

March 22, 2010

**Vista Project I.D.: 32489**

Ms. Yvette Lowney  
Exponent  
4141 Arapahoe Avenue  
Suite 101  
Boulder, CO 80301

Dear Ms. Lowney,

Enclosed are the amended results for the 11 soil and 2 aqueous samples received at Vista Analytical Laboratory on March 10, 2010 under your Project Name "2027.001". These samples were extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. The soil samples were air dried and sieved to <250 µm prior to extraction. A rush turnaround time was provided for this work. As requested, an MS/MSD was performed on sample "SA169-0.0B-BIO-A". The report is amended to include the WHO 2005 TEF values.

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

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at [mmaier@vista-analytical.com](mailto:mmaier@vista-analytical.com). Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha M. Maier  
Laboratory Director



*Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista Analytical Laboratory.*



**Section I: Sample Inventory Report**

**Date Received: 3/10/2010**

<u>Vista Lab. ID</u>	<u>Client Sample ID</u>
32489-001	SA75-0.0B-BIO-A
32489-002	RSAH3-0.0B-BIO-A
32489-003	RSAL3-0.0B-BIO-A
32489-004	RSAK4-0.0B-BIO-A
32489-005	RSAK4009-0.0B-BIO-A
32489-006	SA41-0.0B-BIO-A
32489-007	SA114-0.0B-BIO-A
32489-008	SA150-0.0B-BIO-A
32489-009	SA167-0.0B-BIO-A
32489-010	SA84-0.0B-BIO-A
32489-011	SA169-0.0B-BIO-A
32489-012	EB-03082010-BIO
32489-013	FB-03082010-BIO

## SECTION II

Method Blank					EPA Method 1613			
Matrix:	Soil	QC Batch No.:	2864	Lab Sample:	0-MB001			
Sample Size:	10.0 g	Date Extracted:	13-Mar-10	Date Analyzed DB-5:	14-Mar-10	Date Analyzed DB-225:	NA	
Analyte	Conc. (pg/g)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	0.152			<b>IS</b> 13C-2,3,7,8-TCDD	86.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.195			13C-1,2,3,7,8-PeCDD	83.7	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.380			13C-1,2,3,4,7,8-HxCDD	76.5	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.345			13C-1,2,3,6,7,8-HxCDD	82.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.362			13C-1,2,3,7,8,9-HxCDD	80.1	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.301			13C-1,2,3,4,6,7,8-HpCDD	77.5	23 - 140	
OCDD	ND	0.821			13C-OCDD	66.6	17 - 157	
2,3,7,8-TCDF	ND	0.150			13C-2,3,7,8-TCDF	78.2	24 - 169	
1,2,3,7,8-PeCDF	ND	0.203			13C-1,2,3,7,8-PeCDF	79.4	24 - 185	
2,3,4,7,8-PeCDF	ND	0.196			13C-2,3,4,7,8-PeCDF	79.9	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.102			13C-1,2,3,4,7,8-HxCDF	84.8	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.103			13C-1,2,3,6,7,8-HxCDF	87.1	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.115			13C-2,3,4,6,7,8-HxCDF	84.2	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.157			13C-1,2,3,7,8,9-HxCDF	79.9	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.193			13C-1,2,3,4,6,7,8-HpCDF	78.6	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.201			13C-1,2,3,4,7,8,9-HpCDF	76.2	26 - 138	
OCDF	ND	0.470			13C-OCDF	76.4	17 - 157	
					<b>CRS</b> 37Cl-2,3,7,8-TCDD	79.9	35 - 197	
Totals					Toxic Equivalent Quotient (TEQ) Data <sup>e</sup>			
Total TCDD	ND	0.152			<b>TEQ (Min):</b>	<b>0</b>		
Total PeCDD	ND	0.195			a. Sample specific estimated detection limit.			
Total HxCDD	ND	0.362			b. Estimated maximum possible concentration.			
Total HpCDD	ND	0.301			c. Method detection limit.			
Total TCDF	ND	0.150			d. Lower control limit - upper control limit.			
Total PeCDF	ND	0.200			e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)			
Total HxCDF	ND	0.117			The results are reported in dry weight. The sample size is reported in wet weight.			
Total HpCDF	ND	0.197						

Analyst: MAS

Approved By: William J. Luksemburg 22-Mar-2010 11:14

OPR Results				EPA Method 1613			
Matrix:	Soil	QC Batch No.:	2864	Lab Sample:	0-OPR001		
Sample Size:	10.0 g	Date Extracted:	13-Mar-10	Date Analyzed DB-5:	14-Mar-10	Date Analyzed DB-225:	NA
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL	Qualifier
2,3,7,8-TCDD	10.0	9.93	6.7 - 15.8	<b>IS</b> 13C-2,3,7,8-TCDD	85.4	25 - 164	
1,2,3,7,8-PeCDD	50.0	51.0	35 - 71	13C-1,2,3,7,8-PeCDD	83.1	25 - 181	
1,2,3,4,7,8-HxCDD	50.0	51.8	35 - 82	13C-1,2,3,4,7,8-HxCDD	74.1	32 - 141	
1,2,3,6,7,8-HxCDD	50.0	50.5	38 - 67	13C-1,2,3,6,7,8-HxCDD	75.2	28 - 130	
1,2,3,7,8,9-HxCDD	50.0	50.9	32 - 81	13C-1,2,3,7,8,9-HxCDD	74.5	32 - 141	
1,2,3,4,6,7,8-HpCDD	50.0	51.0	35 - 70	13C-1,2,3,4,6,7,8-HpCDD	73.6	23 - 140	
OCDD	100	105	78 - 144	13C-OCDD	70.4	17 - 157	
2,3,7,8-TCDF	10.0	9.97	7.5 - 15.8	13C-2,3,7,8-TCDF	76.1	24 - 169	
1,2,3,7,8-PeCDF	50.0	49.5	40 - 67	13C-1,2,3,7,8-PeCDF	77.7	24 - 185	
2,3,4,7,8-PeCDF	50.0	49.2	34 - 80	13C-2,3,4,7,8-PeCDF	75.6	21 - 178	
1,2,3,4,7,8-HxCDF	50.0	48.3	36 - 67	13C-1,2,3,4,7,8-HxCDF	77.7	26 - 152	
1,2,3,6,7,8-HxCDF	50.0	51.0	42 - 65	13C-1,2,3,6,7,8-HxCDF	80.5	26 - 123	
2,3,4,6,7,8-HxCDF	50.0	48.9	35 - 78	13C-2,3,4,6,7,8-HxCDF	77.2	28 - 136	
1,2,3,7,8,9-HxCDF	50.0	47.7	39 - 65	13C-1,2,3,7,8,9-HxCDF	76.3	29 - 147	
1,2,3,4,6,7,8-HpCDF	50.0	47.8	41 - 61	13C-1,2,3,4,6,7,8-HpCDF	74.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	50.0	49.8	39 - 69	13C-1,2,3,4,7,8,9-HpCDF	78.0	26 - 138	
OCDF	100	95.5	63 - 170	13C-OCDF	79.5	17 - 157	
				<b>CRS</b> 37Cl-2,3,7,8-TCDD	83.3	35 - 197	

Analyst: MAS

Approved By: William J. Luksemburg 18-Mar-2010 09:34

Sample ID: SA75-0.0B-BIO-A					EPA Method 1613			
Client Data		Sample Data		Laboratory Data				
Name:	Exponent	Matrix:	Soil	Lab Sample:	32489-001	Date Received:	10-Mar-10	
Project:	2027.001	Sample Size:	10.1 g	QC Batch No.:	2864	Date Extracted:	13-Mar-10	
Date Collected:	8-Mar-10			Date Analyzed DB-5:	15-Mar-10	Dates Analyzed DB-225:	17-Mar-10	
Time Collected:	1435							
Analyte	Conc. (pg/g)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	40.2				<b>IS</b> 13C-2,3,7,8-TCDD	73.0	25 - 164	
1,2,3,7,8-PeCDD	144				13C-1,2,3,7,8-PeCDD	77.2	25 - 181	
1,2,3,4,7,8-HxCDD	119				13C-1,2,3,4,7,8-HxCDD	68.1	32 - 141	
1,2,3,6,7,8-HxCDD	208				13C-1,2,3,6,7,8-HxCDD	71.1	28 - 130	
1,2,3,7,8,9-HxCDD	179				13C-1,2,3,7,8,9-HxCDD	64.8	32 - 141	
1,2,3,4,6,7,8-HpCDD	793				13C-1,2,3,4,6,7,8-HpCDD	62.7	23 - 140	
OCDD	852				13C-OCDD	49.5	17 - 157	
2,3,7,8-TCDF	843			E	13C-2,3,7,8-TCDF	68.7	24 - 169	
1,2,3,7,8-PeCDF	1690				13C-1,2,3,7,8-PeCDF	74.5	24 - 185	
2,3,4,7,8-PeCDF	1090				13C-2,3,4,7,8-PeCDF	74.7	21 - 178	
1,2,3,4,7,8-HxCDF	3370			E	13C-1,2,3,4,7,8-HxCDF	72.2	26 - 152	
1,2,3,6,7,8-HxCDF	2490			E	13C-1,2,3,6,7,8-HxCDF	67.7	26 - 123	
2,3,4,6,7,8-HxCDF	1440				13C-2,3,4,6,7,8-HxCDF	68.1	28 - 136	
1,2,3,7,8,9-HxCDF	1090				13C-1,2,3,7,8,9-HxCDF	72.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	9250			E	13C-1,2,3,4,6,7,8-HpCDF	61.1	28 - 143	
1,2,3,4,7,8,9-HpCDF	3910			E	13C-1,2,3,4,7,8,9-HpCDF	73.4	26 - 138	
OCDF	23000			E	13C-OCDF	59.9	17 - 157	
					<b>CRS</b> 37Cl-2,3,7,8-TCDD	90.4	35 - 197	
Totals					Toxic Equivalent Quotient (TEQ) Data <sup>e</sup>			
Total TCDD	1080				<b>TEQ (Min):</b>	<b>1680</b>		
Total PeCDD	1480							
Total HxCDD	1490							
Total HpCDD	1190							
Total TCDF	10600							
Total PeCDF	14900							
Total HxCDF	18300							
Total HpCDF	18700							
						a. Sample specific estimated detection limit.		
						b. Estimated maximum possible concentration.		
						c. Method detection limit.		
						d. Lower control limit - upper control limit.		
						e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)		
						The results are reported in dry weight. The sample size is reported in wet weight.		

