ALPHA ANALYTICAL

World Class Chemistry

www.alphalab.com

Lab Number: L1700165

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.

Table of Contents

Alpha Analytical Data Deliverable Package 1
- Table of Contents 2
- Sample Delivery Group 3
  - Sample Receipt and Login Checklist 4
  - LIMS Chain of Custody 5
    - Lims COC (LN01) 6
  - Container Tracking 7
    - Sample Receipt Tracking Report 8
  - Chain of Custody 9
    - External Chain of Custody 10
- Wet Chemistry Analysis 11
  - Organic Carbon Analysis 12
    - Sequence Logs 13
      - Sequence Log 14
    - Sample Raw Data 18
      - Wet Chemistry Raw Data 19
    - Work Group 44
      - QC Batch WG970283 45
      - QC Batch WG970284 46
    - Sample Preparation 47
      - Prep Logs 48
- Alpha Analytical Report 51
  - Standard Analytical Report 52
  - Summary 52
  - Alpha Analytical Report Cover Page 52
  - Sample Cross Reference Summary 53
  - Case Narrative 54
  - Inorganics Cover Page 56
  - Wet Chemistry Sample Results 57
  - Wet Chemistry Method Blank Report 60
  - Wet Chemistry Matrix Spike Report 61
  - Wet Chemistry Duplicate Report 62
  - Wet Chemistry SRM Report 63
  - Sample Receipt & Container Information Report 65
  - Glossary 66
  - References 68
  - Certification/Approval Program Summary 69
  - Chain of Custody 70

Sample Delivery Group Information

Sample Delivery Group Form

Laboratory Job number: L1700165
Project Manager: Elizabeth Porta **Review Date:** 01/05/2017
Project Number:
Project Name: LDW ENR/AC PILOT STUDY **Received:** 01/04/2017 11:22
Client Account: Floyd Snider Inc **Received by:** KB

Samples Delivered by: FEDEX **Call Tracker #**
Bill Of Laden Yes **Trackingnum** 778088705407
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	No	Yes	3.2 - IR Gun	No	No

LIMS Chain of Custody

ALPHA ANALYTICAL LABORATORIES, INC.
LOGIN CHAIN OF CUSTODY REPORT
Jan 20 2017, 02:56 pm

Login Number: L1700165
Account: FLOYDSNI Floyd Snider Inc
Received: 04JAN17 Due Date: 25JAN17

Sample #	Client ID	Mat	PR	Collected	Container
L1700165-01	LDW-BA-BL-SAND-0-50	3	S0	30DEC16 09:20	1-Glass-A.120

Samples need to be shaken/mixed well prior to analysis! Soot - 2 Reps L1700165-01 MS L1700165-01 DUP DPKG-FULL Package Due Date: 01/25/17

A2-DUP,A2-MS,A2-SOOT,A2-TOC-9060-2REPS,DPKG-FULL

L1700165-02	LDW-BA-BL-SAND-500-	3	S0	30DEC16 09:40	1-Glass-A.120

Samples need to be shaken/mixed well prior to analysis! Soot - 2 Reps Package Due Date: 01/25/17

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

L1700165-03	LDW-BA-BL-SAND-1K-1	3	S0	30DEC16 10:10	1-Glass-A.120

Samples need to be shaken/mixed well prior to analysis! Soot - 2 Reps Package Due Date: 01/25/17

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
L1700165-01A	Glass-A.120	INTACT	10-JAN-17	CUSTODY	A2-WET CHEMISTRY	Sonal Patel	A2-CUSTODY-FRZ1-V3	A2-CUSTODY-FRZ1-V3	Sonal Patel
L1700165-01A	Glass-A.120	INTACT	10-JAN-17	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-V3	Sonal Patel	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Sonal Patel
L1700165-01A	Glass-A.120	INTACT	04-JAN-17	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Kim L. Bailey	A2-CUSTODY-FRZ1-V3	A2-CUSTODY-FRZ1-V3	Kim L. Bailey
L1700165-01A	Glass-A.120	INTACT	04-JAN-17	A2-LOGIN	A2-LOGIN	Kim L. Bailey	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Kim L. Bailey
L1700165-02A	Glass-A.120	INTACT	10-JAN-17	CUSTODY	A2-WET CHEMISTRY	Sonal Patel	A2-CUSTODY-FRZ1-V3	A2-CUSTODY-FRZ1-V3	Sonal Patel
L1700165-02A	Glass-A.120	INTACT	10-JAN-17	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-V3	Sonal Patel	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Sonal Patel
L1700165-02A	Glass-A.120	INTACT	04-JAN-17	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Kim L. Bailey	A2-CUSTODY-FRZ1-V3	A2-CUSTODY-FRZ1-V3	Kim L. Bailey
L1700165-02A	Glass-A.120	INTACT	04-JAN-17	A2-LOGIN	A2-LOGIN	Kim L. Bailey	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Kim L. Bailey
L1700165-03A	Glass-A.120	INTACT	10-JAN-17	CUSTODY	A2-WET CHEMISTRY	Sonal Patel	A2-CUSTODY-FRZ1-V3	A2-CUSTODY-FRZ1-V3	Sonal Patel
L1700165-03A	Glass-A.120	INTACT	10-JAN-17	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-V3	Sonal Patel	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Sonal Patel
L1700165-03A	Glass-A.120	INTACT	04-JAN-17	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Kim L. Bailey	A2-CUSTODY-FRZ1-V3	A2-CUSTODY-FRZ1-V3	Kim L. Bailey
L1700165-03A	Glass-A.120	INTACT	04-JAN-17	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: 1/4/17

ALPHA Job #: TBD L1700165

Project Information

Project Name: LDW ENR/AC Pilot Study

Project Location: LDW

Project #: TBD

Project Manager: Liz Porta

ALPHA Quote #: M2015033

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

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*

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
001165.01	LDW-BA-BL-Sand-0-500	12-30-16	09:20	sediment	RW	☐	☐	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐		1
.02	LDW-BA-BL-Sand-500-1k	12-30-16	09:40	sediment	RM	☐	☐	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐		1
.03	LDW-BA-BL-Sand-1k-1.5k	12-30-16	10:10	sediment	RM	☐	☐	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐		1
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
					Container Type	A	A	A	-	-	-	-	-	-	-	-	-		
					Preservative	A	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
Richard May / DOF fed Ex	1/3/17/1300	Fed Ex Ken O'Brien	1/4/17 11:2[illegible]

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: 1/17/2017 10:08 AM
User ID: Alpha Analytical

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydroge	Nitrogen	ZR	CR	HR	NR
K1	1	9.880	1/16/2017 8:47:55 A	19.372	-.072	2.391	28672	33927	33878	31971
BLANK	2		1/16/2017 8:52:41 A	-6	-25	678	28677	29349	29324	29355
K1	3	9.660	1/16/2017 8:57:23 A	19.948	-.039	-.353	28658	30747	30709	28802
K1	4	10.110	1/16/2017 9:09:57 A	19.011	0.010	-.355	28602	30665	30651	28725
ICV	5	10.070	1/16/2017 9:31:53 A	0.932%	1.986%	-3.124%	28551	30407	30401	28577
ICB	6	67.620	1/16/2017 9:36:35 A	-.001%	0.182%	-.467%	28553	28584	28573	28577
HICV	7	51.130	1/16/2017 9:49:05 A	3.740%	-.271%	-.619%	28558	65531	65503	28581
SRM1944	8	16.150	1/16/2017 9:58:54 A	4.185%	0.667%	-1.080%	28528	41857	41845	28784
MB	9	69.410	1/16/2017 10:03:37 A	0.025%	0.155%	-.453%	28515	28900	28888	28541
SRM1944	10	14.680	1/16/2017 10:08:19 A	4.118%	1.258%	-1.342%	28521	40435	40428	28740
MB	11	67.150	1/16/2017 10:13:01 A	0.024%	0.458%	-.473%	28493	28845	28846	28514
MB	12	60.880	1/16/2017 10:17:43 A	0.007%	0.430%	-.533%	28489	28604	28602	28499
MB	13	68.870	1/16/2017 10:22:26 A	0.001%	0.603%	-.460%	28488	28547	28555	28511
1642217001	14	18.300	1/16/2017 10:42:54 A	7.072%	1.765%	-1.613%	28473	53544	53546	28531
164221701	15	25.320	1/16/2017 10:47:36 A	8.228%	2.734%	-1.132%	28493	68822	68848	28565
164221701D	16	11.740	1/16/2017 10:52:19 A	7.765%	3.538%	-2.633%	28465	46125	46133	28500
164221701D	17	28.910	1/16/2017 10:57:01 A	6.788%	1.490%	-.983%	28472	66466	66475	28548
CCV	18	10.150	1/16/2017 11:01:43 A	2.919%	3.941%	-3.106%	28461	34227	34234	28486
CCB	19	80.530	1/16/2017 11:06:25 A	0.045%	0.573%	-.389%	28449	29202	29213	28477
CCV	20	10.440	1/16/2017 11:11:08 A	1.056%	2.653%	-2.173%	28476	30794	30793	28646
CCB	21	59.510	1/16/2017 11:15:50 A	0.002%	0.052%	-.542%	28473	28527	28510	28486
164221701MS	22	17.420	1/16/2017 11:28:19 A	5.952%	-.530%	-1.708%	28460	48559	48534	28514
164221701MS	23	20.070	1/16/2017 11:33:01 A	6.660%	1.150%	-1.486%	28457	54343	54339	28510
164221702	24	20.660	1/16/2017 11:37:44 A	3.932%	1.862%	-1.411%	28429	44199	44205	28493
164221702	25	18.490	1/16/2017 11:42:26 A	3.369%	2.247%	-1.646%	28436	40530	40538	28479
164221703	26	20.440	1/16/2017 11:47:09 A	3.450%	2.107%	-1.489%	28432	42112	42121	28475

