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EXCAVATION AND CONFIRMATION SAMPLING REPORT SITE 8 NCBC GULFPORT MS

8/1/2002

TETRA TECH NUS

Excavation and Confirmation Sampling Report

for

The Edwards Property

Gulfport, Mississippi

Southern Division
Naval Facilities Engineering Command

Contract Number N62467-94-D-0888

Contract Task Order 0187

August 2002

040222/P

EXCAVATION AND CONFIRMATION SAMPLING REPORT

FOR

THE EDWARDS PROPERTY

GULFPORT, MISSISSIPPI

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
North Charleston, South Carolina 29406

Submitted by:
Tetra Tech NUS, Inc.
661 Andersen Drive
Foster Plaza 7
Pittsburgh, Pennsylvania 15220

CONTRACT NUMBER N62467-94-D-0888
CONTRACT TASK ORDER 0187

AUGUST 2002

PREPARED UNDER THE SUPERVISION OF:

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TETRA TECH NUS, INC.
TALLAHASSEE, FLORIDA

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DEBBIE WROBLEWSKI
PROGRAM MANAGER
TETRA TECH NUS, INC.
PITTSBURGH, PENNSYLVANIA

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LIST OF ACRONYMS AND ABBREVIATIONS

µg/kg	microgram(s) per kilogram
ABB-ES	ABB Environmental Services
CLEAN	Comprehensive Long-Term Environmental Action Navy
CTO	Contract Task Order
DEQ	Department of Environmental Quality
HO	Herbicide Orange
MDEQ	Mississippi Department of Environmental Quality
NCBC	Naval Construction Battalion Center
ng/kg	nanogram(s) per kilogram
SOUTHDIVNAVFACENGCOM	Southern Division Naval Facility Engineering Command
SRT	sediment recovery trap
TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin
TCDF	tetrachlorodibenzofuran
TEQ	toxicity equivalent
TtNUS	Tetra Tech NUS, Inc.
UCL	upper confidence limit
USAF	United States Air Force
U.S. EPA	United States Environmental Protection Agency
yd^3	cubic yards

1.0 INTRODUCTION

1.1 SCOPE AND PURPOSE

This Excavation and Confirmation Sampling Report for Naval Construction Battalion Center (NCBC) Gulfport, Former Herbicide Orange Study Area (Site 8), has been prepared by Tetra Tech NUS, Inc. (TtNUS) for the Southern Division Naval Facilities Engineering Command (SOUTHDIVNAVFACENGCOM) under the Navy Comprehensive Long-Term Environmental Action Navy (CLEAN) Program, Contract Number N62467-94-D-0888, Contract Task Order (CTO) 0187. The purpose of this report is to describe the excavation and confirmation sampling activities conducted in November and December 2001. This report is a follow-on to the Pilot-Scale Soil/Sediment Treatability Study Report (TtNUS, December 2001).

1.2 HISTORY AND PROJECT BACKGROUND

Excavation and confirmation sampling activities were performed to remove approximately 0.6 acres of dioxin-contaminated sediment located on an off-base property owned by Mr. H. A. Edwards (referred to as the Edwards Property). This property has been affected by the migration of dioxin-contaminated sediment from Site 8 at NCBC Gulfport. The Edwards Property occupies the furthest downstream area of contamination from Site 8 that has been delineated above action levels.

Site 8 occupies approximately 30 acres in the north central section of NCBC Gulfport. From 1968 to 1977, the site was used by the U.S. Air Force (USAF) for the storage of approximately 850,000 gallons of Herbicide Orange (HO) in 55-gallon drums. It was originally believed that only 12 acres of the site, designated as Site 8A, had been used for HO storage, but two additional storage areas were later identified, including 17-acre Site 8B and 1-acre Site 8C. Figure 1-1 shows the location of Sites 8A, 8B, and 8C.

The main chemical of concern at the Edwards Property is 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), which is a manufacturing impurity of the HO. In this document, TCDD and the other dioxins and furans found in HO will be collectively referred to as “dioxin.”

In 1977, the USAF disposed of the entire liquid HO inventory by high-temperature incineration at sea. During 1987 and 1988, approximately 30,000 cubic yards (yd^3) of dioxin-contaminated soil at Site 8 was treated by high-temperature incineration and the resulting ash was stored on Site 8A. This ash met the dioxin delisting concentration criterion of 1.0 microgram per kilogram (µg/kg) set by the Mississippi Department of Environmental Quality [(MDEQ), 1997] and was officially delisted in 1998.

As a result of the spills and leaks that occurred during the years of HO storage, dioxin has migrated through the system of on-base ditches to the off-base swampland located across 28th Street from Outfall 3. Due to dioxin's high affinity for soil and lack of water solubility, dioxin migration has primarily occurred through repeated erosion, transportation, and depositional cycles within the on-base drainage ditch system to the off-base swampland. Phase II pilot-scale treatability study activities involved the excavation of dioxin-contaminated sediment within this off-base swampland area. The area that was excavated is located approximately 600 feet north of the intersection of 58th Avenue and 31st Street in Gulfport, Mississippi (as shown on Figure 1-2).

1.3 STUDY OBJECTIVES

While the general objective of Phase II pilot-scale activities was to remove dioxin-contaminated sediment from the Edwards Property, specific objectives included:

- Performing site preparation activities to access the dioxin-contaminated sediment.
- Excavating the contaminated sediment from the Edwards Property.
- Transporting the excavated sediments to Site 8 at the NCBC Gulfport.
- Surveying the extent of excavation.
- Performing verification sampling at the excavation area.

1.4 DOCUMENT ORGANIZATION

This report is organized into the following three sections.

- Section 1.0 provides this brief introduction.
- Section 2.0 describes the field activities and results.
- Section 3.0 provides conclusions.

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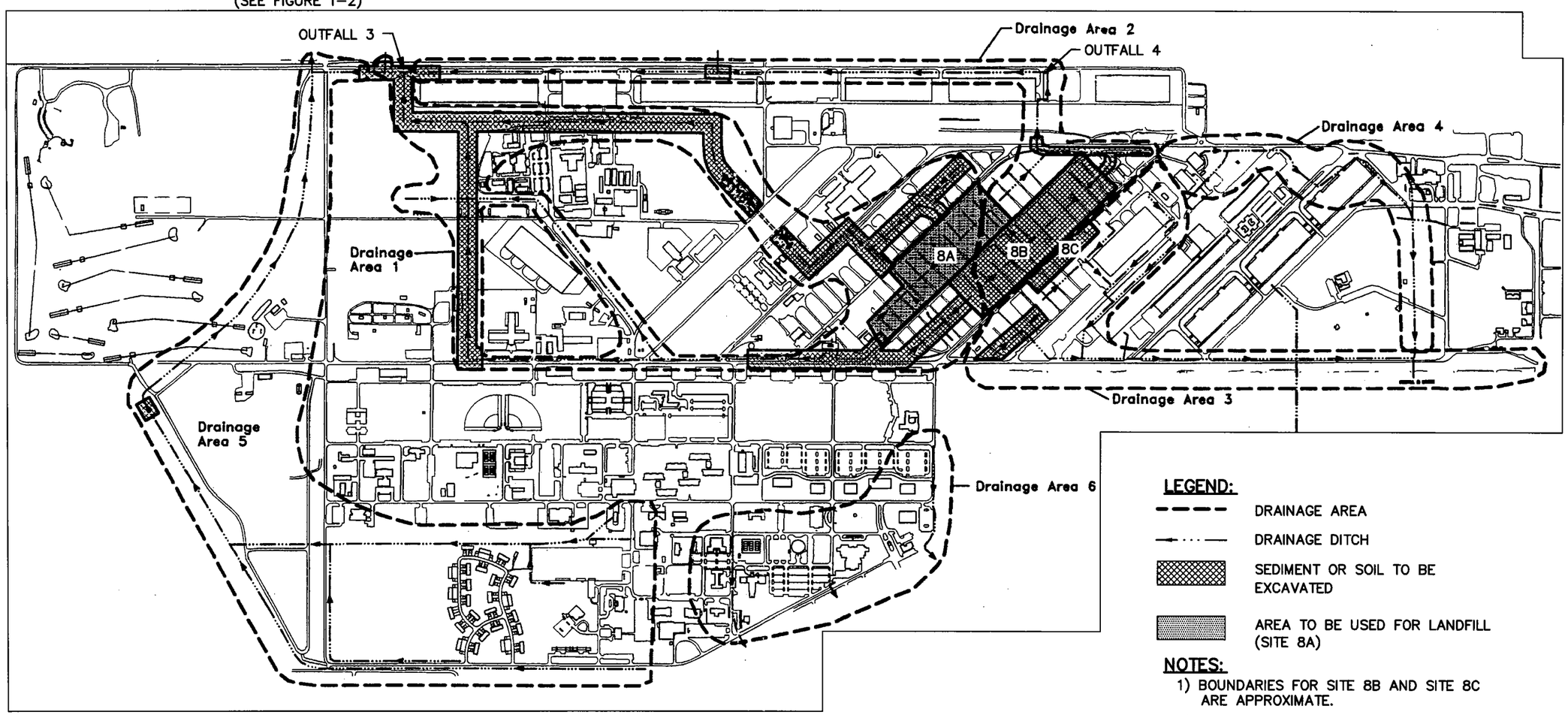


LEGEND:

- DRAINAGE AREA
- DRAINAGE DITCH
- SEDIMENT OR SOIL TO BE EXCAVATED
- AREA TO BE USED FOR LANDFILL (SITE 8A)

NOTES:

1) BOUNDARIES FOR SITE 8B AND SITE 8C ARE APPROXIMATE.
2) WIDTHS ACROSS DRAINAGE DITCHES ARE NOT TO SCALE.
3) ONLY DRAINAGE DITCH AT SITES 8B AND 8C ARE CONTAMINATED.

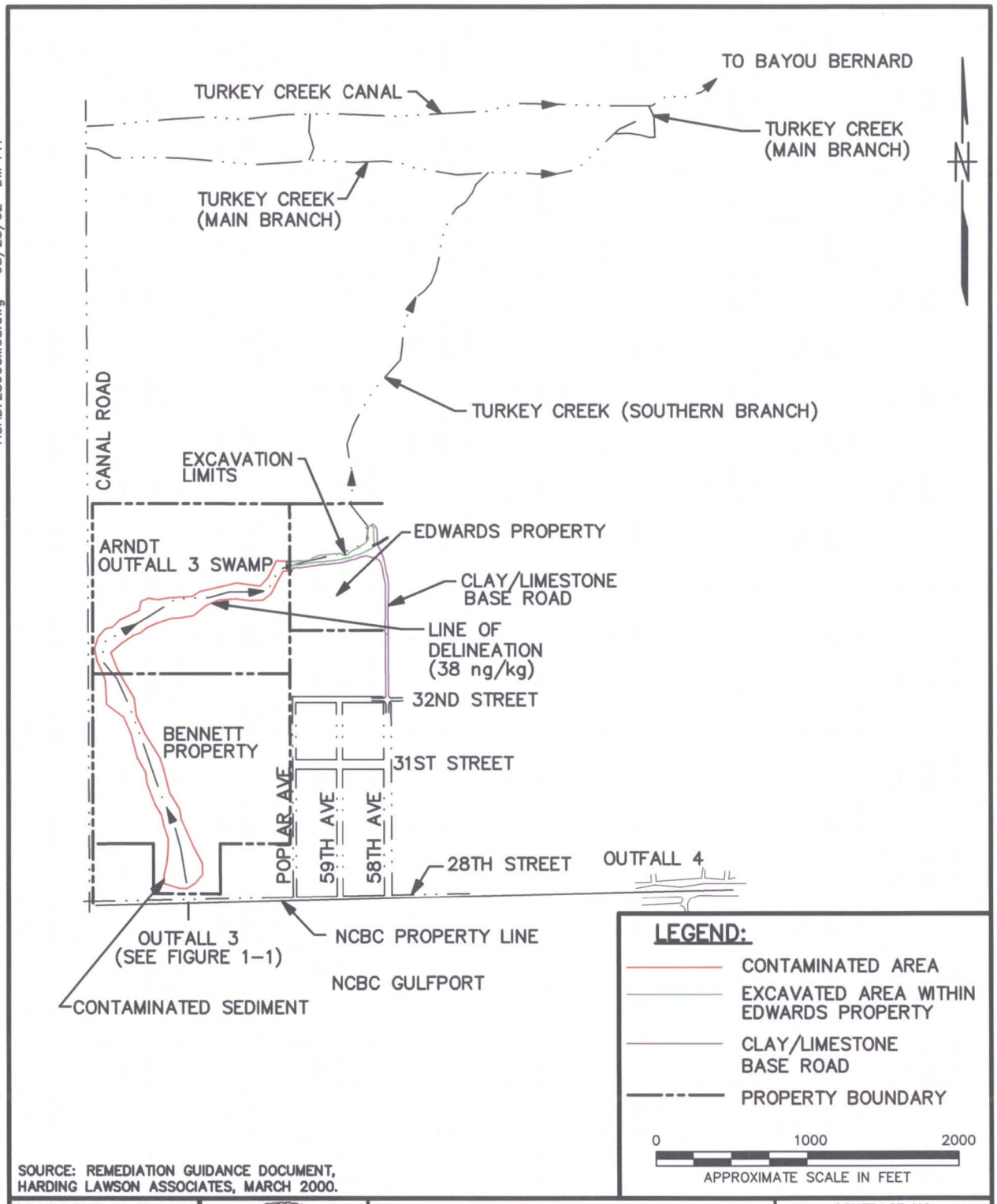
0 500 1000
APPROXIMATE SCALE IN FEET

SOURCE: REMEDIATION GUIDANCE DOCUMENT, HARDING LAWSON ASSOCIATES, MARCH 2000.

DRAWN BY DM DATE 8/28/02	AREAL EXTENT OF ON-BASE CONTAMINATED MEDIA EXCAVATION AND CONFIRMATION SAMPLING REPORT EDWARDS PROPERTY, GULFPORT, MISSISSIPPI	CONTRACT NO. 2860
CHECKED BY JJB DATE 8/28/02		APPROVED BY DATE
COST/SCHED-AREA		APPROVED BY DATE
SCALE AS NOTED		DRAWING NO. FIGURE 1-1 REV. 0

DEPARTMENT OF THE NAVY SOUTHERN DIV FACILITIES ENGINEERING COMD

FORM CADD NO. SDIV_BH.DWG - REV 0 - 1/20/98



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SOURCE: REMEDIATION GUIDANCE DOCUMENT, HARDING LAWSON ASSOCIATES, MARCH 2000.

DRAWN BY DM DATE 8/28/02	DEPARTMENT OF THE NAVY SOUTHERN DIV FACILITIES ENGINEERING COMD	AREAL EXTENT OF OFF-BASE CONTAMINATED MEDIA EXCAVATION AND CONFIRMATION SAMPLING REPORT EDWARDS PROPERTY, GULFPORT, MISSISSIPPI	CONTRACT NO. 2860
CHECKED BY JJB DATE 8/28/02			APPROVED BY DATE
COST/SCHED-AREA			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 1-2 REV. 0

FORM CADD NO. SDIV_AV.DWG - REV 0 - 1/20/98

2.0 FIELD ACTIVITIES AND SAMPLING RESULTS

The following sections discuss the excavation and confirmation sampling activities that were performed in November and December 2001 to meet the objectives discussed in the Pilot-Scale Work Plan (TtNUS, July 2001). Appendix A contains photographs of the field activities.

2.1 SITE PREPARATION

The portion of the Edwards Property identified for excavation is located in an off-base swampland area north of the base (see Figure 2-1). Initially, TtNUS personnel attempted to access the Edwards Property during Phase I pilot-scale activities in July 2001 by constructing a temporary gravel haul road from a 59th Avenue right-of-way. An existing gravel road was to be extended for this purpose. During the clearing and grubbing of the initial stretch of right-of-way, field personnel observed very soft ground conditions and standing water. An attempt to construct a haul road consisting of a woven geotextile overlaid by a layer of gravel was not successful. After heavy machinery made several passes along the newly constructed road, large ruts were observed. Upon consultation with the Navy, it was decided that excavation of sediment from the Edwards Property would be postponed until a time when ground conditions were expected to be drier. In October 2001, an examination of site conditions by TtNUS personnel indicated that water levels were much lower than those observed during the summer and a decision was made to mobilize to the site in early November.

On November 5, 2001, TtNUS personnel mobilized to the site to begin construction of a haul road. The haul road was constructed by extending 58th Avenue north approximately 450 feet to the southern branch of Turkey Creek. The haul road was then extended approximately 700 feet along the southern and eastern edge of the contaminated sediment area (see Figure 2-1). The haul road was constructed with a base of cut timber and native soil was used to fill in the voids. A surface layer of gravel/limestone was then spread and compacted above the soil layer.

2.2 EXCAVATION ACTIVITIES

2.2.1 Excavation Limits

The limits of excavation were determined based on the results of previous studies (Swamp Delineation Reports, Phases I – V, ABB-ES, 1998 and 1999). As determined in these studies, the primary transport mechanism of dioxin-contaminated sediment in the swampland drainage channels are the high surface water velocities associated with large storm events. These storm events are responsible for the downstream migration of dioxin-contaminated sediment; however, the deposition of these sediments is

influenced by the elevation changes associated with three terraces identified along the drainage patterns. Each terrace has unique depositional patterns, soil types, and vegetation.

Terrace 1 is located at the lowest elevation, or level, and forms the main channel. The soil's surface consists mainly of organic rich silts and clays. Soil becomes increasingly sandy below this surface layer. This terrace supports very little understory vegetation due to frequent flooding and poor drainage. This terrace was identified to be the most likely to contain significant levels of dioxin contamination.

Terrace 2 forms a margin that surrounds the Terrace 1 main channel, but at elevations slightly higher than Terrace 1. The organic rich surface soil layer is thinner and contains some sand. Terrace 2 supports more understory vegetation, which is the key to visually distinguish it from Terrace 1.

Terrace 3 occurs along the highest elevations in the study area. The soils are well-drained, dark brown, fine to medium sands that support abundant understory vegetation. These coarser grained soils were the main distinguishing feature between Terrace 3 and Terrace 2.

As determined in previous studies, these terraces are an important feature in the swampland because they limit the horizontal deposition of dioxin-contaminated sediment. Consequently, the boundary between Terrace 2 and Terrace 3 was used to determine the extent of excavation at the Edwards property. Excavation limits are displayed in Figure 2-1.

2.2.2 Excavation Activities

Once the construction of the haul road was completed, the contaminated sediment adjacent to the road was excavated with a track excavator and loaded into plastic lined 6 yd^3 and 12 yd^3 dump trucks. The average transport time for each truck's round trip was approximately 45 minutes. Overall, 1,287 yd^3 of unconsolidated material (approximately 1,030 yd^3 of consolidated material) were excavated from the Edwards Property. The areal extent of excavation was surveyed by a state-licensed surveyor employed by Land Surveying, Inc. of Gulfport, Mississippi. Based on the survey, the limits of excavation were determined to be 24,565 ft^2 or 0.564 acre. The average depth of excavation from this footprint was approximately 1.13 feet. Calculations of volumes of excavated sediments are provided in Appendix B.

