ALPHA ANALYTICAL

World Class Chemistry

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Lab Number: L1609767

Client: Apex Labs

ATTN: Philip Nerenberg

Project Name: A6D0056

Project Number:

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Sample Delivery Group Information

Sample Delivery Group Form

Laboratory Job number: L1609767
Project Manager: Elizabeth Porta **Review Date:** 04/05/2016
Project Number:
Project Name: A6D0056 **Received:** 04/05/2016 13:28
Client Account: Apex labs **Received by:** BB

Samples Delivered by: UPS **Call Tracker #**
Bill Of Laden Yes **Trackingnum** 1zx4720r1391064522
Coc Present Present

Container Status Intact **Sample IDs**

All Containers Accounted For? Yes

Were Extra Samples Received? No

Do Sample Labels and COC agree? Yes

Are Samples in Appropriate Containers? Yes

Are Samples Received within Holding time? Yes

pH of Samples upon Receipt N/A **Are samples Properly Preserved?** Yes
Initial pH **preserved in house with** **Final pH**
Other Issues
Chlorine Check N/A

Are VOA/VPH Vials Present? No
Aqueous: Do Vials Contain Head Space? N/A
Soils: Is MeOHCovering the Soil? N/A
Reagent H2O Preserved vials Frozen on N/A
Frozen by Client N/A

Cooler	Seal	Ice Present	Blue Ice Present	Temp. (Celsius)	Frozen upon Receipt	Delivered Direct from Site
A	Absent	Yes	No	4.3 - IR Gun	No	No

LIMS Chain of Custody

ALPHA ANALYTICAL LABORATORIES, INC.
LOGIN CHAIN OF CUSTODY REPORT
Apr 25 2016, 04:31 pm

Login Number: L1609767
Account: APEX-LABS Apex labs
Received: 05APR16 Due Date: 26APR16

Sample #	Client ID	Mat	PR	Collected	Container
L1609767-01	5237-160401-DC-EMB0	3	S0	01APR16 10:25	1-Glass-A.120
| A2-DPKG-FULL Package Due Date: 04/26/16					
A2-DPKG-FULL,A2-SOOT-LK-4REPS					
L1609767-02	5237-160401-DC-EMB0	3	S0	01APR16 11:05	1-Glass-A.120
| Package Due Date: 04/26/16					
A2-SOOT-LK-4REPS					
L1609767-03	5237-160401-DC-EMB0	3	S0	01APR16 12:00	1-Glass-A.120
| Package Due Date: 04/26/16					
A2-SOOT-LK-4REPS					
L1609767-04	5237-160401-NDP-EMB	3	S0	01APR16 16:00	1-Glass-A.120
| Package Due Date: 04/26/16					
A2-SOOT-LK-4REPS					
L1609767-05	5237-160401-NDP-EMB	3	S0	01APR16 16:10	1-Glass-A.120
| Package Due Date: 04/26/16					
A2-SOOT-LK-4REPS					

Logged By: Elizabeth Porta

Container Tracking

ALPHA ANALYTICAL LABORATORIES
Container Tracking Report

Container ID	Type	Status	Transaction Date	From Response	From Location	From Operator	To Response	To Location	To Operator
L1609767-01A	Glass-A.120	INTACT	20-APR-16	CUSTODY	A2-WET CHEMISTRY	Sonal Patel	A2-CUSTODY-FRZ1-Z3	A2-CUSTODY-FRZ1-Z3	Sonal Patel
L1609767-01A	Glass-A.120	INTACT	20-APR-16	CUSTODY	A2-CUSTODY-FRZ1-Z3	Sonal Patel	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Sonal Patel
L1609767-01A	Glass-A.120	INTACT	05-APR-16	CUSTODY	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-Z3	A2-CUSTODY-FRZ1-Z3	Bethany Bedard
L1609767-01A	Glass-A.120	INTACT	05-APR-16	A2-LOGIN	A2-LOGIN	Bethany Bedard	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard
L1609767-02A	Glass-A.120	INTACT	20-APR-16	CUSTODY	A2-WET CHEMISTRY	Sonal Patel	A2-CUSTODY-FRZ1-Z3	A2-CUSTODY-FRZ1-Z3	Sonal Patel
L1609767-02A	Glass-A.120	INTACT	20-APR-16	CUSTODY	A2-CUSTODY-FRZ1-Z3	Sonal Patel	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Sonal Patel
L1609767-02A	Glass-A.120	INTACT	05-APR-16	CUSTODY	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-Z3	A2-CUSTODY-FRZ1-Z3	Bethany Bedard
L1609767-02A	Glass-A.120	INTACT	05-APR-16	A2-LOGIN	A2-LOGIN	Bethany Bedard	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard
L1609767-03A	Glass-A.120	INTACT	20-APR-16	CUSTODY	A2-WET CHEMISTRY	Sonal Patel	A2-CUSTODY-FRZ1-Z3	A2-CUSTODY-FRZ1-Z3	Sonal Patel
L1609767-03A	Glass-A.120	INTACT	20-APR-16	CUSTODY	A2-CUSTODY-FRZ1-Z3	Sonal Patel	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Sonal Patel
L1609767-03A	Glass-A.120	INTACT	05-APR-16	CUSTODY	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-Z3	A2-CUSTODY-FRZ1-Z3	Bethany Bedard
L1609767-03A	Glass-A.120	INTACT	05-APR-16	A2-LOGIN	A2-LOGIN	Bethany Bedard	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard
L1609767-04A	Glass-A.120	INTACT	20-APR-16	CUSTODY	A2-WET CHEMISTRY	Sonal Patel	A2-CUSTODY-FRZ1-Z3	A2-CUSTODY-FRZ1-Z3	Sonal Patel
L1609767-04A	Glass-A.120	INTACT	20-APR-16	CUSTODY	A2-CUSTODY-FRZ1-Z3	Sonal Patel	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Sonal Patel
L1609767-04A	Glass-A.120	INTACT	05-APR-16	CUSTODY	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-Z3	A2-CUSTODY-FRZ1-Z3	Bethany Bedard
L1609767-04A	Glass-A.120	INTACT	05-APR-16	A2-LOGIN	A2-LOGIN	Bethany Bedard	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard
L1609767-05A	Glass-A.120	INTACT	20-APR-16	CUSTODY	A2-WET CHEMISTRY	Sonal Patel	A2-CUSTODY-FRZ1-Z3	A2-CUSTODY-FRZ1-Z3	Sonal Patel
L1609767-05A	Glass-A.120	INTACT	20-APR-16	CUSTODY	A2-CUSTODY-FRZ1-Z3	Sonal Patel	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Sonal Patel
L1609767-05A	Glass-A.120	INTACT	05-APR-16	CUSTODY	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-Z3	A2-CUSTODY-FRZ1-Z3	Bethany Bedard
L1609767-05A	Glass-A.120	INTACT	05-APR-16	A2-LOGIN	A2-LOGIN	Bethany Bedard	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard

Chain of Custody

KF 4/4/16

SUBCONTRACT ORDER

Apex Laboratories

A6D0056

L1609767

SENDING LABORATORY:

Apex Laboratories
12232 S.W. Garden Place
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 718-0333
Project Manager: Philip Nerenberg

RECEIVING LABORATORY:

Alpha Analytical, INC
320 Forbes Boulevard
Mansfield, MA 02048
Phone :(508) 822-9300
Fax:

L1609767

-01 **Soil Embankment (0-3.5)**

Sample Name: 5237-160401-DC-EMB038 **Soil** **Sampled: 04/01/16 10:25** (A6D0056-02)

Analysis	Due	Expires	Comments
Subcontract Outside	04/14/16 17:00	09/28/16 10:25	Carbon Black-Alpha Analytical Level IV DP needed
Containers Supplied: (D)4 oz Glass Jar			

-02 **Soil Embankment (0-3.5)**

Sample Name: 5237-160401-DC-EMB039 **Soil** **Sampled: 04/01/16 11:05** (A6D0056-04)

Analysis	Due	Expires	Comments
Subcontract Outside	04/14/16 17:00	09/28/16 11:05	Carbon Black-Alpha Analytical Level IV DP needed
Containers Supplied: (D)4 oz Glass Jar			

-03 **Soil Embankment (0-3)**

Sample Name: 5237-160401-DC-EMB046 **Soil** **Sampled: 04/01/16 12:00** (A6D0056-06)