Reported on 1/17/2017 10:08 AM by Alpha Analytical

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydroge	Nitrogen	ZR	CR	HR	NR
164221703	27	21.320	1/16/2017 11:51:51 A	5.511%	1.515%	-1.390%	28421	51189	51191	28477
170016501	28	13.830	1/16/2017 11:56:33 A	4.306%	1.335%	-2.244%	28459	40012	40005	28492
170016501	29	10.760	1/16/2017 12:01:16 P	1.417%	2.860%	-2.896%	28445	31438	31439	28476
170016501D	30	16.300	1/16/2017 12:05:58 P	3.822%	2.076%	-1.863%	28447	40540	40543	28491
170016501D	31	11.880	1/16/2017 12:10:40 P	2.914%	3.626%	-2.577%	28434	35179	35188	28474
CCV	32	10.100	1/16/2017 12:57:26 P	1.029%	4.113%	-3.097%	28482	30536	30544	28511
CCB	33	84.080	1/16/2017 1:02:08 PM	0.002%	0.457%	-.374%	28474	28554	28560	28500
164221703	34	21.380	1/16/2017 1:08:12 PM	3.671%	2.159%	-1.406%	28462	43686	43697	28511
164221703	35	20.190	1/16/2017 1:12:54 PM	2.987%	2.286%	-1.498%	28470	40181	40192	28516
170016501	36	14.620	1/16/2017 1:17:36 PM	1.103%	2.631%	-2.115%	28460	31627	31633	28495
170016501	37	20.010	1/16/2017 1:22:19 PM	0.838%	1.922%	-1.542%	28458	31752	31758	28494
170016501MS	38	15.280	1/16/2017 1:27:01 PM	1.807%	1.812%	-1.975%	28454	33853	33852	28501
170016501MS	39	20.730	1/16/2017 1:31:44 PM	1.401%	1.707%	-1.471%	28457	34127	34131	28499
170016502	40	14.350	1/16/2017 1:36:26 PM	1.425%	1.930%	-2.180%	28434	32431	32430	28463
170016502	41	11.610	1/16/2017 1:41:08 PM	1.838%	2.518%	-2.673%	28433	32605	32605	28466
170016503	42	23.160	1/16/2017 1:45:51 PM	1.810%	1.528%	-1.316%	28430	36588	36592	28472
170016503	43	11.930	1/16/2017 1:50:33 PM	4.823%	3.998%	-2.520%	28423	39604	39616	28472
CCV	44	10.600	1/16/2017 2:10:04 PM	1.171%	0.581%	-2.922%	28415	30864	30849	28449
CCB	45	63.400	1/16/2017 2:14:47 PM	0.004%	0.777%	-.490%	28400	28500	28513	28432
170016501D	46	18.630	1/16/2017 2:27:08 PM	1.572%	0.413%	-1.672%	28423	34130	34116	28454
170016501D	47	13.940	1/16/2017 2:31:50 PM	0.706%	3.421%	-2.240%	28415	30365	30377	28445
170016503	48	22.500	1/16/2017 2:36:33 PM	0.614%	1.573%	-1.374%	28413	31135	31139	28448
170016503	49	29.770	1/16/2017 2:41:15 PM	1.112%	0.930%	-1.028%	28420	34874	34873	28460
SRM1650	50	1.030	1/16/2017 2:45:58 PM	77.478%	53.771	-26.758%	28422	43943	43960	28512
SRM1650	51	1.040	1/16/2017 2:50:40 PM	75.294%	17.751	-26.208%	28406	43643	43636	28501
164221701	52	22.090	1/16/2017 2:55:22 PM	4.454%	2.438%	-1.347%	28391	47466	47482	28445
164221701	53	16.800	1/16/2017 3:00:05 PM	5.110%	3.297%	-1.804%	28418	45062	45079	28463

Reported on 1/17/2017 10:08 AM by Alpha Analytical

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydroge	Nitrogen	ZR	CR	HR	NR
164221701	53	16.800	1/16/2017 3:00:05 PM	5.110%	3.297%	-1.804%	28418	45062	45079	28463
164221701D	54	21.230	1/16/2017 3:04:47 PM	5.901%	2.391%	-1.393%	28413	52683	52697	28470
164221701D	55	17.790	1/16/2017 3:09:30 PM	6.275%	1.903%	-1.707%	28405	50028	50031	28449
CCV	56	10.150	1/16/2017 3:32:15 PM	1.011%	2.274%	-2.956%	28416	30465	30461	28466
CCB	57	63.600	1/16/2017 3:36:58 PM	0.002%	0.629%	-.488%	28410	28482	28489	28443
164221701MS	58	16.620	1/16/2017 3:43:51 PM	6.656%	1.018%	-1.702%	28425	49888	49880	28503
164221701MS	59	14.500	1/16/2017 3:48:33 PM	5.110%	0.424%	-2.094%	28444	42817	42802	28488
164221702	60	21.390	1/16/2017 3:53:16 PM	2.756%	2.374%	-1.428%	28428	39873	39887	28469
164221702	61	11.800	1/16/2017 3:57:58 PM	2.660%	3.520%	-2.666%	28418	34525	34533	28444
164221703	62	11.520	1/16/2017 4:02:41 PM	2.182%	4.274%	-2.752%	28409	33304	33317	28431
164221703	63	8.950	1/16/2017 4:07:23 PM	4.182%	5.329%	-3.420%	28398	35685	35697	28438
170016501	64	13.220	1/16/2017 4:12:06 PM	3.813%	6.168%	-2.362%	28391	38174	38208	28421
170016501	65	22.400	1/16/2017 4:16:48 PM	1.722%	1.442%	-1.323%	28405	35930	35932	28461
1700016501D	66	17.700	1/16/2017 4:21:35 PM	1.318%	1.825%	-1.678%	28414	32994	32996	28469
170016501D	67	16.560	1/16/2017 4:26:22 PM	0.968%	1.022%	-1.488%	28429	31682	31674	28567
CCV	68	10.180	1/16/2017 4:31:04 PM	1.247%	2.871%	-2.905%	28432	30958	30958	28489
CCB	69	91.240	1/16/2017 4:35:47 PM	0.001%	0.438%	-.341%	28422	28493	28500	28454
CCV	70	10.110	1/16/2017 4:40:30 PM	1.016%	2.891%	-3.082%	28427	30460	30460	28458
170016501MS	71	12.960	1/16/2017 4:45:40 PM	1.627%	1.662%	-2.362%	28432	32563	32558	28472
170016501MS	72	19.350	1/16/2017 4:50:23 PM	1.931%	1.670%	-1.601%	28456	35725	35727	28490
170016502	73	13.300	1/16/2017 4:55:05 PM	1.361%	1.851%	-2.311%	28428	31980	31977	28466
170016502	74	16.190	1/16/2017 4:59:48 PM	0.645%	2.851%	-1.951%	28438	30496	30507	28462
170016503	75	13.200	1/16/2017 5:04:30 PM	0.685%	2.448%	-2.319%	28416	30220	30222	28456
170016503	76	16.490	1/16/2017 5:09:13 PM	0.581%	3.079%	-1.886%	28414	30316	30330	28446
164221703	77	17.640	1/16/2017 5:13:55 PM	2.955%	2.529%	-1.746%	28410	38533	38543	28447
164221703	78	19.380	1/16/2017 5:18:38 PM	2.723%	1.826%	-1.551%	28401	38659	38663	28450
170016501	79	15.070	1/16/2017 5:23:21 PM	1.294%	2.246%	-2.007%	28402	32231	32234	28448