Analyst: MAS

Approved By: William J. Luksemburg 22-Mar-2010 10:24

Sample ID: <b>RSAH3-0.0B-BIO-A</b>					EPA Method 1613			
Client Data		Sample Data		Laboratory Data				
Name:	Exponent	Matrix:	Soil	Lab Sample:	32489-002	Date Received:	10-Mar-10	
Project:	2027.001	Sample Size:	10.1 g	QC Batch No.:	2864	Date Extracted:	13-Mar-10	
Date Collected:	8-Mar-10			Date Analyzed DB-5:	15-Mar-10	Dates Analyzed DB-225:	17-Mar-10	
Time Collected:	1630							
Analyte	Conc. (pg/g)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	39.7				<b>IS</b> 13C-2,3,7,8-TCDD	81.1	25 - 164	
1,2,3,7,8-PeCDD	172				13C-1,2,3,7,8-PeCDD	85.0	25 - 181	
1,2,3,4,7,8-HxCDD	122				13C-1,2,3,4,7,8-HxCDD	79.9	32 - 141	
1,2,3,6,7,8-HxCDD	234				13C-1,2,3,6,7,8-HxCDD	76.5	28 - 130	
1,2,3,7,8,9-HxCDD	180				13C-1,2,3,7,8,9-HxCDD	72.9	32 - 141	
1,2,3,4,6,7,8-HpCDD	861				13C-1,2,3,4,6,7,8-HpCDD	64.7	23 - 140	
OCDD	1060				13C-OCDD	45.1	17 - 157	
2,3,7,8-TCDF	1020			E	13C-2,3,7,8-TCDF	75.3	24 - 169	
1,2,3,7,8-PeCDF	2320			E	13C-1,2,3,7,8-PeCDF	81.7	24 - 185	
2,3,4,7,8-PeCDF	1420				13C-2,3,4,7,8-PeCDF	82.7	21 - 178	
1,2,3,4,7,8-HxCDF	4140			E	13C-1,2,3,4,7,8-HxCDF	84.7	26 - 152	
1,2,3,6,7,8-HxCDF	3260			E	13C-1,2,3,6,7,8-HxCDF	76.5	26 - 123	
2,3,4,6,7,8-HxCDF	1770				13C-2,3,4,6,7,8-HxCDF	78.1	28 - 136	
1,2,3,7,8,9-HxCDF	1270				13C-1,2,3,7,8,9-HxCDF	81.9	29 - 147	
1,2,3,4,6,7,8-HpCDF	11300			E	13C-1,2,3,4,6,7,8-HpCDF	71.7	28 - 143	
1,2,3,4,7,8,9-HpCDF	4670			E	13C-1,2,3,4,7,8,9-HpCDF	79.8	26 - 138	
OCDF	27600			E	13C-OCDF	71.3	17 - 157	
					<b>CRS</b> 37Cl-2,3,7,8-TCDD	85.2	35 - 197	
Totals					Toxic Equivalent Quotient (TEQ) Data <sup>e</sup>			
Total TCDD	1240				<b>TEQ (Min):</b>	<b>2080</b>		
Total PeCDD	1690							
Total HxCDD	1620							
Total HpCDD	1330							
Total TCDF	14000							
Total PeCDF	20100							
Total HxCDF	23200							
Total HpCDF	22700							

Analyst: MAS

Approved By: William J. Luksemburg 22-Mar-2010 10:24

Sample ID: <b>RSAL3-0.0B-BIO-A</b>					EPA Method 1613			
Client Data			Sample Data		Laboratory Data			
Name:	Exponent		Matrix:	Soil	Lab Sample:	32489-003	Date Received:	10-Mar-10
Project:	2027.001		Sample Size:	10.0 g	QC Batch No.:	2864	Date Extracted:	13-Mar-10
Date Collected:	8-Mar-10				Date Analyzed DB-5:	15-Mar-10	Dates Analyzed DB-225:	16-Mar-10
Time Collected:	1555							
Analyte	Conc. (pg/g)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	38.3				<b>IS</b> 13C-2,3,7,8-TCDD	83.7	25 - 164	
1,2,3,7,8-PeCDD	163				13C-1,2,3,7,8-PeCDD	91.5	25 - 181	
1,2,3,4,7,8-HxCDD	175				13C-1,2,3,4,7,8-HxCDD	85.8	32 - 141	
1,2,3,6,7,8-HxCDD	667				13C-1,2,3,6,7,8-HxCDD	90.1	28 - 130	
1,2,3,7,8,9-HxCDD	323				13C-1,2,3,7,8,9-HxCDD	85.8	32 - 141	
1,2,3,4,6,7,8-HpCDD	1700				13C-1,2,3,4,6,7,8-HpCDD	89.5	23 - 140	
OCDD	1390				13C-OCDD	78.7	17 - 157	
2,3,7,8-TCDF	954			E	13C-2,3,7,8-TCDF	79.0	24 - 169	
1,2,3,7,8-PeCDF	1770				13C-1,2,3,7,8-PeCDF	89.5	24 - 185	
2,3,4,7,8-PeCDF	1060				13C-2,3,4,7,8-PeCDF	88.7	21 - 178	
1,2,3,4,7,8-HxCDF	2940			E	13C-1,2,3,4,7,8-HxCDF	90.6	26 - 152	
1,2,3,6,7,8-HxCDF	1840				13C-1,2,3,6,7,8-HxCDF	82.9	26 - 123	
2,3,4,6,7,8-HxCDF	965				13C-2,3,4,6,7,8-HxCDF	80.3	28 - 136	
1,2,3,7,8,9-HxCDF	1070				13C-1,2,3,7,8,9-HxCDF	87.2	29 - 147	
1,2,3,4,6,7,8-HpCDF	5410			E	13C-1,2,3,4,6,7,8-HpCDF	84.5	28 - 143	
1,2,3,4,7,8,9-HpCDF	2190			E	13C-1,2,3,4,7,8,9-HpCDF	90.8	26 - 138	
OCDF	13200			E	13C-OCDF	88.5	17 - 157	
					<b>CRS</b> 37Cl-2,3,7,8-TCDD	85.3	35 - 197	
Totals					Toxic Equivalent Quotient (TEQ) Data <sup>e</sup>			
Total TCDD	1840				<b>TEQ (Min):</b>	<b>1560</b>		
Total PeCDD	3210							
Total HxCDD	4460							a. Sample specific estimated detection limit.
Total HpCDD	2640							b. Estimated maximum possible concentration.
Total TCDF	11700							c. Method detection limit.
Total PeCDF	14000							d. Lower control limit - upper control limit.
Total HxCDF	14200							e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)
Total HpCDF	10800							The results are reported in dry weight. The sample size is reported in wet weight.

