ALPHA ANALYTICAL

World Class Chemistry

www.alphalab.com

Lab Number: L1639525

Client: Floyd Snider, Inc.

ATTN: Teri Floyd

Project Name: LDW ENR/AC PILOT STUDY

Project Number:

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

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Sample Delivery Group Information

Sample Delivery Group Form

Laboratory Job number: L1639525
Project Manager: Elizabeth Porta **Review Date:** 12/15/2016
Project Number:
Project Name: LDW ENR/AC PILOT STUDY **Received:** 12/06/2016 10:40
Client Account: Floyd Snider Inc **Received by:** KB

Samples Delivered by: FEDEX **Call Tracker #**
Bill Of Laden Yes **Trackingnum** 777853313200
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? No
LDW-BA-BL-GRVSAND-500-1K both Black Carbon and TOC out of hold.

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	No	Yes	13.2 - IR Gun	No	No

LIMS Chain of Custody

ALPHA ANALYTICAL LABORATORIES, INC.
LOGIN CHAIN OF CUSTODY REPORT
Jan 20 2017, 04:48 pm

Login Number: L1639525
Account: FLOYDSNI Floyd Snider Inc
Received: 06DEC16 Due Date: 28DEC16

Sample #	Client ID	Mat	PR	Collected	Container
L1639525-01	LDW-BA-PC-BLEND-SAN	3	S0	16NOV16 10:45	1-Glass-A.120

L1639525-01 MS L1639525-01 MSD Samples dosed with activated carbon, please mix/shake samples WELL before prep; TOC/SOOT 2REPS each DPKG-FULL Package Due Date: 01/20/17

A2-MS/MSD,A2-SOOT,A2-TOC-9060-2REPS,DPKG-FULL

L1639525-02	LDW-BA-PC-BLEND-GRV	3	S0	16NOV16 10:45	1-Glass-A.120

Samples dosed with activated carbon, please mix/shake samples WELL before prep; TOC/SOOT 2REPS each Package Due Date: 01/20/17

A2-SOOT,A2-TOC-9060-2REPS

L1639525-03	LDW-BA-BL-GRVSAND-0	3	S0	23NOV16 10:30	1-Glass-A.120

Samples dosed with activated carbon, please mix/shake samples WELL before prep; TOC/SOOT 2REPS each Package Due Date: 01/20/17

A2-SOOT,A2-TOC-9060-2REPS

L1639525-04	LDW-BA-BL-GRVSAND-5	3	S0	23NOV16 10:30	1-Glass-A.120

Samples dosed with activated carbon, please mix/shake samples WELL before prep; TOC/SOOT 2REPS each Sample rec'd out of HOLD. Not "environmental" samples, ok per client. Package Due Date: 01/20/17

A2-SOOT,A2-TOC-9060-2REPS

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
L1639525-01A	Glass-A.120	INTACT	21-DEC-16	CUSTODY	A2-WET CHEMISTRY	Sonal Patel	A2-CUSTODY-FRZ1-V2	A2-CUSTODY-FRZ1-V2	Sonal Patel
L1639525-01A	Glass-A.120	INTACT	21-DEC-16	CUSTODY	A2-CUSTODY-FRZ1-V2	Sonal Patel	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Sonal Patel
L1639525-01A	Glass-A.120	INTACT	08-DEC-16	CUSTODY	A2-WET CHEMISTRY	Sonal Patel	A2-CUSTODY-FRZ1-V2	A2-CUSTODY-FRZ1-V2	Sonal Patel
L1639525-01A	Glass-A.120	INTACT	08-DEC-16	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-V2	Sonal Patel	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Sonal Patel
L1639525-01A	Glass-A.120	INTACT	06-DEC-16	CUSTODY	A2-CUSTODY-REFRIDGE	Kim L. Bailey	A2-CUSTODY-FRZ1-V2	A2-CUSTODY-FRZ1-V2	Kim L. Bailey
L1639525-01A	Glass-A.120	INTACT	06-DEC-16	A2-LOGIN	A2-LOGIN	Kim L. Bailey	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Kim L. Bailey
L1639525-02A	Glass-A.120	INTACT	21-DEC-16	CUSTODY	A2-WET CHEMISTRY	Sonal Patel	A2-CUSTODY-FRZ1-V2	A2-CUSTODY-FRZ1-V2	Sonal Patel
L1639525-02A	Glass-A.120	INTACT	21-DEC-16	CUSTODY	A2-CUSTODY-FRZ1-V2	Sonal Patel	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Sonal Patel
L1639525-02A	Glass-A.120	INTACT	08-DEC-16	CUSTODY	A2-WET CHEMISTRY	Sonal Patel	A2-CUSTODY-FRZ1-V2	A2-CUSTODY-FRZ1-V2	Sonal Patel
L1639525-02A	Glass-A.120	INTACT	08-DEC-16	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-V2	Sonal Patel	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Sonal Patel
L1639525-02A	Glass-A.120	INTACT	06-DEC-16	CUSTODY	A2-CUSTODY-REFRIDGE	Kim L. Bailey	A2-CUSTODY-FRZ1-V2	A2-CUSTODY-FRZ1-V2	Kim L. Bailey
L1639525-02A	Glass-A.120	INTACT	06-DEC-16	A2-LOGIN	A2-LOGIN	Kim L. Bailey	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Kim L. Bailey
L1639525-03A	Glass-A.120	INTACT	21-DEC-16	CUSTODY	A2-WET CHEMISTRY	Sonal Patel	A2-CUSTODY-FRZ1-V2	A2-CUSTODY-FRZ1-V2	Sonal Patel
L1639525-03A	Glass-A.120	INTACT	21-DEC-16	CUSTODY	A2-CUSTODY-FRZ1-V2	Sonal Patel	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Sonal Patel
L1639525-03A	Glass-A.120	INTACT	08-DEC-16	CUSTODY	A2-WET CHEMISTRY	Sonal Patel	A2-CUSTODY-FRZ1-V2	A2-CUSTODY-FRZ1-V2	Sonal Patel
L1639525-03A	Glass-A.120	INTACT	08-DEC-16	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-V2	Sonal Patel	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Sonal Patel
L1639525-03A	Glass-A.120	INTACT	06-DEC-16	CUSTODY	A2-CUSTODY-REFRIDGE	Kim L. Bailey	A2-CUSTODY-FRZ1-V2	A2-CUSTODY-FRZ1-V2	Kim L. Bailey
L1639525-03A	Glass-A.120	INTACT	06-DEC-16	A2-LOGIN	A2-LOGIN	Kim L. Bailey	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Kim L. Bailey
L1639525-04A	Glass-A.120	INTACT	21-DEC-16	CUSTODY	A2-WET CHEMISTRY	Sonal Patel	A2-CUSTODY-FRZ1-V2	A2-CUSTODY-FRZ1-V2	Sonal Patel
L1639525-04A	Glass-A.120	INTACT	21-DEC-16	CUSTODY	A2-CUSTODY-FRZ1-V2	Sonal Patel	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Sonal Patel
L1639525-04A	Glass-A.120	INTACT	08-DEC-16	CUSTODY	A2-WET CHEMISTRY	Sonal Patel	A2-CUSTODY-FRZ1-V2	A2-CUSTODY-FRZ1-V2	Sonal Patel
L1639525-04A	Glass-A.120	INTACT	08-DEC-16	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-V2	Sonal Patel	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Sonal Patel
L1639525-04A	Glass-A.120	INTACT	06-DEC-16	CUSTODY	A2-CUSTODY-REFRIDGE	Kim L. Bailey	A2-CUSTODY-FRZ1-V2	A2-CUSTODY-FRZ1-V2	Kim L. Bailey
L1639525-04A	Glass-A.120	INTACT	06-DEC-16	A2-LOGIN	A2-LOGIN	Kim L. Bailey	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Kim L. Bailey

Chain of Custody

MANSFIELD CHAIN OF CUSTODY

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/6/16

ALPHA Job #: TBD L1639525

Project Information

Project Name: LDW ENR/AC Pilot Study

Project Location: LDW

Project #: TBD

Project Manager: Liz Porta

ALPHA Quote #: M2015033

Report Information — Data Deliverables

- ☐ FAX
- ☒ EMAIL
- ☐ ADEx
- ☐ Add'l Deliverables

Billing Information

- ☒ Same as Client info
- PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria

Client Information

Client: Amec Foster Wheeler
Address: 3500 188TH St. SW, Suite 601
Lynnwood, WA 98037
Phone: 425-921-4023
Fax:
Email: cliff.whitmus@amecfw.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: TBD Time: TBD

Other Project Specific Requirements/Comments/Detection Limits:
POC: Gretchen Heavner- gretchen.heavner@floydsnider.com #206.292.2078

☒ MS/MSD (at unit cost) will be omitted unless you check here

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL Metals EPA 6020B/7474	SVOCs EPA 8270D	TOC EPA 9060A(m)	Grain Size ASTM D422	Black Carbon Gustafsson (1997)								Sample Specific Comments	TOTAL # BOTTLES
39525.01	LDW-BA-PC-BLEND-Sand	11-16-16	10:45	sediment	RM	☐	☐	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐		1
.02	LDW-BA-PC-BLEND-GrvSand	11-16-16	10:45	sediment	RM	☐	☐	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐		1
.03	LDW-BA-BL-GrvSand-0-500	11-23-16	10:30	sediment	RM	☐	☐	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐		1
.04	LDW-BA-BL-GrvSand-500-1k	10-23-16	11:30	sediment	RM	☐	☐	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐		1
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
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						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
					Container Type	A	A	A	-	-	-	-	-	-	-	-	-		
					Preservative	A	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
Richard May FedEx	12/2/16/1300	FedEx [illegible]-AAL	12/6/16 1010

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 101-09(I-NJ)
(rev. 5-JAN-12)

Wet Chemistry

Organic Carbon Analysis

Sequence Logs

Date of report: 12/15/2016 1:50 PM
User ID: Alpha Analytical

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydroge	Nitrogen	ZR	CR	HR	NR
K1	1	10.030	12/14/2016 3:56:42 P	20.060	-.018	0.027	12664	14838	14801	12742
BLANK	2		12/14/2016 4:01:36 P	22	-28	34	12608	12664	12636	12642
K1	3	9.720	12/14/2016 4:06:27 P	20.216	0.020	-.004	12578	14632	14614	12614
K1	4	10.070	12/14/2016 4:29:37 P	20.209	0.002	0.0	12598	14726	14699	12638
ICV	5	9.820	12/14/2016 5:18:06 P	0.956%	0.364%	0.313%	12578	14586	14559	12643
ICB	6	52.200	12/14/2016 5:22:56 P	-.003%	0.205%	-.009%	12519	12575	12550	12555
HICV	7	50.440	12/15/2016 7:53:29 A	3.825%	5.310%	2.756%	12413	52458	52505	13583
SRM1944	8	14.200	12/15/2016 8:35:55 A	4.067%	1285.21	2.781%	12381	24416	29498	12742
MB	9	48.210	12/15/2016 8:40:50 A	0.012%	0.296%	0.082%	12203	12442	12418	12275
SRM1944	10	7.220	12/15/2016 8:45:43 A	4.701%	11.872	2.470%	12192	19260	19256	12377
MB	11	50.900	12/15/2016 8:50:35 A	-.001%	1.333%	0.034%	12177	12273	12264	12231
MB	12	58.680	12/15/2016 9:31:00 A	-.002%	0.487%	0.021%	12297	12382	12362	12347
163960501	13	8.420	12/15/2016 9:39:18 A	4.537%	5.090%	3.754%	12266	20303	20287	12563
163960501	14	12.830	12/15/2016 9:44:10 A	4.585%	8.351%	3.681%	12227	24543	24545	12651
163960501D	15	8.110	12/15/2016 9:49:02 A	4.695%	15.413	3.792%	12204	20209	20216	12494
163960501D	16	11.420	12/15/2016 9:53:59 A	4.716%	5.004%	3.845%	12196	23483	23471	12593
CCV	17	10.200	12/15/2016 9:58:56 A	1.038%	3.151%	0.289%	12208	14456	14437	12272
CCB	18	52.990	12/15/2016 10:03:51	-.003%	0.876%	0.012%	12206	12273	12258	12251
163960501MS	19	9.530	12/15/2016 10:10:40	5.810%	17.614	3.588%	12217	23730	23749	12535
163960501MS	20	9.810	12/15/2016 10:15:32	5.712%	19.659	3.624%	12192	23851	23877	12521
163960502	21	10.130	12/15/2016 10:20:23	4.753%	22.211	3.813%	12167	22264	22299	12521
163960502	22	7.860	12/15/2016 10:25:14	4.704%	25.900	3.584%	12174	19937	19966	12443
CCV	23	10.220	12/15/2016 10:44:12	1.007%	12.580	-.241%	12245	14389	14397	12265
CCB	24	70.800	12/15/2016 10:49:03	0.0%	2.119%	-.035%	12196	12268	12282	12216
163930904	25	17.970	12/15/2016 10:58:49	1.898%	8.149%	1.472%	12204	19377	19390	12459
163930904	26	9.650	12/15/2016 11:03:40	1.796%	14.804	1.479%	12182	15879	15891	12338