Reported on 1/17/2017 10:08 AM by Alpha Analytical

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydroge	Nitrogen	ZR	CR	HR	NR
170016501	79	15.070	1/16/2017 5:23:21 PM	1.294%	2.246%	-2.007%	28402	32231	32234	28448
170016501	80	15.200	1/16/2017 5:28:03 PM	2.185%	1.619%	-2.034%	28415	34883	34880	28450
CCV	81	10.190	1/16/2017 5:32:46 PM	1.042%	3.322%	-3.058%	28431	30531	30534	28462
CCB	82	55.370	1/16/2017 5:37:28 PM	0.002%	0.195%	-.564%	28457	28524	28512	28487
170016501D	83	15.830	1/17/2017 9:17:00 A	1.032%	1.361%	1.656%	28616	32760	32755	29588
170016501D	84	15.340	1/17/2017 9:21:42 A	1.400%	1.605%	-1.332%	28641	33014	33011	28848
170016502	85	16.580	1/17/2017 9:31:37 A	0.737%	-.742%	-1.714%	28602	31056	31029	28678
170016502	86	14.260	1/17/2017 9:36:24 A	0.625%	1.403%	-2.044%	28581	30385	30379	28645
CCV	87	10.290	1/17/2017 9:41:11 A	1.029%	-.150%	-2.797%	28602	30735	30715	28672
CCB	88	65.210	1/17/2017 9:45:57 A	0.001%	0.283%	-.440%	28586	28688	28681	28657

Sample Raw Data

Date of report	1/17/2017 10:09:43AM
User ID	Alpha Analytical

DATE & TIME	1/16/2017 8:47:55 AM	P_ID	011617CM
RUN TYPE	K1	USER ID	alpha
WEIGHT (mg)	9.880	MODE	CHN

			SIGNALS			
			ZR	28672	AVERAGE RESULTS	
KC	19.372		NR	31971	KC	19.287
KH	-.072		CR	33927	KH	0.065
KN	2.391		HR	33878	KN	1.640
BLANKS	42	-13	542			
K FACTORS	1.0%	5.03%	11.67%			
FILL TIME	19 Seconds					

NUMBER	MESSAGE
8	CHECK FOR SAMPLE DROP

DATE & TIME	1/16/2017 8:52:41 AM	P_ID	011617CM
RUN TYPE	BLANK	USER ID	alpha
		MODE	CHN

			SIGNALS			
			ZR	28677	AVERAGE RESULTS	
CARBON	-6		NR	29355	CARBON	18
HYDROGEN	-25		CR	29349	HYDROGEN	-19
NITROGEN	678		HR	29324	NITROGEN	542
FILL TIME	18 Seconds					

DATE & TIME	1/16/2017 8:57:23 AM	P_ID	011617CM
RUN TYPE	K1	USER ID	alpha
WEIGHT (mg)	9.660	MODE	CHN

			SIGNALS			
			ZR	28658	AVERAGE RESULTS	
KC	19.948		NR	28802	KC	19.617
KH	-.039		CR	30747	KH	0.065
KN	-.353		HR	30709	KN	1.640
BLANKS	18	-19	542			
K FACTORS	1.0%	5.03%	11.67%			
FILL TIME	18 Seconds					

NUMBER	MESSAGE
8	CHECK FOR SAMPLE DROP

DATE & TIME	1/16/2017 9:09:57 AM	P_ID	011617CM
RUN TYPE	K1	USER ID	alpha
WEIGHT (mg)	10.110	MODE	CHN

			SIGNALS			
			ZR	28602	AVERAGE RESULTS	
KC	19.011		NR	28725	KC	19.314
KH	0.010		CR	30665	KH	0.065
KN	-.355		HR	30651	KN	1.640
BLANKS	18	-19	542			
K FACTORS	1.0%	5.03%	11.67%			
FILL TIME	18 Seconds					

NUMBER	MESSAGE
8	CHECK FOR SAMPLE DROP

DATE & TIME	1/16/2017 9:31:53 AM	P_ID	011617CM
SAMPLE ID	ICV	USER ID	alpha
WEIGHT (mg)	10.070	MODE	CHN

				SIGNALS	
				ZR	28551
CARBON	0.932%			NR	28577
HYDROGEN	1.986%			CR	30407
NITROGEN	-3.124%			HR	30401
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 9:36:35 AM	P_ID	011617CM
SAMPLE ID	ICB	USER ID	alpha
WEIGHT (mg)	67.620	MODE	CHN

				SIGNALS	
				ZR	28553
CARBON	-.001%			NR	28577
HYDROGEN	0.182%			CR	28584
NITROGEN	-.467%			HR	28573
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 9:49:05 AM	P_ID	011617CM
SAMPLE ID	HICV	USER ID	alpha
WEIGHT (mg)	51.130	MODE	CHN

				SIGNALS	
				ZR	28558
CARBON	3.740%			NR	28581
HYDROGEN	-.271%			CR	65531
NITROGEN	-.619%			HR	65503
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	20 Seconds				

DATE & TIME	1/16/2017 9:58:54 AM	P_ID	011617CM
SAMPLE ID	SRM1944	USER ID	alpha
WEIGHT (mg)	16.150	MODE	CHN

				SIGNALS	
				ZR	28528

CARBON	4.185%			NR	28784
HYDROGEN	0.667%			CR	41857
NITROGEN	-1.080%			HR	41845
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	18 Seconds				

DATE & TIME	1/16/2017 10:03:37 AM	P_ID	011617CM
SAMPLE ID	MB	USER ID	alpha
WEIGHT (mg)	69.410	MODE	CHN

				SIGNALS	
				ZR	28515
CARBON	0.025%			NR	28541
HYDROGEN	0.155%			CR	28900
NITROGEN	-.453%			HR	28888
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 10:08:19 AM	P_ID	011617CM
SAMPLE ID	SRM1944	USER ID	alpha
WEIGHT (mg)	14.680	MODE	CHN

				SIGNALS	
				ZR	28521
CARBON	4.118%			NR	28740
HYDROGEN	1.258%			CR	40435
NITROGEN	-1.342%			HR	40428
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 10:13:01 AM	P_ID	011617CM
SAMPLE ID	MB	USER ID	alpha
WEIGHT (mg)	67.150	MODE	CHN

				SIGNALS	
				ZR	28493
CARBON	0.024%			NR	28514
HYDROGEN	0.458%			CR	28845
NITROGEN	-.473%			HR	28846
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 10:17:43 AM	P_ID	011617CM
SAMPLE ID	MB	USER ID	alpha
WEIGHT (mg)	60.880	MODE	CHN

				SIGNALS	
				ZR	28489
CARBON	0.007%			NR	28499
HYDROGEN	0.430%			CR	28604
NITROGEN	-.533%			HR	28602
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 10:22:26 AM	P_ID	011617CM
SAMPLE ID	MB	USER ID	alpha
WEIGHT (mg)	68.870	MODE	CHN

				SIGNALS	
				ZR	28488
CARBON	0.001%			NR	28511
HYDROGEN	0.603%			CR	28547
NITROGEN	-.460%			HR	28555
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 10:42:54 AM	P_ID	011617CM
SAMPLE ID	1642217001	USER ID	alpha
WEIGHT (mg)	18.300	MODE	CHN

				SIGNALS	
				ZR	28473
CARBON	7.072%			NR	28531
HYDROGEN	1.765%			CR	53544
NITROGEN	-1.613%			HR	53546
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 10:47:36 AM	P_ID	011617CM
SAMPLE ID	164221701	USER ID	alpha
WEIGHT (mg)	25.320	MODE	CHN