Analyst: MAS

Approved By: William J. Luksemburg 22-Mar-2010 10:24



Sample ID: <b>RSAK4-0.0B-BIO-A</b>					EPA Method 1613			
Client Data		Sample Data		Laboratory Data				
Name:	Exponent	Matrix:	Soil	Lab Sample:	32489-004	Date Received:	10-Mar-10	
Project:	2027.001	Sample Size:	10.0 g	QC Batch No.:	2864	Date Extracted:	13-Mar-10	
Date Collected:	8-Mar-10			Date Analyzed DB-5:	15-Mar-10	Dates Analyzed DB-225:	16-Mar-10	
Time Collected:	1515							
Analyte	Conc. (pg/g)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	69.5				<b>IS</b> 13C-2,3,7,8-TCDD	82.6	25 - 164	
1,2,3,7,8-PeCDD	250				13C-1,2,3,7,8-PeCDD	90.0	25 - 181	
1,2,3,4,7,8-HxCDD	190				13C-1,2,3,4,7,8-HxCDD	85.9	32 - 141	
1,2,3,6,7,8-HxCDD	395				13C-1,2,3,6,7,8-HxCDD	81.7	28 - 130	
1,2,3,7,8,9-HxCDD	326				13C-1,2,3,7,8,9-HxCDD	80.6	32 - 141	
1,2,3,4,6,7,8-HpCDD	1500				13C-1,2,3,4,6,7,8-HpCDD	80.4	23 - 140	
OCDD	1570				13C-OCDD	64.5	17 - 157	
2,3,7,8-TCDF	1560			E	13C-2,3,7,8-TCDF	74.2	24 - 169	
1,2,3,7,8-PeCDF	3400			E	13C-1,2,3,7,8-PeCDF	84.6	24 - 185	
2,3,4,7,8-PeCDF	2060			E	13C-2,3,4,7,8-PeCDF	83.9	21 - 178	
1,2,3,4,7,8-HxCDF	6790			E	13C-1,2,3,4,7,8-HxCDF	92.6	26 - 152	
1,2,3,6,7,8-HxCDF	5200			E	13C-1,2,3,6,7,8-HxCDF	86.2	26 - 123	
2,3,4,6,7,8-HxCDF	2960			E	13C-2,3,4,6,7,8-HxCDF	81.8	28 - 136	
1,2,3,7,8,9-HxCDF	2240			E	13C-1,2,3,7,8,9-HxCDF	86.6	29 - 147	
1,2,3,4,6,7,8-HpCDF	19700			E	13C-1,2,3,4,6,7,8-HpCDF	89.6	28 - 143	
1,2,3,4,7,8,9-HpCDF	8130			E	13C-1,2,3,4,7,8,9-HpCDF	94.8	26 - 138	
OCDF	46000			E	13C-OCDF	88.2	17 - 157	
					<b>CRS</b> 37Cl-2,3,7,8-TCDD	88.8	35 - 197	
Totals					Toxic Equivalent Quotient (TEQ) Data <sup>e</sup>			
Total TCDD	2350				<b>TEQ (Min):</b>	<b>3310</b>		
Total PeCDD	2930							
Total HxCDD	2880				a. Sample specific estimated detection limit.			
Total HpCDD	2260				b. Estimated maximum possible concentration.			
Total TCDF	21600				c. Method detection limit.			
Total PeCDF	30600				d. Lower control limit - upper control limit.			
Total HxCDF	39200				e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)			
Total HpCDF	39200				The results are reported in dry weight. The sample size is reported in wet weight.			

Analyst: MAS

Approved By: William J. Luksemburg 22-Mar-2010 10:24

Sample ID: <b>RSAK4009-0.0B-BIO-A</b>					EPA Method 1613			
Client Data		Sample Data		Laboratory Data				
Name:	Exponent	Matrix:	Soil	Lab Sample:	32489-005	Date Received:	10-Mar-10	
Project:	2027.001	Sample Size:	10.1 g	QC Batch No.:	2864	Date Extracted:	13-Mar-10	
Date Collected:	8-Mar-10			Date Analyzed DB-5:	15-Mar-10	Dates Analyzed DB-225:	16-Mar-10	
Time Collected:	1515							
Analyte	Conc. (pg/g)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	70.5				<b>IS</b> 13C-2,3,7,8-TCDD	75.3	25 - 164	
1,2,3,7,8-PeCDD	266				13C-1,2,3,7,8-PeCDD	79.3	25 - 181	
1,2,3,4,7,8-HxCDD	197				13C-1,2,3,4,7,8-HxCDD	65.1	32 - 141	
1,2,3,6,7,8-HxCDD	382				13C-1,2,3,6,7,8-HxCDD	63.2	28 - 130	
1,2,3,7,8,9-HxCDD	339				13C-1,2,3,7,8,9-HxCDD	51.7	32 - 141	
1,2,3,4,6,7,8-HpCDD	1750				13C-1,2,3,4,6,7,8-HpCDD	43.8	23 - 140	
OCDD	3120				13C-OCDD	19.2	17 - 157	
2,3,7,8-TCDF	1580			E	13C-2,3,7,8-TCDF	70.1	24 - 169	
1,2,3,7,8-PeCDF	3320			E	13C-1,2,3,7,8-PeCDF	77.9	24 - 185	
2,3,4,7,8-PeCDF	2030			E	13C-2,3,4,7,8-PeCDF	76.9	21 - 178	
1,2,3,4,7,8-HxCDF	6720			E	13C-1,2,3,4,7,8-HxCDF	69.5	26 - 152	
1,2,3,6,7,8-HxCDF	5360			E	13C-1,2,3,6,7,8-HxCDF	61.5	26 - 123	
2,3,4,6,7,8-HxCDF	2950			E	13C-2,3,4,6,7,8-HxCDF	61.9	28 - 136	
1,2,3,7,8,9-HxCDF	2200			E	13C-1,2,3,7,8,9-HxCDF	69.1	29 - 147	
1,2,3,4,6,7,8-HpCDF	24600			E	13C-1,2,3,4,6,7,8-HpCDF	42.2	28 - 143	
1,2,3,4,7,8,9-HpCDF	8330			E	13C-1,2,3,4,7,8,9-HpCDF	61.3	26 - 138	
OCDF	62000			E	13C-OCDF	39.9	17 - 157	
					<b>CRS</b> 37Cl-2,3,7,8-TCDD	90.7	35 - 197	
Totals					Toxic Equivalent Quotient (TEQ) Data <sup>e</sup>			
Total TCDD	2300				<b>TEQ (Min):</b>	<b>3380</b>		
Total PeCDD	2850							
Total HxCDD	2880				a. Sample specific estimated detection limit.			
Total HpCDD	2670				b. Estimated maximum possible concentration.			
Total TCDF	21500				c. Method detection limit.			
Total PeCDF	28700				d. Lower control limit - upper control limit.			
Total HxCDF	38300				e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)			
Total HpCDF	46100				The results are reported in dry weight. The sample size is reported in wet weight.			

Analyst: MAS

Approved By: William J. Luksemburg 22-Mar-2010 10:24

Sample ID: SA41-0.0B-BIO-A					EPA Method 1613			
Client Data		Sample Data		Laboratory Data				
Name:	Exponent	Matrix:	Soil	Lab Sample:	32489-006	Date Received:	10-Mar-10	
Project:	2027.001	Sample Size:	10.0 g	QC Batch No.:	2864	Date Extracted:	13-Mar-10	
Date Collected:	8-Mar-10			Date Analyzed DB-5:	15-Mar-10	Dates Analyzed DB-225:	17-Mar-10	
Time Collected:	1108							
Analyte	Conc. (pg/g)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	17.8				<b>IS</b> 13C-2,3,7,8-TCDD	86.3	25 - 164	
1,2,3,7,8-PeCDD	62.4				13C-1,2,3,7,8-PeCDD	90.6	25 - 181	
1,2,3,4,7,8-HxCDD	39.4				13C-1,2,3,4,7,8-HxCDD	88.2	32 - 141	
1,2,3,6,7,8-HxCDD	83.7				13C-1,2,3,6,7,8-HxCDD	85.8	28 - 130	
1,2,3,7,8,9-HxCDD	69.2				13C-1,2,3,7,8,9-HxCDD	83.5	32 - 141	
1,2,3,4,6,7,8-HpCDD	311				13C-1,2,3,4,6,7,8-HpCDD	93.0	23 - 140	
OCDD	464				13C-OCDD	84.1	17 - 157	
2,3,7,8-TCDF	444			E	13C-2,3,7,8-TCDF	79.7	24 - 169	
1,2,3,7,8-PeCDF	863				13C-1,2,3,7,8-PeCDF	89.3	24 - 185	
2,3,4,7,8-PeCDF	547				13C-2,3,4,7,8-PeCDF	86.7	21 - 178	
1,2,3,4,7,8-HxCDF	1580				13C-1,2,3,4,7,8-HxCDF	89.8	26 - 152	
1,2,3,6,7,8-HxCDF	1260				13C-1,2,3,6,7,8-HxCDF	83.2	26 - 123	
2,3,4,6,7,8-HxCDF	733				13C-2,3,4,6,7,8-HxCDF	79.7	28 - 136	
1,2,3,7,8,9-HxCDF	523				13C-1,2,3,7,8,9-HxCDF	84.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	4810			E	13C-1,2,3,4,6,7,8-HpCDF	89.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	1860				13C-1,2,3,4,7,8,9-HpCDF	89.6	26 - 138	
OCDF	11100			E	13C-OCDF	91.9	17 - 157	
					<b>CRS</b> 37Cl-2,3,7,8-TCDD	88.1	35 - 197	
Totals					Toxic Equivalent Quotient (TEQ) Data <sup>e</sup>			
Total TCDD	679				<b>TEQ (Min):</b>	<b>817</b>		
Total PeCDD	769							
Total HxCDD	642							
Total HpCDD	493							
Total TCDF	6310							
Total PeCDF	8010							
Total HxCDF	9430							
Total HpCDF	9350							
						The results are reported in dry weight. The sample size is reported in wet weight.		