Analysis	Due	Expires	Comments
Subcontract Outside	04/14/16 17:00	09/28/16 12:00	Carbon Black-Alpha Analytical Level IV DP needed
Containers Supplied: (D)4 oz Glass Jar			

-04 **NDP Soil Embankment (0-3.5) Label Reads 523**

Sample Name: 5237-160401-NDP-EMB002 **Soil** **Sampled: 04/01/16 16:00** (A6D0056-08)

Analysis	Due	Expires	Comments
Subcontract Outside	04/14/16 17:00	09/28/16 16:00	Carbon Black-Alpha Analytical Level IV DP needed
Containers Supplied: (D)4 oz Glass Jar			

Standard TAT

Released By	Date	Received By	Date
	4/4/16	UPS (Shipper)	
UPS (Shipper)			
Released By	Date	Received By	Date
			4/5/16 13:28

SUBCONTRACT ORDER

Apex Laboratories

A6D0056

L1609767

NDP Soil Embankment (0-3.0) Label Reads 523

Sample Name: 5237-160401-NDP-EMB003 **Soil** **Sampled: 04/01/16 16:10** (A6D0056-10)

Analysis	Due	Expires	Comments
Subcontract Outside	04/14/16 17:00	09/28/16 16:10	Carbon Black-Alpha Analytical Level IV DP needed

Containers Supplied:
(D)4 oz Glass Jar

4/4/16

UPS (Shipper)

Released By Date Received By Date

UPS (Shipper)

4/5/16 13:28

Released By Date Received By Date

Wet Chemistry

Organic Carbon Analysis

Sequence Logs

Date of report: 4/25/2016 9:05 AM
User ID: mansfield_toc1

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydroge	Nitrogen	ZR	CR	HR	NR
K1	1	10.070	4/22/2016 10:37:20 AM	13.436	21.498	0.002	1547	1699	2849	15580
BLANK	2		4/22/2016 10:42:01 AM	57	704	104	1551	1567	1638	15622
0	3	9.760	4/22/2016 10:46:41 AM	-.033%	5.195%	1.149%	1549	1562	2701	15606
1000	4	10.050	4/22/2016 10:51:22 AM	0.049%	5.250%	1.023%	1549	1573	2756	15611
5000	5	10.200	4/22/2016 10:56:02 AM	0.472%	5.087%	-.183%	1552	1633	2797	15625
10000	6	10.440	4/22/2016 11:00:43 AM	0.939%	5.037%	-.358%	1552	1700	2879	15627
20000	7	10.810	4/22/2016 11:05:23 AM	1.921%	4.884%	1.470%	1550	1847	3030	15625
40000	8	10.500	4/22/2016 11:10:04 AM	3.826%	5.157%	1.958%	1552	2110	3322	15649
ICV	9	9.860	4/22/2016 11:17:09 AM	0.919%	5.584%	1.990%	1549	1688	2919	15614
ICB	10	66.910	4/22/2016 11:21:52 AM	0.006%	0.027%	0.223%	1550	1573	1678	15620
HICV	11	51.490	4/22/2016 11:26:35 AM	3.939%	1.161%	0.309%	1551	4291	5623	15629
SRM1650	12	1.240	4/22/2016 11:31:38 AM	71.279	68.180	31.655%	1552	2758	4613	15665
MB	13	78.050	4/22/2016 11:36:22 AM	0.005%	0.148%	0.144%	1553	1575	1886	15649
SRM1650	14	.520	4/22/2016 11:41:06 AM	114.663	1.399%	62.904%	1551	2371	2452	15649
MB	15	79.740	4/22/2016 11:45:46 AM	0.002%	-.028%	-.023%	1550	1568	1586	15604
SRM1650	16	.950	4/22/2016 11:50:26 AM	86.342	-2.074%	28.529%	1549	2669	2693	15624
MB	17	78.170	4/22/2016 11:55:05 AM	0.001%	-.036%	0.060%	1547	1565	1571	15584
SRM1650	18	.940	4/22/2016 11:59:46 AM	85.018	-2.559%	47.723%	1547	2641	2656	15628
MB	19	80.090	4/22/2016 12:04:25 PM	0.001%	-.037%	0.0%	1547	1565	1568	15578
SRM1650	20	.860	4/22/2016 12:09:05 PM	96.911	-2.780%	28.255%	1547	2684	2700	15601
SRM1650	21	1.070	4/22/2016 12:16:44 PM	86.844	-2.124%	27.950%	1548	2814	2832	15616
CCV	22	10.080	4/22/2016 12:26:47 PM	1.001%	5.545%	0.278%	1546	1698	2947	15573
CCB	23	62.0	4/22/2016 12:31:26 PM	0.003%	0.003%	0.015%	1549	1569	1638	15602
160953910	26	17.820	4/22/2016 1:09:01 PM	1.124%	2.565%	3725.836	1921	9310	1034	90355
160953910	27	13.840	4/22/2016 1:13:35 PM	-.082%	0.454%	-86.435%	1552	1424	1623	14342
160953911	28	14.350	4/22/2016 1:18:09 PM	-.023%	0.360%	-24.553%	1540	1514	1689	15129

Reported on 4/25/2016 9:05 AM by mansfield_toc1

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydroge	Nitrogen	ZR	CR	HR	NR
160953911	29	11.100	4/22/2016 1:22:43 PM	0.024%	0.235%	-11.703%	1539	1545	1666	15359
160953911	30	9.380	4/22/2016 1:27:17 PM	-.010%	0.118%	-6.277%	1538	1546	1636	15420
160953911	31	14.930	4/22/2016 1:31:51 PM	0.013%	0.282%	-2.128%	1535	1550	1705	15421
160953911D	32	16.890	4/22/2016 1:36:26 PM	0.011%	0.191%	-1.605%	1536	1552	1686	15442
160953911D	33	11.130	4/22/2016 1:41:00 PM	0.019%	0.089%	-2.183%	1537	1553	1640	15446
CCV	34	10.100	4/22/2016 1:45:34 PM	1.005%	1.173%	-2.498%	1537	1686	2003	15447
CCB	35	80.270	4/22/2016 1:50:09 PM	0.003%	-.036%	-.245%	1537	1554	1558	15453
160953910	36	23.510	4/22/2016 1:55:40 PM	0.002%	0.151%	-.755%	1535	1549	1690	15433
160953910	37	13.180	4/22/2016 2:00:15 PM	-.007%	-.026%	-1.205%	1537	1550	1608	15456
160953910	38	24.260	4/22/2016 2:04:49 PM	0.003%	0.173%	-.655%	1537	1553	1707	15461
160953910	39	22.130	4/22/2016 2:13:57 PM	0.003%	0.144%	-.845%	1538	1553	1686	15464
160953911D	40	17.230	4/22/2016 2:13:59 PM	0.011%	0.196%	-.922%	1536	1553	1690	15448
160953911D	41	13.730	4/22/2016 2:18:33 PM	0.027%	0.112%	-1.157%	1538	1557	1656	15470
160953911MS	42	13.310	4/22/2016 2:23:08 PM	0.720%	4.201%	-.983%	1538	1682	2931	15475
160953911MS	43	19.080	4/22/2016 2:27:43 PM	0.634%	2.951%	-.588%	1538	1716	2973	15478
160953911MS	44	15.710	4/22/2016 2:32:18 PM	0.698%	3.575%	-.833%	1539	1701	2955	15481
160953911MS	45	11.620	4/22/2016 2:36:53 PM	0.930%	4.896%	-1.206%	1539	1699	2969	15482
CCV	46	9.960	4/22/2016 2:41:28 PM	0.994%	5.834%	-.375%	1540	1688	2984	15501
CCB	47	78.680	4/22/2016 2:46:03 PM	0.001%	0.001%	-.190%	1541	1557	1625	15505
160976701	48	~~13.810~~	4/22/2016 3:01:03 PM	0.001% ✓	0.294%	-.609%	1537	1553	1705	15471
160976701	49	~~12.120~~	4/22/2016 3:05:38 PM	0.003% ✓	0.234%	-1.080%	1539	1554	1680	15479
160976701	50	~~12.820~~	4/22/2016 3:10:13 PM	0.016% ✓	0.268%	-.729%	1539	1557	1696	15490
160976701	51	~~12.240~~	4/22/2016 3:14:48 PM	0.006% ✓	0.218%	-.840%	1539	1555	1677	15486
160976702	52	~~17.020~~	4/22/2016 3:19:23 PM	0.013% ✓	0.326%	-.659%	1539	1556	1740	15481
160976702	53	~~14.620~~	4/22/2016 3:23:59 PM	0.013% ✓	0.325%	-.639%	1538	1556	1722	15480
160976702	54	~~13.440~~	4/22/2016 3:28:34 PM	0.018% ✓	0.262%	-.695%	1539	1557	1697	15483
160976702	55	~~16.420~~	4/22/2016 3:33:09 PM	0.021% ✓	0.347%	-.512%	1540	1560	1746	15498