				SIGNALS	
				ZR	28493
CARBON	8.228%			NR	28565
HYDROGEN	2.734%			CR	68822
NITROGEN	-1.132%			HR	68848
BLANKS	18	-19	542		

K FACTORS	19.314	0.065	1.640
FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 10:52:19 AM	P_ID	011617CM
SAMPLE ID	164221701D	USER ID	alpha
WEIGHT (mg)	11.740	MODE	CHN

		SIGNALS	
		ZR	28465
CARBON	7.765%	NR	28500
HYDROGEN	3.538%	CR	46125
NITROGEN	-2.633%	HR	46133
BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640
FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 10:57:01 AM	P_ID	011617CM
SAMPLE ID	164221701D	USER ID	alpha
WEIGHT (mg)	28.910	MODE	CHN

		SIGNALS	
		ZR	28472
CARBON	6.788%	NR	28548
HYDROGEN	1.490%	CR	66466
NITROGEN	-.983%	HR	66475
BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640
FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 11:01:43 AM	P_ID	011617CM
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.150	MODE	CHN

		SIGNALS	
		ZR	28461
CARBON	2.919%	NR	28486
HYDROGEN	3.941%	CR	34227
NITROGEN	-3.106%	HR	34234
BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640
FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 11:06:25 AM	P_ID	011617CM
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	80.530	MODE	CHN

				SIGNALS	
				ZR	28449
CARBON	0.045%			NR	28477
HYDROGEN	0.573%			CR	29202
NITROGEN	-.389%			HR	29213
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 11:11:08 AM	P_ID	011617CM
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.440	MODE	CHN

				SIGNALS	
				ZR	28476
CARBON	1.056%			NR	28646
HYDROGEN	2.653%			CR	30794
NITROGEN	-2.173%			HR	30793
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 11:15:50 AM	P_ID	011617CM
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	59.510	MODE	CHN

				SIGNALS	
				ZR	28473
CARBON	0.002%			NR	28486
HYDROGEN	0.052%			CR	28527
NITROGEN	-.542%			HR	28510
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 11:28:19 AM	P_ID	011617CM
SAMPLE ID	164221701MS	USER ID	alpha
WEIGHT (mg)	17.420	MODE	CHN

				SIGNALS	
				ZR	28460
CARBON	5.952%			NR	28514
HYDROGEN	-.530%			CR	48559
NITROGEN	-1.708%			HR	48534
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 11:33:01 AM	P_ID	011617CM
SAMPLE ID	164221701MS	USER ID	alpha
WEIGHT (mg)	20.070	MODE	CHN

				SIGNALS	
				ZR	28457
CARBON	6.660%			NR	28510
HYDROGEN	1.150%			CR	54343
NITROGEN	-1.486%			HR	54339
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 11:37:44 AM	P_ID	011617CM
SAMPLE ID	164221702	USER ID	alpha
WEIGHT (mg)	20.660	MODE	CHN

				SIGNALS	
				ZR	28429
CARBON	3.932%			NR	28493
HYDROGEN	1.862%			CR	44199
NITROGEN	-1.411%			HR	44205
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 11:42:26 AM	P_ID	011617CM
SAMPLE ID	164221702	USER ID	alpha
WEIGHT (mg)	18.490	MODE	CHN

				SIGNALS	
				ZR	28436
CARBON	3.369%			NR	28479
HYDROGEN	2.247%			CR	40530
NITROGEN	-1.646%			HR	40538
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 11:47:09 AM	P_ID	011617CM
SAMPLE ID	164221703	USER ID	alpha
WEIGHT (mg)	20.440	MODE	CHN

		SIGNALS	
		ZR	28432
CARBON	3.450%	NR	28475
HYDROGEN	2.107%	CR	42112
NITROGEN	-1.489%	HR	42121

BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 11:51:51 AM	P_ID	011617CM
SAMPLE ID	164221703	USER ID	alpha
WEIGHT (mg)	21.320	MODE	CHN

				SIGNALS	
				ZR	28421
CARBON	5.511%			NR	28477
HYDROGEN	1.515%			CR	51189
NITROGEN	-1.390%			HR	51191
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 11:56:33 AM	P_ID	011617CM
SAMPLE ID	170016501	USER ID	alpha
WEIGHT (mg)	13.830	MODE	CHN

				SIGNALS	
				ZR	28459
CARBON	4.306%			NR	28492
HYDROGEN	1.335%			CR	40012
NITROGEN	-2.244%			HR	40005
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 12:01:16 PM	P_ID	011617CM
SAMPLE ID	170016501	USER ID	alpha
WEIGHT (mg)	10.760	MODE	CHN

				SIGNALS	
				ZR	28445
CARBON	1.417%			NR	28476
HYDROGEN	2.860%			CR	31438
NITROGEN	-2.896%			HR	31439
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 12:05:58 PM	P_ID	011617CM
SAMPLE ID	170016501D	USER ID	alpha
WEIGHT (mg)	16.300	MODE	CHN

				SIGNALS	
				ZR	28447
CARBON	3.822%			NR	28491
HYDROGEN	2.076%			CR	40540
NITROGEN	-1.863%			HR	40543
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 12:10:40 PM	P_ID	011617CM
SAMPLE ID	170016501D	USER ID	alpha
WEIGHT (mg)	11.880	MODE	CHN

				SIGNALS	
				ZR	28434
CARBON	2.914%			NR	28474
HYDROGEN	3.626%			CR	35179
NITROGEN	-2.577%			HR	35188
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 12:57:26 PM	P_ID	011617CM
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.100	MODE	CHN

				SIGNALS	
				ZR	28482
CARBON	1.029%			NR	28511
HYDROGEN	4.113%			CR	30536
NITROGEN	-3.097%			HR	30544
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 1:02:08 PM	P_ID	011617CM
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	84.080	MODE	CHN

				SIGNALS	
				ZR	28474
CARBON	0.002%			NR	28500
HYDROGEN	0.457%			CR	28554
NITROGEN	-.374%			HR	28560
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 1:08:12 PM	P_ID	011617CM
SAMPLE ID	164221703	USER ID	alpha
WEIGHT (mg)	21.380	MODE	CHN

				SIGNALS	
				ZR	28462
CARBON	3.671%			NR	28511
HYDROGEN	2.159%			CR	43686
NITROGEN	-1.406%			HR	43697
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 1:12:54 PM	P_ID	011617CM
SAMPLE ID	164221703	USER ID	alpha
WEIGHT (mg)	20.190	MODE	CHN

				SIGNALS	
				ZR	28470
CARBON	2.987%			NR	28516
HYDROGEN	2.286%			CR	40181
NITROGEN	-1.498%			HR	40192
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 1:17:36 PM	P_ID	011617CM
SAMPLE ID	170016501	USER ID	alpha
WEIGHT (mg)	14.620	MODE	CHN

				SIGNALS	
				ZR	28460
CARBON	1.103%			NR	28495
HYDROGEN	2.631%			CR	31627
NITROGEN	-2.115%			HR	31633
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 1:22:19 PM	P_ID	011617CM
SAMPLE ID	170016501	USER ID	alpha
WEIGHT (mg)	20.010	MODE	CHN

		SIGNALS	
		ZR	28458
CARBON	0.838%	NR	28494
HYDROGEN	1.922%	CR	31752
NITROGEN	-1.542%	HR	31758

BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 1:27:01 PM	P_ID	011617CM
SAMPLE ID	170016501MS	USER ID	alpha
WEIGHT (mg)	15.280	MODE	CHN

		SIGNALS	
		ZR	28454
CARBON	1.807%	NR	28501
HYDROGEN	1.812%	CR	33853
NITROGEN	-1.975%	HR	33852

BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 1:31:44 PM	P_ID	011617CM
SAMPLE ID	170016501MS	USER ID	alpha
WEIGHT (mg)	20.730	MODE	CHN

		SIGNALS	
		ZR	28457
CARBON	1.401%	NR	28499
HYDROGEN	1.707%	CR	34127
NITROGEN	-1.471%	HR	34131

BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 1:36:26 PM	P_ID	011617CM
SAMPLE ID	170016502	USER ID	alpha
WEIGHT (mg)	14.350	MODE	CHN