Reported on 12/15/2016 1:50 PM by Alpha Analytical

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydroge	Nitrogen	ZR	CR	HR	NR
163960502	22	7.860	12/15/2016 10:25:14	4.704%	25.900	3.584%	12174	19937	19966	12443
CCV	23	10.220	12/15/2016 10:44:12	1.007%	12.580	-.241%	12245	14389	14397	12265
CCB	24	70.800	12/15/2016 10:49:03	0.0%	2.119%	-.035%	12196	12268	12282	12216
163930904	25	17.970	12/15/2016 10:58:49	1.898%	8.149%	1.472%	12204	19377	19390	12459
163930904	26	9.650	12/15/2016 11:03:40	1.796%	14.804	1.479%	12182	15879	15891	12338
163952501	27	12.160	12/15/2016 11:08:31	1.889%	12.629	0.061%	12178	16899	16914	12224
163952501	28	19.620	12/15/2016 11:13:23	1.494%	7.645%	0.100%	12170	18177	18191	12226
163952502	29	17.0	12/15/2016 11:18:14	2.412%	8.824%	0.065%	12178	20530	20544	12227
163952502	30	9.600	12/15/2016 11:23:05	5.199%	17.857	0.103%	12184	22329	22349	12232
163952503	31	13.540	12/15/2016 11:27:57	2.555%	9.232%	0.109%	12188	19254	19261	12240
163952503	32	16.580	12/15/2016 11:32:52	2.863%	6.893%	0.134%	12199	21864	21868	12257
163952502	33	13.640	12/15/2016 11:37:46	3.874%	8.117%	2.119%	12189	23152	23155	12464
163952502	34	8.420	12/15/2016 11:42:37	4.853%	16.542	2.790%	12180	20687	20698	12411
CCV	35	10.110	12/15/2016 11:47:29	1.085%	10.951	1.545%	12175	14603	14606	12342
CCB	36	55.860	12/15/2016 11:52:20	0.0%	1.726%	0.020%	12150	12249	12248	12199
163952504	37	13.860	12/15/2016 11:58:28	4.146%	7.215%	0.222%	12157	23839	23839	12222
163952504	38	12.760	12/15/2016 12:03:25	6.595%	11.476	0.395%	12175	29243	29256	12256
163952504	39	16.810	12/15/2016 12:40:14	4.046%	5.949%	0.271%	12241	26059	26059	12318
163952504	40	18.080	12/15/2016 12:45:05	4.856%	10.469	0.150%	12196	29978	30003	12258
CCV	41	10.400	12/15/2016 12:49:57	1.021%	10.989	0.024%	12176	14408	14412	12218
CCB	42	55.350	12/15/2016 12:54:48	0.0%	1.549%	0.0%	12146	12236	12232	12186
163952501MS	43	16.730	12/15/2016 1:13:57 P	2.213%	3.629%	0.169%	12211	19778	19767	12274
163952501MS	44	24.690	12/15/2016 1:18:57 P	2.027%	0.868%	0.164%	12153	22349	22327	12226
163952501MS	45	14.100	12/15/2016 1:23:55 P	3.653%	3.799%	0.297%	12109	22600	22587	12183
163952501MS	46	20.030	12/15/2016 1:28:51 P	2.332%	3.744%	0.160%	12115	21635	21628	12181
CCV	47	10.320	12/15/2016 1:33:45 P	1.015%	7.614%	0.119%	12094	14304	14298	12144
CCB	48	55.930	12/15/2016 1:38:38 P	-.002%	1.469%	0.009%	12078	12153	12148	12122

Date of report: 12/29/2016 12:20 PM
User ID: mansfield_toc1

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydroge	Nitrogen	ZR	CR	HR	NR
K1	6	9.810	12/28/2016 11:18:02 AM	14.485	14.018	-.011	1580	17355	24315	15866
BLANK	7		12/28/2016 11:25:57 AM	62	208	60	1585	15973	16181	15911
K1	8	10.200	12/28/2016 11:30:43 AM	14.686	23.352	-.004	1584	17471	29495	15908
K1	9	9.860	12/28/2016 11:53:12 AM	14.767	24.145	-.004	1584	17427	29445	15906
ICV	10	9.940	12/28/2016 12:08:13 PM	0.938%	5.117%	-.028%	1585	17343	29465	15913
ICB	11	51.060	12/28/2016 12:12:59 PM	0.0%	0.080%	-.012%	1587	15993	17010	15929
HICV	12	49.610	12/28/2016 12:23:07 PM	3.677%	1.064%	0.0%	1584	42675	55252	15909
SRM1944	13	8.230	12/28/2016 12:36:17 PM	4.086%	9.985%	0.780%	1584	20988	40547	16001
MB	14	45.0	12/28/2016 12:41:03 PM	0.006%	0.162%	-.014%	1587	16044	17813	15937
SRM1944	15	8.760	12/28/2016 12:45:49 PM	3.613%	1.456%	0.669%	1586	20711	23783	16014
MB	16	55.170	12/28/2016 12:50:34 PM	0.007%	0.032%	-.005%	1584	16036	16499	15911
164066104	17	13.860	12/28/2016 1:04:14 PM	7.450%	1.113%	0.740%	1583	31228	34934	16051
1644066104	18	13.130	12/28/2016 1:09:00 PM	9.472%	1.172%	0.797%	1584	34326	38022	16059
164066104D	19	11.490	12/28/2016 1:13:46 PM	9.739%	1.234%	0.899%	1584	32502	35912	16059
164066104D	20	9.040	12/28/2016 1:18:32 PM	10.611	1.282%	0.903%	1584	30132	32928	16027
164066104MS	21	11.090	12/28/2016 1:23:18 PM	12.346	4.950%	0.919%	1584	36159	49238	16054
164066104MS	22	8.840	12/28/2016 1:28:04 PM	9.869%	6.081%	0.821%	1586	28869	41677	16035
CCV	23	10.0	12/28/2016 1:32:50 PM	1.006%	5.022%	-.070%	1586	17464	29434	15926
CCB	24	61.180	12/28/2016 1:37:36 PM	0.0%	0.055%	-.011%	1586	15992	16838	15926
164066104	25	8.790	12/28/2016 1:50:24 PM	9.723%	1.350%	0.889%	1583	28591	31453	16017
164066105	26	13.500	12/28/2016 1:55:10 PM	5.202%	0.867%	0.548%	1583	26353	29176	16010
164066105	27	12.140	12/28/2016 1:59:56 PM	5.876%	0.998%	0.575%	1583	26510	29429	16004
164066106	28	17.690	12/28/2016 2:07:36 PM	12.211	1.932%	1.408%	1585	47960	56120	16279
164066106	29	11.990	12/28/2016 2:12:22 PM	6.768%	1.075%	0.640%	1584	27966	31069	16025
164066106	30	9.260	12/28/2016 2:17:08 PM	6.282%	1.046%	0.648%	1584	24572	26915	15993
164066107	31	13.320	12/28/2016 2:21:54 PM	9.101%	1.353%	0.744%	1584	33863	38187	16055

Reported on 12/29/2016 12:20 PM by mansfield_toc1

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydroge	Nitrogen	ZR	CR	HR	NR
164066107	32	15.660	12/28/2016 2:26:40 PM	6.199%	0.953%	0.455%	1584	30287	33875	16014
164066108	33	12.680	12/28/2016 2:31:26 PM	3.380%	0.739%	0.523%	1584	22344	24612	16007
164066108	34	11.790	12/28/2016 2:36:12 PM	3.643%	0.789%	0.562%	1583	22348	24599	15996
CCV	35	10.040	12/28/2016 2:40:58 PM	0.993%	5.175%	0.014%	1584	17442	29823	15918
CCB	36	59.330	12/28/2016 2:45:44 PM	0.012%	0.021%	-.022%	1586	16081	16415	15914
CCV	37	9.930	12/28/2016 2:54:48 PM	0.965%	5.038%	-.049%	1586	17392	29315	15924
CCB	38	49.210	12/28/2016 2:59:34 PM	-.001%	0.041%	-.013%	1587	15983	16507	15928
164066107	39	10.190	12/28/2016 3:09:09 PM	8.416%	1.276%	0.520%	1582	28585	31717	15969
164066107	40	7.530	12/28/2016 3:13:55 PM	9.313%	1.380%	0.547%	1582	26284	28795	15955
164066109	41	11.0	12/28/2016 3:18:41 PM	5.583%	0.585%	0.546%	1584	25056	26626	16002
164066109	42	13.640	12/28/2016 3:23:27 PM	6.514%	0.699%	0.588%	1582	29073	31379	16003
164066110	43	13.650	12/28/2016 3:28:13 PM	3.257%	0.464%	0.297%	1583	22536	24083	15964
164066110	44	12.840	12/28/2016 3:32:59 PM	3.069%	0.407%	0.321%	1586	21822	23105	15990
CCV	45	10.150	12/28/2016 3:39:43 PM	0.979%	4.712%	-.062%	1584	17425	28825	15906
CCB	46	39.220	12/28/2016 3:44:29 PM	0.011%	0.044%	-.073%	1586	16015	16469	15887
CCB	47	61.200	12/29/2016 9:41:57 AM	-.002%	0.0%	0.372%	1580	16249	16295	16201
SRM1650	48	.740	12/29/2016 9:46:42 AM	76.394	2.538%	11.411%	1580	24336	24825	15997
MB	49	51.560	12/29/2016 9:51:28 AM	-.004%	0.0%	0.027%	1580	15931	15972	15896
SRM1650	50	1.100	12/29/2016 9:56:13 AM	76.629	2.971%	3.933%	1580	28339	29158	15937
MB	51	76.100	12/29/2016 10:00:59 AM	0.002%	0.0%	-.003%	1580	15961	16001	15872
163952501	52	17.280	12/29/2016 10:05:45 AM	1.293%	0.215%	-.012%	1580	19209	20136	15873
163952501	53	24.060	12/29/2016 10:10:31 AM	1.691%	0.321%	0.003%	1580	21893	23769	15875
163952501MS	54	19.820	12/29/2016 10:15:16 AM	3.282%	2.667%	0.011%	1581	25472	38068	15885
163952501MS	55	17.950	12/29/2016 10:20:02 AM	2.018%	2.687%	-.008%	1583	21266	32763	15899
163952501MSD	56	15.140	12/29/2016 10:24:48 AM	1.953%	3.215%	-.023%	1584	20298	31899	15905
163952501MSD	57	15.190	12/29/2016 10:29:34 AM	3.477%	3.279%	0.0%	1584	23707	35580	15911
CCV	58	10.180	12/29/2016 10:34:20 AM	0.931%	3.370%	-.069%	1584	17356	25546	15904