2.2.3 Sediment Recovery Trap

To prevent recontamination of Edwards Property sediment, a sediment recovery trap (SRT) was installed on the western (upstream) edge of the excavation limits. The SRT consists of a series of 2 yd^3 gabion baskets filled with gravel and lined with geotextile filter fabric. The location of the SRT is displayed in Figure 2-2.

2.3 CONFIRMATION SAMPLING ACTIVITIES AND RESULTS

Verification sampling was performed at the Edwards Property in accordance with MDEQ recommendations based on Michigan Department of Environmental Quality (DEQ) guidance (Michigan DEQ, 1994). Using the Michigan DEQ guidance, a grid spacing interval was calculated to be approximately 23 feet and a corresponding grid was superimposed on the Edwards excavation area resulting in the creation of 62 grid nodes (see Figure 2-2). A random number generator was used to choose 25 percent of the grid nodes (16 samples) for sampling. A detailed rationale for the selection of confirmation samples locations is presented in Appendix B.

Sixteen samples and two duplicate samples were collected from a 0 to 6-inch interval per the Pilot-Scale Work Plan (TtNUS, 2001). The sediment samples were collected using a stainless steel spoon, mixed in a stainless steel bowl, and transferred to 8-oz sample jars for analysis. Samples collected in the western portion of the site consisted of either sand or sand with small amounts of organic matter. Samples collected in the eastern portion of the site consisted of either sand or a silty sand. Decontamination of the equipment between sampling locations consisted of an Alconox® wash and rinse, isopropyl alcohol rinse, and de-ionized water rinse. Chain of custody and sample log sheets for these samples are provided in Appendix C.

The samples were analyzed for TCDD and tetrachlorodibenzofuran (TCDF) isomers using United States Environmental Protection Agency (U.S. EPA) SW-846 Method 8290. Analytical results for the individual isomers are provided in Appendix D. Using these results, toxicity equivalent (TEQ) concentrations of TCDD were calculated in accordance with the Interim Report on Data Methods for Assessment of TCDD Risks (U.S. EPA, 1989). TCDD TEQ ranged from 0.16 to 6.12 nanograms per kilogram (ng/kg). Individual TEQ results are presented in Table 2-1 and displayed in Figure 2-2. The derivation of these values are provided in Appendix B.

Lastly, statistical evaluation of these data was performed as outlined in the Michigan DEQ guidance. As shown in Appendix B, the 95 percent upper confidence limit (UCL) was calculated to be 4.07 ng/kg.

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TABLE 2-1

VERIFICATION SAMPLING RESULTS
EXCAVATION AND CONFIRMATION SAMPLING REPORT
NCBC GULFPORT, MISSISSIPPI

Sample ID	Original Result (ng/kg)	Duplicate Result (ng/kg)	TEQ (ng/kg)
08SDVS101	2.78	NA	2.78
08SDVS102	0.68	NA	0.68
08SDVS103	0.16	0.97	0.56(1)
08SDVS104	1.25	NA	1.25
08SDVS105	4.87	5.18	5.03(1)
08SDVS106	0.44	NA	0.44
08SDVS107	1.80	NA	1.80
08SDVS108	4.78	NA	4.78
08SDVS109	6.12	NA	6.12
08SDVS110	5.98	NA	5.98
08SDVS111	2.59	NA	2.59
08SDVS112	2.89	NA	2.89
08SDVS113	4.06	NA	4.06
08SDVS114	3.31	NA	3.31
08SDVS115	3.68	NA	3.68
08SDVS116	5.62	NA	5.62

1. Average of original and duplicate sample.
NA = not applicable. A duplicate sample was not collected from this location.
ng/kg = nanogram per kilogram
TEQ = toxicity equivalent

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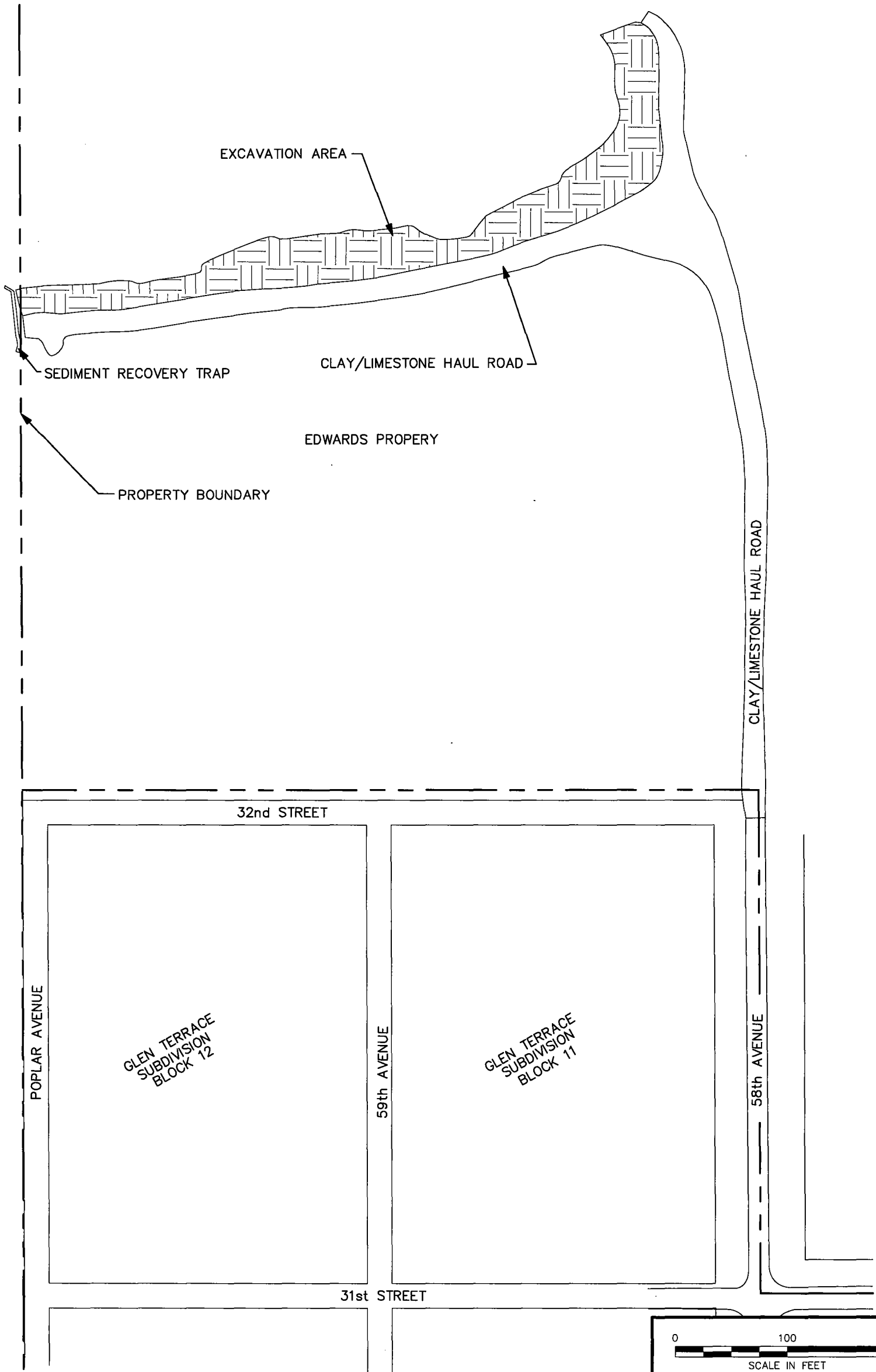


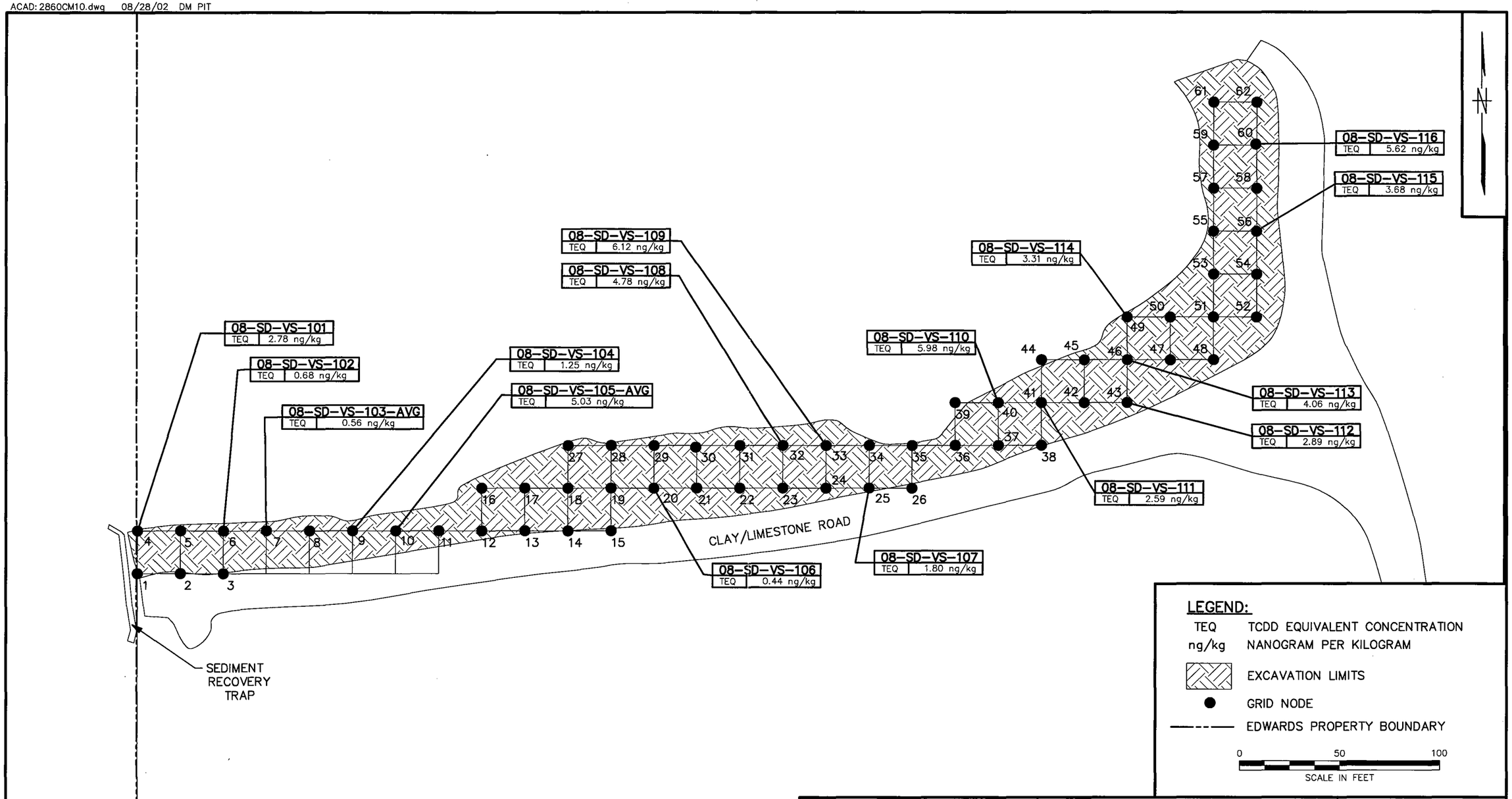
SOURCE: LAND SURVEYING INC. SURVEY, DECEMBER 4, 2001.

DRAWN BY DM DATE 8/28/02	EDWARDS PROPERTY BOUNDARY AND EXTENT OF CONTAMINATION EXCAVATION AND CONFIRMATION SAMPLING REPORT EDWARDS PROPERTY, GULFPORT, MISSISSIPPI	CONTRACT NO. 2860	
CHECKED BY JJB DATE 8/28/02		APPROVED BY DATE	
COST/SCHED-AREA		APPROVED BY DATE	
SCALE AS NOTED		DRAWING NO. FIGURE 2-1	REV. 0

DEPARTMENT OF THE NAVY SOUTHERN DIV FACILITIES ENGINEERING COMD

FORM CADD NO. SDIV_BV.DWG - REV 0 - 1/20/98

ACAD: 2860CM10.dwg 08/28/02 DM PIT



DRAWN BY DM DATE 8/28/02	SAMPLE LOCATIONS AND DIOXIN SAMPLING RESULTS EXCAVATION AND CONFIRMATION SAMPLING REPORT EDWARDS PROPERTY, GULFPORT, MISSISSIPPI	CONTRACT NO. 2860
CHECKED BY JJB DATE 8/28/02		OWNER NO. ———
REVISED BY DATE		APPROVED BY DATE
SCALE AS NOTED		DRAWING NO. FIGURE 2-2 REV. 0

FORM CADD NO. SDIV_DAL_BH.DWG - REV 0 -6/15/98

3.0 CONCLUSIONS

The removal of dixoin-contaminated sediment from the Edwards Property was completed using the delineation methods developed during several phases of investigation and confirmed through high-resolution dioxin analysis.

The distinction between Terrace 2 and Terrace 3 sediment was easily observable in the field and was used to determine the horizontal limits of excavation. The depth of excavation was determined by noting the distinction between the dark organic rich sediment found in the upper 1 foot of the surficial soils and the lighter and coarser grained sands found below the organic rich sediment.

To confirm the success of the removal, the 95 percent UCL for all post-removal sampling was calculated. The resulting value of 4.07 ng/kg is below the MDEQ Tier 1 soil/sediment target risk goal concentration of 4.26 ng/kg for unrestricted residential use.

Consequently, no further investigation or remedial action is recommended for the Edwards Property. However, the SRT installed along the western property boundary will remain in place until remedial actions upstream are completed.

REFERENCES

Harding Lawson Associates, 1998. Swamp Delineation Sampling, Phases III and IV, NCBC Gulfport, Mississippi, December 15.

Harding Lawson Associates, 1999. Swamp Delineation Sampling, Phases V and VI, NCBC Gulfport, Mississippi, August 20.

Michigan Department of Environmental Quality, 1994. Guidance Document: Verification of Soil Remediation, Environmental Response Division, Waste Management Division, April.

Mississippi Department of Environmental Quality, 1997. *Agreed Order No. 3466-97.* November.

Tetra Tech NUS, Inc., 2001. Work Plan for Pilot-Scale Soil/Sediment Treatability Study, Site 8 – Herbicide Orange Storage Area, NCBC Gulfport, Mississippi, July.

Tetra Tech NUS, Inc., 2001. Report - Pilot-Scale Soil/Sediment Treatability Study, Site 8 – Herbicide Orange Storage Area, NCBC Gulfport, Mississippi, December.

U.S. Environmental Protection Agency, 1989. Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 Update. U.S. Environmental Protection Agency, Risk Assessment Forum, Washington, DC; EPA/625/3-89/016.

APPENDIX A

PHOTOGRAPHS

1. The Haul Road Was Constructed With A Base Of Cut Timber

2. A Layer Of Native Soil Was Used To Fill In The Voids Between Timber

3. A Layer Of Gravel/Limestone Was Spread And Compacted Over The Soil Layer

4. Haul Road (Extension Of 58th Avenue Looking Toward The Southern Branch Of Turkey Creek)

5. Haul Road (East/West Branch Parallel To Contaminated Sediment)

6. Sediment Excavation (Facing West)

7. Sediment Excavation (Facing East)

8. Sediment Recovery Trap Construction

APPENDIX B

CALCULATIONS

B.1 EXCAVATION CALCULATIONS

B.2 SAMPLING LOCATION RATIONALE

B.3 SAMPLING RESULTS EVALUATION

B.1 EXCAVATION CALCULATIONS

CLIENT: NCBC Gulfport		JOB NUMBER: N2860
SUBJECT: Edwards Property Excavation Calculations		
BASED ON: Survey Data and Excavation Log Sheets		DRAWING NUMBER:
DESIGN BY: JJB DATE: 4/12/02	CHECKED BY: JRM DATE: 4-29-02	APPROVED BY: DATE:

PURPOSE:

To calculate:

1) volume of unconsolidated material excavated
2) volume of consolidated material excavated
3) average depth of excavation

ASSUMPTIONS:

- Areal extent of excavation = 24,565 ft^2 – from Land Surveying Inc. survey (Attachment 1)
- Excavated material is consistent of a loam. Swell factor for loam equals 25 percent (Merritt, 1983).

CALCULATIONS:

Volume of unconsolidated material. From excavation log sheets (Attachment 2):

Date	yd^3 unconsolidated material excavated
11/29/01	250
11/30/01	250
12/1/01	305
12/2/01	85
12/3/01	245
12/4/01	152
Total	1,287 yd^3

Volume of consolidated material excavated = vol. of unconsoldated material/(1+ swell factor)
= 1,287/(1 + 0.25)
= 1,029.6 yd^3

Average depth of excavation = Volume/Area
= (1,029.6 yd^3 x 27 ft^3 per yd^3)/(24,565 ft^2)
= 1.13 ft

REFERENCES:

Merritt, Frederick S., ed, 1983. Standard Handbook for Civil Engineers, Third Edition. McGraw-Hill Book Company, New York.

