temp. (°F): 72°	— ppm Ambient Temp. (°F):
		Methane:	ppm	0820	99.7 ppm Ambient Temp. (°F): 72°	— ppm Ambient Temp. (°F):
~~PID~~	N/A	Zero Gas:	ppm		ppm Ambient Temp. (°F):	ppm Ambient Temp. (°F):
		Isobutylene:	ppm		ppm Ambient Temp. (°F):	ppm Ambient Temp. (°F):
Combustible Gas Indicator	N/A	Zero Gas:	ppm		ppm Ambient Temp. (°F):	ppm Ambient Temp. (°F):
		Multi Gas:	ppm		ppm Ambient Temp. (°F):	ppm Ambient Temp. (°F):
Water Quality Meter	Horiba U-52 Pine Env. S/N. 15028	4.0 pH: Pine Env Auto Cal	4.0 Std. units Lot# 7862 Exp: APR-2011	0830	4.01 Std. units Temp (°C): 28.25	4.01 Std. units Temp (°C):
		7.0 pH: Pine Env. ORP Solution	7.0 Std. units Lot: 2688 Exp: 09/2015	0830	6.78 Std. units Temp (°C): 27.53	7.00 Std. units Temp (°C):
		10.0 pH: N/A	Std. units N/A		Std. units Temp (°C):	Std. units Temp (°C):
		Spec Cond: Pine Env Auto Cal	4.49 mS/cm Exp: Apr 2011 Lot: 7862	0830	4.50 mS/cm Temp (°C): 28.27	4.50 mS/cm Temp (°C):
		Turbidity: "	0 NTU "	0830	0.0 NTU Temp (°C): 28.28	0.0 NTU Temp (°C):
		DO: Air	mg/L	0830	mg/L Temp (°C):	mg/L Temp (°C):
		ORP: Pine Env. ORP Solution	240 mV 225 Lot: 2688 Exp: 09/2015	0830	223 mV Temp (°C): 27.51	224 mV Temp (°C):

ATTACHMENT C

Groundwater Analytical Results

NAS Key West

PREPARED FOR:	NAS Key West / Saratoga Avenue Manhole 31 2010
FINAL REVEIWER:	Camden Robinson/ Associate Project Chemist/CH2M HILL
COPIES:	Amy Twitty /Project Manager/AGVIQ CH2M HILL
DATE:	June 25, 2010
SUBJECT:	Quality Assessment for Samples Collected May 12th, 2010

This quality assurance memorandum is based upon a review of analytical data generated for water samples and associated field quality control samples May 12th, 2010 at the Naval Air Station in Key West, Florida. The samples were collected as a part of the Saratoga Avenue Manhole 31 event conducted at the site. Table 1-1 presents a summary of the AGVIQ-CH2M HILL sample identification numbers, laboratory sample identification numbers, dates of collection, and the analyses performed.

PEL a division of Spectrum Analytical, Inc. in Tampa, Florida served as the laboratory for this Saratoga Avenue Manhole 31 event. The samples were submitted for the following analyses:

- Volatile Organic Compounds (VOC) by method SW-846 8260B
- Total Dissolved Solids (TDS) by Standard Method 2540C

Mitkem a division of Spectrum Analytical Inc. of Warwick, Rhode Island served as a sub-contract laboratory for this Saratoga Avenue Manhole 31 event for the following analysis:

- Salinity by Standard Method 2320B

Table 1-1 ***Summary Sample Data Reviewed NAS Key West***

Sample Number	Lab Sample ID	Date Sampled	Analysis Required
37-MW-2-051210-A	J1014-01	05/12/2010	[3]
37-MW-2-051210	251592601	05/12/2010	[1], [2]
37-MW-3-051210	251592602	05/12/2010	[1], [2]
JM-26 EB 051210	251592605	05/12/2010	[1], [2]
JM-26 TB 051210	251592606	05/12/2010	[1]

Sample Number	Lab Sample ID	Date Sampled	Analysis Required
JM-26 FD 051210	251592608	05/12/2010	[1], [2]

ANALYSES PERFORMED CODES:
[1] – Volatile Organic Compounds (VOC) by SW-846 8260B
[2] – Total Dissolved Solids (TDS) by SM2540C
[3] – Salinity by SM2320B
* *JM-26-FD051210 is the blind field duplicate of 37-MW-2-051210*

Data for the analyses were reviewed for adherence to the specified analytical protocols in accordance with AGVIQ-CH2M HILL Sampling Analysis Plan. All analysis results have been validated or qualified according to general guidance provided in the Department of Defense (DOD) Quality Systems Manual - Version 3 Final March 2005 (based on NELAC Voted Version – 5 June 2003).

The findings of this quality assurance report are based upon the comprehensive review of the following results summaries reported according to the AGVIQ-CH2M HILL Level C (CLP-like data deliverables format): chain of custody documentation, holding times, laboratory method and field blank analyses, matrix spike compound recoveries and reproducibility, initial and continuing calibration, second source recovery and internal standard area performance summaries, target compound identification, laboratory control sample results, laboratory and blind field duplicate sample results, detection limits/sensitivity, and electronic data deliverables.

The analyses were performed acceptably. Any aspects of the data, which are not discussed in this report, should be considered qualitatively and quantitatively valid as reported, based on the deliverables reviewed. A result summary report presenting the validated and qualified results is presented in Attachment I.

General Data Qualifiers

As required by U.S. EPA protocols, all compounds which were qualitatively identified at concentrations below their respective reporting limits (RL) but above the method detection limit (MDL) have been qualified with "J" qualifiers on the data summary reports to indicate that they are quantitative estimates.

GROUNDWATER CLEANUP TARGET ACTION LEVEL REGULARTORY LIMITS

All samples collected and analyzed for the month of May 2010 for volatile organic compounds (VOC), total dissolved solids (TDS), and salinity were less than the action level groundwater cleanup target level regulatory limits with the exception of the samples listed below:

Analyte (VOC List)	Affected Sample	Sample Results (ug/l)	Groundwater Cleanup Target Levels (ug/l)
Tetrachloroethene	37-MW-2-051210	32.1	3
Tetrachloroethene	JM-26-FD-051210	34.2	3
Trichloroethene	37-MW-2-051210	20.2	3
Trichloroethene	JM-26-FD-051210	21.4	3

Organic Data Qualifiers

The positive results for carbon disulfide, acetone, and cis-1,2-dichloroethene for the samples listed below are considered estimated due to the level at which the analytes were present in the associated equipment blank, trip blank, and/or method blank. This has been indicated by placing a "JB" qualifier next to the reported results associated with the equipment blank and trip blank contaminations or a "B" qualifier next to the reported results associated with the method blank contamination for the results listed on the data summary table for these samples.

Analyte	Affected Samples
Carbon Disulfide	37-MW-2-051210, 37-MW-3-051210, and JM-26 FD 051210
Acetone	37-MW-2-051210, 37-MW-3-051210, and JM-26 FD 051210
Cis-1,2-Dichloroethene	37-MW-2-051210, 37-MW-3-051210, and JM-26 FD 051210

Sample 37-MW-2-051210 and its blind field duplicate sample JM-26 FD 051210 were submitted to the laboratory to evaluate sampling and analytical precision for those compounds determined to be confidently detected. All compounds met AGVIQ-CH2M HILL's blind duplicate precision criteria of 30% relative percent difference (RPD) for the volatile organic compounds analysis. The RPD was not calculated for the compounds that were not detected in both samples.

General Chemistry Data Qualifiers

Sample 37-MW-2-051210 and its blind field duplicate sample JM-26 FD 051210 were submitted to the laboratory to evaluate sampling and analytical precision for those compounds determined to be confidently detected. The total dissolved solids (TDS) analysis did not met AGVIQ-CH2M HILL's blind duplicate precision criteria of 30% relative percent difference (RPD). A "J" qualifier was appended to results for this compound in the native sample and field duplicate sample to indicate that the reported values should be considered quantitative estimates due to the field duplicate RPD exceedance.

Compound	Affected Samples
TDS	37-MW-2-051210 and JM-26 FD 051210

Summary

The organic and general chemistry analyses were performed acceptably, but required qualifying statements. This analytical quality assurance report has identified the aspects of the data, which required qualification. These qualifiers are noted on the attached analytical sample summary reports. A support documentation package has been prepared for this quality assurance review and is filed with the NAS Key West JM-26/Saratoga Avenue Manhole 31 2010 project file.

Attachment I

VALID QUALIFIERS

QUALIFIER	
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit
J	The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there was presumptive evidence to make a "tentative identification."
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R/UR	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet the quality control criteria. The presence or absence of the analyte cannot be verified.
B	The analyte was detected in the associated method and/or calibration blank.
JB	The analyte detected in the associated field, equipment, and/or trip blank.

QUALIFICATION CODE REFERENCE

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect.
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
K	Calibration %D was noncompliant for the second source verification.	Correlation coefficient is <0.995 for the second source verification.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
MB	Presumed contamination from preparation (method) blank.	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or high RPD.	MS/MSD recovery was poor or high RPD.
G	Result is over the calibration range. No other acceptable result was provided.	Result is over the calibration range. Not other acceptable result was provided.
E	Not applicable.	Lab duplicate RPD showed poor agreement.
Z	Field duplicate RPD showed poor agreement.	Field duplicate RPD showed poor agreement
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D was not within control limits.
TN	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination from trip blank.	Not applicable.
+	False positive—reported compound was not present.	Not applicable.
-	False negative—compound was present but not reported.	Not applicable.
F	Presumed contamination from FB or EB.	Presumed contamination from FB or ER.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.
D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Confirmation analysis RPD exceeded 40%.	Post Digestion Spike recovery was not within control limits.
T/D	Not applicable.	Total metals results were less than the dissolved metals result.
SD	Not applicable.	Seed correction factor was below the acceptable limit.
M	Results should be considered estimated due to matrix effects caused by saturation of target and/or non-target analytes.	Not applicable

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

37-MW-2-051210-A

Lab Name: PEL, Spectrum Analytical, Inc. Contract: Saratoga Avenue, Manhole 31

Lab Code : PEL Case No.: _____ SAS No: _____ SDG No.: 2515924

Matrix: WATER Lab Sample ID: J1014-01

Level:(low/med) LOW Date Received: 5/14/2010

PercentSolids: 0 Station ID: Groundwater

CONCENTRATION UNITS: ppt

CAS NO.	ANALYTE	Concentration	C	Q	M
SAL	Salinity	7.7			N/A

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

150E10 603

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

37-MW-2-051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole 31

Lab Code : PEL Case No. SAS No: SDG No.: 2515926

Matrix: WATER Lab Sample ID: 251592601 Lab File ID 92601.D

Sample wt/vol: 5 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/22/10 Time: 1034

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Groundwater Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1.7	U
74-87-3	Chloromethane	1.4	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1.4	U
75-00-3	Chloroethane	2.8	U
75-69-4	Trichlorofluoromethane	1.4	U
75-35-4	1,1-Dichloroethene	0.24	J
75-15-0	Carbon disulfide	0.24	JB-F, T, MB
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	7	
75-34-3	1,1-Dichloroethane	1.1	U
67-64-1	Acetone	2	JB-F, T, MB
156-59-2	cis-1,2-Dichloroethene	26.2	JB-F
74-97-5	Bromochloromethane	2.2	U
78-93-3	2-Butanone	12	U
67-66-3	Chloroform	1.4	U
71-55-6	1,1,1-Trichloroethane	1.1	U
56-23-5	Carbon tetrachloride	1.5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1.3	U
79-01-6	Trichloroethene	20.2	
78-87-5	1,2-Dichloropropane	1.6	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.5	U
108-10-1	4-Methyl-2-pentanone	4	U
108-88-3	Toluene	1	U

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Form I

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

37-MW-2-051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole 31

Lab Code : PEL Case No. SAS No: SDG No.: 2515926

Matrix: WATER Lab Sample ID: 251592601 Lab File ID 92601.D

Sample wt/vol: 5 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/22/10 Time: 1034

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Groundwater Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
10061-02-6	trans-1,3-Dichloropropene	1.2	U
79-00-5	1,1,2-Trichloroethane	1.7	U
127-18-4	Tetrachloroethene	32.1	
591-78-6	2-Hexanone	6	U
124-48-1	Dibromochloromethane	0.5	U
106-93-4	1,2-Dibromoethane(EDB)	1.5	U
108-90-7	Chlorobenzene	0.5	U
100-41-4	Ethylbenzene	1.3	U
100-42-5	Styrene	1.5	U
75-25-2	Bromoform	1.9	U
98-82-8	Isopropylbenzene (Cumene)	1	U
79-34-5	1,1,2,2-Tetrachloroethane	0.39	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	1.1	U
96-12-8	1,2-Dibromo-3-chloropropane	4.2	U
120-82-1	1,2,4-Trichlorobenzene	2.1	U
87-61-6	1,2,3-Trichlorobenzene	1.8	U
1330-20-7	Xylene (total)	3	U
1634-04-4	MTBE	1.5	U
76-13-1	1,1,2-Trichlorotrifluoroethane	1.4	U
108-87-2	Methyl Cyclohexane	1.9	U
79-20-9	Methyl Acetate	7.2	U
110-82-7	Cyclohexane	1.3	U

c-h

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

37-MW-3-051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole 31

Lab Code : PEL Case No. SAS No: SDG No.: 2515926

Matrix: WATER Lab Sample ID: 251592602 Lab File ID 92602.D

Sample wt/vol: 5 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/22/10 Time: 1010

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Groundwater Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1.7	U
74-87-3	Chloromethane	1.4	U
75-01-4	Vinyl chloride	0.51	J
74-83-9	Bromomethane	1.4	U
75-00-3	Chloroethane	2.8	U
75-69-4	Trichlorofluoromethane	1.4	U
75-35-4	1,1-Dichloroethene	1.3	U
75-15-0	Carbon disulfide	0.4	JB-F,T,mB
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	4.2	
75-34-3	1,1-Dichloroethane	1.1	U
67-64-1	Acetone	2.4	JB-F,T,mB
156-59-2	cis-1,2-Dichloroethene	68.6	JB-F
74-97-5	Bromochloromethane	2.2	U
78-93-3	2-Butanone	12	U
67-66-3	Chloroform	1.4	U
71-55-6	1,1,1-Trichloroethane	1.1	U
56-23-5	Carbon tetrachloride	1.5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1.3	U
79-01-6	Trichloroethene	1.1	U
78-87-5	1,2-Dichloropropane	1.6	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.5	U
108-10-1	4-Methyl-2-pentanone	4	U
108-88-3	Toluene	1	U

c.f

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Form I

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 37-MW-3-051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole 31

Lab Code: PEL Case No. SAS No: SDG No.: 2515926

Matrix: WATER Lab Sample ID: 251592602 Lab File ID 92602.D

Sample wt/vol: 5 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/22/10 Time: 1010

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Groundwater Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
10061-02-6	trans-1,3-Dichloropropene	1.2	U
79-00-5	1,1,2-Trichloroethane	1.7	U
127-18-4	Tetrachloroethene	1.7	U
591-78-6	2-Hexanone	6	U
124-48-1	Dibromochloromethane	0.5	U
106-93-4	1,2-Dibromoethane(EDB)	1.5	U
108-90-7	Chlorobenzene	0.5	U
100-41-4	Ethylbenzene	1.3	U
100-42-5	Styrene	1.5	U
75-25-2	Bromoform	1.9	U
98-82-8	Isopropylbenzene (Cumene)	1	U
79-34-5	1,1,2,2-Tetrachloroethane	0.39	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	1.1	U
96-12-8	1,2-Dibromo-3-chloropropane	4.2	U
120-82-1	1,2,4-Trichlorobenzene	2.1	U
87-61-6	1,2,3-Trichlorobenzene	1.8	U
1330-20-7	Xylene (total)	3	U
1634-04-4	MTBE	1.5	U
76-13-1	1,1,2-Trichlorotrifluoroethane	1.4	U
108-87-2	Methyl Cyclohexane	1.9	U
79-20-9	Methyl Acetate	7.2	U
110-82-7	Cyclohexane	1.3	U

ct

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

37-MW-3-051210DL1

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole 31

Lab Code: PEL Case No. SAS No: SDG No.: 2515926

Matrix: WATER Lab Sample ID: 251592602DL1 Lab File ID 92602D.D

Sample wt/vol: 5 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/23/10 Time: 1147

PercentSolids: 0 decanted : Dilution Factor: 5

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	8.4	U
74-87-3	Chloromethane	7.2	U
75-01-4	Vinyl chloride	5	U
74-83-9	Bromomethane	7.2	U
75-00-3	Chloroethane	14.2	U
75-69-4	Trichlorofluoromethane	7.2	U
75-35-4	1,1-Dichloroethene	6.6	U
75-15-0	Carbon disulfide	1.4	J
75-09-2	Methylene chloride	9.9	U
156-60-5	trans-1,2-Dichloroethene	4.4	J
75-34-3	1,1-Dichloroethane	5.4	U
67-64-1	Acetone	9.3	J
156-59-2	cis-1,2-Dichloroethene	67.6	
74-97-5	Bromochloromethane	11.1	U
78-93-3	2-Butanone	60	U
67-66-3	Chloroform	7	U
71-55-6	1,1,1-Trichloroethane	5.4	U
56-23-5	Carbon tetrachloride	7.6	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	6.6	U
79-01-6	Trichloroethene	5.7	U
78-87-5	1,2-Dichloropropane	8	U
75-27-4	Bromodichloromethane	3	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	20	U
108-88-3	Toluene	5	U