		SIGNALS	
		ZR	28434
CARBON	1.425%	NR	28463
HYDROGEN	1.930%	CR	32431
NITROGEN	-2.180%	HR	32430

BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 1:41:08 PM	P_ID	011617CM
SAMPLE ID	170016502	USER ID	alpha
WEIGHT (mg)	11.610	MODE	CHN

				SIGNALS	
				ZR	28433
CARBON	1.838%			NR	28466
HYDROGEN	2.518%			CR	32605
NITROGEN	-2.673%			HR	32605
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 1:45:51 PM	P_ID	011617CM
SAMPLE ID	170016503	USER ID	alpha
WEIGHT (mg)	23.160	MODE	CHN

				SIGNALS	
				ZR	28430
CARBON	1.810%			NR	28472
HYDROGEN	1.528%			CR	36588
NITROGEN	-1.316%			HR	36592
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 1:50:33 PM	P_ID	011617CM
SAMPLE ID	170016503	USER ID	alpha
WEIGHT (mg)	11.930	MODE	CHN

				SIGNALS	
				ZR	28423
CARBON	4.823%			NR	28472
HYDROGEN	3.998%			CR	39604
NITROGEN	-2.520%			HR	39616
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 2:10:04 PM	P_ID	011617CM
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.600	MODE	CHN

				SIGNALS	
				ZR	28415
CARBON	1.171%			NR	28449
HYDROGEN	0.581%			CR	30864
NITROGEN	-2.922%			HR	30849
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 2:14:47 PM	P_ID	011617CM
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	63.400	MODE	CHN

				SIGNALS	
				ZR	28400
CARBON	0.004%			NR	28432
HYDROGEN	0.777%			CR	28500
NITROGEN	-.490%			HR	28513
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 2:27:08 PM	P_ID	011617CM
SAMPLE ID	170016501D	USER ID	alpha
WEIGHT (mg)	18.630	MODE	CHN

				SIGNALS	
				ZR	28423
CARBON	1.572%			NR	28454
HYDROGEN	0.413%			CR	34130
NITROGEN	-1.672%			HR	34116
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 2:31:50 PM	P_ID	011617CM
SAMPLE ID	170016501D	USER ID	alpha
WEIGHT (mg)	13.940	MODE	CHN

				SIGNALS	
				ZR	28415
CARBON	0.706%			NR	28445
HYDROGEN	3.421%			CR	30365
NITROGEN	-2.240%			HR	30377
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 2:36:33 PM	P_ID	011617CM
SAMPLE ID	170016503	USER ID	alpha
WEIGHT (mg)	22.500	MODE	CHN

		SIGNALS	
		ZR	28413
CARBON	0.614%	NR	28448
HYDROGEN	1.573%	CR	31135
NITROGEN	-1.374%	HR	31139

BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 2:41:15 PM	P_ID	011617CM
SAMPLE ID	170016503	USER ID	alpha
WEIGHT (mg)	29.770	MODE	CHN

		SIGNALS	
		ZR	28420
CARBON	1.112%	NR	28460
HYDROGEN	0.930%	CR	34874
NITROGEN	-1.028%	HR	34873
BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 2:45:58 PM	P_ID	011617CM
SAMPLE ID	SRM1650	USER ID	alpha
WEIGHT (mg)	1.030	MODE	CHN

		SIGNALS	
		ZR	28422
CARBON	77.478%	NR	28512
HYDROGEN	53.771%	CR	43943
NITROGEN	-26.758%	HR	43960
BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 2:50:40 PM	P_ID	011617CM
SAMPLE ID	SRM1650	USER ID	alpha
WEIGHT (mg)	1.040	MODE	CHN

		SIGNALS	
		ZR	28406
CARBON	75.294%	NR	28501
HYDROGEN	17.751%	CR	43643
NITROGEN	-26.208%	HR	43636
BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 2:55:22 PM	P_ID	011617CM
SAMPLE ID	164221701	USER ID	alpha
WEIGHT (mg)	22.090	MODE	CHN

				SIGNALS	
				ZR	28391
CARBON	4.454%			NR	28445
HYDROGEN	2.438%			CR	47466
NITROGEN	-1.347%			HR	47482
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 3:00:05 PM	P_ID	011617CM
SAMPLE ID	164221701	USER ID	alpha
WEIGHT (mg)	16.800	MODE	CHN

				SIGNALS	
				ZR	28418
CARBON	5.110%			NR	28463
HYDROGEN	3.297%			CR	45062
NITROGEN	-1.804%			HR	45079
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 3:04:47 PM	P_ID	011617CM
SAMPLE ID	164221701D	USER ID	alpha
WEIGHT (mg)	21.230	MODE	CHN

				SIGNALS	
				ZR	28413
CARBON	5.901%			NR	28470
HYDROGEN	2.391%			CR	52683
NITROGEN	-1.393%			HR	52697
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 3:09:30 PM	P_ID	011617CM
SAMPLE ID	164221701D	USER ID	alpha
WEIGHT (mg)	17.790	MODE	CHN

				SIGNALS	
				ZR	28405
CARBON	6.275%			NR	28449
HYDROGEN	1.903%			CR	50028
NITROGEN	-1.707%			HR	50031
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 3:32:15 PM	P_ID	011617CM
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.150	MODE	CHN

				SIGNALS	
				ZR	28416
CARBON	1.011%			NR	28466
HYDROGEN	2.274%			CR	30465
NITROGEN	-2.956%			HR	30461
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 3:36:58 PM	P_ID	011617CM
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	63.600	MODE	CHN

				SIGNALS	
				ZR	28410
CARBON	0.002%			NR	28443
HYDROGEN	0.629%			CR	28482
NITROGEN	-.488%			HR	28489
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 3:43:51 PM	P_ID	011617CM
SAMPLE ID	164221701MS	USER ID	alpha
WEIGHT (mg)	16.620	MODE	CHN

				SIGNALS	
				ZR	28425
CARBON	6.656%			NR	28503
HYDROGEN	1.018%			CR	49888
NITROGEN	-1.702%			HR	49880
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 3:48:33 PM	P_ID	011617CM
SAMPLE ID	164221701MS	USER ID	alpha
WEIGHT (mg)	14.500	MODE	CHN

		SIGNALS	
		ZR	28444
CARBON	5.110%	NR	28488
HYDROGEN	0.424%	CR	42817
NITROGEN	-2.094%	HR	42802

BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 3:53:16 PM	P_ID	011617CM
SAMPLE ID	164221702	USER ID	alpha
WEIGHT (mg)	21.390	MODE	CHN

		SIGNALS	
		ZR	28428
CARBON	2.756%	NR	28469
HYDROGEN	2.374%	CR	39873
NITROGEN	-1.428%	HR	39887

BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 3:57:58 PM	P_ID	011617CM
SAMPLE ID	164221702	USER ID	alpha
WEIGHT (mg)	11.800	MODE	CHN

		SIGNALS	
		ZR	28418
CARBON	2.660%	NR	28444
HYDROGEN	3.520%	CR	34525
NITROGEN	-2.666%	HR	34533

BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 4:02:41 PM	P_ID	011617CM
SAMPLE ID	164221703	USER ID	alpha
WEIGHT (mg)	11.520	MODE	CHN

		SIGNALS	
		ZR	28409
CARBON	2.182%	NR	28431
HYDROGEN	4.274%	CR	33304
NITROGEN	-2.752%	HR	33317

BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 4:07:23 PM	P_ID	011617CM
SAMPLE ID	164221703	USER ID	alpha
WEIGHT (mg)	8.950	MODE	CHN

				SIGNALS	
				ZR	28398
CARBON	4.182%			NR	28438
HYDROGEN	5.329%			CR	35685
NITROGEN	-3.420%			HR	35697
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 4:12:06 PM	P_ID	011617CM
SAMPLE ID	170016501	USER ID	alpha
WEIGHT (mg)	13.220	MODE	CHN

				SIGNALS	
				ZR	28391
CARBON	3.813%			NR	28421
HYDROGEN	6.168%			CR	38174
NITROGEN	-2.362%			HR	38208
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 4:16:48 PM	P_ID	011617CM
SAMPLE ID	170016501	USER ID	alpha
WEIGHT (mg)	22.400	MODE	CHN