Reported on 12/29/2016 12:20 PM by mansfield_toc1

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydroge	Nitrogen	ZR	CR	HR	NR
CCV	58	10.180	12/29/2016 10:34:20 AM	0.931%	3.370%	-.069%	1584	17356	25546	15904
CCB	59	70.0	12/29/2016 10:39:06 AM	-.003%	0.012%	-.009%	1583	15925	16169	15894
163952502	60	26.780	12/29/2016 10:44:52 AM	2.456%	0.390%	0.008%	1582	25582	28106	15890
163952502	61	21.460	12/29/2016 10:49:38 AM	3.037%	0.438%	0.010%	1581	25492	27765	15889
163952503	62	27.300	12/29/2016 10:54:24 AM	1.148%	0.379%	0.0%	1581	20536	23039	15885
163952503	63	22.270	12/29/2016 10:59:10 AM	0.680%	0.251%	-.006%	1581	18161	19532	15880
163952504	64	19.540	12/29/2016 11:03:55 AM	3.377%	0.454%	0.018%	1581	25611	27759	15888
163952504	65	19.940	12/29/2016 11:08:41 AM	2.333%	0.380%	-.007%	1582	22763	24604	15890
163977401	66	9.820	12/29/2016 11:13:27 AM	5.075%	1.092%	1.229%	1581	23412	26002	16053
163977401	67	11.290	12/29/2016 11:18:13 AM	4.247%	1.015%	1.075%	1581	23136	25900	16053
164066901	68	14.880	12/29/2016 11:22:59 AM	10.859	1.693%	1.843%	1582	39995	46021	16281
164066901	69	23.390	12/29/2016 11:27:45 AM	10.408	1.898%	1.969%	1582	52246	62830	16552
CCV	70	10.510	12/29/2016 11:40:57 AM	1.028%	4.757%	-.040%	1580	17514	29429	15868
CCB	71	57.130	12/29/2016 11:45:43 AM	-.002%	0.032%	-.010%	1582	15937	16418	15885
163952503	72	25.650	12/29/2016 11:52:09 AM	1.107%	0.328%	0.0%	1580	20095	22135	15874
163952503	73	20.610	12/29/2016 11:56:55 AM	1.270%	0.350%	-.010%	1581	19773	21529	15878
163952504	74	28.400	12/29/2016 12:01:41 PM	2.927%	0.431%	0.012%	1580	28109	31056	15879
163952504	75	16.970	12/29/2016 12:06:27 PM	2.990%	0.395%	0.0%	1580	23363	24998	15872
CCV	76	10.040	12/29/2016 12:11:13 PM	1.151%	5.051%	-.049%	1579	17614	29699	15858
CCB	77	50.860	12/29/2016 12:15:59 PM	-.003%	0.017%	-.014%	1582	15919	16170	15879

Sample Raw Data

Date of report	12/15/2016 1:50:56PM
User ID	Alpha Analytical

DATE & TIME	12/14/2016 3:56:42 PM	P_ID	121416LC
RUN TYPE	K1	USER ID	alpha
WEIGHT (mg)	10.030	MODE	CHN

				SIGNALS			
				ZR	12664	AVERAGE RESULTS	
KC	20.060			NR	12742	KC	19.863
KH	-.018			CR	14838	KH	0.036
KN	0.027			HR	14801	KN	0.813
BLANKS	84	-28	46				
K FACTORS	1.0%	5.03%	11.67%				
FILL TIME	27 Seconds						

NUMBER	MESSAGE
8	CHECK FOR SAMPLE DROP

DATE & TIME	12/14/2016 4:01:36 PM	P_ID	121416LC
RUN TYPE	BLANK	USER ID	alpha
		MODE	CHN

		SIGNALS			
		ZR	12608	AVERAGE RESULTS	
CARBON	22	NR	12642	CARBON	53
HYDROGEN	-28	CR	12664	HYDROGEN	-28
NITROGEN	34	HR	12636	NITROGEN	40
FILL TIME	27 Seconds				

DATE & TIME	12/14/2016 4:06:27 PM	P_ID	121416LC
RUN TYPE	K1	USER ID	alpha
WEIGHT (mg)	9.720	MODE	CHN

				SIGNALS			
				ZR	12578	AVERAGE RESULTS	
KC	20.216			NR	12614	KC	20.039
KH	0.020			CR	14632	KH	0.028
KN	-.004			HR	14614	KN	0.813
BLANKS	53	-28	40				
K FACTORS	1.0%	5.03%	11.67%				
FILL TIME	27 Seconds						

NUMBER	MESSAGE
8	CHECK FOR SAMPLE DROP

DATE & TIME	12/14/2016 4:29:37 PM	P_ID	121416LC
RUN TYPE	K1	USER ID	alpha
WEIGHT (mg)	10.070	MODE	CHN

				SIGNALS			
				ZR	12598	AVERAGE RESULTS	
KC	20.209			NR	12638	KC	20.124
KH	0.002			CR	14726	KH	0.028
KN	0.0			HR	14699	KN	0.813
BLANKS	53	-28	40				
K FACTORS	1.0%	5.03%	11.67%				
FILL TIME	27 Seconds						

DATE & TIME	12/14/2016 5:18:06 PM	P_ID	121416LC
SAMPLE ID	ICV	USER ID	alpha
WEIGHT (mg)	9.820	MODE	CHN

				SIGNALS	
				ZR	12578
CARBON	0.956%			NR	12643
HYDROGEN	0.364%			CR	14586
NITROGEN	0.313%			HR	14559
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	27 Seconds				

DATE & TIME	12/14/2016 5:22:56 PM	P_ID	121416LC
SAMPLE ID	ICB	USER ID	alpha
WEIGHT (mg)	52.200	MODE	CHN

				SIGNALS	
				ZR	12519
CARBON	-.003%			NR	12555
HYDROGEN	0.205%			CR	12575
NITROGEN	-.009%			HR	12550
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	27 Seconds				

DATE & TIME	12/15/2016 7:53:29 AM	P_ID	121416LC
SAMPLE ID	HICV	USER ID	alpha
WEIGHT (mg)	50.440	MODE	CHN

				SIGNALS	
				ZR	12413
CARBON	3.825%			NR	13583
HYDROGEN	5.310%			CR	52458
NITROGEN	2.756%			HR	52505
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	31 Seconds				

DATE & TIME	12/15/2016 8:35:55 AM	P_ID	121416LC
SAMPLE ID	SRM1944	USER ID	alpha
WEIGHT (mg)	14.200	MODE	CHN

		SIGNALS	
		ZR	12381
CARBON	4.067%	NR	12742
HYDROGEN	1285.211%	CR	24416
NITROGEN	2.781%	HR	29498

BLANKS	53	-28	40
K FACTORS	20.124	0.028	0.813
FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	27 Seconds		

DATE & TIME	12/15/2016 8:40:50 AM	P_ID	121416LC
SAMPLE ID	MB	USER ID	alpha
WEIGHT (mg)	48.210	MODE	CHN

				SIGNALS	
				ZR	12203
CARBON	0.012%			NR	12275
HYDROGEN	0.296%			CR	12442
NITROGEN	0.082%			HR	12418
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	31 Seconds				

DATE & TIME	12/15/2016 8:45:43 AM	P_ID	121416LC
SAMPLE ID	SRM1944	USER ID	alpha
WEIGHT (mg)	7.220	MODE	CHN

				SIGNALS	
				ZR	12192
CARBON	4.701%			NR	12377
HYDROGEN	11.872%			CR	19260
NITROGEN	2.470%			HR	19256
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	30 Seconds				

DATE & TIME	12/15/2016 8:50:35 AM	P_ID	121416LC
SAMPLE ID	MB	USER ID	alpha
WEIGHT (mg)	50.900	MODE	CHN

				SIGNALS	
				ZR	12177
CARBON	-.001%			NR	12231
HYDROGEN	1.333%			CR	12273
NITROGEN	0.034%			HR	12264
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	29 Seconds				

DATE & TIME	12/15/2016 9:31:00 AM	P_ID	121416LC
SAMPLE ID	MB	USER ID	alpha
WEIGHT (mg)	58.680	MODE	CHN

				SIGNALS	
				ZR	12297
CARBON	-.002%			NR	12347
HYDROGEN	0.487%			CR	12382
NITROGEN	0.021%			HR	12362
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	27 Seconds				

DATE & TIME	12/15/2016 9:39:18 AM	P_ID	121416LC
SAMPLE ID	163960501	USER ID	alpha
WEIGHT (mg)	8.420	MODE	CHN

				SIGNALS	
				ZR	12266
CARBON	4.537%			NR	12563
HYDROGEN	5.090%			CR	20303
NITROGEN	3.754%			HR	20287
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	29 Seconds				

DATE & TIME	12/15/2016 9:44:10 AM	P_ID	121416LC
SAMPLE ID	163960501	USER ID	alpha
WEIGHT (mg)	12.830	MODE	CHN

				SIGNALS	
				ZR	12227
CARBON	4.585%			NR	12651
HYDROGEN	8.351%			CR	24543
NITROGEN	3.681%			HR	24545
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	29 Seconds				

DATE & TIME	12/15/2016 9:49:02 AM	P_ID	121416LC
SAMPLE ID	163960501D	USER ID	alpha
WEIGHT (mg)	8.110	MODE	CHN

				SIGNALS	
				ZR	12204
CARBON	4.695%			NR	12494
HYDROGEN	15.413%			CR	20209
NITROGEN	3.792%			HR	20216
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	28 Seconds				

DATE & TIME	12/15/2016 9:53:59 AM	P_ID	121416LC
SAMPLE ID	163960501D	USER ID	alpha
WEIGHT (mg)	11.420	MODE	CHN

				SIGNALS	
				ZR	12196
CARBON	4.716%			NR	12593
HYDROGEN	5.004%			CR	23483
NITROGEN	3.845%			HR	23471
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	34 Seconds				

DATE & TIME	12/15/2016 9:58:56 AM	P_ID	121416LC
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.200	MODE	CHN

				SIGNALS	
				ZR	12208
CARBON	1.038%			NR	12272
HYDROGEN	3.151%			CR	14456
NITROGEN	0.289%			HR	14437
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	34 Seconds				

DATE & TIME	12/15/2016 10:03:51 AM	P_ID	121416LC
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	52.990	MODE	CHN

				SIGNALS	
				ZR	12206
CARBON	-.003%			NR	12251
HYDROGEN	0.876%			CR	12273
NITROGEN	0.012%			HR	12258
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	31 Seconds				

DATE & TIME	12/15/2016 10:10:40 AM	P_ID	121416LC
SAMPLE ID	163960501MS	USER ID	alpha
WEIGHT (mg)	9.530	MODE	CHN

		SIGNALS	
		ZR	12217
CARBON	5.810%	NR	12535
HYDROGEN	17.614%	CR	23730
NITROGEN	3.588%	HR	23749

BLANKS	53	-28	40
K FACTORS	20.124	0.028	0.813

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME	28 Seconds

DATE & TIME	12/15/2016 10:15:32 AM	P_ID	121416LC
SAMPLE ID	163960501MS	USER ID	alpha
WEIGHT (mg)	9.810	MODE	CHN

		SIGNALS	
		ZR	12192
CARBON	5.712%	NR	12521
HYDROGEN	19.659%	CR	23851
NITROGEN	3.624%	HR	23877

BLANKS	53	-28	40
K FACTORS	20.124	0.028	0.813

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME	28 Seconds

DATE & TIME	12/15/2016 10:20:23 AM	P_ID	121416LC
SAMPLE ID	163960502	USER ID	alpha
WEIGHT (mg)	10.130	MODE	CHN

		SIGNALS	
		ZR	12167
CARBON	4.753%	NR	12521
HYDROGEN	22.211%	CR	22264
NITROGEN	3.813%	HR	22299

BLANKS	53	-28	40
K FACTORS	20.124	0.028	0.813

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME	28 Seconds

DATE & TIME	12/15/2016 10:25:14 AM	P_ID	121416LC
SAMPLE ID	163960502	USER ID	alpha
WEIGHT (mg)	7.860	MODE	CHN

		SIGNALS	
		ZR	12174
CARBON	4.704%	NR	12443
HYDROGEN	25.900%	CR	19937
NITROGEN	3.584%	HR	19966

BLANKS	53	-28	40
K FACTORS	20.124	0.028	0.813

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME	28 Seconds

DATE & TIME	12/15/2016 10:44:12 AM	P_ID	121416LC
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.220	MODE	CHN

