

Addendum to Report on Interim Remedial Measures: Source Area Removal

Sierra Pacific Industries Arcata Division Sawmill 2593 New Navy Base Road Arcata, California

Prepared for:

Sierra Pacific Industries

April 29, 2004

Project No. 9329, Task 11

Geomatrix Consultants

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April 29, 2004 Project 9329, Task 11

Executive Officer California Regional Water Quality Control Board North Coast Region 5550 Skylane Boulevard, Suite A Santa Rosa, California 95403

Attention: Dean Prat

Subject: Addendum to Report on Interim Remediation Measures: Source Area Removal Sierra Pacific Industries Arcata Division Sawmill 2593 New Navy Base Road Arcata, California

Dear Mr. Prat:

As requested by Sierra Pacific Industries, we have enclosed a copy of the subject report.

Sincerely yours, GEOMATRIX CONSULTANTS, INC.

Ross Seensa

Ross Steenson, C.HG. Senior Hydrogeologist

Edward P. Conti, C.E.G., C.HG. Principal Geologist

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Enclosure

cc: Bob Ellery, Sierra Pacific Industries (with enclosure)
 Gordie Amos, Sierra Pacific Industries (with enclosure)
 David Dun, Dun and Martinek, LLP (with enclosure)
 Fred Evenson, Law Offices of Frederic Evenson (with enclosure)
 Jim Lamport, Ecological Rights Foundation (with enclosure)



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PROFESSIONAL CERTIFICATION

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Sierra Pacific Industries Arcata Division Sawmill 2593 New Navy Base Road Arcata, California

April 29, 2004 Project No. 9329.000, Task 11

This report was prepared by Geomatrix Consultants, Inc., under the professional supervision of Edward P. Conti. The findings, recommendations, specifications and/or professional opinions presented in this report were prepared in accordance with generally accepted professional hydrogeologic practice, and within the scope of the project. There is no other warranty, either express or implied.



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Edward P. Conti, C.E.G., C.HG. Principal Geologist



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ADDENDUM TO REPORT ON INTERIM REMEDIAL MEASURES: SOURCE AREA REMOVAL

Sierra Pacific Industries Arcata Division Sawmill 2593 New Navy Base Road Arcata, California

1.0 INTRODUCTION

This report is an addendum to the December 1, 2003 *Report on Interim Remedial Measures: Source Area Removal* (Geomatrix, 2003), which described the interim remedial measure (IRM) initiated by Sierra Pacific Industries (SPI) to remove soil and woody material containing elevated concentrations of wood surface protection chemicals from the SPI Arcata Division Sawmill located in Arcata, California (the site, Figures 1 and 2).

The IRM consisted of excavation and off-site disposal of soil and woody material from the former green chain area (Figure 3) where wood surface protection chemicals were used historically in a dip tank (the source area). The source of chlorinated phenols periodically detected in storm water in Drainage Ditch #2 (labeled "DD #2" on Figure 2) has been particularly difficult to determine. It is believed that this area of the former green chain is the source of chlorinated phenols detected in Drainage Ditch #2. In addition, based on elevated concentrations of wood surface protection chemicals detected in soil and woody material samples collected below the former dip tank, it is believed that this area has been an ongoing source of groundwater impact at the site. Consequently, a limited removal action as an interim remedial measure was deemed the most appropriate means of mitigation and compliance with California Regional Water Quality Control Board, North Coast Region (RWQCB) requirements.

The work was performed in accordance with the MFG, Inc. May 29, 2003 *Interim Remedial Measure Work Plan – Limited Excavation* (MFG, 2003), which was approved by the RWQCB staff on August 7, 2003. The activities completed through November 2003 were summarized in the *Report on Interim Remedial Measures: Source Area Removal* (Geomatrix, 2003; herein referred to as the IRM Report).



This addendum report summarizes additional analytical data and provides waste disposal records that were not available at the time the IRM report was produced. In addition, this addendum report documents the methods and results of post-IRM puddle sampling.

This report is organized as follows: Section 1.0 Introduction, Section 2.0 Additional Documentation, Section 3.0 Post-IRM Puddle Sampling, and Section 4.0 References.

2.0 ADDITIONAL DATA AND DOCUMENTATION

At the time of preparation for the IRM report, the regular Coastal Development Permit application had not yet been processed, dioxin testing for two soil samples had not been completed, and some final waste manifests were not available. These data and documentation are described in this section.

2.1 STATUS OF COASTAL DEVELOPMENT PERMIT

As indicated in the IRM Report, an Emergency Coastal Permit was acquired from the California Coastal Commission (CCC) before excavation activities began in the area of the former green chain. At the time the IRM Report was produced, the application for a regular Coastal Development Permit was in process with the CCC. Based on a telephone conversation with CCC staff on March 24, 2004, the regular Coastal Development Permit application has not yet been processed (Bob Merrill, personal communication, 2004).

2.2 ADDITIONAL DIOXIN AND FURAN ANALYSIS

2.2.1 Dioxin and Furan Analysis for Third Phase Excavation Soil Samples

As stated in the IRM report (IRM report Section 5.9), on November 6, 2003, additional soil was excavated from the northern portion of the excavation (third phase of excavation). At the completion of the excavation, two additional confirmation soil samples were collected for laboratory chemical analysis (S-30-1.5 [north sidewall] and S-31-5.5 [excavation base]). These samples were analyzed for chlorinated phenols, and the results indicated that chlorinated phenols were not detected (Table 1).

Soil samples S-30-1.5 and S-31-5.5 were forwarded by Alpha Analytical Laboratories to Frontier Analytical Laboratory of El Dorado Hills, California, a California Department of Health Services-certified analytical laboratory, for analysis for dioxins and furans using U.S. Environmental Protection Agency (EPA) Method 1613. These data were not available at the time the IRM Report was produced.



Concentrations of dioxins and furans, which refers to a complex mixture of various dioxin and furan congeners, are generally summarized in terms of their 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) toxic equivalency (TEQ) based on toxic equivalency factors adopted by the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (Cal-EPA, 2003). The IRM Report listed TEQ results for all of the samples analyzed for dioxins and furans, except soil samples S-30-1.5 and S-31-5.5. Table 2 of this addendum includes the analytical results for all of the reported dioxin and furan congeners and respective TEQ concentrations for all of the samples analyzed for dioxins and furans.

For soil sample S-30-1.5, dioxins and furans were detected at 18.0 picograms per gram (pg/g dry weight; parts per trillion) TEQ. For soil sample S-31-5.5, dioxins and furans were detected at 5.59 pg/g dry weight TEQ. A copy of the laboratory analytical report is included in Appendix A.

2.2.2 Dioxins and Furans Wet Weight Addendum Reports

EPA Method 1613 specifies that dioxin and furan results for solids samples be reported in dry weight format. However, for most environmental analyses, including analyses for chlorinated phenols, the results for solids samples are reported in wet weight format. Geomatrix requested that Frontier Analytical Laboratory provide addenda for all of the IRM sample reports showing the dioxin and furan results in wet weight format so that appropriate comparison can be made with other chemical analysis data from the site. Copies of these laboratory analytical report addenda are included in Appendix A. Both the dry weight format and wet weight format results are presented in Table 2.

2.3 WASTE DISPOSAL RECORDS

As described in the IRM report, solid remediation-derived waste generated during excavation was profiled and removed from the site by Asbury Environmental Services of Richmond, California (EPA ID No. CAD028277036) for disposal at the US Ecology facility in Beatty, Nevada (EPA ID No. NVT330010000) and the Chemical Waste Management facility in Kettleman City, California (EPA ID No. CAT000646117). The liquid remediation-derived wastes were also removed from the site by Asbury for disposal at the DeMenno Kerdoon facility in Compton, California (EPA ID No. CAT080013352).

The IRM report contained all the available completed Uniform Hazardous Waste Manifests or bills of lading for the waste shipments. Appendix B of this addendum contains the ten remaining completed Uniform Hazardous Waste Manifests or bills of lading received by SPI



after December 1, 2003. All of the waste disposal documentation has now been provided, either in the IRM Report or this addendum.

3.0 POST-IRM PUDDLE SAMPLING

On February 5, 2004, MFG collected grab water samples from two water puddles, located north and south of the former green chain area (Figure 5). These samples were intended to assess whether chlorinated phenols were present at the surface near the former green chain area following the IRM. One sample was collected directly south of the middle of the excavation area (sample labeled Puddle-S) and the second was near the location of well MW-7 (sample labeled Puddle-N). The sampling locations are illustrated on Figure 5. The sections below describe the field methods, laboratory methods, and results.

3.1 METHODS

3.1.1 Field Methods

Prior to sampling, MFG observed the site conditions and the puddles. The southern puddle (Puddle-S) was flowing, and the northern puddle (Puddle-N) appeared to be stagnant.

The puddle samples were collected by submerging laboratory-supplied, 125-milliliter glass bottles. After filling, the bottles were sealed with Teflon®-lined screw caps. The bottles were placed in an ice-cooled chest for transport to the laboratory. A chain-of-custody record was completed for the samples and accompanied the samples until receipt by the laboratory.

3.1.2 Laboratory Methods

Samples were collected for laboratory chemical analysis of chlorinated phenols using the Canadian Pulp Method. Samples were delivered under chain-of-custody to Alpha Analytical of Ukiah, California (Alpha Analytical), a California Department of Health Services-certified analytical laboratory.

A laboratory analytical report is included in Appendix A.

3.2 LABORATORY ANALYTICAL RESULTS

Chlorinated phenols were not detected at or above the laboratory reporting limits in either the puddle sample located directly south of the middle of the excavation area (Puddle-S) or the puddle sample located near well MW-7 (Puddle-N). The laboratory analytical results for the two puddle samples are summarized in Table 3.



These data suggest that chlorinated phenols are not present at the surface in the former green chain area.



4.0 **REFERENCES**

- Cal-EPA, 2003, Adoption of the Revised Toxic Equivalency Factors (TEFWHO-97) for PCDDs, PCDFs, and Dioxin-like PCBs (memorandum), Office of Environmental Health Hazard Assessment, August 29.
- Geomatrix Consultants, Inc., 2003, *Report on Interim Remedial Measures: Source Area Removal*, Sierra Pacific Industries, Arcata Division Sawmill, 2593 New Navy Base Road, Arcata, California, December 1.
- MFG, 2003, Interim Remedial Measure Work Plan Limited Excavation, Sierra Pacific Industries, Arcata Division Sawmill, 2593 New Navy Base Road, Arcata, California, May 29.



TABLES

TABLE 1



SUMMARY OF LABORATORY ANALYTICAL RESULTS FOR SAMPLES COLLECTED DURING IRM ACTIVITIES

Sierra Pacific Industries Arcata Division Sawmill Arcata, California

		Depth						
	Date	(feet)	1					
Sample ID	Sampled	bgs	Matrix	2,4,6-TCP	2,3,5,6-TCP	2,3,4,6-TCP	2,3,4,5-TCP	РСР
	units f	or soil, sedimer	nt, concrete samples 1	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		ur	nits for water samples	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
STORM WATER AND STORM WA	ATER SOLID	S SAMPLES						
S-Near B-14 Water	01-May-03		Storm water	<1.0	<1.0	<1.0	<1.0	<1.0
S-Near B-14 Sediment	01-May-03		Solids	<1.0	<1.0	<1.0	<1.0	<1.0
S-Near B-33 Water	01-May-03		Storm water	<1.0	<1.0	<1.0	<1.0	<1.0
S-Near B-33 Sediment	01-May-03		Solids	<1.0	<1.0	<1.0	<1.0	<1.0
S-Near B-36 Water	01-May-03		Storm water	<1.0	<1.0	<1.0	<1.0	2.1
S-Near B-36 Sediment	01-May-03		Solids	<1.0	<1.0	<1.0	<1.0	<1.0
S-Near MW-7 Water	01-May-03		Storm water	<1.0	<1.0	8.1	2.6	28
S-Near MW-7 Sediment	01-May-03		Solids	<1.0	<1.0	<1.0	<1.0	<1.0
S-Near MW-8 Water	01-May-03		Storm water	<1.0	<1.0	<1.0	<1.0	<1.0
S-Near MW-8 Sediment	01-May-03		Solids	<1.0	<1.0	<1.0	<1.0	<1.0
SS-Near B-37 Water	01-May-03		Storm water	2.0	<1.0	7,900	110	33,000
SS-Near B-37 Sediment	01-May-03		Solids	<1.0	<1.0	11	1.3	94
SAMPLES FROM THE SHALLOW	V PIT BENEA	FH THE SOU	TH CATWALK		*		<u>.</u>	
UCW-South-Water	05-May-03		Pit Water	<1.0	< 8.5	1,100	69	11,000
UCW-South Sand	06-May-03	$(0.5)^2$	Soil	<1.0	<1.0	<1.0	<1.0	1.4
UCW-South Wood	06-May-03	$(0.5)^2$	Wood	<1.0	<25	1400	<25	4600
CONCRETE AND UPPER FILL M	ATERIAL SA	MPLES						
C-1	19-Jun-03		Concrete					
C-2	19-Jun-03		Concrete					
S-1-1'	19-Jun-03	0.0	Soil	<1.0	<1.0	<1.0	<1.0	<1.0
S-2-1'	19-Jun-03	0.0	Soil	<1.0	<1.0	<1.0	<1.0	<1.0
FIRST PHASE OF EXCAVATION-	-CONFIRMA	TION SOIL S	SAMPLES					
Pit Bottom	09-Jul-03	1.3	Soil	<1.0	<1.0	100	1.7	380
Pit Under 2nd Slab	09-Jul-03	1.3	Soil	<1.0	<1.0	<1.0	<1.0	2.3
LOWER FILL MATERIAL SAMP	LE							
4" Under 2nd Slab	17-Jul-03	1.3	Soil	<1.0	<1.0	<1.0	<1.0	<1.0
DRAINAGE DITCH #2 SAMPLE					,ı	1		
#2 (second separator)	04-Aug-03		Surface water	na	<1.0	<1.0	<1.0	< 0.3

TABLE 1



SUMMARY OF LABORATORY ANALYTICAL RESULTS FOR SAMPLES COLLECTED DURING IRM ACTIVITIES

Sierra Pacific Industries Arcata Division Sawmill Arcata, California

	_	Depth						
~	Date	(feet)						
Sample ID	Sampled	bgs	Matrix	2,4,6-TCP	2,3,5,6-TCP	2,3,4,6-TCP	2,3,4,5-TCP	РСР
	units f	or soil, sedime	nt, concrete samples	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		u	nits for water samples	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
SOIL BORINGS NEAR MONITOR	ING WELL M	IW-7	1			T	I	
B-61-Concrete Upper	29-Aug-03	0 to 0.3	Concrete	<1.0	<1.0	12	<1.0	15
B-61-Concrete Lower	29-Aug-03	0.6 to 1.1	Concrete	<1.0	<1.0	<1.0	<1.0	1.2
B-61-1.2'	29-Aug-03	1.2	Soil	<1.0	<1.0	<1.0	<1.0	2.5
B-61-3'	29-Aug-03	3.0	Soil	<1.0	<1.0	<1.0	<1.0	<1.0
B-62-Concrete Upper	29-Aug-03	0 to 0.3	Concrete	<1.0	<1.0	<1.0	<1.0	<1.0
B-62-Concrete Lower	29-Aug-03	0.4 to 0.9	Concrete	<1.0	<1.0	<1.0	<1.0	<1.0
B-62-1'	29-Aug-03	1.0	Soil	<1.0	<1.0	<1.0	<1.0	<1.0
B-62-3'	29-Aug-03	3.0	Soil	<1.0	<1.0	<1.0	<1.0	21
B-63-1'	29-Aug-03	1.0	Soil	<1.0	<1.0	<1.0	<1.0	<1.0
B-63-3'	29-Aug-03	3.0	Soil	<1.0	<1.0	<1.0	<1.0	17
SECOND PHASE OF EXCAVATIO	N—WOOD, V	WATER, AND	CONFIRMATION	SOIL SAMP	LES			
Sample of Buried Railroad								
RR-Ties	16-Sep-03	1.5	Wood	<2.5	<2.5	170	3.1	260
Excavation Water Sample								
Pit Water	17-Sep-03		Pit Water	19	<1.0	18,000	52	35,000
Excavation Sidewall Soil Samples								
S-1E-2.5'	14-Sep-03	2.5	Soil	<1.0	<1.0	<1.0	<1.0	2.1
S-2E-2.5'	14-Sep-03	2.5	Soil	<1.0	<1.0	18	<1.0	32
S-3S-2.5'	14-Sep-03	2.5	Soil	<1.0	<1.0	4.6	<1.0	33
S-4N-2.5'	14-Sep-03	2.5	Soil	<1.0	<1.0	<1.0	<1.0	<1.0
S-5N-2.5'	15-Sep-03	2.5	Soil	<1.0	<1.0	1.1	<1.0	3.2
S-6N-1.5	16-Sep-03	1.5	Soil	<1.0	<1.0	560	1.7	850
S-7E-3'	16-Sep-03	3.0	Soil	<1.0	<1.0	<1.0	<1.0	<1.0
S-8W-1.5'	16-Sep-03	1.5	Soil	<1.0	<1.0	6.5	<1.0	19
S-9W-2.5'	16-Sep-03	2.5	Soil	<1.0	<1.0	1.6	<1.0	3.2
S-10S-0.5'	16-Sep-03	0.5	Soil	<1.0	<1.0	<1.0	<1.0	<1.0
S-11S-2.5'	16-Sep-03	2.5	Soil	<1.0	<1.0	3.1	<1.0	9.2
S-12S-2.5'	16-Sep-03	2.5	Soil	<1.0	<1.0	4.5	<1.0	7.1

TABLE 1



SUMMARY OF LABORATORY ANALYTICAL RESULTS FOR SAMPLES COLLECTED DURING IRM ACTIVITIES

Sierra Pacific Industries Arcata Division Sawmill Arcata, California

Sample ID	Date Sampled	Depth (feet) bgs	Matrix	2,4,6-TCP	2,3,5,6-TCP	2,3,4,6-TCP	2,3,4,5-TCP	РСР
	units f	or soil, sedime	nt, concrete samples ¹	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		u	nits for water samples	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
Excavation Base Soil Samples								
B-1-South	14-Sep-03	6.5	Soil	<1.0	<1.0	<1.0	<1.0	<1.0
B-2-East	14-Sep-03	4.0	Soil	<1.0	<1.0	<1.0	<1.0	<1.0
B-3-East	14-Sep-03	4.0	Soil	<1.0	<1.0	<1.0	<1.0	<1.0
B-4-West	15-Sep-03	4.0	Soil	<1.0	<1.0	170	<1.0	640
B-5-West	16-Sep-03	4.0	Soil	<1.0	<1.0	2.2	<1.0	4.9
THIRD PHASE OF EXCAVATION	-CONFIRM	ATION SOIL	SAMPLES					
Excavation Sidewall Soil Samples								
S-30-1.5'	06-Nov-03	1.5	Soil	<1.0	<1.0	<1.0	<1.0	<1.0
Excavation Base Soil Samples								
S-31-5.5'	06-Nov-03	5.5	Soil	<1.0	<1.0	<1.0	<1.0	<1.0



TABLE 1 SUMMARY OF LABORATORY ANALYSIS RESULTS FOR SAMPLES COLLECTED DURING IRM ACTIVITIES Sierra Pacific Industries

Arcata Division Sawmill Arcata, California

Abbreviations

Shading = indicates that the material represented by the sample was removed.
na = not analyzed
-- = not measured
< = Target analyte was not detected at or above the laboratory reporting limit shown.</p>
bgs = Below ground surface measured from the surrounding grade in the former green chain area; not from the top of the elevated concrete slab.
mg/kg = milligrams per kilogram (parts per million)
µg/l = micrograms per liter (parts per billion)
PCP = pentachlorophenol
2,3,4,5-TCP = 2,3,4,5-tetrachlorophenol
2,3,4,6-TCP = 2,3,5,6-tetrachlorophenol
2,3,5,6-TCP = 2,3,5,6-tetrachlorophenol
2,4,6-TCP = 2,4,6-trichlorophenol

Notes:

- 1. Alpha Analytical reported the chlorinated phenol data for solids samples in wet-weight format. Frontier Analytical reported the dioxins/furans data for solids samples in dry-weight format.
- 2. Samples collected beneath the elevated concrete pad of the former green chain, but approximately 0.5 feet <u>above</u> the surrounding grade.

 TABLE 2

 SUMMARY OF LABORATORY ANALYTICAL RESULTS FOR DIOXINS AND FURANS
 Sierra Pacific Industries Arcata Division Sawmill Arcata, California

	Concentrations in picograms per gram (pg/g; parts per trillion).																								
		Depth				1, 2,	1, 2, 3,	1, 2, 3,	1, 2, 3,	1, 2, 3,				1, 2,	2, 3,	1, 2, 3,	1, 2, 3,	2, 3,	1, 2, 3,	1, 2, 3,	1, 2, 3,	í T		Total	PERCENT
Sample ID	Date	(feet)	Matrix	Basis	2, 3, 7, 8- TCDD	3, 7, 8- BaCDD	4, 7, 8- HxCDD	6, 7, 8- HyCDD	7, 8, 9- HxCDD	4, 6, 7, 8- HpCDD	OCDD	Total	2, 3, 7, 8- TCDF	3, 7, 8- PeCDE	4, 7, 8- PeCDE	4, 7, 8- HxCDF	6, 7, 8- HxCDF	4, 6, 7, 8- HyCDE	7, 8, 9- HxCDF	4, 6, 7, 8- HpCDF	4, 7, 8, 9- HpCDF	OCDE	Total	Dioxins/Furans	2,3,7,8-
Sample ID SAMPLES FROM THE S	Sampieu	Dgs RENEATH T	Mairix THE SOLITH CATV	VALK	ICDD	recod	пасы	пасыр	пасы	превв	OCDD	Dioxins	терг	песы	тесы	пасы	пасы	пасы	пасы	превт	прерг	OCDF	rurans	IEQ	TCDD
UCW-South Sand	06-May-03	$(0.5)^3$	Soil	Dry Weight	2.87	119	112	15,200	1,550	119,000	263,000	203,068	227 F	155	519 M,X	1610	643	2,140	361	102,000	6,390	302,000	646,610 D,M,X	4,910	0.06%
UCW-South Sand	06-May-03	$(0.5)^3$	Soil	Wet Weight	2.33	97	90.8	12,400	1,260	96,900	214,000	165,629	185 F	126	422 M,X	1310	523	1,740	294	83,400	5,190	246,000	525,340 D,M,X	4,000	0.06%
UCW-South Wood	06-May-03	$(0.5)^{3}$	Wood	Dry Weight	651	37,300	860,000	5,180,000	162,000	43,400,000	109,000,000	73,583,380 M	323,000 F	295,000	835,000	482,000	214,000	960,000	519,000	14,300,000	522,000	15,300,000	113,150,000 D,M,X	1,940,000	0.03%
UCW-South Wood	06-May-03	$(0.5)^{3}$	Wood	Wet Weight	194	11,100	257,000	1,550,000	48,300	13,000,000	32,800,000	22,004,700 M	96300 F	88,000	249,000 M, X	144,000	64,000	287,000	155,000	4,280,000	156,000	4,590,000	33,743,000 D,M,X	578,000	0.03%
CONCRETE AND UPPE	R FILL MATER	RIAL SAMPL	ES	D W 1	24.0	202	220	14,000	4.740	(1.500	105 000 D	154 410 5	20.5 5	10.6	51.0	00.0	1.5/	2.42	16.0	2 200	00.6	2100	16140	2.050	0.000/
<u>C-I</u>	19-Jun-03		Concrete	Dry Weight Wat Waight	24.9	282	230	14,800	4,740	64,700	137,000 B	174,419 B	38.5 F	49.6	51.3	89.2	156	242	46.9	2,290	98.6	3,100	16,140	3,050	0.82%
C-1 C-2	19-Jun-03		Concrete	Dry Weight	57.5	1.030	1 580	232,000	4,230	1 940 000	122,000 B	4 841 220 B	2 100 F	2 420	3 350	4 260	3 390	9 220	3 830	2,040	3 170	2,770	848 000 D M	52,900	0.81%
C-2	19-Jun-03		Concrete	Wet Weight	54.7	982	1,500	232,000	29.500	1,940,000	10,000,000 B	4 610 640 B	2,100 F	2,420	3,180	4,050	3 2 3 0	8,780	3,650	75,200	3.020	73,100	805 700 D M	50,300	0.11%
S-1-1'	19-Jun-03	0.0	Soil	Dry Weight	1.12	26.1	48.6	4,720	190	58,500	387,000 B	111,518 B	146 F	123	168	257	151	454	261	4,780	169	5,960	45,340 D,M	1,410	0.08%
S-1-1'	19-Jun-03	0.0	Soil	Wet Weight	0.904	21.2	39.4	3,830	154	47,500	313,000 B	90,366 B	118 F	99.8	136	208	122	368	211	3,870	137	4,830	36,800 D,M	1,150	0.08%
S-2-1'	19-Jun-03	0.0	Soil	Dry Weight	9.24	59.0	76.2	2,060	234	25,400	130,000 B	53,007 B	67.2 F	44.2	56.3	132	87.5	212	98.9	5,240	213	11,600	34,900	720	1.28%
S-2-1'	19-Jun-03	0.0	Soil	Wet Weight	7.57	48.4	62.5	1,690	192	20,800	107,000 B	43,443 B	55.1 F	36.3	46.2	109	71.7	173	81	4,300	175	9,550	28,582	589	1.29%
FIRST PHASE OF EXCA	VATION—CON	NFIRMATIO	N SOIL SAMPLES	Dry Waight	100	(22	1 160	22 600	1.600	440.000	2 070 000 D	765 257	240 F	274	511	2 000	010	2 210	012	154.000	11,000	580.000	1.054.470 D.M	10 700	0.020/
Pit Bottom	09-Jul-03	1.5	Soil	Ury Weight Wet Weight	80	505	931	23,600	1,600	449,000	2,070,000 B	/65,25/	249 F 100 F	3/4	<u> </u>	2,090	654	2,310	730	154,000	9 500	<u>580,000</u> 463,000	1,054,470 D,M 843 350 D M	10,700	0.93%
Pit Under 2nd Slab	09-Jul-03	1.3	Soil	Dry Weight	24.1	240	287	3940	295	135,000	1,030,000 B	261 513 2	0.915	3.42	5 76	309	80.7	257	74 3	26 200	2,990	128 000	188 731 9 D M	2,570	0.94%
Pit Under 2nd Slab	09-Jul-03	1.3	Soil	Wet Weight	18.5	185	221	3030	227	104,000	988,000 B	201,608	0.704	2.63	4.43	238	62.1	198	57.2	20,200	2,300	98,400	145,255.4 D,M	1,980	0.93%
LOWER FILL MATERL	AL SAMPLE									,		,													
4" Under 2nd Slab 4" Under 2nd Slab	17-Jul-03	1.3	Soil	Dry Weight	1.53	46.2	302	9,090	2,710	150,000	545,000	387,654	29.3 F 25.2 F	29.6	38.5	192	82.4	198	62.3 53.6	11,800	512	36,700	70,171 D,M 60,432 D M	3,020	0.05%
SOIL BORINGS NEAR M	MONITORING V	WELL MW-7	501	Wet Weight	1.52	57.0	200	7,010	2,550	127,000	170,000	551,295	20.21	20.0	55.2	105	/1	1/1	55.0	10,200	112	51,700	00,152 D,14	2,000	0.0570
B-61-Concrete Upper	29-Aug-03	0 to 0.3	Concrete	Dry Weight	103	1,290	744	60,300	17,100	576,000	2,220,000	2,753,286 M	2,030 F	790	1,750	1,260	1,560	3,540	624	34,200	940	27,700	312,100	17,400	0.59%
B-61-Concrete Upper	29-Aug-03	0 to 0.3	Concrete	Wet Weight	96.5	1,210	696	56,400	16,000	540,000	2,080,000	2,574,692 M	1900 F	740	1,640	1,180	1,460	3,320	584	32,000	880	26,000	188,500	16,300	0.59%
B-61-Concrete Lower B 61 Concrete Lower	29-Aug-03	0.6 to 1.1	Concrete	Dry Weight Wet Weight	21.7	439	344	44,300	9,210	457,000	3,740,000	1,208,987	755 F 694 F	348	685	764	504	1,610	368	20,000	070	56,800	147,190	11,800	0.18%
B-61-1.2'	29-Aug-03	1.2	Soil	Dry Weight	12.1	102	131	11.500	2,750	170.000	1.020.000	398.687	23.7 F	21.2	35.2	511	198	438	107	28,400	1.540	88.500	148,901	3.820	0.32%
B-61-1.2'	29-Aug-03	1.2	Soil	Wet Weight	11.1	93.5	120	10,600	2,520	156,000	938,000	365,789	21.7 F	19.4	32.2	468	182	402	97.8	26,000	1,410	81,100	135,681	3,500	0.32%
B-62-Concrete Upper	29-Aug-03	0 to 0.3	Concrete	Dry Weight	< 0.431	6.54	9.02	391	103	4,150	18,000	12,733.8	2.40 F	3.10	3.25	10.0	12.0	20.3	<2.14	564	20.8	1,560	2,943.3	112	0.00%
B-62-Concrete Upper	29-Aug-03	0 to 0.3	Concrete	Wet Weight	< 0.395	6	8.27	359	94.3	3,810	16,500	11,685.1	2.21 F	2.84	2.98	9.21	11.0	18.6	<1.97	517	19.1	1,430	2,695.1	103	0.00%
B-62-Concrete Lower B 62 Concrete Lower	29-Aug-03	0.4 to 0.9	Concrete	Dry Weight	<0.979	68	139	21,200	7,470	192,000	368,000	534,710	1.39 F	3.42	2.74	24.1	18.8	34.7	7.68	1,950	95.0	6,130	9,698.7	4,940	0.00%
B-62-1'	29-Aug-03	1.0	Soil	Dry Weight	<0.919	12.1	19.7	2,360	7,010	22,900	51 400	63 950	0.696	1 95 I	2.38 1.64 I	22.0	13.5	27.8	6.13	2 310	99.2	7 700	11 648 1	589	0.00%
B-62-1'	29-Aug-03	1.0	Soil	Wet Weight	< 0.512	10.3	16.8	2,010	606	19,600	43,800	54,537	0.594	1.66 J	1.4 J	19.1	11.5	23.7	5.23	1,970	84.5	6,570	9,927.6	502	0.00%
B-63-1'	29-Aug-03	1.0	Soil	Dry Weight	0.488 J	8.46	21.6	922	298	8840	14800	23,452	0.369 J	0.594 J	0.522 J	4.62	2.89	7.84	< 0.887	608	21.9	2520	3,039.6	231	0.21%
B-63-1'	29-Aug-03	1.0	Soil	Wet Weight	0.41 J	7.1	18.2	774	250	7430	12400	19,672.4	0.31 J	0.499 J	0.439 J	3.88	2.43	6.59	< 0.745	511	18.4	2120	2,554.8	194	0.21%
SECOND PHASE OF EX	CAVATION-W	VOOD, WAT	ER, AND CONFIR	MATION SOIL	SAMPLES																				
Sample of Buried Railroa	d 16-Sep-03	15	Wood	Dry Weight	89.6	1 200	1 190	21 300	1 590	425.000	2 910 000	833.016	65.2 F	155	184	2 370	645	2.060	647	159.000	12 400	459.000	860 7/2	10 700	0.84%
RR-Ties	16-Sep-03	1.5	Wood	Wet Weight	36.6	491	488	8.720	649	174.000	1.190.000	341.349	26.7 F	63.2	75.5	969	264	844	265	65.100	5.090	188.000	354,942	4.370	0.84%
Excavation Sidewall Soil S	Samples			5				- ,			, ,	-)								,	.,	,	<u>,</u>		
S-1E-2.5'	14-Sep-03	2.5	Soil	Dry Weight	< 0.442	4.80	17.7	695	78.2	13,300	74,600	22,628.43	< 0.352	2.36 J	1.57 J	39.1	14.1	40.5	13.5	4,350	281	19,400	20,339.16	284	0.00%
S-1E-2.5'	14-Sep-03	2.5	Soil	Wet Weight	< 0.367	3.99	14.8	578	65	11,000	62,100	18,788.65	<0.293	1.97 J	1.31 J	32.5	11.7	33.7	11.2	3,620	234	16,200	16,902.66	236	0.00%
8-5N-2.5' 8-5N-2.5'	15-Sep-03	2.5	Soil	Ury Weight Wet Weight	<0.324	2.45 J 2.12 I	3.98	285	14.4	3,840	23,900	6 905 22	/.13 F 6.18 F	8.59	9.55	21.4	8.84	33.2 28.7	13.3	960	<u> </u>	4,420	5,578.2	98.8	0.00%
S-6N-1 5	16-Sep 03	1.5	Soil	Dry Weight	48.3	533	1.030	29.500	2.520	444.000	1 500 000	792.051	310 F	427	630	3 370	1 150	3 300	1 000	160,000	10,900	459.000	928 050 D M	11 500	0.42%
S-6N-1 5	16-Sep-03	1.5	Soil	Wet Weight	41.6	459	887	25,300	2,320	382.000	1 290 000	681.974	267 F	367	550	2 900	903	2 920	938	138,000	9350	395,000	799.680 D M	9,900	0.42%
S-7E-3'	16-Sep-03	3.0	Soil	Dry Weight	22.5	373	352	8.270	574	202.000	1,070,000	366.917.4	31.9 F	194	214	1.580	399	906	569	59,600	3.950	216.000	339.952 D.M	4,560	0.49%
S-7E-3'	16-Sep-03	3.0	Soil	Wet Weight	20.9	347	327	7,690	534	188,000	988,000	341,366.8	29.7 F	180	199	1,470	371	843	529	55,400	3,670	201,000	316,069 D,M	4,250	0.49%
S-9W-2.5'	16-Sep-03	2.5	Soil	Dry Weight	2.76	22.3	35.0	546	42.5	10,100	46,800	18,242.03	< 0.480	3.03	3.20	53.4	13.7	37.8	19.2	2720	284	9,530	16,282.02 D,M	238	1.16%
S-9W-2.5'	16-Sep-03	2.5	Soil	Wet Weight	2.34	18.9	29.5	462	35.9	8,500	39,500	15,403.95	< 0.405	2.56	2.70	45.1	11.6	31.9	16.2	2300	240	8,050	13,790.8 D,M	201	1.16%
8-118-2.5' 8-118-2.5'	16-Sep-03	2.5	Soil	Dry Weight	18.3	66.3 56	64.6 54.5	1,280	97.1	27,400	144,000	48,331.0	2.94 F	14.5	16.1	146	46.6	117	55	7,750	653	32,900	49,278.3	650	2.82%
S-115-2.5 S-12S-2.5'	16-Sep-03	2.5	Soil	Dry Weight	15.5	128	34.5 124	2,400	82 199	43,200	286.000	40,779.1	2.48 F 10 F	38.8	49.6	309	59.4 88.6	98.4 234	40.4	0,550	1 100	27,800	41,052.1	1,150	2.82%
S-12S-2.5'	16-Sep-03	2.5	Soil	Wet Weight	14.7	119	116	2,240	186	40,900	267,000	78,221.3	9.38 F	36.2	46.3	289	82.7	219	146	13,000	1,020	55,500	82,046	1,070	1.37%
Excavation Base Soil Sam	ples										,														1
B-1-South	14-Sep-03	6.5	Soil	Dry Weight	6.10	27.3	19.6	318	24.6	7,320	43,900	14,223.2	0.379 J	2.25 J	2.63	29.5	8.79	24.5	12.2	1,430	165	6,880	9,678.41	173	3.53%
B-1-South	14-Sep-03	6.5	Soil	Wet Weight	5.05	22.6	16.3	264	20.4	6,060	36,400	11,760.4	0.314 J	1.86 J	2.18	24.5	7.28	20.3	10.1	1,180	137	5,700	8,026.65	143	3.53%
B-4-West B-4-West	15-Sep-03	4.0	Soil	Dry Weight Wet Weight	55.1 43.3	996 783	1,090	55,500	2,440	575,000	2,280,000	1,013,852	1,500 F	1,260	2,030	4,320	1,760	6,190	2,210	179,000	10,800	429,000	1,100,800 D,M	17,600	0.31%
THIRD PHASE OF EXC	AVATION—CO	NFIRMATIC	ON SOIL SAMPLE	S		103	- 000	45,000	1,920	452,000	1,790,000	190,120	1,100 Г	- 992	1,000	5,400	1,390	4,070	1,730	141,000	0,400	- 337,000	005,500 D,14	15,800	0.3170
Excavation Sidewall Soil S	Samples																					T		· · · · · · · · · · · · · · · · · · ·	(ł
8-30-1.5'	06-Nov-03	1.5	Soil	Dry Weight	< 0.232	< 0.495	0.968 J	20.3	2.88	997	13,200	2,998.90	< 0.193	< 0.757	< 0.457	3.15	1.43 J	3.50	< 0.561	301	22.9	1,970	1,657.46 M	18.0	0.00%
8-30-1.5'	06-Nov-03	1.5	Soil	Wet Weight	< 0.202	< 0.432	0.844 J	17.7	2.51	870	11,500	2,610.54	< 0.168	< 0.660	< 0.399	2.75	1.25 J	3.05	< 0.49	263	19.9	1,720	1439.82 M	15.7	0.00%



