CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

AMEC Earth & Environmental
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Laboratory Alta
Reviewer E. Wessling
Analysis/Method Dioxins by 1613

Package ID T713DF5
Task Order 313150010
SDG No. IOJ1120
No. of Analyses 2

Date: December 20, 2005
Reviewer's Signature

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	Qualifications were assigned for the following:
Holding Times	-- estimated maximum possible concentration interferences
GC/MS Tune/Inst. Performance	
Calibration	
Method blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	

COMMENTS[b]	

[a] Subcontracted analytical laboratory is not meeting contract and/or method requirements.
[b] Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

DATA VALIDATION REPORT

Topanga Fire Surface Samples

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IOJ1120

Prepared by

AMEC—Denver Operations
355 South Teller Street Suite 300
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	Topanga Fire Ash Samples
Contract Task Order #:	313150010
Sample Delivery Group #:	IOJ120
Project Manager:	A. Lenox
Matrix:	Solid
Analysis:	Dioxins/Furans
QC Level:	Level IV
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Reviewer:	E. Wessling
Date of Review:	December 20, 2005

The samples listed in Table 1 were validated based on the guidelines outlined in the *AMEC Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 1), EPA Method 1613, and the National Functional Guidelines For Chlorinated Dioxin/Furan Data Review* (8/02). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

EPA ID	MWH ID	Laboratory ID (Del Mar)	Laboratory ID (Pace)	Matrix	COC Method
WL022	SMM-1-Soil	IOJ1120-01	26819-001	Soil	1613
WL023	SMM-1-Ash	IOJ1120-02	26819-002	Ash	1613

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples in this SDG were received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The samples were shipped to Alta for dioxin/furan analysis and were received within temperature limits of 4°C ±2°C. No qualifications were required. According to the case narrative and laboratory login sheet, the samples were received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

The COC and transfer COC were legible and signed by the appropriate field and laboratory personnel, and accounted for the analysis presented in this SDG. As the samples were couriered directly to Del Mar Analytical-Irvine, custody seals were not required. No qualifications were required.

2.1.3 Holding Times

The samples were extracted and analyzed within a year of collection. No qualifications were required.

2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

2.2.1 GC Column Performance

A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards (see section 2.3.2). The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%. No qualifications were required.

2.2.2 Mass Spectrometer Performance

The mass spectrometer performance was acceptable with the static resolving power greater than 10,000. No qualifications were required.

2.3 CALIBRATION

2.3.1 Initial Calibration

The initial calibration was analyzed 6/06/2005. The calibration consisted of six concentration level standards (CS1 through CS6) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs ≤20% for the 16 native compounds (calibration by isotope dilution) and ≤35% for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VER was acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits. A representative number of %Ds were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

WDM and isomer specificity compounds were added to the VER standard instead of being analyzed separately, as noted in section 2.2.1 of this report. No adverse effect was observed with this practice.

2.4 BLANKS

One method blank (Blank 7352-0-MB001) was extracted and analyzed with the samples in this SDG. No target or total compounds were reported in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives or false positives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (7352-0-OPR001) was extracted and analyzed with the samples in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed in this SDG. Evaluation of method accuracy was based on the OPR results. No qualifications were required.

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The samples in this SDG had no identified field QC samples. No qualifications were required.

2.7.2 Field Duplicates

No field duplicate samples were identified for this SDG.

2.8 INTERNAL STANDARDS

The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613. No qualifications were required.

2.9 COMPOUND IDENTIFICATION

The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The compound identifications were verified from the raw data and no false negatives or positives were noted. No further qualifications were required.

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J," by the laboratory. Any reported EMPC was qualified as an estimated nondetect, "UJ." No further qualifications were required.

ALTA

Sample ID: IOJ1120-01 | **EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Soil	Lab Sample:	26819-001	Date Received:	19-Oct-05
Project:	IOJ1120	Sample Size:	10.37 g	QC Batch No.:	7352	Date Extracted:	26-Oct-05
Date Collected:	13-Oct-05	%Solids:	98.9	Date Analyzed DB-5:	30-Oct-05	Date Analyzed DB-225:	NA
Time Collected:	1636						

