ALTA

July 31, 2000

Alta Batch I.D.: 8763

Mr. Lance Steere
Paragon Analytics, Inc.
225 Commerce Drive
Fort Collins, CO 80524

Dear Mr. Steere,

Attached to this narrative are the results for the three aqueous samples received at Alta Analytical Laboratory on July 12, 2000. These samples were analyzed using EPA Method 8290 for tetra to octa chlorinated dioxins and furans. The results are being reported on EPA Forms 1A and 2 as requested. A standard turnaround time was requested for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix. The Appendix contains a copy of the chain-of-custody, a list of data qualifiers and abbreviations, our current certifications, and copies of the raw data.

Alta Analytical Laboratory remains committed to serving you in the most effective manner. Should you have any questions or need additional information and technical support, please do not hesitate to contact me. Thank you for choosing Alta as part of your analytical support team.

Sincerely,

Shelly A. Weagraff
HRMS Services Coordinator

Alta Analytical Laboratory Inc.
5070 Robert J. Mathews Parkway
El Dorado Hills, CA 95762

13423

ALTA

Section I: Sample Inventory Report

Date Received: 7/12/00

Alta Lab. ID	Client Sample ID
8763-001	PA-6.7
8763-002	PA@TM
8763-003	PA-10.6

SECTION II.

Form 1A PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

EPA SAMPLE NO.0_810_MB001 Episode No.:

Lab Name: Alta Analytical Laboratory Lab Sample ID: 0_810_MB001 Instrument ID: VG-6

Matrix (aqueous/solid/leachate): aqueous Sample Wt/Vol: 1000 g or mL: mL GC Column ID: DB-5

Initial Calibration Date: 6/22/00 Sample Receipt Date: 7/12/00 Ext. Date: 7/25/00 Shift: Day

Reviewer: SW

Analysis Date: 28-JUL-00 Time: 05:15:07 Extract Volume (uL): 20 Injection Volume (uL): 2

Sample Data Filename: 000727A2-12 Blank Data Filename: 000727A2-12 Cal. Ver. Data Filename: 000727A2-1

Date: 7/28/00

Concentration Units (pg/L or ng/Kg dry weight): pg/L % Solids: NA Dilution Factor: NA

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO (1)	RRT (1)
2,3,7,8-TCDD	*	0.573	*	*
1,2,3,7,8-PeCDD	*	1.76	*	*
1,2,3,4,7,8-HxCDD	*	2.59	*	*
1,2,3,6,7,8-HxCDD	*	2.88	*	*
1,2,3,7,8,9-HxCDD	*	2.57	*	*
1,2,3,4,6,7,8-HpCDD	*	3.91	*	*
OCDD	8.73	*	0.87	1.001
2,3,7,8-TCDF	*	0.709	*	*
1,2,3,7,8-PeCDF	*	1.47	*	*
2,3,4,7,8-PeCDF	*	1.46	*	*
1,2,3,4,7,8-HxCDF	*	1.76	*	*
1,2,3,6,7,8-HxCDF	*	1.75	*	*
2,3,4,6,7,8-HxCDF	*	2.11	*	*
1,2,3,7,8,9-HxCDF	*	2.72	*	*
1,2,3,4,6,7,8-HpCDF	*	1.80	*	*
1,2,3,4,7,8,9-HpCDF	*	2.59	*	*
OCDF	6.50	*	0.89	1.006
Total Tetra-Dioxins	*	0.573		
Total Penta-Dioxins	*	1.76		
Total Hexa-Dioxins	*	2.68		
Total Hepta-Dioxins	*	3.91		
Total Tetra-Furans	*	0.709		
Total Penta-Furans	*	1.46		
Total Hexa-Furans	*	2.05		
Total Hepta-Furans	*	2.16		

(1) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 3A, respectively, Method 1613

Analyst: [illegible]

Date: 7/28/00

FORM 2 PCDD/F LABELED COMPOUND AND
CLEANUP STANDARD RECOVERIES

EPA SAMPLE NO.0_810_MB001 Episode No.:

Lab Name: Alta Analytical Laboratory Lab Sample ID: Q_810_MB001 Instrument ID: VG-6

Matrix (aqueous/solid/leachate): aqueous Sample Wt/Vol: 1000 g or mL: mL GC Column ID: DB-5

Initial Calibration Date: 6/22/00 Sample Receipt Date: 7/12/00 Ext. Date: 7/25/00 Shift: Day

Reviewer: SW

Analysis Date: 28-JUL-00 Time: 05:15:07 Extract Volume (uL): 20 Injection Volume (uL): 2

Sample Data Filename: 000727A2-12 Blank Data Filename: 000727A2-12 Cal. Ver. Data Filename: 000727A2-1

Date: 7/28/00

Concentration Units (pg/L or ng/Kg dry weight): pg/L % Solids: NA Dilution Factor: NA

LABELED COMPOUNDS	SPIKE AMT.	AMT. FOUND	R(%) (1)	ION ABUND. RATIO (2)	RRT (2)
13C-2,3,7,8-TCDD	2000	1890	94	0.77	1.021
13C-1,2,3,7,8-PeCDD	2000	1804	90	1.58	1.186
13C-1,2,3,4,7,8-HxCDD	2000	2062	103	1.27	0.988
13C-1,2,3,6,7,8-HxCDD	2000	1777	89	1.26	0.992
13C-1,2,3,4,6,7,8-HpCDD	2000	1854	93	1.09	1.106
13C-OCDD	4000	3302	83	0.89	1.236
13C-2,3,7,8-TCDF	2000	1788	89	0.79	0.993
13C-1,2,3,7,8-PeCDF	2000	1789	89	1.57	1.143
13C-2,3,4,7,8-PeCDF	2000	1815	91	1.57	1.176
13C-1,2,3,4,7,8-HxCDF	2000	1817	91	0.53	0.963
13C-1,2,3,6,7,8-HxCDF	2000	1872	94	0.52	0.967
13C-2,3,4,6,7,8-HxCDF	2000	1774	89	0.54	0.984
13C-1,2,3,7,8,9-HxCDF	2000	1792	90	0.51	1.011
13C-1,2,3,4,6,7,8-HpCDF	2000	1871	94	0.43	1.062
13C-1,2,3,4,7,8,9-HpCDF	2000	1981	99	0.43	1.128
13C-OCDF	4000	3357	84	0.92	1.244
CLEANUP STANDARD					
37Cl-2,3,7,8-TCDD	800	731	91		1.022

(1) Contract-required limits for percent recovery (R) are 25%-150%(section 8.8.3, Method 1613).

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 3A, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37C14-2378-TCDD(cleanup standard).

Analyst: [illegible]

Date: 7/28/00

FORM 8A
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Alta Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): aqueous OPR Data Filename: 000727A2-11

Ext. Date: 7/25/00 Shift: Day Analysis Date: 28-JUL-00 Time: 04:25:06

Reviewer: SW

Date: 7/28/00

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

NATIVE ANALYTES	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
2,3,7,8-TCDD	10	8.04	6.7 - 15.8
1,2,3,7,8-PeCDD	50	43.7	35.0 - 71.0
1,2,3,4,7,8-HxCDD	50	43.3	35.0 - 82.0
1,2,3,6,7,8-HxCDD	50	44.6	38.0 - 67.0
1,2,3,7,8,9-HxCDD	50	43.7	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	50	42.4	35.0 - 70.0
OCDD	100	87.8	78.0 - 144.0
2,3,7,8-TCDF	10	8.44	7.5 - 15.8
1,2,3,7,8-PeCDF	50	44.9	40.0 - 67.0
2,3,4,7,8-PeCDF	50	44.6	34.0 - 80.0
1,2,3,4,7,8-HxCDF	50	46.2	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50	45.8	42.0 - 65.0
2,3,4,6,7,8-HxCDF	50	46.4	35.0 - 78.0
1,2,3,7,8,9-HxCDF	50	47.5	39.0 - 65.0
1,2,3,4,6,7,8-HpCDF	50	45.8	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	50	47.1	39.0 - 69.0
OCDF	100	89.5	63.0 - 170.0