				SIGNALS	
				ZR	12245
CARBON	1.007%			NR	12265
HYDROGEN	12.580%			CR	14389
NITROGEN	-.241%			HR	14397
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	28 Seconds				

DATE & TIME	12/15/2016 10:49:03 AM	P_ID	121416LC
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	70.800	MODE	CHN

				SIGNALS	
				ZR	12196
CARBON	0.0%			NR	12216
HYDROGEN	2.119%			CR	12268
NITROGEN	-.035%			HR	12282
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	28 Seconds				

DATE & TIME	12/15/2016 10:58:49 AM	P_ID	121416LC
SAMPLE ID	163930904	USER ID	alpha
WEIGHT (mg)	17.970	MODE	CHN

				SIGNALS	
				ZR	12204
CARBON	1.898%			NR	12459
HYDROGEN	8.149%			CR	19377
NITROGEN	1.472%			HR	19390
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	28 Seconds				

DATE & TIME	12/15/2016 11:03:40 AM	P_ID	121416LC
SAMPLE ID	163930904	USER ID	alpha
WEIGHT (mg)	9.650	MODE	CHN

				SIGNALS	
				ZR	12182
CARBON	1.796%			NR	12338
HYDROGEN	14.804%			CR	15879
NITROGEN	1.479%			HR	15891
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	28 Seconds				

DATE & TIME	12/15/2016 11:08:31 AM	P_ID	121416LC
SAMPLE ID	163952501	USER ID	alpha
WEIGHT (mg)	12.160	MODE	CHN

				SIGNALS	
				ZR	12178
CARBON	1.889%			NR	12224
HYDROGEN	12.629%			CR	16899
NITROGEN	0.061%			HR	16914
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	28 Seconds				

DATE & TIME	12/15/2016 11:13:23 AM	P_ID	121416LC
SAMPLE ID	163952501	USER ID	alpha
WEIGHT (mg)	19.620	MODE	CHN

				SIGNALS	
				ZR	12170
CARBON	1.494%			NR	12226
HYDROGEN	7.645%			CR	18177
NITROGEN	0.100%			HR	18191
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	28 Seconds				

DATE & TIME	12/15/2016 11:18:14 AM	P_ID	121416LC
SAMPLE ID	163952502	USER ID	alpha
WEIGHT (mg)	17.0	MODE	CHN

				SIGNALS	
				ZR	12178
CARBON	2.412%			NR	12227
HYDROGEN	8.824%			CR	20530
NITROGEN	0.065%			HR	20544
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	28 Seconds				

DATE & TIME	12/15/2016 11:23:05 AM	P_ID	121416LC
SAMPLE ID	163952502	USER ID	alpha
WEIGHT (mg)	9.600	MODE	CHN

		SIGNALS	
		ZR	12184
CARBON	5.199%	NR	12232
HYDROGEN	17.857%	CR	22329
NITROGEN	0.103%	HR	22349

BLANKS	53	-28	40
K FACTORS	20.124	0.028	0.813

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME	28 Seconds

DATE & TIME	12/15/2016 11:27:57 AM	P_ID	121416LC
SAMPLE ID	163952503	USER ID	alpha
WEIGHT (mg)	13.540	MODE	CHN

		SIGNALS	
		ZR	12188
CARBON	2.555%	NR	12240
HYDROGEN	9.232%	CR	19254
NITROGEN	0.109%	HR	19261

BLANKS	53	-28	40
K FACTORS	20.124	0.028	0.813

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME	28 Seconds

DATE & TIME	12/15/2016 11:32:52 AM	P_ID	121416LC
SAMPLE ID	163952503	USER ID	alpha
WEIGHT (mg)	16.580	MODE	CHN

		SIGNALS	
		ZR	12199
CARBON	2.863%	NR	12257
HYDROGEN	6.893%	CR	21864
NITROGEN	0.134%	HR	21868

BLANKS	53	-28	40
K FACTORS	20.124	0.028	0.813

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME	32 Seconds

DATE & TIME	12/15/2016 11:37:46 AM	P_ID	121416LC
SAMPLE ID	163952502	USER ID	alpha
WEIGHT (mg)	13.640	MODE	CHN

		SIGNALS	
		ZR	12189
CARBON	3.874%	NR	12464
HYDROGEN	8.117%	CR	23152
NITROGEN	2.119%	HR	23155

BLANKS	53	-28	40
K FACTORS	20.124	0.028	0.813

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME	30 Seconds

DATE & TIME	12/15/2016 11:42:37 AM	P_ID	121416LC
SAMPLE ID	163952502	USER ID	alpha
WEIGHT (mg)	8.420	MODE	CHN

				SIGNALS	
				ZR	12180
CARBON	4.853%			NR	12411
HYDROGEN	16.542%			CR	20687
NITROGEN	2.790%			HR	20698
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	28 Seconds				

DATE & TIME	12/15/2016 11:47:29 AM	P_ID	121416LC
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.110	MODE	CHN

				SIGNALS	
				ZR	12175
CARBON	1.085%			NR	12342
HYDROGEN	10.951%			CR	14603
NITROGEN	1.545%			HR	14606
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	28 Seconds				

DATE & TIME	12/15/2016 11:52:20 AM	P_ID	121416LC
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	55.860	MODE	CHN

				SIGNALS	
				ZR	12150
CARBON	0.0%			NR	12199
HYDROGEN	1.726%			CR	12249
NITROGEN	0.020%			HR	12248
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	28 Seconds				

DATE & TIME	12/15/2016 11:58:28 AM	P_ID	121416LC
SAMPLE ID	163952504	USER ID	alpha
WEIGHT (mg)	13.860	MODE	CHN

				SIGNALS	
				ZR	12157
CARBON	4.146%			NR	12222
HYDROGEN	7.215%			CR	23839
NITROGEN	0.222%			HR	23839
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	35 Seconds				

DATE & TIME	12/15/2016 12:03:25 PM	P_ID	121416LC
SAMPLE ID	163952504	USER ID	alpha
WEIGHT (mg)	12.760	MODE	CHN

				SIGNALS	
				ZR	12175
CARBON	6.595%			NR	12256
HYDROGEN	11.476%			CR	29243
NITROGEN	0.395%			HR	29256
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	34 Seconds				

DATE & TIME	12/15/2016 12:40:14 PM	P_ID	121416LC
SAMPLE ID	163952504	USER ID	alpha
WEIGHT (mg)	16.810	MODE	CHN

				SIGNALS	
				ZR	12241
CARBON	4.046%			NR	12318
HYDROGEN	5.949%			CR	26059
NITROGEN	0.271%			HR	26059
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	30 Seconds				

DATE & TIME	12/15/2016 12:45:05 PM	P_ID	121416LC
SAMPLE ID	163952504	USER ID	alpha
WEIGHT (mg)	18.080	MODE	CHN

				SIGNALS	
				ZR	12196
CARBON	4.856%			NR	12258
HYDROGEN	10.469%			CR	29978
NITROGEN	0.150%			HR	30003
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	28 Seconds				

DATE & TIME	12/15/2016 12:49:57 PM	P_ID	121416LC
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.400	MODE	CHN

		SIGNALS	
		ZR	12176
CARBON	1.021%	NR	12218
HYDROGEN	10.989%	CR	14408
NITROGEN	0.024%	HR	14412

BLANKS	53	-28	40
K FACTORS	20.124	0.028	0.813

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME	28 Seconds

DATE & TIME	12/15/2016 12:54:48 PM	P_ID	121416LC
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	55.350	MODE	CHN

		SIGNALS	
		ZR	12146
CARBON	0.0%	NR	12186
HYDROGEN	1.549%	CR	12236
NITROGEN	0.0%	HR	12232

BLANKS	53	-28	40
K FACTORS	20.124	0.028	0.813

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME	28 Seconds

DATE & TIME	12/15/2016 1:13:57 PM	P_ID	121416LC
SAMPLE ID	163952501MS	USER ID	alpha
WEIGHT (mg)	16.730	MODE	CHN

		SIGNALS	
		ZR	12211
CARBON	2.213%	NR	12274
HYDROGEN	3.629%	CR	19778
NITROGEN	0.169%	HR	19767

BLANKS	53	-28	40
K FACTORS	20.124	0.028	0.813

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME	37 Seconds

DATE & TIME	12/15/2016 1:18:57 PM	P_ID	121416LC
SAMPLE ID	163952501MS	USER ID	alpha
WEIGHT (mg)	24.690	MODE	CHN

		SIGNALS	
		ZR	12153
CARBON	2.027%	NR	12226
HYDROGEN	0.868%	CR	22349
NITROGEN	0.164%	HR	22327

BLANKS	53	-28	40
K FACTORS	20.124	0.028	0.813

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME	36 Seconds

DATE & TIME	12/15/2016 1:23:55 PM	P_ID	121416LC
SAMPLE ID	163952501MSD	USER ID	alpha
WEIGHT (mg)	14.100	MODE	CHN

				SIGNALS	
				ZR	12109
CARBON	3.653%			NR	12183
HYDROGEN	3.799%			CR	22600
NITROGEN	0.297%			HR	22587
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	35 Seconds				

DATE & TIME	12/15/2016 1:28:51 PM	P_ID	121416LC
SAMPLE ID	163952501MSD	USER ID	alpha
WEIGHT (mg)	20.030	MODE	CHN

				SIGNALS	
				ZR	12115
CARBON	2.332%			NR	12181
HYDROGEN	3.744%			CR	21635
NITROGEN	0.160%			HR	21628
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	32 Seconds				

DATE & TIME	12/15/2016 1:33:45 PM	P_ID	121416LC
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.320	MODE	CHN

				SIGNALS	
				ZR	12094
CARBON	1.015%			NR	12144
HYDROGEN	7.614%			CR	14304
NITROGEN	0.119%			HR	14298
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	31 Seconds				

DATE & TIME	12/15/2016 1:38:38 PM	P_ID	121416LC
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	55.930	MODE	CHN

				SIGNALS	
				ZR	12078
CARBON	-.002%			NR	12122
HYDROGEN	1.469%			CR	12153
NITROGEN	0.009%			HR	12148
BLANKS	53	-28	40		
K FACTORS	20.124	0.028	0.813		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	30 Seconds				

Date of report	12/29/2016 12:20:10PM
User ID	mansfield_toc1

DATE & TIME	12/28/2016 11:18:02 AM	P_ID	122816LC
RUN TYPE	K1	USER ID	mansfield_toc1
WEIGHT (mg)	9.810	MODE	CHN

				SIGNALS			
				ZR	15804	AVERAGE RESULTS	
KC	14.485			NR	15866	KC	14.324
KH	14.018			CR	17355	KH	20.386
KN	-.011			HR	24315	KN	1.433
BLANKS	68	43	75				
K FACTORS	1.0%	5.03%	11.67%				
FILL TIME	27 Seconds						