Attachment 1

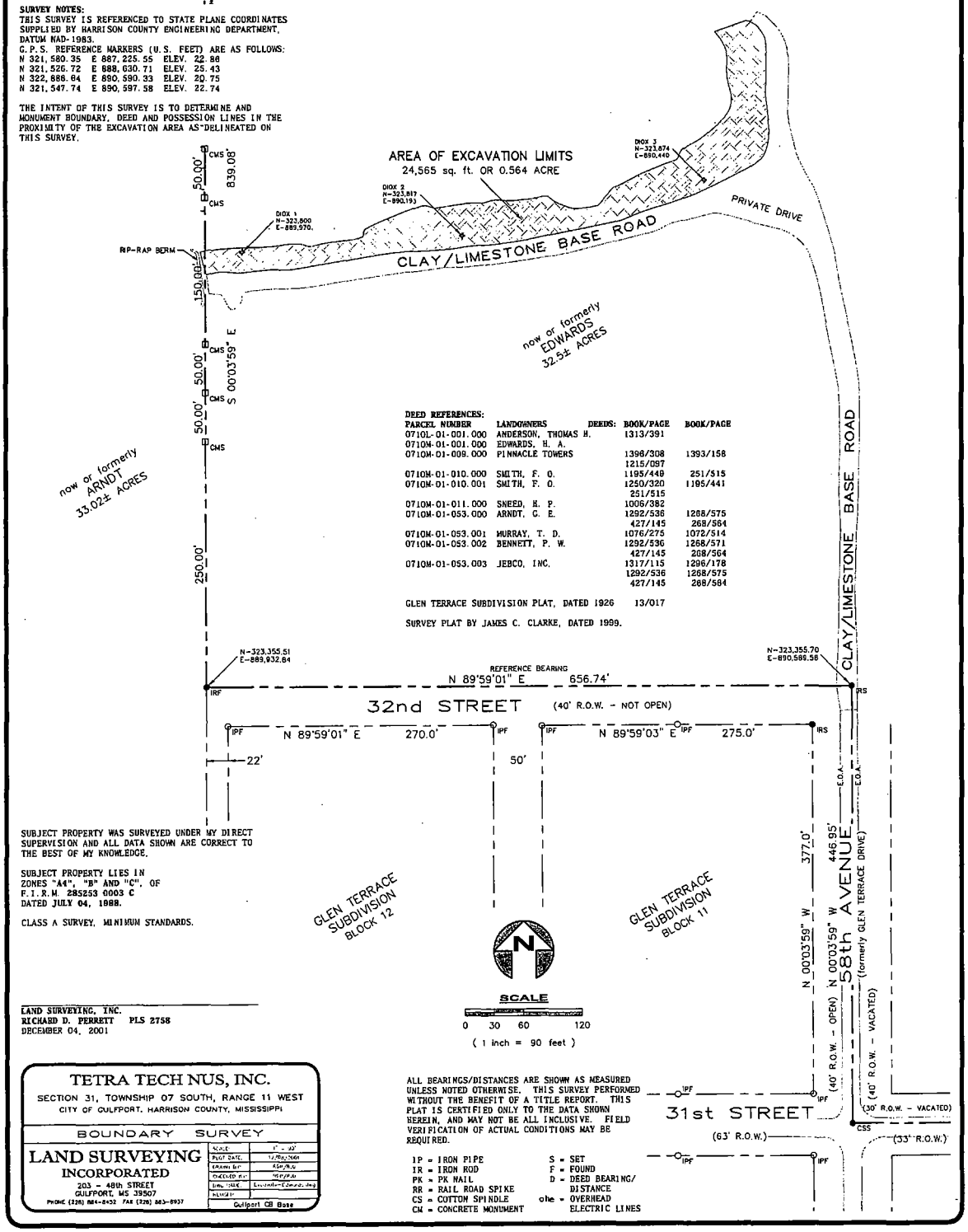
BOUNDARY SURVEY

PARCELS IN THE SW 1/4 OF
SECTION 31, TOWNSHIP 07 SOUTH, RANGE 11 WEST,
CITY OF GULFPORT, HARRISON COUNTY, MISSISSIPPI

SURVEY FOR TETRA TECH NUS, INC., DECEMBER 2001

SURVEY NOTES:
THIS SURVEY IS REFERENCED TO STATE PLANE COORDINATES SUPPLIED BY HARRISON COUNTY ENGINEERING DEPARTMENT, DATUM NAD-1983.
G.P.S. REFERENCE MARKERS (U.S. FEET) ARE AS FOLLOWS:
N 321, 580.35 E 887, 225.55 ELEV. 22.88
N 321, 526.72 E 888, 030.71 ELEV. 25.43
N 322, 886.84 E 890, 590.33 ELEV. 20.75
N 321, 547.74 E 890, 597.58 ELEV. 22.74

THE INTENT OF THIS SURVEY IS TO DETERMINE AND MONUMENT BOUNDARY, DEED AND POSSESSION LINES IN THE PROXIMITY OF THE EXCAVATION AREA AS DELINEATED ON THIS SURVEY.



DEED REFERENCES:

PARCEL NUMBER	LANDOWNERS	DEEDS: BOOK/PAGE	BOOK/PAGE
0710L-01-001.000	ANDERSON, THOMAS H.	1313/391	
0710M-01-001.000	EDWARDS, H. A.		
0710M-01-009.000	PINNACLE TOWERS	1398/308	1393/158
		1215/097	
0710M-01-010.000	SMITH, F. O.	1195/449	251/515
0710M-01-010.001	SMITH, F. O.	1250/320	1195/441
		251/515	
0710M-01-011.000	SNEED, H. P.	1006/382	
0710M-01-053.000	ARNDT, G. E.	1292/536	1268/575
		427/145	268/564
0710M-01-053.001	MURRAY, T. D.	1076/275	1072/514
0710M-01-053.002	BENNETT, P. W.	1292/536	1268/571
		427/145	268/564
0710M-01-053.003	JEBCO, INC.	1317/115	1296/178
		1292/536	1268/575
		427/145	268/564

GLEN TERRACE SUBDIVISION PLAT, DATED 1926 13/017

SURVEY PLAT BY JAMES C. CLARKE, DATED 1999.

SUBJECT PROPERTY WAS SURVEYED UNDER MY DIRECT SUPERVISION AND ALL DATA SHOWN ARE CORRECT TO THE BEST OF MY KNOWLEDGE.

SUBJECT PROPERTY LIES IN ZONES "A4", "B" AND "C", OF F.I.R.M. 285253 0003 C DATED JULY 04, 1988.

CLASS A SURVEY, MINIMUM STANDARDS.

LAND SURVEYING, INC.
RICHARD D. PERRETT PLS 2758
DECEMBER 04, 2001

ALL BEARINGS/DISTANCES ARE SHOWN AS MEASURED UNLESS NOTED OTHERWISE. THIS SURVEY PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. THIS PLAT IS CERTIFIED ONLY TO THE DATA SHOWN HEREIN, AND MAY NOT BE ALL INCLUSIVE. FIELD VERIFICATION OF ACTUAL CONDITIONS MAY BE REQUIRED.

IP = IRON PIPE
IR = IRON ROD
PK = PK NAIL
RR = RAIL ROAD SPIKE
CS = COTTON SPINDLE
CM = CONCRETE MONUMENT
S = SET
F = FOUND
D = DEED BEARING/DISTANCE
ohe = OVERHEAD ELECTRIC LINES

TETRA TECH NUS, INC.
SECTION 31, TOWNSHIP 07 SOUTH, RANGE 11 WEST
CITY OF GULFPORT, HARRISON COUNTY, MISSISSIPPI

BOUNDARY SURVEY

LAND SURVEYING INCORPORATED
203 - 48th STREET
GULFPORT, MS 39507
PHONE (228) 864-8452 FAX (228) 863-8937

SCALE	1" = 90'
PLOT DATE	12/03/2001
DRAWN BY	RDP/RJG
CHECKED BY	RDP/RJG
DWG. NAME	Lawrence-Edwards.dwg
BLOCK	
Gulfport CB Base	

Attachment 2

Excavation Log sheets

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 11/29/01

DRIVER: MIKE

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** X **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** _____

****

(1) 7:15 (2) 8:02 (3) 8:47 (4) 9:30 (5) 10:25 FIX TIRE
(6) 12:20 (7) 1:15 (8) 1:57 (9) 2:40 (10) 3:25
(11) 4:08 (12) _____ (13) _____ (14) _____ (15) _____
(16) _____ (17) _____ (18) _____ (19) _____ (20) _____
(21) _____ (22) _____ (23) _____ (24) _____ (25) _____
(26) _____ (27) _____ (28) _____ (29) _____ (30) _____
(31) _____ (32) _____ (33) _____ (34) _____ (35) _____
(36) _____ (37) _____ (38) _____ (39) _____ (40) _____
(41) _____ (42) _____ (43) _____ (44) _____ (45) _____
(46) _____ (47) _____ (48) _____ (49) _____ (50) _____

11 X 5 = 55 YD

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 11-29-01

DRIVER: KEN BURLEY

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** ✓ **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** _____

****

(1) 7:50 (2) 8:30 (3) 9:15 (4) 10:00 (5) 10:55
(6) 1:05 (7) 1:50 (8) 2:40 (9) 3:25 (10) 4:05
(11) _____ (12) _____ (13) _____ (14) _____ (15) _____
(16) _____ (17) _____ (18) _____ (19) _____ (20) _____
(21) _____ (22) _____ (23) _____ (24) _____ (25) _____
(26) _____ (27) _____ (28) _____ (29) _____ (30) _____
(31) _____ (32) _____ (33) _____ (34) _____ (35) _____
(36) _____ (37) _____ (38) _____ (39) _____ (40) _____
(41) _____ (42) _____ (43) _____ (44) _____ (45) _____
(46) _____ (47) _____ (48) _____ (49) _____ (50) _____

10 X 5 = 50 cy YD

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: THUR 11/29/01

DRIVER: Margitts

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** _____ **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** _____

****

(1) 730	(2) 0832	(3) 910	(4) 1000	(5) 1050
(6) 1225	(7) 1307	(8) 1400	(9) 1440	(10) 1520
(11) 1600	(12)	(13)	(14)	(15)
(16)	(17)	(18)	(19)	(20)
(21)	(22)	(23)	(24)	(25)
(26)	(27)	(28)	(29)	(30)
(31)	(32)	(33)	(34)	(35)
(36)	(37)	(38)	(39)	(40)
(41)	(42)	(43)	(44)	(45)
(46)	(47)	(48)	(49)	(50)

11 X 5 = 55 cuyds

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 11-24-02
DRIVER: JIM SEPKOVIC
LOCATION: _____
ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** X **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** _____

****

(1) ✓ (2) ✓ (3) ✓ (4) ✓ (5) ✓
(6) ✓ (7) ✓ (8) ✓ (9) ✓ (10) ✓
(11) _____ (12) _____ (13) _____ (14) _____ (15) _____
(16) _____ (17) _____ (18) _____ (19) _____ (20) _____
(21) _____ (22) _____ (23) _____ (24) _____ (25) _____
(26) _____ (27) _____ (28) _____ (29) _____ (30) _____
(31) _____ (32) _____ (33) _____ (34) _____ (35) _____
(36) _____ (37) _____ (38) _____ (39) _____ (40) _____
(41) _____ (42) _____ (43) _____ (44) _____ (45) _____
(46) _____ (47) _____ (48) _____ (49) _____ (50) _____

10 X 9 = 90 cu.yds

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 11/30/01

DRIVER: D. WESTERHOFF

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** ✓ **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** _____

****

(1) 1400	(2) 1455	(3) 1545	(4)	(5)
(6)	(7)	(8)	(9)	(10)
(11)	(12)	(13)	(14)	(15)
(16)	(17)	(18)	(19)	(20)
(21)	(22)	(23)	(24)	(25)
(26)	(27)	(28)	(29)	(30)
(31)	(32)	(33)	(34)	(35)
(36)	(37)	(38)	(39)	(40)
(41)	(42)	(43)	(44)	(45)
(46)	(47)	(48)	(49)	(50)

3 X 5 = 15

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: FRI 11/30/01
DRIVER: Kevin J Magetts
LOCATION: Gulf Port

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** _____ **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** ✓

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** 1

****

(1) 730 (2) 837 (3) 1000 (4) 1033 (5) 1115
(6) 1320 (7) 1400 (8) 1440 (9) 1530 (10) _____
(11) _____ (12) _____ (13) _____ (14) _____ (15) _____
(16) _____ (17) _____ (18) _____ (19) _____ (20) _____
(21) _____ (22) _____ (23) _____ (24) _____ (25) _____
(26) _____ (27) _____ (28) _____ (29) _____ (30) _____
(31) _____ (32) _____ (33) _____ (34) _____ (35) _____
(36) _____ (37) _____ (38) _____ (39) _____ (40) _____
(41) _____ (42) _____ (43) _____ (44) _____ (45) _____
(46) _____ (47) _____ (48) _____ (49) _____ (50) _____

9 x 5 = 45

10/27

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 11/30/01

DRIVER: MALECA

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** X **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** _____

****

(1) 7:30 (2) 8:35 (3) 9:35 (4) 10:10 (5) 10:50
(6) 12:30 (7) 1:20 (8) 2:10 (9) 2:55 (10) 3:48
(11) _____ (12) _____ (13) _____ (14) _____ (15) _____
(16) _____ (17) _____ (18) _____ (19) _____ (20) _____
(21) _____ (22) _____ (23) _____ (24) _____ (25) _____
(26) _____ (27) _____ (28) _____ (29) _____ (30) _____
(31) _____ (32) _____ (33) _____ (34) _____ (35) _____
(36) _____ (37) _____ (38) _____ (39) _____ (40) _____
(41) _____ (42) _____ (43) _____ (44) _____ (45) _____
(46) _____ (47) _____ (48) _____ (49) _____ (50) _____

10 x 5 = 50 cyd

11/27

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 11-30-09

DRIVER: JIM SEPKOVIC

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** _____ **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

12 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD: ✓

****

(1) ✓ (2) ✓ (3) ✓ (4) ✓ (5) ✓

(6) ✓ (7) ✓ (8) ✓ (9) ✓ (10) _____

(11) _____ (12) _____ (13) _____ (14) _____ (15) _____

(16) _____ (17) _____ (18) _____ (19) _____ (20) _____

(21) _____ (22) _____ (23) _____ (24) _____ (25) _____

(26) _____ (27) _____ (28) _____ (29) _____ (30) _____

(31) _____ (32) _____ (33) _____ (34) _____ (35) _____

(36) _____ (37) _____ (38) _____ (39) _____ (40) _____

(41) _____ (42) _____ (43) _____ (44) _____ (45) _____

(46) _____ (47) _____ (48) _____ (49) _____ (50) _____

9 X 10 = 90

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 11-30-01

DRIVER: KEN BURLEY

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** ✓ **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** ✓

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** ✓

****

(1) 7:59 (2) 8:57 (3) 10:00 (4) 10:40 (5) 11:25
(6) 12:55 (7) 1:40 (8) 2:25 (9) 3:00 (10) 3:45
(11) _____ (12) _____ (13) _____ (14) _____ (15) _____
(16) _____ (17) _____ (18) _____ (19) _____ (20) _____
(21) _____ (22) _____ (23) _____ (24) _____ (25) _____
(26) _____ (27) _____ (28) _____ (29) _____ (30) _____
(31) _____ (32) _____ (33) _____ (34) _____ (35) _____
(36) _____ (37) _____ (38) _____ (39) _____ (40) _____
(41) _____ (42) _____ (43) _____ (44) _____ (45) _____
(46) _____ (47) _____ (48) _____ (49) _____ (50) _____

50

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: Sat Dec.

DRIVER: Kevin J. Margitts

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** _____ **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** _____

****

(1) ✓	(2) ✓	(3) ✓	(4) ✓	(5) ✓
(6) ✓	(7) _____	(8) _____	(9) _____	(10) _____
(11) _____	(12) _____	(13) _____	(14) _____	(15) _____
(16) _____	(17) _____	(18) _____	(19) _____	(20) _____
(21) _____	(22) _____	(23) _____	(24) _____	(25) _____
(26) _____	(27) _____	(28) _____	(29) _____	(30) _____
(31) _____	(32) _____	(33) _____	(34) _____	(35) _____
(36) _____	(37) _____	(38) _____	(39) _____	(40) _____
(41) _____	(42) _____	(43) _____	(44) _____	(45) _____
(46) _____	(47) _____	(48) _____	(49) _____	(50) _____

4 x 5 = 20

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 12/01/01

DRIVER: Bob

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** X **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** _____

****

(1) 0730 (2) 0820 (3) 0900 (4) 1200 (5) 1245
(6) 1335 (7) 1430 (8) 1310 (9) _____ (10) _____
(11) _____ (12) _____ (13) _____ (14) _____ (15) _____
(16) _____ (17) _____ (18) _____ (19) _____ (20) _____
(21) _____ (22) _____ (23) _____ (24) _____ (25) _____
(26) _____ (27) _____ (28) _____ (29) _____ (30) _____
(31) _____ (32) _____ (33) _____ (34) _____ (35) _____
(36) _____ (37) _____ (38) _____ (39) _____ (40) _____
(41) _____ (42) _____ (43) _____ (44) _____ (45) _____
(46) _____ (47) _____ (48) _____ (49) _____ (50) _____

HYDRAULIC LEAK @ 9:30

8 X 5 = 40

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 12-1-01

DRIVER: KEN BURLEY

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** ✓ **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** _____

****

(1) ✓	(2) ✓	(3) ✓	(4) ✓	(5) ✓
(6) ✓	(7) ✓	(8) ✓	(9) ✓	(10) ✓
(11) ✓	(12) ✓	(13)	(14)	(15)
(16)	(17)	(18)	(19)	(20)
(21)	(22)	(23)	(24)	(25)
(26)	(27)	(28)	(29)	(30)
(31)	(32)	(33)	(34)	(35)
(36)	(37)	(38)	(39)	(40)
(41)	(42)	(43)	(44)	(45)
(46)	(47)	(48)	(49)	(50)

12 X 5 = 60

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 12/01/01
DRIVER: Mike

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** _____ **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** _____

****

(1) 7:05 (2) 7:40 (3) 8:15 (4) 8:50 (5) 9:20
(6) 9:50 (7) 10:32 (8) 12:00 (9) 12:40 (10) 1:30
(11) 2:16 (12) 2:55 (13) 3:30 (14) _____ (15) _____
(16) _____ (17) _____ (18) _____ (19) _____ (20) _____
(21) _____ (22) _____ (23) _____ (24) _____ (25) _____
(26) _____ (27) _____ (28) _____ (29) _____ (30) _____
(31) _____ (32) _____ (33) _____ (34) _____ (35) _____
(36) _____ (37) _____ (38) _____ (39) _____ (40) _____
(41) _____ (42) _____ (43) _____ (44) _____ (45) _____
(46) _____ (47) _____ (48) _____ (49) _____ (50) _____

13 x 5 = 65

17/27

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 12-1-01

DRIVER: Tim

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** _____ **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** X

12

****

(1) ✓	(2) ✓	(3) ✓	(4) ✓	(5) ✓
(6) ✓	(7) ✓	(8) ✓	(9) ✓	(10) ✓
(11) ✓	(12) ✓	(13) _____	(14) _____	(15) _____
(16) _____	(17) _____	(18) _____	(19) _____	(20) _____
(21) _____	(22) _____	(23) _____	(24) _____	(25) _____
(26) _____	(27) _____	(28) _____	(29) _____	(30) _____
(31) _____	(32) _____	(33) _____	(34) _____	(35) _____
(36) _____	(37) _____	(38) _____	(39) _____	(40) _____
(41) _____	(42) _____	(43) _____	(44) _____	(45) _____
(46) _____	(47) _____	(48) _____	(49) _____	(50) _____

12 X 10 = 120

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 12/02/01

DRIVER: JAMES

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** X **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

12 ***5 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** X

****

(1) ✓	(2) ✓	(3) ✓	(4) ✓	(5)
(6)	(7)	(8)	(9)	(10)
(11)	(12)	(13)	(14)	(15)
(16)	(17)	(18)	(19)	(20)
(21)	(22)	(23)	(24)	(25)
(26)	(27)	(28)	(29)	(30)
(31)	(32)	(33)	(34)	(35)
(36)	(37)	(38)	(39)	(40)
(41)	(42)	(43)	(44)	(45)
(46)	(47)	(48)	(49)	(50)

4 X 10 = 40

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 12/02/01

DRIVER: Malecn

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** X **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

X ***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** X

****

(1) 705 (2) 1045 (3) _____ (4) _____ (5) _____

(6) _____ (7) _____ (8) _____ (9) _____ (10) _____

(11) _____ (12) _____ (13) _____ (14) _____ (15) _____

(16) _____ (17) _____ (18) _____ (19) _____ (20) _____

(21) _____ (22) _____ (23) _____ (24) _____ (25) _____

(26) _____ (27) _____ (28) _____ (29) _____ (30) _____

(31) _____ (32) _____ (33) _____ (34) _____ (35) _____

(36) _____ (37) _____ (38) _____ (39) _____ (40) _____

(41) _____ (42) _____ (43) _____ (44) _____ (45) _____

(46) _____ (47) _____ (48) _____ (49) _____ (50) _____

10

20/27

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 12/2/01

DRIVER: DON WESTERHOFF

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** ✓ **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** _____