 TABLE 2

 SUMMARY OF LABORATORY ANALYTICAL RESULTS FOR DIOXINS AND FURANS
 Sierra Pacific Industries

Arcata Division Sawmill Arcata, California

Concentrations in picograms per gram (pg/g; parts per trillion).

		Depth				1, 2,	1, 2, 3,	1, 2, 3,	1, 2, 3,	1, 2, 3,				1, 2,	2, 3,	1, 2, 3,	1, 2, 3,	2, 3,	1, 2, 3,	1, 2, 3,	1, 2, 3,			Total	PERCENT
	Date	(feet)			2, 3, 7, 8-	3, 7, 8-	4, 7, 8-	6, 7, 8-	7, 8, 9-	4, 6, 7, 8-		Total	2, 3, 7, 8-	3, 7, 8-	4, 7, 8-	4, 7, 8-	6, 7, 8-	4, 6, 7, 8-	7, 8, 9-	4, 6, 7, 8-	4, 7, 8, 9-		Total	Dioxins/Furans	2,3,7,8-
Sample ID	Sampled	bgs	Matrix	Basis	TCDD	PeCDD	HxCDD	HxCDD	HxCDD	HpCDD	OCDD	Dioxins	TCDF	PeCDF	PeCDF	HxCDF	HxCDF	HxCDF	HxCDF	HpCDF	HpCDF	OCDF	Furans	TEQ ¹	TCDD ⁴
Excavation Base Soil San	nples																								
8-31-5.5'	06-Nov-03	5.5	Soil	Dry Weight	< 0.147	< 0.374	< 0.656	5.99	1.12 J	352	4,960	1,040.20	< 0.196	< 0.624	< 0.600	< 0.435	< 0.482	1.79 J	< 0.741	58.4	5.54	406	271.51	5.59	0.00%
8-31-5.5'	06-Nov-03	5.5	Soil	Wet Weight	< 0.130	< 0.330	< 0.579	5.28	0.988 J	310	4,380	916.79	< 0.173	<0.550	< 0.529	< 0.384	< 0.425	1.58 J	< 0.653	51.5	4.89	358	239.9	4.93	0.00%
			TEF ⁵		1	1	0.1	0.1	0.1	0.01	0.0001		0.1	0.05	0.5	0.1	0.1	0.1	0.1	0.01	0.01	0.0001			

Notes:

Notes: 1. Frontier Analytical Laboratory, of El Dorado Hills, California, analyzed these samples for dioxins and furans in accordance with EPA Method 1613. 2. Calculated as the sum of congener concentrations after each has been multiplied by its TEF. 3. Concentrations not detected above the laboratory reporting limit were assigned a concentration of 0 pg/g to calculate TEQ. 4. Calculated by dividing the concentration of 2,3,7,8-TCDD by the Total TEQ (multiplied by 100). When the concentration of 2,3,7,8-TCDD was not detected, it was assigned a concentration of 0 pg/g for this calculation. 5. TEF (unitless) from the World Health Organization, 1997 (WHO-97), adopted from F.X.R. van Leeuwen, 1997. Shading = indicates that the material represented by the sample was subsequently removed during excavation.

Abbreviations: TCDD = tetrachlorodibenzo-p-dioxin PeCDD = pentachlorodibenzo-p-dioxin HxCDD = hexachlorodibenzo-p-dioxin HpCDD = heptachlorodibenzo-p-dioxin OCDD = octachlorodibenzo-p-dioxin TCDF = tetrachlorodibenzofuran PeCDF = pentachlorodibenzofuran HxCDF = hexachlorodibenzofuran HpCDF = heptachlorodibenzofuran OCDF = octachlorodibenzofuran

TEQ = toxicity equivalents TEF = toxicity equivalency factor (unitless) EPA = U.S. Environmental Protection Agency bgs = below ground surface -- = not applicable --- = not applicable < = target analyte was not detected at or above the laboratory reporting limit shown J = concentration detected was below the instrument calibration range F = analyted confirmation on secondary column. M = maximum possible concentration. X = matrix interferences B = analyte is present in method blank



TABLE 3LABORATORY ANALYTICAL RESULTS FOR PUDDLE SAMPLES



Sierra Pacific Industries Arcata Division Sawmill Arcata, California

Sample ID	Date Sampled	2,4,6-TCP	2,3,5,6- TCP	2,3,4,6-TCP	2,3,4,5-TCP	РСР
Puddle - N	05-Feb-04	<1.0	<1.0	<1.0	<1.0	<1.0
Puddle - S	05-Feb-04	<1.0	<1.0	<1.0	<1.0	<1.0

Concentrations in micrograms per liter (ug/l; parts per billion)

Notes:

1. Alpha Analytical Laboratories of Ukiah, California, analyzed these samples for chlorinated phenols in accordance with the Canadian Pulp method.

Abbreviations:

< = target analyte was not detected at or above the laboratory reporting limit shown.

2,4,6-TCP = 2,4,6-trichlorophenol

2,3,5,6-TCP = 2,3,5,6-tetrachlorophenol

2,3,4,6-TCP = 2,3,4,6-tetrachlorophenol

2,3,4,5-TCP = 2,3,4,5-tetrachlorophenol

PCP = pentachlorophenol



FIGURES



S:\9300\9329\task_11\04_0405_airm_fig_01.mxd



S:\9300\9329\task 11\04 0405 airm\ fig 02.ai





27-APR-2004 13:08 kuber S:\9300\9329\task_11\04_0405_airm_fig_05.dgn





APPENDIX A

Laboratory Analytical Reports

- A-1 Third Phase Excavation Samples
- A-2 Wet Weight Dioxin and FuranAddendum Reports
- A-3 Puddle Samples

A-1 Third Phase Excavation Samples



FILE 9329 TII

December 18, 2003

FAL Project ID: 2346

IRM 3rd Phase Excavation

Soil SAMPLES S-30-1.5 S-31-5.5

Mr. Ross Steenson Geomatrix Consultants, Inc. 2101 Webster Street, 12th Floor Oakland, CA 94612

Dear Mr. Steenson,

Enclosed are the results for Frontier Analytical Laboratory project **2346**. This corresponds to Alpha Analytical Laboratories, Inc. subcontract order # A312032. The two soil samples received on 12/4/03 were extracted and analyzed by EPA Method 1613 for tetra through octa chlorinated dibenzo dioxins and furans. Alpha Analytical Laboratories, Inc. requested a turnaround time of ten business days for project **2346**. Frontier Analytical Laboratory successfully fulfilled this request.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains the project-sample tracking log, qualifier reference guide, ML/MDL form and the analytical results. The Sample Receipt section contains the chain of custody, sample login form and sample photo. Also included is the Electronic Disk Deliverable (EDD) you requested.

If you have any questions regarding project **2346**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

 Bradley B. Silverbush Director of Operations





Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: 2346

Received on: 12/04/2003

Project Due: <u>12/19/2003</u> Storage: <u>R1</u>

FAL Sample ID	Dup	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
2346-001-SA	0	A312032	S-30-1.5 (ref. A311137- 01)	EPA 1613 D/F	Soil	11/06/2003	1 0:10 am	11/05/2004
2346-002-SA	0	A312032	S-31-5.5 (ref. A311137- 02)	EPA 1613 D/F	Soil	11/06/2003	10:45 am	11/05/2004



Qualifier Reference Guide

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J[‡] Analyte concentration is below calibration range
- M Maximum possible concentration
- NP Not Provided
- S Sample acceptance criteria not met
- X Matrix interferences
- * Result taken from dilution or reinjection
- Analyte Not Detected

[‡] "J" values are equivalent to DNQ (detected but not quantified) for California Toxics Rule (CTR)/National Pollutant Discharge Elimination System (NPDES) samples

EPA Method 1613/8290 Solid MDL (Sox/SDS Extraction)



Analyte	ML	MDL
2,3,7,8-TCDD	0.500	0.132
1,2,3,7,8-PeCDD	2.50	0.223
1,2,3,4,7,8-HxCDD	2.50	0.346
1,2,3,6,7,8-HxCDD	2.50	0.381
1,2,3,7,8,9-HxCDD	2.50	0.343
1,2,3,4,6,7,8-HpCDD	2.50	0.318
OCDD	5.00	1.20
2,3,7,8-TCDF	0.500	0.100
1,2,3,7,8-PeCDF	2.50	0.232
2,3,4,7,8-PeCDF	2.50	0.217
1,2,3,4,7,8-HxCDF	2.50	0.114
1,2,3,6,7,8-HxCDF	2.50	0.106
1,2,3,7,8,9-HxCDF	2.50	0.117
2,3,4,6,7,8-HxCDF	2.50	0.147
1,2,3,4,6,7,8-HpCDF	2.50	0.140
1,2,3,4,7,8,9-HpCDF	2.50	0.155
OCDF	5.00	0.498
	_	

Project 1370, Extracted 11/04/02; analyzed 11/08/02. Based on 10g sample, pg/g.



FAL 1D: 2346-001-MB		Date Extrac	ted• 1	2/8/03			7 07 .					
Client ID: Method Blank		Date Receiv	ed: NA	2,0,05		CC Column dbE	7-03 #	Acquired: 9-DEC-03				
Matrix: Soil		Amount: 10.	00 a	•		Upiter pa(a						
Extraction Batch No.: X0143	5	% Solids: N	A A			MS/MSD Batch No.	V0121	THO TEQ: (0.00			
						MS/MSD Batch No.:	XU121					
Compound	Conc	DL	Qual	WHO To:	x	Compound	Conc	DL	Qual	#Hom		
2.3.7.8-TCDD	-	0 204										
1.2.3.7.8-PeCDD		0.261			-							
1.2.3.4.7.8-HxCDD	-	0.207			-							
1.2.3.6.7 8-HxCDD		0.227			-							
1.2 3 7 8 9-Hychn	_	0.234			-	lotal letra-Dioxins	-	0.204		0		
1 2 3 4 6 7 8-HochD	_	0.200			-	lotal Penta-Dioxins	-	0.261		0		
		0.369			-	Total Hexa-Dioxins	-	0.234		0		
0000	-	0.970			-	Total Hepta-Dioxins	-	0.389		0		
2,3,7,8-TCDF	-	0.0943			-							
1,2,3,7,8-PeCDF	-	0.319			-							
2,3,4,7,8-PeCDF	-	0.318			-							
1,2,3,4,7,8-HxCDF	-	0.0949			-							
1,2,3,6,7,8-HxCDF	-	0.113			-							
2,3,4,6,7,8-HxCDF	-	0.118			-							
1,2,3,7,8,9-HxCDF	-	0.141			-	Total Tetra-Furans	-	0 00/3		0		
1,2,3,4,6,7,8-HpCDF	-	0.122			-	Total Penta-Furans	-	0.0740		0		
1,2,3,4,7,8,9-HpCDF	-	0.142		-	-	Total Hexa-Furans	-	0.324		0		
OCDF	-	0.552		-	-	Total Hepta-Furans	-	0.141		0		
Internai Standards	% Rec	QC Limits	Q	ual								
13C-2,3,7,8-TCDD	92.0	25.0 - 164	4									
13C-1,2,3,7,8-PeCDD	84.8	25.0 - 181	1									
13C-1,2,3,4,7,8-HxCDD	98.9	32.0 - 141	1									
13C-1,2,3,6,7,8-HxCDD	101	28.0 - 130)									
13C-1,2,3,4,6,7,8-HpCDD	84.1	23.0 - 140)									
13C-OCDD	74.8	17.0 - 157	7									
13C-2,3,7,8-TCDF	103	24.0 - 169	,									
13C-1,2,3,7,8-PeCDF	98.8	24.0 - 185	5									
13C-2,3,4,7,8-PeCDF	95.7	21.0 - 178	3									
13C-1,2,3,4,7,8-HxCDF	99.7	26.0 - 152	2									
13C-1,2,3,6,7,8-HxCDF	99.9	26.0 - 123	-									
13C-2,3,4,6,7,8-HxCDF	90.6	29.0 - 147	•									
13C-1,2,3,7,8,9-HxCDF	84.4	28.0 - 136										
13C-1,2,3,4,6,7,8-HpCDF	90.6	28.0 - 143										
13C-1,2,3,4,7,8,9-HpCDF	89.7	26.0 - 138										
13C-0CD F	70.4	17 0 - 157	,									
		10 - 11										
Cleanup Surrogate												
37cl-2,3,7,8-TCDD	109	35.0 - 197										

Analyst:_______ Date:____*]2/11/03*____

Reviewed by:



FAL ID: 2346-001-OPR Client ID: OPR		Date Extracted: 12/8/03 Date Received: NA	ICal: PCDDFAL2-9-07-03 GC Column: db5	Acquired: 9-DEC-03		
Matrix: Soil		Amount: 10.00 g	Units: ng/mL	WHO TEQ: NA		
Extraction Batch No.: X0143	5	% Solids: NA	MS/MSD Batch No.: X0121			
Compound	Conc	QC Limits				
2,5,7,8-1000	8.87	6.70 - 15.8				
1,2,3,7,8-PeCDD	49.4	35.0 - 71.0				
1,2,3,4,7,8-HXCDD	47.6	35.0 - 82.0				
1,2,3,6,7,8-HxCDD	47.3	38.0 - 67.0				
1,2,3,7,8,9-HxCDD	45.2	32.0 - 81.0				
1,2,3,4,6,7,8-HpCDD	49.8	35.0 - 70.0				
OCDD	92.2	78.0 - 144				
2,3,7,8-TCDF	9.28	7.50 - 15.8				
1,2,3,7,8-PeCDF	47.2	40.0 - 67.0				
2,3,4,7,8-PeCDF	47.5	34.0 - 80.0				
1,2,3,4,7,8-HxCDF	50.1	36.0 - 67.0				
1,2,3,6,7,8-HxCDF	49.3	42.0 - 65.0				
2,3,4,6,7,8-HxCDF	49.3	39.0 - 65.0				
1,2,3,7,8,9-HxCDF	46.4	35.0 - 78.0				
1,2,3,4,6,7,8-HpCDF	47.9	41.0 - 61.0				
1,2,3,4,7,8,9-HpCDF	48.3	39.0 - 69.0				
OCDF	97.5	63.0 - 170				
		0010 110				
Internal Standards	% Rec	QC Limits				
13C-2,3,7,8-TCDD	111	20.0 - 175				
13C-1,2,3,7,8-PeCDD	92.0	21.0 - 227				
13C-1,2,3,4,7,8-HxCDD	115	21.0 - 193				
13C-1,2,3,6,7,8-HxCDD	118	25.0 - 163				
13C-1,2,3,4,6,7,8-HpCDD	93.6	26.0 - 166				
13C-0CDD	83.9	13.0 - 198				
13C-2,3,7,8-TCDF	114	22.0 - 152				
13C-1,2,3,7,8-PeCDF	102	21.0 - 192				
13C-2,3,4,7,8-PeCDF	97.2	13.0 - 328				
13C-1,2,3,4,7,8-HxCDF	120	19.0 - 202				
13C-1,2,3,6,7,8-HxCDF	123	21.0 - 159				
13C-2,3,4,6,7,8-HxCDF	111	17.0 - 205				
13C-1,2,3,7,8,9-HxCDF	105	22.0 - 176				
13C-1,2,3,4,6,7,8-HpCDF	100	21.0 - 158				
13C-1,2,3,4,7,8.9-HDCDF	100	20.0 - 186				
13C-OCDF	81.2	13 0 - 108				
	*** L	13.0 170				

31.0 - 191

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 103

Analyst: Date: 12/11/173

Reviewed by:______ Date:__12/16/03_____



FAL ID: 2346-001-SA		Date Extracted: 12/8/03			ICal: PCDDFAL2-9-07-03 Acquired: 10-DEC-03				
Client ID: S-30-1.5 (A311137-01)		Date Received: 12/4/03			GC Column: DB5				
Matrix: Soil		Amount: 10	.01 g		Units: pg/g	мно	TEQ: 1	8.0	
Extraction Batch No.: X014	3	% Solids: 8	37.2		MS/MSD Batch No.: X0121				
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	0.232		_					
1,2,3,7,8-PeCDD	-	0.495		-					
1,2,3,4,7,8-HxCDD	0.968	-	ť	0.0968					
1,2,3,6,7,8-HxCDD	20.3	-		2.03	Total Tetra-Diovine	10.0			2
1,2,3,7,8,9-HxCDD	2.88	-		0.288	Total Penta-Diovins	10.9	-		2
1,2,3,4,6,7,8-HpCDD	997	-		9.97	Total Hexa-Dioxing	410	-		з ,
OCDD	13200	-		1.32	Total Hepta-Dioxins	2230	-		6 2
2 7 7 6					•				2
2,3,7,8-TCDF	-	0.193		-					
1,2,3,7,8-PeCDF	-	0.757		-					
2,3,4,7,8-PeCDF	-	0.457		-					
1,2,3,4,7,8-HxCDF	3.15	-		0.315					
1,2,3,6,7,8-HxCDF	1.43	-	J	0.143					
2,3,4,6,7,8-HxCDF	3.50	-		0.350					
1,2,3,7,8,9-HxCDF	-	0.561		-	Total Tetra-Furans	3.46	-	м	3
1,2,3,4,6,7,8-HpCDF	301	-		3.01	Total Penta-Furans	72.0	-		3
1,2,3,4,7,8,9-HpCDF	22.9	-		0.229	Total Hexa-Furans	372	-		7
OCDF	1970	-		0.197	Total Hepta-Furans	1210	-		4
Internal Standards	% Rec	QC Limits	ն	al					
13C-2,3,7,8-TCDD	105	25.0 - 16	4						
13C-1,2,3,7,8-PeCDD	84.7	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	104	32.0 - 14	1						
13C-1,2,3,6,7,8-HxCDD	110	28.0 - 13	0						
13C-1,2,3,4,6,7,8-HpCDD	81.8	23.0 - 14	0						
13C-OCDD	66.8	17.0 - 1 5	7						
130-2 7 7 9 TODE	077	24 2 44	_						
130-1 2 3 7 8-DACDE	7(./ 95 5	24.0 - 16	У Г						
13C-2 3 / 7 8-Doche	02.2 91.4	24.0 - 18	2						
130-1 2 3 / 7 8-Hyppe	01.0	21.0 - 17	8						
130-1 2 3 6 7 8-HyCDE	94.0	20.0 - 15	2						
13C-2 3 / 6 7 8-440F	90.9 97 F	20.0 - 12	3 ~						
13C-1 2 3 7 8 0-HxcDr	07.2	29.0 - 14	(,						
130-1 2 3 / 6 7 8-Upp	02.2	28.0 - 15	6 7						
130-1 2 3 / 7 8 0-Horps	74.1	20.0 - 14	ა ი						
13C 1,2,3,4,7,8,9- HPUP	12.2 57 0	20.0 - 13	8						
	57.8	17.0 - 15	(
Cleanup Surrogate									
37Cl-2,3,7,8-TCDD	104	35.0 - 19	7						

Analyst: Date: 12/11/03

____ Reviewed by: ______ Date: _______



FAL 1D: 2346-002-5A		Date Extrac	ted: 12	2/8/03	ICal . PODEAL 2-0-0	7-07 4-		10 050	07
Client ID: S-31-5.5 (A311137-02) Date Received: 12/4/03			4/03	GC Colump: DB5					
Matrix: Soil		Amount: 10.03 a			Units: pa/a	Liur	. TEO. E	50	
Extraction Batch No.: X014	43	% Solids: 8	8.2		MS/MSD Batch No ·	WRU V0121		. 79	
					NOTHOD DATCH NO.,	10121			
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	0.147		-					
1,2,3,7,8-PeCDD	-	0.374		-					
1,2,3,4,7,8-HxCDD	-	0.656		-					
1,2,3,6,7,8-HxCDD	5.99	-		0.599	Total Tetra-Dioxins	2.60	-		2
1,2,3,7,8,9-HxCDD	1.12	-	J	0.112	Total Penta-Dioxins	13.2	-		1
1,2,3,4,6,7,8-HpCDD	352	-		3.52	Total Hexa-Dioxins	97 4	-		5
OCDD	4960	-		0.496	Total Hepta-Dioxins	927	-		2
									-
2,3,7,8-TCDF	-	0.196		-					
1,2,3,7,8-PeCDF	-	0.624		-					
2,3,4,7,8-PeCDF	-	0.600		-					
1,2,3,4,7,8-HxCDF	-	0.435		-					
1,2,3,6,7,8-HxCDF	-	0.482		-					
2,3,4,6,7,8-HxCDF	1.79	-	J	0.179					
1,2,3,7,8,9-HxCDF	-	0.741		-	· Total Tetra-Furans	-	0.350		0
1,2,3,4,6,7,8-HpCDF	58.4	-		0.584	Total Penta-Furans	2.61	-		1
1,2,3,4,7,8,9-HpCDF	5.54	-		0.0554	Total Hexa-Furans	27.9	-		4
OCDF	40 6	-		0.0406	Total Hepta-Furans	241	-		3
Internal Standards	% Rec	QC Limits	Qu	al					
13C-2.3.7.8-TCDD	99.7	25 0 - 16	4						
13C-1,2,3,7,8-PeCDD	80.8	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	112	32.0 - 14	, 1						
13C-1,2,3,6,7,8-HxCDD	117	28.0 - 130	ר						
13C-1,2,3,4,6,7,8-HpCDD	87.0	23.0 - 140	י ר						
13C-OCDD	73.9	17.0 - 157	7						
13C-2,3,7,8-TCDF	99.4	24.0 - 169	,						
13C-1,2,3,7,8-PeCDF	83.9	24.0 - 185	5						
13C-2,3,4,7,8-PeCDF	78.8	21.0 - 178	3						
13C-1,2,3,4,7,8-HxCDF	101	26.0 - 152	2						
13C-1,2,3,6,7,8-HxCDF	104	26.0 - 123	5						
13C-2,3,4,6,7,8-HxCDF	93.1	29.0 - 147	,						
13C-1,2,3,7,8,9-HxCDF	85.2	28.0 - 136	b						
13C-1,2,3,4,6,7,8-HpCDF	78.4	28.0 - 143	;						
13C-1,2,3,4,7,8,9-HpCDF	76.7	26.0 - 138	5						
13C-OCDF	62.8	17.0 - 157	,						
Cleanup Surrogate									
37cl-2,3,7,8-TCDD	99.3	35.0 - 197							

Reviewed by: _____ Date: ________


FAL ID: 2297-001-MS/MSD	Date	Extracted: 10/2	29/03	ICal: PCDDFAL2-9-07-03 MS Acquired: 30-0CT-03			
Mathive Cail	Date	Received: 10/2	1/03	GC Column: db5	MSD Acqui	red: 30-0CT-03	
Father Betch No. VO	Samp	le Amount: 10.0	2 g	Units: pg	WHO TEQ:	NA	
Extraction Batch No.: XU	IZI MSAI	nount: 10.02 g		MS/MSD Batch No.: X0121	% Solids:	98.2	
	MSD /	Amount: 10.02	9				
	Amount	Sample	MS	MSD			
Compound	Spiked	Amount	Amount	Amount	% RSD	Qual	
2,3,7,8-TCDD	200	-	194	185	4 75		
1,2,3,7,8-PeCDD	1000	-	992	988	0.400		
1,2,3,4,7,8-HxCDD	1000	-	946	960	1 47		
1,2,3,6,7,8-HxCDD	1000	-	965	935	7 14		
1,2,3,7,8,9-HxCDD	1000	-	935	024	3.10		
1,2,3,4,6,7,8-HpCDD	1000	-	1040	1020	0.970		
OCDD	2000	-	1840	1890	2.68		
	_				2.00		
2,3,7,8-TCDF	200	-	185	191	3.19		
1,2,3,7,8-PeCDF	1000	-	976	988	1.22		
2,3,4,7,8-PeCDF	1000	-	946	961	1.57		
1,2,3,4,7,8-HxCDF	1000	-	1000	979	2.12		
1,2,3,6,7,8-HxCDF	1000	-	999	976	2.33		
2,3,4,6,7,8-HxCDF	1000	-	1020	1000	1 08		
1,2,3,7,8,9-HxCDF	1000	-	967	989	2 25		
1,2,3,4,6,7,8-HpCDF	1000	-	956	959	0 310		
1,2,3,4,7,8,9-HpCDF	1000	-	950	968	1 88		
OCDF	2000	-	1950	1870	4.19		
Internal Standards		% Rec	% Rec	% Rec	QC Limits		
170-2 7 7 8 TODD	2000	405					
	2000	105	106	108	25.0 - 150		
130-1,2,3,7,8-PeCDD	2000	96.7	98.1	101	25.0 - 150		
130-1,2,3,4,7,8-HXCDD	2000	111	109	111	25.0 - 150		
130-1,2,3,6,7,8-HXCDD	2000	110	108	112	25.0 - 150		
13C-1,2,3,4,6,7,8-HpCDD	2000	85.6	91.8	94.7	25.0 - 150		
13C-0CDD	4000	64.3	73.5	70.6	25.0 - 150		
13C-2,3,7,8-TCDF	2000	106	105	108	25.0 - 150		
13C-1,2,3,7,8-PeCDF	2000	96.2	98-0	105	25.0 - 150		
13C-2,3,4,7,8-PeCDF	2000	92.7	98.2	102	25.0 - 150		
13C-1,2,3,4,7,8-HxCDF	2000	106	107	113	25.0 - 150		
13C-1,2,3,6,7,8-HxCDF	2000	104	100	117	25.0 - 150		
13C-2,3,4,6,7,8-HxCDF	2000	00 0	08.8	107	25.0 - 150		
13C-1.2.3.7.8.9-HxCDF	2000	97 n	100	103	25.0 - 150		
13C-1.2.3.4.6.7.8-HDCDF	2000	8/. Q		77.(25.0 - 150		
13C-1.2.3.4.7.8.9-HoCDE	2000	80 4	77.0	87.5	25.0 - 150		
130-000	4000	67.4 61 E	105	100	25.0 - 150		
	4000	01.0	70.4	70.3	25.0 - 150		
Cleanup Surrogate							
37cl-2,3,7,8-TCDD	800	97.9	103	106	25.0 - 150		

Analyst:______ Date:_____2/11/07____

Reviewed by: ______ Date: _______





SUBCONTRACT ORDER

Alpha Analytical Laboratories, Inc.