NUMBER	MESSAGE
8	CHECK FOR SAMPLE DROP
11	HYDROGEN K FACTOR OUT OF TOLERANCE

DATE & TIME	12/28/2016 11:25:57 AM	P_ID	122816LC
RUN TYPE	BLANK	USER ID	mansfield_toc1
		MODE	CHN

				SIGNALS			
				ZR	15851	AVERAGE RESULTS	
CARBON	62			NR	15911	CARBON	65
HYDROGEN	208			CR	15973	HYDROGEN	43
NITROGEN	60			HR	16181	NITROGEN	67
FILL TIME	27 Seconds						

DATE & TIME	12/28/2016 11:30:43 AM	P_ID	122816LC
RUN TYPE	K1	USER ID	mansfield_toc1
WEIGHT (mg)	10.200	MODE	CHN

				SIGNALS			
				ZR	15846	AVERAGE RESULTS	
KC	14.686			NR	15908	KC	14.505
KH	23.352			CR	17471	KH	20.386
KN	-.004			HR	29495	KN	1.433
BLANKS	65	43	67				
K FACTORS	1.0%	5.03%	11.67%				
FILL TIME	27 Seconds						

NUMBER	MESSAGE
8	CHECK FOR SAMPLE DROP

DATE & TIME	12/28/2016 11:53:12 AM	P_ID	122816LC
RUN TYPE	K1	USER ID	mansfield_toc1
WEIGHT (mg)	9.860	MODE	CHN

				SIGNALS			
				ZR	15844	AVERAGE RESULTS	
KC	14.767			NR	15906	KC	14.636
KH	24.145			CR	17427	KH	23.748
KN	-.004			HR	29445	KN	1.433
BLANKS	65	43	67				
K FACTORS	1.0%	5.03%	11.67%				

FILL TIME	27 Seconds

NUMBER	MESSAGE
8	CHECK FOR SAMPLE DROP

DATE & TIME	12/28/2016 12:08:13 PM	P_ID	122816LC
SAMPLE ID	ICV	USER ID	mansfield_toc1
WEIGHT (mg)	9.940	MODE	CHN

				SIGNALS	
				ZR	15850
CARBON	0.938%			NR	15913
HYDROGEN	5.117%			CR	17343
NITROGEN	-.028%			HR	29465
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 12:12:59 PM	P_ID	122816LC
SAMPLE ID	ICB	USER ID	mansfield_toc1
WEIGHT (mg)	51.060	MODE	CHN

				SIGNALS	
				ZR	15871
CARBON	0.0%			NR	15929
HYDROGEN	0.080%			CR	15993
NITROGEN	-.012%			HR	17010
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 12:23:07 PM	P_ID	122816LC
SAMPLE ID	HICV	USER ID	mansfield_toc1
WEIGHT (mg)	49.610	MODE	CHN

				SIGNALS	
				ZR	15842
CARBON	3.677%			NR	15909
HYDROGEN	1.064%			CR	42675
NITROGEN	0.0%			HR	55252
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	28 Seconds				

DATE & TIME	12/28/2016 12:36:17 PM	P_ID	122816LC
SAMPLE ID	SRM1944	USER ID	mansfield_toc1
WEIGHT (mg)	8.230	MODE	CHN

				SIGNALS	
				ZR	15842
CARBON	4.086%			NR	16001
HYDROGEN	9.985%			CR	20988
NITROGEN	0.780%			HR	40547
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 12:41:03 PM	P_ID	122816LC
SAMPLE ID	MB	USER ID	mansfield_toc1
WEIGHT (mg)	45.0	MODE	CHN

				SIGNALS	
				ZR	15879
CARBON	0.006%			NR	15937
HYDROGEN	0.162%			CR	16044
NITROGEN	-.014%			HR	17813
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 12:45:49 PM	P_ID	122816LC
SAMPLE ID	SRM1944	USER ID	mansfield_toc1
WEIGHT (mg)	8.760	MODE	CHN

				SIGNALS	
				ZR	15863
CARBON	3.613%			NR	16014
HYDROGEN	1.456%			CR	20711
NITROGEN	0.669%			HR	23783
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 12:50:34 PM	P_ID	122816LC
SAMPLE ID	MB	USER ID	mansfield_toc1
WEIGHT (mg)	55.170	MODE	CHN

				SIGNALS	
				ZR	15848
CARBON	0.007%			NR	15911
HYDROGEN	0.032%			CR	16036
NITROGEN	-.005%			HR	16499
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 1:04:14 PM	P_ID	122816LC
SAMPLE ID	164066104	USER ID	mansfield_toc1
WEIGHT (mg)	13.860	MODE	CHN

				SIGNALS	
				ZR	15837
CARBON	7.450%			NR	16051
HYDROGEN	1.113%			CR	31228
NITROGEN	0.740%			HR	34934
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 1:09:00 PM	P_ID	122816LC
SAMPLE ID	1644066104	USER ID	mansfield_toc1
WEIGHT (mg)	13.130	MODE	CHN

				SIGNALS	
				ZR	15842
CARBON	9.472%			NR	16059
HYDROGEN	1.172%			CR	34326
NITROGEN	0.797%			HR	38022
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 1:13:46 PM	P_ID	122816LC
SAMPLE ID	164066104D	USER ID	mansfield_toc1
WEIGHT (mg)	11.490	MODE	CHN

				SIGNALS	
				ZR	15844
CARBON	9.739%			NR	16059
HYDROGEN	1.234%			CR	32502
NITROGEN	0.899%			HR	35912
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 1:18:32 PM	P_ID	122816LC
SAMPLE ID	164066104D	USER ID	mansfield_toc1
WEIGHT (mg)	9.040	MODE	CHN

		SIGNALS	
		ZR	15843
CARBON	10.611%	NR	16027
HYDROGEN	1.282%	CR	30132
NITROGEN	0.903%	HR	32928

BLANKS	65	43	67
K FACTORS	14.636	23.748	1.433

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	27 Seconds		

DATE & TIME	12/28/2016 1:23:18 PM	P_ID	122816LC
SAMPLE ID	164066104MS	USER ID	mansfield_toc1
WEIGHT (mg)	11.090	MODE	CHN

		SIGNALS	
		ZR	15841
CARBON	12.346%	NR	16054
HYDROGEN	4.950%	CR	36159
NITROGEN	0.919%	HR	49238
BLANKS	65	43	67
K FACTORS	14.636	23.748	1.433

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	27 Seconds		

DATE & TIME	12/28/2016 1:28:04 PM	P_ID	122816LC
SAMPLE ID	164066104MS	USER ID	mansfield_toc1
WEIGHT (mg)	8.840	MODE	CHN

		SIGNALS	
		ZR	15864
CARBON	9.869%	NR	16035
HYDROGEN	6.081%	CR	28869
NITROGEN	0.821%	HR	41677
BLANKS	65	43	67
K FACTORS	14.636	23.748	1.433

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	27 Seconds		

DATE & TIME	12/28/2016 1:32:50 PM	P_ID	122816LC
SAMPLE ID	CCV	USER ID	mansfield_toc1
WEIGHT (mg)	10.0	MODE	CHN

		SIGNALS	
		ZR	15869
CARBON	1.006%	NR	15926
HYDROGEN	5.022%	CR	17464
NITROGEN	-.070%	HR	29434
BLANKS	65	43	67
K FACTORS	14.636	23.748	1.433

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	27 Seconds		

DATE & TIME	12/28/2016 1:37:36 PM	P_ID	122816LC
SAMPLE ID	CCB	USER ID	mansfield_toc1
WEIGHT (mg)	61.180	MODE	CHN

				SIGNALS	
				ZR	15869
CARBON	0.0%			NR	15926
HYDROGEN	0.055%			CR	15992
NITROGEN	-.011%			HR	16838
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 1:50:24 PM	P_ID	122816LC
SAMPLE ID	164066104	USER ID	mansfield_toc1
WEIGHT (mg)	8.790	MODE	CHN

				SIGNALS	
				ZR	15838
CARBON	9.723%			NR	16017
HYDROGEN	1.350%			CR	28591
NITROGEN	0.889%			HR	31453
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 1:55:10 PM	P_ID	122816LC
SAMPLE ID	164066105	USER ID	mansfield_toc1
WEIGHT (mg)	13.500	MODE	CHN

				SIGNALS	
				ZR	15837
CARBON	5.202%			NR	16010
HYDROGEN	0.867%			CR	26353
NITROGEN	0.548%			HR	29176
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 1:59:56 PM	P_ID	122816LC
SAMPLE ID	164066105	USER ID	mansfield_toc1
WEIGHT (mg)	12.140	MODE	CHN

				SIGNALS	
				ZR	15837
CARBON	5.876%			NR	16004
HYDROGEN	0.998%			CR	26510
NITROGEN	0.575%			HR	29429
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 2:07:36 PM	P_ID	122816LC
SAMPLE ID	164066106	USER ID	mansfield_toc1
WEIGHT (mg)	17.690	MODE	CHN

				SIGNALS	
				ZR	15855
CARBON	12.211%			NR	16279
HYDROGEN	1.932%			CR	47960
NITROGEN	1.408%			HR	56120
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 2:12:22 PM	P_ID	122816LC
SAMPLE ID	164066106	USER ID	mansfield_toc1
WEIGHT (mg)	11.990	MODE	CHN

				SIGNALS	
				ZR	15848
CARBON	6.768%			NR	16025
HYDROGEN	1.075%			CR	27966
NITROGEN	0.640%			HR	31069
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 2:17:08 PM	P_ID	122816LC
SAMPLE ID	164066106	USER ID	mansfield_toc1
WEIGHT (mg)	9.260	MODE	CHN

				SIGNALS	
				ZR	15840
CARBON	6.282%			NR	15993
HYDROGEN	1.046%			CR	24572
NITROGEN	0.648%			HR	26915
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 2:21:54 PM	P_ID	122816LC
SAMPLE ID	164066107	USER ID	mansfield_toc1
WEIGHT (mg)	13.320	MODE	CHN

		SIGNALS	
		ZR	15846
CARBON	9.101%	NR	16055
HYDROGEN	1.353%	CR	33863
NITROGEN	0.744%	HR	38187

BLANKS	65	43	67
K FACTORS	14.636	23.748	1.433

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME	27 Seconds

DATE & TIME	12/28/2016 2:26:40 PM	P_ID	122816LC
SAMPLE ID	164066107	USER ID	mansfield_toc1
WEIGHT (mg)	15.660	MODE	CHN

		SIGNALS	
		ZR	15845
CARBON	6.199%	NR	16014
HYDROGEN	0.953%	CR	30287
NITROGEN	0.455%	HR	33875

BLANKS	65	43	67
K FACTORS	14.636	23.748	1.433

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME	27 Seconds

DATE & TIME	12/28/2016 2:31:26 PM	P_ID	122816LC
SAMPLE ID	164066108	USER ID	mansfield_toc1
WEIGHT (mg)	12.680	MODE	CHN

		SIGNALS	
		ZR	15845
CARBON	3.380%	NR	16007
HYDROGEN	0.739%	CR	22344
NITROGEN	0.523%	HR	24612

BLANKS	65	43	67
K FACTORS	14.636	23.748	1.433

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME	28 Seconds

DATE & TIME	12/28/2016 2:36:12 PM	P_ID	122816LC
SAMPLE ID	164066108	USER ID	mansfield_toc1
WEIGHT (mg)	11.790	MODE	CHN

		SIGNALS	
		ZR	15834
CARBON	3.643%	NR	15996
HYDROGEN	0.789%	CR	22348
NITROGEN	0.562%	HR	24599

BLANKS	65	43	67
K FACTORS	14.636	23.748	1.433

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME	27 Seconds

DATE & TIME	12/28/2016 2:40:58 PM	P_ID	122816LC
SAMPLE ID	CCV	USER ID	mansfield_toc1
WEIGHT (mg)	10.040	MODE	CHN