13.163
11.96
12.65
12.08
16.95
14.56
13.38
16.35

Reported on 4/25/2016 9:05 AM by mansfield_toc1

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydroge	Nitrogen	ZR	CR	HR	NR
160976702	55	~~16.420~~	4/22/2016 3:33:09 PM	0.021%	0.347%	-.512%	1540	1560	1746	15498
160976703	56	~~16.390~~	4/22/2016 3:37:44 PM	~~0.065%~~	0.223%	-.057%	1539	1569	1712	15493
160976703	57	~~12.0~~	4/22/2016 3:42:19 PM	~~0.090%~~	0.141%	-.234%	1541	1571	1673	15511
CCV	58	10.450	4/22/2016 3:46:54 PM	1.007%	3.081%	-1.073%	1539	1695	2443	15487
CCB	59	63.040	4/22/2016 3:51:30 PM	0.0%	-.041%	-.208%	1542	1557	1568	15513
160976703	60	13.310	4/22/2016 3:58:22 PM	0.067%	0.224%	0.070%	1541	1569	1698	15517
160976703	61	16.570	4/22/2016 4:02:57 PM	0.090%	0.217%	0.056%	1540	1576	1718	15505
160976704	62	14.100	4/22/2016 4:07:32 PM	0.033%	0.135%	-.464%	1540	1562	1668	15498
160976704	63	14.190	4/22/2016 4:12:08 PM	0.037%	0.112%	-.395%	1540	1562	1662	15497
160976704	64	18.750	4/22/2016 4:16:43 PM	0.055%	0.223%	-.150%	1542	1571	1726	15521
160976704	65	12.730	4/22/2016 4:21:18 PM	0.063%	0.088%	-.661%	1540	1566	1656	15501
160976705	66	8.430	4/22/2016 4:25:54 PM	0.008%	-.182%	-1.552%	1542	1558	1591	15512
160976705	67	17.510	4/22/2016 4:30:29 PM	0.021%	0.142%	-.427%	1541	1561	1679	15505
160976705	68	10.810	4/22/2016 4:35:04 PM	0.012%	-.046%	-1.037%	1542	1559	1614	15515
160976705	69	12.140	4/22/2016 4:39:40 PM	0.005%	0.019%	-1.001%	1541	1556	1627	15499
CCV	70	10.050	4/22/2016 4:44:15 PM	1.019%	5.235%	1.953%	1541	1697	2876	15536
CCB	71	84.800	4/22/2016 4:48:51 PM	0.002%	-.023%	-.187%	1545	1561	1586	15536
CCV	72	10.290	4/22/2016 4:53:26 PM	0.982%	4.381%	0.727%	1542	1694	2714	15531
CCB	73	73.900	4/22/2016 4:58:01 PM	0.001%	-.024%	-.228%	1545	1561	1588	15540

16.35
16.24
16.89

0.066%
0.091%

Sample Raw Data

Date of report	4/25/2016 9:05:44AM
User ID	mansfield_toc1

DATE & TIME	4/22/2016 10:37:20 AM		P_ID	042216CM	
RUN TYPE	K1		USER ID	mansfield_toc1	
WEIGHT (mg)	10.070		MODE	CHN	
			SIGNALS		
			ZR	15478	AVERAGE RESULTS
KC	13.436		NR	15580	KC 13.424
KH	21.498		CR	16994	KH 21.162
KN	0.002		HR	28498	KN 0.107
BLANKS	61	615	100		
K FACTORS	1.0%	5.03%	11.67%		
FILL TIME	22 Seconds				

DATE & TIME	4/22/2016 10:42:01 AM		P_ID	042216CM	
RUN TYPE	BLANK		USER ID	mansfield_toc1	
			MODE	CHN	
			SIGNALS		
			ZR	15518	AVERAGE RESULTS
CARBON	57		NR	15622	CARBON 59
HYDROGEN	704		CR	15679	HYDROGEN 659
NITROGEN	104		HR	16383	NITROGEN 102
FILL TIME	22 Seconds				

DATE & TIME	4/22/2016 10:46:41 AM		P_ID	042216CM	
SAMPLE ID	0		USER ID	mansfield_toc1	
WEIGHT (mg)	9.760		MODE	CHN	
			SIGNALS		
			ZR	15492	
CARBON	-.033%		NR	15606	
HYDROGEN	5.195%		CR	15622	
NITROGEN	1.149%		HR	27010	
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	22 Seconds				

DATE & TIME	4/22/2016 10:51:22 AM		P_ID	042216CM	
SAMPLE ID	1000		USER ID	mansfield_toc1	
WEIGHT (mg)	10.050		MODE	CHN	
			SIGNALS		
			ZR	15498	
CARBON	0.049%		NR	15611	
HYDROGEN	5.250%		CR	15736	
NITROGEN	1.023%		HR	27560	
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	22 Seconds				

DATE & TIME	4/22/2016 10:56:02 AM	P_ID	042216CM
SAMPLE ID	5000	USER ID	mansfield_toc1
WEIGHT (mg)	10.200	MODE	CHN

			SIGNALS	
			ZR	15525
CARBON	0.472%		NR	15625
HYDROGEN	5.087%		CR	16330
NITROGEN	-.183%		HR	27970
BLANKS	59	659	102	
K FACTORS	13.424	21.162	0.107	

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	4/22/2016 11:00:43 AM	P_ID	042216CM
SAMPLE ID	10000	USER ID	mansfield_toc1
WEIGHT (mg)	10.440	MODE	CHN

			SIGNALS	
			ZR	15529
CARBON	0.939%		NR	15627
HYDROGEN	5.037%		CR	17002
NITROGEN	-.358%		HR	28790
BLANKS	59	659	102	
K FACTORS	13.424	21.162	0.107	

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	4/22/2016 11:05:23 AM	P_ID	042216CM
SAMPLE ID	20000	USER ID	mansfield_toc1
WEIGHT (mg)	10.810	MODE	CHN

			SIGNALS	
			ZR	15506
CARBON	1.921%		NR	15625
HYDROGEN	4.884%		CR	18472
NITROGEN	1.470%		HR	30303
BLANKS	59	659	102	
K FACTORS	13.424	21.162	0.107	

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	4/22/2016 11:10:04 AM	P_ID	042216CM
SAMPLE ID	40000	USER ID	mansfield_toc1
WEIGHT (mg)	10.500	MODE	CHN

		SIGNALS	
		ZR	15525
CARBON	3.826%	NR	15649
HYDROGEN	5.157%	CR	21101
NITROGEN	1.958%	HR	33220

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	4/22/2016 11:17:09 AM	P_ID	042216CM
SAMPLE ID	ICV	USER ID	mansfield_toc1
WEIGHT (mg)	9.860	MODE	CHN

		SIGNALS	
		ZR	15491
CARBON	0.919%	NR	15614
HYDROGEN	5.584%	CR	16889
NITROGEN	1.990%	HR	29199

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 24 Seconds

DATE & TIME	4/22/2016 11:21:52 AM	P_ID	042216CM
SAMPLE ID	ICB	USER ID	mansfield_toc1
WEIGHT (mg)	66.910	MODE	CHN

		SIGNALS	
		ZR	15502
CARBON	0.006%	NR	15620
HYDROGEN	0.027%	CR	15737
NITROGEN	0.223%	HR	16782

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 24 Seconds

DATE & TIME	4/22/2016 11:26:35 AM	P_ID	042216CM
SAMPLE ID	HICV	USER ID	mansfield_toc1
WEIGHT (mg)	51.490	MODE	CHN