R-D

c-t

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Form I

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 37-MW-3-051210DL1

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole 31

Lab Code: PEL Case No. SAS No: SDG No.: 2515926

Matrix: WATER Lab Sample ID: 251592602DL1 Lab File ID 92602D.D

Sample wt/vol: 5 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/23/10 Time: 1147

PercentSolids: 0 decanted : Dilution Factor: 5

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
10061-02-6	trans-1,3-Dichloropropene	5.8	U
79-00-5	1,1,2-Trichloroethane	8.6	U
127-18-4	Tetrachloroethene	8.6	U
591-78-6	2-Hexanone	30	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane(EDB)	7.4	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	6.4	U
100-42-5	Styrene	7.5	U
75-25-2	Bromoform	9.3	U
98-82-8	Isopropylbenzene (Cumene)	5	U
79-34-5	1,1,2,2-Tetrachloroethane	2	U
541-73-1	1,3-Dichlorobenzene	5.2	U
106-46-7	1,4-Dichlorobenzene	15	U
95-50-1	1,2-Dichlorobenzene	5.7	U
96-12-8	1,2-Dibromo-3-chloropropane	21	U
120-82-1	1,2,4-Trichlorobenzene	10.4	U
87-61-6	1,2,3-Trichlorobenzene	9	U
1330-20-7	Xylene (total)	15	U
1634-04-4	MTBE	7.6	U
76-13-1	1,1,2-Trichlorotrifluoroethane	7	U
108-87-2	Methyl Cyclohexane	9.6	U
79-20-9	Methyl Acetate	36	U
110-82-7	Cyclohexane	6.3	U

R-D

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM-26 EB 051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole 31

Lab Code : PEL Case No. SAS No: SDG No.: 2515926

Matrix: WATER Lab Sample ID: 251592605 Lab File ID 92605.D

Sample wt/vol: 5 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/22/10 Time: 1058

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Groundwater Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1.7	U
74-87-3	Chloromethane	1.4	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1.4	U
75-00-3	Chloroethane	2.8	U
75-69-4	Trichlorofluoromethane	1.4	U
75-35-4	1,1-Dichloroethene	1.3	U
75-15-0	Carbon disulfide	0.28	J
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1.2	U
75-34-3	1,1-Dichloroethane	1.1	U
67-64-1	Acetone	4	J
156-59-2	cis-1,2-Dichloroethene	0.21	J
74-97-5	Bromochloromethane	2.2	U
78-93-3	2-Butanone	12	U
67-66-3	Chloroform	1.4	U
71-55-6	1,1,1-Trichloroethane	1.1	U
56-23-5	Carbon tetrachloride	1.5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1.3	U
79-01-6	Trichloroethene	1.1	U
78-87-5	1,2-Dichloropropane	1.6	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.5	U
108-10-1	4-Methyl-2-pentanone	4	U
108-88-3	Toluene	0.61	J

C-1

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM-26 EB 051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole 31

Lab Code : PEL Case No. SAS No: SDG No.: 2515926

Matrix: WATER Lab Sample ID: 251592605 Lab File ID 92605.D

Sample wt/vol: 5 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/22/10 Time: 1058

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Groundwater Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
10061-02-6	trans-1,3-Dichloropropene	1.2	U
79-00-5	1,1,2-Trichloroethane	1.7	U
127-18-4	Tetrachloroethene	1.7	U
591-78-6	2-Hexanone	6	U
124-48-1	Dibromochloromethane	0.5	U
106-93-4	1,2-Dibromoethane(EDB)	1.5	U
108-90-7	Chlorobenzene	0.5	U
100-41-4	Ethylbenzene	1.3	U
100-42-5	Styrene	1.5	U
75-25-2	Bromoform	1.9	U
98-82-8	Isopropylbenzene (Cumene)	1	U
79-34-5	1,1,2,2-Tetrachloroethane	0.39	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	1.1	U
96-12-8	1,2-Dibromo-3-chloropropane	4.2	U
120-82-1	1,2,4-Trichlorobenzene	2.1	U
87-61-6	1,2,3-Trichlorobenzene	1.8	U
1330-20-7	Xylene (total)	3	U
1634-04-4	MTBE	1.5	U
76-13-1	1,1,2-Trichlorotrifluoroethane	1.4	U
108-87-2	Methyl Cyclohexane	1.9	U
79-20-9	Methyl Acetate	7.2	U
110-82-7	Cyclohexane	1.3	U

ok

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM-26 TB 051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole 31

Lab Code : PEL Case No. SAS No: SDG No.: 2515926

Matrix: WATER Lab Sample ID: 251592606 Lab File ID 92606.D

Sample wt/vol: 5 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/22/10 Time: 1121

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Groundwater Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1.7	U
74-87-3	Chloromethane	1.4	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1.4	U
75-00-3	Chloroethane	2.8	U
75-69-4	Trichlorofluoromethane	1.4	U
75-35-4	1,1-Dichloroethene	1.3	U
75-15-0	Carbon disulfide	0.27	J
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	1.2	U
75-34-3	1,1-Dichloroethane	1.1	U
67-64-1	Acetone	5.3	J
156-59-2	cis-1,2-Dichloroethene	1.4	U
74-97-5	Bromochloromethane	2.2	U
78-93-3	2-Butanone	12	U
67-66-3	Chloroform	1.4	U
71-55-6	1,1,1-Trichloroethane	1.1	U
56-23-5	Carbon tetrachloride	1.5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1.3	U
79-01-6	Trichloroethene	1.1	U
78-87-5	1,2-Dichloropropane	1.6	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.5	U
108-10-1	4-Methyl-2-pentanone	4	U
108-88-3	Toluene	1	U

c-r

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM-26 TB 051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole 31

Lab Code : PEL Case No. SAS No: SDG No.: 2515926

Matrix: WATER Lab Sample ID: 251592606 Lab File ID 92606.D

Sample wt/vol: 5 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/22/10 Time: 1121

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Groundwater Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
10061-02-6	trans-1,3-Dichloropropene	1.2	U
79-00-5	1,1,2-Trichloroethane	1.7	U
127-18-4	Tetrachloroethene	1.7	U
591-78-6	2-Hexanone	6	U
124-48-1	Dibromochloromethane	0.5	U
106-93-4	1,2-Dibromoethane(EDB)	1.5	U
108-90-7	Chlorobenzene	0.5	U
100-41-4	Ethylbenzene	1.3	U
100-42-5	Styrene	1.5	U
75-25-2	Bromoform	1.9	U
98-82-8	Isopropylbenzene (Cumene)	1	U
79-34-5	1,1,2,2-Tetrachloroethane	0.39	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	1.1	U
96-12-8	1,2-Dibromo-3-chloropropane	4.2	U
120-82-1	1,2,4-Trichlorobenzene	2.1	U
87-61-6	1,2,3-Trichlorobenzene	1.8	U
1330-20-7	Xylene (total)	3	U
1634-04-4	MTBE	1.5	U
76-13-1	1,1,2-Trichlorotrifluoroethane	1.4	U
108-87-2	Methyl Cyclohexane	1.9	U
79-20-9	Methyl Acetate	7.2	U
110-82-7	Cyclohexane	1.3	U

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM-26 FD 051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole 31

Lab Code : PEL Case No. SAS No: SDG No.: 2515926

Matrix: WATER Lab Sample ID: 251592608 Lab File ID 92608.D

Sample wt/vol: 5 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/22/10 Time: 1145

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Groundwater Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	1.7	U
74-87-3	Chloromethane	1.4	U
75-01-4	Vinyl chloride	1	U
74-83-9	Bromomethane	1.4	U
75-00-3	Chloroethane	2.8	U
75-69-4	Trichlorofluoromethane	1.4	U
75-35-4	1,1-Dichloroethene	0.26	J
75-15-0	Carbon disulfide	0.22	J B-F, T, MB
75-09-2	Methylene chloride	2	U
156-60-5	trans-1,2-Dichloroethene	7.6	
75-34-3	1,1-Dichloroethane	1.1	U
67-64-1	Acetone	1.6	JB-F, T, MB
156-59-2	cis-1,2-Dichloroethene	26.6	SB-F
74-97-5	Bromochloromethane	2.2	U
78-93-3	2-Butanone	12	U
67-66-3	Chloroform	1.4	U
71-55-6	1,1,1-Trichloroethane	1.1	U
56-23-5	Carbon tetrachloride	1.5	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1.3	U
79-01-6	Trichloroethene	21.4	
78-87-5	1,2-Dichloropropane	1.6	U
75-27-4	Bromodichloromethane	0.6	U
10061-01-5	cis-1,3-Dichloropropene	0.5	U
108-10-1	4-Methyl-2-pentanone	4	U
108-88-3	Toluene	1	U

ct

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM-26 FD 051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole 31

Lab Code : PEL Case No. SAS No: SDG No.: 2515926

Matrix: WATER Lab Sample ID: 251592608 Lab File ID 92608.D

Sample wt/vol: 5 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/22/10 Time: 1145

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Groundwater Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
10061-02-6	trans-1,3-Dichloropropene	1.2	U
79-00-5	1,1,2-Trichloroethane	1.7	U
127-18-4	Tetrachloroethene	34.2	
591-78-6	2-Hexanone	6	U
124-48-1	Dibromochloromethane	0.5	U
106-93-4	1,2-Dibromoethane(EDB)	1.5	U
108-90-7	Chlorobenzene	0.5	U
100-41-4	Ethylbenzene	1.3	U
100-42-5	Styrene	1.5	U
75-25-2	Bromoform	1.9	U
98-82-8	Isopropylbenzene (Cumene)	1	U
79-34-5	1,1,2,2-Tetrachloroethane	0.39	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	1.1	U
96-12-8	1,2-Dibromo-3-chloropropane	4.2	U
120-82-1	1,2,4-Trichlorobenzene	2.1	U
87-61-6	1,2,3-Trichlorobenzene	1.8	U
1330-20-7	Xylene (total)	3	U
1634-04-4	MTBE	1.5	U
76-13-1	1,1,2-Trichlorotrifluoroethane	1.4	U
108-87-2	Methyl Cyclohexane	1.9	U
79-20-9	Methyl Acetate	7.2	U
110-82-7	Cyclohexane	1.3	U

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

37-MW-2-051210

Lab Name: PEL, Spectrum Analytical, Inc. Contract: Saratoga Avenue, Manhole 31

Lab Code : PEL Case No.: SAS No: SDG No.: 2515926

Matrix: WATER Lab Sample ID: 251592601

Level:(low/med) LOW Date Received: 5/14/2010

PercentSolids: 0 Station ID: Groundwater

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
1-01-0	Residue, Filterable (TDS)	12300000		J	GR

Z

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

c-h

Comments:

110610 821

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

37-MW-3-051210

Lab Name: PEL, Spectrum Analytical, Inc. Contract: Saratoga Avenue, Manhole 31

Lab Code : PEL Case No.: SAS No: SDG No.: 2515926

Matrix: WATER Lab Sample ID: 251592602

Level:(low/med) LOW Date Received: 5/14/2010

PercentSolids: 0 Station ID: Groundwater

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
1-01-0	Residue, Filterable (TDS)	13800000			GR

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM-26 EB 051210

Lab Name: PEL, Spectrum Analytical, Inc. Contract: Saratoga Avenue, Manhole 31

Lab Code : PEL Case No.: SAS No: SDG No.: 2515926

Matrix: WATER Lab Sample ID: 251592605

Level:(low/med) LOW Date Received: 5/14/2010

PercentSolids: 0 Station ID: Groundwater

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
1-01-0	Residue, Filterable (TDS)	30	U		GR

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

110613.801

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM-26 FD 051210

Lab Name: PEL, Spectrum Analytical, Inc. Contract: Saratoga Avenue, Manhole 31

Lab Code : PEL Case No.: SAS No: SDG No.: 2515926

Matrix: WATER Lab Sample ID: 251592608

Level:(low/med) LOW Date Received: 5/14/2010

PercentSolids: 0 Station ID: Groundwater

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
1-01-0	Residue, Filterable (TDS)	8750000		J	GR

Z

Color Before: _____ Clarity Before: _____ Texture: _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

CT

110510.601

AGVIQ CH2M HILL

1000 Abernathy Road, Suite 1600
Atlanta, GA 30328

Tel No. (770) 604-9183
Fax No. (770) 604-9183

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 404625-051210-2 2515924 JK

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
Sarasota Avenue, Manhole 31	404625	Mitkem Laboratories, a Division of Spectrum Analytical, Inc.	Kasia White / CH2M HILL kwhite@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4060 fax 770-604-9183 phone
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.):
Manhole 31	JM-26	313811	Amy Twitty/CH2M HILL	1766 Sea Lark Lane, Navarre FL 32566-7472 850.939.8300/334.273.7515
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.):
Amy Twitty	850-232-0320	401-732-3400 x314 401-732-3499 (Fax)	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-579-8176 fax 678-530-4124 phone

C.L. 6/24/10 Saratoga

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on SOP)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on SOP)	TAT (calendar days)	Bottle Type / Number of Containers	8260B	2540C	8270D	8081B	8151A	8082	6010B/7470A	1010	SAMPLE TYPE (see codes on SOP)	COMMENTS/ SCREENING READINGS	LAB ID (for lab's use)
									Salinity SM2520										
1	37-MW-2-051210-A	Groundwater	W	05/12/10	17:25	C/IV	14	1	X								O	—	01
2	C.L. 6/24/10																		
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use):
Nikki Monroe / CH2M HILL		Direct shipped to Mitkem

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Nikki Monroe	13-May-2010	17:00	Printed Name and Signature: Federal Express Tracking Number(s):		
Printed Name and Signature:			Printed Name and Signature:	5/14/10	950
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CCR01, Rev 06/00

2515924

AGVIQ CH2M HILL

1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
Tel No (770) 604-9183
Fax No (770) 604-9183

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 404625-051210 2515926

PROJECT NAME: ~~Sarasota~~ Saratoga Avenue, Manhole 31	PROJECT NUMBER: 404625	LAB NAME AND CONTACT: PEL - Spectrum Analytical, Inc. Darcy Weisman	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 1 (Name and Company): Kama White / CH2M HILL kwhite@ch2m.com	RECIPIENT 1 (Address, Tel No., and Fax No.): Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4060 fax 770-604-9183 phone
PROJECT PHASE/SITE/TASK: Manhole 31	CTO OR DO NUMBER: JM-26	LAB PO NUMBER: 813811	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 2 (Name and Company): Amy Twitty/CH2M HILL	RECIPIENT 2 (Address, Tel No., and Fax No.): 1766 Sea Lark Lane, Navarre FL 32566-7472 850.939.8300/334.273.7515
PROJECT CONTACT: Amy Twitty	PROJECT TEL NO AND FAX NO: 850-232-0320	LAB TEL NO AND FAX NO: 813-888-9507 ext.3 / Fax: 813-476-2481 413-789-9018 / Fax: 413-789-4076	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 3 (Name and Company): Bethany Garvey / CH2M HILL bgarvey@ch2m.com	RECIPIENT 3 (Address, Tel No., and Fax No.): Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-579-8176 fax 678-530-4124 phone

C.L. 6/24/10

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on SOP)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on SOP)	TAT (calendar days)	Bottle Type / Number of Containers	8260B TCL VOCs	2540C TDS	8270D TCL SVOCs	8081B TCL Pesticides	8151A TCL Herbicides	8082 PCBs	6010B/7470A 8 RCRA Metals	1010 Ignitability	SAMPLE TYPE (see codes on SOP)	COMMENTS/ SCREENING READINGS	LAB ID (for lab's use)
1	37-MW-2-051210	Groundwater	W	5-12-10	17:25	C/TV	14	4	X	X							O		-01
2	37-MW-3-051210	Groundwater	W	5-12-10	15:20	C/TV	14	12 ~~4~~ 4/4	X	X							O	Includes MS/MSD	-02-03-04
3	JM-26 EB 051210	Groundwater	W	5-12-10	14:40	C/TV	14	4	X	X							EB		-05
4	JM-26 FD 051210	Groundwater	W	5-12-10	—	C/TV	14	4	X	X							FD		~~-06~~ -08
5	JM-26 TB 051210	~~Groundwater~~	W	5-12-10	—	C/TV	14	~~3~~ 2	X	YK 5/15/10							TB		~~-07~~ -06
6	~~JM-26 IDW 051210~~	~~Waste~~	~~W~~	~~5-12-10~~	~~1800~~	~~B~~	~~14~~	~~4~~	~~X~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~			~~-08~~ ~~-07~~
7								10 ~~14~~	inc.	Com.	YK 5/15/10			Separate		SDG			YK 5/15/10
8																			
9																			
10																			

YK 5/15/10
~~FD sample not rec'd;~~ double ambers for 8270/8081/8151

SAMPLER(S) AND COMPANY: (please print): Nikki Monroe / CH2M HILL

COURIER AND SHIPPING NUMBER:

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use): 3.0/2.0C; pH<2 6010/8260; 1010=Nitem

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Nikki Monroe	5-13-10	17:00	Printed Name and Signature:	~~8260 for sample 04 not rec'd~~	
Printed Name and Signature:			Federal Express Tracking Number(s):		
			Printed Name and Signature:	~~5/14/10 YK~~ ~~5/15/10~~	950
Printed Name and Signature:			Printed Name and Signature:		

2515926

NAS Key West

PREPARED FOR:	NAS Key West / Saratoga Avenue Manhole 31 2nd event 2010
FINAL REVEIWER:	Camden Robinson/ Associate Project Chemist/CH2M HILL
COPIES:	Amy Twitty /Project Manager/AGVIQ CH2M HILL
DATE:	January 18, 2011
SUBJECT:	Quality Assessment for Samples Collected November 16th, 2010

This quality assurance memorandum is based upon a review of analytical data generated for water samples and associated field quality control samples collected on November 16th, 2010 at the Naval Air Station in Key West, Florida. The samples were collected as a part of the Saratoga Avenue Manhole 31 2nd event conducted at the site. Table 1-1 presents a summary of the AGVIQ-CH2M HILL sample identification numbers, laboratory sample identification numbers, dates of collection, and the analyses performed.