(1) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Analyst: [illegible]

Date: 7/28/00

FORM 8B
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Alta Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): aqueous OPR Data Filename: 000727A2-11

Ext. Date: 7/25/00 Shift: Day Analysis Date: 28-JUL-00 Time: 04:25:06

Reviewer:_____

Date:_____

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

LABELED COMPOUNDS	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
13C-2,3,7,8-TCDD	100	93.8	20.0 - 175.0
13C-1,2,3,7,8-PeCDD	100	92.5	21.0 - 227.0
13C-1,2,3,4,7,8-HxCDD	100	102	21.0 - 193.0
13C-1,2,3,6,7,8-HxCDD	100	92.9	25.0 - 163.0
13C-1,2,3,4,6,7,8-HpCDD	100	94.4	26.0 - 166.0
13C-OCDD	200	169	26.0 - 397.0
13C-2,3,7,8-TCDF	100	92.5	22.0 - 152.0
13C-1,2,3,7,8-PeCDF	100	93.2	21.0 - 192.0
13C-2,3,4,7,8-PeCDF	100	93.1	13.0 - 328.0
13C-1,2,3,4,7,8-HxCDF	100	90.1	19.0 - 202.0
13C-1,2,3,6,7,8-HxCDF	100	93.9	21.0 - 159.0
13C-2,3,4,6,7,8-HxCDF	100	89.7	22.0 - 176.0
13C-1,2,3,7,8,9-HxCDF	100	87.9	17.0 - 205.0
13C-1,2,3,4,6,7,8-HpCDF	100	96.7	21.0 - 158.0
13C-1,2,3,4,7,8,9-HpCDF	100	97.9	20.0 - 186.0
13C-OCDF	200	170	26.0 - 397.0
CLEANUP STANDARD			
37Cl-2,3,7,8-TCDD	40	36.0	12.4 - 76.4

(1) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Analyst: [illegible]

Date: 7/28/00

Form 1A PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

EPA SAMPLE NO.PA-6.7 Episode No.:

TFO

Lab Name: Alta Analytical Laboratory Lab Sample ID: 8763_810_001 Instrument ID: VG-6

Matrix (aqueous/solid/leachate): Aqueous Sample Wt/Vol: 896 g or mL: mL GC Column ID: DB-5

Initial Calibration Date: 6/22/00 Sample Receipt Date: 7/12/00 Ext. Date: 7/25/00 Shift: Day

Reviewer: DW

Analysis Date: 28-JUL-00 Time: 06:04:38 Extract Volume (uL): 20 Injection Volume (uL): 2

Sample Data Filename: 000727A2-13 Blank Data Filename: 000727A2-12 Cal. Ver. Data Filename: 000727A2-1

Date: 7/28/00

Concentration Units (pg/L or ng/Kg dry weight): pg/L % Solids: NA Dilution Factor: NA

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO (1)	RRT (1)
2,3,7,8-TCDD	*	1.52	*	*
1,2,3,7,8-PeCDD	*	2.11	*	*
1,2,3,4,7,8-HxCDD	*	2.89	*	*
1,2,3,6,7,8-HxCDD	*	3.43	*	*
1,2,3,7,8,9-HxCDD	*	2.96	*	*
1,2,3,4,6,7,8-HpCDD	8.82	*	1.00	1.000
OCDD	89.5	*	0.82	1.000
2,3,7,8-TCDF	*	1.05	*	*
1,2,3,7,8-PeCDF	*	1.45	*	*
2,3,4,7,8-PeCDF	*	1.44	*	*
1,2,3,4,7,8-HxCDF	*	1.59	*	*
1,2,3,6,7,8-HxCDF	*	1.61	*	*
2,3,4,6,7,8-HxCDF	*	1.94	*	*
1,2,3,7,8,9-HxCDF	*	2.72	*	*
1,2,3,4,6,7,8-HpCDF	*	4.52	*	*
1,2,3,4,7,8,9-HpCDF	*	6.54	*	*
OCDF	11.9	*	0.81	1.007
Total Tetra-Dioxins	*	1.52		
Total Penta-Dioxins	*	2.11		
Total Hexa-Dioxins	*	3.09		
Total Hepta-Dioxins	19.2	*		
Total Tetra-Furans	*	1.05		
Total Penta-Furans	*	1.44		
Total Hexa-Furans	*	1.92		
Total Hepta-Furans	*	5.44		