		SIGNALS	
		ZR	15510
CARBON	3.939%	NR	15629
HYDROGEN	1.161%	CR	42916
NITROGEN	0.309%	HR	56230

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 25 Seconds

DATE & TIME	4/22/2016 11:31:38 AM	P_ID	042216CM
SAMPLE ID	SRM1650	USER ID	mansfield_toc1
WEIGHT (mg)	1.240	MODE	CHN

				SIGNALS	
				ZR	15521
CARBON	71.279%			NR	15665
HYDROGEN	68.180%			CR	27589
NITROGEN	31.655%			HR	46139
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	25 Seconds				

DATE & TIME	4/22/2016 11:36:22 AM	P_ID	042216CM
SAMPLE ID	MB	USER ID	mansfield_toc1
WEIGHT (mg)	78.050	MODE	CHN

				SIGNALS	
				ZR	15535
CARBON	0.005%			NR	15649
HYDROGEN	0.148%			CR	15757
NITROGEN	0.144%			HR	18865
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	26 Seconds				

DATE & TIME	4/22/2016 11:41:06 AM	P_ID	042216CM
SAMPLE ID	SRM1650	USER ID	mansfield_toc1
WEIGHT (mg)	.520	MODE	CHN

				SIGNALS	
				ZR	15512
CARBON	114.663%			NR	15649
HYDROGEN	1.399%			CR	23712
NITROGEN	62.904%			HR	24525
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	25 Seconds				

DATE & TIME	4/22/2016 11:45:46 AM	P_ID	042216CM
SAMPLE ID	MB	USER ID	mansfield_toc1
WEIGHT (mg)	79.740	MODE	CHN

				SIGNALS	
				ZR	15504
CARBON	0.002%			NR	15604
HYDROGEN	-.028%			CR	15683
NITROGEN	-.023%			HR	15867
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	21 Seconds				

DATE & TIME	4/22/2016 11:50:26 AM	P_ID	042216CM
SAMPLE ID	SRM1650	USER ID	mansfield_toc1
WEIGHT (mg)	.950	MODE	CHN

				SIGNALS	
				ZR	15493
CARBON	86.342%			NR	15624
HYDROGEN	-2.074%			CR	26694
NITROGEN	28.529%			HR	26936
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	21 Seconds				

DATE & TIME	4/22/2016 11:55:05 AM	P_ID	042216CM
SAMPLE ID	MB	USER ID	mansfield_toc1
WEIGHT (mg)	78.170	MODE	CHN

				SIGNALS	
				ZR	15477
CARBON	0.001%			NR	15584
HYDROGEN	-.036%			CR	15653
NITROGEN	0.060%			HR	15710
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	21 Seconds				

DATE & TIME	4/22/2016 11:59:46 AM	P_ID	042216CM
SAMPLE ID	SRM1650	USER ID	mansfield_toc1
WEIGHT (mg)	940	MODE	CHN

				SIGNALS	
				ZR	15478
CARBON	85.018%			NR	15628
HYDROGEN	-2.559%			CR	26415
NITROGEN	47.723%			HR	26565
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	21 Seconds				

DATE & TIME	4/22/2016 12:04:25 PM	P_ID	042216CM
SAMPLE ID	MB	USER ID	mansfield_toc1
WEIGHT (mg)	80.090	MODE	CHN

				SIGNALS	
				ZR	15476
CARBON	0.001%			NR	15578
HYDROGEN	-.037%			CR	15651
NITROGEN	0.0%			HR	15688

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 21 Seconds

DATE & TIME	4/22/2016 12:09:05 PM	P_ID	042216CM
SAMPLE ID	SRM1650	USER ID	mansfield_toc1
WEIGHT (mg)	.860	MODE	CHN

		SIGNALS	
		ZR	15473
CARBON	96.911%	NR	15601
HYDROGEN	-2.780%	CR	26848
NITROGEN	28.255%	HR	27001

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 21 Seconds

DATE & TIME	4/22/2016 12:16:44 PM	P_ID	042216CM
SAMPLE ID	SRM1650	USER ID	mansfield_toc1
WEIGHT (mg)	1.070	MODE	CHN

		SIGNALS	
		ZR	15482
CARBON	86.844%	NR	15616
HYDROGEN	-2.124%	CR	28149
NITROGEN	27.950%	HR	28327

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 21 Seconds

DATE & TIME	4/22/2016 12:26:47 PM	P_ID	042216CM
SAMPLE ID	CCV	USER ID	mansfield_toc1
WEIGHT (mg)	10.080	MODE	CHN

		SIGNALS	
		ZR	15468
CARBON	1.001%	NR	15573
HYDROGEN	5.545%	CR	16986
NITROGEN	0.278%	HR	29473

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 21 Seconds

DATE & TIME	4/22/2016 12:31:26 PM	P_ID	042216CM
SAMPLE ID	CCB	USER ID	mansfield_toc1
WEIGHT (mg)	62.0	MODE	CHN

				SIGNALS	
				ZR	15499
CARBON	0.003%			NR	15602
HYDROGEN	0.003%			CR	15690
NITROGEN	0.015%			HR	16383
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	21 Seconds				

DATE & TIME	4/22/2016 1:09:01 PM	P_ID	042216CM
SAMPLE ID	160953910	USER ID	mansfield_toc1
WEIGHT (mg)	17.820	MODE	CHN

				SIGNALS	
				ZR	19211
CARBON	1.124%			NR	90355
HYDROGEN	2.565%			CR	93103
NITROGEN	3725.836%			HR	103436
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	212 Seconds				

DATE & TIME	4/22/2016 1:13:35 PM	P_ID	042216CM
SAMPLE ID	160953910	USER ID	mansfield_toc1
WEIGHT (mg)	13.840	MODE	CHN

				SIGNALS	
				ZR	15520
CARBON	-.082%			NR	14342
HYDROGEN	0.454%			CR	14248
NITROGEN	-86.435%			HR	16236
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	15 Seconds				

DATE & TIME	4/22/2016 1:18:09 PM	P_ID	042216CM
SAMPLE ID	160953911	USER ID	mansfield_toc1
WEIGHT (mg)	14.350	MODE	CHN

				SIGNALS	
				ZR	15404
CARBON	-.023%			NR	15129
HYDROGEN	0.360%			CR	15144
NITROGEN	-24.553%			HR	16897
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	15 Seconds				

DATE & TIME	4/22/2016 1:22:43 PM	P_ID	042216CM
SAMPLE ID	160953911	USER ID	mansfield_toc1
WEIGHT (mg)	11.100	MODE	CHN

		SIGNALS	
		ZR	15396
CARBON	0.024%	NR	15359
HYDROGEN	0.235%	CR	15454
NITROGEN	-11.703%	HR	16664

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 15 Seconds

DATE & TIME	4/22/2016 1:27:17 PM	P_ID	042216CM
SAMPLE ID	160953911	USER ID	mansfield_toc1
WEIGHT (mg)	9.380	MODE	CHN

		SIGNALS	
		ZR	15381
CARBON	-.010%	NR	15420
HYDROGEN	0.118%	CR	15466
NITROGEN	-6.277%	HR	16360

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 15 Seconds

DATE & TIME	4/22/2016 1:31:51 PM	P_ID	042216CM
SAMPLE ID	160953911	USER ID	mansfield_toc1
WEIGHT (mg)	14.930	MODE	CHN

		SIGNALS	
		ZR	15353
CARBON	0.013%	NR	15421
HYDROGEN	0.282%	CR	15507
NITROGEN	-2.128%	HR	17056

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 15 Seconds

DATE & TIME	4/22/2016 1:36:26 PM	P_ID	042216CM
SAMPLE ID	160953911D	USER ID	mansfield_toc1
WEIGHT (mg)	16.890	MODE	CHN

		SIGNALS	
		ZR	15369
CARBON	0.011%	NR	15442
HYDROGEN	0.191%	CR	15525
NITROGEN	-1.605%	HR	16868

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 16 Seconds

DATE & TIME	4/22/2016 1:41:00 PM	P_ID	042216CM
SAMPLE ID	160953911D	USER ID	mansfield_toc1
WEIGHT (mg)	11.130	MODE	CHN

		SIGNALS	
		ZR	15370
CARBON	0.019%	NR	15446
HYDROGEN	0.089%	CR	15533
NITROGEN	-2.183%	HR	16402

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 16 Seconds

DATE & TIME	4/22/2016 1:45:34 PM	P_ID	042216CM
SAMPLE ID	CCV	USER ID	mansfield_toc1
WEIGHT (mg)	10.100	MODE	CHN