A312032



SENDING LABORATORY:

Alpha Analytical Laboratories, Inc. P.O. Box 1508 (208 Mason St.) Ukiah, CA 95482 Phone: (707)468-0401 Fax: (707)468-5267 Project Manager: Sheri L. Speaks

RECEIVING LABORATORY:

Forensic Analytical 3777 Depot Rd., Ste 409 Hayward, CA 94545 Phone :(510) 887-8828 Fax: -**Terms: Net 30**

Analysis	Due	Expires		Comments	
A312032-01 (S-30-1.5	(ref. A311137-01) [Soi	l] Sampled 11/06/	03 10:10 Pacific		
Dioxins Full List Containers Supplied: Other (A)	12/16/03 12:00	11/05/04 10:10		method	013
A312032-02 S-31-5.5	(ref. A311137-02))[Soi	I] Sampled 11/06/	03 10:45 Pacific	SPH -	Tras
Dioxins Full List Containers Supplied: Other (A)	12/16/03 12:00	11/05/04 10:45		>	
Report to State			<i></i>		
System Name: User ID:		Employed by: Sampler:			
System Number:			,		
1					
18/4/03 Conf V2.	rivined by She	ri to use r	wmber Circ	iled in red	as sample ID.
Released By Melwor Comer-	ly 12/2 Date 12/12	-/03 17	Received By	Date	14/03 © 1110
Released By	Date		Received By	Date	0000 Page 1000112



Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: 2346

Client:	Geomatrix Consultants, Inc.
Client Project ID:	A312032
Date Received:	12/04/2003
Time Received:	11:10 am
Received By:	NM
Logged In By:	KZ
# of Samples Received:	2
Duplicates:	0
Storage Location:	R1

Method of Delivery:	Courier
Tracking Number:	
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	4
Cooling Method	Blue Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test for residual Chlorine	No
Thiosulfate Added	No
Earliest Sample Hold Time Expiration	11/05/2004
Adequate Sample Volume	Yes
Anomalies or additional comments:	
Anomalies of additional comments.	





A-2 Wet Weight Dioxin and Furan Addendum Reports

FILE 9329



April 8, 2004

FAL Project ID: 1759 (Addendum)

Mr. Ross Steenson Geomatrix Consultants, Inc. 2101 Webster Street, 12th Floor Oakland, CA 94612 REELED

TASK 11 IRM Samples from Shallow Pit Beneath the South Catwalk

Dear Mr. Steenson,

Enclosed are the addendum results for Frontier Analytical Laboratory project **1759**. The addendum report contains the wet weight results that you requested on 3/31/2004. This project consisted of two solid samples that we received on 5/9/2003 from Alpha Analytical. The wet weight data sheets have been marked as "Wet Weight" and do not have a % Solids field on them.

If you have any questions regarding the addendum to project **1759**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Dan Vickers

Dan Vickers Director of Air Toxics

FRONTIER ANALYTICAL LABORATORY 5172 Hillsdale Circle • El Dorado Hills, CA 95762 Tel (916) 934-0900 • Fax (916) 934-0999 dioxin@frontieranalytical.com



UCW - SOUTH WOOD

FAL ID: 1759-01-SA	Dar	te Extract	ed: 5/1	9/03	ICal: PCDDFAL1-3-	8	Acquired:	21-MAY	-03
Client ID: A305156-01	Dat	te Receive	d: 5/9/	03	GC Column: db5				
Matrix: Solid	Amo	ount: 3.35	g		Units: pg/g	ļ	WHO TEQ:	578000	
Extraction Batch No.: 175	9 Wet	t Weight			MS/MSD Batch No.:	1769 1	Wet Weigh	t	
Compound	Conc	DL	Qual	₩НО Тох	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	194	•		194					
1,2,3,7,8-PeCDD	11100	-		11100					
1,2,3,4,7,8-HxCDD	257000	-	*	25700					
1,2,3,6,7,8-HxCDD	1550000	-	*	155000	Total Tetra-Dioxins	190	0 -		16
1,2,3,7,8,9-HxCDD	48300	-	*	4830	Total Penta-Dioxins	5280	0 -	м	12
1,2,3,4,6,7,8-HpCDD	13000000	-	*	130000	Total Hexa-Dioxins	325000	0 -	*	7
OCDD	32800000	-	*	3280	Total Hepta-Dioxins	1870000	0 -	*	2
	0/700		_	<i></i>					
2,3,7,8-1CDF	96300	-	F	9630					
1,2,3,7,8-Peup	88000	-	*	4400					
2,3,4,7,8-PetDF	249000	-	*,M,X	124000					
1,2,3,4,7,8-HxCDF	144000	-	*	14400					
1,2,3,6,7,8-HxCDF	64000	-	*	6400					
2,3,4,6,7,8-HxCDF	287000	-	*	28700					
1,2,3,7,8,9-HxCDF	155000	-	*	15500	Total Tetra-Furans	49300	0 -	D,M	18
1,2,3,4,6,7,8-HpCDF	4280000	•	*	42800	Total Penta-Furans	325000	0 -	*,M,X	12
1,2,3,4,7,8,9-HpCDF	156000	-	*	1560	Total Hexa-Furans	1350000	0 -	*	9
OCDF	4590000	-	*	459	Total Hepta-Furans	16500000	0 -	*	3
Internal Standards	% Rec	QC Limit	s QI	ual					
13C-2,3,7,8-TCDD	96.0	25.0 - 1	64						
13C-1,2,3,7,8-PeCDD	82.8	25.0 - 1	81						
13C-1,2,3,4,7,8-HxCDD	136	32.0 - 1	41	*					
13C-1,2,3,6,7,8-HxCDD	111	28.0 - 1	30	*					
13C-1,2,3,4,6,7,8-HpCDD	107	23.0 - 1	40	*					
13C-OCDD	116	17.0 - 1	57	*					
13C-2,3,7,8-TCDF	86.5	24.0 - 1	69						
13C-1,2,3,7,8-PeCDF	107	24.0 - 1	85	*					
13C-2,3,4,7,8-PeCDF	113	21.0 - 1	78	*					
13C-1,2,3,4,7,8-HxCDF	131	26.0 - 1	52	*					
13C-1,2,3,6,7,8-HxCDF	104	26.0 - 1	23	*					
13C-2,3,4,6,7,8-HxCDF	87.4	29.0 - 1	47	*					
13C-1,2,3,7,8,9-HxCDF	78.6	28.0 - 1	36	*					
13C-1,2,3,4,6,7,8-HpCDF	97.0	28.0 - 1	43	*		*	= Diluti	00	
13C-1,2,3,4,7,8,9-HpCDF	108	26.0 - 1	38	*			- Dituti	011	
13C-OCDF	106	17.0 - 1	57	*			Acquire	d. 21.M	AY-03
							Acquire	d: 23-M	AY-03
Cleanup Surrogate						F	= DB225	Confirm	ation
37C1-2,3,7,8-TCDD	110	35.0 - 1	97				Acquire	d: 23-M	AY-03
Analyst: Date:						Reviewed	d by: <u>68</u> 41a	PPV 12005	

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UCW - SOUTH SAND

FAL ID: 1759-02-SA	Da	te Extracte	d: 5/12	2/03	ICal: PCDDFAL1-3	-8 Acq	Acquired: 13-MAY-03		
Client ID: A305156-02	Da	te Received	: 5/9/0	13	GC Column: db5				
Matrix: Solid	Am	ount: 12.62	9		Units: pg/g	WHO	TEQ: 4000		
Extraction Batch No.: 1745	We	t Weight			MS/MSD Batch No.:	: 1769 Wet	Weight		
Company	0	51							
compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL Qual	#Hom	
2,3,7,8-TCDD	2.33	-		2.33					
1,2,3,7,8-PeCDD	97.0	-		97.0					
1,2,3,4,7,8-HxCDD	90.8	-		9.08					
1,2,3,6,7,8-HxCDD	12400	-		1240	Total Tetra-Dioxins	104	-	17	
1,2,3,7,8,9-HxCDD	1260	-		126	Total Penta-Dioxins	925	-	10	
1,2,3,4,6,7,8-HpCDD	96900	-	*	969	Total Hexa-Dioxins	31600	-	8	
OCDD	214000	-	*	21.4	Total Hepta-Dioxins	133000	-	2	
2,3,7,8-TCDF	185	-	F	18.5					
1.2.3.7.8-PeCDF	126	-	·	6 28					
2.3.4.7.8-PeCDF	422	-	MV	211					
1 2 3 4 7 8-HxCDF	1310		<i>н</i> ,л	171					
1 2 3 6 7 8-HYCDE	523	_		121					
236678-HYCDE	17/0	-		52.5					
	20/	-		174					
	294	-		29.4	Total Tetra-Furans	1850	- D,M	20	
1,2,3,4,0,7,8-HPCDF	83400	-	*	834	Total Penta-Furans	7590	- D,M,X	15	
1,2,3,4,7,8,9-HpCDF	5190	-		51.9	Total Hexa-Furans	95900	- *,D,M	11	
OCDF	246000	-	*	24.6	Total Hepta-Furans	420000	- *	3	
Internal Standards	% Rec	QC Limits	Qu	al					
170 0 7 7 8 TODD	<u> </u>	25 0 4 /							
	88.4	25.0 - 164	+						
136-1,2,3,7,8-PeCDD	112	25.0 - 18	1						
13C-1,2,3,4,7,8-HXCDD	91.9	32.0 - 14	1						
13C-1,2,3,6,7,8-HxCDD	95.2	28.0 - 130)						
13C-1,2,3,4,6,7,8-HpCDD	98.3	23.0 - 140	0	*					
13C-OCDD	92.6	17.0 - 151	7	*					
13C-2.3.7.8-TCDF	96.2	24 0 - 169							
13C-1.2.3 7 8-PeCDF	113	24.0 - 18	,						
13C-2 3 4 7 8-PerDF	96 /	21 0 - 17	2						
13C-1 2 3 4 7 8-HyCDE	80.7	21.0 - 170	נ ר						
13C-1 2 3 6 7 8-HVCDE	80 7	26.0 - 122	2						
130-2 3 4 6 7 8-MUCOF	91 D	20.0 - 123	, 7						
130-1 2 3 7 9 0-1100F	77 0	29.0 - 14	, ,						
130-1,2,3,(,0,9-HXLUF	11.9	28.0 - 136	•						
170 1 2 7 4 7 8 0 HPCUF	99.4	28.0 - 143	5	×		* = [Dilution		
13C-1,2,3,4,7,8,9-HpCDF	81.5	26.0 - 138	3						
13C-0CDF	109	17.0 - 157	7	*		Ac	quired: 21-M/	4Y-03	
Cleanup Surrogate						F = [)B225 Confirma	ation	
37Cl-2,3,7,8-TCDD	94.3	35.0 - 197	7	*			muinade 07 M	AV 07	
		3310 171				Ac	quired: 23-M/	11-03	
Analyst:						Reviewed by	~ 		
Date: 47/1/							4/0/00	<u></u>	
/						Date:	1912004		

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+166 7367



April 8, 2004

FAL Project ID: 2102 (Addendum)

Mr. Ross Steenson Geomatrix Consultants, Inc. 2101 Webster Street, 12th Floor Oakland, CA 94612 REEMD

TASK 11 IRM

CONCRETE AND UPPER FILL MATERIAL SAMPLES

Dear Mr. Steenson,

Enclosed are the addendum results for Frontier Analytical Laboratory project **2102**. The addendum report contains the wet weight results that you requested on 3/31/2004. This project consisted of four solid samples that we received on 6/24/2003 from MFG, Incorporated. The wet weight data sheets have been marked as "Wet Weight" and do not have a % Solids field on them.

If you have any questions regarding the addendum to project **2102**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Dan vickers

Dan Vickers Director of Air Toxics



FAL ID: 2102-001-SA	Da	te Extracte	d: 6/24	/03	ICal: pcddfal1-3-8 Acquired: 25-JUN-03				
Client ID: S-1-1	Da	te Received	: 6/24/	'03	GC Column: db5				
Matrix: Solid	Am	ount: 12.56	g		Units: pg/g	WH	0 TEQ: '	150	
Extraction Batch No.: 0035	We	t Weight			MS/MSD Batch No.:	1769 We	t Weight	Ī	
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	0.904	-		0.904					
1,2,3,7,8-PeCDD	21.2	-		21.2					
1,2,3,4,7,8-HxCDD	39.4	-	*	3.94					
1,2,3,6,7,8-HxCDD	3830	-	*	383	Total Tetra-Dioxins	412	-		14
1,2,3,7,8,9-HxCDD	154	-	*	15.4	Total Penta-Dioxins	984	-		10
1,2,3,4,6,7,8-НрСDD	47500	-	*	475	Total Hexa-Dioxins	9970	-	B.*	7
OCDD	313000	-	в,*	31.3	Total Hepta-Dioxins	79000	-	*	2
2,3,7,8-TCDF	118	-	F	11.8					
1,2,3,7,8-PeCDF	99.8	-		4.99					
2.3.4.7.8-PeCDF	136	_		68.2					
1.2.3.4.7.8-HxCDF	208	-		20.8					
1.2.3.6.7.8-HxCDF	122	-		12 2					
2.3 4 6 7 8-HyCDE	368	_		74.9					
1 2 3 7 8 9-HyCDE	211	_		24.4	Tabal Tabas For	1050			
1 2 3 4 6 7 8-HODE	3970			21.1	Total Tetra-Furans	1850	-	D,M	22
	177	-		30.7	Total Penta-Furans	6050	-		14
	121	-	*	1.57	lotal Hexa-Furans	14600	-		11
OCDF	4850	-	*	0.483	Total Hepta-Furans	14300	-		3
Internal Standards	% Rec	QC Limits	Qu	al					
13C-2,3,7,8-TCDD	91.9	25.0 - 164	4						
13C-1,2,3,7,8-PeCDD	86.5	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	87.0	32.0 - 14	1	*					
13C-1,2,3,6,7,8-HxCDD	81.5	28.0 - 13)	*					
13C-1.2.3.4.6.7.8-HpCDD	103	23.0 - 14	- 1	*					
13C-OCDD	154	17.0 - 15	7	*					
13C-2,3,7,8-TCDF	90.7	24.0 - 169	2						
13C-1,2,3,7.8-PeCDF	95.1	24.0 - 18	5						
13C-2.3.4.7.8-PeCDF	96.6	21.0 - 17	- -						
13C-1.2.3.4.7.8-HxCDF	122	26.0 - 152	>						
13C-1.2.3.6.7.8-HxCDF	115	26 0 - 123	- Z						
130-2 3 4 6 7 8-Hyppe	105	20.0 - 14	,						
130-1 2 3 7 8 9-Hychr	05 0	29.0 - 14	4 6						
13C-1 2 3 / 6 7 8- WOODE	110	20.0 - 150	2 7						
13C-1 2 3 4 7 8 0-N-CDF	110	28.0 - 143				* =	Dilutio	'n	
130-1,2,3,4,7,8,9-Hpt0F	115	20.0 - 138	5						
130-000F	99.7	17.0 - 157	7	*		,	Acquired	l: 26-Jl	JN-03
Cleanup Surrogate						F =	DB225 C	onfirma	ation
37cl-2,3,7,8-TCDD	101	35.0 - 197	7			1	Acquired	: 26-JI	JN-03
Analyst:						Reviewed H	лу: оС	N	

Date: 4/7/01/

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Date: 4/7/2004



FAL ID: 2102-002-SA Client ID: S-2-1	Dat Dat	te Extracte te Received	d: 6/24 : 6/24/	703 703	ICal: pcddfal1-3-8 Acquired: 25-JUN GC Column: db5			-03	
Matrix: Solid	Amo	ount: 12.37	9		Units: pg/g	WHO	TEQ: 5	89	
Extraction Batch No.: 0035	Wet	t Weight			MS/MSD Batch No.:	1769 Wet	Weight	:	
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2.3.7.8-TCDD	7.57	-		7 57					
1.2.3.7.8-PeCDD	48.4	-		48 4					
1,2,3,4,7,8-HxCDD	62.5	-	*	6.25					
1.2.3.6.7.8-HxCDD	1690	-	*	169	Total Tetra-Diovins	473	-		19
1,2,3,7,8,9-HxCDD	192	-	*	19.2	Total Penta-Dioxins	1270	-		10
1,2,3,4,6,7,8-HpCDD	20800	-	*	208	Total Hexa-Dioxins	6700	-	в *	8
OCDD	107000	-	В,*	10.7	Total Hepta-Dioxins	35000	-	*	2
					•				
2,3,7,8-TCDF	55.1	-	F	5.51					
1,2,3,7,8-PeCDF	36.3	-		1.81					
2,3,4,7,8-PeCDF	46.2	-		23.1					
1,2,3,4,7,8-HxCDF	109	-		10.9					
1,2,3,6,7,8-HxCDF	71.7	-		7.17					
2,3,4,6,7,8-HxCDF	173	-		17.3					
1,2,3,7,8,9-HxCDF	81.0	-		8.10	Total Tetra-Furans	932	-		17
1,2,3,4,6,7,8-HpCDF	4300	-	*	43.0	Total Penta-Furans	2910	-		15
1,2,3,4,7,8,9-HpCDF	175	-	*	1.75	Total Hexa-Furans	8640	-		11
OCDF	9550	-	*	0.955	Total Hepta-Furans	16100	-	*	4
Internal Standards	% Rec	QC Limits	Qu	Jal					
13C-2,3,7,8-TCDD	94.9	25.0 - 164	' +						
13C-1,2,3,7,8-PeCDD	91.4	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	111	32.0 - 14	1	*					
13C-1.2.3.6.7.8-HxCDD	105	28.0 - 13	כ	*					
13C-1,2,3,4,6,7,8-HpCDD	95.9	23.0 - 14	5	*					
13C-OCDD	99.7	17.0 - 15	7	*					
			_						
13C-2,3,7,8-1CDF	93.1	24.0 - 169	2						
13C-1,2,3,7,8-PeCDF	100	24.0 - 18	5						
13C-2,3,4,7,8-PeCDF	98.6	21.0 - 178	3						
13C-1,2,5,4,7,8-HxCDF	126	26.0 - 15	2						
13C-1,2,3,6,7,8-HxCDF	121	26.0 - 12	3						
13C-2,3,4,6,7,8-HxCDF	110	29.0 - 14	7						
13C-1,2,3,7,8,9-HxCDF	102	28.0 - 130	5						
13C-1,2,3,4,6,7,8-HpCDF	122	28.0 - 14	3	*		* =	Dilutio	n	
13C-1,2,3,4,7,8,9-HpCDF	113	26.0 - 13	3	*					
13C-OCDF	102	17.0 - 15	7	*		A	cquirec	1: 26-JI	JN-03
Cleanup Surrogate						F =	DB225 (Confirma	ation
37Cl-2,3,7,8-TCDD	102	35.0 - 193	7			A	cquirec	l: 26-JI	JN - 03
Analyst.							~	.	
·1.///						Reviewed b	יא: <u>א</u> כ	<u>1'N</u>	
Date: 4/7/00						Date:	4 9	1200	4_

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official podulations of Acquired. Es aba	0.5
Client ID: C-1 Date Received: 6/24/03 GC Column: db5	
Matrix: Solid Amount: 11.35 g Units: pg/g WHO IEQ: 2740	
Extraction Batch No.: 0035 Wet Weight MS/MSD Batch No.: 1769 Wet Weight	
Compound Conc DL Qual WHO Tox Compound Conc DL Qual	#Hom
2,3,7,8-TCDD 22.2 - 22.2	
1,2,3,7,8-PeCDD 252 - 252	
1,2,3,4,7,8-HxCDD 206 - * 20.6	
1,2,3,6,7,8-HxCDD 13300 - * 1330 Total Tetra-Dioving 392 *	10
1,2,3,7,8,9-HxCDD 4230 - * 423 Total Penta Dioxing 2310 *	10
1.2.3.4.6.7.8-H0CDD 57800 - * 578 Total Hove joving (7000 * p.t.	7
0 CDD 122000 - B * 12.2 Total Henta-Dioving 96100 + +	2
	2
2,3,7,8-TCDF 34.4 - F 3.44	
1,2,3,7,8-PeCDF 44.3 - 2.22	
2,3,4,7,8-PeCDF 45.9 - 22.9	
1,2,3,4,7,8-HxCDF 79.7 - 7.97	
1,2,3,6,7,8-HxCDF 139 - 13,9	
2,3,4,6,7,8-HxCDF 216 - 21.6	
1,2,3,7,8,9-HxCDF 41.9 - 4.19 Iotal Tetra-Euraps 1230 -	17
1,2,3,4,6,7,8-HpCDF 2040 - 20_4 Total Penta-Funance 2600	17
1,2,3,4,7,8,9-HpCDF 88,1 - 0.881 Total Hova-Funance Ford	14
OCDF 2770 - * 0.277 Total Nota-Fuence Figure 570	11
	3
Internal Standards % Rec QC Limits Qual	
13C-2,3,7,8-1CDD 93:4 25.0 - 164	
13C-1,2,3,7,8-PECDD 92.4 25.0 - 181	
13C-1,2,3,4,7,8-HxCDD 92.1 32.0 - 141 *	
13C-1,2,3,6,7,8-HxCDD 102 28_0 - 130 *	
13C-1,2,3,4,6,7,8-HpCDD 112 23.0 - 140 *	
13C-OCDD 110 17.0 - 157 *	
13C-2,3,7,8-TCDF 85.9 24.0 - 169	
13C-1,2,3,7,8-PeCDF 96.0 24.0 - 185	
13C-2,3,4,7,8-PeCDF 90.1 21.0 - 178	
13C-1,2,3,4,7,8-HxCDF 102 26.0 - 152	
13C-1,2,3,6,7,8-HxCDF 113 26-0 - 123	
13C-2,3,4,6,7,8-HxCDF 86.6 29.0 - 147	
13C-1.2.3.7.8.9-HxCDF 82.8 28.0 - 136	
13C-1.2.3.4.6.7.8-H0CDF 99 5 28 0 - 1/3	
13C-1, 2, 3, 4, 7, 8, 9 - HDCDE 100 26.0 - 138	
13C-DCDF 94.6 17.0 - 157 *	
Acquired: 26-JU	N-03
Cleanup Surrogate F = DB225 Confirmat	tion
37C1-2.3.7.8-TCDD 102 35.0 - 107	
Acquired: 26-JUN	N-03
Analyst:	
Reviewed by: DP	
Date: $4 q/2m $	4

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FAL 10: 2102-004-54	Da	te Extracte	d. 6/2//	03					
Client ID: C-2	Da	te Received	• 6/2//0	7 7	Ital: poddtal)-	3-8	Acquired:	25-JUN	1-03
Matrix: Solid	Am	ount: 10 49	. 0/24/0	5	uc column; app				
Extraction Batch No.: 003	35 We	t Weight	9		MS/MSD Ratch No.	. 1740	WHO IEQ:	50300	
		e der grit			MO/MOU Datch NO	.: 1/09	wet weigh	τ	
Compound	Conc	DL	Qual	WHO Tox	Compoun	d Conc	DL	Qual	#Hom
2,3,7,8-TCDD	54.7			54.7					
1,2,3,7,8-PeCDD	982	-		982					
1,2,3,4,7,8-HxCDD	1500	-	*	150					
1,2,3,6,7,8-HxCDD	221000	-	*	22100	Total Tetra-Diovin	· 107	'n		
1,2,3,7,8,9-HxCDD	29500	-	*	2950	Total Penta-Diovin	s 107	- U		16
1,2,3,4,6,7,8-HpCDD	1840000	-	*	18400	Total Heva-Diovin	- 122000	0 - 0	• •	10
OCDD	10000000	-	в,*	1000	Total Hepta-Dioxin	\$ 122000	0 - 0 -	в, [~]	2
			•		i sout neptu bioxin.		0 -		2
2,3,7,8-TCDF	2000	-	F	200					
1,2,3,7,8-PeCDF	2300	-		115					
2,3,4,7,8-PeCDF	3180	-		1590					
1,2,3,4,7,8-HxCDF	4050	-	*	405					
1,2,3,6,7,8-HxCDF	3230	-	*	323					
2,3,4,6,7,8-HxCDF	8780	-	*	878					
1,2,3,7,8,9-HxCDF	3650	-	*	365	Total Tetra-Furans	2470	0 -	DM	22
1,2,3,4,6,7,8-HpCDF	75200	-	*	752	Total Penta-Furans	16100	- 0 -	*	13
1,2,3,4,7,8,9-HpCDF	3020	-	*	30.2	Total Hexa-Furans	33800	0 -	*	13
OCDF	73100	-	*	7.31	Total Hepta-Furans	28200	- 0 -	*	4
							-		-
Internal Standards	% Rec	QC Limits	Qual						
13C-2.3.7.8-TCDD	102	25 0 - 164							
13C-1.2.3.7.8-PeCDD	98.2	25.0 - 181							
13C-1.2.3.4.7.8-HxCDD	126	32 0 - 141							
13C-1.2.3.6.7.8-HxCDD	127	28 0 - 130							
13C-1.2.3.4.6.7.8-HpCDD	70.9	23.0 - 140	*						
13C-OCDD	6.70	17.0 - 157							
			,						
13C-2,3,7,8-TCDF	99.5	24.0 - 169							
13C-1,2,3,7,8-PeCDF	107	24.0 - 185							
13C-2,3,4,7,8-PeCDF	106	21.0 - 178							
13C-1,2,3,4,7,8-HxCDF	149	26.0 - 152							
13C-1,2,3,6,7,8-HxCDF	116	26.0 - 123							
13C-2,3,4,6,7,8-HxCDF	126	29.0 - 147							
13C-1,2,3,7,8,9-HxCDF	135	28.0 - 136							
13C-1,2,3,4,6,7,8-HpCDF	104	28.0 - 143	*			*	- Dilutio	-	
13C-1,2,3,4,7,8,9-HpCDF	138	26.0 - 138	*				- Dituit	"	
13C-OCDF	48.6	17.0 - 157	*				Acquirec	I- 26- II	IN - 03
							Acquirec	. 20-31	JN-05
Cleanup Surrogate						F	= DB225 C	onfirma	ation
3701-2 3 7 8-100	117	75 0 407							
	(1)	33.U - 197					Acquirec	l: 26-Jl	JN-03
Analyst:k						Davis		n 1	
11/2/11						KevléWec	роу: <u>"Д</u>	\sim	
Date: <u>7/ /////</u>						Date:	4 9	1200	P.

000005A of 000005A

FILE 9329



April 8, 2004

FAL Project ID: 2133 (Addendum)

Mr. Ross Steenson Geomatrix Consultants, Inc. 2101 Webster Street, 12th Floor Oakland, CA 94612



TASK 11 IRM

FIRST PHASE OF EXCAVATION SAMPLES

Dear Mr. Steenson,

Enclosed are the addendum results for Frontier Analytical Laboratory project **2133**. The addendum report contains the wet weight results that you requested on 3/31/2004. This project consisted of two soil samples that were received on 7/15/2003 from Alpha Analytical Laboratories. The wet weight data sheets have been marked as "Wet Weight" and do not have a % Solids field on them.

If you have any questions regarding the addendum to project **2133**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Sim ucker

Dan Vickers Director of Air Toxics



PIT UNDER ZND SLAB

FAL ID: 2133-001-SA Client ID: A307302-01	Dat Dat	e Extracte e Received	ed: 7/22	2/03 /03	ICal: PCDDFAL1-6- GC Column: db5	13 Ac	Acquired: 24-JUL-03		
Matrix: Soil	Amo	ount: 13.12	2 a		Units: pg/g	WH	0 TEQ: 1	980	
Extraction Batch No.: 0056	Wet	: Weight			MS/MSD Batch No.:	0038 We	t Weight		
		U			··· , ···· · · · · · · · · · ·				
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	18.5	-		18.5					
1,2,3,7,8-PeCDD	185	-		185					
1,2,3,4,7,8-HxCDD	221	-		22.1					
1,2,3,6,7,8-HxCDD	3030	-		303	Total Tetra-Dioxins	34.0	-		8
1,2,3,7,8,9-HxCDD	227	-		22.7	Total Penta-Dioxins	284	-		8
1,2,3,4,6,7,8-HpCDD	104000	-	*	1 040	Total Hexa-Dioxins	9290	-		6
OCDD	988000	-	в,*	98.8	Total Hepta-Dioxins	192000	-	*	2
	0 70/			0.070/					
2,3,7,8-TCDF	0.704	-		0.0704					
1,2,3,7,8-PeCDF	2.63	-		0.132					
2,3,4,7,8-PeCDF	4.43	-		2.22					
1,2,3,4,7,8-HxCDF	238	-		23.8					
1,2,3,6,7,8-HxCDF	62.1	-		6.21					
2,3,4,6,7,8-HxCDF	198	-		19.8					
1,2,3,7,8,9-HxCDF	57.2	-		5.72	Total Tetra-Furans	38.4	-		12
1,2,3,4,6,7,8-HpCDF	20200	-	*	202	Total Penta-Furans	217	-	D,M	14
1,2,3,4,7,8,9-HpCDF	2300	-	*	23.0	Total Hexa-Furans	18000	-	D,M	11
OCD F	98400	-	*	9.84	Total Hepta-Furans	127000	-	*	4
Internal Standards	% Rec	QC Limits	s Qi	ual					
13c-2 3 7 8-TCDD	101	25.0 - 1/	<i>L I</i> .						
13c-1 2 3 7 8-DeCDD	00 0	25.0 - 10	24						
13C-1 2 3 4 7 8-HyCDD	102	32.0 - 10	21 (1						
13C-1 2 3 6 7 8-HyCDD	116	28 0 - 13	*1						
13C-1 2 3 4 6 7 8-MpCDD	85.0	28.0 - 1.	50 50	*					
130-000	60.7 /1 9	17.0 - 1	+0 57	*					
130-0000	41.0	17.0 - 1.	,						
13C-2,3,7,8-TCDF	98.1	24.0 - 10	59						
13C-1,2,3,7,8-PeCDF	93.0	24.0 - 18	85						
13C-2,3,4,7,8-PeCDF	92.2	21.0 - 1	78						
13C-1.2.3.4.7.8-HxCDF	100	26.0 - 1	52						
13C-1.2.3.6.7.8-HxCDF	98.9	26.0 - 1	23						
13C-2.3.4.6.7.8-HxCDF	97.6	29.0 - 1	47						
13C-1.2.3.7.8.9-HxCDF	105	28.0 - 1	36						
13C-1.2.3.4.6.7.8-HpCDF	97.6	28.0 - 1	43	*		* =	= Dilutio	n	
13C-1 2 3 4 7 8 9-HpCDF	96.3	26.0 - 1	38	*			Ditati		
130 1,2,3,4,1,0,7 hpop	86 3	17 0 - 1	57	*			Acquire	1. 24 - 1	
150 0051	00.5	11.00					леците	4. <u>2</u> 4 J	01-03
						-	55335 ·		
cleanup Surrogate						F =	= DB225 (Contirn	ation
37Cl-2,3,7,8-TCDD	100	35.0 - 1	97				Acquired	d: 24-J	UL-03
Analyst:						Reviewed	by:	SPN	
Palmil								1	
Date: <u>4/1/07</u>						Date:	4-	1/200	<u>, </u>

000002A of 000003A



PIT BOTTOM

FAL ID: 2133-002-SA	Dat	te Extracte	d: 7/22	2/03	ICal: PCDDFAL1-6-13 Acquired: 24-JUL-03				
Client ID: A307302-02	Dat	te Received	: 7/15/	/03	GC Column: db5	•			
Matrix: Soil	Amo	ount: 12.70	g		Units: pg/g	мно	TEQ: 8	3540	
Extraction Batch No.: 0056	. We	t Weight			MS/MSD Batch No.	: 0038 Wet	Weight		
							0		
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	80.0	-		80.0					
1,2,3,7,8-PeCDD	505	-		505					
1,2,3,4,7,8-HxCDD	931	-		93.1					
1,2,3,6,7,8-HxCDD	18800	-		1880	Total Tetra-Dioxins	157	-		14
1,2,3,7,8,9-HxCDD	1280	-		128	Total Penta-Dioxins	1160	-		10
1,2,3,4,6,7,8-HpCDD	359000	-	*	3590	Total Hexa-Dioxins	50000	-		7
OCDD	1650000	-	В,*	165	Total Hepta-Dioxins	560000	-	*	2
2 7 7 9 TODE	100		-	40.0					
	199	-	F	19.9					
	299	-		14.9					
2,3,4,7,8-PecDF	409	-		204					
1,2,3,4,7,8-HxCDF	1670	-		167					
1,2,3,6,7,8-RxCDF	654	-		65.4					
2,3,4,6,7,8-HxCDF	1840	-		184					
1,2,3,7,8,9-HxCDF	730	-		73.0	Total Tetra-Furans	1650	-	D,M	23
1,2,3,4,6,7,8-HpCDF	123000	-	*	1230	Total Penta-Furans	14700	-	D,M	16
1,2,3,4,7,8,9-HpCDF	9500	-	*	95.0	Total Hexa-Furans	152000	-	D,M,*	11
OCDF	463000	-	*	46.3	Total Hepta-Furans	675000	-	*	3
Internal Standards	% Rec	QC Limits	նլ	Jal					
13C-2,3,7,8-TCDD	110	25.0 - 16	4						
13C-1,2,3,7,8-PeCDD	104	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	112	32.0 - 14	1						
13C-1,2,3,6,7,8-HxCDD	128	28.0 - 13	5						
13C-1,2,3,4,6,7,8-HpCDD	86.2	23.0 - 14	0	*					
13C-OCDD	38.7	17.0 - 15	7	*					
13C-2,3,7,8-TCDF	104	24.0 - 16	9						
13C-1,2,3,7,8-PeCDF	100	24.0 - 18	5						
13C-2,3,4,7,8-PeCDF	97.5	21.0 - 17	В						
13C-1,2,3,4,7,8-HxCDF	106	26.0 - 15	2						
13C-1,2,3,6,7,8-HxCDF	109	26.0 - 12	3						
13C-2,3,4,6,7,8-HxCDF	96.7	29.0 - 14	7						
13C-1,2,3,7,8,9-HxCDF	101	28.0 - 13	5						
13C-1,2,3,4,6,7,8-HpCDF	93.2	28.0 - 14	3	*		* =	Dilutic	n	
13C-1,2,3,4,7,8,9-HpCDF	81.8	26.0 - 13	3	*					
13C-OCDF	58.4	17.0 - 15	- 7	*		۵	couirec	I. 2/ - II	11 - 03
			-				cquirec	. 24 0	01-03
Cleanup Surrogate						F =	DB225 (Confirm	ation
37Cl-2,3,7,8-TCDD	112	35.0 - 19	7			A	cquirec	1: 25-JI	UL-03
10									
Analyst:						Reviewed b	y:	PV	
Date: 4/1/04						Date:	4 -	1/2004	1

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FILE 9329



April 8, 2004

FAL Project ID: 2147 (Addendum)

Mr. Ross Steenson Geomatrix Consultants, Inc. 2101 Webster Street, 12th Floor Oakland, CA 94612



TASK II IRM LOWER FILL MATERIAL SAMPLES

Dear Mr. Steenson,

Enclosed are the addendum results for Frontier Analytical Laboratory project **2147**. The addendum report contains the wet weight results that you requested on 3/31/2004. This project consisted of one solid sample that was received on 7/22/2003 from Alpha Analytical Laboratories. The wet weight data sheets have been marked as "Wet Weight" and do not have a % Solids field on them.