				SIGNALS	
				ZR	28405
CARBON	1.722%			NR	28461
HYDROGEN	1.442%			CR	35930
NITROGEN	-1.323%			HR	35932
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 4:21:35 PM	P_ID	011617CM
SAMPLE ID	1700016501D	USER ID	alpha
WEIGHT (mg)	17.700	MODE	CHN

				SIGNALS	
				ZR	28414
CARBON	1.318%			NR	28469
HYDROGEN	1.825%			CR	32994
NITROGEN	-1.678%			HR	32996
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	23 Seconds				

DATE & TIME	1/16/2017 4:26:22 PM	P_ID	011617CM
SAMPLE ID	170016501D	USER ID	alpha
WEIGHT (mg)	16.560	MODE	CHN

				SIGNALS	
				ZR	28429
CARBON	0.968%			NR	28567
HYDROGEN	1.022%			CR	31682
NITROGEN	-1.488%			HR	31674
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	23 Seconds				

DATE & TIME	1/16/2017 4:31:04 PM	P_ID	011617CM
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.180	MODE	CHN

				SIGNALS	
				ZR	28432
CARBON	1.247%			NR	28489
HYDROGEN	2.871%			CR	30958
NITROGEN	-2.905%			HR	30958
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 4:35:47 PM	P_ID	011617CM
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	91.240	MODE	CHN

				SIGNALS	
				ZR	28422
CARBON	0.001%			NR	28454
HYDROGEN	0.438%			CR	28493
NITROGEN	-.341%			HR	28500
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 4:40:30 PM	P_ID	011617CM
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.110	MODE	CHN

		SIGNALS	
		ZR	28427
CARBON	1.016%	NR	28458
HYDROGEN	2.891%	CR	30460
NITROGEN	-3.082%	HR	30460

BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 4:45:40 PM	P_ID	011617CM
SAMPLE ID	170016501MS	USER ID	alpha
WEIGHT (mg)	12.960	MODE	CHN

		SIGNALS	
		ZR	28432
CARBON	1.627%	NR	28472
HYDROGEN	1.662%	CR	32563
NITROGEN	-2.362%	HR	32558
BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 4:50:23 PM	P_ID	011617CM
SAMPLE ID	170016501MS	USER ID	alpha
WEIGHT (mg)	19.350	MODE	CHN

		SIGNALS	
		ZR	28456
CARBON	1.931%	NR	28490
HYDROGEN	1.670%	CR	35725
NITROGEN	-1.601%	HR	35727
BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 4:55:05 PM	P_ID	011617CM
SAMPLE ID	170016502	USER ID	alpha
WEIGHT (mg)	13.300	MODE	CHN

		SIGNALS	
		ZR	28428
CARBON	1.361%	NR	28466
HYDROGEN	1.851%	CR	31980
NITROGEN	-2.311%	HR	31977
BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 4:59:48 PM	P_ID	011617CM
SAMPLE ID	170016502	USER ID	alpha
WEIGHT (mg)	16.190	MODE	CHN

				SIGNALS	
				ZR	28438
CARBON	0.645%			NR	28462
HYDROGEN	2.851%			CR	30496
NITROGEN	-1.951%			HR	30507
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 5:04:30 PM	P_ID	011617CM
SAMPLE ID	170016503	USER ID	alpha
WEIGHT (mg)	13.200	MODE	CHN

				SIGNALS	
				ZR	28416
CARBON	0.685%			NR	28456
HYDROGEN	2.448%			CR	30220
NITROGEN	-2.319%			HR	30222
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 5:09:13 PM	P_ID	011617CM
SAMPLE ID	170016503	USER ID	alpha
WEIGHT (mg)	16.490	MODE	CHN

				SIGNALS	
				ZR	28414
CARBON	0.581%			NR	28446
HYDROGEN	3.079%			CR	30316
NITROGEN	-1.886%			HR	30330
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 5:13:55 PM	P_ID	011617CM
SAMPLE ID	164221703	USER ID	alpha
WEIGHT (mg)	17.640	MODE	CHN

				SIGNALS	
				ZR	28410
CARBON	2.955%			NR	28447
HYDROGEN	2.529%			CR	38533
NITROGEN	-1.746%			HR	38543
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 5:18:38 PM	P_ID	011617CM
SAMPLE ID	164221703	USER ID	alpha
WEIGHT (mg)	19.380	MODE	CHN

				SIGNALS	
				ZR	28401
CARBON	2.723%			NR	28450
HYDROGEN	1.826%			CR	38659
NITROGEN	-1.551%			HR	38663
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 5:23:21 PM	P_ID	011617CM
SAMPLE ID	170016501	USER ID	alpha
WEIGHT (mg)	15.070	MODE	CHN

				SIGNALS	
				ZR	28402
CARBON	1.294%			NR	28448
HYDROGEN	2.246%			CR	32231
NITROGEN	-2.007%			HR	32234
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 5:28:03 PM	P_ID	011617CM
SAMPLE ID	170016501	USER ID	alpha
WEIGHT (mg)	15.200	MODE	CHN

				SIGNALS	
				ZR	28415
CARBON	2.185%			NR	28450
HYDROGEN	1.619%			CR	34883
NITROGEN	-2.034%			HR	34880
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	19 Seconds				

DATE & TIME	1/16/2017 5:32:46 PM	P_ID	011617CM
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.190	MODE	CHN

		SIGNALS	
		ZR	28431
CARBON	1.042%	NR	28462
HYDROGEN	3.322%	CR	30531
NITROGEN	-3.058%	HR	30534

BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/16/2017 5:37:28 PM	P_ID	011617CM
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	55.370	MODE	CHN

		SIGNALS	
		ZR	28457
CARBON	0.002%	NR	28487
HYDROGEN	0.195%	CR	28524
NITROGEN	-.564%	HR	28512
BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/17/2017 9:17:00 AM	P_ID	011617CM
SAMPLE ID	170016501D	USER ID	alpha
WEIGHT (mg)	15.830	MODE	CHN

		SIGNALS	
		ZR	28616
CARBON	1.032%	NR	29588
HYDROGEN	1.361%	CR	32760
NITROGEN	1.656%	HR	32755
BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/17/2017 9:21:42 AM	P_ID	011617CM
SAMPLE ID	170016501D	USER ID	alpha
WEIGHT (mg)	15.340	MODE	CHN

		SIGNALS	
		ZR	28641
CARBON	1.400%	NR	28848
HYDROGEN	1.605%	CR	33014
NITROGEN	-1.332%	HR	33011
BLANKS	18	-19	542
K FACTORS	19.314	0.065	1.640

FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	19 Seconds		

DATE & TIME	1/17/2017 9:31:37 AM	P_ID	011617CM
SAMPLE ID	170016502	USER ID	alpha
WEIGHT (mg)	16.580	MODE	CHN

				SIGNALS	
				ZR	28602
CARBON	0.737%			NR	28678
HYDROGEN	-.742%			CR	31056
NITROGEN	-1.714%			HR	31029
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	23 Seconds				

DATE & TIME	1/17/2017 9:36:24 AM	P_ID	011617CM
SAMPLE ID	170016502	USER ID	alpha
WEIGHT (mg)	14.260	MODE	CHN

				SIGNALS	
				ZR	28581
CARBON	0.625%			NR	28645
HYDROGEN	1.403%			CR	30385
NITROGEN	-2.044%			HR	30379
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	23 Seconds				

DATE & TIME	1/17/2017 9:41:11 AM	P_ID	011617CM
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.290	MODE	CHN

				SIGNALS	
				ZR	28602
CARBON	1.029%			NR	28672
HYDROGEN	-.150%			CR	30735
NITROGEN	-2.797%			HR	30715
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	23 Seconds				

DATE & TIME	1/17/2017 9:45:57 AM	P_ID	011617CM
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	65.210	MODE	CHN

				SIGNALS	
				ZR	28586
CARBON	0.001%			NR	28657
HYDROGEN	0.283%			CR	28688
NITROGEN	-.440%			HR	28681
BLANKS	18	-19	542		
K FACTORS	19.314	0.065	1.640		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	23 Seconds				

Work Group

ALPHA ANALYTICAL LABORATORIES, INC.