		SIGNALS	
		ZR	15372
CARBON	1.005%	NR	15447
HYDROGEN	1.173%	CR	16868
NITROGEN	-2.498%	HR	20035

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 16 Seconds

DATE & TIME	4/22/2016 1:50:09 PM	P_ID	042216CM
SAMPLE ID	CCB	USER ID	mansfield_toc1
WEIGHT (mg)	80.270	MODE	CHN

		SIGNALS	
		ZR	15372
CARBON	0.003%	NR	15453
HYDROGEN	-.036%	CR	15543
NITROGEN	-.245%	HR	15585

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 16 Seconds

DATE & TIME	4/22/2016 1:55:40 PM	P_ID	042216CM
SAMPLE ID	160953910	USER ID	mansfield_toc1
WEIGHT (mg)	23.510	MODE	CHN

				SIGNALS	
				ZR	15350
	CARBON	0.002%		NR	15433
	HYDROGEN	0.151%		CR	15499
	NITROGEN	-.755%		HR	16907
	BLANKS	59	659	102	
	K FACTORS	13.424	21.162	0.107	
	FILL	COMB	BOOST1	BOOST2	
	0	0	0	0	
	FILL TIME	16 Seconds			

DATE & TIME	4/22/2016 2:00:15 PM	P_ID	042216CM
SAMPLE ID	160953910	USER ID	mansfield_toc1
WEIGHT (mg)	13.180	MODE	CHN

				SIGNALS	
				ZR	15371
	CARBON	-.007%		NR	15456
	HYDROGEN	-.026%		CR	15503
	NITROGEN	-1.205%		HR	16089
	BLANKS	59	659	102	
	K FACTORS	13.424	21.162	0.107	
	FILL	COMB	BOOST1	BOOST2	
	0	0	0	0	
	FILL TIME	16 Seconds			

DATE & TIME	4/22/2016 2:04:49 PM	P_ID	042216CM
SAMPLE ID	160953910	USER ID	mansfield_toc1
WEIGHT (mg)	24.260	MODE	CHN

				SIGNALS	
				ZR	15376
	CARBON	0.003%		NR	15461
	HYDROGEN	0.173%		CR	15530
	NITROGEN	-.655%		HR	17077
	BLANKS	59	659	102	
	K FACTORS	13.424	21.162	0.107	
	FILL	COMB	BOOST1	BOOST2	
	0	0	0	0	
	FILL TIME	16 Seconds			

DATE & TIME	4/22/2016 2:13:57 PM	P_ID	042216CM
SAMPLE ID	160953910	USER ID	mansfield_toc1
WEIGHT (mg)	22.130	MODE	CHN

				SIGNALS	
				ZR	15382
	CARBON	0.003%		NR	15464
	HYDROGEN	0.144%		CR	15533
	NITROGEN	-.845%		HR	16867
	BLANKS	59	659	102	
	K FACTORS	13.424	21.162	0.107	
	FILL	COMB	BOOST1	BOOST2	
	0	0	0	0	
	FILL TIME	16 Seconds			

DATE & TIME	4/22/2016 2:13:59 PM	P_ID	042216CM
SAMPLE ID	160953911D	USER ID	mansfield_toc1
WEIGHT (mg)	17.230	MODE	CHN

				SIGNALS	
				ZR	15363
CARBON	0.011%			NR	15448
HYDROGEN	0.196%			CR	15532
NITROGEN	-.922%			HR	16906
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	16 Seconds				

DATE & TIME	4/22/2016 2:18:33 PM	P_ID	042216CM
SAMPLE ID	160953911D	USER ID	mansfield_toc1
WEIGHT (mg)	13.730	MODE	CHN

				SIGNALS	
				ZR	15385
CARBON	0.027%			NR	15470
HYDROGEN	0.112%			CR	15578
NITROGEN	-1.157%			HR	16561
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	16 Seconds				

DATE & TIME	4/22/2016 2:23:08 PM	P_ID	042216CM
SAMPLE ID	160953911MS	USER ID	mansfield_toc1
WEIGHT (mg)	13.310	MODE	CHN

				SIGNALS	
				ZR	15387
CARBON	0.720%			NR	15475
HYDROGEN	4.201%			CR	16820
NITROGEN	-.983%			HR	29311
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	16 Seconds				

DATE & TIME	4/22/2016 2:27:43 PM	P_ID	042216CM
SAMPLE ID	160953911MS	USER ID	mansfield_toc1
WEIGHT (mg)	19.080	MODE	CHN

				SIGNALS	
				ZR	15388
CARBON	0.634%			NR	15478
HYDROGEN	2.951%			CR	17162
NITROGEN	-.588%			HR	29736

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 16 Seconds

DATE & TIME	4/22/2016 2:32:18 PM	P_ID	042216CM
SAMPLE ID	160953911MS	USER ID	mansfield_toc1
WEIGHT (mg)	15.710	MODE	CHN

		SIGNALS	
		ZR	15393
CARBON	0.698%	NR	15481
HYDROGEN	3.575%	CR	17011
NITROGEN	-.833%	HR	29555
BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 16 Seconds

DATE & TIME	4/22/2016 2:36:53 PM	P_ID	042216CM
SAMPLE ID	160953911MS	USER ID	mansfield_toc1
WEIGHT (mg)	11.620	MODE	CHN

		SIGNALS	
		ZR	15395
CARBON	0.930%	NR	15482
HYDROGEN	4.896%	CR	16991
NITROGEN	-1.206%	HR	29690
BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 16 Seconds

DATE & TIME	4/22/2016 2:41:28 PM	P_ID	042216CM
SAMPLE ID	CCV	USER ID	mansfield_toc1
WEIGHT (mg)	9.960	MODE	CHN

		SIGNALS	
		ZR	15403
CARBON	0.994%	NR	15501
HYDROGEN	5.834%	CR	16889
NITROGEN	-.375%	HR	29845
BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 16 Seconds

DATE & TIME	4/22/2016 2:46:03 PM	P_ID	042216CM
SAMPLE ID	CCB	USER ID	mansfield_toc1
WEIGHT (mg)	78.680	MODE	CHN

				SIGNALS	
				ZR	15419
CARBON	0.001%			NR	15505
HYDROGEN	0.001%			CR	15575
NITROGEN	-.190%			HR	16251
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	16 Seconds				

DATE & TIME	4/22/2016 3:01:03 PM	P_ID	042216CM
SAMPLE ID	160976701	USER ID	mansfield_toc1
WEIGHT (mg)	13.810	MODE	CHN

				SIGNALS	
				ZR	15378
CARBON	0.001%			NR	15471
HYDROGEN	0.294%			CR	15532
NITROGEN	-.609%			HR	17050
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	16 Seconds				

DATE & TIME	4/22/2016 3:05:38 PM	P_ID	042216CM
SAMPLE ID	160976701	USER ID	mansfield_toc1
WEIGHT (mg)	12.120	MODE	CHN

				SIGNALS	
				ZR	15391
CARBON	0.003%			NR	15479
HYDROGEN	0.234%			CR	15543
NITROGEN	-1.080%			HR	16801
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	16 Seconds				

DATE & TIME	4/22/2016 3:10:13 PM	P_ID	042216CM
SAMPLE ID	160976701	USER ID	mansfield_toc1
WEIGHT (mg)	12.820	MODE	CHN

				SIGNALS	
				ZR	15398
CARBON	0.016%			NR	15490
HYDROGEN	0.268%			CR	15576
NITROGEN	-.729%			HR	16963
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	16 Seconds				

DATE & TIME	4/22/2016 3:14:48 PM	P_ID	042216CM
SAMPLE ID	160976701	USER ID	mansfield_toc1
WEIGHT (mg)	12.240	MODE	CHN

		SIGNALS	
		ZR	15395
CARBON	0.006%	NR	15486
HYDROGEN	0.218%	CR	15555
NITROGEN	-.840%	HR	16779

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 16 Seconds

DATE & TIME	4/22/2016 3:19:23 PM	P_ID	042216CM
SAMPLE ID	160976702	USER ID	mansfield_toc1
WEIGHT (mg)	17.020	MODE	CHN

		SIGNALS	
		ZR	15391
CARBON	0.013%	NR	15481
HYDROGEN	0.326%	CR	15569
NITROGEN	-.659%	HR	17402

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 16 Seconds

DATE & TIME	4/22/2016 3:23:59 PM	P_ID	042216CM
SAMPLE ID	160976702	USER ID	mansfield_toc1
WEIGHT (mg)	14.620	MODE	CHN