If you have any questions regarding the addendum to project **2147**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Dan Vickers

Dan Vickers Director of Air Toxics



4" UNDER 2ND SLAB

FAL ID: 2147-002-SA	Dat	te Extracte	d: 7/28	B/03	ICal: PCDDFAL1-6-	13 A	cquired:	30- JUL	-03
Client ID: A307469-02	Dat	te Received	: //22/	/03	GC Column: db5				
Matrix: Solid	Алс	ount: 11.64	g		Units: pg/g	W	HO TEQ: 2	600	
Extraction Batch No.: 0060	Wet	t Weight			MS/MSD Batch No.:	0038 W	et Weight		
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	1.32	-		1.32					
1,2,3,7,8-PeCDD	39.8	-		39.8					
1,2,3,4,7,8-HxCDD	260	-		26.0					
1,2,3,6,7,8-HxCDD	7840	-		784	Total Tetra-Dioxins	245	-		14
1,2,3,7,8,9-HxCDD	2330	-		233	Total Penta-Dioxins	1350	-		10
1,2,3,4,6,7,8-HpCDD	129000	-	*	1290	Total Hexa-Dioxins	62700	-	*	7
OCDD	470000	-	*	47.0	Total Hepta-Dioxins	270000	-	*	2
2.3.7.8-TCDF	25.2	-	F	2.52					
1 2 3 7 8-PeCDF	25.5	-	•	1 27					
2 3 4 7 8-PecDF	33.2	_		16 6					
1 2 3 4 7 8-WYCDF	165	_		16.5					
1 2 3 6 7 8-HyCDF	71 0	_		7 10					
2 3 4 6 7 8-Hypps	171	_		17 1					
1 2 3 7 8 0-HyCDE	57 6	_		5 74	Total Totas-Europa	770		D M	10
1, 2, 3, 7, 6, 7, 8, 10000000000000000000000000000000000	10200	-		5.30	Total Danta Furans	17(0	-	υ, M	19
	10200	-		102	Total Penta-Furans	1/00	-	D,M	15
1,2,3,4,7,0,9-HPCUF	442	-		4.42	Total Hexa-Furans	10500	-	D,M	13
UCDF	51700	-	^	3.17	Total Hepta-Furans	48000	-	*	3
Internal Standards	% Rec	QC Limits	Q	ual					
13C-2,3,7,8-TCDD	101	25.0 - 16	4						
13C-1,2,3,7,8-PeCDD	109	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	84.0	32.0 - 14	1						
13C-1,2,3,6,7,8-HxCDD	97.5	28.0 - 13	0						
13C-1,2,3,4,6,7,8-HpCDD	80.6	23.0 - 14	0	*					
13C-OCDD	41.7	17.0 - 15	7	*					
13C-2,3,7,8-TCDF	102	24.0 - 16	9						
13C-1,2,3,7,8-PeCDF	102	24.0 - 18	5						
13C-2,3,4,7,8-PeCDF	101	21.0 - 17	8						
13C-1,2,3,4,7,8-HxCDF	83.6	26.0 - 15	2						
13C-1,2,3,6,7,8-HxCDF	89.1	26.0 - 12	3						
13C-2,3,4,6,7,8-HxCDF	83.6	29.0 - 14	7						
13C-1,2,3,7,8,9-HxCDF	94.8	28.0 - 13	6						
13C-1,2,3,4,6,7,8-HpCDF	91.1	28.0 - 14	3			*	= Dilutio	on	
13C-1.2.3.4.7.8.9-HpCDF	100	26.0 - 13	8						
13C-OCDF	48.8	17.0 - 15	7	*			Acquired	d: 31-J	UL-03
Cleanup Surrogate						F	= DB225 (Confirm	ation
37Cl-2,3,7,8-TCDD	100	35.0 - 19	97				Acquired	d: 30-J	UL-03
Analyst						Deview	1 h A	_በ ወኢት	
11/-//.						KEVIEWEC	i by: <u>v</u>	<u>v v</u>	
Date: <u> </u>						Date:	4171	2004	

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FILE 9329



April 9, 2004

FAL Project ID: 2217 (Addendum)

Mr. Ross Steenson Geomatrix Consultants, Inc. 2101 Webster Street, 12th Floor Oakland, CA 94612



TASK 11 IRM

SOIL BORINGS NEAR MONITORING WELL MW-7

Dear Mr. Steenson,

Enclosed are the addendum results for Frontier Analytical Laboratory project **2217**. The addendum report contains the wet weight results that you requested on 3/31/2004. This project consisted of seven solid samples that were received on 9/03/2003 from MFG, Incorporated. The wet weight data sheets have been marked as "Wet Weight" and do not have a % Solids field on them.

If you have any questions regarding the addendum to project **2217**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Dan Vickers

Dan Vickers Director of Air Toxics



FAL ID: 2217-001-SA Client ID: B-61-1.2	Da1 Da1	te Extracte te Received	d: 9/10 : 9/3/0)/03)3	ICal: PCDDFAL2-9-07-03 Acquired: 13-SEP GC Column: db5				
Matrix: Solid	Алк	ount: 10.90	9		Units: pg/g		WHO TEQ: 3	3500	
Extraction Batch No.: X0086	Wet	t Weight			MS/MSD Batch No.	X0079	Wet Weigh	t	
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	11.1	-		11.1					
1,2,3,7,8-PeCDD	93.5	-		93.5					
1,2,3,4,7,8-HxCDD	120	-		12.0					
1,2,3,6,7,8-HxCDD	10600	-		1060	Total Tetra-Dioxins	18	9 -		12
1,2,3,7,8,9-HxCDD	2520	-		252	Total Penta-Dioxins	310	0 -		10
1,2,3,4,6,7,8-HpCDD	156000	-	*	1560	Total Hexa-Dioxins	6150	0 -		6
OCDD	938000	-	*	93.8	Total Hepta-Dioxins	30100	0 -	*	2
	-4 -		_						
2,3,7,8-100F	21.7	-	F	2.17					
1,2,3,7,8-PecDF	19.4	-		0.971					
2,5,4,7,8-PecDF	32.2	-		16.1					
1,2,3,4,7,8-HXCDF	468	-		46.8					
1,2,3,6,7,8-HxCDF	182	-		18.2					
2,3,4,6,7,8-HxCDF	402	-		40.2					
1,2,3,7,8,9-HxCDF	97.8	-		9.78	Total Tetra-Furans	33	1 -		16
1,2,3,4,6,7,8-HpCDF	26000	-		260	Total Penta-Furans	105	0 -		10
1,2,3,4,7,8,9-HpCDF	1410	-		14.1	Total Hexa-Furans	2230	0 -		9
OCDF	81100	-		8.11	Total Hepta-Furans	11200	0 -	*	4
Internal Standards	% Rec	QC Limits	նե	ual					
13C-2,3,7,8-TCDD	110	25.0 - 16	4						
13C-1,2,3,7,8-PeCDD	104	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	98.3	32.0 - 14	1						
13C-1,2,3,6,7,8-HxCDD	116	28.0 - 13	D						
13C-1,2,3,4,6,7,8-HpCDD	75.1	23.0 - 14	- D						
13C-OCDD	30.1	17.0 - 15	7	*					
13C-2.3.7.8-TCDF	104	24 0 - 16	2						
13C-1.2.3.7.8-PeCDF	97.6	24.0 - 18	5						
13C-2.3.4.7.8-PeCDF	80.1	21 0 - 17	~ q						
13C-1.2.3.4.7.8-HxCDF	108	26.0 - 15	2						
13C-1.2.3.6.7 8-HxCDF	106	26.0 - 12	- ₹						
13C-2 3 4 6 7 8-HyCDE	97.0	20.0 - 14	7						
13C-1 2 3 7 8 9-HxCDF	103	28.0 - 13	ι ζ						
13C-1 2 3 4 6 7 8-HoCDE	112	28.0 - 14	2			-	A.7.1		
13c-1 2 3 4 7 8 0-HochE	110	26.0 - 14	2			~	= Dilutio	on	
130 1,2,3,4,7,0,9 hpcbr	110	17.0 - 15	5 7						
	47.0	17.0 - 13	ſ				Acquired	d: 12-s	EP-03
Cleanup Surrogate						F	= DB225 (Confirm	ation
37cl-2,3,7,8-TCDD	128	35.0 - 19	7				Acquired	d: 16-s	EP-03
<i>V</i>									
Analyst:						Reviewe	d by:	<u>JAN</u>	
Date: 9/1/11						Date:	4 8	2004	1

Date: 4/8/2004

000002A of 000008A



FAL ID: 2217-002-SA	Da	te Extracte	d: 9/10)/03	ICal: PCDDFAL2-9-07-03 Acquired: 13-SEP-03						
Client ID: B-62-1	Da	te Received	: 9/3/0)3	GC Column: db5	//oq	411 Cut 15	021 00			
Matrix: Solid	Am	ount: 11.89	g		Units: pg/g	мно	TEQ: 502				
Extraction Batch No.: X0086	We	t Weight			MS/MSD Batch No.	: X0079 Wet	Weight				
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL Q	ual #Hom			
2.3.7.8-TCDD	-	0 512		-							
1.2.3.7.8-PeCDD	10 3	-		10 3							
1.2.3.4.7.8-HxCDD	16.8	-		1 68							
1.2.3.6.7.8-HxCDD	2010	-		201	Total Tetra-Dioving	527	_				
1.2.3.7.8.9-HxCDD	606	-		60.6	Total Penta-Dioxing	4500	-	0			
1.2.3.4.6.7.8-HpCDD	19600	-		196	Total Hera-Dioxing	12600		4			
OCDD	43800	-		4.38	Total Hepta-Dioxins	34900	-	2			
					·			-			
2,3,7,8-TCDF	0.594	-		0.0594							
1,2,3,7,8-PeCDF	1.66	-	J	0.0831							
2,3,4,7,8-PeCDF	1.40	-	ſ	0.699							
1,2,3,4,7,8-HxCDF	19.1	-		1.91							
1,2,3,6,7,8-HxCDF	11.5	-		1.15							
2,3,4,6,7,8-HxCDF	23.7	-		2.37							
1,2,5,7,8,9-HxCDF	5.23	-		0.523	Total Tetra-Furans	29.9	-	11			
1,2,3,4,6,7,8-HpCDF	1970	-		19.7	Total Penta-Furans	87.7	-	9			
1,2,3,4,7,8,9-HpCDF	84.5	-		0.845	Total Hexa-Furans	1740	-	8			
OCDF	6570	-		0.657	Total Hepta-Furans	8070	-	4			
Internal Standards	% Rec	QC Limits	QL	al							
13C-2.3.7.8-TCDD	104	25_0 - 16									
13C-1.2.3.7.8-PeCDD	91.9	25.0 - 18	1								
13C-1.2.3.4.7.8-HxCDD	105	32.0 - 14	,								
13C-1.2.3.6.7.8-HxCDD	101	28.0 - 13	ז								
13C-1,2,3,4,6,7,8-HpCDD	98.1	23.0 - 14	ָ ו								
13C-OCDD	70.1	17.0 - 15	7								
13C-2,3,7,8-1CDF	99.5	24.0 - 169	2								
130-1,2,3,7,8-PeCDF	90.0	24.0 - 18	5								
130-2,3,4,7,8-PeCDF	86.7	21.0 - 17	3								
13C-1,2,3,4,7,8-HxCDF	111	26.0 - 15	2								
130-1,2,3,6,7,8-HXCDF	108	26.0 - 12	3								
13C-2,3,4,6,7,8-HxCDF	86.5	29.0 - 14	7								
13C-1,2,3,7,8,9-HxCDF	83.9	28.0 - 13	5								
13C-1,2,3,4,6,7,8-HpCDF	90.2	28.0 - 143	5								
13C-1,2,3,4,7,8,9-HpCDF	92.5	26.0 - 13	3								
13C-OCDF	78.6	17.0 - 15	7								
Cleanup Surrogate											
37cl-2,3,7,8-TCDD	117	35.0 - 19	7								
And the f							04	,			
Analyst:						Reviewed b	y:K	/			
Date: 4/7/09						Date:	419/20	øч			

Date: 414/2004

000003A of 000008A



FAL ID: 2217-003-SA	Dat	te Extracte	d: 9/10	0/03	ICal: PCDDFAL2-9-07-03 Acquired: 13-SEP-03					
Client ID: B-63-1	Dat	te Received	1: 9/3/0	033	GC Column: db5					
Matrix: Solid	Amo	ount: 11.91	g		Units: pg/g	WH	O TEQ: 1	94		
Extraction Batch No.: X0086	Wet	t Weight	-		MS/MSD Batch No.:	X0079 We	t Weight			
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom	
2 3 7 8-100	0 / 10	_		0 (10						
1 2 3 7 8-PoCDD	7 10	_	J	7 10						
1 2 3 4 7 8-Hypp	18.2	-		1 82						
1 2 3 6 7 8-HxCDD	774	_		77 /	Total Tatra-Diaxing	95 /	_		11	
	250	_		77.4	Total Penta-Dioxins	957	-		10	
	7630	_		7/ 3	Total Hova-Dioxins	5270	_		10	
0000	12400	_		1 2/	Total Hepta-Dioxins	17500	_		0 2	
0000	12400			1.24		13700	-		2	
2,3,7,8-TCDF	0.310	-	J,*	0.0310						
1,2,3,7,8-PeCDF	0.499	-	J,*	0.0250						
2,3,4,7,8-PeCDF	0.439	-	J,*	0.220						
1,2,3,4,7,8-HxCDF	3.88	-		0.388						
1,2,3,6,7,8-HxCDF	2.43	-		0.243						
2,3,4,6,7,8-HxCDF	6.59	-		0.659						
1,2,3,7,8,9-HxCDF	-	0.745		-	Total Tetra-Furans	13.4	-	*	11	
1,2,3,4,6,7,8-HpCDF	511	-		5.11	Total Penta-Furans	27.4	-	*	9	
1,2,3,4,7,8,9-HpCDF	18.4	-		0.184	Total Hexa-Furans	454	-		8	
OCDF	2120	-		0.212	Total Hepta-Furans	2060	-		4	
					1					
Internal Standards	% Rec	QC Limits	: Qi	ual						
13C-2.3.7.8-TCDD	104	25.0 - 16	4							
13C-1.2.3.7.8-PeCDD	81.1	25.0 - 18	1							
13C-1.2.3.4.7.8-HxCDD	104	32.0 - 14	.1							
13C-1.2.3.6.7.8-HxCDD	104	28.0 - 13	in in							
13C-1.2.3.4.6.7.8-HpCDD	97.9	23.0 - 14	.0							
13C-OCDD	58.0	17.0 - 15	7							
	2010									
13C-2,3,7,8-TCDF	102	24.0 - 16	59	*						
13C-1,2,3,7,8-PeCDF	87.7	24.0 - 18	85	*						
13C-2,3,4,7,8-PeCDF	83.7	21.0 - 17	'8	*						
13C-1,2,3,4,7,8-HxCDF	109	26.0 - 15	2							
13C-1,2,3,6,7,8-HxCDF	109	26.0 - 12	23							
13C-2,3,4,6,7,8-HxCDF	88.6	29.0 - 14	7							
13C-1,2,3,7,8,9-HxCDF	88.0	28.0 - 13	66							
13C-1,2,3,4,6,7,8-HpCDF	94.9	28.0 - 14	3							
13C-1,2,3,4,7,8,9-HpCDF	96.1	26.0 - 13	58							
13C-OCD F	61.1	17.0 - 15	57							
Cleanup Surrogate										
37Cl-2,3,7,8-TCDD	120	35.0 - 19	97							
Analyst -						Devi 1	ь	a!		
A last						KEVIEWEC	by: <u> </u>	<u>. v</u>		
Date: <u>//7/04</u>						Date:	4/9/:	2004		

Date: 4/9/2004

000004A of 000008A



FAL ID: 2217-007-SADate Extracted: 9/10/03Client ID: B-61-Concrete UpperDate Received: 9/3/03					ICal: PCDDFAL2-9-07-03 Acquired: 13-SEP-03 GC Column: db5					
Matrix: Solid Extraction Batch No.: XOO	Amo 186 Wet	ount: 10.53 t Weight	g		Units: pg/g MS/MSD Batch No.;	WH : X0079 We	D TEQ: 1 t Weight	6300		
Compound	Conc	ÐL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom	
2,3,7,8-TCDD	96.5	-		96.5						
1,2,3,7,8-PeCDD	1210	-		1210						
1,2,3,4,7,8-HxCDD	696	-		69.6						
1,2,3,6,7,8-HxCDD	56400	-		5640	Total Tetra-Dioxins	652	-		16	
1,2,3,7,8,9-HxCDD	16000	-		1600	Total Penta-Dioxins	8040	-	м	11	
1,2,3,4,6,7,8-HpCDD	540000	-	*	5400	Total Hexa-Dioxins	566000	-	*	7	
OCDD	2080000	-	*	208	Total Hepta-Dioxins	2000000	-	*	2	
2,3,7,8-TCDF	1900	-	F	190						
1,2,3,7,8-PeCDF	740	-		37.0						
2,3,4,7,8-PeCDF	1640	-		818						
1,2,3,4,7,8-HxCDF	1180	-	*	118						
1,2,3,6,7,8-HxCDF	1460	-	*	146						
2,3,4,6,7,8-HxCDF	3320	-	*	332						
1,2,3,7,8,9-HxCDF	584	-	*	58.4	Total Tetra-Furans	18400	-		17	
1,2,3,4,6,7,8-HpCDF	32000	-	*	320	Total Penta-Furans	68700	-	*	13	
1,2,3,4,7,8,9-HpCDF	880	-	*	8.80	Total Hexa-Furans	11500	-	*	11	
OCD F	26000	-	*	2.60	Total Hepta-Furans	89900	-	*	4	
Internal Standards	% Rec	QC Limits	Qua	ι						
13C-2,3,7,8-TCDD	106	25.0 - 164	•							
13C-1,2,3,7,8-PeCDD	89.7	25.0 - 181								
13C-1,2,3,4,7,8-HxCDD	103	32.0 - 141								
13C-1,2,3,6,7,8-HxCDD	104	28.0 - 130)							
13C-1,2,3,4,6,7,8-HpCDD	82.1	23.0 - 140)	*						
13C-OCDD	20.8	17.0 - 157	,	*						
13C-2,3,7,8-TCDF	104	24.0 - 169	,							
13C-1,2,3,7,8-PeCDF	87.0	24.0 - 185	i							
13C-2,3,4,7,8-PeCDF	83.1	21.0 - 178	5							
13C-1,2,3,4,7,8-HxCDF	136	26.0 - 152	2	*						
13C-1,2,3,6,7,8-HxCDF	148	26.0 - 123	А.М.	*						
13C-2,3,4,6,7,8-HxCDF	119	29.0 - 147	,	*						
13C-1,2,3,7,8,9-HxCDF	118	28.0 - 136	5	*						
13C-1,2,3,4,6,7,8-HpCDF	127	28.0 - 143	5	*		* =	Dilutio	'n		
13C-1,2,3,4,7,8,9-HpCDF	115	26.0 - 138	3	*						
13C-OCD F	80.8	17.0 - 157	•	*			Acquirec	l: 12-s	EP-03	
Cleanup Surrogate						F =	DB225 (onfirm	ation	
37Cl-2,3,7,8-TCDD	126	35.0 - 197	,				Acquired	l: 16-s	EP-03	
Analyst:						Reviewed	by:	<u>pJ</u>		
Date: 7/1/00/						Date:	4/8	1200	1	

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FAL ID: 2217-008-SA Client ID: B-61-Concrete	Da Lower Da	ite Extracte ite Received	d: 9/10/ : 9/3/03	03	ICal: PCDDFAL2-9-07-03 Acquired: 13-9 GC Column: db5			13-SEP	-03
Matrix: Solid	Am	ount: 10.84	g		Units: pg/g		WHO TEQ:	10900	
Extraction Batch No.: X0	086 We	t Weight			MS/MSD Batch No.	: X0079	Wet Weigh	t	
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	: DL	Qual	#Hom
2,3,7,8-TCDD	20.0	-		20.0					
1,2,3,7,8-PeCDD	404	-		404					
1,2,3,4,7,8-HxCDD	316	-		31.6					
1,2,3,6,7,8-HxCDD	40700	-		4070	Total Tetra-Dioxins	16	52 -		12
1,2,3,7,8,9-HxCDD	9210	-		921	Total Penta-Dioxins	350	- 00		11
1,2,3,4,6,7,8-HpCDD	420000	-	*	4200	Total Hexa-Dioxins	25000	- 00	*	7
OCDD	3440000	-	*	344	Total Hepta-Dioxins	85700	- 00	*	2
2,3,7,8-TCDF	694	-	F	69.4					
1,2,3,7,8-PeCDF	319	-		16.0					
2,3,4,7,8-PeCDF	629	-		315					
1,2,3,4,7,8-HxCDF	702	-		70.2					
1,2,3,6,7,8-HxCDF	463	-		46.3					
2,3,4,6,7,8-HxCDF	1480	-		148					
1,2,3,7,8,9-HxCDF	339	-		33.9	Total Tetra-Furans	688	30 -		18
1,2,3,4,6,7,8-HpCDF	18400	-		184	Total Penta-Furans	1700	- 00		14
1,2,3,4,7,8,9-HpCDF	970	-		9.70	Total Hexa-Furans	4130	- 00		11
OCDF	52100	-		5.21	Total Hepta-Furans	7010	- 00	*	3
Internal Standards	% Rec	QC Limits	Qua	ı					
13C-2,3,7,8-TCDD	117	25.0 - 164	4						
13C-1,2,3,7,8-PeCDD	93.5	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	118	32.0 - 14	1						
13C-1,2,3,6,7,8-HxCDD	112	28.0 - 130)						
13C-1,2,3,4,6,7,8-HpCDD	68.8	23.0 - 140)	*					
13C-OCDD	13.6	17.0 - 157	7 A,	*					
13C-2,3,7,8-TCDF	109	24.0 - 169	2						
13C-1,2,3,7,8-PeCDF	83.2	24.0 - 185	ō						
13C-2,3,4,7,8-PeCDF	76.6	21.0 - 178	3						
13C-1,2,3,4,7,8-HxCDF	121	26.0 - 152	2						
13C-1,2,3,6,7,8-HxCDF	137	26.0 - 123	3	A					
13C-2,3,4,6,7,8-HxCDF	111	29.0 - 147	7						
13C-1,2,3,7,8,9-HxCDF	112	28.0 - 136	5						
13C-1,2,3,4,6,7,8-HpCDF	122	28.0 - 143	3			ł	· = Dilutio	on	
13C-1,2,3,4,7,8,9-HpCDF	128	26.0 - 138	3						
13C-OCDF	38.3	17.0 - 157	7				Acquired	d: 12-si	EP-03
Cleanup Surrogate						F	= D8225 (Confirm	ation
37Cl-2,3,7,8-TCDD	136	35.0 - 197	7				Acquire	d• 16-si	FP-03
							Acquire	ur 10 31	
Analyst:						Reviewe	ed by:	PN_	
Date: 4/8/04/						Date:	418	1200	ч

Date: 418/2004

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FAL ID: 2217-009-SA Client ID: B-62-Concrete M Matrix: Solid	ICal: PCDDFAL2-9-07-03 Acquired: 13-SEP-03 GC Column: db5 Units: pa/a WH0 TFD: 103									
Extraction Batch No.: X00	86 Wet	Weight	5		MS/MSD Batch No.:	X0079 Wet	Weight			
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom	
2,3,7,8-TCDD	-	0.395		-						
1,2,3,7,8-PeCDD	6.00	-		6.00						
1,2,3,4,7,8-HxCDD	8.27	-		0.827						
1,2,3,6,7,8-HxCDD	359	-		35.9	Total Tetra-Dioxins	30.1	-		6	
1,2,3,7,8,9-HxCDD	94.3	-		9.43	Total Penta-Dioxins	845	-		5	
1,2,3,4,6,7,8-HpCDD	3810	-		38.1	Total Hexa-Dioxins	2250	-		6	
OCDD	16500	-		1.65	Total Hepta-Dioxins	8560	-		2	
2,3,7,8-TCDF	2.21	-	F,*	0.221						
1,2,3,7,8-PeCDF	2.84	-	*	0.142						
2,3,4,7,8-PeCDF	2.98	-	*	1.49						
1,2,3,4,7,8-HxCDF	9.21	-		0.921						
1,2,3,6,7,8-HxCDF	11.0	-		1.10						
2,3,4,6,7,8-HxCDF	18.6	•		1.86						
1,2,3,7,8,9-HxCDF	-	1.97		-	Total Tetra-Furans	47.1	-	*	13	
1,2,3,4,6,7,8-HpCDF	517	-		5.17	Total Penta-Furans	175	-	*	8	
1,2,3,4,7,8,9-HpCDF	19.1	-		0.191	Total Hexa-Furans	653	-		6	
OCDF	1430	-		0.143	Total Hepta-Furans	1820	~		4	
Internal Standards	% Rec	QC Limits	QL	Jal						
13C-2,3,7,8-TCDD	113	25.0 - 164	•							
13C-1,2,3,7,8-PeCDD	90.7	25.0 - 181	I							
13C-1,2,3,4,7,8-HxCDD	113	32.0 - 141	I							
13C-1,2,3,6,7,8-HxCDD	106	28.0 - 130)							
13C-1,2,3,4,6,7,8-HpCDD	113	23.0 - 140)							
13C-OCDD	71.7	17.0 - 157	,							
13C-2,3,7,8-TCDF	103	24.0 - 169	,	*						
13C-1,2,3,7,8-PeCDF	90.4	24.0 - 185	5	*						
13C-2,3,4,7,8-PeCDF	83.8	21.0 - 178	3	*						
13C-1,2,3,4,7,8-HxCDF	119	26.0 - 152	2							
13C-1,2,3,6,7,8-HxCDF	118	26.0 - 123	5							
13C-2,3,4,6,7,8-HxCDF	96.5	29.0 - 147	,							
13C-1,2,3,7,8,9-HxCDF	97.8	28.0 - 136	5							
13C-1,2,3,4,6,7,8-HpCDF	113	28.0 - 143	5			* =	Dilutic	n		
13C-1,2,3,4,7,8,9-HpCDF	105	26.0 - 138	3							
13C-OCDF	82.5	17.0 - 157	,			A	cquirec	l: 15-si	EP-03	
Cleanup Surrogate						F = 1	DB225 C	onfirm	ation	
37Cl-2,3,7,8-TCDD	135	35.0 - 197	7			A	cquirec	1: 16-s	EP-03	
								_	-	
Analyst:						Reviewed b	y:£	PN		
Date: 4/8/02/						Date:	4 8	31200	ч	

000007A of 000008A



FAL ID: 2217-010-SA Client ID: B-62-Concrete	ID: 2217-010-SA Date Extracted: 9/10/03 ent ID: B-62-Concrete Lower Date Received: 9/3/03						ICal: PCDDFAL2-9-07-03 Acquired: 13-SEP-03 GC Column: db5					
Extraction Batch No.: X00	86 Wet	ount: 10.63 t Weight	9		Units: pg/g MS/MSD Batch No.:	WH0 : X0079 We1) TEQ: 4 t Weight	640				
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom			
2,3,7,8-TCDD	-	0.919		-								
1,2,3,7,8-PeCDD	68.0	-		68.0								
1,2,3,4,7,8-HxCDD	130	-		13.0								
1,2,3,6,7,8-HxCDD	19900	-		1990	Total Tetra-Dioxins	1420	-		9			
1,2,3,7,8,9-HxCDD	7010	-		701	Total Penta-Dioxins	14300	-		10			
1,2,3,4,6,7,8-HpCDD	180000	-	*	1800	Total Hexa-Dioxins	132000	-	*	6			
OCDD	346000	-	*	34.6	Total Hepta-Dioxins	354000	-	*	2			
2,3,7,8-TCDF	1.30	-	F,*	0.130								
1,2,3,7,8-PeCDF	3.21	-	*	0.160								
2,3,4,7,8-PeCDF	2.58	-	*	1.29								
1,2,3,4,7,8-HxCDF	22.6	-		2.26								
1,2,3,6,7,8-HxCDF	17.6	-		1.76								
2,3,4,6,7,8-HxCDF	32.6	-		3.26								
1,2,3,7,8,9-HxCDF	7.21	~		0.721	Total Tetra-Furans	46.6	-	*	12			
1,2,3,4,6,7,8-HpCDF	1830	-		18.3	Total Penta-Furans	112	-	*	9			
1,2,3,4,7,8,9-HpCDF	89.2	-		0.892	Total Hexa-Furans	1700	-		11			
OCD F	5750	-		0.575	Total Hepta-Furans	7250	-		3			
Internal Standards	% Rec	QC Limits	Qu	al								
13C-2,3,7,8-TCDD	111	25.0 - 164	•									
13C-1,2,3,7,8-PeCDD	101	25.0 - 18	1									
13C-1,2,3,4,7,8-HxCDD	107	32.0 - 141										
13C-1,2,3,6,7,8-HxCDD	113	28.0 - 130)									
13C-1,2,3,4,6,7,8-HpCDD	104	23.0 - 140)	*								
13C-OCDD	82.3	17.0 - 157	•	*								
13C-2,3,7,8-TCDF	112	24.0 - 169	,	*								
13C-1,2,3,7,8-PeCDF	102	24.0 - 185	5	*								
13C-2,3,4,7,8-PeCDF	94.9	21.0 - 178	3	*								
13C-1,2,3,4,7,8- HxCDF	103	26.0 - 152	2									
13C-1,2,3,6,7,8-HxCDF	106	26.0 - 123	5									
13C-2,3,4,6,7,8-HxCDF	88.8	29.0 - 147	,									
13C-1,2,3,7,8,9-HxCDF	91.8	28.0 - 136	.									
13C-1,2,3,4,6,7,8-HpCDF	97.3	28.0 - 143	5			* =	Dilutio	n				
13C-1,2,3,4,7,8,9-HpCDF	91.5	26.0 - 138	5									
13C-0CDF	66.0	17.0 - 157	,			ļ	lcquired	: 12-se	EP-03			
Cleanup Surrogate						F =	DB225 C	onfirma	ation			
37Cl-2,3,7,8-TCDD	119	35.0 - 197	,			ļ	Acquired	: 16-si	EP-03			
Analyst:						Reviewed b	by: <u>y</u> ∂	2				
Date: <u>4/8/13/</u>						Date:	418	1200	4			

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TILE 7529



April 8, 2004

FAL Project ID: 2245 (Addendum)

Mr. Ross Steenson Geomatrix Consultants, Inc. 2101 Webster Street, 12th Floor Oakland, CA 94612

RECEIVED

TASK II IRM EXCAVATION SECOND PHASE OF INVESTIGATION SAMPLES

Dear Mr. Steenson,

Enclosed are the addendum results for Frontier Analytical Laboratory project **2245**. The addendum report contains the wet weight results that you requested on 3/31/2004. This project consisted of four solid samples that were received on 9/18/2003 from MFG, Incorporated. The wet weight data sheets have been marked as "Wet Weight" and do not have a % Solids field on them.