				SIGNALS	
				ZR	15849
CARBON	0.993%			NR	15918
HYDROGEN	5.175%			CR	17442
NITROGEN	0.014%			HR	29823
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 2:45:44 PM	P_ID	122816LC
SAMPLE ID	CCB	USER ID	mansfield_toc1
WEIGHT (mg)	59.330	MODE	CHN

				SIGNALS	
				ZR	15866
CARBON	0.012%			NR	15914
HYDROGEN	0.021%			CR	16081
NITROGEN	-.022%			HR	16415
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	28 Seconds				

DATE & TIME	12/28/2016 2:54:48 PM	P_ID	122816LC
SAMPLE ID	CCV	USER ID	mansfield_toc1
WEIGHT (mg)	9.930	MODE	CHN

				SIGNALS	
				ZR	15864
CARBON	0.965%			NR	15924
HYDROGEN	5.038%			CR	17392
NITROGEN	-.049%			HR	29315
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	28 Seconds				

DATE & TIME	12/28/2016 2:59:34 PM	P_ID	122816LC
SAMPLE ID	CCB	USER ID	mansfield_toc1
WEIGHT (mg)	49.210	MODE	CHN

				SIGNALS	
				ZR	15870
CARBON	-.001%			NR	15928
HYDROGEN	0.041%			CR	15983
NITROGEN	-.013%			HR	16507
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	28 Seconds				

DATE & TIME	12/28/2016 3:09:09 PM	P_ID	122816LC
SAMPLE ID	164066107	USER ID	mansfield_toc1
WEIGHT (mg)	10.190	MODE	CHN

				SIGNALS	
				ZR	15826
CARBON	8.416%			NR	15969
HYDROGEN	1.276%			CR	28585
NITROGEN	0.520%			HR	31717
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	28 Seconds				

DATE & TIME	12/28/2016 3:13:55 PM	P_ID	122816LC
SAMPLE ID	164066107	USER ID	mansfield_toc1
WEIGHT (mg)	7.530	MODE	CHN

				SIGNALS	
				ZR	15829
CARBON	9.313%			NR	15955
HYDROGEN	1.380%			CR	26284
NITROGEN	0.547%			HR	28795
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/28/2016 3:18:41 PM	P_ID	122816LC
SAMPLE ID	164066109	USER ID	mansfield_toc1
WEIGHT (mg)	11.0	MODE	CHN

				SIGNALS	
				ZR	15849
CARBON	5.583%			NR	16002
HYDROGEN	0.585%			CR	25056
NITROGEN	0.546%			HR	26626
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	28 Seconds				

DATE & TIME	12/28/2016 3:23:27 PM	P_ID	122816LC
SAMPLE ID	164066109	USER ID	mansfield_toc1
WEIGHT (mg)	13.640	MODE	CHN

		SIGNALS	
		ZR	15821
CARBON	6.514%	NR	16003
HYDROGEN	0.699%	CR	29073
NITROGEN	0.588%	HR	31379

BLANKS	65	43	67
K FACTORS	14.636	23.748	1.433

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	27 Seconds		

DATE & TIME	12/28/2016 3:28:13 PM	P_ID	122816LC
SAMPLE ID	164066110	USER ID	mansfield_toc1
WEIGHT (mg)	13.650	MODE	CHN

				SIGNALS	
				ZR	15839
CARBON	3.257%			NR	15964
HYDROGEN	0.464%			CR	22536
NITROGEN	0.297%			HR	24083
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	28 Seconds		

DATE & TIME	12/28/2016 3:32:59 PM	P_ID	122816LC
SAMPLE ID	164066110	USER ID	mansfield_toc1
WEIGHT (mg)	12.840	MODE	CHN

				SIGNALS	
				ZR	15864
CARBON	3.069%			NR	15990
HYDROGEN	0.407%			CR	21822
NITROGEN	0.321%			HR	23105
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	28 Seconds		

DATE & TIME	12/28/2016 3:39:43 PM	P_ID	122816LC
SAMPLE ID	CCV	USER ID	mansfield_toc1
WEIGHT (mg)	10.150	MODE	CHN

				SIGNALS	
				ZR	15848
CARBON	0.979%			NR	15906
HYDROGEN	4.712%			CR	17425
NITROGEN	-.062%			HR	28825
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	28 Seconds		

DATE & TIME	12/28/2016 3:44:29 PM	P_ID	122816LC
SAMPLE ID	CCB	USER ID	mansfield_toc1
WEIGHT (mg)	39.220	MODE	CHN

				SIGNALS	
				ZR	15861
CARBON	0.011%			NR	15887
HYDROGEN	0.044%			CR	16015
NITROGEN	-.073%			HR	16469
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	28 Seconds				

DATE & TIME	12/29/2016 9:41:57 AM	P_ID	122816LC
SAMPLE ID	CCB	USER ID	mansfield_toc1
WEIGHT (mg)	61.200	MODE	CHN

				SIGNALS	
				ZR	15808
CARBON	-.002%			NR	16201
HYDROGEN	0.0%			CR	16249
NITROGEN	0.372%			HR	16295
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 9:46:42 AM	P_ID	122816LC
SAMPLE ID	SRM1650	USER ID	mansfield_toc1
WEIGHT (mg)	.740	MODE	CHN

				SIGNALS	
				ZR	15809
CARBON	76.394%			NR	15997
HYDROGEN	2.538%			CR	24336
NITROGEN	11.411%			HR	24825
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 9:51:28 AM	P_ID	122816LC
SAMPLE ID	MB	USER ID	mansfield_toc1
WEIGHT (mg)	51.560	MODE	CHN

				SIGNALS	
				ZR	15809
CARBON	-.004%			NR	15896
HYDROGEN	0.0%			CR	15931
NITROGEN	0.027%			HR	15972
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 9:56:13 AM	P_ID	122816LC
SAMPLE ID	SRM1650	USER ID	mansfield_toc1
WEIGHT (mg)	1.100	MODE	CHN

				SIGNALS	
				ZR	15808
CARBON	76.629%			NR	15937
HYDROGEN	2.971%			CR	28339
NITROGEN	3.933%			HR	29158
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 10:00:59 AM	P_ID	122816LC
SAMPLE ID	MB	USER ID	mansfield_toc1
WEIGHT (mg)	76.100	MODE	CHN

				SIGNALS	
				ZR	15808
CARBON	0.002%			NR	15872
HYDROGEN	0.0%			CR	15961
NITROGEN	-.003%			HR	16001
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 10:05:45 AM	P_ID	122816LC
SAMPLE ID	163952501	USER ID	mansfield_toc1
WEIGHT (mg)	17.280	MODE	CHN

				SIGNALS	
				ZR	15809
CARBON	1.293%			NR	15873
HYDROGEN	0.215%			CR	19209
NITROGEN	-.012%			HR	20136
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 10:10:31 AM	P_ID	122816LC
SAMPLE ID	163952501	USER ID	mansfield_toc1
WEIGHT (mg)	24.060	MODE	CHN

		SIGNALS	
		ZR	15807
CARBON	1.691%	NR	15875
HYDROGEN	0.321%	CR	21893
NITROGEN	0.003%	HR	23769

BLANKS	65	43	67
K FACTORS	14.636	23.748	1.433

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	27 Seconds		

DATE & TIME	12/29/2016 10:15:16 AM	P_ID	122816LC
SAMPLE ID	163952501MS	USER ID	mansfield_toc1
WEIGHT (mg)	19.820	MODE	CHN

				SIGNALS	
				ZR	15815
CARBON	3.282%			NR	15885
HYDROGEN	2.667%			CR	25472
NITROGEN	0.011%			HR	38068
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	27 Seconds		

DATE & TIME	12/29/2016 10:20:02 AM	P_ID	122816LC
SAMPLE ID	163952501MS	USER ID	mansfield_toc1
WEIGHT (mg)	17.950	MODE	CHN

				SIGNALS	
				ZR	15834
CARBON	2.018%			NR	15899
HYDROGEN	2.687%			CR	21266
NITROGEN	-.008%			HR	32763
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	27 Seconds		

DATE & TIME	12/29/2016 10:24:48 AM	P_ID	122816LC
SAMPLE ID	163952501MSD	USER ID	mansfield_toc1
WEIGHT (mg)	15.140	MODE	CHN

				SIGNALS	
				ZR	15843
CARBON	1.953%			NR	15905
HYDROGEN	3.215%			CR	20298
NITROGEN	-.023%			HR	31899
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	27 Seconds		

DATE & TIME	12/29/2016 10:29:34 AM	P_ID	122816LC
SAMPLE ID	163952501MSD	USER ID	mansfield_toc1
WEIGHT (mg)	15.190	MODE	CHN

				SIGNALS	
				ZR	15844
CARBON	3.477%			NR	15911
HYDROGEN	3.279%			CR	23707
NITROGEN	0.0%			HR	35580
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 10:34:20 AM	P_ID	122816LC
SAMPLE ID	CCV	USER ID	mansfield_toc1
WEIGHT (mg)	10.180	MODE	CHN

				SIGNALS	
				ZR	15847
CARBON	0.931%			NR	15904
HYDROGEN	3.370%			CR	17356
NITROGEN	-.069%			HR	25546
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 10:39:06 AM	P_ID	122816LC
SAMPLE ID	CCB	USER ID	mansfield_toc1
WEIGHT (mg)	70.0	MODE	CHN

				SIGNALS	
				ZR	15836
CARBON	-.003%			NR	15894
HYDROGEN	0.012%			CR	15925
NITROGEN	-.009%			HR	16169
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 10:44:52 AM	P_ID	122816LC
SAMPLE ID	163952502	USER ID	mansfield_toc1
WEIGHT (mg)	26.780	MODE	CHN

				SIGNALS	
				ZR	15820
CARBON	2.456%			NR	15890
HYDROGEN	0.390%			CR	25582
NITROGEN	0.008%			HR	28106
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 10:49:38 AM	P_ID	122816LC
SAMPLE ID	163952502	USER ID	mansfield_toc1
WEIGHT (mg)	21.460	MODE	CHN

				SIGNALS	
				ZR	15819
CARBON	3.037%			NR	15889
HYDROGEN	0.438%			CR	25492
NITROGEN	0.010%			HR	27765
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 10:54:24 AM	P_ID	122816LC
SAMPLE ID	163952503	USER ID	mansfield_toc1
WEIGHT (mg)	27.300	MODE	CHN

				SIGNALS	
				ZR	15818
CARBON	1.148%			NR	15885
HYDROGEN	0.379%			CR	20536
NITROGEN	0.0%			HR	23039
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 10:59:10 AM	P_ID	122816LC
SAMPLE ID	163952503	USER ID	mansfield_toc1
WEIGHT (mg)	22.270	MODE	CHN

				SIGNALS	
				ZR	15815
CARBON	0.680%			NR	15880
HYDROGEN	0.251%			CR	18161
NITROGEN	-.006%			HR	19532
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 11:03:55 AM	P_ID	122816LC
SAMPLE ID	163952504	USER ID	mansfield_toc1
WEIGHT (mg)	19.540	MODE	CHN

		SIGNALS	
		ZR	15816
CARBON	3.377%	NR	15888
HYDROGEN	0.454%	CR	25611
NITROGEN	0.018%	HR	27759

BLANKS	65	43	67
K FACTORS	14.636	23.748	1.433

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	27 Seconds		

DATE & TIME	12/29/2016 11:08:41 AM	P_ID	122816LC
SAMPLE ID	163952504	USER ID	mansfield_toc1
WEIGHT (mg)	19.940	MODE	CHN

				SIGNALS	
				ZR	15825
CARBON	2.333%			NR	15890
HYDROGEN	0.380%			CR	22763
NITROGEN	-.007%			HR	24604
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	27 Seconds		

DATE & TIME	12/29/2016 11:13:27 AM	P_ID	122816LC
SAMPLE ID	163977401	USER ID	mansfield_toc1
WEIGHT (mg)	9.820	MODE	CHN