Analyst: MAS

Approved By: William J. Luksemburg 22-Mar-2010 10:24

Sample ID: SA114-0.0B-BIO-A					EPA Method 1613			
Client Data		Sample Data		Laboratory Data				
Name:	Exponent	Matrix:	Soil	Lab Sample:	32489-007	Date Received:	10-Mar-10	
Project:	2027.001	Sample Size:	10.0 g	QC Batch No.:	2864	Date Extracted:	13-Mar-10	
Date Collected:	8-Mar-10			Date Analyzed DB-5:	15-Mar-10	Dates Analyzed DB-225:	16-Mar-10	
Time Collected:	1305							
Analyte	Conc. (pg/g)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	35.0				<b>IS</b> 13C-2,3,7,8-TCDD	84.0	25 - 164	
1,2,3,7,8-PeCDD	120				13C-1,2,3,7,8-PeCDD	88.6	25 - 181	
1,2,3,4,7,8-HxCDD	89.0				13C-1,2,3,4,7,8-HxCDD	88.0	32 - 141	
1,2,3,6,7,8-HxCDD	213				13C-1,2,3,6,7,8-HxCDD	84.1	28 - 130	
1,2,3,7,8,9-HxCDD	154				13C-1,2,3,7,8,9-HxCDD	82.4	32 - 141	
1,2,3,4,6,7,8-HpCDD	621				13C-1,2,3,4,6,7,8-HpCDD	87.3	23 - 140	
OCDD	635				13C-OCDD	83.0	17 - 157	
2,3,7,8-TCDF	691			E	13C-2,3,7,8-TCDF	83.8	24 - 169	
1,2,3,7,8-PeCDF	1330				13C-1,2,3,7,8-PeCDF	89.3	24 - 185	
2,3,4,7,8-PeCDF	884				13C-2,3,4,7,8-PeCDF	87.2	21 - 178	
1,2,3,4,7,8-HxCDF	2260			E	13C-1,2,3,4,7,8-HxCDF	90.2	26 - 152	
1,2,3,6,7,8-HxCDF	1680				13C-1,2,3,6,7,8-HxCDF	84.4	26 - 123	
2,3,4,6,7,8-HxCDF	981				13C-2,3,4,6,7,8-HxCDF	81.7	28 - 136	
1,2,3,7,8,9-HxCDF	737				13C-1,2,3,7,8,9-HxCDF	84.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	6060			E	13C-1,2,3,4,6,7,8-HpCDF	88.8	28 - 143	
1,2,3,4,7,8,9-HpCDF	2470			E	13C-1,2,3,4,7,8,9-HpCDF	91.9	26 - 138	
OCDF	14700			E	13C-OCDF	95.8	17 - 157	
					<b>CRS</b> 37Cl-2,3,7,8-TCDD	86.4	35 - 197	
Totals					Toxic Equivalent Quotient (TEQ) Data <sup>e</sup>			
Total TCDD	1630				<b>TEQ (Min):</b>	<b>1240</b>		
Total PeCDD	1870							
Total HxCDD	1440							
Total HpCDD	931							
Total TCDF	10700							
Total PeCDF	12300							
Total HxCDF	12700							
Total HpCDF	12100							
						a. Sample specific estimated detection limit.		
						b. Estimated maximum possible concentration.		
						c. Method detection limit.		
						d. Lower control limit - upper control limit.		
						e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)		
						The results are reported in dry weight. The sample size is reported in wet weight.		

Analyst: MAS

Approved By: William J. Luksemburg 22-Mar-2010 10:24

Sample ID: SA150-0.0B-BIO-A					EPA Method 1613			
Client Data		Sample Data		Laboratory Data				
Name:	Exponent	Matrix:	Soil	Lab Sample:	32489-008	Date Received:	10-Mar-10	
Project:	2027.001	Sample Size:	10.1 g	QC Batch No.:	2864	Date Extracted:	13-Mar-10	
Date Collected:	8-Mar-10			Date Analyzed DB-5:	14-Mar-10	Dates Analyzed DB-225:	16-Mar-10	
Time Collected:	1333							
Analyte	Conc. (pg/g)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	63.7				<b>IS</b> 13C-2,3,7,8-TCDD	74.5	25 - 164	
1,2,3,7,8-PeCDD	236				13C-1,2,3,7,8-PeCDD	82.2	25 - 181	
1,2,3,4,7,8-HxCDD	194				13C-1,2,3,4,7,8-HxCDD	82.2	32 - 141	
1,2,3,6,7,8-HxCDD	387				13C-1,2,3,6,7,8-HxCDD	78.3	28 - 130	
1,2,3,7,8,9-HxCDD	321				13C-1,2,3,7,8,9-HxCDD	71.9	32 - 141	
1,2,3,4,6,7,8-HpCDD	1320				13C-1,2,3,4,6,7,8-HpCDD	81.9	23 - 140	
OCDD	1400				13C-OCDD	76.4	17 - 157	
2,3,7,8-TCDF	1570			E	13C-2,3,7,8-TCDF	66.0	24 - 169	
1,2,3,7,8-PeCDF	3370			E	13C-1,2,3,7,8-PeCDF	81.2	24 - 185	
2,3,4,7,8-PeCDF	2130			E	13C-2,3,4,7,8-PeCDF	80.2	21 - 178	
1,2,3,4,7,8-HxCDF	6080			E	13C-1,2,3,4,7,8-HxCDF	83.9	26 - 152	
1,2,3,6,7,8-HxCDF	4740			E	13C-1,2,3,6,7,8-HxCDF	78.1	26 - 123	
2,3,4,6,7,8-HxCDF	2680			E	13C-2,3,4,6,7,8-HxCDF	76.1	28 - 136	
1,2,3,7,8,9-HxCDF	1940				13C-1,2,3,7,8,9-HxCDF	78.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	17700			D	13C-1,2,3,4,6,7,8-HpCDF	74.0	28 - 143	D
1,2,3,4,7,8,9-HpCDF	6710			D	13C-1,2,3,4,7,8,9-HpCDF	75.7	26 - 138	D
OCDF	34900			D	13C-OCDF	82.0	17 - 157	D
					<b>CRS</b> 37Cl-2,3,7,8-TCDD	84.9	35 - 197	
Totals					Toxic Equivalent Quotient (TEQ) Data <sup>e</sup>			
Total TCDD	2490				<b>TEQ (Min):</b>	<b>3100</b>		
Total PeCDD	3040							
Total HxCDD	2940				a. Sample specific estimated detection limit.			
Total HpCDD	2010				b. Estimated maximum possible concentration.			
Total TCDF	23900				c. Method detection limit.			
Total PeCDF	31900				d. Lower control limit - upper control limit.			
Total HxCDF	35600				e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)			
Total HpCDF	34900				The results are reported in dry weight. The sample size is reported in wet weight.			

Analyst: MAS

Approved By: William J. Luksemburg 22-Mar-2010 10:24

Sample ID: SA167-0.0B-BIO-A					EPA Method 1613			
Client Data		Sample Data		Laboratory Data				
Name:	Exponent	Matrix:	Soil	Lab Sample:	32489-009	Date Received:	10-Mar-10	
Project:	2027.001	Sample Size:	10.1 g	QC Batch No.:	2864	Date Extracted:	13-Mar-10	
Date Collected:	8-Mar-10			Date Analyzed DB-5:	15-Mar-10	Dates Analyzed DB-225:	16-Mar-10	
Time Collected:	1455							
Analyte	Conc. (pg/g)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	54.2				<b>IS</b> 13C-2,3,7,8-TCDD	85.6	25 - 164	
1,2,3,7,8-PeCDD	208				13C-1,2,3,7,8-PeCDD	88.1	25 - 181	
1,2,3,4,7,8-HxCDD	160				13C-1,2,3,4,7,8-HxCDD	82.1	32 - 141	
1,2,3,6,7,8-HxCDD	313				13C-1,2,3,6,7,8-HxCDD	83.0	28 - 130	
1,2,3,7,8,9-HxCDD	249				13C-1,2,3,7,8,9-HxCDD	78.5	32 - 141	
1,2,3,4,6,7,8-HpCDD	965				13C-1,2,3,4,6,7,8-HpCDD	76.6	23 - 140	
OCDD	1240				13C-OCDD	61.0	17 - 157	
2,3,7,8-TCDF	1180			E	13C-2,3,7,8-TCDF	81.3	24 - 169	
1,2,3,7,8-PeCDF	2590			E	13C-1,2,3,7,8-PeCDF	87.1	24 - 185	
2,3,4,7,8-PeCDF	1580				13C-2,3,4,7,8-PeCDF	83.2	21 - 178	
1,2,3,4,7,8-HxCDF	4700			E	13C-1,2,3,4,7,8-HxCDF	88.9	26 - 152	
1,2,3,6,7,8-HxCDF	3630			E	13C-1,2,3,6,7,8-HxCDF	83.4	26 - 123	
2,3,4,6,7,8-HxCDF	2010			E	13C-2,3,4,6,7,8-HxCDF	80.5	28 - 136	
1,2,3,7,8,9-HxCDF	1490				13C-1,2,3,7,8,9-HxCDF	84.6	29 - 147	
1,2,3,4,6,7,8-HpCDF	10700			E	13C-1,2,3,4,6,7,8-HpCDF	78.8	28 - 143	
1,2,3,4,7,8,9-HpCDF	4770			E	13C-1,2,3,4,7,8,9-HpCDF	87.1	26 - 138	
OCDF	22800			E	13C-OCDF	75.6	17 - 157	
					<b>CRS</b> 37Cl-2,3,7,8-TCDD	94.5	35 - 197	
Totals					Toxic Equivalent Quotient (TEQ) Data <sup>e</sup>			
Total TCDD	2040				<b>TEQ (Min):</b>	<b>2360</b>		
Total PeCDD	2480							
Total HxCDD	2230							
Total HpCDD	1450							
Total TCDF	18900							
Total PeCDF	24300							
Total HxCDF	26600							
Total HpCDF	22000							
						The results are reported in dry weight. The sample size is reported in wet weight.		