PEL a division of Spectrum Analytical, Inc. in Tampa, Florida served as the laboratory for this Saratoga Avenue Manhole 31 2nd event. The samples were submitted for the following analysis:

- Volatile Organic Compounds (VOC) by method SW-846 8260B

Table 1-1 ***Summary Sample Data Reviewed NAS Key West***

Sample Number	Lab Sample ID	Date Sampled	Analysis Required
JM26-SB-01-W-111610	350132101	11/16/2010	[1]
JM26-SB-02-W-111610	350132102	11/16/2010	[1]
JM26-EB-111610	350132105	11/16/2010	[1]
*JM26-FD-111610	350132106	11/16/2010	[1]
JM26-TB-111610	350132107	11/16/2010	[1]
JM26-SB-03-W-111610	350132108	11/16/2010	[1]
JM26-SB-04-W-111610	350132109	11/16/2010	[1]
JM26-SB-05-W-111610	350132110	11/16/2010	[1]
JM26-SB-06-W-111610	350132111	11/16/2010	[1]

ANALYSES PERFORMED CODES:
[1] – Volatile Organic Compounds (VOC) by SW-846 8260B
JM26-FD-111610 is the blind field duplicate of JM26-SB-01-W-111610

Data for the analyses were reviewed for adherence to the specified analytical protocols in accordance with AGVIQ-CH2M HILL Sampling Analysis Plan. All analysis results have been validated or qualified according to general guidance provided in the Department of Defense (DOD) Quality Systems Manual - Version 3 Final March 2005 (based on NELAC Voted Version – 5 June 2003).

The findings of this quality assurance report are based upon the comprehensive review of the following results summaries reported according to the AGVIQ-CH2M HILL Level C (CLP-like data deliverables format): chain of custody documentation, holding times, laboratory method and field blank analyses, matrix spike compound recoveries and reproducibility, initial and continuing calibration, second source recovery and internal standard area performance summaries, target compound identification, laboratory control sample results, laboratory and blind field duplicate sample results, detection limits/sensitivity, and electronic data deliverables.

The analyses were performed acceptably. Any aspects of the data, which are not discussed in this report, should be considered qualitatively and quantitatively valid as reported, based on the deliverables reviewed. A result summary report presenting the validated and qualified results is presented in Attachment I.

General Data Qualifiers

As required by U.S. EPA protocols, all compounds which were qualitatively identified at concentrations below their respective reporting limits (RL) but above the method detection limit (MDL) have been qualified with "J" qualifiers on the data summary reports to indicate that they are quantitative estimates.

GROUNDWATER CLEANUP TARGET ACTION LEVEL REGULARTORY LIMITS

All samples collected and analyzed for the month of November 2010 for volatile organic compounds (VOC) were less than the action level groundwater cleanup target level regulatory limits with the exception of the samples listed below:

Analyte (VOC List)	Affected Sample	Sample Results (ug/l)	Groundwater Cleanup Target Levels (ug/l)
Tetrachloroethene	JM26-SB-02-W-111610	38.9	3
Tetrachloroethene	JM26-SB-03-W-111610	40.7	3
Tetrachloroethene	JM26-SB-05-W-111610	7.7	3
Trichloroethene	JM26-SB-02-W-111610	26.5	3
Trichloroethene	JM26-SB-03-W-111610	28.6	3
Trichloroethene	JM26-SB-05-W-111610	8.1	3

Organic Data Qualifiers

The quantitation limits and/or positive results reported for volatile organic compound acetone in the samples listed below should be considered quantitative estimates. High percent differences during the continuing calibrations were reported during the volatile organic analysis. Lack of precision during the continuing calibration indicates instrument instability; therefore a "J" qualifier was appended to the samples listed below to indicate that the reported values are quantitative estimates.

Compound	Affected Samples
Acetone	JM26-SB-01-W-111610, JM26-SB-02-W-111610, JM26-FD-111610, JM26-SB-03-W-111610, JM26-SB-04-W-111610, JM26-SB-05-W-111610, and JM26-SB-06-W-111610

The positive results for acetone, carbon disulfide, cis-1,2-dichloroethene, and toluene for the samples listed below are considered estimated due to the level at which the analytes were present in the associated equipment blank and/or method blank. This has been indicated by placing a "JB" qualifier next to the reported results associated with the equipment blank contamination or a "B" qualifier next to the reported results associated with the method blank contamination for the results listed on the data summary table for these samples.

Analyte	Affected Samples
Acetone	JM26-SB-03-W-111610
Carbon Disulfide	JM26-SB-03-W-111610 and JM26-SB-06-W-111610
Cis-1,2-Dichloroethene	JM26-SB-03-W-111610 and JM26-SB-06-W-111610
Toluene	JM26-SB-01-W-111610, JM26-FD-111610, JM26-SB-03-W-111610, JM26-SB-04-W-111610, and JM26-SB-05-W-111610

Sample JM26-SB-01-W-111610 and its blind field duplicate sample JM26-FD-111610 were submitted to the laboratory to evaluate sampling and analytical precision for those compounds determined to be confidently detected. All compounds met AGVIQ-CH2M HILL's blind duplicate precision criteria of 30% relative percent difference (RPD) for the volatile organic compounds analysis with the exception of cis-1,2-dichloroethene. A "J" qualifier was appended to results for this compound in the native sample and field duplicate sample to indicate that the reported values should be considered quantitative estimates due to the field duplicate RPD exceedance.

Compound	Affected Samples
Cis-1,2-Dichloroethene	JM26-SB-01-W-111610 and JM26-FD-111610

Summary

The organic analyses were performed acceptably, but required qualifying statements. This analytical quality assurance report has identified the aspects of the data, which required qualification. These qualifiers are noted on the attached analytical sample summary reports. A support documentation package has been prepared for this quality assurance review and is filed with the NAS Key West JM-26/Saratoga Avenue Manhole 31 2nd event 2010 project file.

Attachment I

VALID QUALIFIERS

QUALIFIER	
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit
J	The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there was presumptive evidence to make a "tentative identification."
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R/UR	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet the quality control criteria. The presence or absence of the analyte cannot be verified.
B	The analyte was detected in the associated method and/or calibration blank.
JB	The analyte detected in the associated field, equipment, and/or trip blank.

QUALIFICATION CODE REFERENCE

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect.
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
K	Calibration %D was noncompliant for the second source verification.	Correlation coefficient is <0.995 for the second source verification.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
MB	Presumed contamination from preparation (method) blank.	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or high RPD.	MS/MSD recovery was poor or high RPD.
G	Result is over the calibration range. No other acceptable result was provided.	Result is over the calibration range. Not other acceptable result was provided.
E	Not applicable.	Lab duplicate RPD showed poor agreement.
Z	Field duplicate RPD showed poor agreement.	Field duplicate RPD showed poor agreement
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D was not within control limits.
TN	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination from trip blank.	Not applicable.
+	False positive—reported compound was not present.	Not applicable.
-	False negative—compound was present but not reported.	Not applicable.
F	Presumed contamination from FB or EB.	Presumed contamination from FB or ER.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.
D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Confirmation analysis RPD exceeded 40%.	Post Digestion Spike recovery was not within control limits.
T/D	Not applicable.	Total metals results were less than the dissolved metals result.
SD	Not applicable.	Seed correction factor was below the acceptable limit.
M	Results should be considered estimated due to matrix effects caused by saturation of target and/or non-target analytes.	Not applicable

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-SB-01-W-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132101 Lab File ID: 32101.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 1852

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: SB-01 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*	
75-71-8	Dichlorodifluoromethane	1.7	U	0.17	1.7	
74-87-3	Chloromethane	1.4	U	0.32	1.4	
75-01-4	Vinyl chloride	1	U	0.18	1	
74-83-9	Bromomethane	1.4	U	0.43	1.4	
75-00-3	Chloroethane	2.8	U	0.72	2.8	
75-69-4	Trichlorofluoromethane	1.4	U	0.12	1.4	
75-35-4	1,1-Dichloroethene	1.3	U	0.19	1.3	
75-15-0	Carbon disulfide	1.1	U	0.19	1.1	
75-09-2	Methylene chloride	2	U	0.66	2	
156-60-5	trans-1,2-Dichloroethene	0.35	J	0.33	1.2	
75-34-3	1,1-Dichloroethane	1.1	U	0.15	1.1	
67-64-1	Acetone	5	J	1.3	18	
156-59-2	cis-1,2-Dichloroethene	7.1	J	0.19	1.4	
74-97-5	Bromochloromethane	2.2	U	0.17	2.2	
78-93-3	2-Butanone	12	U	2	12	
67-66-3	Chloroform	1.4	U	0.16	1.4	
71-55-6	1,1,1-Trichloroethane	1.1	U	0.14	1.1	
56-23-5	Carbon tetrachloride	1.5	U	0.14	1.5	
71-43-2	Benzene	1	U	0.17	1	
107-06-2	1,2-Dichloroethane	1.3	U	0.15	1.3	
79-01-6	Trichloroethene	0.92	J	0.19	1.1	
78-87-5	1,2-Dichloropropane	1.6	U	0.15	1.6	
75-27-4	Bromodichloromethane	0.6	U	0.15	0.6	
10061-01-5	cis-1,3-Dichloropropene	0.5	U	0.12	0.5	
108-10-1	4-Methyl-2-pentanone	4	U	1	4	
108-88-3	Toluene	0.35	J	0.14	1	

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-SB-01-W-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132101 Lab File ID: 32101.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 1852

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: SB-01 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
10061-02-6	trans-1,3-Dichloropropene	1.2	U	0.3	1.2
79-00-5	1,1,2-Trichloroethane	1.7	U	0.2	1.7
127-18-4	Tetrachloroethylene	0.62	J	0.21	1.7
591-78-6	2-Hexanone	6	U	0.48	6
124-48-1	Dibromochloromethane	0.5	U	0.13	0.5
106-93-4	1,2-Dibromoethane(EDB)	1.5	U	0.11	1.5
108-90-7	Chlorobenzene	0.5	U	0.16	0.5
100-41-4	Ethylbenzene	1.3	U	0.22	1.3
100-42-5	Styrene	1.5	U	0.12	1.5
75-25-2	Bromoform	1.9	U	0.19	1.9
98-82-8	Isopropylbenzene (Cumene)	1	U	0.14	1
79-34-5	1,1,2,2-Tetrachloroethane	0.39	U	0.13	0.39
541-73-1	1,3-Dichlorobenzene	1	U	0.15	1
106-46-7	1,4-Dichlorobenzene	3	U	0.15	3
95-50-1	1,2-Dichlorobenzene	1.1	U	0.25	1.1
96-12-8	1,2-Dibromo-3-chloropropane	4.2	U	1	4.2
120-82-1	1,2,4-Trichlorobenzene	2.1	U	0.11	2.1
87-61-6	1,2,3-Trichlorobenzene	1.8	U	0.16	1.8
1330-20-7	Xylene (total)	3	U	0.5	3
1634-04-4	MTBE	1.5	U	0.5	1.5
76-13-1	1,1,2-Trichlorotrifluoroethane	1.4	U	0.23	1.4
108-87-2	Methyl Cyclohexane	1.9	U	0.27	1.9
79-20-9	Methyl Acetate	1.3	J	0.38	7.2
110-82-7	Cyclohexane	1.3	U	0.2	1.3

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-SB-02-W-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132102 Lab File ID: 32102.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 1916

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: SB-02 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
75-71-8	Dichlorodifluoromethane	1.7	U	0.17	1.7
74-87-3	Chloromethane	1.4	U	0.32	1.4
75-01-4	Vinyl chloride	1	U	0.18	1
74-83-9	Bromomethane	1.4	U	0.43	1.4
75-00-3	Chloroethane	2.8	U	0.72	2.8
75-69-4	Trichlorofluoromethane	1.4	U	0.12	1.4
75-35-4	1,1-Dichloroethene	0.2	J	0.19	1.3
75-15-0	Carbon disulfide	1.1	U	0.19	1.1
75-09-2	Methylene chloride	2	U	0.66	2
156-60-5	trans-1,2-Dichloroethene	1.4		0.33	1.2
75-34-3	1,1-Dichloroethane	1.1	U	0.15	1.1
67-64-1	Acetone	18	U3	1.3	18 C
156-59-2	cis-1,2-Dichloroethene	24.3		0.19	1.4
74-97-5	Bromochloromethane	2.2	U	0.17	2.2
78-93-3	2-Butanone	12	U	2	12
67-66-3	Chloroform	1.4	U	0.16	1.4
71-55-6	1,1,1-Trichloroethane	1.1	U	0.14	1.1
56-23-5	Carbon tetrachloride	1.5	U	0.14	1.5
71-43-2	Benzene	1	U	0.17	1
107-06-2	1,2-Dichloroethane	1.3	U	0.15	1.3
79-01-6	Trichloroethene	26.5		0.19	1.1
78-87-5	1,2-Dichloropropane	1.6	U	0.15	1.6
75-27-4	Bromodichloromethane	0.6	U	0.15	0.6
10061-01-5	cis-1,3-Dichloropropene	0.5	U	0.12	0.5
108-10-1	4-Methyl-2-pentanone	4	U	1	4
108-88-3	Toluene	1	U	0.14	1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-SB-02-W-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132102 Lab File ID: 32102.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 1916

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: SB-02 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
10061-02-6	trans-1,3-Dichloropropene	1.2	U	0.3	1.2
79-00-5	1,1,2-Trichloroethane	1.7	U	0.2	1.7
127-18-4	Tetrachloroethylene	38.9		0.21	1.7
591-78-6	2-Hexanone	6	U	0.48	6
124-48-1	Dibromochloromethane	0.5	U	0.13	0.5
106-93-4	1,2-Dibromoethane(EDB)	1.5	U	0.11	1.5
108-90-7	Chlorobenzene	0.5	U	0.16	0.5
100-41-4	Ethylbenzene	1.3	U	0.22	1.3
100-42-5	Styrene	1.5	U	0.12	1.5
75-25-2	Bromoform	1.9	U	0.19	1.9
98-82-8	Isopropylbenzene (Cumene)	1	U	0.14	1
79-34-5	1,1,2,2-Tetrachloroethane	0.39	U	0.13	0.39
541-73-1	1,3-Dichlorobenzene	1	U	0.15	1
106-46-7	1,4-Dichlorobenzene	3	U	0.15	3
95-50-1	1,2-Dichlorobenzene	1.1	U	0.25	1.1
96-12-8	1,2-Dibromo-3-chloropropane	4.2	U	1	4.2
120-82-1	1,2,4-Trichlorobenzene	2.1	U	0.11	2.1
87-61-6	1,2,3-Trichlorobenzene	1.8	U	0.16	1.8
1330-20-7	Xylene (total)	3	U	0.5	3
1634-04-4	MTBE	1.5	U	0.5	1.5
76-13-1	1,1,2-Trichlorotrifluoroethane	1.4	U	0.23	1.4
108-87-2	Methyl Cyclohexane	1.9	U	0.27	1.9
79-20-9	Methyl Acetate	7.2	U	0.38	7.2
110-82-7	Cyclohexane	1.3	U	0.2	1.3

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-EB-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132105 Lab File ID: 32105.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 1939

