APPENDIX D
GROUNDWATER MONITORING WELL ANALYTICAL DATA AND VALIDATION REPORT

Analytical Resources, Incorporated
Analytical Chemists and Consultants

15 April 2014

Heidi Kaiser
Hydrometrics, Inc.
5602 Hesper Road
Billings, MT 59106

RECEIVED
APR 18 2014
BY:

RE: Client Project: Idaho Pole
ARI Job No.: YF09

Dear Heidi:

Please find enclosed the original Chain-of-Custody (COC) record and the final results for the samples from the project referenced above. Analytical Resources Inc. (ARI) received seven water samples on April 1, 2014. The samples were analyzed for PAHs and PCP as requested.

There were no anomalies associated with these analyses.

An electronic copy of these reports and all associated raw data will be kept on file at ARI. Should you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

Enclosures

cc: File YF09

MDH/mdh

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: YEC9	Turn-around Requested: Normal
ARI Client Company: Hydrometrics	Phone:
Client Contact: Heidi Kauer	
Client Project Name: Idaho Pole	
Client Project #:	Samplers: Rebecca Fabich

Page: 1 of 1

Date: 3/31/14 | Ice Present? yes

No. of Coolers: | Cooler Temps:

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	PCP 8040	PAH 8270	Σ SIM 8270						Notes/Comments
SP-2	3/31/14	1310	H_2O	4	X	X							
BE-2		1325		2	X								
BE-3		1340		2	X								
BE-4		1355		2	X								
BE-5		1410		2	X								
SP-6		1255		2			X						
SP-7		1240		2			X						

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) Rebecca Fabich	(Signature)	(Signature)	(Signature)
	Printed Name: Rebecca Fabich	Printed Name: A. Volgardsen	Printed Name:	Printed Name:
	Company: Idaho Pole	Company: ARI	Company:	Company:
	Date & Time: 3/31/14 1430	Date & Time: 4/1/14 1030	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Hydrometrics

Project Name: Idaho Pole

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: YF09

Tracking No: 8008923698841 NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 1.8
Time: 1030

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 122412224

Cooler Accepted by: AV Date: 3-4/1/14 Time: 1030

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:			
Was sufficient ice used (if appropriate)?	NA	YES	NO
Were all bottles sealed in individual plastic bags?		YES	NO
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

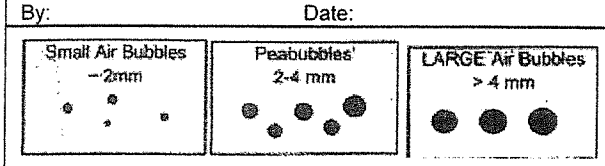
Samples Logged by: TS Date: 4-1-14 Time: 1055

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: YF09
Client: Hydrometrics Inc.
Project Event: N/A
Project Name: Idaho Pole

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	SP-2	YF09A	14-6128	Water	03/31/14 13:10	04/01/14 10:30
2.	BE-2	YF09B	14-6129	Water	03/31/14 13:25	04/01/14 10:30
3.	BE-3	YF09C	14-6130	Water	03/31/14 13:40	04/01/14 10:30
4.	BE-4	YF09D	14-6131	Water	03/31/14 13:55	04/01/14 10:30
5.	BE-5	YF09E	14-6132	Water	03/31/14 14:10	04/01/14 10:30
6.	SP-6	YF09F	14-6133	Water	03/31/14 12:55	04/01/14 10:30
7.	SP-7	YF09G	14-6134	Water	03/31/14 12:40	04/01/14 10:30

YF09:00004

Data Reporting Qualifiers

Effective 12/31/13

Inorganic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Duplicate RPD is not within established control limits

B — Reported value is less than the CRDL but ≥ the Reporting Limit

N — Matrix Spike recovery not within established control limits

NA — Not Applicable, analyte not spiked

H — The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L — Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Flagged value is not within established control limits

B — Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J — Estimated concentration when the value is less than ARI's established reporting limits