Analyst: MAS

Approved By: William J. Luksemburg 22-Mar-2010 10:24

Sample ID: SA84-0.0B-BIO-A					EPA Method 1613			
Client Data		Sample Data		Laboratory Data				
Name:	Exponent	Matrix:	Soil	Lab Sample:	32489-010	Date Received:	10-Mar-10	
Project:	2027.001	Sample Size:	10.0 g	QC Batch No.:	2864	Date Extracted:	13-Mar-10	
Date Collected:	8-Mar-10			Date Analyzed DB-5:	15-Mar-10	Dates Analyzed DB-225:	17-Mar-10	
Time Collected:	1031							
Analyte	Conc. (pg/g)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	97.0				<b>IS</b> 13C-2,3,7,8-TCDD	85.8	25 - 164	
1,2,3,7,8-PeCDD	210				13C-1,2,3,7,8-PeCDD	88.8	25 - 181	
1,2,3,4,7,8-HxCDD	128				13C-1,2,3,4,7,8-HxCDD	91.3	32 - 141	
1,2,3,6,7,8-HxCDD	240				13C-1,2,3,6,7,8-HxCDD	91.9	28 - 130	
1,2,3,7,8,9-HxCDD	201				13C-1,2,3,7,8,9-HxCDD	87.9	32 - 141	
1,2,3,4,6,7,8-HpCDD	840				13C-1,2,3,4,6,7,8-HpCDD	91.0	23 - 140	
OCDD	1290				13C-OCDD	83.5	17 - 157	
2,3,7,8-TCDF	2740			E	13C-2,3,7,8-TCDF	97.4	24 - 169	
1,2,3,7,8-PeCDF	1880				13C-1,2,3,7,8-PeCDF	95.9	24 - 185	
2,3,4,7,8-PeCDF	1470				13C-2,3,4,7,8-PeCDF	91.0	21 - 178	
1,2,3,4,7,8-HxCDF	3310			E	13C-1,2,3,4,7,8-HxCDF	92.9	26 - 152	
1,2,3,6,7,8-HxCDF	2330			E	13C-1,2,3,6,7,8-HxCDF	86.3	26 - 123	
2,3,4,6,7,8-HxCDF	1320				13C-2,3,4,6,7,8-HxCDF	83.6	28 - 136	
1,2,3,7,8,9-HxCDF	1020				13C-1,2,3,7,8,9-HxCDF	89.5	29 - 147	
1,2,3,4,6,7,8-HpCDF	8670			E	13C-1,2,3,4,6,7,8-HpCDF	92.4	28 - 143	
1,2,3,4,7,8,9-HpCDF	3460			E	13C-1,2,3,4,7,8,9-HpCDF	93.1	26 - 138	
OCDF	23000			E	13C-OCDF	100	17 - 157	
					<b>CRS</b> 37Cl-2,3,7,8-TCDD	85.7	35 - 197	
Totals					Toxic Equivalent Quotient (TEQ) Data <sup>e</sup>			
Total TCDD	1080				<b>TEQ (Min):</b>	<b>2070</b>		
Total PeCDD	1580					a. Sample specific estimated detection limit.		
Total HxCDD	1570					b. Estimated maximum possible concentration.		
Total HpCDD	1290					c. Method detection limit.		
Total TCDF	13900		14100			d. Lower control limit - upper control limit.		
Total PeCDF	15400					e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)		
Total HxCDF	17500		17600			The results are reported in dry weight. The sample size is reported in wet weight.		
Total HpCDF	17200							

Analyst: MAS

Approved By: William J. Luksemburg 22-Mar-2010 10:24

Sample ID: SA169-0.0B-BIO-A					EPA Method 1613			
Client Data		Sample Data		Laboratory Data				
Name:	Exponent	Matrix:	Soil	Lab Sample:	32489-011	Date Received:	10-Mar-10	
Project:	2027.001	Sample Size:	10.1 g	QC Batch No.:	2864	Date Extracted:	13-Mar-10	
Date Collected:	8-Mar-10			Date Analyzed DB-5:	15-Mar-10	Dates Analyzed DB-225:	17-Mar-10	
Time Collected:	0947							
Analyte	Conc. (pg/g)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	120				<b>IS</b> 13C-2,3,7,8-TCDD	84.7	25 - 164	
1,2,3,7,8-PeCDD	356				13C-1,2,3,7,8-PeCDD	84.8	25 - 181	
1,2,3,4,7,8-HxCDD	255				13C-1,2,3,4,7,8-HxCDD	87.1	32 - 141	
1,2,3,6,7,8-HxCDD	464				13C-1,2,3,6,7,8-HxCDD	84.3	28 - 130	
1,2,3,7,8,9-HxCDD	364				13C-1,2,3,7,8,9-HxCDD	83.8	32 - 141	
1,2,3,4,6,7,8-HpCDD	1560				13C-1,2,3,4,6,7,8-HpCDD	85.2	23 - 140	
OCDD	1840				13C-OCDD	68.0	17 - 157	
2,3,7,8-TCDF	2660			E	13C-2,3,7,8-TCDF	85.3	24 - 169	
1,2,3,7,8-PeCDF	3580			E	13C-1,2,3,7,8-PeCDF	91.1	24 - 185	
2,3,4,7,8-PeCDF	2540			E	13C-2,3,4,7,8-PeCDF	85.2	21 - 178	
1,2,3,4,7,8-HxCDF	6570			E	13C-1,2,3,4,7,8-HxCDF	88.8	26 - 152	
1,2,3,6,7,8-HxCDF	4720			E	13C-1,2,3,6,7,8-HxCDF	81.0	26 - 123	
2,3,4,6,7,8-HxCDF	2750			E	13C-2,3,4,6,7,8-HxCDF	79.0	28 - 136	
1,2,3,7,8,9-HxCDF	2100			E	13C-1,2,3,7,8,9-HxCDF	85.0	29 - 147	
1,2,3,4,6,7,8-HpCDF	16400			E	13C-1,2,3,4,6,7,8-HpCDF	82.5	28 - 143	
1,2,3,4,7,8,9-HpCDF	7140			E	13C-1,2,3,4,7,8,9-HpCDF	86.4	26 - 138	
OCDF	45500			D,E	13C-OCDF	70.8	17 - 157	D
					<b>CRS</b> 37Cl-2,3,7,8-TCDD	95.5	35 - 197	
Totals					Toxic Equivalent Quotient (TEQ) Data <sup>e</sup>			
Total TCDD	2480				<b>TEQ (Min):</b>	<b>3600</b>		
Total PeCDD	3290							
Total HxCDD	3140				a. Sample specific estimated detection limit.			
Total HpCDD	2340				b. Estimated maximum possible concentration.			
Total TCDF	26300				c. Method detection limit.			
Total PeCDF	31200				d. Lower control limit - upper control limit.			
Total HxCDF	35400				e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)			
Total HpCDF	33500				The results are reported in dry weight. The sample size is reported in wet weight.			

Analyst: MAS

Approved By: William J. Luksemburg 22-Mar-2010 10:24



MS Results						EPA Method 1613			
Matrix:	Soil	QC Batch No.:	2864	Lab Sample:	32489-011MS/MSD	Date Analyzed	DB-5:15-Mar-10		
Sample Size:	10.03/10.05 g	Date Extracted:	13-Mar-10	Client Sample:	SA169-0.0B-BIO-A				
Analyte	Spike-MS pg/g	MS-%R	Spike-MSD pg/g	MSD-%R	RPD	IS Type	Internal Standard	MS-%R	MSD-%R
2,3,7,8-TCDD	20.0	100	20.0	141	34.0	IS	13C-2,3,7,8-TCDD	79.4	87.4
1,2,3,7,8-PeCDD	100	79.0	100	84.4	6.61		13C-1,2,3,7,8-PeCDD	84.0	90.5
1,2,3,4,7,8-HxCDD	100	111	100	118	6.11		13C-1,2,3,4,7,8-HxCDD	81.8	86.3
1,2,3,6,7,8-HxCDD	100	108	100	112	3.64		13C-1,2,3,6,7,8-HxCDD	80.5	86.2
1,2,3,7,8,9-HxCDD	100	112	100	133	17.1		13C-1,2,3,7,8,9-HxCDD	79.0	80.9
1,2,3,4,6,7,8-HpCDD	100	211*	100	332*	44.6		13C-1,2,3,4,6,7,8-HpCDD	80.1	82.9
OCDD	200	226*	200	181*	22.1		13C-OCDD	70.4	71.1
2,3,7,8-TCDF	20.0	-853*	20.0	-452*	61.5		13C-2,3,7,8-TCDF	77.7	87.4
1,2,3,7,8-PeCDF	100	40.0*	100	141	112		13C-1,2,3,7,8-PeCDF	89.5	92.1
2,3,4,7,8-PeCDF	100	70.0	100	131	60.7		13C-2,3,4,7,8-PeCDF	84.1	86.7
1,2,3,4,7,8-HxCDF	100	90.0	100	231*	87.9		13C-1,2,3,4,7,8-HxCDF	86.5	91.7
1,2,3,6,7,8-HxCDF	100	130	100	442*	109		13C-1,2,3,6,7,8-HxCDF	79.2	81.2
2,3,4,6,7,8-HxCDF	100	100	100	171*	52.4		13C-2,3,4,6,7,8-HxCDF	77.3	82.0
1,2,3,7,8,9-HxCDF	100	70.0	100	191*	92.7		13C-1,2,3,7,8,9-HxCDF	84.0	86.0
1,2,3,4,6,7,8-HpCDF	100	0*	100	2010*	200		13C-1,2,3,4,6,7,8-HpCDF	82.5	82.5
1,2,3,4,7,8,9-HpCDF	100	211*	100	492*	79.9		13C-1,2,3,4,7,8,9-HpCDF	84.6	90.1
OCDF	200	-150*	200	1510*	244		13C-OCDF	71.1	75.1
						CRS	37Cl-2,3,7,8-TCDD	88.4	98.0