****

(1) 0715	(2) 0745	(3) 825	(4) 910	(5) 945
(6)	(7)	(8)	(9)	(10)
(11)	(12)	(13)	(14)	(15)
(16)	(17)	(18)	(19)	(20)
(21)	(22)	(23)	(24)	(25)
(26)	(27)	(28)	(29)	(30)
(31)	(32)	(33)	(34)	(35)
(36)	(37)	(38)	(39)	(40)
(41)	(42)	(43)	(44)	(45)
(46)	(47)	(48)	(49)	(50)

25

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 12-2-01

DRIVER: KEN BURLEY

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** ✓ **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** _____

****

(1) ✓	(2) ✓	(3)	(4)	(5)
(6)	(7)	(8)	(9)	(10)
(11)	(12)	(13)	(14)	(15)
(16)	(17)	(18)	(19)	(20)
(21)	(22)	(23)	(24)	(25)
(26)	(27)	(28)	(29)	(30)
(31)	(32)	(33)	(34)	(35)
(36)	(37)	(38)	(39)	(40)
(41)	(42)	(43)	(44)	(45)
(46)	(47)	(48)	(49)	(50)

18

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 12-3-01

DRIVER: Kevin J. Margetts

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** X **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** X

****

(1) 745 (2) 940 (3) 1030 (4) 1208 (5) 1302
(6) 1347 (7) 1430 (8) 1501 (9) 1544 (10) _____
(11) _____ (12) _____ (13) _____ (14) _____ (15) _____
(16) _____ (17) _____ (18) _____ (19) _____ (20) _____
(21) _____ (22) _____ (23) _____ (24) _____ (25) _____
(26) _____ (27) _____ (28) _____ (29) _____ (30) _____
(31) _____ (32) _____ (33) _____ (34) _____ (35) _____
(36) _____ (37) _____ (38) _____ (39) _____ (40) _____
(41) _____ (42) _____ (43) _____ (44) _____ (45) _____
(46) _____ (47) _____ (48) _____ (49) _____ (50) _____

9X5=45

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 12/3/01

DRIVER: MALECA

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** X **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** X

****

(1) ✓	(2) ✓	(3) ✓	(4) ✓	(5) ✓
(6) ✓	(7) ✓	(8) ✓	(9) ✓	(10) ✓
(11)	(12)	(13)	(14)	(15)
(16)	(17)	(18)	(19)	(20)
(21)	(22)	(23)	(24)	(25)
(26)	(27)	(28)	(29)	(30)
(31)	(32)	(33)	(34)	(35)
(36)	(37)	(38)	(39)	(40)
(41)	(42)	(43)	(44)	(45)
(46)	(47)	(48)	(49)	(50)

10 x 5 = 50

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 12-3-01

DRIVER: KEN BURLEY

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** ✓ **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** X

****

(1) ✓	(2) ✓	(3) ✓	(4) ✓	(5) ✓
(6) ✓	(7) ✓	(8) ✓	(9) ✓	(10) ✓
(11)	(12)	(13)	(14)	(15)
(16)	(17)	(18)	(19)	(20)
(21)	(22)	(23)	(24)	(25)
(26)	(27)	(28)	(29)	(30)
(31)	(32)	(33)	(34)	(35)
(36)	(37)	(38)	(39)	(40)
(41)	(42)	(43)	(44)	(45)
(46)	(47)	(48)	(49)	(50)

10 x 5 = 50

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 12-3-01

DRIVER: JIM SEPKOVIC

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** ✓ **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

12 ~~26~~ CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD: X

****

(1) ✓	(2) ✓	(3) ✓	(4) ✓	(5) ✓
(6) ✓	(7) ✓	(8) ✓	(9) ✓	(10) ✓
(11)	(12)	(13)	(14)	(15)
(16)	(17)	(18)	(19)	(20)
(21)	(22)	(23)	(24)	(25)
(26)	(27)	(28)	(29)	(30)
(31)	(32)	(33)	(34)	(35)
(36)	(37)	(38)	(39)	(40)
(41)	(42)	(43)	(44)	(45)
(46)	(47)	(48)	(49)	(50)

10 X 10 = 100

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 12-4-01

DRIVER: KEN BURLEY

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** ✓ **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** _____

****

(1) ✓	(2) ✓	(3) ✓	(4) ✓	(5) ✓	8X5=40
(6) ✓	(7) ✓	(8) ✓	(9)	(10)	
(11)	(12)	(13)	(14)	(15)	
(16)	(17)	(18)	(19)	(20)	
(21)	(22)	(23)	(24)	(25)	
(26)	(27)	(28)	(29)	(30)	
(31)	(32)	(33)	(34)	(35)	
(36)	(37)	(38)	(39)	(40)	
(41)	(42)	(43)	(44)	(45)	
(46)	(47)	(48)	(49)	(50)	

JAMES

Big Truck
12 YD
4 X 10 = 40
1 X 12 = 12
52

Small
6 YD
3 X 5 = 15

67 CU YDS

TRUCK LOAD TALLY SHEET
ON BASE SEDIMENT/OFF BASE SEDIMENT/ASH

DATE: 12-4-01

DRIVER: MIKE

LOCATION: _____

ON BASE SEDIMENT: _____ **OFF BASE SEDIMENT:** _____ **ASH:** _____

****

TYPE OF TRANSPORT VEHICLE & TIME LOAD IS DUMPED

***3 CY WHEEL LOADER BUCKET LOADS DUMPED ON STORAGE PAD:** _____

***6 CY DUMP TRUCK LOADS DUMPED ON STORAGE PAD:** _____

****

(1) ✓	(2) ✓	(3) ✓	(4) ✓	(5) ✓
(6) ✓	(7) ✓	(8) ✓	(9) ✓	(10) _____
(11) _____	(12) _____	(13) _____	(14) _____	(15) _____
(16) _____	(17) _____	(18) _____	(19) _____	(20) _____
(21) _____	(22) _____	(23) _____	(24) _____	(25) _____
(26) _____	(27) _____	(28) _____	(29) _____	(30) _____
(31) _____	(32) _____	(33) _____	(34) _____	(35) _____
(36) _____	(37) _____	(38) _____	(39) _____	(40) _____
(41) _____	(42) _____	(43) _____	(44) _____	(45) _____
(46) _____	(47) _____	(48) _____	(49) _____	(50) _____

9 X 5 = 45
52
15
40
152

B.2 SAMPLING LOCATION RATIONALE

CLIENT: NCBC Gulfport		JOB NUMBER: N2860	
SUBJECT: Edwards Property Confirmation Sampling Location Rationale			
BASED ON: Michigan Soil Sampling Guidance, Site Survey		DRAWING NUMBER:	
DESIGN BY: JJB DATE: 12/07/01	CHECKED BY: JRM DATE: 4-29-02	APPROVED BY:	DATE:

PURPOSE:

To create a sampling grid for confirmation sediment sampling at the Edwards property.

APPROACH:

Michigan guidance titled "Verification of Soil Remediation" will be used to determine the grid spacing for the confirmation sampling. Based on this guidance, the Edwards property is defined as a medium-sized site and the grid interval is determined by the following equation.

$$\text{Grid Interval} = [(\text{Excavation Area}/\pi)^{1/2}]/4$$

Where the excavation area is the total area of the sidewalls and base of excavation.

ASSUMPTIONS:

- TtNUS excavated sediment contaminated with dioxins in November/December. The area of excavation was subsequently surveyed in December and determined to be 24,565 square feet (see Attachment 1).
- The perimeter of the excavation area was determined to be 1,512 linear feet.
- An average of 1.13 feet of sediment were excavated.

CALCULATIONS:

Excavation Area = 24,565 ft^2 + (1,512 ft)(1.13 feet) = 26,274 ft^2

Grid Interval = $[(26{,}274\ ft^2/\pi)^{1/2}]/4$ = 22.9 feet

Attachment 1 provides a sampling grid based on this interval.

REFERENCES:

Verification of Soil Remediation, April 1994. Revision 1, Michigan Department of Environmental Quality.

BOUNDARY SURVEY

PARCELS IN THE SW 1/4 OF
SECTION 31, TOWNSHIP 07 SOUTH, RANGE 11 WEST,
CITY OF GULFPORT, HARRISON COUNTY, MISSISSIPPI

SURVEY FOR TETRA TECH NUS, INC., DECEMBER 2001

(62)(0.25) = 15.5 ~ 16 samples

CMS — NOT TO SCALE

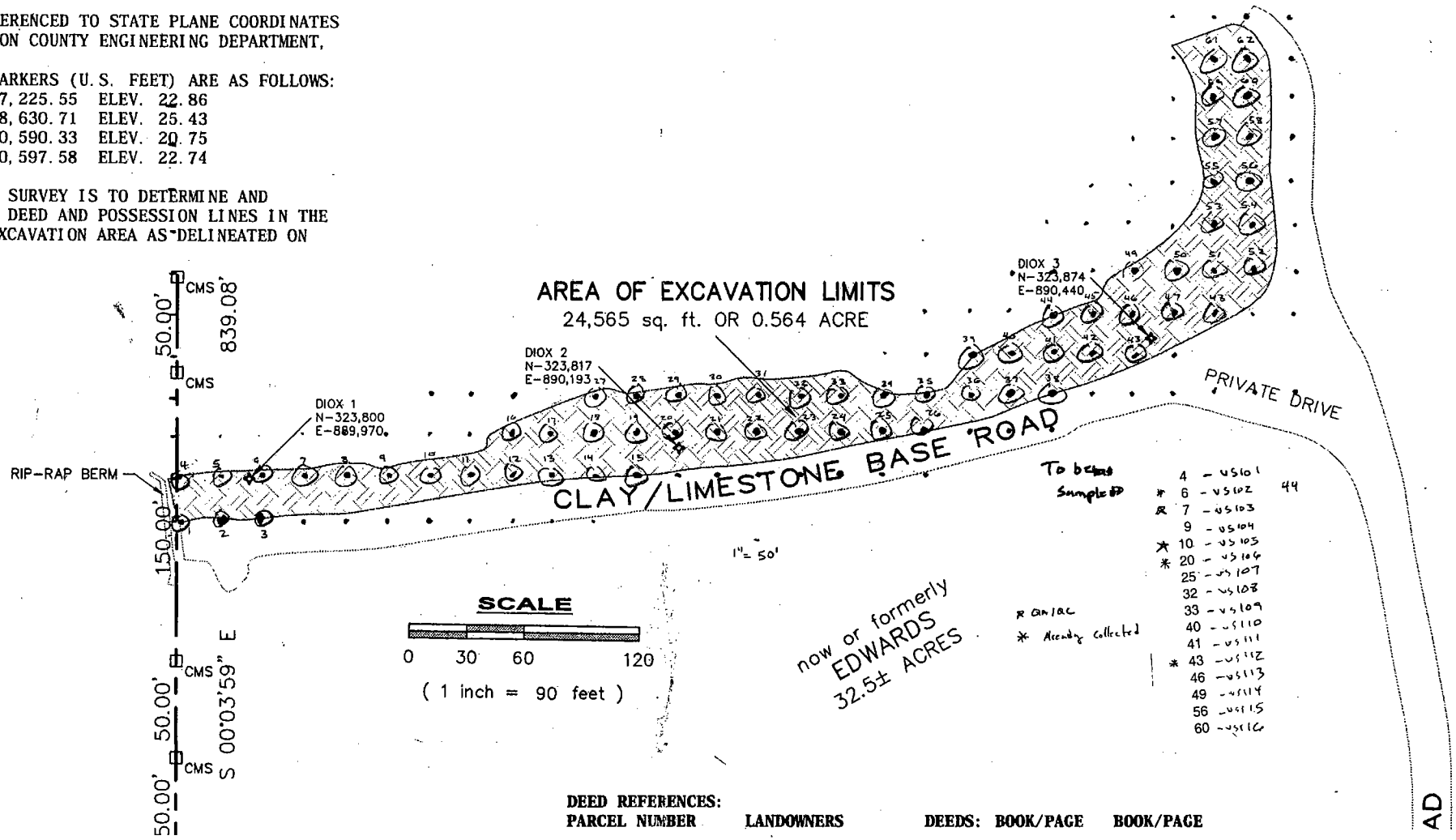
RVEY NOTES:

S SURVEY IS REFERENCED TO STATE PLANE COORDINATES
PLIED BY HARRISON COUNTY ENGINEERING DEPARTMENT,
UM NAD-1983.

. S. REFERENCE MARKERS (U.S. FEET) ARE AS FOLLOWS:

21,580.35	E 887,225.55	ELEV. 22.86
21,526.72	E 888,630.71	ELEV. 25.43
22,886.64	E 890,590.33	ELEV. 20.75
21,547.74	E 890,597.58	ELEV. 22.74

INTENT OF THIS SURVEY IS TO DETERMINE AND
UMENT BOUNDARY, DEED AND POSSESSION LINES IN THE
XIMITY OF THE EXCAVATION AREA AS DELINEATED ON
S SURVEY.



DEED REFERENCES:

PARCEL NUMBER	LANDOWNERS	DEEDS: BOOK/PAGE	BOOK/PAGE

Page 2 of 2

B.3 SAMPLING RESULTS EVALUATION

CLIENT: NCBC Gulfport		JOB NUMBER: N0567
SUBJECT: Sampling Results Evaluation		
BASED ON: Michigan Soil Sampling Guidance, Site Survey		DRAWING NUMBER:
DESIGN BY: JJB DATE: 1/31/02	CHECKED BY: RH DATE: 3/18/02	APPROVED BY: DATE:

PURPOSE:

The purposes of this calculation are to:

1. Determine the 95 percent upper confidence limit (UCL) of the mean dioxin toxicity equivalent (TEQ) concentration observed at the Edwards property.
2. Determine whether the 95 percent UCL value is above regulatory criteria

APPROACH:

Dioxin TEQs for each sample location are calculated using U.S. EPA toxicity equivalent factors (TEFs) as presented in the attached excel spreadsheet printouts. For locations where a normal and duplicate sample were collected, the average TEQ is used.

The statistical evaluation of data will be performed as outlined in Michigan guidance titled "Verification of Soil Remediation." The 95 percent UCL is calculated using the following formulas:

$$95\% \text{ UCL} = X + [t_{0.95,(n-1)}]^{*}S_x \quad \text{and}$$

$$S_x = S/(n)^{1/2}$$

n = number of samples
X = mean concentration of sample population
S = standard deviation of sample population
S_x = standard error
$t_{0.95,(n-1)}$ = one tailed t-test at n-1 degrees of freedom

ASSUMPTIONS:

- The MDEQ Tier I residential target risk goal (TRG) for sediment is 4.2 ng/kg.
- The MDEQ Tier II residential TRG for sediment is 15 ng/kg.

CALCULATIONS:

See attached spreadsheet output.

CONCLUSIONS:

The 95% UCL is 4.07. This value is below all applicable criteria.

CLIENT: NCBC Gulfport		JOB NUMBER: N0567	
SUBJECT: Edwards Property Confirmation Sampling Location Rationale			
BASED ON: Michigan Soil Sampling Guidance, Site Survey		DRAWING NUMBER:	
DESIGN BY: JJB DATE: 1/31/02	CHECKED BY: RJP DATE: 3/18/02	APPROVED BY:	DATE:

REFERENCES:

Verification of Soil Remediation, April 1994, Revision 1, Michigan Department of Environmental Quality.

U.S. Environmental Protection Agency. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. U.S. Environmental Protection Agency, Risk Assessment Forum, Washington, DC; EPA/625/3-89/016.

Summary of TCDD TEQ Results for Edwards Property

Sample ID	Original Result (ng/kg)	Duplicate Result (ng/kg)	TEQ (ng/kg)	Notes
08SDVS101	2.78427		2.78427	
08SDVS102	0.67888		0.67888	
08SDVS103	0.159310	0.96570	0.56251	Average of original and dup.
08SDVS104	1.25494		1.25494	
08SDVS105	4.87450	5.17640	5.02545	Average of original and dup.
08SDVS106	0.439247		0.43925	
08SDVS107	1.80390		1.80390	
08SDVS108	4.77540		4.77540	
08SDVS109	6.12122		6.12122	
08SDVS110	5.97696		5.97696	
08SDVS111	2.58784		2.58784	
08SDVS112	2.88673		2.88673	
08SDVS113	4.06234		4.06234	
08SDVS114	3.31495		3.31495	
08SDVS115	3.67547		3.67547	
08SDVS116	5.62126		5.62126	

mean (X) = 3.22321 ✓
standard deviation (S) = 1.935772622 ✓
n = 16 ✓
$t_{0.95,(n-1)}$ = 1.753 ✓
S_x = S/(n)^1/2
= 0.483943156 ✓

95% UCL = $X + [t_{0.95,(n-1)}]*S_x$
= 4.07 ✓

DIOXIN TEQ CALCULATIONS
EDWARDS PROPERTY SEDIMENT SAMPLING
NCBC GULFPORT, MISSISSIPPI

Sample		08SDVS101		08SDVS102		08SDVS103		08SDVS103-DU		08SDVS104	
Location		08SDVS101		08SDVS102		08SDVS103		08SDVS103-DU		08SDVS104	
Units		NG/KG		NG/KG		NG/KG		NG/KG		NG/KG	
	EPA TEF		**TEQ***		**TEQ***		**TEQ***		**TEQ***		**TEQ***
OCDD	0.001000	365.700000	0.365700	64.280000	0.064280	38.510000	0.038510	71.580000	0.071580	184.200000	0.184200
OCDF	0.001000		0.000000	2.740000	0.002740		0.000000		0.000000		0.000000
1,2,3,4,6,7,8-HPCDD	0.010000	57.180000	0.571800	7.808000	0.078080	4.310000	0.043100	8.437000	0.084370	26.130000	0.261300
1,2,3,4,6,7,8-HPCDF	0.010000	1.107000	0.011070	1.978000	0.019780		0.000000	1.205000	0.012050	0.744000	0.007440
1,2,3,4,7,8,9-HPCDF	0.010000		0.000000		0.000000		0.000000		0.000000		0.000000
1,2,3,4,7,8-HXCDD	0.100000		0.000000		0.000000		0.000000		0.000000		0.000000
1,2,3,4,7,8-HXCDF	0.100000		0.000000		0.000000		0.000000	0.347000	0.034700		0.000000
1,2,3,6,7,8-HXCDD	0.100000	1.417000	0.141700		0.000000		0.000000	0.307000	0.030700	0.679000	0.067900
1,2,3,6,7,8-HXCDF	0.100000		0.000000		0.000000		0.000000		0.000000		0.000000
1,2,3,7,8,9-HXCDD	0.100000	16.940000	1.694000		0.000000	0.777000	0.077700	1.223000	0.122300	7.341000	0.734100
1,2,3,7,8,9-HXCDF	0.100000		0.000000		0.000000		0.000000		0.000000		0.000000
1,2,3,7,8-PECDD	0.500000		0.000000		0.000000		0.000000		0.000000		0.000000
1,2,3,7,8-PECDF	0.050000		0.000000		0.000000		0.000000		0.000000		0.000000
2,3,4,6,7,8-HXCDF	0.100000		0.000000		0.000000		0.000000		0.000000		0.000000
2,3,4,7,8-PECDF	0.500000		0.000000		0.000000		0.000000		0.000000		0.000000
2,3,7,8-TCDD	1.000000		0.000000	0.514000	0.514000		0.000000	0.610000	0.610000		0.000000
2,3,7,8-TCDF	0.100000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL HPCDD	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL HPCDF	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL HXCDD	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL HXCDF	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL PECDD	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL PECDF	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL TCDD	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL TCDF	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
Total TEQ			2.784270		0.678880		0.159310		0.965700		1.254940

*TEQ values based on positive detections multiplied by TEF values.