Alpha WORK GROUP REPORT (wk02)

Jan 20 2017, 10:31 am

Work Group: WG970283 for Department: 7 Wet Chemistry

Created: 17-JAN-17 Due: Operator:

Sample	Client ID	C	Product	Matrix	Stat	UA	HOLD	DUE	PR	Location
L1642217-01	LDW-BA-BL-GRVSAND-1K	S	A2-TOC-9060-2REPS	SOIL	DONE	U	0110	0119	S0	Glass-A.120
L1642217-02	LDW-BA-BL-GRVSAND-1.	S	A2-TOC-9060-2REPS	SOIL	DONE	U	0110	0119	S0	Glass-A.120
L1642217-03	LDW-BA-BL-GRVSAND-2K	S	A2-TOC-9060-2REPS	SOIL	DONE	U	0110	0119	S0	Glass-A.120
L1700165-01	LDW-BA-BL-SAND-0-500	S	A2-TOC-9060-2REPS	SOIL	DONE	U	0127	0125	S0	Glass-A.120
L1700165-02	LDW-BA-BL-SAND-500-1	S	A2-TOC-9060-2REPS	SOIL	DONE	U	0127	0125	S0	Glass-A.120
L1700165-03	LDW-BA-BL-SAND-1K-1.	S	A2-TOC-9060-2REPS	SOIL	DONE	U	0127	0125	S0	Glass-A.120
WG970283-1	Laboratory Method Bl	S	A2-TOC-9060-2REPS	SOIL	DONE	U				
WG970283-2	Standard Reference M	S	A2-TOC-9060-2REPS	SOIL	DONE	U				
WG970283-3	Duplicate Sample	S	A2-TOC-9060-2REPS	SOIL	DONE	U				
WG970283-4	Matrix Spike	S	A2-TOC-9060-2REPS	SOIL	DONE	U				
WG970283-5	Duplicate Sample	S	A2-TOC-9060-2REPS	SOIL	DONE	U				
WG970283-6	Matrix Spike	S	A2-TOC-9060-2REPS	SOIL	DONE	U				

Comments:

WG970283-3	L1642217-01
WG970283-4	L1642217-01
WG970283-5	L1700165-01
WG970283-6	L1700165-01

ALPHA ANALYTICAL LABORATORIES, INC.

Alpha WORK GROUP REPORT (wk02)

Jan 20 2017, 10:31 am

Work Group: WG970284 for Department: 7 Wet Chemistry

Created: 17-JAN-17 Due: Operator:

Sample	Client ID	C	Product	Matrix	Stat	UA	HOLD	DUE	PR	Location
L1642217-01	LDW-BA-BL-GRVSAND-1K	S	A2-SOOT	SOIL	DONE	U	0110	0119	S0	Glass-A.120
L1642217-02	LDW-BA-BL-GRVSAND-1.	S	A2-SOOT	SOIL	DONE	U	0110	0119	S0	Glass-A.120
L1642217-03	LDW-BA-BL-GRVSAND-2K	S	A2-SOOT	SOIL	DONE	U	0110	0119	S0	Glass-A.120
L1700165-01	LDW-BA-BL-SAND-0-500	S	A2-SOOT	SOIL	DONE	U	0127	0125	S0	Glass-A.120
L1700165-02	LDW-BA-BL-SAND-500-1	S	A2-SOOT	SOIL	DONE	U	0127	0125	S0	Glass-A.120
L1700165-03	LDW-BA-BL-SAND-1K-1.	S	A2-SOOT	SOIL	DONE	U	0127	0125	S0	Glass-A.120
WG970284-1	Laboratory Method Bl	S	A2-SOOT	SOIL	DONE	U				
WG970284-2	Standard Reference M	S	A2-SOOT	SOIL	DONE	U				
WG970284-3	Duplicate Sample	S	A2-SOOT	SOIL	DONE	U				
WG970284-4	Matrix Spike	S	A2-SOOT	SOIL	DONE	U				
WG970284-5	Duplicate Sample	S	A2-SOOT	SOIL	DONE	U				
WG970284-6	Matrix Spike	S	A2-SOOT	SOIL	DONE	U				

Comments:

WG970284-3	L1642217-01
WG970284-4	L1642217-01
WG970284-5	L1700165-01
WG970284-6	L1700165-01

Sample Preparation

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

Date: 1/16/17
Analyst: CEW
2° Review:
CCV ID: WW102116C
SRM 1944 ID: WS081814A
Filter Aid ID: WS120415A
ICV ID: WW102116F
Balance ID: 002288/001712
Other SRM ID: WS011016A

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
~~Conditioning Std~~ K				1	9.88
Blank				2	70.02
K Factor				3	9.66
~~Blank~~ K				4	10.11
~~K Factor~~ ICV				5	10.07
~~K Factor~~ ICB				6	67.62
~~ICV~~ HICV				7	51.13
~~ICB~~ SRM1944				8	16.15
~~LCS~~ MB				9	109.41
~~Blank~~ SRM1944				10	14.68
MB				11	67.15
MB				12	60.88
MB				13	108.87
L1642217	01			14	18.30
	01			15	25.32
	01D			16	11.74
	01D			17	28.91
CCV				18	10.15
CCV CCB				19	80.53
CCB CCV				20	10.44
CCB				21	59.51
L1642217	01MS	10.27		22	17.42

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
L1642217	01MS	9.80		23	20.07
	02			24	20.66
	02			25	18.49
	03			26	20.44
	03			27	21.32
L1700165	01			28	13.83
	01			29	10.76
	01D			30	16.30
~~CCV~~	01D			31	11.88
~~CCB~~ CCV				32	10.10
CCB				33	84.08
L1642217	03RR			34	21.38
L	03RR			35	20.19
L1700165	01RR			36	14.62
	01RR			37	20.01
	01MS	10.09		38	15.28
	01MS	10.05		39	20.73
	02			40	14.35
	02			41	11.61
	03			42	23.16
~~CCV~~	03			43	11.93
~~CCB~~ CCV				44	10.60
CCB				45	63.40

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

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					
L1700165	01D RR			46	18.63
	01DRR			47	13.94
	03RR			48	22.50
	03RR			49	29.77
SRM 1650				50	1.03
SRM1650				51	1.04
L1642217	01			52	22.09
	01			53	16.80
CCV	01D			54	21.23
CCB	01D			55	17.79
CCV				56	10.15
CCB				57	63.60

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
L1642217	01MS	10.36		58	16.62
	01MS	10.29		59	14.50
	02			60	21.39
	02			61	11.80
	03			62	11.52
	03			63	8.95
L1700165	01			64	13.22
	01			65	22.40
CCV	01D			66	17.70
CCB	01D			67	16.56
CCV				68	10.18
CCB				69	91.24
CCV				70	10.11
L1700165	01MS	10.06		71	12.96
	01MS	10.17		72	19.35
	02			73	13.30
	02			74	16.19
	03			75	13.20
	03			76	16.49
L1642217	03RR			77	17.64
CCV	03RR			78	19.38
CCB					

Document Type: Form

Pre-Qualtrax Document ID: 107-02

TOC Instrument: #1 - SN: 241N8102003 #3 - SN: 241L1308211
(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					
L1700165	01RR			79	15.07
↓	01RR			80	15.20
CCV				81	10.19
CCB				82	55.37
L1700165	01DRR			83	15.83
	01DRR			84	15.34
	02RR			85	16.58
	02RR			86	14.26
CCV				87	10.29
CCB				88	65.21

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

Alpha Report

ANALYTICAL REPORT

Lab Number:	L1700165
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:	01/19/17

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: L1700165
Report Date: 01/19/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1700165-01	LDW-BA-BL-SAND-0-500	SEDIMENT	LDW	12/30/16 09:20	01/04/17
L1700165-02	LDW-BA-BL-SAND-500-1K	SEDIMENT	LDW	12/30/16 09:40	01/04/17
L1700165-03	LDW-BA-BL-SAND-1K-1.5K	SEDIMENT	LDW	12/30/16 10:10	01/04/17

Project Name: LDW ENR/AC PILOT STUDY **Lab Number:** L1700165
Project Number: Not Specified **Report Date:** 01/19/17

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:** L1700165
Project Number: Not Specified **Report Date:** 01/19/17

Case Narrative (continued)

% Soot

L1700165-01: The Sample Replicate RPD is outside the acceptance criteria of 30%. A double-burn re-analysis was performed with confirming results. The results of the original analysis are reported. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

The WG970284-5 Laboratory Duplicate RPD, performed on L1700165-01, is outside the acceptance criteria for % Soot (Rep 2) (77%). The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

The WG970284-6 MS recoveries for % Soot (Rep 1) (44%) and % Soot (Rep 2) (0%), performed on L1700165-01, 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.