If you have any questions regarding the addendum to project **2245**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Dan Vickers

Dan Vickers Director of Air Toxics

FRONTIER ANALYTICAL LABORATORY 5172 Hillsdale Circle • El Dorado Hills, CA 95762 Tel (916) 934-0900 • Fax (916) 934-0999 dioxin@frontieranalytical.com



FAL ID: 2245-001-SA	Da	te Extracte	d: 9/25	/03	ICal: PCDDFAL2-9-07-03 Acquired: 27-SEP-03						
Client ID: S-1E-2.5	Da	te Received	1: 9/18/	03	GC Column: db5						
Matrix: Soil	Am	ount: 11.93	i a		Units: pa/a		UHO TEON 3	776			
Extraction Batch No.: X0096	We	t Weight	. 3		MS/MSD Batch No -	¥0070	Who reu: 2				
	we	e wergine			Haymad Batch No	X0079	wer weign	-			
Compound	Conc	DL	Qual	WHO Tox	Compound	Cond	DL	Qual	#Hom		
2,3,7,8-TCDD	-	0.367		-							
1,2,3,7,8-PeCDD	3.99	-		3.99							
1,2,3,4,7,8-HxCDD	14.8	-		1.48							
1,2,3,6,7,8-HxCDD	578	-		57.8	Total Tetra-Dioxins	4.8	35 -		4		
1,2,3,7,8,9-HxCDD	65.0	-		6.50	Total Penta-Dioxins	43.	.8 -		8		
1,2,3,4,6,7,8-HpCDD	11000	-		110	Total Hexa-Dioxins	164	40 -		7		
OCDD	62100	-		6.21	Total Hepta-Dioxins	1710	- 00		2		
2.3.7.8-TCDF	-	0 293		-							
1.2.3.7.8-PeCDF	1.97	-	.1	0 0083							
2.3.4.7.8-PeCDF	1.31	-	.1	0.655							
1.2.3.4.7.8-HxCDF	32.5	-	5	3 25							
1.2.3.6.7.8-HxCDF	11 7	_		1 17							
2 3 4 6 7 8-HyCDE	33 7	-		7 77							
1.2.3 7 8 9-HxCDF	11 2	-		1 12	Totol Totos Fusiona	2			-		
1 2 3 4 6 7 8-HoCDE	3620	_		76.2	Total Danta Furans	2.4			2		
1 2 3 4 7 8 9-HpCDF	234	-		30.2	Total Penta-Furans	30.			9		
	16200	_		1 4 2	Total Nexts Furans	211			9		
0001	10200			1.02	Total Repta-Furans	1470	- 00		3		
Internal Standards	% Rec	QC Limits	Qu	al							
13C-2,3,7,8-TCDD	107	25.0 - 16	4								
13C-1,2,3,7,8-PeCDD	87.0	25.0 - 18	1								
13C-1,2,3,4,7,8-HxCDD	111	32.0 - 14	1								
13C-1,2,3,6,7,8-HxCDD	113	28.0 - 13	0								
13C-1,2,3,4,6,7,8-HpCDD	101	23.0 - 14	0								
13C-OCDD	82.4	17.0 - 15	7								
130-2 3 7 8-TOPE	111	2/ 0 1/	•								
	07.0	24.0 - 16	9 F								
130-2 3 / 7 8-Decor	97.9	24.0 - 18									
13C-1 2 3 4 7 9-14/00F	175	21.0 - 1/	8								
130-1,2,3,4,7,0-HXUUF	120	20.0 - 15	2								
	122	26.0 - 12	3								
136-2,3,4,0,7,8-HXUDF	106	29.0 - 14									
	98.7	28.0 - 13	6								
	102	28.0 - 14	5								
13C-1,2,3,4,7,8,9-HPCDF	106	26.0 - 13	8								
13C-0CDF	/8./	17.0 - 15	7								
Cleanup Surrogate											
-											
37Cl-2,3,7,8-TCDD	92.5	35.0 - 19	7								
V							~				

Analyst: K 4/1/01 Date:

Reviewed by:______ Date:______4|4|2004_____

000002A of 000005A



	Dev			(07						
FAL ID: 2240-000-SA	Da	te Extract	ed: 9/25	0703	ICal: PCDDFAL2-9	-07-03 Acq	uired: 27-	SEP-03		
Matrix: Soil	Da Am	Le Receive	u: 9/10/ / ~	05	GC Column: db5			_		
Extraction Batch No - X0096	- Hor	- Ueight	+ 9		MS (MSD Detab No.		TEQ: 85.7			
Exclusion bacch No.: X0090	We	t weight			MS/MSD Batch No.:	: XUU/Y Wet	Weight			
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL Qu	ual #Hom		
2,3,7,8-TCDD	-	0.281		-						
1,2,3,7,8-PeCDD	2.12	-	J	2.12						
1,2,3,4,7,8-HxCDD	3.45	-		0.345						
1,2,3,6,7,8-HxCDD	247	-		24.7	Total Tetra-Dioxins	7.22	-	2		
1,2,3,7,8,9-HxCDD	12.5	-		1.25	Total Penta-Dioxins	133	-	5		
1,2,3,4,6,7,8-HpCDD	3330	-		33.3	Total Hexa-Dioxins	955	-	6		
OCDD	20700	-		2.07	Total Hepta-Dioxins	5810	-	2		
2.3.7.8-TCDF	6.18	-	F	0.618						
1.2.3.7.8-PeCDF	7.45	-	•	0 372						
2 3 4 7 8-PeCDF	9.55	_		4 77						
1 2 3 4 7 8-HxCDF	18 6	_		1 86						
1 2 3 6 7 8-HxCDF	R R/	-		0.884						
2 3 4 6 7 8-Hypp	28 7	_		0.004						
1 2 3 7 8 9-Hyche	17 2	_		2.07	Tabal Tabas France	17.0				
	877			1.32	Total letra-Furans	47.8	-	15		
	47.0	-		0.32	Total Penta-Furans	323	-	10		
1,2,3,4,7,8,9* hpcor	7970	-		0.479	Iotal Hexa-Furans	1320	-	8		
OCDF	3030	-		0.385	Total Hepta-Furans	3150	-	4		
Internal Standards	% Rec	QC Limits	ւ գո	al						
13C-2,3,7,8-TCDD	90.9	25.0 - 10	54							
13C-1,2,3,7,8-PeCDD	75.0	25.0 - 18	31							
13C-1,2,3,4,7,8-HxCDD	96.8	32.0 - 14	¥1							
13C-1,2,3,6,7,8-HxCDD	94.5	28.0 - 13	50							
13C-1,2,3,4,6,7,8-HpCDD	90.7	23.0 - 14	÷0							
13C-OCDD	73.4	17.0 - 19	57							
13C-2,3,7,8-TCDF	95.4	24.0 - 16	59							
13C-1,2,3,7,8-PeCDF	82.0	24.0 - 18	35							
13C-2,3,4,7,8-PeCDF	80.6	21.0 - 1	78							
13C-1,2,3,4,7,8-HxCDF	105	26.0 - 19	52							
13C-1.2.3.6.7.8-HxCDF	103	26.0 - 12	7							
13C-2.3.4.6.7.8-HxCDF	94.9	29.0 - 14	.7							
13C-1.2.3.7.8.9-HxCDF	88.4	28 0 - 13	56							
13C-1.2.3.4.6.7 8-HpCDF	90.6	28.0 - 1/	3							
13C-1 2 3 4 7 8 9-HpCDF	102	26.0 - 13	, J tg							
13c - ocbe	70 5	17.0 - 15	.7							
	70.5	17.0 - 1.								
Cleanup Surrogate						F = 1	DB225 Conf	irmation		
37Cl-2,3,7,8-TCDD	81.4	35.0 - 19	97			A	cquired: O	1-0CT-03		
Analyst:						Reviewed b	y:F			
Date: 4/7/01						Date:	4/4/20	004		

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FAL ID: 2245-006-SA Client ID: S-6N-1.5	Dat Dat	e Extracted	d: 9/25 : 9/18/	/03 03	ICal: PCDDFAL2-9-07-03 Acquired: 27-SEP-03 GC Column: db5					
Matrix: Soil	Amo	ount: 11.74	9		Units: pg/g	WHO	TEQ: 9	900		
Extraction Batch No.: X009	6 Wet	: Weight			MS/MSD Batch No.:	X0079 Wet	Weight			
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom	
	(A (
2,3,7,8-1000	41.0	-		41.6						
1,2,3,7,8-PeCDD	459	-		459						
1,2,3,4,7,8-HxCDD	887	-		88.7						
1,2,3,6,7,8-HxCDD	25400	-		2540	Total Tetra-Dioxins	164	-		16	
1,2,3,7,8,9-HxCDD	2170	-		217	Total Penta-Dioxins	1510	-		10	
1,2,3,4,6,7,8-HpCDD	382000	-	*	3820	Total Hexa-Dioxins	66300	-		8	
OCDD	1290000	-	*	129	Total Hepta-Dioxins	614000	-	*	2	
2,3,7,8-TCDF	267	-	F	26.7						
1,2,3,7,8-PeCDF	367	-		18.4						
2,3,4,7,8-PeCDF	550	-		275						
1,2,3,4,7,8-HxCDF	2900	-		290						
1,2,3,6,7,8-HxCDF	993	-		99.3						
2,3,4,6,7,8-HxCDF	2920	-		292						
1,2,3,7,8,9-HxCDF	938	-		93.8	Total Tetra-Furans	2280	-	D.M	22	
1,2,3,4,6,7,8-HpCDF	138000	-	*	1380	Total Penta-Furans	12400	-	D.M	15	
1,2,3,4,7,8,9-HpCDF	9350	-		93.5	Total Hexa-Furans	160000	-	D.M.*	11	
OCDF	395000	-	*	39.5	Total Hepta-Furans	625000	-	· · *	4	
Internal Standards	% Rec	QC Limits	QU	al						
13C-2,3,7,8-TCDD	109	25.0 - 16	4							
13C-1,2,3,7,8-PeCDD	99.2	25.0 - 18	1							
13C-1,2,3,4,7,8-HxCDD	113	32.0 - 14	1							
13C-1,2,3,6,7,8-HxCDD	121	28.0 - 13	0							
13C-1,2,3,4,6,7,8-HpCDD	104	23.0 - 14	D	*						
13C-0CDD	105	17.0 - 15	7	*						
13C-2,3,7,8-TCDF	108	24.0 - 16	9							
13C-1,2,3,7,8-PeCDF	102	24.0 - 18	5							
13C-2,3,4,7,8-PeCDF	97.5	21.0 - 17	8							
13C-1,2,3,4,7,8-HxCDF	117	26.0 - 15	2							
13C-1,2,3,6,7,8-HxCDF	120	26.0 - 12	3							
13C-2,3,4,6,7,8-HxCDF	107	29.0 - 14	7							
13C-1,2,3,7,8,9-HxCDF	108	28.0 - 13	6							
13C-1,2,3,4,6,7,8-HpCDF	116	28.0 - 14	3	*		* =	Dilutio	n		
13C-1,2,3,4,7,8,9-HpCDF	119	26.0 - 13	8							
13C-OCDF	114	17.0 - 15	7	*		A	cauirea	1: 29-s	FP-03	
									•_	
Cleanup Surrogate						F =	DB225 (Confirm	ation	
37cl-2,3,7,8-TCDD	89.9	35.0 - 19	7			A	cquired	d: 01-0	CT-03	
Apalvet.						n		0.1		
Andryst: //						Reviewed b	y:	IN		
Date: 4/8/04						Date:	4	8/20	04	

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FAL ID: 2245-007-SA	Date Extracted: 9/25/03				ICal: PCDDFAL2-9-07-03 Acquired: 27-SEP-03				
Client ID: S-/E-3	Date Received: 9/18/03				GC Column: db5				
Matrix: Soil	Amo	ount: 10.84	g		Units: pg/g WHO TEQ: 4250				
Extraction Batch No.: X0096	Wet	t Weight			MS/MSD Batch No.:	X0079 ₩e	et Weight	:	
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	20.9	-		20.9					
1,2,3,7,8-PeCDD	347	-		347					
1,2,3,4,7,8-HxCDD	327	-		32.7					
1,2,3,6,7,8-HxCDD	7690	-		769	Total Tetra-Dioxins	61.8	-		8
1,2,3,7,8,9-HxCDD	534	-		53.4	Total Penta-Dioxins	605	-		10
1,2,3,4,6,7,8-HpCDD	188000	-	*	1880	Total Hexa-Dioxins	19700	-		8
OCDD	998000	-	*	99.8	Total Hepta-Dioxins	321000	-	*	2
2,3,7,8-TCDF	29.7	-	F	2.97					
1,2,3,7,8-PeCDF	180	-		9.01					
2,3,4,7,8-PeCDF	199	-		99.4					
1,2,3,4,7,8-HxCDF	1470	-		147					
1,2,3,6,7,8-HxCDF	371	-		37.1					
2,3,4,6,7,8-HxCDF	843	-		84.3					
1,2,3,7,8,9-HxCDF	529	-		52.9	Total Tetra-Furans	179	-		13
1,2,3,4,6,7,8-HpCDF	55400	-	*	554	Total Penta-Furans	2290	-		14
1,2,3,4,7,8,9-HpCDF	3670	-		36.7	Total Hexa-Furans	48600	-	рм *	11
OCDF	201000	-	*	20.1	Total Hepta-Furans	265000	-	*	4
				2000		205000			
Internal Standards	% Rec	QC Limits	Qu	al					
13C-2,3,7,8-TCDD	117	25.0 - 16	4						
13C-1,2,3,7,8-PeCDD	108	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	114	32.0 - 14	1						
13C-1,2,3,6,7,8-HxCDD	121	28.0 - 13	0						
13C-1,2,3,4,6,7,8-HpCDD	92.4	23.0 - 14	0	*					
13C-OCDD	112	17.0 - 15	7	*					
13C-2,3,7,8-TCDF	113	24.0 - 16	9						
13C-1,2,3,7,8-PeCDF	106	24.0 - 18	5						
13C-2,3,4,7,8-PeCDF	102	21.0 - 17	8						
13C-1,2,3,4,7,8-HxCDF	123	26.0 - 15	2						
13C-1.2.3.6.7.8-HxCDF	121	26.0 - 12	3						
13C-2.3.4.6.7.8-HxCDF	106	29.0 - 14	7						
13C-1.2.3.7.8.9-HxCDF	105	28.0 - 13	6						
13C-1.2.3.4.6.7.8-HpCDF	99.7	28.0 - 14	3	*		* -	Diluti	-n	
13C-1.2.3.4.7.8 9-HpCDF	118	26.0 - 13	R			-	Pridin		
13C-OCDF	106	17.0 - 15	7	*			Acmina	4. 20 0	CD 07
	100	17.0 15	1				Acquired	1: 29-2	EP-05
Cleanup Surrogate						F	= DB225 (Confirm	ation
37Cl-2,3,7,8-TCDD	104	35.0 - 19	7		Acquired: 01-OCT-0				CT-03
Analyst:						Reviewed	ьу: о Е	PN	
Date:						Date:	416	2/200	54

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FILE 9329



April 8, 2004

FAL Project ID: 2246 (Addendum)

Mr. Ross Steenson Geomatrix Consultants, Inc. 2101 Webster Street, 12th Floor Oakland, CA 94612



TASK 11 IRM SECOND PHASE OF EXCAVATION SAMPLES

Dear Mr. Steenson,

Enclosed are the addendum results for Frontier Analytical Laboratory project **2246**. The addendum report contains the wet weight results that you requested on 3/31/2004. This project consisted of three soil samples that were received on 9/18/2003 from MFG, Incorporated. The wet weight data sheets have been marked as "Wet Weight" and do not have a % Solids field on them.

If you have any questions regarding the addendum to project **2246**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Don vickers

Dan Vickers Director of Air Toxics

1

FRONTIER ANALYTICAL LABORATORY 5172 Hillsdale Circle • El Dorado Hills, CA 95762 Tel (916) 934-0900 • Fax (916) 934-0999 dioxin@frontieranalytical.com



FAL ID: 2246-002-SA Client ID: S-9W-2.5	Date Extracted: 9/25/03 Date Received: 9/18/03				ICal: PCDDFAL2-9-07-03 Acquired: 29-SEP-03 GC Column: db5				
Matrix: Soil	Amount: 11.78 g				Units: pg/g		WHO TEQ:	201	
Extraction Batch No.: X0096	Wet	Weight			MS/MSD Batch No.:	X0079	Wet Weigh	it	
							_		
Compound	Conc	DL	Qual	WHO Tox	Compound	Cond	: DL	Qual	#Hom
2,3,7,8-TCDD	2.34	-		2.34					
1,2,3,7,8-PeCDD	18.9	-		18.9					
1,2,3,4,7,8-HxCDD	29.5	-		2.95					
1,2,3,6,7,8-HxCDD	462	-		46.2	Total Tetra-Dioxins	5.3	5 -		4
1,2,3,7,8,9-HxCDD	35.9	-		3.59	Total Penta-Dioxins	38.	.6 -		6
1,2,3,4,6,7,8-HpCDD	8500	-		85.0	Total Hexa-Dioxins	126	50 -		7
OCDD	3 9500	-		3.95	Total Hepta-Dioxins	1410	- 00		2
2,3,7,8-TCDF	-	0.405		-					
1,2,3,7,8-PeCDF	2.56	•		0.128					
2,3,4,7,8-PeCDF	2.70	-		1.35					
1,2,3,4,7,8-HxCDF	45.1	-		4.51					
1,2,3,6,7,8-HxCDF	11.6	-		1.16					
2,3,4,6,7,8-HxCDF	31.9	-		3.19					
1,2,3,7,8,9-HxCDF	16.2	-		1.62	Total Tetra-Furans	5.0	- 00		3
1,2,3,4,6,7,8-HpCDF	2300	-		23.0	Total Penta-Furans	55.	.8 -	-	10
1,2,3,4,7,8,9-HpCDF	240	-		2.40	Total Hexa-Furans	213	50 -	D,M	9
OCD F	8050	-		0.805	Total Hepta-Furans	1160	. 00	-	4
,									
Internal Standards	% Rec	QC Limit:	s Qi	ual					
13C-2 3 7 8-TCDD	110	25 0 - 1/	44						
13C-1 2 3 7 8-PeCDD	90.2	25.0 - 1	2-7 R1						
13C-1.2.3.4.7.8-HxCDD	105	32.0 - 14	41						
13C-1.2.3.6.7.8-HxCDD	110	28.0 - 1	30						
13C-1.2.3.4.6.7.8-HpCDD	109	23.0 - 1	40						
13C-OCDD	109	17.0 - 1	57						
13C-2,3,7,8-TCDF	105	24.0 - 10	69						
13C-1,2,3,7,8-PeCDF	83.6	24.0 - 14	85						
13C-2,3,4,7,8-PeCDF	86.5	21.0 - 1	78						
13C-1,2,3,4,7,8-HxCDF	126	26.0 - 1	52						
13C-1,2,3,6,7,8-HxCDF	123	26.0 - 1	23						
13C-2,3,4,6,7,8-HxCDF	110	29.0 - 1	47						
13C-1,2,3,7,8,9-HxCDF	103	28.0 - 1	36						
13C-1,2,3,4,6,7,8-HpCDF	115	28.0 - 1	43						
13C-1,2,3,4,7,8,9-HpCDF	114	26.0 - 1	38						
13C-OCDF	107	17.0 - 1	57						
Cleanup Surrogate									
37Cl-2,3,7,8-TCDD	102	35.0 - 1	97						
Analyst: 🖌						Review	ed by: A	JPJ	

Reviewed by: DPJ Date: 4/8/2004

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MXINY

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Date:



FAL ID: 2246-004-SA Client ID: S-11S-2.5	Date Extracted: 9/25/03 Date Received: 9/18/03				ICal: PCDDFAL2-9-07-03 Acquired: 29-SEP-03 GC Column: db5				-03
Matrix: Soil	Ала	ount: 11.81	9		Units: pg/g	WHO	TEQ: 5	549	
Extraction Batch No.: X0096	Wet	t Weight			MS/MSD Batch No.	: X0079 Wet	Weight	:	
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	15.5	-		15.5					
1,2,3,7,8-PeCDD	56.0	-		56.0					
1,2,3,4,7,8-HxCDD	54.5	-		5.45					
1,2,3,6,7,8-HxCDD	1080	-		108	Total Tetra-Dioxins	21.1	-		5
1,2,3,7,8,9-HxCDD	82.0	-		8.20	Total Penta-Dioxins	98.0	-		8
1,2,3,4,6,7,8-HpCDD	23200	-		232	Total Hexa-Dioxins	2860	-		7
OCDD	121000	-	*	12.1	Total Hepta-Dioxins	37800	-		2
2,3,7,8-TCDF	2.48	-	F	0.248					
1,2,3,7,8-PeCDF	12.3	-		0.613					
2,3,4,7,8-PeCDF	13.6	-		6.79					
1,2,3,4,7,8-HxCDF	123	-		12.3					
1,2,3,6,7,8-HxCDF	39.4	-		3.94					
2,3,4,6,7,8-HxCDF	98.4	-		9.84					
1,2,3,7,8,9-HxCDF	46.4	-		4.64	Total Tetra-Furans	39.1	-		12
1,2,3,4,6,7,8-HpCDF	6550	-		65.5	Total Penta-Furans	213	-		9
1,2,3,4,7,8,9-HpCDF	551	-		5.51	Total Hexa-Furans	6400	-		9
OCD F	27800	-		2.78	Total Hepta-Furans	35000	-		4
Internal Standards	% Rec	QC Limits	ն	ial					
13C-2,3,7,8-TCDD	105	25.0 - 16	4						
13C-1,2,3,7,8-PeCDD	88.7	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	112	32.0 - 14	1						
13C-1,2,3,6,7,8-HxCDD	110	28.0 - 13	0						
13C-1,2,3,4,6,7,8-HpCDD	123	23.0 - 14	0						
13C-OCDD	75.8	17.0 - 15	7	*					
13C-2.3.7.8-TCDF	103	24.0 - 16	9						
13C-1,2,3,7,8-PeCDF	91.0	24.0 - 18	5						
13C-2,3,4,7,8-PeCDF	86.0	21.0 - 17	8						
13C-1.2.3.4.7.8-HxCDF	132	26.0 - 15	- 2						
13C-1.2.3.6.7.8-HxCDF	123	26.0 - 12	3						
13C-2.3.4.6.7.8-HxCDF	113	29.0 - 14	7						
13C-1.2.3.7.8.9-HxCDF	99.0	28.0 - 13	6						
13C-1.2.3.4.6.7.8-HpCDF	121	28 0 - 14	3			* -	N:1		
13C-1.2.3 4 7 8 9-HpCDF	116	26 0 - 13	8				DILUCIO	n	
13C-OCDF	125	17.0 - 15	7			٨	cquirec	l: 26-s	EP-03
Cleanum Surrogate						F _			. •
						F = DB225 Confirmation			
37Cl-2,3,7,8-TCDD	93.7	35.0 - 19	7			A	cquirec	1: 01-0	CT-03
Analyst:						Davianad -	". <i>c</i>	0.1	
VTGIAM						KEVIEWED D	<u>(عم</u> _∶∿ 	<u>r. N</u>	
Date: / ///						Date:	- 14	1200	4

000003A of 000004A



FAL ID: 2246-005-SA	Date Extracted: 9/25/03				ICal: PCDDFAL2-9-07-03 Acquired: 27-SEP-03				
Mathix, Soil		e Received	. 9/10/	05	Units: pa/a		UNO TEO- 1	070	
Extraction Batch No · Y0096	Lino Lint	Weinht	9		MS/MSD Batch No •	X0079	Wet Veight	-	
Extraction Baten No.: X0070	Wet	wergat			Noymob batter No	X0017	Het Hergin	-	
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	14.7	-		14.7					
1,2,3,7,8-PeCDD	119	-		119					
1,2,3,4,7,8-HxCDD	116	-		11.6					
1,2,3,6,7,8-HxCDD	2240	-		224	Total Tetra-Dioxins	73.	3-		7
1,2,3,7,8,9-HxCDD	186	-		18.6	Total Penta-Dioxins	51	8 -		7
1,2,3,4,6,7,8-HpCDD	40900	-		409	Total Hexa-Dioxins	663	0 -		8
OCDD	267000	-	*	26.7	Total Hepta-Dioxins	7100	0 -		2
2 3 7 8-TCDF	9.38	-	F	0.938					
1 2 3 7 8-PerDE	36.2	-	•	1 81					
2 3 4 7 8-PerDF	46 3	-		27.2					
1 2 3 4 7 8-HychF	280	-		28.0					
1 2 3 6 7 8-Hypps	82 7	_		8 27					
2 3 4 6 7 8-1400	210	_		21 0					
	1/6			14 6	Total Tatna-Europa	10	o -		10
1, 2, 3, 7, 0, 7 HACDT	17000			14.0	Total Dents-Funans	77	7 -		12
	1020	-		10.2	Total Penca-Furans	1/00			12
1,2,3,4,7,8,9-HpuF	55500	-		10.2 E EE	Total Hente Furans	1490	- U	*	
UCDF	00000	-		5.55	Total Hepta-Furans	0030	- 0	-	4
Internal Standards	% Rec	QC Limits	Qu	ual					
13C-2,3,7,8-TCDD	104	25.0 - 16	4						
13C-1,2,3,7,8-PeCDD	93.4	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	105	32.0 - 14	1						
13C-1,2,3,6,7,8-HxCDD	109	28.0 - 13	0						
13C-1,2,3,4,6,7,8-HpCDD	102	23.0 - 14	0						
13C-OCDD	91.4	17.0 - 15	7	*					
13C-2,3.7.8-TCDF	108	24.0 - 16	9						
13C-1.2.3.7.8-PeCDF	104	24.0 - 18	5						
13C-2.3.4.7.8-PeCDF	102	21.0 - 17	'8						
13C-1.2.3.4.7.8-HxCDF	116	26.0 - 15	2						
13C-1.2.3.6.7.8-HxCDF	115	26.0 - 12	-						
13C-2.3.4.6.7.8-HxCDF	102	29.0 - 14	.7						
13C-1 2 3 7 8 9-HxCDF	102	28 0 - 13							
13c-1 2 3 4 6 7 8-HpCDF	102	28.0 - 14	3				K = Diluti	on	
13C-1 2 3 4 7 8 9-HochF	110	26.0 - 13	(9 (8				Ditati	011	
13C-0CDF	80.9	17 0 - 15	,0 ;7				Acquire	d. 26-9	50-03
	00.7	11.0	.,				Acquire	u. 20 3	J.F 0.J
Cleanup Surrogate						I	F = DB225	Confirm	nation
37cl-2,3,7,8-TCDD	87.5	35.0 - 19	97			Acquired: 01-OCT-03			
Analyst:						Review	ed by: 	N	
Date: <u> </u>						Date:	4/8/	200-	}

000004A of 000004A




April 8, 2004

FAL Project ID: 2247 (Addendum)

Mr. Ross Steenson Geomatrix Consultants, Inc. 2101 Webster Street, 12th Floor Oakland, CA 94612



TASK II IRM SECOND PHASE OF EXCAVATION SAMPLES

Dear Mr. Steenson,

Enclosed are the addendum results for Frontier Analytical Laboratory project **2247**. The addendum report contains the wet weight results that you requested on 3/31/2004. This project consisted of three solid samples that were received on 9/18/2003 from MFG, Incorporated. The wet weight data sheets have been marked as "Wet Weight" and do not have a % Solids field on them.