(1) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 3A, respectively, Method 1613

Analyst:

Date: 7/28/00

FORM 2 PCDD/F LABELED COMPOUND AND
CLEANUP STANDARD RECOVERIES

EPA SAMPLE NO.PA-6.7

Episode No.:

Lab Name: Alta Analytical Laboratory

Lab Sample ID: 8763_810_001

Instrument ID: VG-6

Matrix (aqueous/solid/leachate): Aqueous

Sample Wt/Vol: 896

g or mL: mL

GC Column ID: DB-5

Initial Calibration Date: 6/22/00

Sample Receipt Date: 7/12/00

Ext. Date: 7/25/00

Shift: Day

Reviewer: SW

Analysis Date: 28-JUL-00 Time: 06:04:38

Extract Volume (uL): 20

Injection Volume (uL): 2

Sample Data Filename: 000727A2-13

Blank Data Filename: 000727A2-12

Cal. Ver. Data Filename: 000727A2-1

Date: 7/28/00

Concentration Units (pg/L or ng/Kg dry weight): pg/L

% Solids: NA

Dilution Factor: NA

LABELED COMPOUNDS	SPIKE AMT.	AMT. FOUND	R(%) (1)	ION ABUND. RATIO (2)	RRT (2)
13C-2,3,7,8-TCDD	2000	1473	74	0.77	1.021
13C-1,2,3,7,8-PeCDD	2000	1374	69	1.55	1.186
13C-1,2,3,4,7,8-HxCDD	2000	1685	84	1.27	0.988
13C-1,2,3,6,7,8-HxCDD	2000	1390	70	1.28	0.992
13C-1,2,3,4,6,7,8-HpCDD	2000	1482	74	1.10	1.106
13C-OCDD	4000	2698	67	0.87	1.236
13C-2,3,7,8-TCDF	2000	1436	72	0.78	0.993
13C-1,2,3,7,8-PeCDF	2000	1320	66	1.55	1.142
13C-2,3,4,7,8-PeCDF	2000	1388	69	1.56	1.176
13C-1,2,3,4,7,8-HxCDF	2000	1469	73	0.52	0.963
13C-1,2,3,6,7,8-HxCDF	2000	1520	76	0.53	0.967
13C-2,3,4,6,7,8-HxCDF	2000	1439	72	0.52	0.984
13C-1,2,3,7,8,9-HxCDF	2000	1408	70	0.52	1.011
13C-1,2,3,4,6,7,8-HpCDF	2000	1486	74	0.43	1.062
13C-1,2,3,4,7,8,9-HpCDF	2000	1595	80	0.43	1.128
13C-OCDF	4000	2640	66	0.89	1.244
CLEANUP STANDARD					
37Cl-2,3,7,8-TCDD	800	688	86		1.022

(1) Contract-required limits for percent recovery (R) are 25%-150%(section 8.8.3, Method 1613).

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 3A, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37C14-2378-TCDD(cleanup standard).

Analyst: [signature]

Date: 7/28/00

Form 1A PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

EPA SAMPLE NO.PA@TM

Episode No.:

Lab Name: Alta Analytical Laboratory

Lab Sample ID: 8763_810_002 Instrument ID: VG-6

Matrix (aqueous/solid/leachate): Aqueous Sample Wt/Vol: 550 g or mL: mL GC Column ID: DB-5

Initial Calibration Date: 6/22/00 Sample Receipt Date: 7/12/00 Ext. Date: 7/25/00 Shift: Day

Reviewer: SW

Analysis Date: 28-JUL-00 Time: 06:54:50 Extract Volume (uL): 20 Injection Volume (uL): 2

Sample Data Filename: 000727A2-14 Blank Data Filename: 000727A2-12 Cal. Ver. Data Filename: 000727A2-1