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Equiptment Blan Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
75-71-8	Dichlorodifluoromethane	1.7	U	0.17	1.7
74-87-3	Chloromethane	1.4	U	0.32	1.4
75-01-4	Vinyl chloride	1	U	0.18	1
74-83-9	Bromomethane	1.4	U	0.43	1.4
75-00-3	Chloroethane	2.8	U	0.72	2.8
75-69-4	Trichlorofluoromethane	1.4	U	0.12	1.4
75-35-4	1,1-Dichloroethene	1.3	U	0.19	1.3
75-15-0	Carbon disulfide	1.1	U	0.19	1.1
75-09-2	Methylene chloride	0.91	J	0.66	2
156-60-5	trans-1,2-Dichloroethene	1.2	U	0.33	1.2
75-34-3	1,1-Dichloroethane	1.1	U	0.15	1.1
67-64-1	Acetone	18	U	1.3	18
156-59-2	cis-1,2-Dichloroethene	1.4	U	0.19	1.4
74-97-5	Bromochloromethane	2.2	U	0.17	2.2
78-93-3	2-Butanone	12	U	2	12
67-66-3	Chloroform	1.4	U	0.16	1.4
71-55-6	1,1,1-Trichloroethane	1.1	U	0.14	1.1
56-23-5	Carbon tetrachloride	1.5	U	0.14	1.5
71-43-2	Benzene	1	U	0.17	1
107-06-2	1,2-Dichloroethane	1.3	U	0.15	1.3
79-01-6	Trichloroethene	1.1	U	0.19	1.1
78-87-5	1,2-Dichloropropane	1.6	U	0.15	1.6
75-27-4	Bromodichloromethane	0.6	U	0.15	0.6
10061-01-5	cis-1,3-Dichloropropene	0.5	U	0.12	0.5
108-10-1	4-Methyl-2-pentanone	4	U	1	4
108-88-3	Toluene	0.18	J	0.14	1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-EB-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132105 Lab File ID: 32105.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 1939

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Equiptment Blan Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
10061-02-6	trans-1,3-Dichloropropene	1.2	U	0.3	1.2
79-00-5	1,1,2-Trichloroethane	1.7	U	0.2	1.7
127-18-4	Tetrachloroethylene	1.7	U	0.21	1.7
591-78-6	2-Hexanone	6	U	0.48	6
124-48-1	Dibromochloromethane	0.5	U	0.13	0.5
106-93-4	1,2-Dibromoethane(EDB)	1.5	U	0.11	1.5
108-90-7	Chlorobenzene	0.5	U	0.16	0.5
100-41-4	Ethylbenzene	1.3	U	0.22	1.3
100-42-5	Styrene	1.5	U	0.12	1.5
75-25-2	Bromoform	1.9	U	0.19	1.9
98-82-8	Isopropylbenzene (Cumene)	1	U	0.14	1
79-34-5	1,1,2,2-Tetrachloroethane	0.39	U	0.13	0.39
541-73-1	1,3-Dichlorobenzene	1	U	0.15	1
106-46-7	1,4-Dichlorobenzene	3	U	0.15	3
95-50-1	1,2-Dichlorobenzene	1.1	U	0.25	1.1
96-12-8	1,2-Dibromo-3-chloropropane	4.2	U	1	4.2
120-82-1	1,2,4-Trichlorobenzene	2.1	U	0.11	2.1
87-61-6	1,2,3-Trichlorobenzene	1.8	U	0.16	1.8
1330-20-7	Xylene (total)	3	U	0.5	3
1634-04-4	MTBE	1.5	U	0.5	1.5
76-13-1	1,1,2-Trichlorotrifluoroethane	1.4	U	0.23	1.4
108-87-2	Methyl Cyclohexane	1.9	U	0.27	1.9
79-20-9	Methyl Acetate	7.2	U	0.38	7.2
110-82-7	Cyclohexane	1.3	U	0.2	1.3

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-FD-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132106 Lab File ID: 32106.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 2002

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Field Duplicate Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
75-71-8	Dichlorodifluoromethane	1.7	U	0.17	1.7
74-87-3	Chloromethane	1.4	U	0.32	1.4
75-01-4	Vinyl chloride	1	U	0.18	1
74-83-9	Bromomethane	1.4	U	0.43	1.4
75-00-3	Chloroethane	2.8	U	0.72	2.8
75-69-4	Trichlorofluoromethane	1.4	U	0.12	1.4
75-35-4	1,1-Dichloroethene	1.3	U	0.19	1.3
75-15-0	Carbon disulfide	1.1	U	0.19	1.1
75-09-2	Methylene chloride	2	U	0.66	2
156-60-5	trans-1,2-Dichloroethene	0.79	J	0.33	1.2
75-34-3	1,1-Dichloroethane	1.1	U	0.15	1.1
67-64-1	Acetone	4.2	J	1.3	18 C
156-59-2	cis-1,2-Dichloroethene	12.4	J	0.19	1.4 E
74-97-5	Bromochloromethane	2.2	U	0.17	2.2
78-93-3	2-Butanone	12	U	2	12
67-66-3	Chloroform	1.4	U	0.16	1.4
71-55-6	1,1,1-Trichloroethane	1.1	U	0.14	1.1
56-23-5	Carbon tetrachloride	1.5	U	0.14	1.5
71-43-2	Benzene	1	U	0.17	1
107-06-2	1,2-Dichloroethane	1.3	U	0.15	1.3
79-01-6	Trichloroethene	0.93	J	0.19	1.1
78-87-5	1,2-Dichloropropane	1.6	U	0.15	1.6
75-27-4	Bromodichloromethane	0.6	U	0.15	0.6
10061-01-5	cis-1,3-Dichloropropene	0.5	U	0.12	0.5
108-10-1	4-Methyl-2-pentanone	4	U	1	4
108-88-3	Toluene	0.37	J B	0.14	1 F

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Form I

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-FD-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132106 Lab File ID: 32106.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 2002

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Field Duplicate Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
10061-02-6	trans-1,3-Dichloropropene	1.2	U	0.3	1.2
79-00-5	1,1,2-Trichloroethane	1.7	U	0.2	1.7
127-18-4	Tetrachloroethylene	0.83	J	0.21	1.7
591-78-6	2-Hexanone	6	U	0.48	6
124-48-1	Dibromochloromethane	0.5	U	0.13	0.5
106-93-4	1,2-Dibromoethane(EDB)	1.5	U	0.11	1.5
108-90-7	Chlorobenzene	0.5	U	0.16	0.5
100-41-4	Ethylbenzene	1.3	U	0.22	1.3
100-42-5	Styrene	1.5	U	0.12	1.5
75-25-2	Bromoform	1.9	U	0.19	1.9
98-82-8	Isopropylbenzene (Cumene)	1	U	0.14	1
79-34-5	1,1,2,2-Tetrachloroethane	0.39	U	0.13	0.39
541-73-1	1,3-Dichlorobenzene	1	U	0.15	1
106-46-7	1,4-Dichlorobenzene	3	U	0.15	3
95-50-1	1,2-Dichlorobenzene	1.1	U	0.25	1.1
96-12-8	1,2-Dibromo-3-chloropropane	4.2	U	1	4.2
120-82-1	1,2,4-Trichlorobenzene	2.1	U	0.11	2.1
87-61-6	1,2,3-Trichlorobenzene	1.8	U	0.16	1.8
1330-20-7	Xylene (total)	3	U	0.5	3
1634-04-4	MTBE	1.5	U	0.5	1.5
76-13-1	1,1,2-Trichlorotrifluoroethane	1.4	U	0.23	1.4
108-87-2	Methyl Cyclohexane	1.9	U	0.27	1.9
79-20-9	Methyl Acetate	1.2	J	0.38	7.2
110-82-7	Cyclohexane	1.3	U	0.2	1.3

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-TB-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132107 Lab File ID: 32107.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 2025

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Trip Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
75-71-8	Dichlorodifluoromethane	1.7	U	0.17	1.7
74-87-3	Chloromethane	1.4	U	0.32	1.4
75-01-4	Vinyl chloride	1	U	0.18	1
74-83-9	Bromomethane	1.4	U	0.43	1.4
75-00-3	Chloroethane	2.8	U	0.72	2.8
75-69-4	Trichlorofluoromethane	1.4	U	0.12	1.4
75-35-4	1,1-Dichloroethene	1.3	U	0.19	1.3
75-15-0	Carbon disulfide	1.1	U	0.19	1.1
75-09-2	Methylene chloride	1.1	J	0.66	2
156-60-5	trans-1,2-Dichloroethene	1.2	U	0.33	1.2
75-34-3	1,1-Dichloroethane	1.1	U	0.15	1.1
67-64-1	Acetone	18	U	1.3	18
156-59-2	cis-1,2-Dichloroethene	1.4	U	0.19	1.4
74-97-5	Bromochloromethane	2.2	U	0.17	2.2
78-93-3	2-Butanone	12	U	2	12
67-66-3	Chloroform	1.4	U	0.16	1.4
71-55-6	1,1,1-Trichloroethane	1.1	U	0.14	1.1
56-23-5	Carbon tetrachloride	1.5	U	0.14	1.5
71-43-2	Benzene	1	U	0.17	1
107-06-2	1,2-Dichloroethane	1.3	U	0.15	1.3
79-01-6	Trichloroethene	1.1	U	0.19	1.1
78-87-5	1,2-Dichloropropane	1.6	U	0.15	1.6
75-27-4	Bromodichloromethane	0.6	U	0.15	0.6
10061-01-5	cis-1,3-Dichloropropene	0.5	U	0.12	0.5
108-10-1	4-Methyl-2-pentanone	4	U	1	4
108-88-3	Toluene	1	U	0.14	1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-TB-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132107 Lab File ID: 32107.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 2025

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Trip Blank Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
10061-02-6	trans-1,3-Dichloropropene	1.2	U	0.3	1.2
79-00-5	1,1,2-Trichloroethane	1.7	U	0.2	1.7
127-18-4	Tetrachloroethylene	1.7	U	0.21	1.7
591-78-6	2-Hexanone	6	U	0.48	6
124-48-1	Dibromochloromethane	0.5	U	0.13	0.5
106-93-4	1,2-Dibromoethane(EDB)	1.5	U	0.11	1.5
108-90-7	Chlorobenzene	0.5	U	0.16	0.5
100-41-4	Ethylbenzene	1.3	U	0.22	1.3
100-42-5	Styrene	1.5	U	0.12	1.5
75-25-2	Bromoform	1.9	U	0.19	1.9
98-82-8	Isopropylbenzene (Cumene)	1	U	0.14	1
79-34-5	1,1,2,2-Tetrachloroethane	0.39	U	0.13	0.39
541-73-1	1,3-Dichlorobenzene	1	U	0.15	1
106-46-7	1,4-Dichlorobenzene	3	U	0.15	3
95-50-1	1,2-Dichlorobenzene	1.1	U	0.25	1.1
96-12-8	1,2-Dibromo-3-chloropropane	4.2	U	1	4.2
120-82-1	1,2,4-Trichlorobenzene	2.1	U	0.11	2.1
87-61-6	1,2,3-Trichlorobenzene	1.8	U	0.16	1.8
1330-20-7	Xylene (total)	3	U	0.5	3
1634-04-4	MTBE	1.5	U	0.5	1.5
76-13-1	1,1,2-Trichlorotrifluoroethane	1.4	U	0.23	1.4
108-87-2	Methyl Cyclohexane	1.9	U	0.27	1.9
79-20-9	Methyl Acetate	7.2	U	0.38	7.2
110-82-7	Cyclohexane	1.3	U	0.2	1.3

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-SB-03-W-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132108 Lab File ID: 32108.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 0928

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: SB-03 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*	
75-71-8	Dichlorodifluoromethane	1.7	U	0.17	1.7	
74-87-3	Chloromethane	1.4	U	0.32	1.4	
75-01-4	Vinyl chloride	1	U	0.18	1	
74-83-9	Bromomethane	1.4	U	0.43	1.4	
75-00-3	Chloroethane	2.8	U	0.72	2.8	
75-69-4	Trichlorofluoromethane	1.4	U	0.12	1.4	
75-35-4	1,1-Dichloroethene	0.28	J	0.19	1.3	
75-15-0	Carbon disulfide	0.4	J B	0.19	1.1	mB
75-09-2	Methylene chloride	2	U	0.66	2	
156-60-5	trans-1,2-Dichloroethene	1.9		0.33	1.2	
75-34-3	1,1-Dichloroethane	1.1	U	0.15	1.1	
67-64-1	Acetone	5.3	J B	1.3	18	C, mB
156-59-2	cis-1,2-Dichloroethene	32.3	B	0.19	1.4	mB
74-97-5	Bromochloromethane	2.2	U	0.17	2.2	
78-93-3	2-Butanone	12	U	2	12	
67-66-3	Chloroform	1.4	U	0.16	1.4	
71-55-6	1,1,1-Trichloroethane	1.1	U	0.14	1.1	
56-23-5	Carbon tetrachloride	1.5	U	0.14	1.5	
71-43-2	Benzene	1	U	0.17	1	
107-06-2	1,2-Dichloroethane	1.3	U	0.15	1.3	
79-01-6	Trichloroethene	28.6		0.19	1.1	
78-87-5	1,2-Dichloropropane	1.6	U	0.15	1.6	
75-27-4	Bromodichloromethane	0.6	U	0.15	0.6	
10061-01-5	cis-1,3-Dichloropropene	0.5	U	0.12	0.5	
108-10-1	4-Methyl-2-pentanone	4	U	1	4	
108-88-3	Toluene	0.25	J B	0.14	1	F

Form I

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-SB-03-W-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132108 Lab File ID: 32108.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 0928

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: SB-03 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
10061-02-6	trans-1,3-Dichloropropene	1.2	U	0.3	1.2
79-00-5	1,1,2-Trichloroethane	1.7	U	0.2	1.7
127-18-4	Tetrachloroethylene	40.7		0.21	1.7
591-78-6	2-Hexanone	6	U	0.48	6
124-48-1	Dibromochloromethane	0.5	U	0.13	0.5
106-93-4	1,2-Dibromoethane(EDB)	1.5	U	0.11	1.5
108-90-7	Chlorobenzene	0.5	U	0.16	0.5
100-41-4	Ethylbenzene	1.3	U	0.22	1.3
100-42-5	Styrene	1.5	U	0.12	1.5
75-25-2	Bromoform	1.9	U	0.19	1.9
98-82-8	Isopropylbenzene (Cumene)	1	U	0.14	1
79-34-5	1,1,2,2-Tetrachloroethane	0.39	U	0.13	0.39
541-73-1	1,3-Dichlorobenzene	1	U	0.15	1
106-46-7	1,4-Dichlorobenzene	3	U	0.15	3
95-50-1	1,2-Dichlorobenzene	1.1	U	0.25	1.1
96-12-8	1,2-Dibromo-3-chloropropane	4.2	U	1	4.2
120-82-1	1,2,4-Trichlorobenzene	2.1	U	0.11	2.1
87-61-6	1,2,3-Trichlorobenzene	1.8	U	0.16	1.8
1330-20-7	Xylene (total)	3	U	0.5	3
1634-04-4	MTBE	1.5	U	0.5	1.5
76-13-1	1,1,2-Trichlorotrifluoroethane	1.4	U	0.23	1.4
108-87-2	Methyl Cyclohexane	1.9	U	0.27	1.9
79-20-9	Methyl Acetate	1.8	J	0.38	7.2
110-82-7	Cyclohexane	1.3	U	0.2	1.3

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-SB-04-W-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132109 Lab File ID: 32109.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 1806

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: SB-04 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
75-71-8	Dichlorodifluoromethane	1.7	U	0.17	1.7
74-87-3	Chloromethane	1.4	U	0.32	1.4
75-01-4	Vinyl chloride	1	U	0.18	1
74-83-9	Bromomethane	1.4	U	0.43	1.4
75-00-3	Chloroethane	2.8	U	0.72	2.8
75-69-4	Trichlorofluoromethane	1.4	U	0.12	1.4
75-35-4	1,1-Dichloroethene	1.3	U	0.19	1.3
75-15-0	Carbon disulfide	1.1	U	0.19	1.1
75-09-2	Methylene chloride	2	U	0.66	2
156-60-5	trans-1,2-Dichloroethene	19.8		0.33	1.2
75-34-3	1,1-Dichloroethane	1.1	U	0.15	1.1
67-64-1	Acetone	4.5	J	1.3	18
156-59-2	cis-1,2-Dichloroethene	64.6		0.19	1.4
74-97-5	Bromochloromethane	2.2	U	0.17	2.2
78-93-3	2-Butanone	12	U	2	12
67-66-3	Chloroform	1.4	U	0.16	1.4
71-55-6	1,1,1-Trichloroethane	1.1	U	0.14	1.1
56-23-5	Carbon tetrachloride	1.5	U	0.14	1.5
71-43-2	Benzene	0.18	J	0.17	1
107-06-2	1,2-Dichloroethane	1.3	U	0.15	1.3
79-01-6	Trichloroethene	2		0.19	1.1
78-87-5	1,2-Dichloropropane	1.6	U	0.15	1.6
75-27-4	Bromodichloromethane	0.6	U	0.15	0.6
10061-01-5	cis-1,3-Dichloropropene	0.5	U	0.12	0.5
108-10-1	4-Methyl-2-pentanone	4	U	1	4
108-88-3	Toluene	0.26	J B	0.14	1

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Form I

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-SB-04-W-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132109 Lab File ID: 32109.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 1806