Method Blank					EPA Method 1613				
Matrix:	Aqueous	QC Batch No.:	2863	Lab Sample:	0-MB001	Date Analyzed DB-5:	16-Mar-10	Date Analyzed DB-225:	NA
Sample Size:	1.00 L	Date Extracted:	13-Mar-10						
Analyte	Conc. (pg/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers	
2,3,7,8-TCDD	ND	2.03			<b>IS</b> 13C-2,3,7,8-TCDD	89.5	25 - 164		
1,2,3,7,8-PeCDD	ND	2.00			13C-1,2,3,7,8-PeCDD	87.4	25 - 181		
1,2,3,4,7,8-HxCDD	ND	3.23			13C-1,2,3,4,7,8-HxCDD	91.3	32 - 141		
1,2,3,6,7,8-HxCDD	ND	3.40			13C-1,2,3,6,7,8-HxCDD	88.3	28 - 130		
1,2,3,7,8,9-HxCDD	ND	3.30			13C-1,2,3,7,8,9-HxCDD	89.9	32 - 141		
1,2,3,4,6,7,8-HpCDD	ND	3.70			13C-1,2,3,4,6,7,8-HpCDD	87.1	23 - 140		
OCDD	ND	4.62			13C-OCDD	79.0	17 - 157		
2,3,7,8-TCDF	ND	1.54			13C-2,3,7,8-TCDF	95.5	24 - 169		
1,2,3,7,8-PeCDF	ND	3.17			13C-1,2,3,7,8-PeCDF	89.5	24 - 185		
2,3,4,7,8-PeCDF	ND	3.18			13C-2,3,4,7,8-PeCDF	88.7	21 - 178		
1,2,3,4,7,8-HxCDF	ND	1.25			13C-1,2,3,4,7,8-HxCDF	87.9	26 - 152		
1,2,3,6,7,8-HxCDF	ND	1.38			13C-1,2,3,6,7,8-HxCDF	86.3	26 - 123		
2,3,4,6,7,8-HxCDF	ND	1.61			13C-2,3,4,6,7,8-HxCDF	83.5	28 - 136		
1,2,3,7,8,9-HxCDF	ND	1.82			13C-1,2,3,7,8,9-HxCDF	88.6	29 - 147		
1,2,3,4,6,7,8-HpCDF	ND	2.38			13C-1,2,3,4,6,7,8-HpCDF	81.4	28 - 143		
1,2,3,4,7,8,9-HpCDF	ND	2.57			13C-1,2,3,4,7,8,9-HpCDF	82.6	26 - 138		
OCDF	ND	2.86			13C-OCDF	78.8	17 - 157		
					<b>CRS</b> 37Cl-2,3,7,8-TCDD	92.2	35 - 197		
Totals					Toxic Equivalent Quotient (TEQ) Data <sup>e</sup>				
Total TCDD	ND	2.03			<b>TEQ (Min):</b>	<b>0</b>			
Total PeCDD	ND	2.00							
Total HxCDD	ND	3.31							
Total HpCDD	ND	3.70							
Total TCDF	ND	1.54							
Total PeCDF	ND	3.18							
Total HxCDF	ND	1.50							
Total HpCDF	ND	2.47							

Analyst: MAS

Approved By: William J. Luksemburg 17-Mar-2010 14:02

OPR Results				EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	2863	Lab Sample:	0-OPR001		
Sample Size:	1.00 L	Date Extracted:	13-Mar-10	Date Analyzed DB-5:	16-Mar-10	Date Analyzed DB-225:	NA
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL	Qualifier
2,3,7,8-TCDD	10.0	9.09	6.7 - 15.8	<b>IS</b> 13C-2,3,7,8-TCDD	81.9	25 - 164	
1,2,3,7,8-PeCDD	50.0	45.0	35 - 71	13C-1,2,3,7,8-PeCDD	79.5	25 - 181	
1,2,3,4,7,8-HxCDD	50.0	46.5	35 - 82	13C-1,2,3,4,7,8-HxCDD	82.7	32 - 141	
1,2,3,6,7,8-HxCDD	50.0	46.2	38 - 67	13C-1,2,3,6,7,8-HxCDD	81.8	28 - 130	
1,2,3,7,8,9-HxCDD	50.0	47.6	32 - 81	13C-1,2,3,7,8,9-HxCDD	79.1	32 - 141	
1,2,3,4,6,7,8-HpCDD	50.0	44.7	35 - 70	13C-1,2,3,4,6,7,8-HpCDD	77.8	23 - 140	
OCDD	100	93.6	78 - 144	13C-OCDD	71.5	17 - 157	
2,3,7,8-TCDF	10.0	8.83	7.5 - 15.8	13C-2,3,7,8-TCDF	85.3	24 - 169	
1,2,3,7,8-PeCDF	50.0	46.9	40 - 67	13C-1,2,3,7,8-PeCDF	82.0	24 - 185	
2,3,4,7,8-PeCDF	50.0	46.8	34 - 80	13C-2,3,4,7,8-PeCDF	82.2	21 - 178	
1,2,3,4,7,8-HxCDF	50.0	45.7	36 - 67	13C-1,2,3,4,7,8-HxCDF	79.2	26 - 152	
1,2,3,6,7,8-HxCDF	50.0	46.6	42 - 65	13C-1,2,3,6,7,8-HxCDF	78.2	26 - 123	
2,3,4,6,7,8-HxCDF	50.0	47.2	35 - 78	13C-2,3,4,6,7,8-HxCDF	78.2	28 - 136	
1,2,3,7,8,9-HxCDF	50.0	47.5	39 - 65	13C-1,2,3,7,8,9-HxCDF	77.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	50.0	47.7	41 - 61	13C-1,2,3,4,6,7,8-HpCDF	72.1	28 - 143	
1,2,3,4,7,8,9-HpCDF	50.0	49.1	39 - 69	13C-1,2,3,4,7,8,9-HpCDF	73.1	26 - 138	
OCDF	100	95.9	63 - 170	13C-OCDF	69.4	17 - 157	
				<b>CRS</b> 37Cl-2,3,7,8-TCDD	87.9	35 - 197	

Analyst: MAS

Approved By: William J. Luksemburg 17-Mar-2010 14:02

Sample ID: <b>EB-03082010-BIO</b>					EPA Method 1613			
Client Data			Sample Data		Laboratory Data			
Name:	Exponent		Matrix:	Aqueous	Lab Sample:	32489-012	Date Received:	10-Mar-10
Project:	2027.001		Sample Size:	1.04 L	QC Batch No.:	2863	Date Extracted:	13-Mar-10
Date Collected:	8-Mar-10				Date Analyzed DB-5:	17-Mar-10	Date Analyzed DB-225:	NA
Time Collected:	1357							
Analyte	Conc. (pg/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	1.37			<b>IS</b> 13C-2,3,7,8-TCDD	76.0	25 - 164	
1,2,3,7,8-PeCDD	ND	4.04			13C-1,2,3,7,8-PeCDD	71.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	3.09			13C-1,2,3,4,7,8-HxCDD	75.5	32 - 141	
1,2,3,6,7,8-HxCDD	ND	3.01			13C-1,2,3,6,7,8-HxCDD	74.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND	2.97			13C-1,2,3,7,8,9-HxCDD	74.0	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	4.34			13C-1,2,3,4,6,7,8-HpCDD	69.6	23 - 140	
OCDD	ND		1.61		13C-OCDD	62.9	17 - 157	
2,3,7,8-TCDF	ND	2.30			13C-2,3,7,8-TCDF	75.5	24 - 169	
1,2,3,7,8-PeCDF	ND	2.99			13C-1,2,3,7,8-PeCDF	73.4	24 - 185	
2,3,4,7,8-PeCDF	ND	2.95			13C-2,3,4,7,8-PeCDF	72.0	21 - 178	
1,2,3,4,7,8-HxCDF	ND	3.62			13C-1,2,3,4,7,8-HxCDF	72.7	26 - 152	
1,2,3,6,7,8-HxCDF	ND	1.95			13C-1,2,3,6,7,8-HxCDF	70.3	26 - 123	
2,3,4,6,7,8-HxCDF	ND	2.10			13C-2,3,4,6,7,8-HxCDF	70.1	28 - 136	
1,2,3,7,8,9-HxCDF	ND	1.84			13C-1,2,3,7,8,9-HxCDF	69.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	4.36			J	13C-1,2,3,4,6,7,8-HpCDF	65.4	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	4.59			13C-1,2,3,4,7,8,9-HpCDF	66.0	26 - 138	
OCDF	6.26			J	13C-OCDF	60.9	17 - 157	
					<b>CRS</b> 37Cl-2,3,7,8-TCDD	79.0	35 - 197	
Totals					Toxic Equivalent Quotient (TEQ) Data <sup>e</sup>			
Total TCDD	ND	1.37			<b>TEQ (Min):</b>	<b>0.0455</b>		
Total PeCDD	ND	4.04				a. Sample specific estimated detection limit.		
Total HxCDD	ND	3.02				b. Estimated maximum possible concentration.		
Total HpCDD	ND	4.34				c. Method detection limit.		
Total TCDF	ND	2.30				d. Lower control limit - upper control limit.		
Total PeCDF	ND	2.97				e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)		
Total HxCDF	1.35		2.73					
Total HpCDF	4.36							