D — The spiked compound was not detected due to sample extract dilution

E — Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

YF09 : 00005

Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).
S	Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
NA	The flagged analyte was not analyzed for
NR	Spiked compound recovery is not reported due to chromatographic interference
NS	The flagged analyte was not spiked into the sample
M	Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
Y	The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
EMPC	Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**
C	The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
P	The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference
X	Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**
Z	Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

YF09 : 00006

Geotechnical Data

A — The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F — Samples were frozen prior to particle size determination

SM — Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS — Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W — Weight of sample in some pipette aliquots was below the level required for accurate weighting

YF09 : 0000T

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: SP-2
SAMPLE

Lab Sample ID: YF09A
LIMS ID: 14-6128
Matrix: Water
Data Release Authorized:
Reported: 04/11/14

QC Report No: YF09-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: 03/31/14
Date Received: 04/01/14

Date Extracted: 04/02/14
Date Analyzed: 04/08/14 17:47
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	**Acenaphthene**	**0.10**	**0.31**
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	**Fluoranthene**	**0.10**	**0.22**
129-00-0	**Pyrene**	**0.10**	**0.20**
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.10 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	66.3%
d14-Dibenzo(a,h)anthracene	75.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: MB-040214
METHOD BLANK

Lab Sample ID: MB-040214
LIMS ID: 14-6128
Matrix: Water
Data Release Authorized:
Reported: 04/11/14

QC Report No: YF09-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 04/02/14
Date Analyzed: 04/08/14 15:55
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.10 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	69.0%
d14-Dibenzo(a,h)anthracene	56.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: LCS-040214
LAB CONTROL SAMPLE

Lab Sample ID: LCS-040214
LIMS ID: 14-6128
Matrix: Water
Data Release Authorized:
Reported: 04/11/14

QC Report No: YF09-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 04/02/14

Date Analyzed LCS: 04/08/14 16:23
LCSD: 04/09/14 15:21
Instrument/Analyst LCS: NT8/JZ
LCSD: NT8/JZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	1.59	3.00	53.0%	1.60	3.00	53.3%	0.6%
Acenaphthylene	1.54	3.00	51.3%	1.53	3.00	51.0%	0.7%
Acenaphthene	1.85	3.00	61.7%	1.83	3.00	61.0%	1.1%
Fluorene	1.95	3.00	65.0%	1.90	3.00	63.3%	2.6%
Phenanthrene	2.17	3.00	72.3%	2.15	3.00	71.7%	0.9%
Anthracene	1.99	3.00	66.3%	1.93	3.00	64.3%	3.1%
Fluoranthene	2.46	3.00	82.0%	2.41	3.00	80.3%	2.1%
Pyrene	2.40	3.00	80.0%	2.33	3.00	77.7%	3.0%
Benzo(a)anthracene	2.43	3.00	81.0%	2.33	3.00	77.7%	4.2%
Chrysene	2.53	3.00	84.3%	2.43	3.00	81.0%	4.0%
Benzo(b)fluoranthene	2.67	3.00	89.0%	2.56	3.00	85.3%	4.2%
Benzo(k)fluoranthene	2.76	3.00	92.0%	2.73	3.00	91.0%	1.1%
Benzo(a)pyrene	2.33	3.00	77.7%	2.31	3.00	77.0%	0.9%
Indeno(1,2,3-cd)pyrene	2.61	3.00	87.0%	2.58	3.00	86.0%	1.2%
Dibenz(a,h)anthracene	2.54	3.00	84.7%	2.49	3.00	83.0%	2.0%
Benzo(g,h,i)perylene	2.61	3.00	87.0%	2.56	3.00	85.3%	1.9%
Total Benzofluoranthenes	8.01	9.00	89.0%	7.74	9.00	86.0%	3.4%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	70.7%	71.7%
d14-Dibenzo(a,h)anthracene	83.7%	86.3%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: YF09-Hydrometrics Inc.
Project: Idaho Pole