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: SB-04 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
10061-02-6	trans-1,3-Dichloropropene	1.2	U	0.3	1.2
79-00-5	1,1,2-Trichloroethane	1.7	U	0.2	1.7
127-18-4	Tetrachloroethylene	0.52	J	0.21	1.7
591-78-6	2-Hexanone	6	U	0.48	6
124-48-1	Dibromochloromethane	0.5	U	0.13	0.5
106-93-4	1,2-Dibromoethane(EDB)	1.5	U	0.11	1.5
108-90-7	Chlorobenzene	0.5	U	0.16	0.5
100-41-4	Ethylbenzene	1.3	U	0.22	1.3
100-42-5	Styrene	1.5	U	0.12	1.5
75-25-2	Bromoform	1.9	U	0.19	1.9
98-82-8	Isopropylbenzene (Cumene)	1	U	0.14	1
79-34-5	1,1,2,2-Tetrachloroethane	0.39	U	0.13	0.39
541-73-1	1,3-Dichlorobenzene	1	U	0.15	1
106-46-7	1,4-Dichlorobenzene	3	U	0.15	3
95-50-1	1,2-Dichlorobenzene	1.1	U	0.25	1.1
96-12-8	1,2-Dibromo-3-chloropropane	4.2	U	1	4.2
120-82-1	1,2,4-Trichlorobenzene	2.1	U	0.11	2.1
87-61-6	1,2,3-Trichlorobenzene	1.8	U	0.16	1.8
1330-20-7	Xylene (total)	3	U	0.5	3
1634-04-4	MTBE	1.5	U	0.5	1.5
76-13-1	1,1,2-Trichlorotrifluoroethane	1.4	U	0.23	1.4
108-87-2	Methyl Cyclohexane	1.9	U	0.27	1.9
79-20-9	Methyl Acetate	1.3	J	0.38	7.2
110-82-7	Cyclohexane	1.3	U	0.2	1.3

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-SB-05-W-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix; WATER Lab Sample ID: 350132110 Lab File ID: 32110.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 2048

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: SB-05 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
75-71-8	Dichlorodifluoromethane	1.7	U	0.17	1.7
74-87-3	Chloromethane	1.4	U	0.32	1.4
75-01-4	Vinyl chloride	1	U	0.18	1
74-83-9	Bromomethane	1.4	U	0.43	1.4
75-00-3	Chloroethane	2.8	U	0.72	2.8
75-69-4	Trichlorofluoromethane	1.4	U	0.12	1.4
75-35-4	1,1-Dichloroethene	1.3	U	0.19	1.3
75-15-0	Carbon disulfide	1.1	U	0.19	1.1
75-09-2	Methylene chloride	2	U	0.66	2
156-60-5	trans-1,2-Dichloroethene	1.2	U	0.33	1.2
75-34-3	1,1-Dichloroethane	1.1	U	0.15	1.1
67-64-1	Acetone	9.7	J	1.3	18 C
156-59-2	cis-1,2-Dichloroethene	8.6		0.19	1.4
74-97-5	Bromochloromethane	2.2	U	0.17	2.2
78-93-3	2-Butanone	2.8	J	2	12
67-66-3	Chloroform	1.4	U	0.16	1.4
71-55-6	1,1,1-Trichloroethane	1.1	U	0.14	1.1
56-23-5	Carbon tetrachloride	1.5	U	0.14	1.5
71-43-2	Benzene	0.32	J	0.17	1
107-06-2	1,2-Dichloroethane	1.3	U	0.15	1.3
79-01-6	Trichloroethene	8.1		0.19	1.1
78-87-5	1,2-Dichloropropane	1.6	U	0.15	1.6
75-27-4	Bromodichloromethane	0.6	U	0.15	0.6
10061-01-5	cis-1,3-Dichloropropene	0.5	U	0.12	0.5
108-10-1	4-Methyl-2-pentanone	4	U	1	4
108-88-3	Toluene	0.39	J B	0.14	1 F

Form I

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-SB-05-W-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132110 Lab File ID: 32110.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 2048

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: SB-05 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
10061-02-6	trans-1,3-Dichloropropene	1.2	U	0.3	1.2
79-00-5	1,1,2-Trichloroethane	1.7	U	0.2	1.7
127-18-4	Tetrachloroethylene	7.7		0.21	1.7
591-78-6	2-Hexanone	6	U	0.48	6
124-48-1	Dibromochloromethane	0.5	U	0.13	0.5
106-93-4	1,2-Dibromoethane(EDB)	1.5	U	0.11	1.5
108-90-7	Chlorobenzene	0.5	U	0.16	0.5
100-41-4	Ethylbenzene	1.3	U	0.22	1.3
100-42-5	Styrene	1.5	U	0.12	1.5
75-25-2	Bromoform	1.9	U	0.19	1.9
98-82-8	Isopropylbenzene (Cumene)	1	U	0.14	1
79-34-5	1,1,2,2-Tetrachloroethane	0.39	U	0.13	0.39
541-73-1	1,3-Dichlorobenzene	1	U	0.15	1
106-46-7	1,4-Dichlorobenzene	3	U	0.15	3
95-50-1	1,2-Dichlorobenzene	1.1	U	0.25	1.1
96-12-8	1,2-Dibromo-3-chloropropane	4.2	U	1	4.2
120-82-1	1,2,4-Trichlorobenzene	2.1	U	0.11	2.1
87-61-6	1,2,3-Trichlorobenzene	1.8	U	0.16	1.8
1330-20-7	Xylene (total)	3	U	0.5	3
1634-04-4	MTBE	1.5	U	0.5	1.5
76-13-1	1,1,2-Trichlorotrifluoroethane	1.4	U	0.23	1.4
108-87-2	Methyl Cyclohexane	1.9	U	0.27	1.9
79-20-9	Methyl Acetate	3.3	J	0.38	7.2
110-82-7	Cyclohexane	1.3	U	0.2	1.3

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-SB-06-W-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132111 Lab File ID: 32111.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 0904

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: SB-06 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
75-71-8	Dichlorodifluoromethane	1.7	U	0.17	1.7
74-87-3	Chloromethane	1.4	U	0.32	1.4
75-01-4	Vinyl chloride	1	U	0.18	1
74-83-9	Bromomethane	1.4	U	0.43	1.4
75-00-3	Chloroethane	2.8	U	0.72	2.8
75-69-4	Trichlorofluoromethane	1.4	U	0.12	1.4
75-35-4	1,1-Dichloroethene	1.3	U	0.19	1.3
75-15-0	Carbon disulfide	0.45	J B	0.19	1.1 mB
75-09-2	Methylene chloride	2	U	0.66	2
156-60-5	trans-1,2-Dichloroethene	1.2	U	0.33	1.2
75-34-3	1,1-Dichloroethane	1.1	U	0.15	1.1
67-64-1	Acetone	18	U J	1.3	18 C
156-59-2	cis-1,2-Dichloroethene	0.36	J B	0.19	1.4 mB
74-97-5	Bromochloromethane	2.2	U	0.17	2.2
78-93-3	2-Butanone	12	U	2	12
67-66-3	Chloroform	1.4	U	0.16	1.4
71-55-6	1,1,1-Trichloroethane	1.1	U	0.14	1.1
56-23-5	Carbon tetrachloride	1.5	U	0.14	1.5
71-43-2	Benzene	1	U	0.17	1
107-06-2	1,2-Dichloroethane	1.3	U	0.15	1.3
79-01-6	Trichloroethene	0.21	J	0.19	1.1
78-87-5	1,2-Dichloropropane	1.6	U	0.15	1.6
75-27-4	Bromodichloromethane	0.6	U	0.15	0.6
10061-01-5	cis-1,3-Dichloropropene	0.5	U	0.12	0.5
108-10-1	4-Methyl-2-pentanone	4	U	1	4
108-88-3	Toluene	1	U	0.14	1

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Form I

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM26-SB-06-W-111610

Lab Name: PEL, Spectrum Analytical, Inc Contract: Saratoga Avenue, Manhole / J

Lab Code : PEL Case No. SAS No: SDG No.: 3501321

Matrix: WATER Lab Sample ID: 350132111 Lab File ID: 32111.D

Sample wt/vol: 5 Units: ML Date Received: 11/17/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 11/23/10 Time: 0904

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: SB-06 Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
10061-02-6	trans-1,3-Dichloropropene	1.2	U	0.3	1.2
79-00-5	1,1,2-Trichloroethane	1.7	U	0.2	1.7
127-18-4	Tetrachloroethylene	1.7	U	0.21	1.7
591-78-6	2-Hexanone	6	U	0.48	6
124-48-1	Dibromochloromethane	0.5	U	0.13	0.5
106-93-4	1,2-Dibromoethane(EDB)	1.5	U	0.11	1.5
108-90-7	Chlorobenzene	0.5	U	0.16	0.5
100-41-4	Ethylbenzene	1.3	U	0.22	1.3
100-42-5	Styrene	1.5	U	0.12	1.5
75-25-2	Bromoform	1.9	U	0.19	1.9
98-82-8	Isopropylbenzene (Cumene)	1	U	0.14	1
79-34-5	1,1,2,2-Tetrachloroethane	0.39	U	0.13	0.39
541-73-1	1,3-Dichlorobenzene	1	U	0.15	1
106-46-7	1,4-Dichlorobenzene	3	U	0.15	3
95-50-1	1,2-Dichlorobenzene	1.1	U	0.25	1.1
96-12-8	1,2-Dibromo-3-chloropropane	4.2	U	1	4.2
120-82-1	1,2,4-Trichlorobenzene	2.1	U	0.11	2.1
87-61-6	1,2,3-Trichlorobenzene	1.8	U	0.16	1.8
1330-20-7	Xylene (total)	3	U	0.5	3
1634-04-4	MTBE	1.5	U	0.5	1.5
76-13-1	1,1,2-Trichlorotrifluoroethane	1.4	U	0.23	1.4
108-87-2	Methyl Cyclohexane	1.9	U	0.27	1.9
79-20-9	Methyl Acetate	7.2	U	0.38	7.2
110-82-7	Cyclohexane	1.3	U	0.2	1.3

AGVIQ CH2M HILL

1000 Abernathy Road, Suite 1600
Atlanta, GA 30328

Tel No: (770) 604-9182
Fax No: (770) 604-9183

CHAIN-OF-CUSTODY RECORD

3501321 08

COC NUMBER: 404625-111610-01

PROJECT NAME: 03-11-17-10	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
~~Saratoga~~ Avenue, Manhole 31 Saratoga	404625	PEL - Spectrum Analytical, Inc. Darcy Weisman	Kama White / CH2M HILL kwhite@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4060 fax 770-604-9183 phone
PROJECT PHASE/SITE-TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.):
Manhole 31	JM-26	813811	Amy Twitty/CH2M HILL	1766 Sea Lark Lane, Navarre FL 32566-7472 850.939.8300/334.273.7515
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO.	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.):
Amy Twitty	850-232-0320	813-888-9507 ext.3 / Fax: 813-476-2481 413-789-9018 / Fax: 413-789-4076	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-579-8176 fax 678-530-4124 phone

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on SOP)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on SOP)	TAT (calendar days)	Bottle Type / Number of Containers	TCL VOCs - 8260B								SAMPLE TYPE (see codes on SOP)	COMMENTS/ SCREENING READINGS	LAB ID (for lab's use)
1	JM26-SB-01-W-111610	SB-01	W	11/16/10	930	C/IV	14	3	X								N		-01
2	JM26-SB-02-W-111610	SB-02	W	11/16/10	1000	C/IV	14	9	X								N	Includes MS/MSD	-02-03-04
3	JM26-EB-111610	Equipment Blank	W	11/16/10	1630	C/IV	14	3	X								EB		-05
4	JM26-FD-111610	Field Duplicate	W	11/16/10	—	C/IV	14	3	X								FD		-06
5	JM26-TB-111610	Trip Blank	W	11/16/10	—	C/IV	14	~~3~~ 2	X								TB		-07
6	JM26-SB-03-W-111610	SB-03	W	11/16/10	1315	C/IV	14	3	X								N		-08
7	JM26-SB-04-W-111610	SB-04	W	11/16/10	1055	C/IV	14	3	X								N	Extract and HOLD!	-09
8	JM26-SB-05-W-111610	SB-05	W	11/16/10	1350	C/IV	14	3	X								N	Extract and HOLD!	-10
9	JM26-SB-06-W-111610	SB-06	W	11/16/10	1440	C/IV	14	3	X								N	Extract and HOLD!	-11
10																			

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use):
Nikki Monroe / CH2M HILL Anika Muskawski / CH2M Hill	PH<2 8260 except samples 05 and 11 PH>2 8260 samples 05 and 11	temp = 1.6C

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Anika Muskawski / Anika Muskawski	11/16/10	1715	Printed Name and Signature:		
Printed Name and Signature:			Federal Express Tracking Number(s):		
			Printed Name and Signature:		
			[illegible]	11-17-10	855
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC2001, Rev 06.01

3501321

ATTACHMENT D

Waste Characterization Results

TABLE D-1
Liquid Waste Characterization
Site 27, Saratoga Avenue Manhole 31
NAS Key West, Key West Florida

Location			IDW-051210	IDW-051810
Sample ID			JM-26-IDW-051210	JM-26-IDW-051810
Sample Depth (ft)			0 - 0	0 - 0
Sample Date			5/12/2010	5/18/2010
Analyte	**Units**	**TCLP SL**		
E150.1 (PH)				
pH	PH	--	**7.32**	NA
SW1010 (F)				
Ignitability	F	--	140 U	NA
SW6010B (MG/L)				
Arsenic	MG/L	5	**0.00963 J**	NA
Barium	MG/L	100	**0.0146**	NA
Cadmium	MG/L	1	**0.00178 J**	NA
Chromium	MG/L	5	**0.00166 J**	NA
Lead	MG/L	5	0.0111 U	NA
Selenium	MG/L	1	0.0615 U	NA
Silver	MG/L	5	0.01 U	NA
SW7470A (MG/L)				
Mercury	MG/L	0.2	0.0002 U	NA
SW8081A (MG/L)				
4,4'-DDD	MG/L	--	0.000051 U	NA
4,4'-DDE	MG/L	--	0.000051 U	NA
4,4'-DDT	MG/L	--	0.000051 U	NA
Aldrin	MG/L	--	0.000051 U	NA
alpha-BHC	MG/L	--	0.00001 U	NA
alpha-Chlordane	MG/L	--	0.000051 U	NA
beta-BHC	MG/L	--	0.000051 U	NA
Chlordane	MG/L	0.03	0.00051 U	NA
delta-BHC	MG/L	--	0.000051 U	NA
Dieldrin	MG/L	--	0.000051 U	NA
Endosulfan I	MG/L	--	0.000051 U	NA
Endosulfan II	MG/L	--	0.000051 U	NA
Endosulfan sulfate	MG/L	--	0.000051 U	NA
Endrin	MG/L	0.02	0.000051 U	NA
Endrin aldehyde	MG/L	--	0.000051 U	NA
Endrin ketone	MG/L	--	0.0001 U	NA
gamma-BHC (Lindane)	MG/L	0.4	0.000051 U	NA
Heptachlor	MG/L	0.008	0.000051 U	NA
Heptachlor epoxide	MG/L	0.008	0.000051 U	NA
Methoxychlor	MG/L	10	0.000051 U	NA
Toxaphene	MG/L	0.5	0.00055 U	NA
SW8082 (MG/L)				
Aroclor-1016	MG/L	--	0.0011 U	NA
Aroclor-1221	MG/L	--	0.002 U	NA
Aroclor-1232	MG/L	--	0.001 U	NA
Aroclor-1242	MG/L	--	0.001 U	NA
Aroclor-1248	MG/L	--	0.001 U	NA
Aroclor-1254	MG/L	--	0.001 U	NA
Aroclor-1260	MG/L	--	0.001 U	NA

TABLE D-1
Liquid Waste Characterization
Site 27, Saratoga Avenue Manhole 31
NAS Key West, Key West Florida

SW81S1A (MG/L)				
2,4,5-T	MG/L	--	0.00051 U	NA
2,4,5-TP (Silvex)	MG/L	1	0.00051 U	NA
2,4'-D	MG/L	10	0.00051 U	NA
2,4-DB	MG/L	--	0.00092 U	NA
Dalapon	MG/L	--	0.0011 U	NA
Dicamba	MG/L	--	0.00051 U	NA
Dichloroprop	MG/L	--	0.00055 U	NA
Dinoseb	MG/L	--	0.00051 U	NA
MCPA	MG/L	--	0.055 U	NA
MCPP	MG/L	--	0.12 U	NA
SW8260B (MG/L)				
1,1,1-Trichloroethane	MG/L	--	NA	0.00108 U
1,1,2,2-Tetrachloroethane	MG/L	--	NA	0.0015 U
1,1,2-Trichloroethane	MG/L	--	NA	0.00171 U
1,1,2-Trichlorotrifluoroethane	MG/L	--	NA	0.00237 U
1,1-Dichloroethane	MG/L	--	NA	0.00108 U
1,1-Dichloroethene	MG/L	0.7	NA	0.00132 U
1,2,3-Trichlorobenzene	MG/L	--	NA	0.00183 U
1,2,4-Trichlorobenzene	MG/L	--	NA	0.00207 U
1,2-Dibromo-3-chloropropane	MG/L	--	NA	0.0042 U
1,2-Dibromoethane(EDB)	MG/L	--	NA	0.00147 U
1,2-Dichlorobenzene	MG/L	--	NA	0.00114 U
1,2-Dichloroethane	MG/L	0.5	NA	0.00132 U
1,2-Dichloropropane	MG/L	--	NA	0.00159 U
1,3-Dichlorobenzene	MG/L	--	NA	0.00105 U
1,4-Dichlorobenzene	MG/L	7.5	NA	0.003 U
2-Butanone	MG/L	200	NA	0.01 U
2-Hexanone	MG/L	--	NA	0.006 U
4-Methyl-2-pentanone	MG/L	--	NA	0.004 U
Acetone	MG/L	--	NA	**0.004 B**
Benzene	MG/L	0.5	NA	0.00051 U
Bromochloromethane	MG/L	--	NA	0.00222 U
Bromodichloromethane	MG/L	--	NA	0.00132 U
Bromoform	MG/L	--	NA	0.00186 U
Bromomethane	MG/L	--	NA	0.00228 U
Carbon disulfide	MG/L	--	NA	**0.00036 B**
Carbon tetrachloride	MG/L	0.5	NA	0.00153 U
Chlorobenzene	MG/L	100	NA	0.0005 U
Chloroethane	MG/L	--	NA	0.00297 U
Chloroform	MG/L	6	NA	0.00141 U
Chloromethane	MG/L	--	NA	0.00204 U
cis-1,2-Dichloroethene	MG/L	--	NA	**0.042**
cis-1,3-Dichloropropene	MG/L	--	NA	0.0005 U
Cyclohexane	MG/L	--	NA	0.00126 U
Dibromochloromethane	MG/L	--	NA	0.00102 U
Dichlorodifluoromethane	MG/L	--	NA	0.00168 U
Ethylbenzene	MG/L	--	NA	0.00129 U
Isopropylbenzene (Cumene)	MG/L	--	NA	0.00123 U
Methyl Acetate	MG/L	--	NA	**0.001 J**