				SIGNALS	
				ZR	15813
CARBON	5.075%			NR	16053
HYDROGEN	1.092%			CR	23412
NITROGEN	1.229%			HR	26002
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	27 Seconds		

DATE & TIME	12/29/2016 11:18:13 AM	P_ID	122816LC
SAMPLE ID	163977401	USER ID	mansfield_toc1
WEIGHT (mg)	11.290	MODE	CHN

				SIGNALS	
				ZR	15812
CARBON	4.247%			NR	16053
HYDROGEN	1.015%			CR	23136
NITROGEN	1.075%			HR	25900
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	27 Seconds		

DATE & TIME	12/29/2016 11:22:59 AM	P_ID	122816LC
SAMPLE ID	164066901	USER ID	mansfield_toc1
WEIGHT (mg)	14.880	MODE	CHN

				SIGNALS	
				ZR	15821
CARBON	10.859%			NR	16281
HYDROGEN	1.693%			CR	39995
NITROGEN	1.843%			HR	46021
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 11:27:45 AM	P_ID	122816LC
SAMPLE ID	164066901	USER ID	mansfield_toc1
WEIGHT (mg)	23.390	MODE	CHN

				SIGNALS	
				ZR	15825
CARBON	10.408%			NR	16552
HYDROGEN	1.898%			CR	52246
NITROGEN	1.969%			HR	62830
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 11:40:57 AM	P_ID	122816LC
SAMPLE ID	CCV	USER ID	mansfield_toc1
WEIGHT (mg)	10.510	MODE	CHN

				SIGNALS	
				ZR	15807
CARBON	1.028%			NR	15868
HYDROGEN	4.757%			CR	17514
NITROGEN	-.040%			HR	29429
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 11:45:43 AM	P_ID	122816LC
SAMPLE ID	CCB	USER ID	mansfield_toc1
WEIGHT (mg)	57.130	MODE	CHN

				SIGNALS	
				ZR	15826
CARBON	-.002%			NR	15885
HYDROGEN	0.032%			CR	15937
NITROGEN	-.010%			HR	16418
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 11:52:09 AM	P_ID	122816LC
SAMPLE ID	163952503	USER ID	mansfield_toc1
WEIGHT (mg)	25.650	MODE	CHN

				SIGNALS	
				ZR	15807
CARBON	1.107%			NR	15874
HYDROGEN	0.328%			CR	20095
NITROGEN	0.0%			HR	22135
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 11:56:55 AM	P_ID	122816LC
SAMPLE ID	163952503	USER ID	mansfield_toc1
WEIGHT (mg)	20.610	MODE	CHN

				SIGNALS	
				ZR	15814
CARBON	1.270%			NR	15878
HYDROGEN	0.350%			CR	19773
NITROGEN	-.010%			HR	21529
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 12:01:41 PM	P_ID	122816LC
SAMPLE ID	163952504	USER ID	mansfield_toc1
WEIGHT (mg)	28.400	MODE	CHN

				SIGNALS	
				ZR	15807
CARBON	2.927%			NR	15879
HYDROGEN	0.431%			CR	28109
NITROGEN	0.012%			HR	31056
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	27 Seconds				

DATE & TIME	12/29/2016 12:06:27 PM	P_ID	122816LC
SAMPLE ID	163952504	USER ID	mansfield_toc1
WEIGHT (mg)	16.970	MODE	CHN

		SIGNALS	
		ZR	15805
CARBON	2.990%	NR	15872
HYDROGEN	0.395%	CR	23363
NITROGEN	0.0%	HR	24998

BLANKS	65	43	67
K FACTORS	14.636	23.748	1.433

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	27 Seconds		

DATE & TIME	12/29/2016 12:11:13 PM	P_ID	122816LC
SAMPLE ID	CCV	USER ID	mansfield_toc1
WEIGHT (mg)	10.040	MODE	CHN

				SIGNALS	
				ZR	15798
CARBON	1.151%			NR	15858
HYDROGEN	5.051%			CR	17614
NITROGEN	-.049%			HR	29699
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	27 Seconds		

DATE & TIME	12/29/2016 12:15:59 PM	P_ID	122816LC
SAMPLE ID	CCB	USER ID	mansfield_toc1
WEIGHT (mg)	50.860	MODE	CHN

				SIGNALS	
				ZR	15822
CARBON	-.003%			NR	15879
HYDROGEN	0.017%			CR	15919
NITROGEN	-.014%			HR	16170
BLANKS	65	43	67		
K FACTORS	14.636	23.748	1.433		

FILL	COMB	BOOST1	BOOST2
0	0	0	0
FILL TIME	27 Seconds		

Work Group

ALPHA ANALYTICAL LABORATORIES, INC.

Alpha WORK GROUP REPORT (wk02)

Jan 20 2017, 12:42 pm

Work Group: WG961653 for Department: 7 Wet Chemistry

Created: 15-DEC-16 Due: Operator:

Sample	Client ID	C	Product	Matrix	Stat	UA	HOLD	DUE	PR	Location
L1639525-01	LDW-BA-PC-BLEND-SAND	S	A2-TOC-9060-2REPS	SOIL	DONE	U	1214	1228	S0	Glass-A.120
L1639525-02	LDW-BA-PC-BLEND-GRVS	S	A2-TOC-9060-2REPS	SOIL	DONE	U	1214	1228	S0	Glass-A.120
L1639525-03	LDW-BA-BL-GRVSAND-0-	S	A2-TOC-9060-2REPS	SOIL	DONE	U	1221	1228	S0	Glass-A.120
L1639525-04	LDW-BA-BL-GRVSAND-50	S	A2-TOC-9060-2REPS	SOIL	DONE	U	1221	1228	S0	Glass-A.120
WG961653-1	Laboratory Method Bl	S	A2-TOC-9060-2REPS	SOIL	DONE	U				
WG961653-2	Standard Reference M	S	A2-TOC-9060-2REPS	SOIL	DONE	U				
WG961653-3	Matrix Spike	S	A2-TOC-9060-2REPS	SOIL	DONE	U				
WG961653-4	Matrix Spike Duplica	S	A2-TOC-9060-2REPS	SOIL	DONE	U				

Comments:

WG961653-3	L1639525-01
WG961653-4	L1639525-01

ALPHA ANALYTICAL LABORATORIES, INC.

Alpha WORK GROUP REPORT (wk02)

Jan 20 2017, 12:42 pm

Work Group: WG965660 for Department: 7 Wet Chemistry

Created: 29-DEC-16 Due: Operator:

Sample	Client ID	C	Product	Matrix	Stat	UA	HOLD	DUE	PR	Location
L1639525-01	LDW-BA-PC-BLEND-SAND	S	A2-SOOT	SOIL	DONE	U	1214	1228	S0	Glass-A.120
L1639525-02	LDW-BA-PC-BLEND-GRVS	S	A2-SOOT	SOIL	DONE	U	1214	1228	S0	Glass-A.120
L1639525-03	LDW-BA-BL-GRVSAND-0-	S	A2-SOOT	SOIL	DONE	U	1221	1228	S0	Glass-A.120
L1639525-04	LDW-BA-BL-GRVSAND-50	S	A2-SOOT	SOIL	DONE	U	1221	1228	S0	Glass-A.120
WG965660-1	Laboratory Method Bl	S	A2-SOOT	SOIL	DONE	U				
WG965660-2	Standard Reference M	S	A2-SOOT	SOIL	DONE	U				
WG965660-3	Matrix Spike	S	A2-SOOT	SOIL	DONE	U				
WG965660-4	Matrix Spike Duplica	S	A2-SOOT	SOIL	DONE	U				

Comments:

WG965660-3 L1639525-01
WG965660-4 L1639525-01

Sample Preparation

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

Date: LC/CLN
Analyst: 12/14/16
2° Review:
CCV ID: WW102116C
SRM 1944 ID: WS081814A
Filter Aid ID: WS120415A
ICV ID: WW102116F
Balance ID: CC2288/001712
Other SRM ID:

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
~~Conditioning Std~~					
Blank					
K Factor				1	10.03
Blank				2	50.64
K Factor				3	9.72
K Factor				4	10.07
ICV				5	9.82
ICB				6	52.20
~~LCS~~ 1H ICV				7	50.44
~~Blank~~ SRM1944				8	14.20
MB				9	48.21
SRM1944				10	7.22
MB				11	50.90
MB				12	58.68
L1639605	01			13	8.42
	01			14	12.83
	01D			15	8.11
	01D			16	11.42
CCV				17	10.20
CCB				18	52.99
L1639605	01MS	10.50		19	9.53
	01MS	10.06		20	9.81

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
L1639605	02			21	10.13
	02			22	7.86
CCV				23	10.22
CCB				24	70.80
L1639309	04			25	17.97
	04			26	9.65
L1639525	01			27	12.16
	01			28	19.62
~~CCV~~	02			29	17.00
~~CCB~~	02			30	9.60
	03			31	13.54
	03			32	16.58
	02RR			33	13.64
	02RR			34	8.42
CCV				35	10.11
CCB				36	55.86
L1639525	04			37	13.84
	04			38	12.76
	04RR			39	16.81
	04RR			40	18.08
CCV				41	10.40
CCB				42	55.35

(Circle one) #2 - SN: 241N9041221

Date: _____
Analyst: _____ 2° Review: _____

CCV ID: _____
SRM 1944 ID: _____
Filter Aid ID: _____

ICV ID: _____
Balance 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					
4439525	01MS	10.10		43	16.73
	01MS	10.42		44	24.69
	01MSD	10.15		45	14.10
	01MSD	10.56		46	20.03
CCV				47	10.32
CCB				48	55.93
CCV					
CCB					

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
CCV					
CCB					
CCV					
CCB					

Document Type: Form

Pre-Qualtrax Document ID: 107-02

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

Date: 12/28/16
Analyst: LC
2° Review:

CCV ID: WW102116A-E
SRM 1944 ID: WS081814A
Filter Aid ID: WS120415A

ICV ID: WW102116A
Balance ID: 002288100712
Other SRM ID:

did not record

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
Conditioning Std				1	7.18
Blank				2	62.33
K Factor				3	10.09
Blank				4	58.90
K Factor				5	9.83
K Factor				6	9.81
ICV B				7	62.44
~~ICB~~ K				8	10.20
~~LCS~~ K				9	9.86
~~Blank~~ ICV				10	9.94
ICB				11	51.06
HICV				12	49.61
SRM1944				13	8.23
MB				14	45.00
SRM1944				15	8.76
MB				16	55.17
L1640661	04			17	13.86
	04			18	13.13
CCV	04D			19	11.49
CCB	04D			20	9.04
	04MS	9.89		21	11.09
	04MS	9.86		22	8.81

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
CCV				23	10.00
CCB				24	61.18
L1640661	04RR			25	8.79
	05			26	13.50
	05			27	12.14
X	06			28	15.60
	06			29	~~17.69~~ 11.99
	06			30	9.26
~~CCV~~	07			31	13.32
~~CCB~~	07			32	15.66
	08			33	12.68
	08			34	11.79
CCV				35	10.04
CCB				36	59.33
~~CCV~~ L1640661	~~07RR~~			37	~~10.19~~ 9.93
~~CCB~~	~~07RR~~	LC 12/28/16		38	~~7.53~~ 49.21
	~~09~~ 07RR			39	~~11.00~~ 10.19
	~~09~~ 07RR			40	7.53
	~~10~~ 09	LC 12/28/16		41	11.00
	~~10~~ 09			42	13.64
CCV	10			43	13.65
CCB	10			44	12.84

* sample double loaded

Document Type: Form

Pre-Qualtrax Document ID: 107-02

Title: Total Organic Carbon – Lloyd Kahn Log

see pg. 4

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

Date: 12/28/16
Analyst: LC
2° Review:

CCV ID:
SRM 1944 ID:
Filter Aid ID:

ICV ID:
Balance 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					
CCV				45	10.15
CCB				46	39.22
CCB				47	61.20
SRM 1650				48	0.74
MB				49	51.56
SRM 1650				50	1.10
MB				51	76.10
L1639525	01			52	17.28
CCV	01			53	24.06
CCB	01MS	10.20		54	19.82
	01MS	10.40		55	17.95
	01MSD	10.22		56	15.14

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
L1639525	01MSD	10.52		57	15.19
CCV				58	10.18
CCB				59	70.00
L1639525	02			60	26.78
	02			61	21.46
	03			62	27.30
	03			63	22.27
	04			64	19.54
~~CCV~~	04			65	19.94
~~CCB~~ L1639774	01			66	9.82
	01			67	11.29
L1640669	01			68	14.88
	01			69	23.39
CCV				70	10.51
CCB				71	57.13
L1639525	03RR			72	25.65
	03RR			73	20.61
	04RR			74	28.40
	04RR			75	16.97
CCV				76	16.04
CCV CCB				77	50.86
CCB					

Document Type: Form

Pre-Qualtrax Document ID: 107-02

Alpha Report

ANALYTICAL REPORT

Lab Number:	L1639525
Client:	Floyd Snider Inc 601 Union Street Suite 600 Seattle, WA 98101
ATTN:	Teri Floyd
Phone:	(206) 292-2078
Project Name:	LDW ENR/AC PILOT STUDY
Project Number:	Not Specified
Report Date:	12/29/16

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

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: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1639525
Report Date: 12/29/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1639525-01	LDW-BA-PC-BLEND-SAND	SEDIMENT	LDW	11/16/16 10:45	12/06/16
L1639525-02	LDW-BA-PC-BLEND-GRVSAND	SEDIMENT	LDW	11/16/16 10:45	12/06/16
L1639525-03	LDW-BA-BL-GRVSAND-0-500	SEDIMENT	LDW	11/23/16 10:30	12/06/16
L1639525-04	LDW-BA-BL-GRVSAND-500-1K	SEDIMENT	LDW	11/23/16 10:30	12/06/16

Project Name: LDW ENR/AC PILOT STUDY **Lab Number:** L1639525
Project Number: Not Specified **Report Date:** 12/29/16

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:	LDW ENR/AC PILOT STUDY	**Lab Number:**	L1639525
Project Number:	Not Specified	**Report Date:**	12/29/16

Case Narrative (continued)

Sample Receipt

The samples were received via express courier in a cooler with blue ice; however, the samples were above the required temperature range. The client was notified of the exceedance, and all requested analyses were performed.

Black Carbon/Soot

The WG965660-3/-4 MS/MSD recoveries (Rep 1 - 387%) / (Rep 2 - 57%/53%), performed on L1639525-01, are outside the 75-125% acceptance criteria, possibly due to sample matrix. The associated SRM recoveries are within criteria indicating the sample batch was in control, and all sample results were accepted. In addition, the WG965660-3/-4 MS/MSD RPDs (Rep 1 - 51%) and (Rep 2 - 53%) are above the acceptance criteria.

Total Organic Carbon

The WG961653-3/-4 MS/MSD recoveries (Rep1 - 53%/244%) / (Rep2 - 128%/159%), performed on L1639525-01, are outside the 75-125% acceptance criteria, possibly due to sample matrix. The associated SRM recoveries are within criteria indicating the sample batch was in control, and all sample results were accepted. In addition, the WG961653-3/-4 MS/MSD RPD (Rep1 - 49%) is above the acceptance criteria.

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: 12/29/16

INORGANICS
&
MISCELLANEOUS

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1639525
Report Date: 12/29/16

SAMPLE RESULTS

Lab ID: L1639525-01
Client ID: LDW-BA-PC-BLEND-SAND
Sample Location: LDW
Matrix: Sediment

Date Collected: 11/16/16 10:45
Date Received: 12/06/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	1.89		%	0.010	--	1	-	12/15/16 11:13	1,9060A	CM
Total Organic Carbon (Rep2)	1.49		%	0.010	--	1	-	12/15/16 11:13	1,9060A	CM
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	1.29		%	0.010	NA	1	-	12/28/16 12:08	91,-	CM
% Soot (Rep 2)	1.69		%	0.010	NA	1	-	12/28/16 12:08	91,-	CM

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1639525
Report Date: 12/29/16

SAMPLE RESULTS

Lab ID: L1639525-02
Client ID: LDW-BA-PC-BLEND-GRVSAND
Sample Location: LDW
Matrix: Sediment

Date Collected: 11/16/16 10:45
Date Received: 12/06/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	3.87		%	0.010	--	1	-	12/15/16 11:42	1,9060A	CM
Total Organic Carbon (Rep2)	4.85		%	0.010	--	1	-	12/15/16 11:42	1,9060A	CM
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	2.46		%	0.010	NA	1	-	12/28/16 12:08	91,-	CM
% Soot (Rep 2)	3.04		%	0.010	NA	1	-	12/28/16 12:08	91,-	CM

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1639525
Report Date: 12/29/16

SAMPLE RESULTS

Lab ID: L1639525-03
Client ID: LDW-BA-BL-GRVSAND-0-500
Sample Location: LDW
Matrix: Sediment

Date Collected: 11/23/16 10:30
Date Received: 12/06/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	2.56		%	0.010	--	1	-	12/15/16 11:32	1,9060A	CM
Total Organic Carbon (Rep2)	2.86		%	0.010	--	1	-	12/15/16 11:32	1,9060A	CM
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	1.11		%	0.010	NA	1	-	12/28/16 12:08	91,-	CM
% Soot (Rep 2)	1.27		%	0.010	NA	1	-	12/28/16 12:08	91,-	CM

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1639525
Report Date: 12/29/16

SAMPLE RESULTS

Lab ID: L1639525-04
Client ID: LDW-BA-BL-GRVSAND-500-1K
Sample Location: LDW
Matrix: Sediment

Date Collected: 11/23/16 10:30
Date Received: 12/06/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	4.05		%	0.010	--	1	-	12/15/16 12:45	1,9060A	CM
Total Organic Carbon (Rep2)	4.86		%	0.010	--	1	-	12/15/16 12:45	1,9060A	CM
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	2.93		%	0.010	NA	1	-	12/28/16 12:08	91,-	CM
% Soot (Rep 2)	2.99		%	0.010	NA	1	-	12/28/16 12:08	91,-	CM

Project Name: LDW ENR/AC PILOT STUDY **Lab Number:** L1639525

Project Number: Not Specified **Report Date:** 12/29/16

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab for sample(s): 01-04 Batch: WG961653-1										
Total Organic Carbon (Rep1)	ND		%	0.010	--	1	-	12/15/16 09:31	1,9060A	CM
Total Organic Carbon (Rep2)	ND		%	0.010	--	1	-	12/15/16 09:31	1,9060A	CM
General Chemistry - Mansfield Lab for sample(s): 01-04 Batch: WG965660-1										
% Soot (Rep 1)	ND		%	0.010	NA	1	-	12/28/16 12:08	91,-	CM
% Soot (Rep 2)	ND		%	0.010	NA	1	-	12/28/16 12:08	91,-	CM

Matrix Spike Analysis
Batch Quality Control

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1639525
Report Date: 12/29/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG961653-3 WG961653-4 QC Sample: L1639525-01 Client ID: LDW-BA-PC-BLEND-SAND												
Total Organic Carbon (Rep1)	1.89	0.604	2.21	**53**	Q	3.65	**244**	Q	75-125	**49**	Q	25
Total Organic Carbon (Rep2)	1.49	0.422	2.03	**128**	Q	2.33	**159**	Q	75-125	14		25
General Chemistry - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG965660-3 WG965660-4 QC Sample: L1639525-01 Client ID: LDW-BA-PC-BLEND-SAND												
% Soot (Rep 1)	1.29	0.515	3.28	**387**	Q	1.95	98		75-125	**51**	Q	25
% Soot (Rep 2)	1.69	0.579	2.02	**57**	Q	3.48	**258**	Q	75-125	**53**	Q	25

Project Name: LDW ENR/AC PILOT STUDY **Lab Number:** L1639525

Project Number: Not Specified **Report Date:** 12/29/16

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG961653-2

Parameter	% Recovery	Qual	QC Criteria
Total Organic Carbon (Rep1)	92		75-125
Total Organic Carbon (Rep2)	107		75-125

Project Name: LDW ENR/AC PILOT STUDY **Lab Number:** L1639525

Project Number: Not Specified **Report Date:** 12/29/16

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG965660-2

Parameter	% Recovery	Qual	QC Criteria
% Soot (Rep 1)	98		75-125
% Soot (Rep 2)	98		75-125

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1639525
Report Date: 12/29/16

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(*)
L1639525-01A	Glass 120ml/4oz unpreserved	A	N/A	13.2	Y	Absent	A2-SOOT(28),A2-TOC-9060-2REPS(28)
L1639525-02A	Glass 120ml/4oz unpreserved	A	N/A	13.2	Y	Absent	A2-SOOT(28),A2-TOC-9060-2REPS(28)
L1639525-03A	Glass 120ml/4oz unpreserved	A	N/A	13.2	Y	Absent	A2-SOOT(28),A2-TOC-9060-2REPS(28)
L1639525-04A	Glass 120ml/4oz unpreserved	A	N/A	13.2	Y	Absent	A2-SOOT(28),A2-TOC-9060-2REPS(28)

*Values in parentheses indicate holding time in days

Project Name: LDW ENR/AC PILOT STUDY **Lab Number:** L1639525

Project Number: Not Specified **Report Date:** 12/29/16

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.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
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

Project Name:	LDW ENR/AC PILOT STUDY	**Lab Number:**	L1639525
Project Number:	Not Specified	**Report Date:**	12/29/16

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

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. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: LDW ENR/AC PILOT STUDY **Lab Number:** L1639525
Project Number: Not Specified **Report Date:** 12/29/16

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

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 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
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.
Biological Tissue Matrix: ***EPA 3050B***

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
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; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, 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**.

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

MANSFIELD CHAIN OF CUSTODY

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/6/16

ALPHA Job #: TBD L1639525

Project Information

Project Name: LDW ENR/AC Pilot Study

Project Location: LDW

Project #: TBD

Project Manager: Liz Porta

ALPHA Quote #: M2015033

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☐ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program *Criteria*

Client Information

Client: Amec Foster Wheeler

Address: 3500 188TH St. SW, Suite 601

Lynnwood, WA 98037

Phone: 425-921-4023

Fax:

Email: cliff.whitmus@amecfw.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: TBD Time: TBD

Other Project Specific Requirements/Comments/Detection Limits:

POC: Gretchen Heavner- gretchen.heavner@floydsnider.com #206.292.2078

☒ MS/MSD (at unit cost) will be omitted unless you check here

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL Metals EPA 6020B/7474	SVOCs EPA 8270D	TOC EPA 9060A(m)	Grain Size ASTM D422	Black Carbon Gustafsson (1997)								Sample Specific Comments	TOTAL # BOTTLES
39525.01	LDW-BA-PC-BLEND-Sand	11-16-16	10:45	sediment	RM	☐	☐	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐		1
.02	LDW-BA-PC-BLEND-GrvSand	11-16-16	10:45	sediment	RM	☐	☐	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐		1
.03	LDW-BA-BL-GrvSand-0-500	11-23-16	10:30	sediment	RM	☐	☐	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐		1
.04	LDW-BA-BL-GrvSand-500-1k	10-23-16	11:30	sediment	RM	☐	☐	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐		1
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						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
				Container Type		A	A	A	-	-	-	-	-	-	-	-	-		
				Preservative		A	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
Richard May FedEx	12/2/16/1300	FedEx Kim Elbaum-AAL	12/6/16 1010

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 101-09(I-NJ) (rev. 5-JAN-12)