Analyst: MAS

Approved By: William J. Luksemburg 17-Mar-2010 14:02

Sample ID: <b>FB-03082010-BIO</b>					EPA Method 1613			
Client Data			Sample Data		Laboratory Data			
Name:	Exponent		Matrix:	Aqueous	Lab Sample:	32489-013	Date Received:	10-Mar-10
Project:	2027.001		Sample Size:	0.996 L	QC Batch No.:	2863	Date Extracted:	13-Mar-10
Date Collected:	8-Mar-10				Date Analyzed DB-5:	17-Mar-10	Date Analyzed DB-225:	NA
Time Collected:	1240							
Analyte	Conc. (pg/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	1.35			<b>IS</b> 13C-2,3,7,8-TCDD	75.1	25 - 164	
1,2,3,7,8-PeCDD	ND	3.95			13C-1,2,3,7,8-PeCDD	73.4	25 - 181	
1,2,3,4,7,8-HxCDD	ND	2.30			13C-1,2,3,4,7,8-HxCDD	75.3	32 - 141	
1,2,3,6,7,8-HxCDD	ND	2.42			13C-1,2,3,6,7,8-HxCDD	72.4	28 - 130	
1,2,3,7,8,9-HxCDD	ND	2.49			13C-1,2,3,7,8,9-HxCDD	72.1	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	4.34			13C-1,2,3,4,6,7,8-HpCDD	71.5	23 - 140	
OCDD	ND		3.39		13C-OCDD	66.2	17 - 157	
2,3,7,8-TCDF	ND	1.14			13C-2,3,7,8-TCDF	75.1	24 - 169	
1,2,3,7,8-PeCDF	ND	1.75			13C-1,2,3,7,8-PeCDF	74.2	24 - 185	
2,3,4,7,8-PeCDF	ND	1.84			13C-2,3,4,7,8-PeCDF	75.9	21 - 178	
1,2,3,4,7,8-HxCDF	ND	1.24			13C-1,2,3,4,7,8-HxCDF	68.7	26 - 152	
1,2,3,6,7,8-HxCDF	ND	1.30			13C-1,2,3,6,7,8-HxCDF	67.7	26 - 123	
2,3,4,6,7,8-HxCDF	ND	1.39			13C-2,3,4,6,7,8-HxCDF	68.9	28 - 136	
1,2,3,7,8,9-HxCDF	ND	1.73			13C-1,2,3,7,8,9-HxCDF	70.9	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	2.06			13C-1,2,3,4,6,7,8-HpCDF	65.6	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	2.03			13C-1,2,3,4,7,8,9-HpCDF	67.3	26 - 138	
OCDF	ND	2.34			13C-OCDF	61.9	17 - 157	
					<b>CRS</b> 37Cl-2,3,7,8-TCDD	76.2	35 - 197	
Totals					Toxic Equivalent Quotient (TEQ) Data <sup>e</sup>			
Total TCDD	ND	1.35			<b>TEQ (Min):</b>	<b>0</b>		
Total PeCDD	ND	3.95						
Total HxCDD	ND	2.41			a. Sample specific estimated detection limit.			
Total HpCDD	ND	4.34			b. Estimated maximum possible concentration.			
Total TCDF	ND	1.14			c. Method detection limit.			
Total PeCDF	ND	1.80			d. Lower control limit - upper control limit.			
Total HxCDF	ND	1.40			e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)			
Total HpCDF	ND	2.05						

Analyst: MAS

Approved By: William J. Luksemburg 17-Mar-2010 14:02

## **APPENDIX**

## DATA QUALIFIERS & ABBREVIATIONS

<b>B</b>	<b>This compound was also detected in the method blank.</b>
<b>D</b>	<b>Dilution</b>
<b>E</b>	<b>The amount detected is above the High Calibration Limit.</b>
<b>P</b>	<b>The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.</b>
<b>H</b>	<b>Recovery was outside laboratory acceptance limits.</b>
<b>I</b>	<b>Chemical Interference</b>
<b>J</b>	<b>The amount detected is below the Low Calibration Limit.</b>
<b>*</b>	<b>See Cover Letter</b>
<b>Conc.</b>	<b>Concentration</b>
<b>DL</b>	<b>Sample-specific estimated detection limit</b>
<b>MDL</b>	<b>The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.</b>
<b>EMPC</b>	<b>Estimated Maximum Possible Concentration</b>
<b>NA</b>	<b>Not applicable</b>
<b>RL</b>	<b>Reporting Limit – concentrations that correspond to low calibration point</b>
<b>ND</b>	<b>Not Detected</b>
<b>TEQ</b>	<b>Toxic Equivalency</b>

**Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.**

## CERTIFICATIONS

<b>Accrediting Authority</b>	<b>Certificate Number</b>
State of Alaska, DEC	CA413-2008
State of Arizona	AZ0639
State of Arkansas, DEQ	08-043-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	N/A
State of Connecticut	PH-0182
State of Florida, DEP	E87777
State of Indiana Department of Health	C-CA-02
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA08000
State of Louisiana, DEQ	01977
State of Maine	2008024
State of Michigan	9932
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	NFESC413
State of Nevada	CA004132007A
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-006
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	TN02996
State of Texas	T104704189-08-TX
U.S. Army Corps of Engineers	N/A
State of Utah	CA16400
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q







# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.1400  
 Page: 2 of 3  
 Cooler # 1 of 1  
 Collection Area:

1100 Quail Street, Suite 102, Newport Beach, CA 92660  
 (949) 260-9293

32489

Required Ship to Lab:		Required Project Information:		Required Invoice Information:		TAT: Standard 30 day		Rush		Mark One	
Lab Name: Vista Analytical		Site ID #: TRONOX LLC. HENDERSON		Send Invoice to: Susan Crowley Tronox LLC							
Address: 1100 Windfield Way		Project #: 2027.001		Address: PO Box 55		If Rush, Date due					
El Dorado Hills, CA 95762-9622		Site Address: 560 W. Lake Mead Drive		City/State: Henderson, NV 89009		Phone #: (949) 260-9293		QC level Required: Standard		Special EPA Stage 4 Mark one	
Lab PM: William J. Luksemburg		City: Henderson State: NV		Reimbursement project? <input checked="" type="checkbox"/> Non-reimbursement project? <input type="checkbox"/>		Mark one		NJ Reduced Deliverable Package?			
Phone/Fax: (916) 673-1520		Site PM Name: Derrick Willis		Send EDD to: Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com		MA MCP Cert?		CT RCP Cert?		Mark One	
Lab PM email: billux@vista-analytical.com		Phone/Fax: (949) 375-7004		CC Hardcopy report to PDF Electronic Version Only		Lab Project ID (lab use)					
Applicable Lab Quote #:		Site PM Email: derrick.willis@ngem.com		CC Hardcopy report to see additional comments below							

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Samples IDs MUST BE UNIQUE	Valid Matrix Codes		MATRIX CODE	SAMPLE TYPE G-GRAB C-COMP	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives										Requested Analyses	Comments/Lab Sample I.D.			
		MATRIX								MATRIX		Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other					
		DRINKING WATER	GROUND WATER							WATER	SURFACE WATER											W	WV	WO
1	SA114-0.0B-BIO-A	SO	G			3/8/2010	13:05	1	N	X														1- L Amber
2	SA114-0.0B-BIO-B *	SO	G			3/8/2010	13:11	1	N	X														Hold
3	SA150-0.0B-BIO-A	SO	G			3/8/2010	13:33	1	N	X														1- L Amber
4	SA150-0.0B-BIO-B *	SO	G			3/8/2010	13:39	1	N	X														Hold
5	SA167-0.0B-BIO-A	SO	G			3/8/2010	14:55	1	N	X														1- L Amber
6	SA167-0.0B-BIO-B *	SO	G			3/8/2010	15:05	1	N	X														Hold
7	SA84-0.0B-BIO-A	SO	G			3/8/2010	10:31	1	N	X														1- L Amber
8	SA84-0.0B-BIO-B *	SO	G			3/8/2010	10:36	1	N	X														Hold
9	SA169-0.0B-BIO-A	SO	G			3/8/2010	9:47	1	N	X														1- L Amber
10	SA169-0.0B-BIO-B *	SO	G			3/8/2010	10:12	1	N	X														Hold
11	0.29																							
12	3-8-2010																							

Additional Comments/Special Instructions:  <input type="checkbox"/> TWO SAMPLES FOR EACH LOCATION SUBMITTED. HOLD THE "B" SAMPLE UNTIL NOTIFIED. All PDF reports and EDDs will be uploaded to: Northgate Environmental Management, Inc. FTP site address provided to labs Notifications provided to: cindy.arnold@ngem.com and frank.hagar@ngem.com  * Project 32490	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Sample Receipt Conditions			
	Dana R. Brown, Northgate Env.	8-Mar	18:00	<i>Dana R. Brown</i> Vista Analytical	3/10/10	1117	Y/N	Y/N	Y/N	
							Y/N	Y/N	Y/N	
							Y/N	Y/N	Y/N	
SHIPPING METHOD. (mark as appropriate)				SAMPLER NAME AND SIGNATURE			Temp in OC	Samples on Ice? <i>yes</i>	Sample intact? <i>yes</i>	Trip Blank?
UPS COURIER <input checked="" type="checkbox"/> FEDEX		PRINT Name of SAMPLER:		Dana R. Brown						
US MAIL		SIGNATURE of SAMPLER:		DATE Signed		Time:				
				3/8/2010		18:00				



# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.1400  
 Page: 3 of 3  
 Cooler # 1 of 1  
 Collection Area:

1100 Quail Street, Suite 102, Newport Beach, CA 92660  
 (949) 280-9293

32489

Required Ship to Lab:		Required Project Information:			Required Invoice Information:			TAT: Standard 30 day <input checked="" type="checkbox"/> Rush <input type="checkbox"/>		Mark One
Lab Name:	Vista Analytical	Site ID #:	TRONOX LLC. HENDERSON		Send Invoice to:	Susan Crowley Tronox LLC		If Rush, Date due		
Address:	1100 Windfield Way	Project #:	2027.001		Address:	PO Box 55		QC level Required: Standard <input type="checkbox"/> Special <input type="checkbox"/> EPA Stage 4 <input type="checkbox"/>		Mark one
El Dorado Hills, CA 95762-9622		Site Address	560 W. Lake Mead Drive		City/State	Henderson, NV 89009	Phone #:	(949) 260-9293		
Lab PM:	William J. Luksemburg	City	Henderson	State	NV	Reimbursement project?	<input checked="" type="checkbox"/>		Non-reimbursement project?	<input type="checkbox"/>
Phone/Fax:	(916) 673-1520	Site PM Name	Derrick Willis		Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com		MA MCP Cert?	CT RCP Cert?	Mark One
Lab PM email	billux@vista-analytical.com	Phone/Fax:	(949) 375-7004		CC Hardcopy report to	PDF Electronic Version Only		Lab Project ID (lab use)		
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com		CC Hardcopy report to	see additional comments below				

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Samples IDs MUST BE UNIQUE	Valid Matrix Codes		MATRIX CODE	SAMPLE TYPE G-GRAB C-COMP	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives										Requested Analyses	Comments/Lab Sample I.D.
		MATRIX								MATRIX		Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other		
		DRINKING WATER	WP							WATER	W										
1	SA169-0.0B-BIO-AMS	GROUND WATER	WG	SURFACE WATER	WS	3/8/2010	9:47	1	N	X								X	1-L Amber		
2	SA169-0.0B-BIO-AMSD	WASTE WATER	WW	WATER OC	WO	3/8/2010	9:47	1	N	X								X	1-L Amber		
3	EB-03082010-BIO	FREE PRODUCT	LF	BLUDGE	BL	3/8/2010	13:57	2	N	X								X	2 - 1L Amber Glass		
4	FB-03082010-BIO	SOIL	SO	BRISATE	BR	3/8/2010	12:40	2	N	X								X	2 - 1L Amber Glass		
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

DRB  
3-8-2010

Additional Comments/Special Instructions:  <input type="checkbox"/> TWO SAMPLES FOR EACH LOCATION SUBMITTED. HOLD THE "B" SAMPLE UNTIL NOTIFIED. All PDF reports and EDDs will be uploaded to: Northgate Environmental Management, Inc. FTP site address provided to labs Notifications provided to: cindy.arnold@ngem.com and frank.hagar@ngem.com	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Sample Receipt Conditions				
	Dana R. Brown, Northgate Env.	08	8-Mar	18:00	<i>Dana R. Brown</i> Vista Analytical	3/10/10	11:10		Y/N	Y/N	Y/N
									Y/N	Y/N	Y/N
									Y/N	Y/N	Y/N
	SHIPPING METHOD: (mark as appropriate)	SAMPLER NAME AND SIGNATURE					Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?	
	UPS COURIER <input checked="" type="checkbox"/> FEDEX <input type="checkbox"/>	Dana R. Brown						yes	yes		
	US MAIL <input type="checkbox"/>	PRINT Name of SAMPLER:	SIGNATURE of SAMPLER:	DATE Signed	Time:						
			<i>Dana R. Brown</i>	3/8/2010	18:00						

SAMPLE LOG-IN CHECKLIST



Vista Project #: 32489

TAT 30 (std)

Samples Arrival:	Date/Time <u>3/10/10 0948</u>	Initials: <u>CRAB</u>	Location: <u>WR-2</u>
			Shelf/Rack: <u>N/A</u>
Logged In:	Date/Time <u>3/10/10 1049</u>	Initials: <u>CRAB</u>	Location: <u>WR-2</u>
			Shelf/Rack: <u>G-4</u>
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> Cal
	<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C	<u>0.1°C</u>	Time: <u>0903</u>	Thermometer ID: <u>IR-1</u>

	YES	NO	NA
Adequate Sample Volume Received?	<input checked="" type="checkbox"/>		
Holding Time Acceptable?	<input checked="" type="checkbox"/>		
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>		
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>		
Shipping Documentation Present?	<input checked="" type="checkbox"/>		
Airbill	Trk # <u>7984 5915 4574</u>	<input checked="" type="checkbox"/>	
Sample Container Intact?	<input checked="" type="checkbox"/>		
Sample Custody Seals Intact?	<input checked="" type="checkbox"/>		
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>		
COC Anomaly/Sample Acceptance Form completed?		<input checked="" type="checkbox"/>	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			<input checked="" type="checkbox"/>
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented?	COC	Sample Container	<input checked="" type="checkbox"/> None
Shipping Container	Vista	<input checked="" type="checkbox"/> Client	<input checked="" type="checkbox"/> Retain <input checked="" type="checkbox"/> Return <input type="checkbox"/> Dispose

Comments:

SA41-0.0B-B10-A

↓ 84      ↓  
↓ 69

SA169-0.0B-B10-AMS  
SA169-0.0B-B10-AMSD

SAMPLE LOG-IN CHECKLIST



Vista Project #: 32489

TAT Standard

Samples Arrival:	Date/Time 3/10/10 0848	Initials: BSB	Location: WR-2
			Shelf/Rack: N/A
Logged In:	Date/Time 3/10/10 1057	Initials: BSB	Location: WR-2
			Shelf/Rack: G-4
Delivered By:	<u>FedEx</u> UPS	Cal	DHL Hand Delivered Other
Preservation:	<u>Ice</u> Blue Ice	Dry Ice	None
Temp °C	-0.7 °C	Time: 0859	Thermometer ID: IR-1

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill	Trk # 7933 3899 0020	✓	
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented?	COC	Sample Container	<u>None</u>
Shipping Container	Vista	<u>Client</u> Retain	<u>Return</u> Dispose

Comments:

RSAK4-0.0B-B10-A  
 RSAL3-0.0B-B10-A  
 RSAK4009-0.0B-B10-A  
 SA167-0.0B-B10-A  
 SA114-0.0B-B10-A

SAMPLE LOG-IN CHECKLIST



Vista Project #: 32489

TAT Standard

Samples Arrival:	Date/Time 3/10/10 0848	Initials: UBB	Location: WR-2
			Shelf/Rack: N/A
Logged In:	Date/Time 3/10/10 1115	Initials: UBB	Location: WR-2
			Shelf/Rack: G4
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> Cal
		<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered
	<input type="checkbox"/> Other		
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
		<input type="checkbox"/> None	
Temp °C	1.6°C	Time: 0907	Thermometer ID: IR-1

	YES	NO	NA
Adequate Sample Volume Received?	<input checked="" type="checkbox"/>		
Holding Time Acceptable?	<input checked="" type="checkbox"/>		
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>		
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>		
Shipping Documentation Present?	<input checked="" type="checkbox"/>		
Airbill	Trk # 1933 3483 3474	<input checked="" type="checkbox"/>	
Sample Container Intact?	<input checked="" type="checkbox"/>		
Sample Custody Seals Intact?	<input checked="" type="checkbox"/>		
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>		
COC Anomaly/Sample Acceptance Form completed?		<input checked="" type="checkbox"/>	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			<input checked="" type="checkbox"/>
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented?	COC	Sample Container	<input checked="" type="checkbox"/> None
Shipping Container	Vista	<input checked="" type="checkbox"/> Client	Retain <input checked="" type="checkbox"/> Return <input type="checkbox"/> Dispose

Comments:

SA 75-0.0B-B10-A  
 RSA H3-0.0B-B10-A  
 SA 150-0.0B-B10-A

SAMPLE LOG-IN CHECKLIST



Vista Project #: 32489 TAT Standard (30)

Samples Arrival:	Date/Time <u>3/10/10 0848</u>	Initials: <u>WBB</u>	Location: <u>WR-2</u>
			Shelf/Rack: <u>N/A</u>
Logged In:	Date/Time <u>3/10/10 1129</u>	Initials: <u>WBB</u>	Location: <u>WR-2</u>
			Shelf/Rack: <u>C2</u>
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> Cal
		<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered
	<input type="checkbox"/> Other		
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
		<input type="checkbox"/> None	
Temp °C	<u>-0.6°C</u>	Time:	<u>0909</u>
		Thermometer ID:	<u>IR-1</u>

	YES	NO	NA
Adequate Sample Volume Received? <u>A 3 B bottles</u>	<input checked="" type="checkbox"/>		
Holding Time Acceptable?	<input checked="" type="checkbox"/>		
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>		
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>		
Shipping Documentation Present?	<input checked="" type="checkbox"/>		
Airbill Trk # <u>7984 5914 4746</u>	<input checked="" type="checkbox"/>		
Sample Container Intact?	<input checked="" type="checkbox"/>		
Sample Custody Seals Intact?	<input checked="" type="checkbox"/>		
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>		
COC Anomaly/Sample Acceptance Form completed?		<input checked="" type="checkbox"/>	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			<input checked="" type="checkbox"/>
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented?		<input checked="" type="checkbox"/> None	
Shipping Container	<input checked="" type="checkbox"/> Vista	<input type="checkbox"/> Client	<input checked="" type="checkbox"/> Retain
		<input type="checkbox"/> Return	<input type="checkbox"/> Dispose

Comments:

FB-03082010-B10      AQ  
EB-03082010-B10      ↓