Date: 7/28/00

Concentration Units (pg/L or ng/Kg dry weight): pg/L % Solids: NA Dilution Factor: NA

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO (1)	RRT (1)
2,3,7,8-TCDD	*	3.51	*	*
1,2,3,7,8-PeCDD	*	4.37	*	*
1,2,3,4,7,8-HxCDD	*	5.21	*	*
1,2,3,6,7,8-HxCDD	*	6.06	*	*
1,2,3,7,8,9-HxCDD	*	5.28	*	*
1,2,3,4,6,7,8-HpCDD	*	15.4	*	*
OCDD	121	*	0.90	1.000
2,3,7,8-TCDF	*	1.85	*	*
1,2,3,7,8-PeCDF	*	1.72	*	*
2,3,4,7,8-PeCDF	*	1.81	*	*
1,2,3,4,7,8-HxCDF	*	2.27	*	*
1,2,3,6,7,8-HxCDF	*	2.11	*	*
2,3,4,6,7,8-HxCDF	*	2.53	*	*
1,2,3,7,8,9-HxCDF	*	3.58	*	*
1,2,3,4,6,7,8-HpCDF	*	3.79	*	*
1,2,3,4,7,8,9-HpCDF	*	5.29	*	*
OCDF	*	17.8	*	*
Total Tetra-Dioxins	*	3.51		
Total Penta-Dioxins	*	4.37		
Total Hexa-Dioxins	*	5.51		
Total Hepta-Dioxins	*	15.4		
Total Tetra-Furans	*	1.85		
Total Penta-Furans	*	1.77		
Total Hexa-Furans	*	2.57		
Total Hepta-Furans	*	4.48		

(1) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 3A, respectively, Method 1613

Analyst:

Date: 7/28/00

FORM 2 PCDD/F LABELED COMPOUND AND
CLEANUP STANDARD RECOVERIES

EPA SAMPLE NO.PA@TM

Episode No.:

Lab Name: Alta Analytical Laboratory

Lab Sample ID: 8763_810_002 Instrument ID: VG-6

Matrix (aqueous/solid/leachate): Aqueous Sample Wt/Vol: 550 g or mL: mL GC Column ID: DB-5

Initial Calibration Date: 6/22/00 Sample Receipt Date: 7/12/00 Ext. Date: 7/25/00 Shift: Day

Reviewer: SW

Analysis Date: 28-JUL-00 Time: 06:54:50 Extract Volume (uL): 20 Injection Volume (uL): 2

Sample Data Filename: 000727A2-14 Blank Data Filename: 000727A2-12 Cal. Ver. Data Filename: 000727A2-1

Date: 7/28/00

Concentration Units (pg/L or ng/Kg dry weight): pg/L % Solids: NA Dilution Factor: NA

LABELED COMPOUNDS	SPIKE AMT.	AMT. FOUND	R(%) (1)	ION ABUND. RATIO (2)	RRT (2)
13C-2,3,7,8-TCDD	2000	1437	72	0.78	1.021
13C-1,2,3,7,8-PeCDD	2000	1376	69	1.57	1.186
13C-1,2,3,4,7,8-HxCDD	2000	1730	87	1.26	0.988
13C-1,2,3,6,7,8-HxCDD	2000	1298	65	1.25	0.992
13C-1,2,3,4,6,7,8-HpCDD	2000	1485	74	1.03	1.106
13C-OCDD	4000	2778	69	0.91	1.236
13C-2,3,7,8-TCDF	2000	1415	71	0.79	0.993
13C-1,2,3,7,8-PeCDF	2000	1340	67	1.56	1.143
13C-2,3,4,7,8-PeCDF	2000	1365	68	1.59	1.176
13C-1,2,3,4,7,8-HxCDF	2000	1414	71	0.55	0.963
13C-1,2,3,6,7,8-HxCDF	2000	1469	73	0.51	0.967
13C-2,3,4,6,7,8-HxCDF	2000	1429	71	0.52	0.984
13C-1,2,3,7,8,9-HxCDF	2000	1406	70	0.52	1.011
13C-1,2,3,4,6,7,8-HpCDF	2000	1467	73	0.44	1.062
13C-1,2,3,4,7,8,9-HpCDF	2000	1606	80	0.42	1.128
13C-OCDF	4000	2723	68	0.91	1.244
CLEANUP STANDARD					
37Cl-2,3,7,8-TCDD	800	713	89		1.022

(1) Contract-required limits for percent recovery (R) are 25%-150%(section 8.8.3, Method 1613).