Rev Qual	Qual code	Analyte	Conc. (pg/g)	DL [a]	EMPC[b]	Qualifiers
u		2,3,7,8-TCDD	ND	0.107		
↓		1,2,3,7,8-PeCDD	ND	0.0887		
↓		1,2,3,4,7,8-HxCDD	ND	0.286		
J		1,2,3,6,7,8-HxCDD	0.145			J
u		1,2,3,7,8,9-HxCDD	ND	0.274		
J		1,2,3,4,6,7,8-HpCDD	1.40			J
		OCDD	8.65			
u		2,3,7,8-TCDF	ND	0.109		
↓		1,2,3,7,8-PeCDF	ND	0.145		
↓		2,3,4,7,8-PeCDF	ND	0.125		
J		1,2,3,4,7,8-HxCDF	0.0790			J
u		1,2,3,6,7,8-HxCDF	ND	0.0674		
UJ	*10	2,3,4,6,7,8-HxCDF	ND		0.0630	
u		1,2,3,7,8,9-HxCDF	ND	0.101		
UJ	*10	1,2,3,4,6,7,8-HpCDF	ND		0.244	
u		1,2,3,4,7,8,9-HpCDF	ND	0.139		
u		OCDF	ND	0.527		
		Totals				
u		Total TCDD	ND	0.107		
u		Total PeCDD	ND		0.133	
		Total HxCDD	0.942			
		Total HpCDD	3.01			
		Total TCDF	0.287			
		Total PeCDF	0.119			
		Total HxCDF	0.251		0.464	
u		Total HpCDF	ND		0.491	

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	79.3	25 - 164	
	13C-1,2,3,7,8-PeCDD	78.3	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	84.4	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	81.8	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	86.1	23 - 140	
	13C-OCDD	65.3	17 - 157	
	13C-2,3,7,8-TCDF	78.0	24 - 169	
	13C-1,2,3,7,8-PeCDF	76.7	24 - 185	
	13C-2,3,4,7,8-PeCDF	76.7	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	75.9	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	75.4	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	81.9	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	87.1	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	76.8	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	86.6	26 - 138	
	13C-OCDF	74.4	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	80.0	35 - 197	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 0.0450

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. Toxic Equivalent Quotient (TEQ) based on International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: Martha M. Maier 02-Nov-2005 10:49

ALTA

Sample ID: IOJ1120-02 **EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Solid	Lab Sample:	26819-002	Date Received:	19-Oct-05
Project:	IOJ1120	Sample Size:	10.08 g	QC Batch No.:	7352	Date Extracted:	26-Oct-05
Date Collected:	13-Oct-05	%Solids:	98.0	Date Analyzed DB-5:	30-Oct-05	Date Analyzed DB-225:	NA
Time Collected:	1646						

Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	0.141		
1,2,3,7,8-PeCDD	ND	0.110		
1,2,3,4,7,8-HxCDD	ND	0.242		
1,2,3,6,7,8-HxCDD	ND	0.263		
1,2,3,7,8,9-HxCDD	ND	0.254		
1,2,3,4,6,7,8-HpCDD	1.97			J
OCDD	9.52			
2,3,7,8-TCDF	ND	0.112		
1,2,3,7,8-PeCDF	ND	0.159		
2,3,4,7,8-PeCDF	ND	0.139		
1,2,3,4,7,8-HxCDF	ND	0.0687		
1,2,3,6,7,8-HxCDF	ND	0.0654		
2,3,4,6,7,8-HxCDF	ND	0.0698		
1,2,3,7,8,9-HxCDF	ND	0.101		
1,2,3,4,6,7,8-HpCDF	ND	0.0913		
1,2,3,4,7,8,9-HpCDF	ND	0.109		
OCDF	ND	0.470		
Totals				
Total TCDD	0.179			
Total PeCDD	ND		0.121	
Total HxCDD	0.966			
Total HpCDD	3.72			
Total TCDF	ND	0.112		
Total PeCDF	ND	0.148		
Total HxCDF	ND		0.0755	
Total HpCDF	ND	0.0994		

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	83.3	25 - 164	
	13C-1,2,3,7,8-PeCDD	81.6	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	82.7	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	78.0	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	85.1	23 - 140	
	13C-OCDD	60.4	17 - 157	
	13C-2,3,7,8-TCDF	75.9	24 - 169	
	13C-1,2,3,7,8-PeCDF	75.7	24 - 185	
	13C-2,3,4,7,8-PeCDF	75.3	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	74.0	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	73.8	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	80.2	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	84.7	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	72.3	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	84.5	26 - 138	
	13C-OCDF	67.1	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	83.3	35 - 197	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 0.0292

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. Toxic Equivalent Quotient (TEQ) based on International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: Martha M. Maier 02-Nov-2005 10:49