		SIGNALS	
		ZR	15388
CARBON	0.013%	NR	15480
HYDROGEN	0.325%	CR	15565
NITROGEN	-.639%	HR	17228

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 16 Seconds

DATE & TIME	4/22/2016 3:28:34 PM	P_ID	042216CM
SAMPLE ID	160976702	USER ID	mansfield_toc1
WEIGHT (mg)	13.440	MODE	CHN

		SIGNALS	
		ZR	15391
CARBON	0.018%	NR	15483
HYDROGEN	0.262%	CR	15575
NITROGEN	-.695%	HR	16979

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 16 Seconds

DATE & TIME	4/22/2016 3:33:09 PM	P_ID	042216CM
SAMPLE ID	160976702	USER ID	mansfield_toc1
WEIGHT (mg)	16.420	MODE	CHN

		SIGNALS	
		ZR	15405
CARBON	0.021%	NR	15498
HYDROGEN	0.347%	CR	15603
NITROGEN	-.512%	HR	17469

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 16 Seconds

DATE & TIME	4/22/2016 3:37:44 PM	P_ID	042216CM
SAMPLE ID	160976703	USER ID	mansfield_toc1
WEIGHT (mg)	16.390	MODE	CHN

		SIGNALS	
		ZR	15392
CARBON	0.065%	NR	15493
HYDROGEN	0.223%	CR	15696
NITROGEN	-.057%	HR	17128

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 16 Seconds

DATE & TIME	4/22/2016 3:42:19 PM	P_ID	042216CM
SAMPLE ID	160976703	USER ID	mansfield_toc1
WEIGHT (mg)	12.0	MODE	CHN

		SIGNALS	
		ZR	15412
CARBON	0.090%	NR	15511
HYDROGEN	0.141%	CR	15715
NITROGEN	-.234%	HR	16732

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 17 Seconds

DATE & TIME	4/22/2016 3:46:54 PM	P_ID	042216CM
SAMPLE ID	CCV	USER ID	mansfield_toc1
WEIGHT (mg)	10.450	MODE	CHN

				SIGNALS	
				ZR	15397
CARBON	1.007%			NR	15487
HYDROGEN	3.081%			CR	16959
NITROGEN	-1.073%			HR	24431
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	16 Seconds				

DATE & TIME	4/22/2016 3:51:30 PM	P_ID	042216CM
SAMPLE ID	CCB	USER ID	mansfield_toc1
WEIGHT (mg)	63.040	MODE	CHN

				SIGNALS	
				ZR	15425
CARBON	0.0%			NR	15513
HYDROGEN	-.041%			CR	15576
NITROGEN	-.208%			HR	15684
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	17 Seconds				

DATE & TIME	4/22/2016 3:58:22 PM	P_ID	042216CM
SAMPLE ID	160976703	USER ID	mansfield_toc1
WEIGHT (mg)	13.310	MODE	CHN

				SIGNALS	
				ZR	15414
CARBON	0.067%			NR	15517
HYDROGEN	0.224%			CR	15696
NITROGEN	0.070%			HR	16986
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	17 Seconds				

DATE & TIME	4/22/2016 4:02:57 PM	P_ID	042216CM
SAMPLE ID	160976703	USER ID	mansfield_toc1
WEIGHT (mg)	16.570	MODE	CHN

				SIGNALS	
				ZR	15402
CARBON	0.090%			NR	15505
HYDROGEN	0.217%			CR	15764
NITROGEN	0.056%			HR	17183
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	17 Seconds				

DATE & TIME	4/22/2016 4:07:32 PM	P_ID	042216CM
SAMPLE ID	160976704	USER ID	mansfield_toc1
WEIGHT (mg)	14.100	MODE	CHN

		SIGNALS		
		ZR	15403	
CARBON	0.033%	NR	15498	
HYDROGEN	0.135%	CR	15620	
NITROGEN	-.464%	HR	16683	
BLANKS	59	659	102	
K FACTORS	13.424	21.162	0.107	

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 17 Seconds

DATE & TIME	4/22/2016 4:12:08 PM	P_ID	042216CM
SAMPLE ID	160976704	USER ID	mansfield_toc1
WEIGHT (mg)	14.190	MODE	CHN

		SIGNALS		
		ZR	15401	
CARBON	0.037%	NR	15497	
HYDROGEN	0.112%	CR	15626	
NITROGEN	-.395%	HR	16621	
BLANKS	59	659	102	
K FACTORS	13.424	21.162	0.107	

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 17 Seconds

DATE & TIME	4/22/2016 4:16:43 PM	P_ID	042216CM
SAMPLE ID	160976704	USER ID	mansfield_toc1
WEIGHT (mg)	18.750	MODE	CHN

		SIGNALS		
		ZR	15422	
CARBON	0.055%	NR	15521	
HYDROGEN	0.223%	CR	15719	
NITROGEN	-.150%	HR	17263	
BLANKS	59	659	102	
K FACTORS	13.424	21.162	0.107	

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 17 Seconds

DATE & TIME	4/22/2016 4:21:18 PM	P_ID	042216CM
SAMPLE ID	160976704	USER ID	mansfield_toc1
WEIGHT (mg)	12.730	MODE	CHN

		SIGNALS		
		ZR	15408	
CARBON	0.063%	NR	15501	
HYDROGEN	0.088%	CR	15667	
NITROGEN	-.661%	HR	16562	

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 17 Seconds

DATE & TIME	4/22/2016 4:25:54 PM	P_ID	042216CM
SAMPLE ID	160976705	USER ID	mansfield_toc1
WEIGHT (mg)	8.430	MODE	CHN

		SIGNALS	
		ZR	15424
CARBON	0.008%	NR	15512
HYDROGEN	-.182%	CR	15580
NITROGEN	-1.552%	HR	15914

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 17 Seconds

DATE & TIME	4/22/2016 4:30:29 PM	P_ID	042216CM
SAMPLE ID	160976705	USER ID	mansfield_toc1
WEIGHT (mg)	17.510	MODE	CHN

		SIGNALS	
		ZR	15411
CARBON	0.021%	NR	15505
HYDROGEN	0.142%	CR	15614
NITROGEN	-.427%	HR	16798

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 17 Seconds

DATE & TIME	4/22/2016 4:35:04 PM	P_ID	042216CM
SAMPLE ID	160976705	USER ID	mansfield_toc1
WEIGHT (mg)	10.810	MODE	CHN

		SIGNALS	
		ZR	15425
CARBON	0.012%	NR	15515
HYDROGEN	-.046%	CR	15592
NITROGEN	-1.037%	HR	16145

BLANKS	59	659	102
K FACTORS	13.424	21.162	0.107

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 17 Seconds

DATE & TIME	4/22/2016 4:39:40 PM	P_ID	042216CM
SAMPLE ID	160976705	USER ID	mansfield_toc1
WEIGHT (mg)	12.140	MODE	CHN

				SIGNALS	
				ZR	15410
CARBON	0.005%			NR	15499
HYDROGEN	0.019%			CR	15566
NITROGEN	-1.001%			HR	16273
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	17 Seconds				

DATE & TIME	4/22/2016 4:44:15 PM	P_ID	042216CM
SAMPLE ID	CCV	USER ID	mansfield_toc1
WEIGHT (mg)	10.050	MODE	CHN

				SIGNALS	
				ZR	15413
CARBON	1.019%			NR	15536
HYDROGEN	5.235%			CR	16970
NITROGEN	1.953%			HR	28762
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	17 Seconds				

DATE & TIME	4/22/2016 4:48:51 PM	P_ID	042216CM
SAMPLE ID	CCB	USER ID	mansfield_toc1
WEIGHT (mg)	84.800	MODE	CHN

				SIGNALS	
				ZR	15451
CARBON	0.002%			NR	15536
HYDROGEN	-.023%			CR	15618
NITROGEN	-.187%			HR	15864
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	17 Seconds				

DATE & TIME	4/22/2016 4:53:26 PM	P_ID	042216CM
SAMPLE ID	CCV	USER ID	mansfield_toc1
WEIGHT (mg)	10.290	MODE	CHN

				SIGNALS	
				ZR	15421
CARBON	0.982%			NR	15531
HYDROGEN	4.381%			CR	16946
NITROGEN	0.727%			HR	27145
BLANKS	59	659	102		
K FACTORS	13.424	21.162	0.107		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	17 Seconds				

DATE & TIME	4/22/2016 4:58:01 PM	P_ID	042216CM
SAMPLE ID	CCB	USER ID	mansfield_toc1
WEIGHT (mg)	73.900	MODE	CHN

			SIGNALS	
			ZR	15456
CARBON	0.001%		NR	15540
HYDROGEN	-.024%		CR	15610
NITROGEN	-.228%		HR	15888
BLANKS	59	659	102	
K FACTORS	13.424	21.162	0.107	

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	17 Seconds		

Work Group

ALPHA ANALYTICAL LABORATORIES, INC.