DIOXIN TEQ CALCULATIONS
EDWARDS PROPERTY SEDIMENT SAMPLING
NCBC GULFPORT, MISSISSIPPI

Sample		08SDVS105		08SDVS105-DU		08SDVS106		08SDVS107		08SDVS108	
Location		08SDVS105		08SDVS105-DU		08SDVS106		08SDVS107		08SDVS108	
Units		NG/KG		NG/KG		NG/KG		NG/KG		NG/KG	
	EPA TEF		**TEQ***		**TEQ***		**TEQ***		**TEQ***		**TEQ***
OCDD	0.001000	433.200000	0.433200	437.200000	0.437200	104.700000	0.104700	445.500000	0.445500	576.500000	0.576500
OCDF	0.001000		0.000000		0.000000	1.737000	0.001737		0.000000	11.740000	0.011740
1,2,3,4,6,7,8-HPCDD	0.010000	68.900000	0.689000	65.600000	0.656000	13.130000	0.131300	44.250000	0.442500	61.560000	0.615600
1,2,3,4,6,7,8-HPCDF	0.010000		0.000000		0.000000	1.201000	0.012010		0.000000	6.466000	0.064660
1,2,3,4,7,8,9-HPCDF	0.010000		0.000000		0.000000		0.000000		0.000000		0.000000
1,2,3,4,7,8-HXCDD	0.100000		0.000000		0.000000		0.000000		0.000000	0.535000	0.053500
1,2,3,4,7,8-HXCDF	0.100000		0.000000		0.000000		0.000000		0.000000		0.000000
1,2,3,6,7,8-HXCDD	0.100000	1.673000	0.167300	1.542000	0.154200		0.000000	1.034000	0.103400	1.594000	0.159400
1,2,3,6,7,8-HXCDF	0.100000		0.000000		0.000000		0.000000		0.000000	1.422000	0.142200
1,2,3,7,8,9-HXCDD	0.100000	35.850000	3.585000	39.290000	3.929000	1.895000	0.189500	8.125000	0.812500	7.498000	0.749800
1,2,3,7,8,9-HXCDF	0.100000		0.000000		0.000000		0.000000		0.000000		0.000000
1,2,3,7,8-PECDD	0.500000		0.000000		0.000000		0.000000		0.000000		0.000000
1,2,3,7,8-PECDF	0.050000		0.000000		0.000000		0.000000		0.000000		0.000000
2,3,4,6,7,8-HXCDF	0.100000		0.000000		0.000000		0.000000		0.000000		0.000000
2,3,4,7,8-PECDF	0.500000		0.000000		0.000000		0.000000		0.000000		0.000000
2,3,7,8-TCDD	1.000000		0.000000		0.000000		0.000000		0.000000	2.402000	2.402000
2,3,7,8-TCDF	0.100000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL HPCDD	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL HPCDF	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL HXCDD	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL HXCDF	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL PECDD	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL PECDF	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL TCDD	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL TCDF	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
Total TEQ			4.874500		5.176400		0.439247		1.803900		4.775400

*TEQ values based on positive detections multiplied by TEF values.

DIOXIN TEQ CALCULATIONS
EDWARDS PROPERTY SEDIMENT SAMPLING
NCBC GULFPORT, MISSISSIPPI

Sample		08SDVS109		08SDVS110		08SDVS111		08SDVS112		08SDVS113	
Location		08SDVS109		08SDVS110		08SDVS111		08SDVS112		08SDVS113	
Units		NG/KG		NG/KG		NG/KG		NG/KG		NG/KG	
	EPA TEF		**TEQ***		**TEQ***		**TEQ***		**TEQ***		**TEQ***
OCDD	0.001000	566.600000	0.566600	697.900000	0.697900	422.400000	0.422400	418.400000	0.418400	572.100000	0.572100
OCDF	0.001000	16.280000	0.016280	16.820000	0.016820	3.887000	0.003887	3.711000	0.003711	9.202000	0.009202
1,2,3,4,6,7,8-HPCDD	0.010000	64.060000	0.640600	82.230000	0.822300	45.970000	0.459700	42.610000	0.426100	63.060000	0.630600
1,2,3,4,6,7,8-HPCDF	0.010000	8.874000	0.088740	8.134000	0.081340	2.245000	0.022450	2.882000	0.028820	5.064000	0.050640
1,2,3,4,7,8,9-HPCDF	0.010000		0.000000		0.000000		0.000000		0.000000		0.000000
1,2,3,4,7,8-HXCDD	0.100000	0.754000	0.075400	0.754000	0.075400		0.000000		0.000000		0.000000
1,2,3,4,7,8-HXCDF	0.100000	0.674000	0.067400		0.000000		0.000000		0.000000		0.000000
1,2,3,6,7,8-HXCDD	0.100000	2.069000	0.206900	2.172000	0.217200	1.021000	0.102100		0.000000	1.720000	0.172000
1,2,3,6,7,8-HXCDF	0.100000	1.564000	0.156400	1.745000	0.174500	0.498000	0.049800		0.000000	1.288000	0.128800
1,2,3,7,8,9-HXCDD	0.100000	7.149000	0.714900	11.670000	1.167000	8.915000	0.891500	6.967000	0.696700	10.480000	1.048000
1,2,3,7,8,9-HXCDF	0.100000		0.000000		0.000000		0.000000		0.000000		0.000000
1,2,3,7,8-PECDD	0.500000	0.424000	0.212000		0.000000		0.000000		0.000000		0.000000
1,2,3,7,8-PECDF	0.050000		0.000000		0.000000		0.000000		0.000000		0.000000
2,3,4,6,7,8-HXCDF	0.100000		0.000000	0.425000	0.042500		0.000000		0.000000		0.000000
2,3,4,7,8-PECDF	0.500000	0.312000	0.156000		0.000000		0.000000		0.000000		0.000000
2,3,7,8-TCDD	1.000000	3.220000	3.220000	2.682000	2.682000	0.636000	0.636000	1.313000	1.313000	1.451000	1.451000
2,3,7,8-TCDF	0.100000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL HPCDD	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL HPCDF	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL HXCDD	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL HXCDF	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL PECDD	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL PECDF	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL TCDD	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
TOTAL TCDF	0.000000		0.000000		0.000000		0.000000		0.000000		0.000000
Total TEQ			6.121220		5.976960		2.587837		2.886731		4.062342

*TEQ values based on positive detections multiplied by TEF values.

DIOXIN TEQ CALCULATIONS
EDWARDS PROPERTY SEDIMENT SAMPLING
NCBC GULFPORT, MISSISSIPPI

Sample		08SDVS114		08SDVS115		08SDVS116	
Location		08SDVS114		08SDVS115		08SDVS116	
Units		NG/KG		NG/KG		NG/KG	
	EPA TEF		**TEQ***		**TEQ***		**TEQ***
OCDD	0.001000	477.200000	0.477200	693.500000	0.693500	766.000000	0.766000
OCDF	0.001000		0.000000	6.470000	0.006470	13.090000	0.013090
1,2,3,4,6,7,8-HPCDD	0.010000	52.560000	0.525600	66.990000	0.669900	81.530000	0.815300
1,2,3,4,6,7,8-HPCDF	0.010000	4.665000	0.046650	3.140000	0.031400	6.707000	0.067070
1,2,3,4,7,8,9-HPCDF	0.010000		0.000000		0.000000		0.000000
1,2,3,4,7,8-HXCDD	0.100000		0.000000	0.458000	0.045800	0.577000	0.057700
1,2,3,4,7,8-HXCDF	0.100000	0.640000	0.064000		0.000000		0.000000
1,2,3,6,7,8-HXCDD	0.100000	1.457000	0.145700	1.624000	0.162400	2.121000	0.212100
1,2,3,6,7,8-HXCDF	0.100000		0.000000	0.740000	0.074000	1.353000	0.135300
1,2,3,7,8,9-HXCDD	0.100000	8.197000	0.819700	11.130000	1.113000	13.140000	1.314000
1,2,3,7,8,9-HXCDF	0.100000		0.000000		0.000000		0.000000
1,2,3,7,8-PECDD	0.500000		0.000000		0.000000		0.000000
1,2,3,7,8-PECDF	0.050000		0.000000		0.000000		0.000000
2,3,4,6,7,8-HXCDF	0.100000	0.326000	0.032600		0.000000	0.297000	0.029700
2,3,4,7,8-PECDF	0.500000		0.000000		0.000000		0.000000
2,3,7,8-TCDD	1.000000	1.160000	1.160000	0.879000	0.879000	2.211000	2.211000
2,3,7,8-TCDF	0.100000	0.435000	0.043500		0.000000		0.000000
TOTAL HPCDD	0.000000		0.000000		0.000000		0.000000
TOTAL HPCDF	0.000000		0.000000		0.000000		0.000000
TOTAL HXCDD	0.000000		0.000000		0.000000		0.000000
TOTAL HXCDF	0.000000		0.000000		0.000000		0.000000
TOTAL PECDD	0.000000		0.000000		0.000000		0.000000
TOTAL PECDF	0.000000		0.000000		0.000000		0.000000
TOTAL TCDD	0.000000		0.000000		0.000000		0.000000
TOTAL TCDF	0.000000		0.000000		0.000000		0.000000
Total TEQ			3.314950		3.675470		5.621260

*TEQ values based on positive detections multiplied by TEF values.

III. Update of EPA-TEFs/87: Adopting the I-TEF/89 Scheme

A. Similarities Between I-TEFs/89 and EPA-TEFs/87

Table 2 displays the I-TEFs/89 and the EPA-TEFs/87.

The two sets of TEFs have several concepts in common. The conceptual framework of the TEF approach. That is, the structure-activity relationship is assumed to be sufficiently strong that estimates of the long-term toxicity of minimally tested congeners of CDDs/CDFs can be reasonably inferred on the basis of available information.

Table 2. Toxicity Equivalency Factors

Compound	EPA-TEFs/87	I-TEFs/89
Mono-, Di-, and TriCDDs	0	0
2,3,7,8-TCDD	1	1
Other TCDDs	0.01	0
2,3,7,8-PeCDD	0.5	0.5
Other PeCDDs	0.005	0
2378-HxCDDs	0.04	0.1
Other HxCDDs	0.0004	0
2,3,7,8-HpCDD	0.001	0.01
Other HpCDDs	0.00001	0
OCDD	0	0.001
Mono-, Di-, and TriCDFs	0	0
2,3,7,8-TCDF	0.1	0.1
Other TCDFs	0.001	0
1,2,3,7,8-PeCDF	0.1	0.05
2,3,4,7,8-PeCDF	0.1	0.5
Other PeCDFs	0.001	0
2378-HxCDFs	0.01	0.1
Other HxCDFs	0.0001	0
2378-HpCDFs	0.001	0.01
Other HpCDFs	0.00001	0
OCDF	0	0.001

Reference: Adapted from NATO/CCMS, 1988a.

In assigning TEFs, priority is generally given to the results from long-term, whole-animal studies followed by the results from short-term, whole-animal studies. Among the remaining short-term *in vivo* and *in vitro* data, priority is generally given to the results of enzyme induction studies. This is due to the

APPENDIX C

FIELD FORMS

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER | PAGE ___ OF ___

PROJECT NO: N2860	SITE NAME: SITE 8	PROJECT MANAGER AND PHONE NUMBER FISHER 850 3959899	LABORATORY NAME AND CONTACT:
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER AND PHONE NUMBER	ADDRESS
		CARRIER/WAYBILL NUMBER	CITY, STATE

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☒ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G 2oz
PRESERVATIVE USED: 4°C

DATE YEAR 3 DEC 01	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: 8290 Dioxins/Furans								COMMENTS
		~~DIOX1~~ 08-SD-VS-102	S	G	2	✓								RUSH *
		~~DIOX2~~ 08-SD-VS-106	S	G	2	✓								RUSH *
		~~DIOX3~~ 08-SD-VS-112	S	G	2	✓								RUSH *
		JJB 3/5/02												
				*	48 HOUR TAT - FAX RESULTS TO ~~228~~ (850) 3859860									
					CALL (228) 323 2525									

1. RELINQUISHED BY	DATE 3 DEC 01	TIME 1600	1. RECEIVED BY	DATE 12-4-01	TIME 9:23
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 9.4°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

3/99
FORM NO. TtNUS-001

321

SOR12

FedEx USA Airbill

FedEx Tracking Number 8132 0166 7033

Form I.D. No. 0215

1 From *Please print and press hard.*

Date 12-03-01 Sender's FedEx Account Number 1525-8551-9

Sender's Name Phone (850) 385-9899

Company TETRA TECH NUS INC

Address 1401 OVEN PARK DR STE 102 Dept./Floor/Suite/Room

City TALLAHASSEE State FL ZIP 32301-5067

2 Your Internal Billing Reference
First 24 characters will appear on invoice.

3 To

Recipient's Name JAYANT SHRINGARPURE Phone (918) 251-2858

Company SOUTHWEST LABS

Address 1700 WEST ALBANY Dept./Floor/Suite/Room
We cannot deliver to P.O. boxes or P.O. ZIP codes.

To "HOLD" at FedEx location, print FedEx address here.

City BROKEN ARROW State OK ZIP 74012

NEW Peel and Stick FedEx USA Airbill

See back for application instructions.

Questions? Call 1·800·Go·FedEx® (800-463-3339)

Visit our Web site at www.fedex.com

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.

0101015134

4a Express Package Service — ***Packages up to 150 lbs.*** Delivery commitment may be later in some areas.

- [x] FedEx Priority Overnight — Next business morning
- [ ] FedEx Standard Overnight — Next business afternoon
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations
- [ ] FedEx 2Day* — Second business day
- [ ] FedEx Express Saver* — Third business day

* FedEx Letter Rate not available. Minimum charge: One-pound rate

4b Express Freight Service — ***Packages over 150 lbs.*** Delivery commitment may be later in some areas.

- [ ] FedEx 1Day Freight* — Next business day
- [ ] FedEx 2Day Freight — Second business day
- [ ] FedEx 3Day Freight — Third business day

* Call for Confirmation: _____

5 Packaging — * Declared value limit $500

- [ ] FedEx Letter*
- [ ] FedEx Pak*
- [x] Other Pkg. — Includes FedEx Box, FedEx Tube, and customer pkg.

6 Special Handling

- [ ] **Saturday Delivery** — Available for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
- [ ] **Sunday Delivery** — Available for FedEx Priority Overnight to select ZIP codes
- [ ] **HOLD Weekday at FedEx Location** — Not available with FedEx First Overnight
- [ ] **HOLD Saturday at FedEx Location** — Available for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration
- [ ] Yes — Shipper's Declaration not required
- [ ] Dry Ice — Dry Ice, 9, UN 1845 _____ x _____ kg

Dangerous Goods cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [x] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. _____ Exp. Date _____

Total Packages	Total Weight	Total Declared Value†
		$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details.

FedEx Use Only

8 Release Signature *Sign to authorize delivery without obtaining signature.*

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

359

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RETAIN THIS COPY FOR YOUR RECORDS

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER | PAGE 1 OF 2

PROJECT NO: N2860	SITE NAME: EDWARDS VERIFICATION SAMPLING	PROJECT MANAGER AND PHONE NUMBER: BOB FISHER (850) 385-9899	LABORATORY NAME AND CONTACT: SOUTHWEST LAB OF OK / JAYANT SHRINGAPURE
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER AND PHONE NUMBER: JASON BROWN (412) 921-8401	ADDRESS: 1700 WEST ALBANY
		CARRIER/WAYBILL NUMBER: FEDEX / 8243 8234 9794	CITY, STATE: BROKEN ARROW, OK 74012-1421

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G

PRESERVATIVE USED: 4°C

TYPE OF ANALYSIS: SW-846 8290

DATE YEAR 2001	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	SW-846 8290								COMMENTS
12/12	14:15	08SDVS101	SOLID	G	1	X								
12/12	14:40	08SDVS103			1	X								
12/12	15:10	08SDVS104			1	X								
12/12	15:20	08SDVS105			1	X								
12/12	15:50	08SDVS107			1	X								
12/12	16:05	08SDVS108			1	X								
12/12	16:10	08SDVS109			1	X								
12/13	8:10	08SDVS110			1	X								
12/13	8:05	08SDVS111			1	X								
12/13	8:40	08SDVS113			1	X								
12/13	8:45	08SDVS114			1	X								
12/13	8:20	08SDVS115			1	X								
12/13	8:30	08SDVS116			1	X								

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	12/13/01	1300	1. RECEIVED BY FEDEX		
2. RELINQUISHED BY			2. RECEIVED BY	12/14/01	0800
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS: 2.6°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

3/99
FORM NO. TtNUS-001

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER | PAGE 2 OF 2

PROJECT NO: N2860	SITE NAME: EDWARDS VERIFICATION SAMPLING	PROJECT MANAGER AND PHONE NUMBER: BOB FISHER (850) 385-9899	LABORATORY NAME AND CONTACT: SOUTHWEST LAB OF OK / JAYANT SHRINGAPURE
SAMPLERS (SIGNATURE): [signature]		FIELD OPERATIONS LEADER AND PHONE NUMBER: JASON BROWN (412) 921-8401	ADDRESS: 1700 WEST ALBANY
		CARRIER/WAYBILL NUMBER: FED EX / 8243 8234 9794	CITY, STATE: BROKEN ARROW, OK 74012-1421

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G

PRESERVATIVE USED: 4°C

TYPE OF ANALYSIS: SW-846 8290

DATE YEAR 2001	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	SW-846 8290								COMMENTS
12/12	00:00	08D401	SOLID	G	1	X								
12/12	00:00	08D402	SOLID	G	1	X								
12/13	10:00	08VS RINSATE	AQUEOUS	G	1	X								

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
[signature]	12/13/01	1300	FEDEX		
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY [signature]	DATE 12/14/01	TIME 0800
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS: 2.6 °C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

3/99
FORM NO. TtNUS-001

FedEx Express *USA Airbill*

FedEx Tracking Number 8243 8234 9794

SPH41

Form I.D. No. 0215

Sender's Copy

1 From *Please print and press hard.*

Date 12/13/01 Sender's FedEx Account Number 1771-8058-0

Sender's Name JASON BROWN Phone (412) 921-[redacted] 8401

Company TETRA TECH NUS INC

Address 661 ANDERSEN DR 5TH FLR

Dept./Floor/Suite/Room

City PITTSBURGH State PA ZIP 15220

2 Your Internal Billing Reference N2860 KDO 050135
First 24 characters will appear on invoice.

3 To

Recipient's Name JAYANT SHRINGARPURE Phone (918) 251-2858

Company SOUTHWEST LABORATORY OF OKLAHOMA

Address 1700 WEST ALBANY

To "HOLD" at FedEx location, print FedEx address. We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

City BROKEN ARROW State OK ZIP 74012-1421

Peel and Stick FedEx USA Airbill

See back for application instructions.