If you have any questions regarding the addendum to project **2247**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Dan vickers

Dan Vickers Director of Air Toxics



FAL ID: 2247-001-SA Client ID: B-1-SOUTH	Da1 Da1	te Extracte te Received	d: 9/25 : 9/18/	5/03 /03	ICal: PCDDFAL2-9-(GC Column: db5	07-03 /	Acquired:	29-SEP	-03
Matrix: Soil	Алю	ount: 12.09	a (Units: pg/g	ı	JHO TED: "	43	
Extraction Batch No.: X0096	Wet	t Weight	3		MS/MSD Batch No ·	X0079 L	let Weight	-	
							ee wergin	-	
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	5.05	-		5.05					
1,2,3,7,8-PeCDD	22.6	-		22.6					
1,2,3,4,7,8-HxCDD	16.3	-		1.63					
1,2,3,6,7,8-HxCDD	264	-		26.4	Total Tetra-Dioxins	23.4	- +		6
1,2,3,7,8,9-HxCDD	20.4	-		2.04	Total Penta-Dioxins	187	7 -		7
1,2,3,4,6,7,8-HpCDD	6060	-		60.6	Total Hexa-Dioxins	1050) -		6
OCDD	364 00	-		3.64	Total Hepta-Dioxins	10500) -		2
2,3,7,8-TCDF	0.314	-	J	0.0314					
1,2,3,7,8-PeCDF	1.86	-	J	0.0932					
2,3,4,7,8-PeCDF	2.18	-		1.09					
1,2,3,4,7,8-HxCDF	24.5	-		2.45					
1,2,3,6,7,8-HxCDF	7.28	-		0.728					
2,3,4,6,7,8-HxCDF	20.3	-		2.03					
1,2,3,7,8,9-HxCDF	10.1	-		1.01	Total Tetra-Furans	8.05	5 -		8
1,2,3,4,6,7,8-HpCDF	1180	-		11.8	Total Penta-Furans	48.0	s -		11
1,2,3,4,7,8,9-HpCDF	137	-		1.37	Total Hexa-Furans	1460) -		8
OCD F	5700	-		0.570	Total Hepta-Furans	6510) -		4
Internal Standards	% Rec	QC Limits	QU	ual					
13C-2.3.7 8-TCDD	107	25.0 - 16	4						
13C-1.2.3.7.8-PeCDD	95.8	25.0 - 18	1						
13C-1.2.3.4.7.8-HxCDD	111	32.0 - 14	1						
13C-1.2.3.6.7.8-HxCDD	106	28.0 - 13	0						
13C-1.2.3.4.6.7.8-HpCDD	107	23.0 - 14	n						
13C-OCDD	117	17.0 - 15	c 7						
13C-2,3,7,8-TCDF	103	24.0 - 16	9						
13C-1,2,3,7,8-PeCDF	94.4	24.0 - 18	5						
13C-2,3,4,7,8-PeCDF	89.9	21.0 - 17	8						
13C-1,2,3,4,7,8-HxCDF	129	26.0 - 15	2						
13C-1,2,3,6,7,8-HxCDF	125	26.0 - 12	3	A					
13C-2,3,4,6,7,8-HxCDF	112	29.0 - 14	7						
13C-1,2,3,7,8,9-HxCDF	104	28.0 - 13	6						
13C-1,2,3,4,6,7,8-HpCDF	110	28.0 - 14	3						
13C-1,2,3,4,7,8,9-HpCDF	117	26.0 - 13	8						
13C-OCDF	100	17.0 - 15	7						
Cleanup Surrogate									
37Cl-2.3.7.8-TCDD	101	35.0 - 19	7						
	·								
1									

Analyst:_____ Date:____/8/04/____

Reviewed by:_______ Date:_____418/2004_____

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FAL ID: 2247-004-SA	Dat	e Extracte	d: 9/25	/03	ICal: PCDDFAL2-9-	07-03 Acc	quired:	27-SEP	-03
Client ID: B-4-WEST	Dat	e Received	: 9/18/	03	GC Column: db5				
Matrix: Soil	Amo	ount: 12.66	9		Units: pg/g	WHO	D TEQ:	13800	
Extraction Batch No.: X00	96 Wet	: Weight			MS/MSD Batch No.:	X0079 We	t Weigh	t	
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	43.3	-		43.3					
1,2,3,7,8-PeCDD	783	-		783					
1,2,3,4,7,8-HxCDD	855	-		85.5					
1.2.3.6.7.8-HxCDD	43600	-	*	4360	Total Tetra-Dioxins	316	-		16
1.2.3.7.8.9-HxCDD	1920	-		192	Total Penta-Dioxins	2710	-		10
1.2.3.4.6.7.8-HpCDD	452000	-	*	4520	Total Hexa-Dioxins	93700	-	*	8
OCDD	1790000	-	*	179	Total Hepta-Dioxins	700000	-	*	2
			_						
2,3,7,8-1CDF	1180	-	F	118					
1,2,3,7,8-PecDF	992	-		49.6					
2,3,4,7,8-PeCDF	1600	-		799					
1,2,3,4,7,8-HxCDF	3400	-		340					
1,2,3,6,7,8-HxCDF	1390	-		139					
2,3,4,6,7,8-HxCDF	4870	-		487					
1,2,3,7,8,9-HxCDF	1730	-		173	Total Tetra-Furans	9500	-		18
1,2,3,4,6,7,8-HpCDF	141000	-	*	1410	Total Penta-Furans	36800	-	*	15
1,2,3,4,7,8,9-HpCDF	8460	-		84.6	Total Hexa-Furans	228000	-	D,M,*	12
OCDF	337000	-	*	33.7	Total Hepta-Furans	591000	-	*	4
Internal Standards	% Rec	QC Limits	Qu	al					
13C-2,3,7,8-TCDD	125	25.0 - 16	4						
13C-1,2,3,7,8-PeCDD	117	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	126	32.0 - 14	1						
13C-1,2,3,6,7,8-HxCDD	121	28.0 - 13	0						
13C-1,2,3,4,6,7,8-HpCDD	93.6	23.0 - 14	0	*					
13C-OCDD	36.2	17.0 - 15	7	*					
13c-2 3 7 8-1CDE	116	2/ 0 - 14	0						
130-1 2 3 7 8-DeCDF	109	24.0 - 18	5						
130-2 3 6 7 8-Dech	109	24.0 - 10	2						
130 - 1 - 2 - 3 - 4 - 7 - 8 - 100 - 7 - 100	100	21.0 - 17	0 7						
130 - 1, 2, 3, 4, 7, 0 - 100 F	117	20.0 - 15	2 7						
170 2 7 / / 7 8 Huchr	123	20.0 - 12	2 7						
130-2,3,4,0,7,8-HXCUF	106	29.0 - 14	(,						
13C-1,2,3,7,8,9-HxCDF	109	28.0 - 13	6	_					
13C-1,2,3,4,6,7,8-HpCDF	106	28.0 - 14	5	*		* =	Diluti	on	
13C-1,2,3,4,7,8,9-HpCDF	99.7	26.0 - 13	8						
13C-OCDF	70.2	17.0 - 15	7	*			Acquire	d: 26-9	SEP-03
Cleanup Surrogate						F =	DB225	Confir	nation
37cl-2,3,7,8-TCDD	113	35.0 - 19	7				Acquire	d: 01-0	001-03
1									
Analyst:						Reviewed	by:	196	
Date: 4/8/04						Date:	4/8	2/200	4

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FAL ID: 2247-006-SA	Dat	te Extracte	d: 9/25	6/03	ICal: PCDDFAL2-9-	07-03 Ac	quired:	27-SEP	-03
Client ID: RR-TIES	Dat	te Received	: 9/18/	03	GC Column: db5		•		
Matrix: Solid	Amo	ount: 12.22	g		Units: pg/g	WH	O TEQ: 4	370	
Extraction Batch No.: X009	6 Wet	t Weight	-		MS/MSD Batch No.:	X0079 We	et Weight	:	
Compound	Conc	ות	0	UNO Tox	Compound	Cana		01	#11
compound	Conc	νL	Quat	WHO TOX	Compound	Lone	DL	uuat	#hom
2,3,7,8-TCDD	36.6	-		36.6					
1,2,3,7,8-PeCDD	491	-		491					
1,2,3,4,7,8-HXCDD	488	-		48.8					
1,2,3,6,7,8-HXCDD	8720	-		872	Total Tetra-Dioxins	129	-		14
1,2,3,7,8,9-HXCDD	649	-		64.9	Total Penta-Dioxins	1020	-		10
1,2,3,4,6,7,8-HpCDD	174000	-	*	1740	Total Hexa-Dioxins	24200	-		8
OCDD	1190000	-	*	119	Total Hepta-Dioxins	316000	-	*	2
2,3,7,8-TCDF	26.7	-	F	2.67					
1,2,3,7,8-PeCDF	63.2	-		3.16					
2,3,4,7,8-PeCDF	75.5	-		37.7					
1,2,3,4,7,8-HxCDF	969	-		96.9					
1,2,3,6,7,8-HxCDF	264	-		26.4					
2,3,4,6,7,8-HxCDF	844	-		84.4					
1,2,3,7,8,9-HxCDF	265	-		26.5	Total Tetra-Furans	402	-		19
1,2,3,4,6,7,8-HpCDF	65100	-		651	Total Penta-Furans	1540	-		15
1,2,3,4,7,8,9-HpCDF	5090	-		50.9	Total Hexa-Furans	61000	-	*	12
OCDF	188000	-		18.8	Total Hepta-Furans	292000	-	*	4
				1010		272000			-
Internal Standards	% Rec	QC Limits	Qı	ual					
13C-2,3,7,8-TCDD	112	25.0 - 16	4						
13C-1,2,3,7,8-PeCDD	101	25.0 - 18	1						
13C-1.2.3.4.7.8-HxCDD	125	32.0 - 14	1						
13C-1.2.3.6.7.8-HxCDD	128	28.0 - 13	0						
13C-1.2.3.4.6.7.8-HpCDD	97.2	23.0 - 14	0	*					
13C-OCDD	40.2	17.0 - 15	7	*					
13C-2,3,7,8-TCDF	112	24.0 - 16	9						
13C-1,2,3,7,8-PeCDF	104	24.0 - 18	5						
13C-2,3,4,7,8-PeCDF	104	21.0 - 17	8						
13C-1,2,3,4,7,8-HxCDF	117	26.0 - 15	2						
13C-1,2,3,6,7,8-HxCDF	117	26.0 - 12	3						
13C-2,3,4,6,7,8-HxCDF	107	29.0 - 14	7						
13C-1,2,3,7,8,9-HxCDF	111	28.0 - 13	6						
13C-1,2,3,4,6,7,8-HpCDF	102	28.0 - 14	3	*		* -	= Dilutio	חכ	
13C-1.2.3.4.7.8.9-HpCDF	112	26.0 - 13	8				briatio		
13C-OCDF	78.7	17.0 - 15	7	*			Acquired	4. 27.0	ED-03
							negariei	4. 21 3	LF-03
Cleanup Surrogate						F =	= DB225 (Confirm	ation
37cl-2,3,7,8-TCDD	105	35.0 - 19	7				Acquired	d: 01-0	CT-03
Analyst:						Reviewed	by of) N	
Ela.						Refference	····		
Date: 4/7/109						Date:	<u> 441:</u>	2004	

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5172 Hillsdale Circle • El Dorado Hills, CA 95762 • Tel (916) 934-0900 • Fax (916) 934-0999 • www.frontieranalytical.com



April 8, 2004

FAL Project ID: 2346 (Addendum)

Mr. Ross Steenson Geomatrix Consultants, Inc. 2101 Webster Street, 12th Floor Oakland, CA 94612



TASK II IRM Brd Phase Excavation

Dear Mr. Steenson,

Enclosed are the addendum results for Frontier Analytical Laboratory project **2346**. The addendum report contains the wet weight results that you requested on 3/31/2004. This project consisted of two soil samples that were received on 12/04/2003 from Alpha Analytical Laboratories. The wet weight data sheets have been marked as "Wet Weight" and do not have a % Solids field on them.

If you have any questions regarding the addendum to project **2346**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Don vickers

Dan Vickers Director of Air Toxics



FAL ID: 2346-001-SA	Dat	te Extracte	ed: 12/8	3/03	ICal: PCDDFAL2-9-	07-03 Acqu	uired:	10-DEC	-03
Client ID: S-30-1.5 (A3111	137-01) Dat	te Received	1: 12/4,	/03	GC Column: db5				
Matrix: Soil	Amo	ount: 11.48	b g		Units: pg/g	WHO	TEQ: 1	5.7	
Extraction Batch No.: X014	3 Wet	t Weight			MS/MSD Batch No.:	X0121 Wet	Weight		
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	0.202		-					
1,2,3,7,8-PeCDD	-	0.432		-					
1,2,3,4,7,8-HxCDD	0.844	-	J	0.0844					
1,2,3,6,7,8-HxCDD	17.7	-		1.77	Total Tetra-Dioxins	9.54	-		2
1,2,3,7,8,9-HxCDD	2.51	-		0.251	Total Penta-Dioxins	121	-		3
1,2,3,4,6,7,8-HpCDD	870	-		8.70	Total Hexa-Dioxins	540	-		6
OCDD	11500	-		1.15	Total Hepta-Dioxins	1940	-		2
2,3,7,8-TCDF	-	0.168		-					
1,2,3,7,8-PeCDF	-	0.660		-					
2,3,4,7,8-PeCDF	-	0.399		-					
1,2,3,4,7,8-HxCDF	2.75	-		0.275					
1,2,3,6,7,8-HxCDF	1.25	-	J	0.125					
2,3,4,6,7,8-HxCDF	3.05	-		0.305					
1,2,3,7,8,9-HxCDF	-	0.490		-	Total Tetra-Furans	3.02	-	м	٦
1,2,3,4,6,7,8-HpCDF	263	-		2.63	Total Penta-Furans	62.8	-	••	3
1,2,3,4,7,8,9-HpCDF	19.9	-		0.199	Total Hexa-Furans	324	-		7
OCDF	1720	-		0.172	Total Hepta-Furans	1050	-		4
						1020			4
Internal Standards	% Rec	QC Limits	: Q.	Jal					
13C-2,3,7,8-TCDD	105	25.0 - 16	4						
13C-1,2,3,7,8-PeCDD	84.7	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	104	32.0 - 14	.1						
13C-1.2.3.6.7.8-HxCDD	110	28.0 - 13	0						
13C-1,2,3,4,6,7,8-HpCDD	81.8	23.0 - 14	.0						
13C-OCDD	66.8	17.0 - 15	7						
13c-2 3 7 8-TCDE	07 7	24.0 - 14	0						
13C-1 2 3 7 8-DaChE	71.1 85 5	24.0 - 10	5						
13C-2 3 6 7 8-Darne	81 K	21 0 - 17	12 12						
130 2,3,4,7,0-recur 130-1 2 3 4 7 8-4000	01.0	24.0 45	0 2						
130-1-2-3-4-7-8-400F	74.0 OP 0	20.0 - 13	7						
130-7,2,3,6,7,8°HXUP	90.9 07 E	20.0 - 12	:5 7						
130-2,3,4,0,7,8-HXLDF	87.5	29.0 - 14							
	02.2	28.0 - 13	-						
13C-1,2,3,4,6,7,8-HPLUF	74.1	28.0 - 14	5						
13C-1,2,3,4,7,8,9-HpCDF	72.2	26.0 - 13	8						
13C-OCDF	57.8	17.0 - 15	7						
Cleanup Surrogate									
37cl-2,3,7,8-TCDD	104	35.0 - 19	97						
1								. 1	
Analyst: <u>¥</u>						Reviewed by	v: 🔏	9N -	

Reviewed by: <u>DN</u> Date: <u>418/2004</u>

000002A of 000003A

Date:



Matrix: Soil Amount: 11.37 g Units: pg/g WHO TEG: 4.93 Extraction Batch No.: X0143 Wet Weight Met Weight Ms/MSD Batch No.: X0121 Wet Weight Compound Conc DL Qual WHO TeG: 4.93 1,2,3,7,8-T6CD0 - 0.130 - - 1,2,3,7,3,7,8-T6CD0 - 0.579 - - 2 1,2,3,6,7,8+MKCD0 0.588 - 0.0288 Total Tetra-Dioxins 2.29 - 2 1,2,3,6,7,8+MKCD0 0.588 - 0.0380 Total Tetra-Dioxins 817 - 2 1,2,3,7,8,7-MKCD1 - 0.173 - - 2 - 2 1,2,3,7,8-PKCDF - 0.175 - - 2 - 2 1,2,3,6,7,8-MCD7 - 0.175 - - 1 2 - 2 1,2,3,6,7,8-MCD7 - 0.425 - - 0.579 - - 1 2 3,4,7,8 - <th>FAL ID: 2346-002-SA Client ID: S-31-5.5 (A3111</th> <th>Dat 37-02) Dat</th> <th>te Extracte</th> <th>ed: 12/8 d: 12/4/</th> <th>3/03 /03</th> <th>ICal: PCDDFAL2-9-0 GC Column: db5</th> <th>07-03 Ac</th> <th>quired:</th> <th>10-DEC</th> <th>-03</th>	FAL ID: 2346-002-SA Client ID: S-31-5.5 (A3111	Dat 37-02) Dat	te Extracte	ed: 12/8 d: 12/4/	3/03 /03	ICal: PCDDFAL2-9-0 GC Column: db5	07-03 Ac	quired:	10-DEC	-03
Extraction Batch No.: X0143 Wet Weight MS/MSD Batch No.: X0121 Wet Weight Compound Conc DL Qual WHO Tox Compound Conc DL Qual #MO 1,2,3,7,8700 - 0.130 - - - - - - - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 1 - 2 1 - 2 1 - 2 1 - 2 1 - 2 1 - 2 1 - 2 1 - 2 1 - 2 1 - 2 1	Matrix: Soil	Amo	ount: 11.37	7 q		Units: pg/g	WH	D TEQ: 4	.93	
Compound Conc DL Qual WHD Tox Compound Conc DL Qual #HD 1,2,3,7,8-TCDD - 0.130 -	Extraction Batch No + X014	3 Wet	- Weight	3		MS/MSD Batch No.:	X0121 We	t Weight		
Compound Conc DL Qual WHO Tex Compound Conc DL Qual WHO Tex 2,3,7,8-TCOD - 0.130 - - 0.233 - - 0.233 - - 0.237, 4,7,8-HXCDD - 0.238 Total Tetra-Dioxins 2.1,6,7,8-HXCDD - 0.238 Total Penta-Dioxins 2.1,6 - 1 1,2,3,4,7,8-HXCDD - 0.0988 Total Penta-Dioxins 85,9 - 2 3 1 - 2 2 3 1 1 2,3,7,8-1007 - 0.173 - 2 2,3,4,7,8-14KCD7 - 0.527 - 1 2,3,4,7,8-14KCD7 - 0.425 - 1 2,3,4,7,8-14KCD7 - 0.425 - 1 1,2,3,4,7,8-14KCD7 - 0.525 - 1 <t< th=""><th></th><th></th><th>werght</th><th></th><th></th><th></th><th>NOTE: NO</th><th>e norgire</th><th></th><th></th></t<>			werght				NOTE: NO	e norgire		
2,3,7,8-TCDD - 0.130 - 1,2,3,4,7,8-HXCDD - 0.330 - 1,2,3,4,7,8-HXCDD 5.28 - 0.528 Total Tetra-Dioxins 2.29 - 2 1,2,3,4,7,8-HXCDD 5.28 - 0.528 Total Tetra-Dioxins 11.6 - 1 1,2,3,4,7,8-HXCDD 310 - 3.10 Total Hepta-Dioxins 85.9 - 5 0.000 4380 - 0.438 Total Hepta-Dioxins 817 - 2 2,3,7,8-TCDF - 0.173 - - - 2 - 2 - 2 - 2 - 0.438 Total Hepta-Dioxins 817 - 2 - 2 - 2 - 0.438 - 0.438 - 1 2 3 - 0 0 0 0 0 0 1 2 3 0 1 2 3 0 0 0 0 1 1 2 3 0 1 2 3 0	Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
1.2.3.7,8.7-PACD0 - 0.330 - 1.2.3.4,7.8-HXCD0 5.28 - 0.579 - 2 1.2.3.5,7,8.7-HXCD0 5.28 - 0.0988 - 0.0988 Total Penta-Dioxins 2.29 - 2 1.2.3.7,8.9-HXCD0 0.998 - 0.0988 Total Penta-Dioxins 85.9 - 5 0CD0 4380 - 0.438 Total Penta-Dioxins 817 - 2 2.3.7,8.7-ECDF - 0.173 - 1.2.3.5,4.7,8-HXCDF - 0.550 - 1.2.3.4.7,8-HXCDF - 0.529 - 1.2.3.4,7,8-HXCDF - 0.529 - 1.2.3.4,7,8-HXCDF - 0.445 - 1.2.3.4,6.7,8-HXCDF - 0.445 - 1.2.3.4,6.7,8-HXCDF - 0.542 - 1.2.3.4,6.7,8-HXCDF - 0.633 - Total Tetra-Furans 2.30 - 1 1.2.3.5,4.7,8-HXCDF - 0.6425 - 1.2.3.44 - 1.2.3.5,4.7,8-HXCDF - 0.539 - 1.2.3.4,6.7,8-HXCDF - 0.539 - 1.2.3.4,6.7,8-HXCDF - 0.539 - 1.2.3.4,6.7,8-HXCDF - 0.539 - 1.2.3.4,6.7,8-HXCDF - 0.5425 - 1.2.3.4,6.7,8-HXCDF - 0.6433 - 1.2.3.4,6.7,8-HXCDF - 0.5425 - 1.2.3.4,6.7,8-HXCDF - 0.6433 - 1.2.3.4,6.7,8-HXCDF - 0.5425 - 1.2.3.4,6.7,8-HXCDF - 0.6433 - 1.2.3.4,6.7,8-HXCDF - 0.5425 - 1.2.3.4,6.7,8-HXCDF - 0.5425 - 1.2.3.4,6.7,8-HXCDF - 0.5425 - 1.2.3.4,7,8-HXCDF - 0.2.425 - 1.2.3.4,7,8-HXCDF - 0.2.3.0 - 140 - 1.2.3.4,7,8-HXCDF - 0.4,23.0 - 1.40 - 1.2.3.4,7,8-HXCDF - 0.4,20 - 1.2.3 - 1.2.3.4,7,8-HXCDF - 0.4,20 - 1.2.3 - 1.2.3.4,7,8-HXCDF - 0.4,20 - 1.2.3 - 1.2.3 - 1.2.3.4,7,8-HXCDF - 0.4,20 - 1.2.3 - 1.2.3.4,7,8-HXCDF - 0.4,20 - 1.2.3 - 1.2.3.4,7,8-HXCDF - 7.8,8 - 21.0 - 1.35 - 1.2.3,4,7,8-HXCDF - 7.8,8 - 21.0 - 1.35 - 1.2.3,4,7,7,8-HXCDF - 7.8,4 - 20.0 - 1.32 - 1.2.3.4,7,7,8-HXCDF - 7.8,4 - 20.0 - 1.33 - 1.3-2.3,4,4,7,8-HXCDF - 7.8,4 - 20.0 - 1.33 - 1.3-2.3,4,4,7,8-HXCDF - 7.8,4 - 20.0 - 1.33 - 1.3-2.3,4,4,7,8-HXCDF - 7.8,4 - 20.0 - 1	2,3,7,8-TCDD	-	0.130		-					
1,2,3,4,7,8+HKDD - 0.579 - 1,2,3,4,7,8+HKDD 5,28 - J 0.0988 Total Tetra-Dioxins 2,29 - 2 1,2,3,7,8,9+HKDD 310 - 3.10 Total Hexa-Dioxins 85,9 - 5 COD 4380 - 0.438 Total Hexa-Dioxins 87,9 - 5 2,3,7,8-PEDF - 0.550 - 1 1,2,3,7,8-PEDF - 0.550 - 1 1,2,3,4,7,8+HKDF - 0.425 - 2 2,3,4,7,8+HKDF - 0.425 - 2 2,3,4,7,8-HKDF - 0.453 - 158 1,2,3,7,8,9-HKDF - 0.653 - 158 1,2,3,7,8,9-HKDF - 0.653 - 158 1,2,3,7,8,9-HKDF - 0.653 - 158 1,2,3,4,7,8,9-HKDF - 0.653 - 158 1,2,3,4,7,8,9-HKDF - 0.653 - 3 1,2,3,4,7,8,9-HKDF - 0.0489 Total Hexa-Furans 2,30 - 1 1,2,3,4,7,8,9-HKDF - 0.0588 - 0.0358 Total Hepta-Furans 2,4,6 - 4 1,2,3,4,7,8,9-HKDD - 1,58 - 3 1,2,3,4,7,8,9-HKDD - 1,58 - 10.0189 Total Hepta-Furans 2,13 - 3 Internal Standards X Rec QC Limits Qual 13C-2,3,7,8-HKDD 99,7 25.0 - 164 13C-1,2,3,7,8-HKDD 112 32.0 - 161 13C-1,2,3,7,8-HKDD 112 32.0 - 161 13C-1,2,3,7,8-HKDD 112 32.0 - 161 13C-1,2,3,7,8-HKDD 112 32.0 - 161 13C-1,2,3,7,8-HKDD 73.9 17.0 - 157 13C-2,3,7,8-HKDD 73.9 17.0 - 152 13C-1,2,3,4,7,8-HKDD 74.0 - 165 13C-1,2,3,4,7,8-HKDD 75.1 - 152 13C-1,2,3,4,7,8-HKDD 74.2 - 169 13C-1,2,3,4,7,8-HKDD 75.1 - 152 13C-1,2,3,4,7,8-HKDD 75.1 - 152 13C-1,2,3,4,7,8-HKDF 76.7 - 26.0 - 133 13C-1,2,3,4,7,8-HKDF 76.7 - 26.0 - 133 13C-1,2,3,4,7,8-HKDF 77.7 - 26.0 - 138 13C-1,2,3,4,7,8-HKDF 76.7 - 26.0 - 138 13C-1,2,3,4,7,8-HKDF 76.7 - 26.0 - 138 13C-1,2,3,4,7,8-HKDF 76.7 - 26.0 - 138 13C-1,2,3,7,8-HKDF 77.7 - 26.0 -	1,2,3,7,8-PeCDD	-	0.330		-					
1,2,3,4,7,8-HXCDD 5,28 - 0.528 Total Tetra-Dioxins 2.29 - 2 1,2,5,7,6,9-HXCDD 0,988 - J 0.0988 Total Penta-Dioxins 11.6 - 1 1,2,5,4,6,7,8-HXCDD 310 - 3.10 1,2,3,7,8-FCDF - 0.773 - 0.438 Total Hepta-Dioxins 817 - 2 2,3,7,8-FCDF - 0.550 - 1.2,3,4,7,8-HXCDF - 0.384 - 1.2,3,4,7,8-HXCDF - 0.452 - 1.2,3,4,7,8-HXCDF - 0.452 - 1.2,3,4,6,7,8-HXCDF - 0.653 - 1.2,3,4,6,7,8-HXCDF - 0.653 - 1.2,1,2,3,4,6,7,8-HXCDF - 0.653 - 1.2,1,2,3,4,7,8,9-HXCDF - 0.559 - 0.0459 Total Hepta-Furans 2.30 - 1.1,2,3,4,6,7,8-HXCDF - 0.558 - 0.00469 Total Hepta-Furans 2.4,6 - 4.2,0CDF 358 - 0.0358 Total Hepta-Furans 2.4,6 - 4.2,0CDF 358 - 0.0358 Total Hepta-Furans 2.13 - 3 Internal Standards X Rec QC Limits Qual 13C-1,2,3,7,8-PECDF 85.9 24.0 - 169 13C-1,2,3,4,7,8-HXCDD 112 22.0 - 141 13C-1,2,3,4,6,7,8-HXCDD 117 28.0 - 130 13C-1,2,3,4,7,8-HXCDD 117 28.0 - 130 13C-1,2,3,4,7,8-HXCDD 117 28.0 - 130 13C-1,2,3,4,7,8-HXCDD 117 28.0 - 130 13C-1,2,3,4,7,8-HXCDF 101 26.0 - 152 13C-1,2,3,4,7,8-HXCDF 104 26.0 - 152 13C-1,2,3,4,7,8-HXCDF 104 26.0 - 152 13C-1,2,3,4,7,8-HXCDF 104 26.0 - 152 13C-1,2,3,4,7,8-HXCDF 178, 8.21.0 - 178 13C-1,2,3,4,7,8-HXCDF 178, 8.21.0 - 178 13C-1,2,3,4,7,8-HXCDF 177, 8.5 2.2 8.0 - 136 13C-1,2,3,4,7,8-HXCDF 178, 8.21.0 - 178 13C-1,2,3,4,7,8-HXCDF 177, 4.28.0 - 113 13C-1,2,3,4,7,8-HXCDF 178, 4.28.0 - 113 13C-1,2,3,4,7,8-HXCDF 178, 4.28.0 - 113 13C-1,2,3,4,7,8-HXCDF 177, 4.28.0 - 113 13C-1,2,3,4,7,8-HXCDF 178, 4.28.0 - 113 13C-1,2,3,4,7,8-HXCDF 178, 4.28.0 - 113 13C-1,2,3,4,7,8-HXCDF 178, 4.28.0 - 113 13C-1,2,3,7,8-HXCDF 178, 4.28.0 - 113 13C-1,2,3,7,8-HXCDF 78, 4.28.0 - 138 13C-0CDF 62.8 17.0 - 157 Cleanup Surrogate 37C1-2,3,7,8-TCD0 99.3 35.0 - 197	1.2.3.4.7.8-HxCDD	-	0.579		-					
1,2,3,7,8,9-HKCDD 0,988 - J 0.0988 Total Penta-Dioxins 11.6 - 1 1,2,3,4,6,7,8,HKCDD 310 - 3.10 Total Hexa-Dioxins 85.9 - 5 CCDD 4380 - 0.438 Total Hepta-Dioxins 817 - 2 2,3,7,8-FCDF - 0.550 - 2 2,3,4,7,8-FKCDF - 0.550 - 2 2,3,4,7,8-FKCDF - 0.529 - 1 1,2,3,4,7,8-FKCDF - 0.425 - 2 2,3,4,6,7,8-HKCDF - 0.653 - Total Tetra-Furans - 0.309 0 1,2,3,4,6,7,8-HKCDF - 0.653 - Total Tetra-Furans - 0.309 - 1 1,2,3,4,7,8,9-HKCDF - 0.653 - Total Tetra-Furans 2.30 - 1 1,2,3,4,7,8,9-HKCDF - 0.0649 Total Hepta-Furans 2.30 - 1 1,2,3,4,7,8,9-HKCDF 4.8,9 - 0.00459 Total Hepta-Furans 2.13 - 3 Internal Standards X Rec 0C Limits Qual 13C-1,2,3,4,7,8-HKCDD 89.7 25.0 - 181 13C-1,2,3,4,7,8-HKCDD 112 23.0 - 141 13C-1,2,3,4,7,8-HKCDD 117 28.0 - 130 13C-1,2,3,4,7,8-HKCDD 87.0 23.0 - 140 13C-1,2,3,4,7,8-HKCDD 87.0 23.0 - 140 13C-1,2,3,4,7,8-HKCDF 101 26.0 - 152 13C-1,2,3,4,7,8-HKCDF 104 26.0 - 123 13C-1,2,3,4,7,8-HKCDF 104 26.0 - 123 13C-1,2,3,4,7,8-HKCDF 178.4 28.0 - 143 13C-1,2,3,4,7,8-HKCDF 176.7 28.0 - 138 13C-1,2,3,4,7,8-HKCDF 176.7 28.0 - 138 13C-1,2,3,4,7,7,8-HKCDF 176.7 28.0 - 138 13C-1,2,3,4,7,8-HKCDF 176.7 28.0 - 138 13C-1,2,3,7,8-TCDF 99.3 35.0 - 197	1.2.3.6.7.8-HxCDD	5.28	-		0.528	Total Tetra-Dioxins	2.29	-		2
1,2,3,4,6,7,8-HpCDD 0CDD 4380 - 0.438 Total Hexa-Dioxins 85.9 - 5 2,3,7,8-FCDF - 0.173 - 1,2,3,7,8-FCDF - 0.550 - 2,3,4,7,8-FCDF - 0.529 - 1,2,3,4,7,8-HKCDF - 0.653 - J 0.158 - J 0.158 - J 0.158 - 2,3,4,6,7,8-HKCDF - 0.653 - 0.0489 Total Hepta-Furans - 0.309 0 1,2,3,4,7,8,9-HKCDF - 0.653 - 0.0489 Total Hepta-Furans - 0.309 0 1,2,3,4,7,8,9-HKCDF - 0.653 - 0.0358 Total Hepta-Furans - 0.309 0 1,2,3,4,7,8-HKCDF - 0.653 - 0.0358 Total Hepta-Furans - 0.309 0 1,2,3,4,7,8-HKCDF - 0.653 - 0.0358 Total Hepta-Furans - 0.309 0 1,2,3,4,7,8-HKCDF - 0.653 - 0.0358 Total Hepta-Furans - 0.309 0 1,2,3,4,7,8-HKCDF - 0.653 - 0.0358 Total Hepta-Furans - 0.309 0 1,2,3,4,7,8-HKCDF - 0.653 - 0.0358 Total Hepta-Furans - 0.309 0 1,2,3,4,7,8-HKCD - 132 - 0.0358 Total Hepta-Furans - 0.309 0 1,2,3,4,7,8-HKCD - 132 - 0.0358 Total Hepta-Furans - 0.309 0 1,2,3,4,7,8-HKCD - 132 - 0.0358 Total Hepta-Furans - 0.309 0 1,2,3,4,7,8-HKCD - 132 - 0.0358 Total Hepta-Furans - 0.309 0 1,2,3,4,7,8-HKCD - 132 - 0.0358 Total Hepta-Furans - 0.309 0 - 0.0358 Total Hepta-Furans - 0.309 0 - 1,2,3,4,7,8-HKCD - 132 - 0.0489 - 0.0489 - 0.0489 - 0.0489 - 0.0489 - 0.0489 - 0.0489 - 0.048 0.0358 Total Hepta-Furans - 2.13 3 Internal Standards	1.2.3.7.8.9-HxCDD	0.988	-	J	0.0988	Total Penta-Dioxins	11.6	-		1
ODD 4380 - 0.438 Total Hepta-Dioxins 817 - 2 2,3,7,8-TCDF - 0.550 - - - - - - - - - - - 2 - - - 2 - - - 2 - - - 2 - - - - 2 - - - - 2 - - - - - 2 - - - 2 - - - 0.532 - - 0.535 - 10 158 - - 0.5515 Total Petra-Furans 2.30 - 1 1 - 3 - 0.0558 Total Hepta-Furans 2.30 - 1 1 1 - 3 3 - 0.0358 Total Hepta-Furans 2.30 - 11 1 1 - 3 3 - 0.0358 Total Hepta-Furans 2.13 - 3 3 - 1 3 - 3 <td>1 2 3 4 6 7 8-HoCDD</td> <td>310</td> <td>_</td> <td>_</td> <td>3.10</td> <td>Total Hexa-Dioxins</td> <td>85.9</td> <td>-</td> <td></td> <td>5</td>	1 2 3 4 6 7 8-HoCDD	310	_	_	3.10	Total Hexa-Dioxins	85.9	-		5
2,3,7,8-TCDF - 0.173 - 1,2,3,7,8-PCDF - 0.550 - 2,3,4,7,8-PCDF - 0.529 - 1,2,3,4,7,8-PCDF - 0.425 - 1,2,3,4,7,8-PCDF - 0.425 - 2,3,4,6,7,8-HKCDF - 0.425 - 2,3,4,6,7,8-HKCDF - 0.653 - Total Tetra-Furans 2.30 - 1 1,2,3,4,6,7,8-HKCDF 51.5 - 0.515 Total Penta-Furans 2.30 - 1 1,2,3,4,6,7,8-HKCDF 4.89 - 0.0469 Total Hexa-Furans 2.30 - 1 1,2,3,4,7,8-PECDF 4.89 - 0.0459 Total Hexa-Furans 2.46 - 4 0CDF 358 - 0.0358 Total Hexa-Furans 213 - 3 Internal Standards X Rec QC Limits Qual 13c-1,2,3,4,7,8-HCDD 80.8 25.0<- 181		4380	-		0 438	Total Henta-Dioxins	817	-		2
2,3,7,8-TCDF - 0.173 - 1 1,2,3,7,8-PECDF - 0.550 - 1 1,2,3,4,7,8-PECDF - 0.384 - 1 1,2,3,4,7,8-HKCDF - 0.384 - 1 1,2,3,7,8,9-HKCDF 1.58 - J 0.158 - 2 1,2,3,4,6,7,8-HKCDF 1.58 - J 0.158 - 1 1,2,3,4,7,8,9-HKCDF 1.58 - 0.515 Total Penta-Furans - 0.309 0 1,2,3,4,6,7,8-HKCDF 1.58 - 0.515 Total Penta-Furans 2.30 - 1 1,2,3,4,7,8,9-HKCDF 4.89 - 0.0489 Total Hexa-Furans 24.6 - 4 0CDF 358 - 0.0358 Total Hexa-Furans 213 - 3 Internal Standards X Rec 0C Limits Qual 13C-2,3,7,8-TCDD 99.7 25.0 - 164 13C-1,2,3,4,6,7,8-HKCDD 112 32.0 - 181 13C-1,2,3,4,6,7,8-HKCDD 117 28.0 - 130 13C-1,2,3,4,6,7,8-HKCDD 87.0 23.0 - 140 13C-1,2,3,4,6,7,8-HKCDD 87.0 23.0 - 140 13C-1,2,3,4,6,7,8-HKCDF 101 26.0 - 152 13C-2,3,4,7,8-HKCDF 101 26.0 - 152 13C-2,3,4,6,7,8-HKCDF 104 26.0 - 123 13C-1,2,3,4,6,7,8-HKCDF 104 26.0 - 123 13C-1,2,3,4,6,7,8-HKCDF 104 26.0 - 123 13C-1,2,3,4,6,7,8-HKCDF 76.7 26.0 - 138 13C-1,2,3,4,6,7,8-HKCDF 76.7 26.0 - 138 13C-1,2,3,4,6,7,8-HKCDF 76.7 26.0 - 138 13C-1,2,3,4,6,7,8-HKCDF 76.7 26.0 - 138 13C-1,2,3,4,7,8,9-HKCDF 76.7 26.0 - 138	0000	4300			0.450	focut heptu broxins	0.17			-
1,2,3,7,8-PECDF - 0.550 2,3,4,7,8-PECDF - 0.529 1,2,3,4,7,8-PECDF - 0.384 1,2,3,6,7,8-HXCDF - 0.425 2,3,4,6,7,8-HXCDF - 0.653 - Total Tetra-Furans 2.30 - 1 1,2,3,4,7,8-PECDF 51.5 - 0.515 Total Penta-Furans 2.30 - 1 1,2,3,4,7,8-PECDF 4.89 - 0.04680 Total Hexa-Furans 2.4.6 - 4 0CDF 358 - 0.0358 Total Hexa-Furans 2.13 - 3 Internal Standards X Rec 0C Limits Qual 13C-1,2,3,7,8-PECDD 99.7 25.0 - 164 13C-1,2,3,7,8-PECDD 80.8 25.0 - 181 13C-1,2,3,4,7,8-PECDD 112 32.0 - 141 13C-1,2,3,4,6,7,8-HXCDD 117 28.0 - 130 13C-1,2,3,4,6,7,8-HXCDD 117 28.0 - 130 13C-1,2,3,4,7,8-PECDF 83.9 24.0 - 165 13C-2,3,7,8-PECDF 83.9 24.0 - 165 13C-2,3,4,7,8-PECDF 83.9 24.0 - 165 13C-2,3,4,7,8-PECDF 83.9 24.0 - 178 13C-2,3,4,7,8-PECDF 85.9 24.0 - 178 13C-2,3,4,6,7,8-HXCDF 101 26.0 - 152 13C-2,3,4,6,7,8-HXCDF 101 26.0 - 123 13C-2,3,4,6,7,8-HXCDF 101 26.0 - 143 13C-1,2,3,4,6,7,8-HXCDF 101 26.0 - 136 13C-1,2,3,4,6,7,8-HXCDF 101 26.0 - 123 13C-2,3,4,6,7,8-HXCDF 101 26.0 - 136 13C-1,2,3,4,6,7,8-HXCDF 101 26.0 - 123 13C-2,3,4,6,7,8-HXCDF 76.7 26.0 - 138 13C-1,2,3,4,6,7,8-HXCDF 76.7 26.0 - 138 13C-1,2,3,4,7,8-HXCDF 76.7 26.0 - 138 13C-1,2,3,4,7,8,9-HXCDF 76.7 26.0 - 138 13C-1,2,3,7,8-TCDD 99.3 35.0 - 197	2,3,7,8-TCDF	-	0.173		-					
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1,2,3,4,7,8-HxCDF - 0.425	2,3,4,7,8-PeCDF	-	0.529		-					
1,2,3,6,7,8-HXCDF - 0.425 - 2,3,4,6,7,8-HXCDF 1.58 - J 0.158 1,2,3,7,8,9-HXCDF 51.5 - 0.515 Total Penta-Furans 2.30 - 1 1,2,3,4,6,7,8-HXCDF 4.89 - 0.0489 Total Hexa-Furans 24.6 - 4 OCDF 358 - 0.0358 Total Hepta-Furans 213 - 3 Internal Standards % Rec 0C Limits Qual 13C-2,3,7,8-FCDD 99.7 25.0 - 164 13C-1,2,3,7,8-FCDD 80.8 25.0 - 181 13C-1,2,3,7,8-FCDD 80.8 25.0 - 181 13C-1,2,3,4,7,8-HXCDD 112 32.0 - 141 13C-1,2,3,4,7,8-HXCDD 117 28.0 - 130 13C-1,2,3,7,8-FCDF 99.4 24.0 - 169 13C-1,2,3,7,8-FCDF 99.4 24.0 - 165 13C-1,2,3,4,7,8-FECDF 78.8 21.0 - 178 13C-2,3,4,7,8-FECDF 78.8 21.0 - 172 13C-1,2,3,4,7,8-FECDF 78.8 21.0 - 152 13C-1,2,3,4,6,7.8-HXCDF 104 26.0 - 152 13C-1,2,3,4,6,7.8-HXCDF 104 26.0 - 152 13C-1,2,3,4,6,7.8-HXCDF 104 26.0 - 152 13C-1,2,3,4,6,7.8-HXCDF 78.4 28.0 - 143 13C-1,2,3,4,6,7.8-HXCDF 78.4 28.0 - 143 13C-1,2,3,4,6,7.8-HXCDF 76.7 26.0 - 136 13C-1,2,3,4,6,7.8-HXCDF 76.7 26.0 - 136 13C-1,2,3,4,7,8-HXCDF 76.7 26.0 - 136 13C-1,2,3,4,7,8-HXCDF 76.7 26.0 - 136 13C-1,2,3,4,7,8-HXCDF 76.7 26.0 - 136 13C-1,2,3,4,7,8-HXCDF 76.7 26.0 - 136 13C-1,2,3,7,8-HXCDF 76.7 26.0 - 136 13C-1,2,3,7,8-HXCDF 76.7 26.0 - 136 13C-1,2,3,7,8-HXCDF 76.7 26.0 - 136 13C-1,2,3,4,7,8-HXCDF 76.7 26.0 - 136 13C-1,2,3,4,7,8-HXCDF 76.7 26.0 - 136 13C-1,2,3,4,7,8-HXCDF 76.7 26.0 - 136	1,2,3,4,7,8-HxCDF	-	0.384		-					
2,3,4,6,7,8-HxCDF 1.58 - J 0.158 1,2,3,7,8,9-HxCDF - 0.653 - Total Tetra-furans - 0.309 0 1,2,3,4,6,7,8-HpCDF 51.5 - 0.515 Total Penta-Furans 2.30 - 1 1,2,3,4,7,8,9-HpCDF 4.89 - 0.0489 Total Hexa-Furans 24.6 - 4 OCDF 358 - 0.0358 Total Hepta-Furans 213 - 3 Internal Standards X Rec QC Limits Qual 13c-1,2,3,7,8-PeCDD 80.8 25.0 - 164 13c-1,2,3,7,8-PeCDD 80.8 25.0 - 181 13c-1,2,3,4,7,8-HxCDD 112 32.0 - 141 13c-1,2,3,4,7,8-HxCDD 112 32.0 - 140 13c-1,2,3,4,7,8-HxCDD 117 28.0 - 130 13c-1,2,3,4,7,8-PeCDD 87.0 23.0 - 140 13c-1,2,3,4,7,8-PeCDF 83.9 24.0 - 169 13c-1,2,3,4,7,8-PeCDF 83.9 24.0 - 169 13c-1,2,3,4,7,8-PeCDF 104 26.0 - 152 13c-1,2,3,4,6,7,8-HxCDF 104 26.0 - 152 13c-1,2,3,4,6,7,8-HxCDF 104 26.0 - 152 13c-1,2,3,4,6,7,8-HxCDF 104 26.0 - 152 13c-1,2,3,4,6,7,8-HxCDF 78.4 28.0 - 143 13c-1,2,3,4,6,7,8-HxCDF 76.7 26.0 - 138 13c-1,2,3,4,6,7,8-HxCDF 76.7 26.0 - 138 13c-1,2,3,4,7,8-PHCDF 76.7 26.0 - 138 13c-1,2,3,7,8-PHCDF 78.4 28.0 - 143 13c-1,2,3,4,7,8-PHCDF 78.4 28.0 - 143 13c-1,2,3,4,7,8-PHCDF 78.4 28.0 - 136 13c-1,2,3,7,8-PHCDF 78.4 28.0 - 143 13c-1,2,3,4,7,8-PHCDF 78.4 28.0 - 143 13c-1,2,3,4,7,8-PHCDF 78.4 28.0 - 143 13c-1,2,3,4,7,8-PHCDF 78.4 28.0 - 138 13c-1,2,3,4,7,8-PHCDF 78.4 28.0 - 136 13c-1,2,3,4,7,8-PHCDF 78.4 28.0 - 145 13c-1,2,3,4,7,8-PHCDF 78.4 28.0 - 145 13c-1,2,3,4,7,8-PHCDF 78.4 28.0 - 145 13c-1,2,3,4,7,8-PHCDF 78.4 28.0 - 145 13c-1,2,3,4,7,8-PHCDF 78.4 28.0 - 138 13c-0,2,3,7,8-PHCDF 78.4 28.0 - 138 13c-0,2,3,7,8-PHCDF 78.4 28.0 - 138 13c-0,2,3,7,8-PHCDF 78.4 28.0 - 138 13c-0,2,3,7,8-PHCDF 78.4 28.0 - 147 13c-1,2,3,4,7,8-PHCDF 78.4 28.0 - 147 13c-1,2,3,4,7,8-PHCDF 78.4 28.0 - 148 13c-0,2,3,7,8-PHCDF 78.4 28.0 - 148 13c-0,2,3,7,8-PHCDF 78.4 28.0 - 147 13c-1,2,3,4,7,8-PHCDF 78.4 28.0 - 148 13c-0,2,3,7,8-PHCDF 78.4 28.0 - 148 13c-0,2,3,7,8-PHCDF 78.4 28.0 - 148 13c-0,2,3,7,8-PHCDF 78.4 28.0 - 148 13c-0,2,3	1.2.3.6.7.8-HxCDF	-	0.425		-					
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Internal Standards X Rec QC Limits Qual 13C-2,3,7,8-TCDD 99.7 25.0 - 164 13C-1,2,3,7,8-PeCDD 80.8 25.0 - 181 13C-1,2,3,4,7,8-HXCDD 112 32.0 - 141 13C-1,2,3,4,7,8-HXCDD 117 28.0 - 130 13C-1,2,3,7,8-HCDD 87.0 23.0 - 140 13C-1,2,3,7,8-HCDD 87.0 23.0 - 140 13C-2,3,7,8-HCDF 99.4 24.0 - 169 13C-1,2,3,4,7,8-HCDF 83.9 24.0 - 185 13C-2,3,4,7,8-HCDF 78.8 21.0 - 178 13C-1,2,3,4,7,8-HKCDF 104 26.0 - 152 13C-1,2,3,4,7,8-HKCDF 104 26.0 - 152 13C-1,2,3,4,7,8-HKCDF 104 26.0 - 152 13C-1,2,3,4,7,8-HKCDF 104 26.0 - 143 13C-1,2,3,4,7,8-HKCDF 93.1 29.0 - 147 13C-1,2,3,4,6,7,8-HKCDF 76.7 26.0 - 138 13C-1,2,3,4,7,8,9-HKCDF 76.7 26.0 - 138 13C-1,2,3,4,7,8,9-HKCDF 76.7 26.0 - 138 13C-1,2,3,4,7,8,9-HCDF 76.7 26.0 - 138 13C-1,2,3,4,7,8,9-HCDF 76.7 26.0 - 138 13C-1,2,3,7,8-TCDD 99.3 35.0 - 197		358	_		0.0358	Total Henta-Furans	213	-		- -
Internal Standards X Rec QC Limits Qual 13C-2,3,7,8-TCDD 99.7 25.0 - 164 13C-1,2,3,7,8-PECDD 80.8 25.0 - 181 13C-1,2,3,4,7,8-HXCDD 112 32.0 - 141 13C-1,2,3,4,7,8-HXCDD 117 28.0 - 130 13C-1,2,3,4,6,7,8-HXCDD 87.0 23.0 - 140 13C-2,3,7,8-TCDF 99.4 24.0 - 169 13C-2,3,7,8-PECDF 83.9 24.0 - 178 13C-2,3,4,7,8-PECDF 88.2 10.0 - 178 13C-1,2,3,4,7,8-HXCDF 101 26.0 - 123 13C-2,3,4,7,8-HXCDF 104 26.0 - 123 13C-2,3,4,6,7,8-HXCDF 104 26.0 - 123 13C-1,2,3,4,7,8-HXCDF 104 26.0 - 123 13C-1,2,3,4,6,7,8-HXCDF 95.2 28.0 - 143 13C-1,2,3,4,6,7,8-HXCDF 78.4 28.0 - 143 13C-1,2,3,4,7,8,9-HXCDF 76.7 26.0 - 138 13C-1,2,3,4,7,8-HXCDF 76.7 26.0 - 138 13C-1,2,3,4,7,8-HXCDF 76.7 26.0 - 138 13C-1,2,3,4,7,8-HXCDF 76.7 26.0 - 138 13C-1,2,3,7,8-TCDD 99.3 35.0 - 197 <th></th> <th>550</th> <th></th> <th></th> <th>010000</th> <th></th> <th></th> <th></th> <th></th> <th>5</th>		550			010000					5
13c-2,3,7,8-TCDD 99.7 25.0 - 164 13c-1,2,3,4,7,8-PCDD 80.8 25.0 - 181 13c-1,2,3,4,7,8-HXCDD 112 32.0 - 141 13c-1,2,3,4,6,7,8-HXCDD 117 28.0 - 130 13c-1,2,3,4,6,7,8-HXCDD 87.0 23.0 - 140 13c-1,2,3,4,6,7,8-HXCDF 87.0 23.0 - 140 13c-2,3,7,8-TCDF 99.4 24.0 - 169 13c-2,3,4,7,8-PECDF 83.9 24.0 - 185 13c-2,3,4,7,8-PECDF 78.8 21.0 - 178 13c-1,2,3,4,7,8-HXCDF 101 26.0 - 152 13c-2,3,4,6,7,8-HXCDF 101 26.0 - 123 13c-2,3,4,6,7,8-HXCDF 93.1 29.0 - 147 13c-1,2,3,4,6,7,8-HXCDF 85.2 28.0 - 136 13c-1,2,3,4,6,7,8-HPCDF 78.4 28.0 - 143 13c-1,2,3,4,6,7,8-HPCDF 76.7 26.0 - 138 13c-1,2,3,4,7,8,9-HPCDF 76.7 26.0 - 138 13c-1,2,3,7,8-TCDD 99.3 35.0 - 197	Internal Standards	% Rec	QC Limit	s Q	ual					
13C-1,2,3,7,8-PeCDD 80.8 25.0 - 181 13C-1,2,3,4,7,8-HxCDD 112 32.0 - 141 13C-1,2,3,6,7,8-HxCDD 117 28.0 - 130 13C-1,2,3,4,6,7,8-HxCDD 87.0 23.0 - 140 13C-1,2,3,4,6,7,8-HxCDD 87.0 23.0 - 157 13C-2,3,7,8-TCDF 99.4 24.0 - 169 13C-1,2,3,7,8-PeCDF 83.9 24.0 - 185 13C-2,3,4,7,8-PeCDF 83.9 24.0 - 152 13C-1,2,3,6,7,8-HxCDF 101 26.0 - 152 13C-1,2,3,4,6,7,8-HxCDF 101 26.0 - 123 13C-2,3,4,6,7,8-HxCDF 93.1 29.0 - 147 13C-1,2,3,4,6,7,8-HxCDF 85.2 28.0 - 136 13C-1,2,3,4,6,7,8-HxCDF 76.7 26.0 - 138 13C-1,2,3,4,6,7,8-HpCDF 76.7 26.0 - 138 13C-1,2,3,4,7,8,9-HpCDF 76.7 26.0 - 138 13C-0CDF 62.8 17.0 - 157 Cleanup Surrogate 37cl-2,3,7,8-TCDD 99.3 35.0 - 197	13C-2,3,7,8-TCDD	99.7	25.0 - 1	64						
13C-1,2,3,4,7,8-HxCDD 112 32.0 - 141 13C-1,2,3,6,7,8-HxCDD 117 28.0 - 130 13C-1,2,3,4,6,7,8-HpCDD 87.0 23.0 - 140 13C-2,3,7,8-HpCDD 73.9 17.0 - 157 13C-2,3,7,8-TCDF 99.4 24.0 - 169 13C-1,2,3,7,8-PeCDF 83.9 24.0 - 185 13C-2,3,4,7,8-PeCDF 83.9 24.0 - 178 13C-1,2,3,4,7,8-HxCDF 101 26.0 - 152 13C-1,2,3,4,7,8-HxCDF 104 26.0 - 123 13C-2,3,4,6,7,8-HxCDF 104 26.0 - 123 13C-1,2,3,4,6,7,8-HxCDF 93.1 29.0 - 147 13C-1,2,3,4,6,7,8-HxCDF 78.4 28.0 - 143 13C-1,2,3,4,6,7,8-HxCDF 76.7 26.0 - 138 13C-1,2,3,4,6,7,8-HpCDF 76.7 26.0 - 138 13C-1,2,3,4,6,7,8-HpCDF 76.7 26.0 - 138 13C-0CDF 62.8 17.0 - 157 Cleanup Surrogate 37cl-2,3,7,8-TCDD 99.3 35.0 - 197	13C-1,2,3,7,8-PeCDD	80.8	25.0 - 1	81						
13C-1,2,3,6,7,8-HxCDD 117 28.0 - 130 13C-1,2,3,4,6,7,8-HpCDD 87.0 23.0 - 140 13C-0CDD 73.9 17.0 - 157 13C-2,3,7,8-TCDF 99.4 24.0 - 169 13C-1,2,3,7,8-PeCDF 83.9 24.0 - 185 13C-1,2,3,4,7,8-PeCDF 78.8 21.0 - 178 13C-1,2,3,4,7,8-HxCDF 101 26.0 - 152 13C-1,2,3,6,7,8-HxCDF 104 26.0 - 123 13C-2,3,4,6,7,8-HxCDF 104 26.0 - 147 13C-1,2,3,7,8,9-HxCDF 85.2 28.0 - 136 13C-1,2,3,4,6,7,8-HxCDF 76.7 26.0 - 138 13C-1,2,3,4,6,7,8-HpCDF 76.7 26.0 - 138 13C-1,2,3,4,6,7,8-HpCDF 76.7 26.0 - 138 13C-1,2,3,7,8-TCDD 99.3 35.0 - 197	13C-1,2,3,4,7,8-HxCDD	112	32.0 ~ 1	41						
13C-1,2,3,4,6,7,8-HpCDD 87.0 23.0 - 140 13C-0CDD 73.9 17.0 - 157 13C-2,3,7,8-TCDF 99.4 24.0 - 169 13C-1,2,3,7,8-PeCDF 83.9 24.0 - 185 13C-2,3,4,7,8-PeCDF 78.8 21.0 - 178 13C-1,2,3,4,7,8-PeCDF 101 26.0 - 152 13C-1,2,3,6,7,8-HxCDF 104 26.0 - 123 13C-2,3,4,6,7,8-HxCDF 104 26.0 - 123 13C-1,2,3,7,8,9-HxCDF 85.2 28.0 - 147 13C-1,2,3,7,8,9-HxCDF 85.2 28.0 - 143 13C-1,2,3,4,6,7,8-HpCDF 76.7 26.0 - 138 13C-2,3,4,6,7,8-HpCDF 76.7 26.0 - 138 13C-1,2,3,4,7,8,9-HpCDF 76.7 26.0 - 138 13C-0CDF 62.8 17.0 - 157 Cleanup Surrogate 37CL-2,3,7,8-TCDD 99.3 35.0 - 197	13C-1,2,3,6,7,8-HxCDD	117	28.0 - 1	30						
13C-0CDD 73.9 17.0 - 157 13C-2,3,7,8-TCDF 99.4 24.0 - 169 13C-1,2,3,7,8-PeCDF 83.9 24.0 - 185 13C-2,3,4,7,8-PeCDF 78.8 21.0 - 178 13C-1,2,3,4,7,8-HXCDF 101 26.0 - 152 13C-1,2,3,6,7,8-HXCDF 104 26.0 - 123 13C-2,3,4,6,7,8-HXCDF 104 26.0 - 123 13C-1,2,3,7,8,9-HXCDF 85.2 28.0 - 136 13C-1,2,3,7,8,9-HXCDF 78.4 28.0 - 136 13C-1,2,3,4,6,7,8-HPCDF 78.4 28.0 - 143 13C-1,2,3,4,6,7,8-HPCDF 76.7 26.0 - 138 13C-1,2,3,4,7,8,9-HPCDF 76.7 26.0 - 138 13C-0CDF 62.8 17.0 - 157 Cleanup Surrogate 37CL-2,3,7,8-TCDD 99.3 35.0 - 197	13C-1,2,3,4,6,7,8-HpCDD	87.0	23.0 - 1	40						
13C-2,3,7,8-TCDF 99.4 24.0 - 169 13C-1,2,3,7,8-PeCDF 83.9 24.0 - 185 13C-2,3,4,7,8-PeCDF 78.8 21.0 - 178 13C-1,2,3,4,7,8-HXCDF 101 26.0 - 152 13C-2,3,4,6,7,8-HXCDF 104 26.0 - 123 13C-2,3,4,6,7,8-HXCDF 104 26.0 - 123 13C-2,3,4,6,7,8-HXCDF 93.1 29.0 - 147 13C-1,2,3,7,8,9-HXCDF 85.2 28.0 - 136 13C-1,2,3,4,6,7,8-HPCDF 78.4 28.0 - 143 13C-1,2,3,4,6,7,8-HPCDF 76.7 26.0 - 138 13C-2,3,4,7,8,9-HPCDF 76.7 26.0 - 157 Cleanup Surrogate 37C1-2,3,7,8-TCDD 99.3 35.0 - 197	13C-OCDD	73.9	17.0 - 1	57						
13C-1,2,3,7,8-PeCDF 83.9 24.0 - 185 13C-2,3,4,7,8-PeCDF 78.8 21.0 - 178 13C-1,2,3,4,7,8-HxCDF 101 26.0 - 152 13C-1,2,3,6,7,8-HxCDF 104 26.0 - 123 13C-2,3,4,6,7,8-HxCDF 104 26.0 - 147 13C-1,2,3,7,8,9-HxCDF 93.1 29.0 - 147 13C-1,2,3,7,8,9-HxCDF 85.2 28.0 - 136 13C-1,2,3,4,6,7,8-HpCDF 78.4 28.0 - 143 13C-1,2,3,4,6,7,8-HpCDF 76.7 26.0 - 138 13C-0CDF 62.8 17.0 - 157 Cleanup Surrogate 37Cl-2,3,7,8-TCDD 99.3 35.0 - 197	13C-2,3,7,8-TCDF	99.4	24.0 - 1	69						
13C-2,3,4,7,8-PeCDF 78.8 21.0 - 178 13C-1,2,3,4,7,8-HxCDF 101 26.0 - 152 13C-1,2,3,6,7,8-HxCDF 104 26.0 - 123 13C-2,3,4,6,7,8-HxCDF 93.1 29.0 - 147 13C-1,2,3,7,8,9-HxCDF 85.2 28.0 - 136 13C-1,2,3,4,6,7,8-HpCDF 78.4 28.0 - 143 13C-1,2,3,4,6,7,8-HpCDF 76.7 26.0 - 138 13C-1,2,3,4,7,8,9-HpCDF 76.7 26.0 - 138 13C-0CDF 62.8 17.0 - 157 Cleanup Surrogate 37Cl-2,3,7,8-TCDD 99.3 35.0 - 197	13C-1,2,3,7,8-PeCDF	83.9	24.0 - 1	85						
13C-1,2,3,4,7,8-HxCDF 101 26.0 - 152 13C-1,2,3,6,7,8-HxCDF 104 26.0 - 123 13C-2,3,4,6,7,8-HxCDF 93.1 29.0 - 147 13C-1,2,3,7,8,9-HxCDF 85.2 28.0 - 136 13C-1,2,3,4,6,7,8-HpCDF 78.4 28.0 - 143 13C-1,2,3,4,6,7,8-HpCDF 76.7 26.0 - 138 13C-1,2,3,4,7,8,9-HpCDF 76.7 26.0 - 157 Cleanup Surrogate 37C1-2,3,7,8-TCDD 99.3 35.0 - 197	13C-2,3,4,7,8-PeCDF	78.8	21.0 - 1	78						
13C-1,2,3,6,7,8-HxCDF 104 26.0 - 123 13C-2,3,4,6,7,8-HxCDF 93.1 29.0 - 147 13C-1,2,3,7,8,9-HxCDF 85.2 28.0 - 136 13C-1,2,3,4,6,7,8-HpCDF 78.4 28.0 - 143 13C-1,2,3,4,7,8,9-HpCDF 76.7 26.0 - 138 13C-0CDF 62.8 17.0 - 157 Cleanup Surrogate 37C1-2,3,7,8-TCDD 99.3 35.0 - 197	13C-1.2.3.4.7.8-HxCDF	101	26.0 - 1	52						
13C-2,3,4,6,7,8-HxCDF 93.1 29.0 - 147 13C-1,2,3,7,89-HxCDF 85.2 28.0 - 136 13C-1,2,3,4,6,7,8-HpCDF 78.4 28.0 - 143 13C-1,2,3,4,7,8,9-HpCDF 76.7 26.0 - 138 13C-0CDF 62.8 17.0 - 157 Cleanup Surrogate 37cl-2,3,7,8-TCDD 99.3 35.0 - 197	13C-1.2.3.6.7.8-HxCDF	104	26.0 - 1	23						
13C-1,2,3,7,8,9-HxCDF 85.2 28.0 136 13C-1,2,3,4,6,7,8-HpCDF 78.4 28.0 143 13C-1,2,3,4,7,8,9-HpCDF 76.7 26.0 138 13C-0CDF 62.8 17.0 157 Cleanup Surrogate 37Cl-2,3,7,8-TCDD 99.3 35.0 197	13c-2 3 4 6 7 8-HxCDF	93.1	29.0 - 1	 47						
13C-1,2,3,4,6,7,8-HpCDF 78.4 28.0 - 143 13C-1,2,3,4,7,8,9-HpCDF 76.7 26.0 - 138 13C-0CDF 62.8 17.0 - 157 Cleanup Surrogate 37Cl-2,3,7,8-TCDD 99.3 35.0 - 197	130-1 2 3 7 8 9-HyrnF	85.2	28.0 - 1	36						
13C-1,2,3,4,7,8,9-HpCDF 76.7 26.0 - 138 13C-0CDF 62.8 17.0 - 157 Cleanup Surrogate 37Cl-2,3,7,8-TCDD 99.3 35.0 - 197	13c-1 2 3 6 6 7 8-HochE	78 /	28.0 - 1	55 43						
13C-0CDF 62.8 17.0 - 157 Cleanup Surrogate 37Cl-2,3,7,8-TCDD 99.3 35.0 - 197	13c-1,2,3,4,0,7,0-mpcbr	76.4	26.0 - 1	70						
SC-UCDF 62.8 17.0 - 157 Cleanup Surrogate 37Cl-2,3,7,8-TCDD 99.3 35.0 - 197	130-1,2,3,4,7,6,9-HPCUF	10.1	20.0 - 1	50						
Cleanup Surrogate 37Cl-2,3,7,8-TCDD 99.3 35.0 - 197	150-0001	02.0	17.0 - 1	101						
37Cl-2,3,7,8-TCDD 99.3 35.0 - 197	Cleanup Surrogate									
	37cl-2,3,7,8-TCDD	99.3	35.0 - 1	197						

4/1/04 Analyst: Date:

Reviewed by: <u>211</u> Date: <u>4/8/2004</u>

000003A of 000003A

5172 Hillsdale Circle • El Dorado Hills, CA 95762 • Tel (916) 934-0900 • Fax (916) 934-0999 • www.frontieranalytical.com

A-3 Puddle Samples

HE 9329 alpha 208 Mason St. Ukiah, California 95482 Ipha Analytical Laboratories Inc.

e-mail: clientservices@alpha-labs.com • Phone (707) 468-0401 • Fax (707) 468-5267

TASK II IRM 2/5/04 PUDDLE SAMPLING

20 February 2004

Geomatrix Consultants Attn: Ross Steenson 2101 Webster Street, 12th Floor Oakland, CA 94612 RE: SPI - (GeoMatrix) Work Order: A402243

Enclosed are the results of analyses for samples received by the laboratory on 02/09/04 13:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jelanie D. There

Melanie B. Neece For Karen A. Daly Project Manager



Geomatrix Consultants 2101 Webster Street, 12th Floor Oakland, CA 94612 Attn: Ross Steenson

Report Date:02/20/04 08:11Project No:030275.11Project ID:SPI - (GeoMatrix)

Order Number A402243 Receipt Date/Time 02/09/2004 13:30 Client Code GEOMAT Client PO/Reference