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 3A, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37C14-2378-TCDD(cleanup standard).

Analyst: [signature]

Date: 7/28/00

Form 1A PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

EPA SAMPLE NO.PA-10.6 Episode No.:

Lab Name: Alta Analytical Laboratory Lab Sample ID: 8763_810_003 Instrument ID: VG-6

Matrix (aqueous/solid/leachate): Aqueous Sample Wt/Vol: 840 g or mL: mL GC Column ID: DB-5

Initial Calibration Date: 6/22/00 Sample Receipt Date: 7/12/00 Ext. Date: 7/25/00 Shift: Day

Reviewer: SW

Analysis Date: 28-JUL-00 Time: 07:45:02 Extract Volume (uL): 20 Injection Volume (uL): 2

Sample Data Filename: 000727A2-15 Blank Data Filename: 000727A2-12 Cal. Ver. Data Filename: 000727A2-1

Date: 7/28/00

Concentration Units (pg/L or ng/Kg dry weight): pg/L % Solids: NA Dilution Factor: NA

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO (1)	RRT (1)
2,3,7,8-TCDD	*	0.891	*	*
1,2,3,7,8-PeCDD	*	1.05	*	*
1,2,3,4,7,8-HxCDD	*	1.85	*	*
1,2,3,6,7,8-HxCDD	*	2.13	*	*
1,2,3,7,8,9-HxCDD	*	1.87	*	*
1,2,3,4,6,7,8-HpCDD	*	1.25	*	*
OCDD	7.35	*	0.81	1.000
2,3,7,8-TCDF	*	0.528	*	*
1,2,3,7,8-PeCDF	*	1.12	*	*
2,3,4,7,8-PeCDF	*	1.11	*	*
1,2,3,4,7,8-HxCDF	*	1.03	*	*
1,2,3,6,7,8-HxCDF	*	1.01	*	*
2,3,4,6,7,8-HxCDF	*	1.18	*	*
1,2,3,7,8,9-HxCDF	*	1.69	*	*
1,2,3,4,6,7,8-HpCDF	*	0.896	*	*
1,2,3,4,7,8,9-HpCDF	*	1.19	*	*
OCDF	*	5.90	*	*
Total Tetra-Dioxins	*	0.891		
Total Penta-Dioxins	*	1.05		
Total Hexa-Dioxins	*	1.95		
Total Hepta-Dioxins	*	1.25		
Total Tetra-Furans	*	0.528		
Total Penta-Furans	*	1.11		
Total Hexa-Furans	*	1.20		
Total Hepta-Furans	*	1.03		

(1) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 3A, respectively, Method 1613

Analyst: [illegible]

Date: 7/28/00

FORM 2 PCDD/F LABELED COMPOUND AND
CLEANUP STANDARD RECOVERIES

EPA SAMPLE NO.PA-10.6

Episode No.:

Lab Name: Alta Analytical Laboratory

Lab Sample ID: 8763_810_003 Instrument ID: VG-6

Matrix (aqueous/solid/leachate): Aqueous Sample Wt/Vol: 840 g or mL: mL GC Column ID: DB-5

Initial Calibration Date: 6/22/00 Sample Receipt Date: 7/12/00 Ext. Date: 7/25/00 Shift: Day

Reviewer: SW

Analysis Date: 28-JUL-00 Time: 07:45:02 Extract Volume (uL): 20 Injection Volume (uL): 2

Sample Data Filename: 000727A2-15 Blank Data Filename: 000727A2-12 Cal. Ver. Data Filename: 000727A2-1

Date: 7/28/00

Concentration Units (pg/L or ng/Kg dry weight): pg/L % Solids: NA Dilution Factor: NA