Questions? Visit our Web site at www.fedex.com

or call 1•800•Go•FedEx® (800)463-3339.

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.

0160665880

4a Express Package Service — ***Packages up to 150 lbs.*** Delivery commitment may be later in some areas.

- [x] FedEx Priority Overnight — Next business morning
- [ ] FedEx Standard Overnight — Next business afternoon
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations
- [ ] FedEx 2Day* — Second business day
- [ ] FedEx Express Saver* — Third business day

* FedEx Envelope/Letter Rate not available. Minimum charge: One-pound rate

4b Express Freight Service — ***Packages over 150 lbs.*** Delivery commitment may be later in some areas.

- [ ] FedEx 1Day Freight* — Next business day
- [ ] FedEx 2Day Freight — Second business day
- [ ] FedEx 3Day Freight — Third business day

* Call for Confirmation.

5 Packaging — * Declared value limit $500

- [ ] FedEx Envelope/Letter*
- [ ] FedEx Pak*
- [x] Other Pkg. — Includes FedEx Box, FedEx Tube, and customer pkg.

6 Special Handling — Include FedEx address in Section 3.

- [ ] **SATURDAY Delivery RESTRICTIONS** — Available only for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
- [ ] **SUNDAY Delivery RESTRICTIONS** — Available only for FedEx Priority Overnight to select ZIP codes
- [ ] **HOLD Weekday at FedEx Location RESTRICTIONS** — Not available with FedEx First Overnight
- [ ] **HOLD Saturday at FedEx Location RESTRICTIONS** — Available only for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration
- [ ] Yes — Shipper's Declaration not required
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous Goods cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [x] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages 1 **Total Weight** 5 **Total Declared Value†** $ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details.

FedEx Use Only

8 Release Signature *Sign to authorize delivery without obtaining signature.*

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

402

SRS 800 • Rev. Date 7/00 • Part #155912SH • ©1994–2000 FedEx • PRINTED IN U.S.A.

PULL AND RETAIN THIS COPY BEFORE AFFIXING TO THE PACKAGE.

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Gulfport - Edwards Verification Sampling
Project No.: CTO 187, Project Number N2860

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 08SDVS101
Sample Location: 08SDVS101
Sampled By: JJB and JLM
C.O.C. No.: GFP121201

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date: 12/12/01	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 1415	0-6"	Light Brown	Sand
Method: -			
Monitor Reading (ppm): NA			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

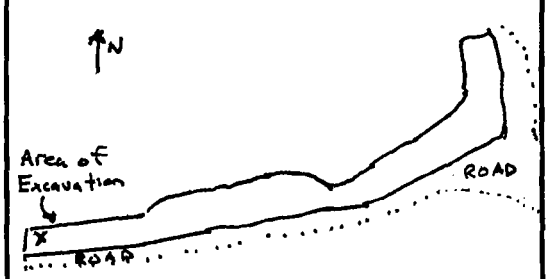
Analysis	Container Requirements	Collected	Other
SW-846 8290 - Dioxin Furan	8 oz Jar	✓	

OBSERVATIONS / NOTES:

Grid Node 4

COVERED BY 1.5' WATER

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Gulfport - Edwards Verification Sampling
Project No.: CTO 187, Project Number N2860

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 08SDVS 102
Sample Location: 08SDVS 102
Sampled By: JLM
C.O.C. No.: GFP121201

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 12/3/01 Time: 13:30 Method: - Monitor Reading (ppm): NA	0-6"	LIGHT BROWN	SAND

COMPOSITE SAMPLE DATA:

	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:				
Method:				
Monitor Readings (Range in ppm):				

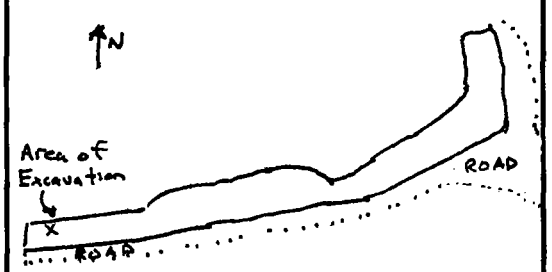
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SW-846 8290 - Dioxin Furan	2 oz JAR	✓	

OBSERVATIONS / NOTES:

GRID NODE 6
NO STANDING WATER

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Jody Magilson

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Gulfport - Edwards Verification Sampling
Project No.: CTO 187, Project Number N2860

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 08SDVS 103
Sample Location: 08SDVS 103
Sampled By: JJB and JLM
C.O.C. No.: GFP 121201

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 12/12/01 Time: 14:40 Method: - Monitor Reading (ppm): NA	0-6"	LIGHT BROWN	PREDOMINANTLY SAND W/ SMALL AMOUNTS OF ORGANIC MATTER (BLACK)

COMPOSITE SAMPLE DATA:

	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:				
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

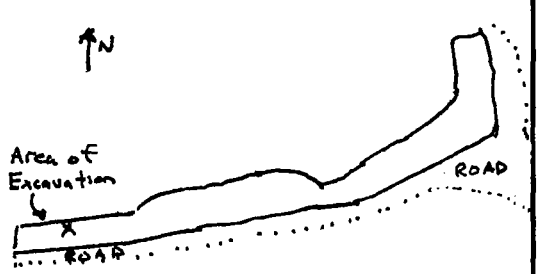
Analysis	Container Requirements	Collected	Other
SW-846 8290 - Dioxin Furan	8 oz JAR	✓	

OBSERVATIONS / NOTES:

GRID NODE 7

COVERED BY 4" OF WATER

MAP:



Circle if Applicable:

MS/MSD

Duplicate ID No.: 08DU01

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Gulfport - Edwards Verification Sampling
Project No.: CTO 187, Project Number N2860

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 08SDVS 104
Sample Location: 08SDVS 104
Sampled By: JJB and JLM
C.O.C. No.: GFP121201

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 12/12/01 Time: 15:10 Method: - Monitor Reading (ppm): NA	0 - 6"	LIGHT BROWN	SAND W/ SMALL AMOUNTS OF ORGANIC MATTER

COMPOSITE SAMPLE DATA:

	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:				
Method:				
Monitor Readings (Range in ppm):				

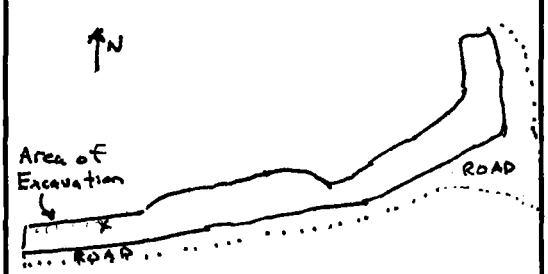
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SW-846 8290 - Dioxin Furan	8oz JAR	✓	

OBSERVATIONS / NOTES:

GRID NODE 9
COVERED BY ~~#~~ 1' OF WATER

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Gulfport - Edwards Verification Sampling
Project No.: CTO 187, Project Number N2860

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 08SDVS 105
Sample Location: 08SDVS 105
Sampled By: JJB and JLM
C.O.C. No.: GFP121201

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 12/12/01 Time: 15:20 Method: - Monitor Reading (ppm): NA	0-6"	LIGHT BROWN	SAND W/ TRACES OF ORGANIC MATTER

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

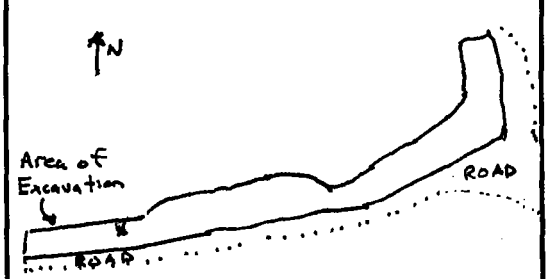
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SW-846 8290 - Dioxin Furan	8oz JAR	✓	

OBSERVATIONS / NOTES:

GRID NODE 10
COVERED BY 1.5' OF WATER

MAP:



Circle if Applicable:

MS/MSD

Duplicate ID No.: 08D402

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Gulfport - Edwards Verification Sampling
Project No.: CTO 187, Project Number N2860

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 08SDVS 106
Sample Location: 08SDVS 106
Sampled By: [redacted] JLM
C.O.C. No.:

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 12/3/01 Time: 13:20 Method: -- Monitor Reading (ppm): NA	0 - 6"	LIGHT BROWN	SAND W/ TRACES OF ORGANIC MATTER

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

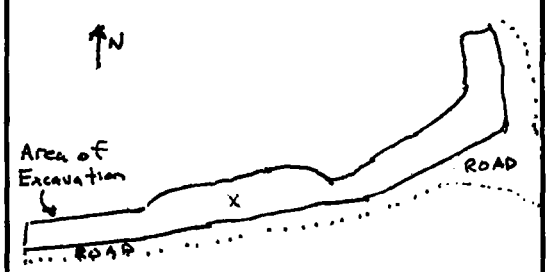
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SW-846 8290 - Dioxin Furan	2 oz JAR	✓	

OBSERVATIONS / NOTES:

GRID NODE 20
NO STANDING WATER

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Foley Magilson

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Gulfport - Edwards Verification Sampling
Project No.: CTO 187, Project Number N2860

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 08SDVS 107
Sample Location: 08SDVS 107
Sampled By: JJB and JLM
C.O.C. No.: GFP121201

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 12/12/01 Time: 15:50 Method: - Monitor Reading (ppm): NA	0-6"	LIGHT BROWN	SAND

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

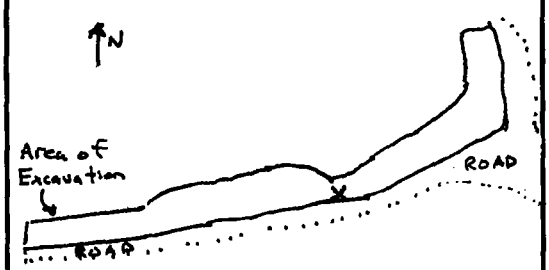
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SW-846 8290 - Dioxin Furan	8 oz Jar	✓	

OBSERVATIONS / NOTES:

GRID NODE 25
COVERED BY 8" OF WATER

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): JJB

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Gulfport - Edwards Verification Sampling
Project No.: CTO 187, Project Number N2860

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 08SDVS 108
Sample Location: 08SDVS 108
Sampled By: JJB and JLM
C.O.C. No.: GFP 121201

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 12/12/01 Time: 16:05 Method: - Monitor Reading (ppm): NA	0-6"	LIGHT BROWN	SAND (MOSTLY). SMALL AMOUNT OF SILT

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

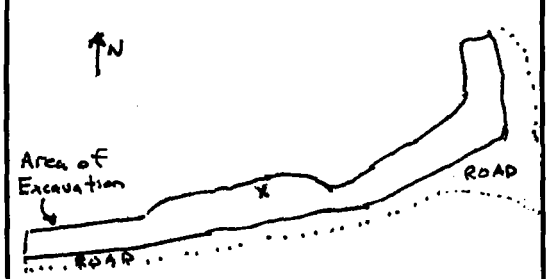
Analysis	Container Requirements	Collected	Other
SW-846 8290 - Dioxin Furan	8oz JAR	✓	

OBSERVATIONS / NOTES:

GRID NODE 32

NO STANDING WATER

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Gulfport - Edwards Verification Sampling
Project No.: CTO 187, Project Number N2860

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 08SDVS 109
Sample Location: 08SDVS 109
Sampled By: JJB and JLM
C.O.C. No.: GFP121201

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 12/12/01 Time: 16:10 Method: – Monitor Reading (ppm): NA	0-6"	BROWN	MOIST SAND

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

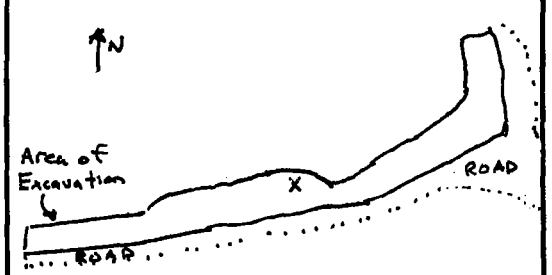
Analysis	Container Requirements	Collected	Other
SW-846 8290 - Dioxin Furan	8 oz JAR	✓	

OBSERVATIONS / NOTES:

GRID NODE 33

NO STANDING WATER

MAP:



Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Gulfport - Edwards Verification Sampling
Project No.: CTO 187, Project Number N2860

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 08SDVS 110
Sample Location: 08SDVS 110
Sampled By: JJB and JLM
C.O.C. No.: GFP121201

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 12/13/01 Time: 8:10 Method: - Monitor Reading (ppm): NA	0-6"	LIGHT BROWN	MIXTURE OF SILT & SAND

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

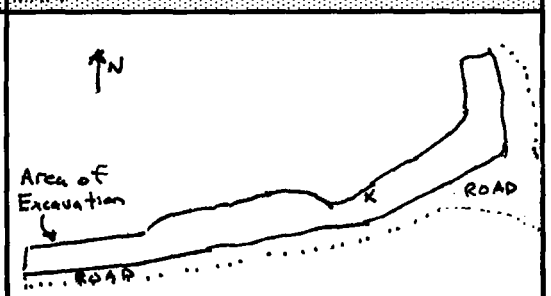
Analysis	Container Requirements	Collected	Other
SW-846 8290 - Dioxin Furan	8oz JAR	✓	

OBSERVATIONS / NOTES:

GRID NODE 40

NO STANDING WATER

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Gulfport - Edwards Verification Sampling
Project No.: CTO 187, Project Number N2860

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 08SDVS 111
Sample Location: 08SDVS 111
Sampled By: JJB and JLM
C.O.C. No.: GFP1212-01

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 12/13/01 Time: 8:05 Method: - Monitor Reading (ppm): NA	0-6"	LIGHT BROWN	MIXTURE OF SILT & SAND.

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

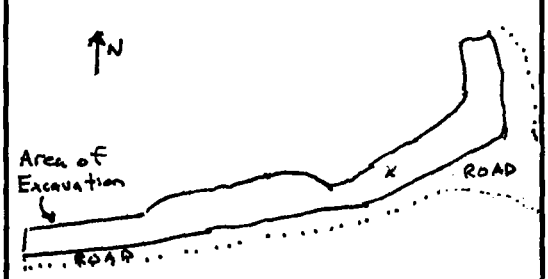
Analysis	Container Requirements	Collected	Other
SW-846 8290 - Dioxin Furan	8 oz JAR	✓	

OBSERVATIONS / NOTES:

GRID NODE 41

NO STANDING WATER

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Gulfport - Edwards Verification Sampling
Project No.: CTO 187, Project Number N2860

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 08SDVS 112
Sample Location: 08SDVS 112
Sampled By: JJB and JLM
C.O.C. No.: GFP

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 12/3/01 Time: 13:10 Method: -- Monitor Reading (ppm): NA	0-6"	LIGHT BROWN	SILTY SAND

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

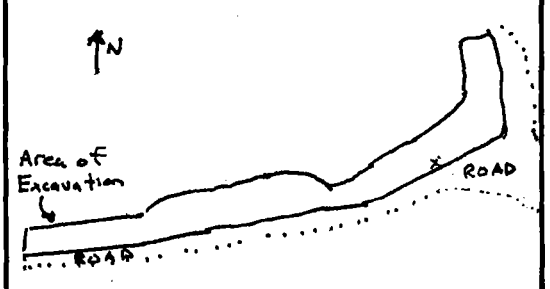
Analysis	Container Requirements	Collected	Other
SW-846 8290 - Dioxin Furan	2oz JAR	✓	

OBSERVATIONS / NOTES:

GRID NODE 43

NO STANDING WATER

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Jody Wagelin

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Gulfport - Edwards Verification Sampling
Project No.: CTO 187, Project Number N2860

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 08SDVS 113
Sample Location: 08SDVS 113
Sampled By: JJB and JLM
C.O.C. No.: GFP12120 1

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 12/13/01 Time: 8:40 Method: – Monitor Reading (ppm): NA	0-6"	LIGHT BROWN	SILTY SAND

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

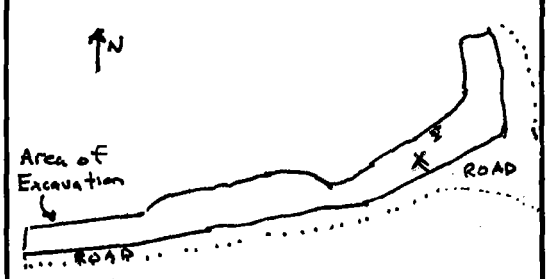
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SW-846 8290 - Dioxin Furan	8 oz JAR	✓	

OBSERVATIONS / NOTES:

GRID NODE 46
NO STANDING WATER

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Gulfport - Edwards Verification Sampling
Project No.: CTO 187, Project Number N2860

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 08SDVS 114
Sample Location: 08SDVS 114
Sampled By: JJB and JLM
C.O.C. No.: GFP121201

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 12/13/01 Time: 8:45 Method: - Monitor Reading (ppm): NA	0-6"	LIGHT BROWN	SILTY SAND

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SW-846 8290 - Dioxin Furan	8 oz JAR	✓	

OBSERVATIONS / NOTES:

GRID NODE 49
No STANDING WATER

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): JJB

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Gulfport - Edwards Verification Sampling
Project No.: CTO 187, Project Number N2860

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 08SDVS115
Sample Location: 08SDVS115
Sampled By: JJB and JLM
C.O.C. No.: GFP121201

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 12/13/01	0 - 6"	LIGHT BROWN	SILTY SAND
Time: 8:20			
Method: -			
Monitor Reading (ppm): NA			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

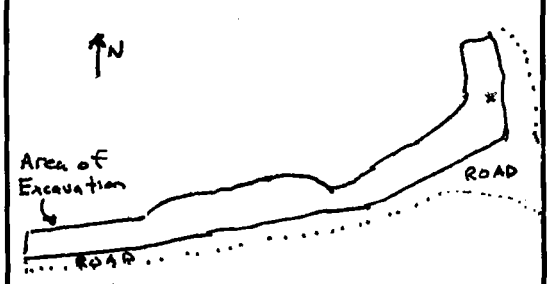
Analysis	Container Requirements	Collected	Other
SW-846 8290 - Dioxin Furan	8oz JAR	✓	

OBSERVATIONS / NOTES:

GRID NOTE 56

NO STANDING WATER

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): JJB

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Gulfport - Edwards Verification Sampling
Project No.: CTO 187, Project Number N2860

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 08SDVS 116
Sample Location: 08SDVS 116
Sampled By: JJB and JLM
C.O.C. No.: GFPIZIZ01

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 12/13/01 Time: 8:30 Method: – Monitor Reading (ppm): NA	0-6"	LIGHT BROWN	SILTY SAND

COMPOSITE SAMPLE DATA:

	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:				
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

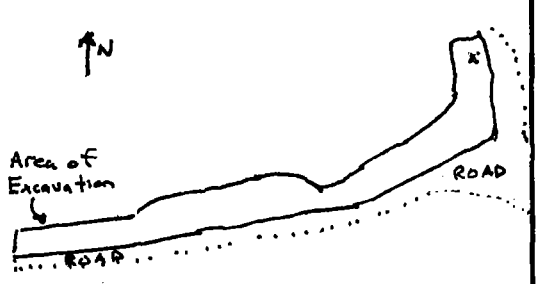
Analysis	Container Requirements	Collected	Other
SW-846 8290 - Dioxin Furan	8oz JAR	✓	