TABLE D-1
Liquid Waste Characterization
Site 27, Saratoga Avenue Manhole 31
NAS Key West, Key West Florida

Methyl Cyclohexane	MG/L	--	NA	0.00192 U
Methylene chloride	MG/L	--	NA	0.00198 U
MTBE	MG/L	--	NA	0.00153 U
Styrene	MG/L	--	NA	0.0015 U
Tetrachloroethene	MG/L	0.7	NA	**0.0012 J**
Toluene	MG/L	--	NA	**0.00018 J**
trans-1,2-Dichloroethene	MG/L	--	NA	**0.0029**
trans-1,3-Dichloropropene	MG/L	--	NA	0.00117 U
Trichloroethene	MG/L	0.5	NA	**0.00091 J**
Trichlorofluoromethane	MG/L	--	NA	0.00144 U
Vinyl chloride	MG/L	0.2	NA	**0.00035 J**
Xylene (total)	MG/L	--	NA	0.003 U
SW8270C (MG/L)				
1,2,4-Trichlorobenzene	MG/L	--	0.008 U	NA
1,2-Dichlorobenzene	MG/L	--	0.008 U	NA
1,3-Dichlorobenzene	MG/L	--	0.0083 U	NA
1,4-Dichlorobenzene	MG/L	7.5	0.0083 U	NA
2,2-Oxybis(1-chloropropane)	MG/L	--	0.01 U	NA
2,4,5-Trichlorophenol	MG/L	400	0.01 U	NA
2,4,6-Trichlorophenol	MG/L	2	0.01 U	NA
2,4-Dichlorophenol	MG/L	--	0.0095 U	NA
2,4-Dimethylphenol	MG/L	--	0.0071 U	NA
2,4-Dinitrophenol	MG/L	--	0.02 U	NA
2,4-Dinitrotoluene	MG/L	0.13	0.0086 U	NA
2,6-Dinitrotoluene	MG/L	--	0.0086 U	NA
2-Chloronaphthalene	MG/L	--	0.0086 U	NA
2-Chlorophenol	MG/L	--	0.0089 U	NA
2-Methyl-4,6-dinitrophenol	MG/L	--	0.012 U	NA
2-Methylnaphthalene	MG/L	--	0.0086 U	NA
2-Methylphenol (o-Cresol)	MG/L	200	0.008 U	NA
2-Nitroaniline	MG/L	--	0.0092 U	NA
2-Nitrophenol	MG/L	--	0.01 U	NA
3,3'-Dichlorobenzidine	MG/L	--	0.0083 U	NA
3-Nitroaniline	MG/L	--	0.0086 U	NA
4-Bromophenyl-phenylether	MG/L	--	0.0071 U	NA
4-Chloro-3-methylphenol	MG/L	--	0.0083 U	NA
4-Chloroaniline	MG/L	--	0.0092 U	NA
4-Chlorophenyl-phenylether	MG/L	--	0.0077 U	NA
4-Methylphenol	MG/L	200	0.019 U	NA
4-Nitroaniline	MG/L	--	0.0086 U	NA
4-Nitrophenol	MG/L	--	0.012 U	NA
Acenaphthene	MG/L	--	0.0086 U	NA
Acenaphthylene	MG/L	--	0.0092 U	NA
Anthracene	MG/L	--	0.0086 U	NA
Benzo(a)anthracene	MG/L	--	0.008 U	NA
Benzo(a)pyrene	MG/L	--	0.0086 U	NA
Benzo(b)fluoranthene	MG/L	--	0.008 U	NA
Benzo(g,h,i)perylene	MG/L	--	0.008 U	NA
Benzo(k)fluoranthene	MG/L	--	0.0089 U	NA
Bis(2-Chloroethoxy)methane	MG/L	--	0.011 U	NA

TABLE D-1
Liquid Waste Characterization
Site 27, Saratoga Avenue Manhole 31
NAS Key West, Key West Florida

Bis(2-Chloroethyl)ether	MG/L	--	0.0092 U	NA
bis(2-ethylhexyl)phthalate	MG/L	--	0.014 U	NA
Butylbenzylphthalate	MG/L	--	0.0092 U	NA
Carbazole	MG/L	--	0.0095 U	NA
Chrysene	MG/L	--	0.0089 U	NA
Dibenz(a,h)anthracene	MG/L	--	0.0083 U	NA
Dibenzofuran	MG/L	--	0.0083 U	NA
Diethylphthalate	MG/L	--	0.0086 U	NA
Dimethyl-phthalate	MG/L	--	0.0092 U	NA
Di-n-butylphthalate	MG/L	--	0.0089 U	NA
Di-n-octylphthalate	MG/L	--	0.0086 U	NA
Fluoranthene	MG/L	--	0.0086 U	NA
Fluorene	MG/L	--	0.0089 U	NA
Hexachlorobenzene	MG/L	0.13	0.008 U	NA
Hexachlorobutadiene	MG/L	0.5	0.0077 U	NA
Hexachlorocyclopentadiene	MG/L	--	0.0068 U	NA
Hexachloroethane	MG/L	3	0.008 U	NA
Indeno(1,2,3-cd)pyrene	MG/L	--	0.008 U	NA
Isophorone	MG/L	--	0.012 U	NA
Naphthalene	MG/L	--	0.0086 U	NA
Nitrobenzene	MG/L	2	0.0086 U	NA
N-Nitroso-di-n-propylamine	MG/L	--	0.0092 U	NA
N-Nitrosodiphenylamine	MG/L	--	0.01 U	NA
Pentachlorophenol	MG/L	100	0.01 U	NA
Phenanthrene	MG/L	--	0.0086 U	NA
Phenol	MG/L	--	0.01 U	NA
Pyrene	MG/L	--	0.0089 U	NA

Notes:
NA Not analyzed
B -- The analyte was detected in the associated method and/or calibration blank.
J -- The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
U -- The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
mg/l -- Milligrams per Liter
Bold indicates the analyte was detected
TCLP ^{SL} - EPA TCLP Screening Limit

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: JM-26 IDW 051810

Lab Name: PEL, Spectrum Analytical, Inc Contract: Sarasota Ave, Manhole 31/JM-

Lab Code: PEL Case No. SAS No: SDG No.: 2515957

Matrix: WATER Lab Sample ID: 251595701 Lab File ID 95701.D

Sample wt/vol: 5 Units: ML Date Received: 05/19/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/21/10 Time: 1055

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Waste Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
75-71-8	Dichlorodifluoromethane	0.00168	U
74-87-3	Chloromethane	0.00204	U
75-01-4	Vinyl chloride	0.00035	J
74-83-9	Bromomethane	0.00228	U
75-00-3	Chloroethane	0.00297	U
75-69-4	Trichlorofluoromethane	0.00144	U
75-35-4	1,1-Dichloroethene	0.00132	U
75-15-0	Carbon disulfide	0.00036	J
75-09-2	Methylene chloride	0.00198	U
156-60-5	trans-1,2-Dichloroethene	0.0029	
75-34-3	1,1-Dichloroethane	0.00108	U
67-64-1	Acetone	0.004	J
156-59-2	cis-1,2-Dichloroethene	0.042	
74-97-5	Bromochloromethane	0.00222	U
78-93-3	2-Butanone	0.01	U
67-66-3	Chloroform	0.00141	U
71-55-6	1,1,1-Trichloroethane	0.00108	U
56-23-5	Carbon tetrachloride	0.00153	U
71-43-2	Benzene	0.00051	U
107-06-2	1,2-Dichloroethane	0.00132	U
79-01-6	Trichloroethene	0.00091	J
78-87-5	1,2-Dichloropropane	0.00159	U
75-27-4	Bromodichloromethane	0.00132	U
10061-01-5	cis-1,3-Dichloropropene	0.0005	U
108-10-1	4-Methyl-2-pentanone	0.004	U
108-88-3	Toluene	0.00018	J

36

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: JM-26 IDW 051810

Lab Name: PEL, Spectrum Analytical, Inc Contract: Sarasota Ave, Manhole 31/JM-

Lab Code : PEL Case No. SAS No: SDG No.: 2515957

Matrix: WATER Lab Sample ID: 251595701 Lab File ID 95701.D

Sample wt/vol: 5 Units: ML Date Received: 05/19/10

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 05/21/10 Time: 1055

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Waste Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
10061-02-6	trans-1,3-Dichloropropene	0.00117	U
79-00-5	1,1,2-Trichloroethane	0.00171	U
127-18-4	Tetrachloroethene	0.0012	J
591-78-6	2-Hexanone	0.006	U
124-48-1	Dibromochloromethane	0.00102	U
106-93-4	1,2-Dibromoethane(EDB)	0.00147	U
108-90-7	Chlorobenzene	0.0005	U
100-41-4	Ethylbenzene	0.00129	U
100-42-5	Styrene	0.0015	U
75-25-2	Bromoform	0.00186	U
98-82-8	Isopropylbenzene (Cumene)	0.00123	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0015	U
541-73-1	1,3-Dichlorobenzene	0.00105	U
106-46-7	1,4-Dichlorobenzene	0.003	U
95-50-1	1,2-Dichlorobenzene	0.00114	U
96-12-8	1,2-Dibromo-3-chloropropane	0.0042	U
120-82-1	1,2,4-Trichlorobenzene	0.00207	U
87-61-6	1,2,3-Trichlorobenzene	0.00183	U
1330-20-7	Xylene (total)	0.003	U
1634-04-4	MTBE	0.00153	U
76-13-1	1,1,2-Trichlorotrifluoroethane	0.00237	U
108-87-2	Methyl Cyclohexane	0.00192	U
79-20-9	Methyl Acetate	0.001	J
110-82-7	Cyclohexane	0.00126	U

6G

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: JM-26-IDW-051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Sarasota Avenue, Manhole 31

Lab Code: PEL Case No. SAS No: SDG No.: 2515938

Matrix: WATER Lab Sample ID: 251593801 Lab File ID 938-01.D

Sample wt/vol: 975 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 1 Date Extracted: 05/17/10

Level:(low/med) LOW Date Analyzed: 05/17/10 Time: 2204

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: SEPF Station ID: Waste Method:

GPC Cleanup: (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
111-44-4	Bis(2-Chloroethyl)ether	0.0092	U
108-95-2	Phenol	0.01	U
95-57-8	2-Chlorophenol	0.0089	U
541-73-1	1,3-Dichlorobenzene	0.0083	U
106-46-7	1,4-Dichlorobenzene	0.0083	U
95-50-1	1,2-Dichlorobenzene	0.008	U
108-60-1	2,2-Oxybis(1-chloropropane)	0.01	U
95-48-7	2-Methylphenol (o-Cresol)	0.008	U
67-72-1	Hexachloroethane	0.008	U
621-64-7	N-Nitroso-di-n-propylamine	0.0092	U
106-44-5	4-Methylphenol	0.019	U
98-95-3	Nitrobenzene	0.0086	U
78-59-1	Isophorone	0.012	U
88-75-5	2-Nitrophenol	0.01	U
105-67-9	2,4-Dimethylphenol	0.0071	U
111-91-1	Bis(2-Chloroethoxy)methane	0.011	U
120-83-2	2,4-Dichlorophenol	0.0095	U
120-82-1	1,2,4-Trichlorobenzene	0.008	U
91-20-3	Naphthalene	0.0086	U
106-47-8	4-Chloroaniline	0.0092	U
91-57-6	2-Methylnaphthalene	0.0086	U
87-68-3	Hexachlorobutadiene	0.0077	U
59-50-7	4-Chloro-3-methylphenol	0.0083	U
77-47-4	Hexachlorocyclopentadiene	0.0068	U
88-06-2	2,4,6-Trichlorophenol	0.01	U
95-95-4	2,4,5-Trichlorophenol	0.01	U

B6

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: JM-26-IDW-051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Sarasota Avenue, Manhole 31

Lab Code: PEL Case No. SAS No: SDG No.: 2515938

Matrix: WATER Lab Sample ID: 251593801 Lab File ID 938-01.D

Sample wt/vol: 975 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 1 Date Extracted: 05/17/10

Level:(low/med) LOW Date Analyzed: 05/17/10 Time: 2204

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Waste Method:

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-58-7	2-Chloronaphthalene	0.0086	U
88-74-4	2-Nitroaniline	0.0092	U
208-96-8	Acenaphthylene	0.0092	U
131-11-3	Dimethyl-phthalate	0.0092	U
606-20-2	2,6-Dinitrotoluene	0.0086	U
83-32-9	Acenaphthene	0.0086	U
99-09-2	3-Nitroaniline	0.0086	U
51-28-5	2,4-Dinitrophenol	0.02	U
132-64-9	Dibenzofuran	0.0083	U
121-14-2	2,4-Dinitrotoluene	0.0086	U
100-02-7	4-Nitrophenol	0.012	U
86-73-7	Fluorene	0.0089	U
7005-72-3	4-Chlorophenyl-phenylether	0.0077	U
84-66-2	Diethylphthalate	0.0086	U
100-01-6	4-Nitroaniline	0.0086	U
534-52-1	2-Methyl-4,6-dinitrophenol	0.012	U
86-30-6	N-Nitrosodiphenylamine	0.01	U
101-55-3	4-Bromophenyl-phenylether	0.0071	U
118-74-1	Hexachlorobenzene	0.008	U
87-86-5	Pentachlorophenol	0.01	U
85-01-8	Phenanthrene	0.0086	U
120-12-7	Anthracene	0.0086	U
84-74-2	Di-n-butylphthalate	0.0089	U
206-44-0	Fluoranthene	0.0086	U
129-00-0	Pyrene	0.0089	U
85-68-7	Butylbenzylphthalate	0.0092	U

Form I

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: JM-26-IDW-051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Sarasota Avenue, Manhole 31

Lab Code: PEL Case No. SAS No: SDG No.: 2515938

Matrix: WATER Lab Sample ID: 251593801 Lab File ID: 938-01.D

Sample wt/vol: 975 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 1 Date Extracted: 05/17/10

Level:(low/med) LOW Date Analyzed: 05/17/10 Time: 2204

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Waste Method:

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
91-94-1	3,3'-Dichlorobenzidine	0.0083	U
56-55-3	Benzo(a)anthracene	0.008	U
218-01-9	Chrysene	0.0089	U
117-81-7	bis(2-ethylhexyl)phthalate	0.014	U
117-84-0	Di-n-octylphthalate	0.0086	U
205-99-2	Benzo(b)fluoranthene	0.008	U
207-08-9	Benzo(k)fluoranthene	0.0089	U
50-32-8	Benzo(a)pyrene	0.0086	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.008	U
53-70-3	Dibenz(a,h)anthracene	0.0083	U
191-24-2	Benzo(g,h,i)perylene	0.008	U
86-74-8	Carbazole	0.0095	U

BG

PESTICIDE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM-26-IDW-051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Sarasota Avenue, Manhole 31

Lab Code : PEL Case No. SAS No: SDG No.: 2515938

Matrix: WATER Lab Sample ID: 251593801 Lab File ID 938-1.D

Sample wt/vol: 975 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 10 Date Extracted: 05/17/10

Level:(low/med) LOW Date Analyzed: 05/20/10 Time: 1827

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Waste Method:

GPC Cleanup : (Y/N) N pH:

Column(1): STX-CLP1 ID: 0.32 (mm) Column(2): STX-CLP2 ID: 0.32 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
319-84-6	alpha-BHC	0.00001	U
319-85-7	beta-BHC	0.000051	U
319-86-8	delta-BHC	0.000051	U
58-89-9	gamma-BHC (Lindane)	0.000051	U
76-44-8	Heptachlor	0.000051	U
309-00-2	Aldrin	0.000051	U
1024-57-3	Heptachlor epoxide	0.000051	U
959-98-8	Endosulfan I	0.000051	U
60-57-1	Dieldrin	0.000051	U
72-55-9	4,4'-DDE	0.000051	U
72-20-8	Endrin	0.000051	U
33213-65-9	Endosulfan II	0.000051	U
72-54-8	4,4'-DDD	0.000051	U
1031-07-8	Endosulfan sulfate	0.000051	U
50-29-3	4,4'-DDT	0.000051	U
72-43-5	Methoxychlor	0.000051	U
7421-93-4	Endrin aldehyde	0.000051	U
5103-71-9	alpha-Chlordane	0.000051	U
53494-70-5	Endrin ketone	0.0001	U
57-74-9	Chlordane	0.00051	U
8001-35-2	Toxaphene	0.00055	U

Higher value of the two columns reported as result.