LABELED COMPOUNDS	SPIKE AMT.	AMT. FOUND	R(%) (1)	ION ABUND. RATIO (2)	RRT (2)
13C-2,3,7,8-TCDD	2000	1727	86	0.77	1.022
13C-1,2,3,7,8-PeCDD	2000	1747	87	1.55	1.187
13C-1,2,3,4,7,8-HxCDD	2000	1850	93	1.28	0.988
13C-1,2,3,6,7,8-HxCDD	2000	1816	91	1.26	0.992
13C-1,2,3,4,6,7,8-HpCDD	2000	1734	87	1.03	1.106
13C-OCDD	4000	2960	74	0.88	1.236
13C-2,3,7,8-TCDF	2000	1783	89	0.79	0.993
13C-1,2,3,7,8-PeCDF	2000	1763	88	1.56	1.143
13C-2,3,4,7,8-PeCDF	2000	1800	90	1.57	1.177
13C-1,2,3,4,7,8-HxCDF	2000	1750	88	0.53	0.963
13C-1,2,3,6,7,8-HxCDF	2000	1807	90	0.53	0.967
13C-2,3,4,6,7,8-HxCDF	2000	1741	87	0.53	0.984
13C-1,2,3,7,8,9-HxCDF	2000	1701	85	0.53	1.011
13C-1,2,3,4,6,7,8-HpCDF	2000	1750	87	0.43	1.062
13C-1,2,3,4,7,8,9-HpCDF	2000	1863	93	0.43	1.128
13C-OCDF	4000	3097	77	0.91	1.244
CLEANUP STANDARD					
37Cl-2,3,7,8-TCDD	800	730	91		1.022

(1) Contract-required limits for percent recovery (R) are 25%-150%(section 8.8.3, Method 1613).

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 3A, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2378-TCDD(cleanup standard).

Analyst: [signature]

Date: 7/28/00

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

A	The amount detected is below the Method Calibration Limit.
B	This compound was also detected in the blank.
C	The amount detected is less than five times the Method Quantitation Limit.
D	The amount reported is the maximum possible concentration.
E	The detection limit was raised above the Method Quantitation Limit due to chemical interferences.
F	This result has been confirmed on a DB-225 column.
G	This result has been confirmed on a SP-2331 column.
H	The signal-to-noise ratio is greater than 10:1.
I	Chemical Interference

Conc.	Concentration
D.L.	Detection Limit
NA	Not applicable
S/N	Signal-to-noise
*	See Cover Letter
ND	Not Detected
MPC	Maximum Possible Concentration

CURRENT CERTIFICATIONS

ALTA

Bureau of Reclamation-Mid-Pacific Region---(MP-470, Res-1.10)

Commonwealth of Kentucky---(Certificate No. 90063)

Commonwealth of Virginia---(Certificate No. 00013)

State of Alaska, Department of Environmental Conservation---(Certificate No. OS-00197)

State of Arkansas, Department of Health---(Approval granted through CA certification)

State of Arkansas, Department of Environmental Quality---

State of California---(Certificate No. 1640)

State of Connecticut---(Certificate No. PH-0182)

State of Florida---(Certificate No. 87456)

State of Louisiana---(Certificate No. 98-33)

State of Mississippi---(Approval granted through CA certification)

State of Nevada---(Certificate No. CA413)

State of New York, Department of Health---(Certificate No. 11411)

State of North Carolina---(Certificate No. 06700)

State of North Dakota, Department of Health---(Certificate No. R-078)

State of Oregon---

State of Pennsylvania---(Certificate No. 68-490)

State of South Carolina---(Certificate No. 87002001)

State of Texas — (Certificate No. TX247-2000A)

State of Tennessee---(Certificate No. 02996)

State of Utah---(Certificate No. E-201)

State of Washington, Department of Ecology---(Certification No. C091)

State of Wisconsin---(Certificate No. 998036160)

State of Wyoming---(Ref: 8ES-LB)

U.S. Army Corps of Engineers

U.S. 5 EPA Region

May 2000