Total Organic Carbon

L1700165-03: The Sample Replicate RPD is outside the acceptance criteria of 30%. A double-burn re-analysis was performed with confirming results. The results of the original analysis are reported. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

The WG970283-5 Laboratory Duplicate RPDs, performed on L1700165-01, are outside the acceptance criteria for Total Organic Carbon (Rep 1) (111%) and Total Organic Carbon (Rep 2) (111%). The elevated RPDs have been attributed to the non-homogeneous nature of the native sample.

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: Susan E O'Neil Susan O' Neil

Title: Technical Director/Representative Date: 01/19/17

INORGANICS
&
MISCELLANEOUS

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

Lab Number: L1700165
Report Date: 01/19/17

SAMPLE RESULTS

Lab ID: L1700165-01
Client ID: LDW-BA-BL-SAND-0-500
Sample Location: LDW
Matrix: Sediment

Date Collected: 12/30/16 09:20
Date Received: 01/04/17
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)	1.10		%	0.010	--	1	-	01/16/17 13:22	1,9060A	CM
Total Organic Carbon (Rep2)	0.838		%	0.010	--	1	-	01/16/17 13:22	1,9060A	CM
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	1.29		%	0.010	NA	1	-	01/16/17 17:23	91,-	CM
% Soot (Rep 2)	2.18		%	0.010	NA	1	-	01/16/17 17:23	91,-	CM

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

Lab Number: L1700165
Report Date: 01/19/17

SAMPLE RESULTS

Lab ID: L1700165-02
Client ID: LDW-BA-BL-SAND-500-1K
Sample Location: LDW
Matrix: Sediment

Date Collected: 12/30/16 09:40
Date Received: 01/04/17
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)	1.42		%	0.010	--	1	-	01/16/17 13:41	1,9060A	CM
Total Organic Carbon (Rep2)	1.84		%	0.010	--	1	-	01/16/17 13:41	1,9060A	CM
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.737		%	0.010	NA	1	-	01/17/17 09:31	91,-	CM
% Soot (Rep 2)	0.625		%	0.010	NA	1	-	01/17/17 09:31	91,-	CM

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

Lab Number: L1700165
Report Date: 01/19/17

SAMPLE RESULTS

Lab ID: L1700165-03
Client ID: LDW-BA-BL-SAND-1K-1.5K
Sample Location: LDW
Matrix: Sediment

Date Collected: 12/30/16 10:10
Date Received: 01/04/17
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)	1.81		%	0.010	--	1	-	01/16/17 13:50	1,9060A	CM
Total Organic Carbon (Rep2)	4.82		%	0.010	--	1	-	01/16/17 13:50	1,9060A	CM
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.685		%	0.010	NA	1	-	01/16/17 17:04	91,-	CM
% Soot (Rep 2)	0.581		%	0.010	NA	1	-	01/16/17 17:04	91,-	CM

Project Name: LDW ENR/AC PILOT STUDY **Lab Number:** L1700165

Project Number: Not Specified **Report Date:** 01/19/17

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): 01-03 Batch: WG970283-1										
Total Organic Carbon (Rep1)	ND		%	0.010	--	1	-	01/16/17 10:22	1,9060A	CM
Total Organic Carbon (Rep2)	ND		%	0.010	--	1	-	01/16/17 10:22	1,9060A	CM
General Chemistry - Mansfield Lab for sample(s): 01-03 Batch: WG970284-1										
% Soot (Rep 1)	ND		%	0.010	NA	1	-	01/16/17 10:17	91,-	CM
% Soot (Rep 2)	ND		%	0.010	NA	1	-	01/16/17 10:17	91,-	CM

Matrix Spike Analysis
Batch Quality Control

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

Lab Number: L1700165
Report Date: 01/19/17

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): 01-03 QC Batch ID: WG970283-4 QC Sample: L1642217-01 Client ID: MS Sample												
Total Organic Carbon (Rep1)	7.07	0.59	5.95	**0**	Q	-	-		75-125	-		25
Total Organic Carbon (Rep2)	8.23	0.488	6.66	**0**	Q	-	-		75-125	-		25
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG970283-6 QC Sample: L1700165-01 Client ID: LDW-BA-BL-SAND-0-500												
Total Organic Carbon (Rep1)	1.10	0.66	1.81	108		-	-		75-125	-		25
Total Organic Carbon (Rep2)	0.838	0.485	1.40	116		-	-		75-125	-		25
General Chemistry - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG970284-4 QC Sample: L1642217-01 Client ID: MS Sample												
% Soot (Rep 1)	4.45	0.623	6.66	**354**	Q	-	-		75-125	-		25
% Soot (Rep 2)	5.11	0.71	5.11	**0**	Q	-	-		75-125	-		25
General Chemistry - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG970284-6 QC Sample: L1700165-01 Client ID: LDW-BA-BL-SAND-0-500												
% Soot (Rep 1)	1.29	0.776	1.63	**44**	Q	-	-		75-125	-		25
% Soot (Rep 2)	2.18	0.526	1.93	**0**	Q	-	-		75-125	-		25

Lab Duplicate Analysis
Batch Quality Control

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

Lab Number: L1700165
Report Date: 01/19/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG970283-3 QC Sample: L1642217-01 Client ID: DUP Sample						
Total Organic Carbon (Rep1)	7.07	7.76	%	9		25
Total Organic Carbon (Rep2)	8.23	6.79	%	19		25
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG970283-5 QC Sample: L1700165-01 Client ID: LDW-BA-BL-SAND-0-500						
Total Organic Carbon (Rep1)	1.10	3.82	%	**111**	Q	25
Total Organic Carbon (Rep2)	0.838	2.91	%	**111**	Q	25
General Chemistry - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG970284-3 QC Sample: L1642217-01 Client ID: DUP Sample						
% Soot (Rep 1)	4.45	5.90	%	**28**	Q	25
% Soot (Rep 2)	5.11	6.28	%	21		25
General Chemistry - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG970284-5 QC Sample: L1700165-01 Client ID: LDW-BA-BL-SAND-0-500						
% Soot (Rep 1)	1.29	1.32	%	2		25
% Soot (Rep 2)	2.18	0.968	%	**77**	Q	25

Project Name: LDW ENR/AC PILOT STUDY **Lab Number:** L1700165

Project Number: Not Specified **Report Date:** 01/19/17

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG970283-2

Parameter	% Recovery	Qual	QC Criteria
Total Organic Carbon (Rep1)	95		75-125
Total Organic Carbon (Rep2)	94		75-125

Project Name: LDW ENR/AC PILOT STUDY **Lab Number:** L1700165

Project Number: Not Specified **Report Date:** 01/19/17

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG970284-2

Parameter	% Recovery	Qual	QC Criteria
% Soot (Rep 1)	99		75-125
% Soot (Rep 2)	96		75-125

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

Lab Number: L1700165
Report Date: 01/19/17

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(*)
L1700165-01A	Glass 120ml/4oz unpreserved	A	N/A	3.2	Y	Absent	A2-SOOT(28),A2-TOC-9060-2REPS(28)
L1700165-02A	Glass 120ml/4oz unpreserved	A	N/A	3.2	Y	Absent	A2-SOOT(28),A2-TOC-9060-2REPS(28)
L1700165-03A	Glass 120ml/4oz unpreserved	A	N/A	3.2	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:**	L1700165
Project Number:	Not Specified	**Report Date:**	01/19/17

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:** L1700165

Project Number: Not Specified **Report Date:** 01/19/17

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

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, SM9221E.**

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: 1/4/17

ALPHA Job #: TBD L1700165

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
001165.01	LDW-BA-BL-Sand-0-500	12-30-16	09:20	sediment	RW	☐	☐	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐		1
.02	LDW-BA-BL-Sand-500-1k	12-30-16	09:40	sediment	RM	☐	☐	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐		1
.03	LDW-BA-BL-Sand-1k-1.5k	12-30-16	10:10	sediment	RM	☐	☐	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐		1
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
					Container Type	A	A	A	-	-	-	-	-	-	-	-	-		
					Preservative	A	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
Richard May / DOF fed Ex	1/3/17/1300	Fed Ex Ken O'Brien	1/4/17 11:2[illegible]

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)