OBSERVATIONS / NOTES:

GRID NODE 60

COVERED BY 8" OF WATER

MAP:



Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

APPENDIX D

DIOXIN ANALYTICAL DATA

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE:	12/27/01	DATA FILE:	U0768_03.D
SAMPLE ID:	08SDVS101	MATRIX:	SOIL
LAB ID:	48323.01	METHOD:	8290
DATE ANALYZED:	12/21/01	PROJECT:	NCBC GULFPORT, MS
BLANK ID:	BL1215SD	% MOISTURE:	28

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.197	0.197	U	
1,2,3,7,8-PeCDD	0.161	0.161	U	
1,2,3,4,7,8-HxCDD	0.178	0.178	U	
1,2,3,6,7,8-HxCDD	0.165	1.417		0.1417
1,2,3,7,8,9-HxCDD	0.158	16.94		1.694
1,2,3,4,6,7,8-HpCDD	0.148	57.18		0.5718
OCDD	0.221	365.7	B	0.3657
2,3,7,8-TCDF	0.202	0.202	U	
1,2,3,7,8-PeCDF	0.162	0.162	U	
2,3,4,7,8-PeCDF	0.166	0.166	U	
1,2,3,4,7,8-HxCDF	0.116	0.116	U	
1,2,3,6,7,8-HxCDF	0.113	0.113	U	
2,3,4,6,7,8-HxCDF	0.123	0.123	U	
1,2,3,7,8,9-HxCDF	0.133	0.133	U	
1,2,3,4,6,7,8-HpCDF	0.115	1.107		0.01107
1,2,3,4,7,8,9-HpCDF	0.139	0.139	U	
OCDF	0.246	1.442		0.001442
TOTAL TOXICITY EQUIVALENCE				2.78571
Total TCDD	0.197	0.197	U	
Total PeCDD	0.162	1.449		
Total HxCDD	0.158	39.34		
Total HpCDD	0.148	75.46		
Total TCDF	0.202	0.202	U	
Total PeCDF	0.162	1.018		
Total HxCDF	0.113	0.531		
Total HpCDF	0.115	2.967		

2860

CTO187
SDG 48203
P1 OX

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE: 12/06/01 DATA FILE: U0701_04.D

SAMPLE ID: ~~DIOX1~~ 08SDVS102
LAB ID: 48203.01 ZZB 3/5102
DATE ANALYZED: 12/06/01
BLANK ID: BB1204SA

MATRIX: SOIL
METHOD: 8290
PROJECT: NCBC GULFPORT, MS
% MOISTURE: 21

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.205	0.514		0.514
1,2,3,7,8-PeCDD	0.238	0.238	U	
1,2,3,4,7,8-HxCDD	0.330	0.330	U	
1,2,3,6,7,8-HxCDD	0.283	0.283	U	
1,2,3,7,8,9-HxCDD	0.279	0.279	U	
1,2,3,4,6,7,8-HpCDD	0.240	7.808		0.07808
OCDD	0.399	64.28	B	0.06428
2,3,7,8-TCDF	0.302	0.302	U	
1,2,3,7,8-PeCDF	0.237	0.237	U	
2,3,4,7,8-PeCDF	0.249	0.249	U	
1,2,3,4,7,8-HxCDF	0.203	0.203	U	
1,2,3,6,7,8-HxCDF	0.198	0.198	U	
2,3,4,6,7,8-HxCDF	0.232	0.232	U	
1,2,3,7,8,9-HxCDF	0.243	0.243	U	
1,2,3,4,6,7,8-HpCDF	0.253	1.978		0.01978
1,2,3,4,7,8,9-HpCDF	0.308	0.308	U	
OCDF	0.439	2.740		0.00274
TOTAL TOXICITY EQUIVALENCE				0.67888
Total TCDD	0.205	0.514		
Total PeCDD	0.238	0.238	U	
Total HxCDD	0.279	2.687		
Total HpCDD	0.240	14.39		
Total TCDF	0.302	0.302	U	
Total PeCDF	0.237	1.062		
Total HxCDF	0.198	1.623		
Total HpCDF	0.253	5.091		

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE:	12/27/01	DATA FILE:	U0768_04.D
SAMPLE ID:	08SDVS103	MATRIX:	SOIL
LAB ID:	48323.02	METHOD:	8290
DATE ANALYZED:	12/21/01	PROJECT:	NCBC GULFPORT, MS
BLANK ID:	BL1215SD	% MOISTURE:	22

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.168	0.168	U	
1,2,3,7,8-PeCDD	0.136	0.136	U	
1,2,3,4,7,8-HxCDD	0.170	0.170	U	
1,2,3,6,7,8-HxCDD	0.157	0.157	U	
1,2,3,7,8,9-HxCDD	0.150	0.777		0.0777
1,2,3,4,6,7,8-HpCDD	0.122	4.310		0.0431
OCDD	0.196	38.51	B	0.03851
2,3,7,8-TCDF	0.174	0.174	U	
1,2,3,7,8-PeCDF	0.151	0.151	U	
2,3,4,7,8-PeCDF	0.154	0.154	U	
1,2,3,4,7,8-HxCDF	0.107	0.107	U	
1,2,3,6,7,8-HxCDF	0.104	0.104	U	
2,3,4,6,7,8-HxCDF	0.114	0.114	U	
1,2,3,7,8,9-HxCDF	0.123	0.123	U	
1,2,3,4,6,7,8-HpCDF	0.119	0.510	X	0.0051
1,2,3,4,7,8,9-HpCDF	0.144	0.144	U	
OCDF	0.227	0.731		0.000731
TOTAL TOXICITY EQUIVALENCE				0.165141
Total TCDD	0.168	0.168	U	
Total PeCDD	0.136	0.136	U	
Total HxCDD	0.150	0.777		
Total HpCDD	0.122	6.617		
Total TCDF	0.174	0.174	U	
Total PeCDF	0.151	0.758		
Total HxCDF	0.104	0.397		
Total HpCDF	0.119	0.119	U	

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE: 12/28/01 DATA FILE: U0770_08.D

SAMPLE ID: ~~08DU01~~ - 08SDVS103-DU MATRIX: SOIL
LAB ID: 48323.16 JJB 3/5/02 METHOD: 8290
DATE ANALYZED: 12/21/01 PROJECT: NCBC GULFPORT, MS
BLANK ID: BL1215SD % MOISTURE: 22

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.105	0.610		0.61
1,2,3,7,8-PeCDD	0.092	0.092	U	
1,2,3,4,7,8-HxCDD	0.117	0.117	U	
1,2,3,6,7,8-HxCDD	0.108	0.307		0.0307
1,2,3,7,8,9-HxCDD	0.104	1.223		0.1223
1,2,3,4,6,7,8-HpCDD	0.091	8.437		0.08437
OCDD	0.136	71.58	B	0.07158
2,3,7,8-TCDF	0.149	0.149	U	
1,2,3,7,8-PeCDF	0.120	0.120	U	
2,3,4,7,8-PeCDF	0.123	0.123	U	
1,2,3,4,7,8-HxCDF	0.077	0.347	I	0.0347
1,2,3,6,7,8-HxCDF	0.075	0.075	U	
2,3,4,6,7,8-HxCDF	0.081	0.081	U	
1,2,3,7,8,9-HxCDF	0.088	0.088	U	
1,2,3,4,6,7,8-HpCDF	0.071	1.205		0.01205
1,2,3,4,7,8,9-HpCDF	0.086	0.086	U	
OCDF	0.154	2.450		0.00245
TOTAL TOXICITY EQUIVALENCE				0.96815
Total TCDD	0.105	0.610		
Total PeCDD	0.092	0.092	U	
Total HxCDD	0.104	3.752		
Total HpCDD	0.091	13.89		
Total TCDF	0.149	0.975		
Total PeCDF	0.120	0.120	U	
Total HxCDF	0.075	1.251		
Total HpCDF	0.071	3.241		

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE:	12/27/01	DATA FILE:	U0768_05.D
SAMPLE ID:	08SDVS104	MATRIX:	SOIL
LAB ID:	48323.03	METHOD:	8290
DATE ANALYZED:	12/21/01	PROJECT:	NCBC GULFPORT, MS
BLANK ID:	BL1215SD	% MOISTURE:	19

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.143	0.143	U	
1,2,3,7,8-PeCDD	0.115	0.115	U	
1,2,3,4,7,8-HxCDD	0.142	0.142	U	
1,2,3,6,7,8-HxCDD	0.132	0.679		0.0679
1,2,3,7,8,9-HxCDD	0.126	7.341		0.7341
1,2,3,4,6,7,8-HpCDD	0.109	26.13		0.2613
OCDD	0.185	184.2	B	0.1842
2,3,7,8-TCDF	0.147	0.147	U	
1,2,3,7,8-PeCDF	0.135	0.135	U	
2,3,4,7,8-PeCDF	0.137	0.137	U	
1,2,3,4,7,8-HxCDF	0.089	0.089	U	
1,2,3,6,7,8-HxCDF	0.087	0.087	U	
2,3,4,6,7,8-HxCDF	0.094	0.094	U	
1,2,3,7,8,9-HxCDF	0.102	0.102	U	
1,2,3,4,6,7,8-HpCDF	0.090	0.744		0.00744
1,2,3,4,7,8,9-HpCDF	0.108	0.108	U	
OCDF	0.177	1.629		0.001629
TOTAL TOXICITY EQUIVALENCE				1.25657
Total TCDD	0.143	0.143	U	
Total PeCDD	0.115	0.115	U	
Total HxCDD	0.126	15.33		
Total HpCDD	0.109	34.25		
Total TCDF	0.147	0.147	U	
Total PeCDF	0.135	0.135	U	
Total HxCDF	0.087	0.290		
Total HpCDF	0.090	1.861		

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE:	12/27/01	DATA FILE:	U0768_06.D
SAMPLE ID:	08SDVS105	MATRIX:	SOIL
LAB ID:	48323.04	METHOD:	8290
DATE ANALYZED:	12/21/01	PROJECT:	NCBC GULFPORT, MS
BLANK ID:	BL1215SD	% MOISTURE:	23

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.142	0.142	U	
1,2,3,7,8-PeCDD	0.117	0.117	U	
1,2,3,4,7,8-HxCDD	0.134	0.134	U	
1,2,3,6,7,8-HxCDD	0.124	1.673		0.1673
1,2,3,7,8,9-HxCDD	0.118	35.85		3.585
1,2,3,4,6,7,8-HpCDD	0.109	68.90		0.689
OCDD	0.150	433.2	B	0.4332
2,3,7,8-TCDF	0.146	0.146	U	
1,2,3,7,8-PeCDF	0.140	0.140	U	
2,3,4,7,8-PeCDF	0.143	0.143	U	
1,2,3,4,7,8-HxCDF	0.089	0.089	U	
1,2,3,6,7,8-HxCDF	0.086	0.086	U	
2,3,4,6,7,8-HxCDF	0.094	0.094	U	
1,2,3,7,8,9-HxCDF	0.102	0.102	U	
1,2,3,4,6,7,8-HpCDF	0.092	0.729	X	0.00729
1,2,3,4,7,8,9-HpCDF	0.111	0.111	U	
OCDF	0.160	1.115		0.001115
TOTAL TOXICITY EQUIVALENCE				4.88291
Total TCDD	0.142	0.142	U	
Total PeCDD	0.117	0.594		
Total HxCDD	0.118	56.53		
Total HpCDD	0.109	88.88		
Total TCDF	0.146	0.447		
Total PeCDF	0.140	0.140	U	
Total HxCDF	0.086	0.086	U	
Total HpCDF	0.092	1.289		

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE: 12/28/01 DATA FILE: U0770_09.D

SAMPLE ID: ~~08DU02~~ -08SDUS105-DU MATRIX: SOIL
LAB ID: 48323.17 JJB 3/5/02 METHOD: 8290
DATE ANALYZED: 12/21/01 PROJECT: NCBC GULFPORT, MS
BLANK ID: BL1215SD % MOISTURE: 19

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.104	0.104	U	
1,2,3,7,8-PeCDD	0.093	0.093	U	
1,2,3,4,7,8-HxCDD	0.142	0.142	U	
1,2,3,6,7,8-HxCDD	0.131	1.542		0.1542
1,2,3,7,8,9-HxCDD	0.126	39.29		3.929
1,2,3,4,6,7,8-HpCDD	0.113	65.60		0.656
OCDD	0.140	437.2	B	0.4372
2,3,7,8-TCDF	0.139	0.139	U	
1,2,3,7,8-PeCDF	0.115	0.115	U	
2,3,4,7,8-PeCDF	0.117	0.117	U	
1,2,3,4,7,8-HxCDF	0.082	0.082	U	
1,2,3,6,7,8-HxCDF	0.080	0.080	U	
2,3,4,6,7,8-HxCDF	0.087	0.087	U	
1,2,3,7,8,9-HxCDF	0.095	0.095	U	
1,2,3,4,6,7,8-HpCDF	0.083	0.641	X	0.00641
1,2,3,4,7,8,9-HpCDF	0.100	0.100	U	
OCDF	0.146	1.130		0.00113
TOTAL TOXICITY EQUIVALENCE				5.18394
Total TCDD	0.104	0.104	U	
Total PeCDD	0.093	0.447		
Total HxCDD	0.126	59.45		
Total HpCDD	0.113	84.32		
Total TCDF	0.139	0.426		
Total PeCDF	0.115	0.814		
Total HxCDF	0.080	0.531		
Total HpCDF	0.083	1.337		

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE: 12/06/01 DATA FILE: U0701_05.D

SAMPLE ID: ~~DIOX2~~ 48SDUS10C MATRIX: SOIL
LAB ID: 48203.02 JJB 3/5/02 METHOD: 8290
DATE ANALYZED: 12/06/01 PROJECT: NCBC GULFPORT, MS
BLANK ID: BB1204SA % MOISTURE: 18

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.216	0.216	U	
1,2,3,7,8-PeCDD	0.250	0.250	U	
1,2,3,4,7,8-HxCDD	0.317	0.317	U	
1,2,3,6,7,8-HxCDD	0.272	0.272	U	
1,2,3,7,8,9-HxCDD	0.267	1.895	.	0.1895
1,2,3,4,6,7,8-HpCDD	0.253	13.13	.	0.1313
OCDD	0.411	104.7	B	0.1047
2,3,7,8-TCDF	0.317	0.317	U	
1,2,3,7,8-PeCDF	0.234	0.234	U	
2,3,4,7,8-PeCDF	0.246	0.246	U	
1,2,3,4,7,8-HxCDF	0.200	0.200	U	
1,2,3,6,7,8-HxCDF	0.195	0.195	U	
2,3,4,6,7,8-HxCDF	0.229	0.229	U	
1,2,3,7,8,9-HxCDF	0.240	0.240	U	
1,2,3,4,6,7,8-HpCDF	0.236	1.201	.	0.01201
1,2,3,4,7,8,9-HpCDF	0.287	0.287	U	
OCDF	0.460	1.737	.	0.001737
TOTAL TOXICITY EQUIVALENCE				0.439247
Total TCDD	0.216	0.528	.	
Total PeCDD	0.250	0.250	U	
Total HxCDD	0.267	5.914	.	
Total HpCDD	0.253	20.38	.	
Total TCDF	0.317	0.317	U	
Total PeCDF	0.234	1.037	.	
Total HxCDF	0.195	1.998	.	
Total HpCDF	0.236	3.398	.	

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE:	12/27/01	DATA FILE:	U0768_07.D
SAMPLE ID:	08SDVS107	MATRIX:	SOIL
LAB ID:	48323.05	METHOD:	8290
DATE ANALYZED:	12/21/01	PROJECT:	NCBC GULFPORT, MS
BLANK ID:	BL1215SD	% MOISTURE:	24

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.163	0.163	U	
1,2,3,7,8-PeCDD	0.143	0.143	U	
1,2,3,4,7,8-HxCDD	0.174	0.174	U	
1,2,3,6,7,8-HxCDD	0.161	1.034		0.1034
1,2,3,7,8,9-HxCDD	0.154	8.125		0.8125
1,2,3,4,6,7,8-HpCDD	0.103	44.25		0.4425
OCDD	0.171	445.5	B	0.4455
2,3,7,8-TCDF	0.176	0.176	U	
1,2,3,7,8-PeCDF	0.164	0.164	U	
2,3,4,7,8-PeCDF	0.168	0.168	U	
1,2,3,4,7,8-HxCDF	0.104	0.104	U	
1,2,3,6,7,8-HxCDF	0.101	0.101	U	
2,3,4,6,7,8-HxCDF	0.110	0.110	U	
1,2,3,7,8,9-HxCDF	0.119	0.119	U	
1,2,3,4,6,7,8-HpCDF	0.087	0.502	X	0.00502
1,2,3,4,7,8,9-HpCDF	0.105	0.105	U	
OCDF	0.211	0.778		0.000778
TOTAL TOXICITY EQUIVALENCE				1.8097
Total TCDD	0.163	0.163	U	
Total PeCDD	0.143	0.346		
Total HxCDD	0.154	19.99		
Total HpCDD	0.103	65.93		
Total TCDF	0.176	0.778		
Total PeCDF	0.164	0.164	U	
Total HxCDF	0.101	0.101	U	
Total HpCDF	0.087	0.087	U	

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE:	12/27/01	DATA FILE:	U0768_08.D
SAMPLE ID:	08SDVS108	MATRIX:	SOIL
LAB ID:	48323.06	METHOD:	8290
DATE ANALYZED:	12/21/01	PROJECT:	NCBC GULFPORT, MS
BLANK ID:	BL1215SD	% MOISTURE:	25

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.164	2.402		2.402
1,2,3,7,8-PeCDD	0.131	0.131	U	
1,2,3,4,7,8-HxCDD	0.217	0.535		0.0535
1,2,3,6,7,8-HxCDD	0.201	1.594		0.1594
1,2,3,7,8,9-HxCDD	0.192	7.498		0.7498
1,2,3,4,6,7,8-HpCDD	0.122	61.56		0.6156
OCDD	0.198	576.5	B	0.5765
2,3,7,8-TCDF	0.176	0.176	U	
1,2,3,7,8-PeCDF	0.170	0.170	U	
2,3,4,7,8-PeCDF	0.173	0.173	U	
1,2,3,4,7,8-HxCDF	0.115	0.115	U	
1,2,3,6,7,8-HxCDF	0.113	1.422	I	0.1422
2,3,4,6,7,8-HxCDF	0.123	0.123	U	
1,2,3,7,8,9-HxCDF	0.133	0.133	U	
1,2,3,4,6,7,8-HpCDF	0.106	6.466		0.06466
1,2,3,4,7,8,9-HpCDF	0.128	0.331	X	0.00331
OCDF	0.187	11.74		0.01174
TOTAL TOXICITY EQUIVALENCE				4.77871
Total TCDD	0.164	2.937		
Total PeCDD	0.131	0.409		
Total HxCDD	0.192	27.04		
Total HpCDD	0.122	101.8		
Total TCDF	0.176	2.708		
Total PeCDF	0.170	6.014		
Total HxCDF	0.113	8.151		
Total HpCDF	0.106	6.466		