Alpha WORK GROUP REPORT (wk02)

Apr 25 2016, 02:53 pm

Work Group: WG886401 for Department: 7 Wet Chemistry

Created: 22-APR-16 Due: Operator: AR

Sample	Client ID	C	Product	Matrix	Stat	UA	HOLD	DUE	PR	Location
L1609539-10	5237-160328-DC-SED08	S	A2-SOOT-LK-4REPS	SOIL	DONE	U	0411	0422	S0	Glass-A.120
L1609539-11	5237-160328-DC-SED08	S	A2-SOOT-LK-4REPS	SOIL	DONE	U	0411	0422	S0	Glass-A.120
L1609767-01	5237-160401-DC-EMB03	S	A2-SOOT-LK-4REPS	SOIL	DONE	U	0415	0426	S0	Glass-A.120
L1609767-02	5237-160401-DC-EMB03	S	A2-SOOT-LK-4REPS	SOIL	DONE	U	0415	0426	S0	Glass-A.120
L1609767-03	5237-160401-DC-EMB04	S	A2-SOOT-LK-4REPS	SOIL	DONE	U	0415	0426	S0	Glass-A.120
L1609767-04	5237-160401-NDP-EMB0	S	A2-SOOT-LK-4REPS	SOIL	DONE	U	0415	0426	S0	Glass-A.120
L1609767-05	5237-160401-NDP-EMB0	S	A2-SOOT-LK-4REPS	SOIL	DONE	U	0415	0426	S0	Glass-A.120
WG886401-1	Laboratory Method Bl	S	A2-SOOT-LK-4REPS	SOIL	DONE	U				
WG886401-2	Standard Reference M	S	A2-SOOT-LK-4REPS	SOIL	DONE	U				
WG886401-3	Duplicate Sample	S	A2-SOOT-LK-4REPS	SOIL	DONE	U				
WG886401-4	Matrix Spike	S	A2-SOOT-LK-4REPS	SOIL	DONE	U				

Comments:

WG886401-3	L1609539-11
WG886401-4	L1609539-11

Sample Preparation

TOC Instrument: (#1) - SN: 241N8102003 #3 - SN: 241L1308211
(Circle one) #2 - SN: 241N9041221

Date: 4/22/16
Analyst: CW
2° Review: _____

CCV ID: WW120315A→E
SRM 1944 ID: WS031814A
Filter Aid ID: WS030411A

ICV ID: WW120315F
Balance ID: 002288
Other SRM ID: WS070714A

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
~~Conditioning Std~~				1	10.07
Blank				2	67.25
~~K Factor~~				3	9.76
~~Blank~~ 1000				4	10.05
~~K Factor~~ 5000				5	10.20
~~K Factor~~ 10000				6	10.44
~~ICV~~ 20000				7	10.81
~~ICB~~ 40000				8	10.50
~~LCS~~ ICV				9	9.86
~~Blank~~ ICB				10	66.91
HICV				11	51.49
SRM1650				12	1.24
MB				13	78.05
SRM1650				14	0.52
MB				15	79.74
SRM1650				16	0.95
MB				17	78.17
SRM1650				18	0.94
~~CCV~~ MB				19	80.09
~~CCB~~ SRM1650				20	0.86
~~MB~~ SRM1650				21	1.07
CCV				22	10.08

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
CCB				23	02.00
L1609539	10			24	16.24
	10			25	20.36
	10			26	17.82
	10			27	13.84
	11			28	14.35
	11			29	11.10
	11			30	9.38
~~CCV~~	11			31	14.93
~~CCB~~	11D			32	16.89
	11D			33	11.13
CCV				34	10.10
CCB				35	80.27
L1609539	10RR			36	23.51
	10RR			37	13.18
	10RR			38	24.26
	10RR			39	22.13
	11D			40	17.23
	11D			41	13.73
	11MS	9.72		42	13.31
~~CCV~~	11MS	11.01		43	19.08
~~CCB~~	11MS	9.90		44	15.71

Document Type: Form

Pre-Qualtrax Document ID: 107-02

TOC Instrument: #1 - SN: 241N8102003 #3 - SN: 241L1308211
(Circle one) #2 - SN: 241N9041221

Date: _____ CCV ID: _____ ICV ID: _____
Analyst: _____ 2° Review: _____ SRM 1944 ID: _____ Balance ID: _____
Filter Aid ID: _____ Other SRM ID: _____

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
Conditioning Std					
Blank					
K Factor					
Blank					
K Factor					
K Factor					
ICV					
ICB					
LCS					
Blank					
L1609539	11MS	10.05		45	11.62
CCV				46	9.96
CCB				47	78.68
* L1609767	01			48	13.81
	01			49	12.12
	01			50	12.82
	01			51	12.24
	02			52	17.02
~~CCV~~	02			53	14.62
~~CCB~~	02			54	13.44
	02			55	16.42
	03			56	16.39

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
* L1609767	03			57	12.00
CCV				58	10.45
CCB				59	63.04
L1609767	03			60	13.31
	03			61	16.57
	04			62	14.10
	04			63	14.19
	04			64	18.75
~~CCV~~	04			65	12.73
~~CCB~~	05			66	8.43
	05			67	17.51
	05			68	10.81
	05			69	12.14
CCV				70	10.05
CCB				71	84.80
CCV				72	10.29
CCB				73	73.90
CCV					
CCB					

* weight to be corrected CM 4/22/16

Alpha Report

ANALYTICAL REPORT

Lab Number:	L1609767
Client:	Apex labs 12232 SW Garden Place Tigard, OR 97223
ATTN:	Philip Nerenberg
Phone:	(503) 718-2323
Project Name:	A6D0056
Project Number:	Not Specified
Report Date:	04/25/16

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), ME (MA00030), PA (68-02089), VA (460194), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), USFWS (Permit #LE2069641), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: A6D0056
Project Number: Not Specified

Lab Number: L1609767
Report Date: 04/25/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1609767-01	5237-160401-DC-EMB038	SEDIMENT	Not Specified	04/01/16 10:25	04/05/16
L1609767-02	5237-160401-DC-EMB039	SEDIMENT	Not Specified	04/01/16 11:05	04/05/16
L1609767-03	5237-160401-DC-EMB046	SEDIMENT	Not Specified	04/01/16 12:00	04/05/16
L1609767-04	5237-160401-NDP-EMB002	SEDIMENT	Not Specified	04/01/16 16:00	04/05/16
L1609767-05	5237-160401-NDP-EMB003	SEDIMENT	Not Specified	04/01/16 16:10	04/05/16

Project Name: A6D0056 **Lab Number:** L1609767
Project Number: Not Specified **Report Date:** 04/25/16

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: A6D0056 **Lab Number:** L1609767
Project Number: Not Specified **Report Date:** 04/25/16

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Porta

Title: Technical Director/Representative Date: 04/25/16

INORGANICS
&
MISCELLANEOUS

Project Name: A6D0056
Project Number: Not Specified

Lab Number: L1609767
Report Date: 04/25/16

SAMPLE RESULTS

Lab ID: L1609767-01
Client ID: 5237-160401-DC-EMB038
Sample Location: Not Specified
Matrix: Sediment

Date Collected: 04/01/16 10:25
Date Received: 04/05/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 2)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 3)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 4)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Average)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM

Project Name: A6D0056
Project Number: Not Specified

Lab Number: L1609767
Report Date: 04/25/16

SAMPLE RESULTS

Lab ID: L1609767-02
Client ID: 5237-160401-DC-EMB039
Sample Location: Not Specified
Matrix: Sediment

Date Collected: 04/01/16 11:05
Date Received: 04/05/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 2)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 3)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 4)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Average)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM

Project Name: A6D0056
Project Number: Not Specified

Lab Number: L1609767
Report Date: 04/25/16

SAMPLE RESULTS

Lab ID: L1609767-03
Client ID: 5237-160401-DC-EMB046
Sample Location: Not Specified
Matrix: Sediment

Date Collected: 04/01/16 12:00
Date Received: 04/05/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.086		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 2)	0.118		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 3)	0.091		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 4)	0.111		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Average)	0.102		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM

Project Name: A6D0056
Project Number: Not Specified

Lab Number: L1609767
Report Date: 04/25/16

SAMPLE RESULTS

Lab ID: L1609767-04
Client ID: 5237-160401-NDP-EMB002
Sample Location: Not Specified
Matrix: Sediment

Date Collected: 04/01/16 16:00
Date Received: 04/05/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.055		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 2)	0.059		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 3)	0.073		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 4)	0.088		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Average)	0.069		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM

Project Name: A6D0056
Project Number: Not Specified

Lab Number: L1609767
Report Date: 04/25/16

SAMPLE RESULTS

Lab ID: L1609767-05
Client ID: 5237-160401-NDP-EMB003
Sample Location: Not Specified
Matrix: Sediment

Date Collected: 04/01/16 16:10
Date Received: 04/05/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 2)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 3)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 4)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Average)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM

Project Name: A6D0056 **Lab Number:** L1609767

Project Number: Not Specified **Report Date:** 04/25/16

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 01-05 Batch: WG886401-1										
% Soot (Rep 1)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 2)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 3)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Rep 4)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM
% Soot (Average)	ND		%	0.050	NA	1	-	04/22/16 11:17	91,-	CM

Matrix Spike Analysis
Batch Quality Control

Project Name: A6D0056
Project Number: Not Specified

Lab Number: L1609767
Report Date: 04/25/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG886401-4 QC Sample: L1609539-11 Client ID: MS Sample												
% Soot (Rep 1)	ND	0.73	0.767	105		-	-		75-125	-		25
% Soot (Rep 2)	0.051	0.577	0.672	108		-	-		75-125	-		25
% Soot (Rep 3)	ND	0.63	0.741	118		-	-		75-125	-		25
% Soot (Rep 4)	ND	0.865	0.988	114		-	-		75-125	-		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: A6D0056
Project Number: Not Specified

Lab Number: L1609767
Report Date: 04/25/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG886401-3 QC Sample: L1609539-11 Client ID: DUP Sample						
% Soot (Rep 1)	ND	ND	%	NC		25
% Soot (Rep 2)	0.051	ND	%	NC		25
% Soot (Rep 3)	ND	ND	%	NC		25
% Soot (Rep 4)	ND	ND	%	NC		25
% Soot (Average)	ND	ND	%	NC		25

Project Name: A6D0056 **Lab Number:** L1609767

Project Number: Not Specified **Report Date:** 04/25/16

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG886401-2

Parameter	% Recovery	Qual	QC Criteria
% Soot (Rep 1)	95		75-125
% Soot (Rep 2)	115		75-125
% Soot (Rep 3)	113		75-125
% Soot (Rep 4)	116		75-125

Project Name: A6D0056
Project Number: Not Specified

Lab Number: L1609767
Report Date: 04/25/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1609767-01A	Glass 120ml/4oz unpreserved	A	N/A	4.3	Y	Absent	A2-SOOT-LK-4REPS(14)
L1609767-02A	Glass 120ml/4oz unpreserved	A	N/A	4.3	Y	Absent	A2-SOOT-LK-4REPS(14)
L1609767-03A	Glass 120ml/4oz unpreserved	A	N/A	4.3	Y	Absent	A2-SOOT-LK-4REPS(14)
L1609767-04A	Glass 120ml/4oz unpreserved	A	N/A	4.3	Y	Absent	A2-SOOT-LK-4REPS(14)
L1609767-05A	Glass 120ml/4oz unpreserved	A	N/A	4.3	Y	Absent	A2-SOOT-LK-4REPS(14)

*Values in parentheses indicate holding time in days

Project Name:	A6D0056	**Lab Number:**	L1609767
Project Number:	Not Specified	**Report Date:**	04/25/16

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

Report Format: DU Report with 'J' Qualifiers

Project Name:	A6D0056	**Lab Number:**	L1609767
Project Number:	Not Specified	**Report Date:**	04/25/16

Data Qualifiers

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name: A6D0056 **Lab Number:** L1609767

Project Number: Not Specified **Report Date:** 04/25/16

REFERENCES

91 Analysis of Soot following ES&T publications by Accardi-Dey and Gschwend, 2003; and Gustafsson (et. al.), 1997.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene
EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene
EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.
EPA 1010A: NPW: Ignitability
EPA 6010C: NPW: Strontium; SCM: Strontium
EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation
EPA 9038: NPW: Sulfate
EPA 9050A: NPW: Specific Conductance
EPA 9056: NPW: Chloride, Nitrate, Sulfate
EPA 9065: NPW: Phenols
EPA 9251: NPW: Chloride
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam
EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane
SM 2540D: TSS
SM2540G: SCM: Percent Solids
EPA 1631E: SCM: Mercury
EPA 7474: SCM: Mercury
EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA 8270-SIM: NPW and SCM: Alkylated PAHs.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.
Biological Tissue Matrix: ***8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A:*** Lead***; 8270D:*** bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F,**
EPA 353.2: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

VP 4/4/16

SUBCONTRACT ORDER

Apex Laboratories

A6D0056

L1609767

SENDING LABORATORY:

Apex Laboratories
12232 S.W. Garden Place
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 718-0333
Project Manager: Philip Nerenberg

RECEIVING LABORATORY:

Alpha Analytical, INC
320 Forbes Boulevard
Mansfield, MA 02048
Phone :(508) 822-9300
Fax:

L1609767

-01 **Soil Embankment (0-3.5)**

Sample Name: 5237-160401-DC-EMB038 **Soil** **Sampled: 04/01/16 10:25** (A6D0056-02)

Analysis	Due	Expires	Comments
Subcontract Outside	04/14/16 17:00	09/28/16 10:25	Carbon Black-Alpha Analytical Level IV DP needed
Containers Supplied: (D)4 oz Glass Jar			

-02 **Soil Embankment (0-3.5)**

Sample Name: 5237-160401-DC-EMB039 **Soil** **Sampled: 04/01/16 11:05** (A6D0056-04)

Analysis	Due	Expires	Comments
Subcontract Outside	04/14/16 17:00	09/28/16 11:05	Carbon Black-Alpha Analytical Level IV DP needed
Containers Supplied: (D)4 oz Glass Jar			

-03 **Soil Embankment (0-3)**

Sample Name: 5237-160401-DC-EMB046 **Soil** **Sampled: 04/01/16 12:00** (A6D0056-06)

Analysis	Due	Expires	Comments
Subcontract Outside	04/14/16 17:00	09/28/16 12:00	Carbon Black-Alpha Analytical Level IV DP needed
Containers Supplied: (D)4 oz Glass Jar			

-04 **NDP Soil Embankment (0-3.5) Label Reads 523**

Sample Name: 5237-160401-NDP-EMB002 **Soil** **Sampled: 04/01/16 16:00** (A6D0056-08)

Analysis	Due	Expires	Comments
Subcontract Outside	04/14/16 17:00	09/28/16 16:00	Carbon Black-Alpha Analytical Level IV DP needed
Containers Supplied: (D)4 oz Glass Jar			

Standard TAT

Released By	Date	Received By	Date
	4/4/16	UPS (Shipper)	
UPS (Shipper)			
Released By	Date	Received By	Date
			4/5/16 13:28

SUBCONTRACT ORDER

Apex Laboratories

A6D0056

L1609767

NDP Soil Embankment (0-3.0) Label Reads 523

Sample Name: 5237-160401-NDP-EMB003 **Soil** **Sampled: 04/01/16 16:10** (A6D0056-10)

Analysis	Due	Expires	Comments
Subcontract Outside	04/14/16 17:00	09/28/16 16:10	Carbon Black-Alpha Analytical Level IV DP needed

Containers Supplied:
(D)4 oz Glass Jar

4/4/16

Released By	Date	Received By	Date
UPS (Shipper)		UPS (Shipper)	
Released By	Date	Received By	Date
			4/5/16 13:28