36

010610 1821

Form I

PCB ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM-26-IDW-051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Sarasota Avenue, Manhole 31

Lab Code : PEL Case No. SAS No: SDG No.: 2515938

Matrix: WATER Lab Sample ID: 251593801 Lab File ID 938-1.D

Sample wt/vol: 975 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 10 Date Extracted: 05/17/10

Level:(low/med) LOW Date Analyzed: 05/21/10 Time: 2047

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Waste Method:

GPC Cleanup : (Y/N) N pH:

Column(1): STX-CLP1 ID: 0.32 (mm) Column(2): STX-CLP2 ID: 0.32 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
12674-11-2	Aroclor-1016	0.0011	U
11096-82-5	Aroclor-1260	0.001	U
11104-28-2	Aroclor-1221	0.002	U
11141-16-5	Aroclor-1232	0.001	U
53469-21-9	Aroclor-1242	0.001	U
12672-29-6	Aroclor-1248	0.001	U
11097-69-1	Aroclor-1254	0.001	U

Higher value of the two columns reported as result.

BG

Form I

HERBICIDE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM-26-IDW-051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Sarasota Avenue, Manhole 31

Lab Code: PEL Case No. SAS No: SDG No.: 2515938

Matrix: WATER Lab Sample ID: 251593801 Lab File ID 938-01.D

Sample wt/vol: 975 Units: ML Date Received: 05/14/10

Concentrated Extract Volume: 10 Date Extracted: 05/17/10

Level:(low/med) LOW Date Analyzed: 05/18/10 Time: 1509

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Waste Method:

GPC Cleanup : (Y/N) N pH:

Column(1): STX-CLP1 ID: 0.32 (mm) Column(2): STX-CLP2 ID: 0.32 (mm)

CONCENTRATION UNITS: MG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*
93-76-5	2,4,5-T	0.00051	U
93-72-1	2,4,5-TP (Silvex)	0.00051	U
94-75-7	2,4'-D	0.00051	U
94-82-6	2,4-DB	0.00092	U
75-99-0	Dalapon	0.0011	U
1918-00-9	Dicamba	0.00051	U
120-36-5	Dichloroprop	0.00055	U
88-85-7	Dinoseb	0.00051	U
94-74-6	MCPA	0.055	U
93-65-2	MCPP	0.12	U

Higher value of the two columns reported as result.

BG

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM-26-IDW-051210

Lab Name: PEL, Spectrum Analytical, Inc. Contract: Sarasota Avenue, Manhole 31

Lab Code: PEL Case No.: SAS No: SDG No.: 2515938

Matrix: WATER Lab Sample ID: 251593801

Level:(low/med) LOW Date Received: 5/14/2010

PercentSolids: 0 Station ID: Waste

CONCENTRATION UNITS: MG/L

CAS NO	ANALYTE	Concentration	C	Q	M
7440-38-2	Arsenic	0.00963	J		P
7440-43-9	Cadmium	0.00178	J		P
7440-47-3	Chromium	0.00166	J		P
7439-92-1	Lead	0.0111	U		P
7439-97-6	Mercury	0.0002	U		CV
7440-22-4	Silver	0.01	U		P

Color Before: _____ Clarity Before: _____ Texture: _____ BG

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM-26-IDW-051210DL1

Lab Name: PEL, Spectrum Analytical, Inc. Contract: Sarasota Avenue, Manhole 31

Lab Code: PEL Case No.: SAS No: SDG No.: 2515938

Matrix: WATER Lab Sample ID: 251593801DL1

Level:(low/med) LOW Date Received: 5/14/2010

PercentSolids: 0 Station ID:

CONCENTRATION UNITS: MG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7782-49-2	Selenium	0.0615	U		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

B G

Comments:

010610 fb22

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM-26-IDW-051210R1

Lab Name: PEL, Spectrum Analytical, Inc. Contract: Sarasota Avenue, Manhole 31

Lab Code: PEL Case No.: SAS No: SDG No.: 2515938

Matrix: WATER Lab Sample ID: 251593801R1

Level:(low/med) LOW Date Received: 5/14/2010

PercentSolids: 0 Station ID:

CONCENTRATION UNITS: MG/L

CAS NO.	ANALYTE	Concentration	C	Q	M
7440-39-3	Barium	0.0146			P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

BG

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM-26-IDW-051210

Lab Name: PEL, Spectrum Analytical, Inc. Contract: Sarasota Avenue, Manhole 31

Lab Code: PEL Case No.: SAS No: SDG No.: 2515938

Matrix: WATER Lab Sample ID: 251593801

Level:(low/med) LOW Date Received: 5/14/2010

PercentSolids: 0 Station ID: Waste

CONCENTRATION UNITS: pH

CAS NO.	ANALYTE	Concentration	C	Q	M
1-00-6	pH	7.32			N/A

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

B Gx

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

JM-26-IDW-051210

Lab Name: PEL, Spectrum Analytical, Inc Contract: Sarasota Avenue, Manhole 31

Lab Code: PEL Case No.: SAS No: SDG No.: 2515938

Matrix: WATER Lab Sample ID: J1021-01

Level:(low/med) LOW Date Received: 5/14/2010

PercentSolids: 0 Station ID: Waste

CONCENTRATION UNITS: F

CAS NO.	ANALYTE	Concentration	C	Q	M
1-01-3	Ignitability	140	U		N/A

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

BG

AGVIQ CH2M HILL

1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
Tel No. (770) 604-9182
Fax No. (770) 604-9183

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 404625-051210 ~~2515938~~ ~~2515926~~

PROJECT NAME	PROJECT NUMBER	LAB NAME AND CONTACT	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.)
Sarasota Avenue, Manhole 31	404625	PEL - Spectrum Analytical, Inc. Darcy Weisman	Kama White / CH2M HILL kwhite@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4060 fax 770-604-9183 phone
PROJECT PHASE/RTN/TASK	CTO OR DO NUMBER	LAB PO NUMBER	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.)
Manhole 31	JM-26	813811	Amy Twitty/CH2M HILL	1766 Sea Lark Lane, Navarre FL 32566-7472 850.939.8300/334.273.7515
PROJECT CONTACT	PROJECT TEL NO AND FAX NO	LAB TEL NO AND FAX NO	FAX AND MAIL REPORTS/EDD TO: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.)
Amy Twitty	850-232-0320	813-888-9507 ext.3 / Fax: 813-476-2481 413-789-9018 / Fax: 413-789-4076	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-579-8176 fax 678-530-4124 phone

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on SOP)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on SOP)	TAT (calendar days)	Bottle Type / Number of Containers	8260B TCL VOCs	2540C TDS	8270D TCL SVOCs	8081B TCL Pesticides	8151A TCL Herbicides	8082 PCBs	6010B/7470A 8 RCRA Metals	1010 Ignitability	SAMPLE TYPE (see codes on SOP)	COMMENTS/ SCREENING READINGS	LAB ID (for lab's use)
1	~~37-MW-2-051210~~	~~Groundwater~~	~~W~~	~~5-12-10~~	~~17:25~~	~~C/D~~	~~14~~	~~4~~	~~X~~	~~X~~							~~0~~		~~01~~
2	~~37-MW-3-051210~~	~~Groundwater~~	~~W~~	~~5-12-10~~	~~15:20~~	~~C/D~~	~~14~~	~~4~~ 12	~~X~~	~~X~~							~~0~~	~~Includes MS/MSD~~	~~02 03 04~~
3	~~JM-26-FB-051210~~	~~Groundwater~~	~~W~~	~~5-12-10~~	~~14:40~~	~~C/D~~	~~14~~	~~4~~	~~X~~	~~X~~							~~FB~~		~~05~~
4	~~JM-26-FD-051210~~	~~Groundwater~~	~~W~~	~~5-12-10~~	~~—~~	~~C/D~~	~~14~~	~~4~~	~~X~~	~~X~~							~~FD~~		~~06 08~~
5	~~JM-26-TB-051210~~	~~Groundwater~~	~~W~~	~~5-12-10~~	~~—~~	~~C/D~~	~~14~~	~~3 2~~	~~X~~	~~NK 5/15/10~~							~~TB~~		~~07 06~~
6	~~JM-26-IDW-051210~~	~~Waste~~	~~W~~	~~5-12-10~~	~~1800~~	~~B~~	~~14~~	~~9~~	~~X~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~			~~08 07~~
7								~~10~~	~~14~~	~~inc cor~~	~~NK 5/15/10~~			see below			NK 5/17/10		NK 5/15/10
8	JM-26-IDW-051210	Waste	W	5-12-10	1800	B	14	9	X		X	X	X	X	X	X		—01	
9																			
10																			

NK 5/15/10 ~~FD sample not rec'd;~~ double ambers for 8270/8081/8151

SAMPLER(S) AND COMPANY: (please print)
Nikki Monroe / CH2M HILL

COURIER AND SHIPPING NUMBER:

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use):
3.0/2.0C; pH<2 6010/~~8260~~; 1010=Nitem.

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Nikki Monroe	5-13-10	17:00	Printed Name and Signature: Federal Express Tracking Number(s):	~~8260 for sample not rec'd~~	
Printed Name and Signature:			Printed Name and Signature:	5/14/10 NK ~~5/15/10~~	950
Printed Name and Signature:			Printed Name and Signature:		

2515938

28

AGVIQ CH2M HILL

1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
Tel No. (770) 604-9182
Fax No. (770) 604-9183

CHAIN-OF-CUSTODY RECORD

2515957

[1] COC NUMBER: 404625-051810

[2] PROJECT NAME	[3] PROJECT NUMBER	[4] LAB NAME AND CONTACT	[11] FAX AND MAIL REPORTS/EDD TO: RECIPIENT 1 (Name and Company)	[10] RECIPIENT 1 (Address, Tel No., and Fax No.)
Sarasota Avenue, Manhole 31	404625	PEL - Spectrum Analytical, Inc. Darcy Weisman	Kama White / CH2M HILL kwhite@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4060 fax 770-604-9183 phone
[5] PROJECT PHASE/SITE/TASK	[6] CTO OR DO NUMBER	[7] LAB PO NUMBER	[13] FAX AND MAIL REPORTS/EDD TO: RECIPIENT 2 (Name and Company)	[12] RECIPIENT 2 (Address, Tel No., and Fax No.)
Manhole 31	JM-26	813811	Amy Twitty/CH2M HILL	1766 Sea Lark Lane, Navarre FL 32566-7472 850.939.8300/334.273.7515
[8] PROJECT CONTACT	[9] PROJECT TEL NO AND FAX NO	[15] LAB TEL NO AND FAX NO	[17] FAX AND MAIL REPORTS/EDD TO: RECIPIENT 3 (Name and Company)	[16] RECIPIENT 3 (Address, Tel No., and Fax No.)
Amy Twitty	850-232-0320	813-888-9507 ext.3 / Fax: 813-476-2481 413-789-9018 / Fax: 413-789-4076	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-579-8176 fax 678-530-4124 phone

[18] ANALYSES REQUIRED (Include Method Numbers)

[19] ITEM	[20] SAMPLE IDENTIFIER	[21] SAMPLE DESCRIPTION/LOCATION	[22] MATRIX (see codes on SOP)	[23] DATE COLLECTED	[24] TIME COLLECTED	[25] DATA PKG LEVEL (see codes on SOP)	[26] TAT (calendar days)	Bottle Type / Number of Containers	8260B / TCL VOCs								[27] SAMPLE TYPE (see codes on SOP)	[28] COMMENTS/ SCREENING READINGS	[29] LAB ID (for lab's use)
1	JM-26 IDW 051810	Waste	W	05/18/10	1200	B	14	3	X								O	-01	
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

[30] SAMPLER(S) AND COMPANY: (please print)
Nikki Monroe / CH2M HILL

[31] COURIER AND SHIPPING NUMBER

[32] SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use):
5.7C; pH>2 8260

[33] RELINQUISHED BY	DATE	TIME	[34] RECEIVED BY	DATE	TIME
Printed Name and Signature: Nikki Monroe	18-May-2010	15:00	Printed Name and Signature: Federal Express Tracking Number(s):		
Printed Name and Signature:			Printed Name and Signature:	5/19/10	840
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [X] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 05/01

2515957

3

ATTACHMENT E

Waste Disposal Documentation

WASTE MATERIAL PROFILE

Please Print

A: GENERATOR: US Navy EPA ID:

Manhole 31 Saratoga Ave,NAS Boca Chica,Key West,FL 33040
SITE ADDRESS STATE ZIP

ost Office Box 9007,Key West FL 33040-9007
MAILING ADDRESS STATE ZIP

CONTACT: Robert Courtwright PHONE: 305-293-2881 FAX

E-Mail Address: robert.courtright@navy.mil

B: BILL TO: CH2M HILL

MAILING ADDRESS STATE ZIP

CONTACT: Amy Twitty PHONE: 850-232-0320 FAX

E-Mail Address: atwitty@ch2m.com

C: COMMON NAME OF THE WASTE (PLEASE PRINT) IDW-monitoring well purgewater

GENERATING PROCESS (attach flow diagram if available):

IS THIS WASTE:

	NO	YES		NO	YES
Spent	X		Spill	X	
Virgin		X	Labpack	X	(Attach Inventory Sheet)
Off-Spec	X		Subject to an exemption?	X	(Check Below)
WWT sludge	X		☐ Household waste? ☐	Soil from UST removal	X Other?

D: COMPOSITION OF WASTE: List all chemical/compounds. Provide MSDS's or analysis if available.

Chemicals/compounds	%	Chemicals/compounds	%	Chemicals/compounds	%
groundwater	98				
sediment/silt	2				

Total Must = 100

E: H[illegible]DOUS CHARACTERISTICS:

Is t[illegible]te:

Does this waste contain:

	NO	YES		
Radioactive	X			
Bio-Hazard	X			
Polymerizable	X			
Asbestos	X		→	☐ Friable ☐ Non Friable?
PCB's > 50 ppm	X		→	Conc? ppm
Hexavalent Chrome	X		→	Conc? ppm
HOC's >1000ppm	X		→	Conc? ppm
VOC's > 500ppmw	X		→	Conc? ppmw(both 264 & 265 subpart cc)

F: PHYSICAL DATA:

		Odor	Flash Point	pH	Spec. Grav.	BTU/lb.	Chloride % by wt.	Water % by vol.
Layer	No	Strong ☐	<73 ☐	<2 ☐	<0.70 ☐	< 4999 ☐	<2 ☐	<5 ☐
Color	cloudy, grey	Mild ☐	73-99 ☐	2.1-5.0 ☐	0.71-0.81 ☐	5k-9999 ☐	2-5 ☐	5-10 ☐
Source Code		None X	100-139 ☐	5.1-9.0 X	0.82-0.95 ☐	10k-15000 ☐	5-8 ☐	10-15 ☐
Form Code		Describe	140-199 ☐	9.1-12.4 ☐	0.96-1.01 ☐	>15001 ☐	8-11 ☐	15-20 ☐
			>200 X	>12.5 ☐	1.02-1.09 ☐		11-14 ☐	20-25 ☐
			N/A ☐	N/A ☐	1.10-1.20 ☐		>14 ☐	>25 X
					>1.20 ☐			
If Known Complete:			Exact 140	Exact 7.32	Exact	Exact	Exact	Exact %

Physical State:

Solid	% →	Dust ☐	Granular ☐	Chunks ☐	Monolith ☐	in Gals	
Sludge 2	% →	Pumpable: X	Yes ☐ No	Pourable: X	Yes ☐ No ☐	in Gals	
Liquid 98	% →	Free liquids: ☐	Yes ☐ No	Viscosity: X	Low(Water) ☐	Medium(Oil) ☐	High(Syrup)
Gas	% →	Aerosol ☐	Cylinder ☐ →	Dia.:	Qty:	Valve Condition:	
Debris	% →	Describe(size & content):					

Top

Next

G: WASTE CHARACTERIZATION:

	YES	NO
1 Is this a listed EPA RCRA hazardous waste (F,K,P,U) as defined in 40 CFR 261.30	☐	☒
2 a. Is this a liquid waste with a flash point <140F as defined in 40 CFR 261.21 (D001).	☐	☒
b. Is this an ignitable solid as defined in 40 CFR 261.21 (D001)	☐	☒
c. Is this an oxidizer as defined in 49 CFR 173.151 (D001)	☐	☒
d. Is this an ignitable compressed gas as defined in 40 CFR 261.21 (D001)	☐	☒
e. If yes to a,b, or c. Is this a High TOC waste	☐	☐
3 a. Is this a liquid waste with a pH<2 or >12.5. (D002)	☐	☒
b. is this a liquid waste that corrodes steel as defined in 40 CFR 261.22 (D002).	☐	☒
4 Is this a reactive waste as defined in 40 CFR 261.23. (D003)	☐	☒

If yes, check the subcategory: ☐ Water Reactive ☐ Air Reactive ☐ Explosive ☐ Other Reactive

☐ Reactive Cyanide: conc. _____ ppm ☐ Reactive Sulfide: conc. _____ ppm

Waste Code	Constituent	< Than	Reg Level	> Than	Conc	Waste Code	Constituent	< Than	Reg Level	> Than	Conc
D004	Arsenic	☒	5.0	☐	0.00963	D024	m-Cresol	☒	200	☐	
D005	Barium	☒	100	☐	0.0146	D025	p-Cresol	☒	200	☐	
D006	Cadmium	☒	1.0	☐	0.00178	D026	Cresol(o,, m, p)	☒	200	☐	BDL
D007	Chromium	☒	5.0	☐	0.00166	D027	1,4 Dichlorobenzene	☒	7.5	☐	BDL
D008	Lead	☒	5.0	☐	BDL	D028	1,2-Dichloroethane	☒	0.5	☐	BDL
D009	Mercury	☒	0.2	☐	BDL	D029	1,1-Dichloroethylene	☒	0.7	☐	BDL
D010	Selenium	☒	1.0	☐	BDL	D030	2,4-Dinitrotoluene	☒	0.13	☐	BDL
D011	Silver	☒	5.0	☐	BDL	D031	Heptachlor	☒	0.008	☐	BDL
D012	Endrin	☒	0.02	☐	BDL	D032	Hexachlorobenzene	☒	0.13	☐	BDL
D013	Lindane	☒	0.4	☐	BDL	D033	Hexechlorobutadiene	☒	0.5	☐	BDL
D014	Methoxychlor	☒	10	☐	BDL	D034	Hexachloroethane'	☒	3.0	☐	BDL
D015	Toxaphene	☒	0.5	☐	BDL	D035	Mehtyl Ethyl Ketone	☒	200	☐	BDL
D016	2,4 - D	☒	10	☐	BDL	D036	Nitrobenzene	☒	2.0	☐	BDL
D017	2,4,5-TP(Silvex)	☒	1	☐	BDL	D037	Pentachlorophenol	☒	100	☐	BDL
D018	Benzene	☒	0.5	☐	BDL	D038	Pyridine	☒	5.0	☐	BDL
D019	Carbon Tetrachloride	☒	0.5	☐	BDL	D039	Tetrachloroethylene	☒	0.7	☐	0.0012
D020	Chlordane	☒	0.03	☐	BDL	D040	Trichloroethylene	☒	0.5	☐	0.00091
D021	Chlorobenzene	☒	100	☐	BDL	D041	2,4,5-Trichlorophenol	☒	400	☐	BDL
D022	Chloroform	☒	6.0	☐	BDL	D042	2,4,6-Trichlorophenol	☒	2.0	☐	BDL
D023	o-Cresol	☐	200	☐		D043	Vinyl Chloride	☒	0.2	☐	0.00035

Based on: Total Analysis ☒ TCLP Analysis ☐ Generator Knowledge ☐

	YES	NO
5 Is this a EPA Toxic Waste (D004-D043)* as defined in 40 CFR 261.24?	☐	☒
If D009: Is the total Mercury concentration above 260 ppm?	☐	☒
* If this is a D001, D002, D003(selected) or D004-D043 does it contain any of the Underlying Hazardous Constituents (UHC) above Universal Treatment Standards(UTS)?	☐	☒
If Yes, include a UTS/UHC form with the profile		
6 Is this waste a Dioxin Or Furan per 40 CFR 261.31?	☐	☒
7 a. Is this a Non-Hazardous Waste?	☒	☐
FOR WASTE DISPOSAL AT PERMA-FIX OF MICHIGAN ONLY:		
b. Is this a hazardous Waste by state regulation only	☐	☐
c. Is this a Michigan Act 451 listed hazardous waste?	☐	☐

If you answered Yes to any question in Section G, enter the appropriate waste codes(s) on the lines below.

Waste Codes: _____ _____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____

Please list any Toxic Release Inventory Constituents per EPCRA Section 313 not identified above.

TRI Attachment:

Top _____

Next _____

H. BENZENE NESHAP 40 CFR 61, SUBPART FF (Hazardous waste with Benzene Only) YES ☐ NO ☒

If question 1,2 or 3 is No, proceed to section I.

1 Is this waste stream generated at a facility with a SIC code listed under NESHAP, or a TSDF that treats NESHAP waste? SIC Code _____ listed codes: (2800-2899, 2911, 3312, 4953, 9511)

2 Does the waste contain > 10% water ☐ ☐

3 Is the total Annual Benzene quantity from the facility waste greater than 10Mg/Yr (22,046 lbs/yr). ☐ ☐

If Question 1,2, or 3 is No, proceed to Section I

4 What is the total Benzene concentration in Your Waste? _____ % or _____ ppmw.

(Do not use TCLP results. Acceptable laboratory methods include 8020, 8240, 8260, 602, and 624)

5 What is the TAB quantity for the generator facility? _____ Mg/Year

I. PACKAGING/ QUANTITY

1 Non-Bulk	☐ 1 gal	☐ 5 gal	☐ 15 gal	☐ 30 gal	☐ 55 gal.	☒ 85 gal	☐ Other			
Cubic Yard	☐ Boxes	☐ Bags	☐ Totes	☐ Pallets	☐ Other					
Quantity	4	Per:	☐ Month	☐ Quarter	☐ Year	☒ Once				
2 Bulk:	☐ Tanker	☐ Vac Truck	☐ Rolloff	☐ Dump Trailer	☐ Closed Top	☐ Open Top				
		☐ Gallons	☐ Pounds	☐ Yards	☐ Tons					
Quantity:	Lbs.____	Per:	☐ Month	☐ Quarter	☐ Year	☐ Once				

J. DOT SHIPPING INFORMATION:

Enter proper DOT shipping name from 49 CFR 172.101 table:

Non-hazadrous Liquids — Groundwater, Sediment.

List 2 major components: _____

Hazard Class _____ UN/NA code _____ PG _____ RQ: Y N CLIN:_____ US Gov. CLIN # When applicable

K. ATTACHMENTS: (Check all that apply and include with profile)

☐ UTS/UHC Form	☐ Process Flow Diagram	☐ Generator authorization
☒ Analysis	☐ PCB source statement	☐ Labpack inventory sheet
☐ Additional Description	☐ Material Safety Data Sheet	☐ Land Disposal Notification

L. CERTIFICATION:

I hereby certify that all the information submitted in this and all attached documents is complete and accurate. All known and suspected hazards have been disclosed. By signing below, I give Perma-Fix Environmental Services, Inc., and all of its subsidiaries, permission to make minor changes to this profile prior to its acceptance should they find an error or omission.

Printed Name: X Evelyn Leon Signature: X [signature] Date: X 10-22-10

**Signatures other than the generator are required to submit an approved authorization letter from the generator to certify this profile

---

INTERNAL USE ONLY: Review 1 _____ 2 _____ 3 _____

Profile I.D. No. _____ APPROVED ☐ REJECTED ☐ Form Code W _____

Waste Codes _____

DOT _____

Destination/Consolidation Code _____ Price & Initial _____

Product Code: _____ _____

Out Bound Approval: _____ Facility: _____

Notes: _____

H. BENZENE NESHAP 40 CFR 61, SUBPART FF (Hazardous waste with Benzene Only) — YES ☐ NO ☒

If question 1,2 or 3 is No, proceed to section I.

1 Is this waste stream generated at a facility with a SIC code listed under NESHAP, or a TSDF that treats NESHAP waste? SIC Code _____ listed codes: (2800-2899, 2911, 3312, 4953, 9511)

2 Does the waste contain > 10% water ☐ ☐

3 Is the total Annual Benzene quantity from the facility waste greater than 10Mg/Yr (22,046 lbs/yr). ☐ ☐

If Question 1,2, or 3 is No, proceed to Section I

4 What is the total Benzene concentration in Your Waste? _____ % or _____ ppmw.

(Do not use TCLP results. Acceptable laboratory methods include 8020, 8240, 8260, 602, and 624)

5 What is the TAB quantity for the generator facility? _____ Mg/Year

I. PACKAGING/ QUANTITY

1 Non-Bulk	☐ 1 gal	☐ 5 gal	☐ 15 gal	☐ 30 gal	☐ 55 gal.	☒ 85 gal	☐ Other _____
Cubic Yard	☐ Boxes	☐ Bags	☐ Totes	☐ Pallets			☐ Other _____
Quantity	Per:	☐ Month	☐ Quarter	☐ Year	☐ Once		
2 Bulk:	☐ Tanker	☐ Vac Truck	☐ Rolloff	☐ Dump Trailer		☐ Closed Top	☐ Open Top
		☐ Gallons	☐ Pounds	☐ Yards		☐ Tons	
Quantity:	Lbs.____ Per:	☐ Month	☐ Quarter	☐ Year	☐ Once		

J. DOT SHIPPING INFORMATION:

Enter proper DOT shipping name from 49 CFR 172.101 table:

List 2 major components: groundwater, sediment

Hazard Class _____ UN/NA code _____ PG _____ RQ: Y N CLIN:_____ US Gov. CLIN # When applicable

K. ATTACHMENTS: (Check all that apply and include with profile)

☐ UTS/UHC Form	☐ Process Flow Diagram	☐ Generator authorization
☒ Analysis	☐ PCB source statement	☐ Labpack inventory sheet
☐ Additional Description	☐ Material Safety Data Sheet	☐ Land Disposal Notification

L. CERTIFICATION:

I hereby certify that all the information submitted in this and all attached documents is complete and accurate. All known and suspected hazards have been disclosed. By signing below, I give Perma-Fix Environmental Services, Inc., and all of its subsidiaries, permission to make minor changes to this profile prior to its acceptance should they find an error or omission.

Printed Name: x DANA HAYWORTH Signature: x _____ Date: x 21 JUN '10

**Signatures other than the generator are required to submit an approved authorization letter from the generator to certify this profile

INTERNAL USE ONLY: Review 1 _____ 2 _____ 3 _____

Profile I.D. No. _____ APPROVED ☐ REJECTED ☐ Form Code W _____

Waste Codes _____

DOT _____

Destination/Consolidation Code _____ Price & Initial _____

Product Code: _____ _____

Out Bound Approval: _____ Facility: _____

Notes: _____

Dade
(305) 477-7497

EMC Oil Corporation
P.O. Box 520882 - Miami, FL 33152

Toll Free
(800) 344-8688

UNIFORM WASTE TRANSPORTERS MANIFEST

NO HAZARDOUS MIXTURES ACCEPTED - READ BOTTOM OF MANIFEST

1. Generator's Name and Mailing Address — PO# 1307-003
CH2M HILL/US NAVY
31 SARATOGA AVE, BOCA CHICA FL 33040
2. Generator's Phone (305) 517-0207 — County of Origin (MONROE)

A. Manifest Document # 52028
B. Generator's ID #'s — EPA _____ STATE _____

3. Transporter 1 Company Name — 4. US EPA ID Number
EMC Oil Corporation
8470 N.W. 68th Street, Miami, FL 33166 — FLR000000166

C. State Transporter's ID FLR000000166
D. Transporter's Phone (305) 477-7497

5. Designated Facility Name and Site Address — 6.
Cliff Berry, Inc.
3033 N.W. South River Dr.
Miami, FL 33142

E. Dade County ID SW-01124 LW-00227 LW-00233
F. Facility's Phone

7. Waste shipping & name description (HM)	8. Containers No.	Type	9. Total Quantity	10. Unit Wt./Vol	11. Price	G CHARGES
USED OIL DRUM					10.00	
OILY WATER	4	DM	220		0.65	143.00
H. A						143.00

EMC OIL CORP
8470 NW 68TH ST
MIAMI, FL 33166
305-477-7497
TERMINAL ID:
MERCHANT #:
VISAPURCH
MAIL ORDER
BATCH: 000004
INV: 052028
Jul 02, 10
08:58
AUTH: 045750
TRAN SEQ #: 000025
CUSTOMER NUMBER: 1307003
NO MATCH
THANK YOU!
CUSTOMER COPY

/ on this invoice within 15 days.

GENERATOR

12. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment ... ve by proper shipping name and are classified, packed, marked, and labeled, and are all in respects in proper condition for transport by highway according to applicable international and national government regulations.
I also confirm that the contents of this consignment contains no hazardous materials. (In the event that those products/material are found to be Hazardous, I accept the responsibility for its proper disposal under Federal and State Regulations, including any contamination caused through commingling.)

Printed Typed Name: Edward Barham — Signature — Month 6 Day 28 Year 10

TRANSPT

13. Transporter 1 Acknowledgment of Receipt of Materials

Printed Typed Name: GEORGE L VICENTE — Signature — Month 6 Day 28 Year 10

FACILITY

14. Facility Owner or Operator: Certification of receipt of waste material covered by this manifest.

Printed Typed Name: Evelyn Leon — Signature — Month 7 Day 17 Year 10

Below 1000 ppm — Halogen Levels — Above 1000 ppm

Dear Generator: The following chemicals contain hazardous substances which when mixed with used oil reduces the recycling potential and can cause harmful effects to the environment.

DO NOT MIX WITH USED OIL
Antifreeze - Freon - Solvents - Thinner - Degreasers - Detergents - Cleaners - Radiator Fluid - Leaded Gasoline - Cutting Oil

CAN MIX WITH USED OIL
Motor Oil - Diesel Fuel - Grease - Brake Fluids - Hydraulic Fluids - Transmission Fluids

These lists are based on current information and may be expanded as more data becomes available. THANK YOU

WHITE - Original YELLOW - Transporter PINK - Transporter GOLDENROD - Generator

Visa 00000 #045750

Dade
(305) 477-7497

EMC Oil Corporation
P.O. Box 520882 - Miami, FL 33152

Toll Free
(800) 344-8688

UNIFORM WASTE TRANSPORTERS MANIFEST

NO HAZARDOUS MIXTURES ACCEPTED - READ BOTTOM OF MANIFEST

1. Generator's Name and Mailing Address: CH2M HILL/US NAVY, 31 SARATOGA AVE, BOCA CHICA FL 33040
PO#: 1307-003
2. Generator's Phone (305) 517-6237 County of Origin (MONROE)

A. Manifest Document #: 55468
B. Generator's ID #'s: EPA _____ STATE _____

3. Transporter 1 Company Name: EMC Oil Corporation, 8470 N.W. 68th Street, Miami, FL 33166
4. US EPA ID Number: FLR000000166

C. State Transporter's ID FLR000000166
D. Transporter's Phone (305) 477-7497

5. Designated Facility Name and Site Address: GIFF Berry Inc, 3033 N.W. 60th river Dr. Miami, Fl 33142
6.

E. Dade County ID SW-01124, LW-00227, LW-00233
F. Facility's Phone

GENERATOR

7. Waste shipping & name description (HM)	8. Containers No.	Type	9. Total Quantity	10. Unit Wt./Vol	11. Price	G CHARGES
USED OIL GALLON					0.10	
OILY WATER	1	Plu	55	Gal	0.65	35.75

Bill to CH2M Hill

H. Additional Descriptions for Materials Listed Above

IMPORTANT: Payment due upon receipt of invoice. A service charge of 1½% (18% per annum) will be charged on over 30 days past due balance in the event it shall become necessary to collect the herein above sums or any part thereof, the purchaser agrees to pay all the replaceable cost thereof.

I. Total Due $ 35.75

Please pay on this invoice within 15 days. Thank you.

12. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are all in respects in proper condition for transport by highway according to applicable international and national government regulations. I also confirm that the contents of this consignment contains no hazardous materials. (In the event that these products/material are found to be Hazardous, I accept the responsibility for its proper disposal under Federal and State Regulations, including any contamination caused through commingling.)

Printed Typed Name: Robert Cunningham | Signature | Month Day Year: 11/24/10

TRANSPORT

13. Transporter 1 Acknowledgment of Receipt of Materials

Printed Typed Name: Georgia Waste | Signature | Month Day Year: 11/24/10

FACILITY

14. Facility Owner or Operator: Certification of receipt of waste material covered by this manifest

Printed Typed Name: Evelyn Leon | Signature | Month Day Year: 11/30/10

Below 1000 ppm | Halogen Levels | Above 1000 ppm

Dear Generator: The following chemicals contain hazardous substances which when mixed with used oil reduces the recycling potential and can cause harmful effects to the environment.

DO NOT MIX WITH USED OIL
Antifreeze - Freon - Solvents - Thinner - Degreasers - Detergents - Cleaners - Radiator Fluid - Leaded Gasoline - Cutting Oil

CAN MIX WITH USED OIL
Motor Oil - Diesel Fuel - Grease - Brake Fluids - Hydraulic Fluids - Transmission Fluids

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