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE:	12/27/01	DATA FILE:	U0768_09.D
SAMPLE ID:	08SDVS109	MATRIX:	SOIL
LAB ID:	48323.07	METHOD:	8290
DATE ANALYZED:	12/21/01	PROJECT:	NCBC GULFPORT, MS
BLANK ID:	BL1215SD	% MOISTURE:	27

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.309	2.589		2.589
1,2,3,7,8-PeCDD	0.272	0.272	U	
1,2,3,4,7,8-HxCDD	0.291	0.291	U	
1,2,3,6,7,8-HxCDD	0.269	1.872		0.1872
1,2,3,7,8,9-HxCDD	0.258	6.408		0.6408
1,2,3,4,6,7,8-HpCDD	0.277	54.61		0.5461
OCDD	0.452	483.6	B	0.4836
2,3,7,8-TCDF	0.357	0.357	U	
1,2,3,7,8-PeCDF	0.338	0.338	U	
2,3,4,7,8-PeCDF	0.345	0.345	U	
1,2,3,4,7,8-HxCDF	0.217	0.217	U	
1,2,3,6,7,8-HxCDF	0.212	1.566	X	0.1566
2,3,4,6,7,8-HxCDF	0.231	0.231	U	
1,2,3,7,8,9-HxCDF	0.250	0.250	U	
1,2,3,4,6,7,8-HpCDF	0.241	7.903	X	0.07903
1,2,3,4,7,8,9-HpCDF	0.291	0.291	U	
OCDF	0.418	15.40		0.0154
TOTAL TOXICITY EQUIVALENCE				4.69773
Total TCDD	0.309	2.589		
Total PeCDD	0.272	0.272	U	
Total HxCDD	0.258	24.43		
Total HpCDD	0.277	93.15		
Total TCDF	0.357	3.519		
Total PeCDF	0.338	18.11		
Total HxCDF	0.212	8.459		
Total HpCDF	0.241	0.241	U	

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE:	01/11/02	DATA FILE:	U0832_10.D
SAMPLE ID:	08SDVS109	MATRIX:	SOIL
LAB ID:	48323.07RE	METHOD:	8290
DATE ANALYZED:	01/10/02	PROJECT:	NCBC GULFPORT, MS
BLANK ID:	BL1229SA	% MOISTURE:	27

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.049	3.220		3.22
1,2,3,7,8-PeCDD	0.050	0.424		0.212
1,2,3,4,7,8-HxCDD	0.193	0.754		0.0754
1,2,3,6,7,8-HxCDD	0.163	2.069		0.2069
1,2,3,7,8,9-HxCDD	0.160	7.149		0.7149
1,2,3,4,6,7,8-HpCDD	0.315	64.06	B	0.6406
OCDD	0.556	566.6	B	0.5666
2,3,7,8-TCDF	0.068	0.685		0.0685
1,2,3,7,8-PeCDF	0.068	0.256	X	0.0128
2,3,4,7,8-PeCDF	0.073	0.312		0.156
1,2,3,4,7,8-HxCDF	0.155	0.674		0.0674
1,2,3,6,7,8-HxCDF	0.157	1.564	I	0.1564
2,3,4,6,7,8-HxCDF	0.185	0.401	X	0.0401
1,2,3,7,8,9-HxCDF	0.204	0.204	U	
1,2,3,4,6,7,8-HpCDF	0.224	8.874	B	0.08874
1,2,3,4,7,8,9-HpCDF	0.308	0.308	U	
OCDF	0.664	16.28	B	0.01628
TOTAL TOXICITY EQUIVALENCE				6.24262
Total TCDD	0.049	6.443		
Total PeCDD	0.050	2.243		
Total HxCDD	0.160	30.89		
Total HpCDD	0.315	103.4		
Total TCDF	0.068	4.554		
Total PeCDF	0.068	8.068		
Total HxCDF	0.155	6.891		
Total HpCDF	0.224	8.874		

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE:	12/27/01	DATA FILE:	U0768_10.D
SAMPLE ID:	08SDVS110	MATRIX:	SOIL
LAB ID:	48323.08	METHOD:	8290
DATE ANALYZED:	12/21/01	PROJECT:	NCBC GULFPORT, MS
BLANK ID:	BL1215SD	% MOISTURE:	27

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.154	2.682		2.682
1,2,3,7,8-PeCDD	0.136	0.136	U	
1,2,3,4,7,8-HxCDD	0.178	0.754		0.0754
1,2,3,6,7,8-HxCDD	0.165	2.172		0.2172
1,2,3,7,8,9-HxCDD	0.158	11.67		1.167
1,2,3,4,6,7,8-HpCDD	0.191	82.23		0.8223
OCDD	0.183	697.9	B	0.6979
2,3,7,8-TCDF	0.197	0.567		0.0567
1,2,3,7,8-PeCDF	0.211	0.211	U	
2,3,4,7,8-PeCDF	0.216	0.216	U	
1,2,3,4,7,8-HxCDF	0.123	0.123	U	
1,2,3,6,7,8-HxCDF	0.120	1.745	I	0.1745
2,3,4,6,7,8-HxCDF	0.131	0.425		0.0425
1,2,3,7,8,9-HxCDF	0.142	0.142	U	
1,2,3,4,6,7,8-HpCDF	0.095	8.134		0.08134
1,2,3,4,7,8,9-HpCDF	0.115	0.115	U	
OCDF	0.211	16.82		0.01682
TOTAL TOXICITY EQUIVALENCE				6.03366
Total TCDD	0.154	3.423		
Total PeCDD	0.136	0.136	U	
Total HxCDD	0.158	37.30		
Total HpCDD	0.191	134.5		
Total TCDF	0.197	2.544		
Total PeCDF	0.211	2.583		
Total HxCDF	0.120	10.32		
Total HpCDF	0.095	8.134		

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SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE:	12/28/01	DATA FILE:	U0770_04.D
SAMPLE ID:	08SDVS111	MATRIX:	SOIL
LAB ID:	48323.09	METHOD:	8290
DATE ANALYZED:	12/21/01	PROJECT:	NCBC GULFPORT, MS
BLANK ID:	BL1215SD	% MOISTURE:	24

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.139	0.636		0.636
1,2,3,7,8-PeCDD	0.111	0.111	U	
1,2,3,4,7,8-HxCDD	0.135	0.135	U	
1,2,3,6,7,8-HxCDD	0.125	1.021		0.1021
1,2,3,7,8,9-HxCDD	0.119	8.915		0.8915
1,2,3,4,6,7,8-HpCDD	0.120	45.97		0.4597
OCDD	0.166	422.4	B	0.4224
2,3,7,8-TCDF	0.178	0.178	U	
1,2,3,7,8-PeCDF	0.115	0.115	U	
2,3,4,7,8-PeCDF	0.117	0.117	U	
1,2,3,4,7,8-HxCDF	0.093	0.093	U	
1,2,3,6,7,8-HxCDF	0.091	0.498	I	0.0498
2,3,4,6,7,8-HxCDF	0.099	0.099	U	
1,2,3,7,8,9-HxCDF	0.107	0.107	U	
1,2,3,4,6,7,8-HpCDF	0.078	2.245		0.02245
1,2,3,4,7,8,9-HpCDF	0.094	0.094	U	
OCDF	0.160	3.887		0.003887
TOTAL TOXICITY EQUIVALENCE				2.58784
Total TCDD	0.139	0.139	U	
Total PeCDD	0.111	0.263		
Total HxCDD	0.119	19.16		
Total HpCDD	0.120	26.95		
Total TCDF	0.178	0.871		
Total PeCDF	0.115	2.369		
Total HxCDF	0.091	2.764		
Total HpCDF	0.078	0.078	U	

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE: 12/06/01 DATA FILE: U0701_06.D

SAMPLE ID: ~~DIOX3~~ 03SDVS112 MATRIX: SOIL
LAB ID: 48203.03 JJB 315102 METHOD: 8290
DATE ANALYZED: 12/06/01 PROJECT: NCBC GULFPORT, MS
BLANK ID: BB1204SA % MOISTURE: 23

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.251	1.313		1.313
1,2,3,7,8-PeCDD	0.276	0.276	U	
1,2,3,4,7,8-HxCDD	0.366	0.366	U	
1,2,3,6,7,8-HxCDD	0.314	EMPC 1.243	X	~~0.1243~~
1,2,3,7,8,9-HxCDD	0.309	6.967		0.6967
1,2,3,4,6,7,8-HpCDD	0.285	DSS 42.61		0.4261
OCDD	0.461	1/17/02 418.4	B	0.4184
2,3,7,8-TCDF	0.376	0.376	U	
1,2,3,7,8-PeCDF	0.293	0.293	U	
2,3,4,7,8-PeCDF	0.308	0.308	U	
1,2,3,4,7,8-HxCDF	0.242	0.242	U	
1,2,3,6,7,8-HxCDF	0.236	0.236	U	
2,3,4,6,7,8-HxCDF	0.276	0.276	U	
1,2,3,7,8,9-HxCDF	0.290	0.290	U	
1,2,3,4,6,7,8-HpCDF	0.282	2.882		0.02882
1,2,3,4,7,8,9-HpCDF	0.344	0.344	U	
OCDF	0.505	3.711		0.003711
TOTAL TOXICITY EQUIVALENCE				3.01103
Total TCDD	0.251	1.313		
Total PeCDD	0.276	0.788		
Total HxCDD	0.309	20.43		
Total HpCDD	0.285	68.53		
Total TCDF	0.376	0.376	U	
Total PeCDF	0.293	2.221		
Total HxCDF	0.236	2.876		
Total HpCDF	0.282	7.962		

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE:	12/28/01	DATA FILE:	U0770_05.D
SAMPLE ID:	08SDVS113	MATRIX:	SOIL
LAB ID:	48323.10	METHOD:	8290
DATE ANALYZED:	12/21/01	PROJECT:	NCBC GULFPORT, MS
BLANK ID:	BL1215SD	% MOISTURE:	26

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.127	1.451		1.451
1,2,3,7,8-PeCDD	0.101	0.101	U	
1,2,3,4,7,8-HxCDD	0.151	0.566	X	0.0566
1,2,3,6,7,8-HxCDD	0.140	1.720		0.172
1,2,3,7,8,9-HxCDD	0.134	10.48		1.048
1,2,3,4,6,7,8-HpCDD	0.122	63.06		0.6306
OCDD	0.173	572.1	B	0.5721
2,3,7,8-TCDF	0.173	0.173	U	
1,2,3,7,8-PeCDF	0.126	0.126	U	
2,3,4,7,8-PeCDF	0.129	0.129	U	
1,2,3,4,7,8-HxCDF	0.082	0.082	U	
1,2,3,6,7,8-HxCDF	0.080	1.288	I	0.1288
2,3,4,6,7,8-HxCDF	0.088	0.088	U	
1,2,3,7,8,9-HxCDF	0.095	0.095	U	
1,2,3,4,6,7,8-HpCDF	0.095	5.064		0.05064
1,2,3,4,7,8,9-HpCDF	0.114	0.114	U	
OCDF	0.175	9.202		0.009202
TOTAL TOXICITY EQUIVALENCE				4.11894
Total TCDD	0.127	2.052		
Total PeCDD	0.101	1.543		
Total HxCDD	0.134	32.83		
Total HpCDD	0.122	101.9		
Total TCDF	0.173	2.306		
Total PeCDF	0.126	2.246		
Total HxCDF	0.080	7.060		
Total HpCDF	0.095	5.064		

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE:	12/28/01	DATA FILE:	U0770_06.D
SAMPLE ID:	08SDVS114	MATRIX:	SOIL
LAB ID:	48323.11	METHOD:	8290
DATE ANALYZED:	12/21/01	PROJECT:	NCBC GULFPORT, MS
BLANK ID:	BL1215SD	% MOISTURE:	25

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.230	0.844		0.844
1,2,3,7,8-PeCDD	0.186	0.186	U	
1,2,3,4,7,8-HxCDD	0.319	0.319	U	
1,2,3,6,7,8-HxCDD	0.295	1.373		0.1373
1,2,3,7,8,9-HxCDD	0.282	7.350		0.735
1,2,3,4,6,7,8-HpCDD	0.144	44.74		0.4474
OCDD	0.310	421.7	B	0.4217
2,3,7,8-TCDF	0.278	0.278	U	
1,2,3,7,8-PeCDF	0.277	0.277	U	
2,3,4,7,8-PeCDF	0.282	0.282	U	
1,2,3,4,7,8-HxCDF	0.210	0.210	U	
1,2,3,6,7,8-HxCDF	0.205	0.822	I	0.0822
2,3,4,6,7,8-HxCDF	0.224	0.224	U	
1,2,3,7,8,9-HxCDF	0.242	0.242	U	
1,2,3,4,6,7,8-HpCDF	0.176	3.685		0.03685
1,2,3,4,7,8,9-HpCDF	0.212	0.212	U	
OCDF	0.299	6.310		0.00631
TOTAL TOXICITY EQUIVALENCE				2.71076
Total TCDD	0.230	0.844		
Total PeCDD	0.186	0.186	U	
Total HxCDD	0.282	23.53		
Total HpCDD	0.144	71.43		
Total TCDF	0.278	1.508		
Total PeCDF	0.277	4.593		
Total HxCDF	0.205	4.146		
Total HpCDF	0.176	3.685		

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE:	01/11/02	DATA FILE:	U0832_11.D
SAMPLE ID:	08SDVS114	MATRIX:	SOIL
LAB ID:	48323.11RE	METHOD:	8290
DATE ANALYZED:	01/10/02	PROJECT:	NCBC GULFPORT, MS
BLANK ID:	BL1229SA	% MOISTURE:	25

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.055	1.160		1.16
1,2,3,7,8-PeCDD	0.087	0.087	U	
1,2,3,4,7,8-HxCDD	0.313	0.436	X	0.0436
1,2,3,6,7,8-HxCDD	0.264	1.457		0.1457
1,2,3,7,8,9-HxCDD	0.260	8.197		0.8197
1,2,3,4,6,7,8-HpCDD	0.554	52.56	B	0.5256
OCDD	0.931	477.2	B	0.4772
2,3,7,8-TCDF	0.097	0.435		0.0435
1,2,3,7,8-PeCDF	0.062	0.062	U	
2,3,4,7,8-PeCDF	0.067	0.303	X	0.1515
1,2,3,4,7,8-HxCDF	0.229	0.640		0.064
1,2,3,6,7,8-HxCDF	0.232	0.346	X	0.0346
2,3,4,6,7,8-HxCDF	0.273	0.326		0.0326
1,2,3,7,8,9-HxCDF	0.301	0.301	U	
1,2,3,4,6,7,8-HpCDF	0.345	4.665	B	0.04665
1,2,3,4,7,8,9-HpCDF	0.476	0.476	U	
OCDF	1.124	7.502	B	0.007502
TOTAL TOXICITY EQUIVALENCE				3.55215
Total TCDD	0.055	1.961		
Total PeCDD	0.087	1.180		
Total HxCDD	0.260	18.01		
Total HpCDD	0.554	82.18		
Total TCDF	0.097	3.492		
Total PeCDF	0.062	2.332		
Total HxCDF	0.229	6.585		
Total HpCDF	0.345	4.665		

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE:	12/28/01	DATA FILE:	U0770_07.D
SAMPLE ID:	08SDVS115	MATRIX:	SOIL
LAB ID:	48323.12	METHOD:	8290
DATE ANALYZED:	12/21/01	PROJECT:	NCBC GULFPORT, MS
BLANK ID:	BL1215SD	% MOISTURE:	26

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.123	0.879		0.879
1,2,3,7,8-PeCDD	0.115	0.115	U	
1,2,3,4,7,8-HxCDD	0.167	0.458		0.0458
1,2,3,6,7,8-HxCDD	0.155	1.624		0.1624
1,2,3,7,8,9-HxCDD	0.148	11.13		1.113
1,2,3,4,6,7,8-HpCDD	0.073	66.99		0.6699
OCDD	0.164	693.5	B	0.6935
2,3,7,8-TCDF	0.167	0.167	U	
1,2,3,7,8-PeCDF	0.129	0.129	U	
2,3,4,7,8-PeCDF	0.132	0.132	U	
1,2,3,4,7,8-HxCDF	0.094	0.094	U	
1,2,3,6,7,8-HxCDF	0.091	0.740	I	0.074
2,3,4,6,7,8-HxCDF	0.100	0.100	U	
1,2,3,7,8,9-HxCDF	0.108	0.108	U	
1,2,3,4,6,7,8-HpCDF	0.113	3.140		0.0314
1,2,3,4,7,8,9-HpCDF	0.137	0.137	U	
OCDF	0.209	6.470		0.00647
TOTAL TOXICITY EQUIVALENCE				3.67547
Total TCDD	0.123	1.255		
Total PeCDD	0.115	0.396		
Total HxCDD	0.148	32.36		
Total HpCDD	0.073	105.7		
Total TCDF	0.167	2.700		
Total PeCDF	0.129	4.329		
Total HxCDF	0.091	3.796		
Total HpCDF	0.113	3.140		

SOUTHWEST LABORATORY OF OKLAHOMA
HIGH RESOLUTION GC/MS LABORATORY

REPORT DATE:	12/28/01	DATA FILE:	U0770_10.D
SAMPLE ID:	08SDVS116	MATRIX:	SOIL
LAB ID:	48323.13	METHOD:	8290
DATE ANALYZED:	12/21/01	PROJECT:	NCBC GULFPORT, MS
BLANK ID:	BL1215SD	% MOISTURE:	31

PARAMETER	(EDL) ESTIMATED DETECTION LIMIT	RESULTS (ng/Kg)	Q	TOXICITY EQUIVALENCE
2,3,7,8-TCDD	0.137	2.211		2.211
1,2,3,7,8-PeCDD	0.122	0.122	U	
1,2,3,4,7,8-HxCDD	0.164	0.577		0.0577
1,2,3,6,7,8-HxCDD	0.152	2.121		0.2121
1,2,3,7,8,9-HxCDD	0.146	13.14		1.314
1,2,3,4,6,7,8-HpCDD	0.089	81.53		0.8153
OCDD	0.178	766.0	B	0.766
2,3,7,8-TCDF	0.190	0.190	U	
1,2,3,7,8-PeCDF	0.127	0.127	U	
2,3,4,7,8-PeCDF	0.130	0.130	U	
1,2,3,4,7,8-HxCDF	0.091	0.091	U	
1,2,3,6,7,8-HxCDF	0.089	1.353	I	0.1353
2,3,4,6,7,8-HxCDF	0.097	0.297		0.0297
1,2,3,7,8,9-HxCDF	0.105	0.105	U	
1,2,3,4,6,7,8-HpCDF	0.118	6.707		0.06707
1,2,3,4,7,8,9-HpCDF	0.142	0.142	U	
OCDF	0.169	13.09		0.01309
TOTAL TOXICITY EQUIVALENCE				5.62126
Total TCDD	0.137	2.211		
Total PeCDD	0.122	0.815		
Total HxCDD	0.146	41.72		
Total HpCDD	0.089	128.6		
Total TCDF	0.190	1.838		
Total PeCDF	0.127	3.297		
Total HxCDF	0.089	6.985		
Total HpCDF	0.118	6.707		