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Puddle - S	A402243-01	Water	02/05/04 15:55	02/09/04 13:30
Puddle - N	A402243-02	Water	02/05/04 16:05	02/09/04 13:30

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Melanie B. There

Melanie B. Neece For Karen A. Daly Project Manager

2/20/2004

Page 1 of 5



Page 2 of 5

2101 Webster Oakland, CA Attn: Ross Ste	Street, 12th Floor 94612 eenson				Report Date: Project No: Project ID:	02/20/04 08 030275.11 SPI - (GeoM	:11 Iatrix)	
Order Number A402243	Receipt Date/Time 02/09/2004 13:30		Clie GE	ent Code EOMAT		Client PO	/Reference	
		Alpha A	nalytical	Laborato	ries, Inc.			
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
Puddle - S (A402243-01)			Sample Typ	pe: Water	Sam	pled: 02/05/04 1	5:55	
Chlorinated Phenols by Canadia	an Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AB41815	02/12/04	02/19/04	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	"	11	**	"	**	ND "	1.0	
2,3,4,6-Tetrachlorophenol	n.	"	*	"		ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	**	"	**	11	ND "	1.0	
Pentachlorophenol	**	**	u	н	u	ND "	1.0	
Surrogate: Tribromophenol	"	,,	"	"		99.6 %	79-119	
Puddle - N (A402243-02)			Sample Ty	pe: Water	Sam	ipled: 02/05/04 1	6:05	
Chlorinated Phenols by Canadi	an Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AB41815	02/12/04	02/19/04	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	**	"	"	•	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"			**	н	ND "	1.0	
2,3,4,5-Tetrachlorophenol		"	**	"	*1	ND "	1.0	
Pentachlorophenol	**	••	0		0	ND "	1.0	
Surrogate: Tribromophenol	,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,	"	"	"	-	98.0 %	79-119	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

 \mathbf{c}

Melanie B. There

Melanie B. Neece For Karen A. Daly Project Manager



Geomatrix Consultants 2101 Webster Street, 12th Floor Oakland, CA 94612 Attn: Ross Steenson

Receipt Date/Time

02/09/2004 13:30

Report Date:	02/20/04 08:11
Project No:	030275.11
Project ID:	SPI - (GeoMatrix)

Order Number A402243 Client Code GEOMAT Client PO/Reference

SourceResult

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AB41815 - Solvent Extraction										
Blank (AB41815-BLK1)				Prepared:	02/12/04	Analyzed	1: 02/18/04			
2,4,6-Trichlorophenol	ND	1.0	ug/l							
2,3,5,6-Tetrachlorophenol	ND	1.0	н							
2,3,4,6-Tetrachlorophenol	ND	1.0	**							
2,3,4,5-Tetrachlorophenol	ND	1.0	н							
Pentachlorophenol	ND	1.0	"							
Surrogate: Tribromophenol	26.4		m in	25.0		106	79-119			
LCS (AB41815-BS1)				Prepared	: 02/12/04	Analyze	1: 02/18/04			
2,4,6-Trichlorophenol	4 88	1.0	ug/l	5.00		97.6	81-120			
2,3,5,6-Tetrachlorophenol	5.12	1.0		5.00		102	78-108			
2,3,4,6-Tetrachlorophenol	5 0 5	1.0	••	5.00		101	76-108			
2,3,4,5-Tetrachlorophenol	5.25	1.0	**	5.00		105	80-116			
Pentachlorophenol	5.48	1.0		5.00		110	86-109			QL-03
Surrogate: Tribromophenol	29 3		n – – – – – – – – – – – – – – – – – – –	25.0		117	79-119			
Matrix Spike (AB41815-MS1)	Sou	rce: A402	225-01	Prepared	l: 02/12/04	Analyze	d: 02/18/04			
2,4,6-Trichlorophenol	4.78	1.0	ug/l	5.00	ND	95.6	75-125			
2,3,5,6-Tetrachlorophenol	4.97	1.0	••	5.00	ND	99.4	69-115			
2,3,4,6-Tetrachlorophenol	4.93	1.0	**	5.00	ND	98.6	66-117			
2,3,4,5-Tetrachlorophenol	5.03	1.0		5.00	ND	101	70-115			
Pentachlorophenol	5.36	1.0	**	5.00	ND	107	55-124			
Surrogate: Tribromophenol	27.8		"	25.0		111	79-119			
Matrix Spike Dup (AB41815-MSD1)	Sou	irce: A402	225-01	Prepared	d: 02/12/04	4 Analyze	ed: 02/18/04			
2,4,6-Trichlorophenol	4.96	1.0	ug/l	5.00	ND	99.2	75-125	3.70	20	
2,3,5,6-Tetrachlorophenol	5 10	1.0	,,	5.00	ND	102	69-115	2.58	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Malanie S. There

Melanie B. Neece For Karen A. Daly Project Manager 2/20/2004

Page 3 of 5



Geomatrix Consultants 2101 Webster Street, 12th Floor Oakland, CA 94612 Attn: Ross Steenson

Report Date:	02/20/04 08:11
Project No:	030275.11
Project ID:	SPI - (GeoMatrix)

Order NumberReceipt Date/TimeClient CodeClient PO/ReferenceA40224302/09/2004 13:30GEOMAT

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AB41815 - Solvent Extraction										
Matrix Spike Dup (AB41815-MSD1)	Sour	ce: A402	225-01	Prepared	: 02/12/04	Analyzed	1: 02/18/04			
2,3,4,6-Tetrachlorophenol	5.04	1.0		5.00	ND	101	66-117	2.21	20	
2.3.4.5-Tetrachlorophenol	5.06	10	"	5.00	ND	101	70-115	0.595	20	
Pentachlorophenol	5.47	1.0	"	5.00	ND	109	55-124	2.03	20	
Surrogate: Tribromophenol	28.8		"	25.0		115	79-119			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Melanie D. There

Melanie B. Neece For Karen A. Daly Project Manager 2/20/2004

Page 4 of 5



Geomatrix Consultants 2101 Webster Street, 12th Floor Oakland, CA 94612 Attn: Ross Steenson

Report Date: 02/20/04 08:11 Project No: 030275.11 Project ID: SPI - (GeoMatrix) Page 5 of 5

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A402243	02/09/2004 13:30	GEOMAT	

Notes and Definitions

- QL-03 Although the LCS/LCSD recovery for this analyte is outside of in-house developed control limits, it is within the EPA recommended range of 70-130%.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- PQL Practical Quantitation Limit

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ROLECT NO. C 70/2.75.11 PROLECT NAME 57 E. Ar.c.A.t.a. PAGE OF: ANPLER (Synature): Arth 21/1 PROLECT MANAGER: Ass 5 + e e vis d and 3 Date: 2/6/04 ANPLER (Synature): Arth 21/1 PROLECT MANAGER: Ass 5 + e e vis d and 3 Date: 2/6/04 ANPLER (Synature): Arth 21/1 CARPIERMANAGER: Ass 5 + e e vis d and 3 Date: 2/6/04 ANPLER Sample Preservature Containers Containers Containers Date: 2/6/04 Field Sample Preservature Containers Containers Containers Containers AnALYSIS REQUEST Sample Freid Sample Preservature Containers Containers Containers AnALYSIS REQUEST Sample Freid Sample Preservature Containers Containers Containers Containers Sample Freid Sample Preservature Containers Containers Containers Containers Sample Freid Sample Preservature Containers Containers Containers Containers Sample Freid Preservature Containers Containers Containers Containers Container	CA - Invite TTTTO Carls TTTTO Carls TTTTO Carls TTTTTO Carls TTTTTTTTO Carls TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT	CA- San Wight Rid 180 Horse 180 Horse 501 Hard 251 Hard 514 Hard 3285 hard 744 Hard 3285 hard 744 Hard 3285 hard 744 Hard 51 Hard 744 Hard 52 Hard 744 Hard 61 Hard 744 Hard 71 Hard 744 Hard 12 Hard 744 Hard 12 Hard 744 Hard 12 Hard 744 Hard 12 Hard 744 Hard	Fairceson ef Silv, Sile, 2 also, T107 495, 7107 495, 7107 495, 7107 495, 7107 4105 7 1005 1 318, 1587 1 318, 1587 1 318, 1587 1 318, 1587	290822 2 82 82 82		East Cr. East Cr. 11:1823 147:1823 147:1823 147:1823 147:1823 147:1823 147:1823 147:1823 147:1823 1581183 281183 281183			0873 +6811 6-7274 6-7274 6-7274 6-7274 6-7274 6-7274 6-7274 (361) 1552 (361) 1552 (361) 1552	MAN REPORT	2000 A 100 A	A 1000 500	ONU - Ed 1990 Kr 518 773 518 773 518 773 18 7732 518 7732 518 7732 518 7732 518 7732 518 705 518 705 705 705 705 705 705 705 705 705 705	0 Secone 0 Secone 728-571 192 518 518 518 518 518 518	Post Rd Seattle 0 36h A 100 100 125) 82 125) 82		020	matrix Webste land, C	er Stiz
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APPENDIX B Waste Disposal Documentation

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	3. Generator's Name and Mailing Address SIERPA DACIELO INDUSTRIES ADCATA	<u> </u>		A. State M	anifest Document i	Number	228182
	P.O. BOX 1189	SITE 2593 NEW NAVY B	ASE RO	4			220102
	ARCATA CA	95518		8. State G	enerator's ID		
╏┝	4. Generator's Phone [707 443-3111						
	5. Transporter 1 Company Name	6. US EPA ID Number		C. State Ti	ransporter's ID [<u>Re</u> :	served.]	
	ASBURY ENVIRONMENTAL SERVICES	C A D 0 2 8 2 7	17 10 13 16	D. Transp	orter's Phone	(800)974	4495
	7. Transporter 2 Company Name	8. US EPA ID Number		E. State Tr	ansporter's ID [Re:	erved.]	
	Barri -			F Transpo	arter's Phone		
	9. Designated Facility Name and Site Address	10. US EPA ID Number		G. State F	ocility's ID	•	
	CHEMICAL WASTE MANAGEMENT (KETTLE	MAN FACILITY)		C	ATOO	964	GAD
	35251 OLD SKYLINE ROAD			H. Facility	's Phone	<u></u>	
	KETTLEMAN CITY CA 9323	<u>9 </u>	$6 \mu \rho \rho$	(800)22	22-2964		
	11. US DOT Description (including Proper Shipping Name, H	azard Class, and ID Number}	12. Co	ntainers Tune	13. Total	14. Unit	1 Mark Marker
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	15. Special Handling Instructions and Additional Information			1	····		
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	NAERG # 11A. 171						
	SITE: 2593 NEW NAVY BASE ROAD, ARCA	ATA. CA 95518 Pro1433	a1317	6 P	W# 108/02	243	30
	16. GENERATOR'S CERTIFICATION: Thereby declare that the marked, and labeled, and are in all respects in proper of the second	e contents of this consignment are fully and	accurately descr	ibed aboye b	y proper shipping	name and are	classified, packed,
			ig to applicable	memonono	ana nanonai govi	ernment regut	ations.
•	If I am a large quantity generator, I certify that I have a practicable and that I have selected the practicable meth	a program in place to reduce the volume a nod of treatment, storage, or disposal curre	and toxicity of w	aste generat me which n	ed to the degree I	have determi	ned to be economic
	and the environment: OR, if I am a small quantity gener	rator, I have made a good faith effort to m	inimize my was	te generation	n and select the be	est waste man	agement method tha
	available to me and that I can afford.			· · · · · · · · · · · · · · · · · · ·		Mon	th Day
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	35251 OLD SKYLINE ROAD	II (NEITLEN	ian fagilitt)			H. Facility	1111111	PWP	
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	11. US DOT Description (including Proper Shi	pping Name, Haz	ard Class, and ID Number)		12. Co	tainers	13. Total	14. Un	it have a bull
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	marked, and labeled, and are in all resp	ects in proper con	dition for transport by highw	y according	to applicable	international	and national go	vernment reg	gulations.
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DO NOT WRITE BELOW THIS LINE.

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Yellow: TSDF SENDS THIS COPY TO GENERATOR WITHIN 30 DAYS. (Generators who submit hazardous waste for transport out-of-state, produce completed copy of this copy and send to DTSC within 30 days.)

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T				No. :	2. Page I -	Information is not requi	i in the shaded area red by Federal law.
	3 Generator's Name and Mailing Addrest	4 / 4 0 3 6 9 6	1 8 2	9 9	off		
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	P.O. BOX 1189	SITE 2593 NEW NAVY F	RASE RO	B State Genera	tor's ID		-20102
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				F. Transporter's	Phone		
L	9. Designated Facility Name and Site Address CHEMICAL WASTE MANAGEMENT (KETTIEMA	10. US EPA ID Number		G. State Facilit	1771	DALL	611 D
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L	KETTLEMAN CITY CA 93239	сагороби	<u>б</u> п п г/	(800)222-20			•
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T	•	х.			1 1 1		EPA/Other
	J. Additional Descriptions for Materials Listed Above			K. Handling Co	des for Waste	es listed Abov	/e
	11A) EC-2228, BIN #	· · · · · · · · · · · · · · · · · · ·	- ,	a.	3	Ь.	······································
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	15. Special Handling Instructions and Additional Information						
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	NAERG #: 11A. 171		TOOMPOTA	DEMIKEU	1-000-424	4-9300	
	SITE: 2593 NEW NAVY BASE ROAD, ARCATA	CA 95518 Fronth 39	anonal	o Dati	00851	N243	37)
	16. GENERATOR'S CERTIFICATION: I hereby declare that the con	itents of this consignment are fully and	accurately describ	ed above by prov	FIC: C C		classified and
	marked, and labeled, and are in all respects in proper condit	tion for transport by highway accord	ing to applicable in	ternational and i	national gove	irnment regula	classified, packed, ations.
	If I am a large quantity generator, I certify that I have a pro	gram in place to reduce the volume	and toxicity of was	ite generated to	the dearee I	have determi	red to be economic
	practicable and that I have selected the practicable method o and the environment; OR, if I am a small quantity generator,	it treatment, storage, or disposal curr , I have made a good faith effort to	rently available to i minimize my waste	me which minimi generation and	zes the prese select the be	ent and future	threat to human he
	available to me and that I can attord.						
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R	Printed/Typed Name	Signature	14			1 11 -	L D
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F A C I L I	20. Facility Owner or Operator Certification of receipt of hazardo	us materials covered by this manifest		11	·······	Mont	h Day
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F A C I L I T Y	20. Facility Owner or Operator Certification of receipt of hazardo Printed/Typed Name	DO NOT WRITE BELOW	THIS LINE.				<u>(13/10</u>
F A C I L I T Y	20. Facility Owner or Operator Certification of receipt of hazardo Printed/Typed Name	DUS materials covered by this manifest Signature DO NOT WRITE BELOW Yellow:	THIS LINE. TSDF SENDS TH (Generators who	HIS COPY TO (o submit hozar	GENERATOR dous woste	R WITHIN 30	D DAYS.
F A C I L I T Y	20. Facility Owner or Operator Certification of receipt of hazardo Printed/Typed Name SQL / D 022A (1/99) 00-22	DO NOT WRITE BELOW Yellow:	THIS LINE. TSDF SENDS TH (Generators wh produce comple	HS COPY TO a o submit hazar ted copy of th	GENERATOR dous waste s copy and	WITHIN 30 for transpor send to DT	D DAYS. 1 out-of-state, SC within 30 day

State of California—Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-99)
Please print or type. Form designed for use on elite (12-pitch) type

`**;**` See Instructions on back of page 6.

Department of Taxic Substances Control

	UNIFORM HAZARDOUS	1. Generator's	US EPAND No.	Manifes	t Docum	ent No.	2. Page 1	Information is not requi	n in the shaded areas ired by Federal law.			
	WASTE MANIFEST		4 7 4 0 3 6 9	62	0 6	0 9	of					
	3. Generator's Name and Mailing Address SIERRA PACIFIC INDUSTRIES - A P.O. BOX 1189	ARCATA				A. State	Manifest Document N	lumber (228206			
	ARCATA 4. Generator's Phone (707 443-3111	CA	95518			B. State	Generator's ID					
	5. Transporter 1 Company Name		6. US EPA ID Number			C. State	Transporter's ID [<u>Res</u>	erved.]	· ·			
	ASBURY ENVIRONMENTAL SERV	/ICES	C A D 0 2 8	2 7 7	0 3	6 D. Trans	porter's Phone	(800)974	4-4495			
	7. Transporter 2 Company Name		8. US EPA 1D Number	k.	<u> </u>	E. State	Transporter's ID [Res	erved.]				
						F. Trans	porter's Phone					
	9. Designated Facility Name and Site Address	-	10. US EPA ID Number		_ L _1	G. State	Facility's ID					
	HWY. 95, 12 MILES SO. OF BEAT	TY 80003	NtiVinTi3i3i0 เ	0.1.0.at	h 0 i 0	H. Facil	ity's Phone					
		05003			12. 0	Containers	13. Total	14. Unit	T			
	11. US DOI Description (including Proper Ship	ping Name, Hazard	Closs, and ID Number)		No.	Туре	Quantity	Wt/Vol	I. Waste Number			
	NON RCRA HAZARDOUS WASTI PENTACHLOROPHENOL)	e solid (debr	RIS WITH TRACE		72-	ÍDU	17100	D	State 352 EPA/Other			
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	11A) 07-013-0419, 6 X55	G, 1X85	g dp			K. Hand	lling Codes for Waste	s Listed Abc	we			
						¢.		d.				
	15. Special Handling Instructions and Addition	al Information						I				
	USE PPE EMERGENCY CONTACT CHEMTREC 1-800-424-9300											
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1	marked, and labeled, and are in all respectively	aeclare that the conte cts in proper condition	ents of this consignment are f on for transport by highway	ully and accur according to	ately des applicab	cribed abave le internation	by proper shipping r al and national gove	ame and are rnment regu	e classified, packed, lations.			
	marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.											
	If I am a large quantity generator. I certify	y that I have a prog	ram in place to reduce the	volume and to	nxicity of	waste nenn-			nneu iu pe economical a thraat ta humaa haal			
	If I am a large quantity generator, t certify practicable and that I have selected the pr and the environment; OR, if I am a small available to me and that I can afford.	y that I have a prog acticable method of quantity generator, I	ram in place to reduce the treatment, storage, or dispo I have made a good faith el	volume and to sal currently i fort to minimi 7	oxicity of available ize my w	waste gener to me which aste generat	area to the degree (a minimizes the prese ion and select the be	st waste mai	nagement method that			
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	UNIFORM HAZARDOUS	r s us efa id ing.	I				is not requir	ed by Federal law.
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	3. Generator's Name and Mailing Address SIERRA PACIFIC INDUSTRIES - ARCATA	٠	/	'	A. State λ	Aanifest Document No	umber (2282061
	ARCATA CA	95518	. /		B. State C	enerator's ID		· · · · · ·
	4. Generator's Phone (707 443-3111	6 US FPA ID Number	\rightarrow		C. Stote T	ransporter's ID [Rese	rved.1	
	ASBURY ENVIRONMENTAL SERVICES	10.2.10.0.2.8.	2.7.7	0.3.6	D. Transp	orter's Phone	(800)074	
ł	7. Transporter 2 Company Name	8. US EPA ID Number	- [']'_	<u>, , , , , , , , , , , , , , , , , , , </u>	E. State T	ransporter's ID [Rese	(000)074	
					F. Transp	orter's Phone		
	9. Designated Facility Name and Site Address	10. US EPA ID Number		L!!	G. State	Facility's ID		JJGZ
	2000 NORTH ALAMEDA STREET				H. Facilit			
	COMPTON CA 90222	CATOBO	0 1 3	3 5 2	(310)5	37-7100		
	11. US DOT Description (including Proper Shipping Name, Haz	ard Class, and ID Number)		12. Con No.	tainers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
	NON RCRA HAZARDOUS WASTE LIQUID (W	ATER WITH TRACE		11-		. / /		State 343
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	J. Additional Descriptions for Materials Listed Above				K. Hand	ing Codes for Waste	s Listed Abo	ve `
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	15. Special Handling Instructions and Additional Information				L		<u>ا</u> ــــــــ	<u> </u>
	USE PPE NAERG #: 11A 171	EMERG	SENCY C	ONTACT	CHEMI	REC 1-800-424	1-9300	
	SITE: 2593 NEW NAVY BASE ROAD, ARCA	TA, CA 95518 - P	# 33	5021	AL	5		
	16. GENERATOR'S CERTIFICATION: I hereby declare that the	contents of this consignment are f	fully and acc	urately descri	bed above	by proper shipping n	ame and ar	e classified, packed,
	indiked, did idbaled, did dre in dir respects in proper co		i i i	f			i I.	· · · · ·
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	available to me and that I can afford.							
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0 R T	18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name	Signature	<u> </u>				Mo	nth Day Yea
i	10 Discourse Indication Second							
F	19. Discrepancy Indication Space							
Å								
A C I								
	20. Facility Owner or Operator Certification of receipt of haze	ardous materials covered by this	manifest exc	ept as noted i	in Item 19.			

DO NOT WRITE BELOW THIS LINE.

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Yellow: TSDF SENDS THIS COPY TO GENERATOR WITHIN 30 DAYS (Generators who submit hazardous waste for transport out-of-state, produce completed copy of this copy and send to DTSC within 30 days.) State of California—Environmental Protection Agency

See Instructions on back of ٨

* 1	* "UNIFORM HAZARDOUS 1. Generator's US	EPA ID No. M	anifest Document	No.	2. Page I	Informatic	in in the shaded area.				
	WASTE MANIFEST C A D 0 4	17 4 0 3 6 9 6 2	1 13.	5 19	oft	is not requ	nred by rederdi ldw.				
	3. Generator's Name and Mailing Address Start			A. State /	Manifest Document N	lumber ,	228213				
	P.O. BOX 1189 ARCATA CA	05518		B. State C	Generator's ID						
	4. Generator's Phone (707 443-3111										
		6. US EPA ID Number		C. State 1	Transporter's ID [<u>Res</u>	erved.]					
	ASBURY ENVIRONMENTAL SERVICES	C A D 0 2 8 2 7	7 0 3 6	D. Transp	porter's Phone	(800)97	4-4495				
		8. US EPA ID Number		E. State 1	Iransporter's ID [<u>Res</u>	erved.]					
	9. Designated Facility Name and Site Address	10. US EPA ID Number		G. State	Facility's ID	····					
	DEMENNO / KERDOON				ATCE	$c_{[0]}$					
	2009 NORTH ALAMEDA STREET	саговери	13 IN 15 12	H. Facilit	y's Phone						
	11. US DOT Description (including Proper Shipping Name, Hazard Clo	pss, and ID Number)	12. Cor	tainers	13. Total	14. Unit	1				
	a.	·····	<u>No.</u>	Туре	Quantity	Wt/Vol	1. Waste Number State				
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	J. Additional Descriptions for Materials Listed Above.		ll	K. Handl	ing Codes for Waste	s Listed Ab	 ove				
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	15. Special Handling Instructions and Additional Information				Ť						
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	SITE: 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 pro # 3302 le A 1+5 t C N/A										
	marked, and labeled, and are in all respects in proper condition i	or transport by highway according	ng to applicable i	nternationa	al and national gover	rnment regi	lations.				
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	and the environment; OR, if I am a small quantity generator, I ha available to me and that I can offord.	ive made a good faith effort to n	ninimize my wast	e generatio	on and select the bes	st waste ma	nagement method tha				
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Ţ	17. Transporter 1 Acknowledgement of Receipt of Materials		1 12 12	cap			1 6 3 1				
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T E	Printed/Typed Name	Signature				Mo	nth Day				
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С.											
	20. Facility Owner or Operator Certification of receipt of hazardous m					-					
l L I T	Printed/Typed Name	aterials covered by this manifest	except as noted in	h ltem 19.							

Yellow: TSDF SENDS THIS COPY TO GENERATOR WITHIN 30 DAYS. (Generators who submit hazardous waste for transport out of-state, produce completed copy of this copy and send to DTSC within 30 days)

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e of Co n App se fori	alitarnia—Environmental Protection Agency roved OMB No. 2050–0039 (Expires 9-30-99) nt or type. Form designed for use on elite (12-pit	tch) typewriter.	See Instru	uctions o	n back o	of page	6.	Departme	nt of Toxic Substance
		1. Generator's	US EPA ID No.	Manife	st Document	No.	2. Page 1	Information	in the shaded areas
T	UNIFORM HAZARDOUS WASTE MANIFEST	CADO	4 7 4 0 3 6 9	6 1	7 16 1	1 15	oft	is not requi	ired by Federal law.
	3. Generator's Name and Mailing Address	k k	<u>, , , , , , , , , , , , , , , , , , , </u>	I I		A. State N	Aanifest Document N	umbg	200470
	SIERRA PACIFIC INDUSTRIES - A	RCATA	CITE - 2603 NEW N		- 00	1		1	228176
	ARCATA	CA -	95518	AVT DHAG		B. State G	enerator's ID		·.
	4. Generator's Phone (707 443-3111					· 1		1	1-1-1-
	5. Transporter 1 Company Name		6. US EPA ID Number	•.		C. State T	ransporter's ID [<u>Rese</u>	erved.]	
	ASBURY ENVIRONMENTAL SERV	ICES	C A D 0 2 8	ן 7 ן 7ן 2ן	0 3 6	D. Transp	orter's Phone	(800)97	4-4495
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		g		1 1 1 1		F. Transp	orter's Phone		7
	9. Designated Facility Name and Site Address		10. US EPA ID Number			G. State I	acility's ID	1	2 2 7
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	2000 NORTH ALAMEDA STREET	00000	0.8.0.7.A.D.	.0.1.3.	3 .5 .2	H. Facility	/'s Phone 37.7400		
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	11. US DOT Description (including Proper Shipp	ping Name, Hazar	d Class, and iD Number)		No.	Туре	Quantity	Wt/Vol	I. Waste Number
	NON RCRA HAZARDOUS WASTE	ELIQUID (WA	TER.WATH TRACE						State 343
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	SITE: 2593 NEW NAVY BASE RO	DAD, ARCATA	, CA 95518 Trad	ante	5115				
	16 GENERATOR'S CERTIFICATION: Literative	 declare that the cor	ptents of this consignment gre	fully and accu	rotely descri	hed above l		ame and as	a classified another
	marked, and labeled, and are in all respec	ats in proper condi-	tion for transport by highway	according to	applicable i	internationa	and national gove	rnment regu	lations.
	If I am a large quantity generator, I certify	y that I have a pro	param in place to reduce the	volume and i	toxicity of w	oste genera	ted to the degree Li	have determ	uned to be economic
	practicable and that I have selected the pri- and the environment: OR, if I am a small of	acticable method a quantity generator	of treatment, storage, or disp . I have made a good faith e	osal currently	available to	me which	minimizes the prese	nt and futur	e threat to human he
	available to me and that I can afford.		· · · · · · · · · · · · · · · · · · ·	7					
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F A C I L I T	20. Facility Owner or Operator Certification of Printed/Typed Name	receipt of hazarda	ous materials covered by this Signature	manifest exce	pt as noted i	n ltem 19.		Mo	nth-, Dav
FACILITY	20. Facility Owner or Operator Certification of Printed/Typed Name	receipt of hazarda	ous materials covered by this Signature	manifest exce	pt as noted i	n Item 19.		Mo	nih. Day

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	WASTE MANIFEST	C A D O	4 7 4 0 3 6	9 6 2	0 16	6 6	- of	is nor requ	irea by reaeral law.
	3. Generator's Name and Mailing Address SIERRA PACIFIC INDUSTRIES - A	RCATA	<u> </u>	1, 1 ₁	L	A. State A	Aanifest Document I	Number	2282066
	P.O. BOX 1189	Cå	95518		a m. '	B. State C	ienerator's ID		•
	4. Generator's Phone (707 443-3111				· ••.				
						D. Transo	orter's Phone	(01 01 03	
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	CHEMICAL WASTE MANAGEMEN	T (KETTLEMA	IN FACILITY)			H. Facilit	1411594 y's Phone	<u>VI</u>	011/1/
	KETTLEMAN CITY CA	93239 -	<u>par po</u>	обиб	1 1 7	(800)2	22-2964		· · · · · · · · · · · · · · · · · · ·
	11. US DOT Description (including Proper Ship	ping Name, Hazar	d Class, and ID Number)		12. Co No.	ntainers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
	NON RCRA HAZARDOUS WAST	e solid (soii	WITH TRACE						State 611
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	15. Special Handling Instructions and Addition	al Information		DOENOV	ONTIOT				
	NAERG #: 11A. 171		ENG	RGENCY	JUNTAUT	Unemi	NEU 1-000-42	4-9300	
Ν	SITE: 2593 NEW NAVY BASE R	OAD, ARCATA	A, CA 95518	# 3a	263F	124	Po# nc	8003	4330
	16. GENERATOR'S CERTIFICATION: I hereby marked, and labeled, and are in all respe	declare that the co cts in proper cond	ntents of this consignment ition for transport by high	afe fully and ac way according	curately desci to applicable	ibed above internation	by proper shipping al and national gov	name and a ernment reg	re classified, packed, ulations.
	If I am a large quantity generator, I certi	y that I have a pr	ogram in place to reduce	the volume and	toxicity of v	aste gener	ated to the degree	I have deterr	mined to be economical
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	20 Facility Owner or Operator Castiliant	Freceint of harrest	lous motorials covered by	this manifest	cant or need	in Itam 10			

Yellow:

TSDF SENDS THIS COPY TO GENERATOR WITHIN 30 DAYS. [Generators who submit hazardous waste for transport out-of-state, produce completed copy of this copy and send to DTSC within 30 days.]

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	LINIEODAA HAZADOOLIS 1. Generator's US EP.	A ID No. Manife	est Document	No.	2, Page 1	Information	in the shaded areas					
T	WASTE MANIFEST 'C IA ID 10 14 17	14 10 13 16 19 16 2 1	0 16/	6 18	of	is not requi	red by Federal law.					
	3. Generator's Name and Mailing Address SIERRA PACIFIC INDUSTRIES - ARCATA		<u> </u>	A. State A	Aanifest Document N	lumber	2282066					
I	P.O. BOX 1189 ARCATA CA 95	518		B. State C	Generator's ID	, ,	·····					
	5. Transporter 1 Company Name 6	. US EPA ID Number		C. State T	ransporter's ID [<u>Res</u>	erved.]						
	ASBURY ENVIRONMENTAL SERVICES	1A 10 10 12 18 12 17 17	10 13 16	D. Transp	orter's Phone	(800)974						
	7. Transporter 2 Company Name 8	. US EPA ID Number		E. State T	ransporter's ID [<u>Res</u>	erved.]						
				F. Transp	orter's Phone							
	9. Designated Facility Name and Site Address 10 CHEMICAL WASTE MANAGEMENT (KETTI EMAN EA	US EPA ID Number		G. State	Facility's ID	NAU	4117					
	35251 OLD SKYLINE ROAD			H. Facilit	y's Phone	OPTA	(21/1/[/]					
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	USE PPE EMERGENCY CONTACT :CHEMTREC 1-800-424-9300 NAERG #: 11A. 171											
	SKIE: 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 DID 1# 322 43+12 6 PO# HO8002+1330											
	 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this constrainment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national advergement resultations. 											
	If I am a large quantity appropriate I continue that I have a program i	in place to reduce the volume and	haviath, al.			L	······································					
-	practicable and that I have selected the practicable method of treat and the environment; OR, if I am a small quantity generator, I have	ment, storage, or disposal currently made a good faith effort to mini	y available to mize my was	o me which ite generati	minimizes the press on and select the be	ent and futur est waste ma	e threat to human heal nagement method that					
	available to me and that I can offord	Signature				Mo	ath Day)					
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	ASBURY ENVIRONMENTAL SERV	ICES	C A D O 2 8	2 7 7	0 3 6			(800)974	-4495
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	16. GENERATOR'S CERTIFICATION: Thereby	declare that the conten acts in proper condition	its of this consignment an for transport by high-	yte fully and acc vay according '	curately descr to applicable	ibed above internation	by proper shipping al and national gov	nome and a ernment reg	re classified, packed plations.
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