Client ID	MNP	DBA	TOT OUT
MB-040214	69.0%	56.3%	0
LCS-040214	70.7%	83.7%	0
LCSD-040214	71.7%	86.3%	0
SP-2	66.3%	75.3%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(31-120)	(31-120)
(DBA) = d14-Dibenzo(a,h)anthracene	(10-125)	(10-125)

Prep Method: SW3520C
Log Number Range: 14-6128 to 14-6128

FORM-II SIM SW8270

YF09:00011

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by Selected Ion Monitoring GC/MS **Sample ID: SP-6**
Extraction Method: SW3520C **SAMPLE**

Lab Sample ID: YF09F
LIMS ID: 14-6133
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF09-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: 03/31/14
Date Received: 04/01/14

Date Extracted: 04/02/14
Date Analyzed: 04/11/14 15:24
Instrument/Analyst: NT11/VTS

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.20 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.20 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
87-86-5	Pentachlorophenol	0.50	< 0.50 U
TOTBFA	Total Benzofluoranthenes	0.20	< 0.20 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	78.0%
d14-Dibenzo(a,h)anthracene	94.0%
2,4,6-Tribromophenol	83.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by Selected Ion Monitoring GC/MS **Sample ID: SP-7**
Extraction Method: SW3520C **SAMPLE**

Lab Sample ID: YF09G
LIMS ID: 14-6134
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF09-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: 03/31/14
Date Received: 04/01/14

Date Extracted: 04/02/14
Date Analyzed: 04/11/14 15:48
Instrument/Analyst: NT11/VTS

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.20 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.20 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
87-86-5	Pentachlorophenol	0.50	< 0.50 U
TOTBFA	Total Benzofluoranthenes	0.20	< 0.20 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	75.3%
d14-Dibenzo(a,h)anthracene	96.7%
2,4,6-Tribromophenol	86.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by Selected Ion Monitoring GC/MS **Sample ID: MB-040214**
Extraction Method: SW3520C **METHOD BLANK**

Lab Sample ID: MB-040214
LIMS ID: 14-6133
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF09-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 04/02/14
Date Analyzed: 04/11/14 13:47
Instrument/Analyst: NT11/VTS

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.20 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.20 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
87-86-5	Pentachlorophenol	0.50	< 0.50 U
TOTBFA	Total Benzofluoranthenes	0.20	< 0.20 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	75.0%
d14-Dibenzo(a,h)anthracene	89.3%
2,4,6-Tribromophenol	70.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by Selected Ion Monitoring GC/MS **Sample ID: LCS-040214**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-040214
LIMS ID: 14-6133
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF09-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 04/02/14

Date Analyzed LCS: 04/11/14 14:11
LCSD: 04/11/14 14:36
Instrument/Analyst LCS: NT11/VTS
LCSD: NT11/VTS

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	1.86	3.00	62.0%	1.96	3.00	65.3%	5.2%
Acenaphthylene	1.97	3.00	65.7%	2.06	3.00	68.7%	4.5%
Acenaphthene	1.93	3.00	64.3%	2.02	3.00	67.3%	4.6%
Fluorene	2.03	3.00	67.7%	2.13	3.00	71.0%	4.8%
Phenanthrene	2.19	3.00	73.0%	2.32	3.00	77.3%	5.8%
Anthracene	2.01	3.00	67.0%	2.13	3.00	71.0%	5.8%
Fluoranthene	2.41	3.00	80.3%	2.47	3.00	82.3%	2.5%
Pyrene	2.51	3.00	83.7%	2.50	3.00	83.3%	0.4%
Benzo(a)anthracene	2.43	3.00	81.0%	2.53	3.00	84.3%	4.0%
Chrysene	2.47	3.00	82.3%	2.58	3.00	86.0%	4.4%
Benzo(b)fluoranthene	3.33	3.00	111%	3.46	3.00	115%	3.8%
Benzo(k)fluoranthene	3.33	3.00	111%	3.46	3.00	115%	3.8%
Benzo(a)pyrene	2.05	3.00	68.3%	2.09	3.00	69.7%	1.9%
Indeno(1,2,3-cd)pyrene	2.28	3.00	76.0%	2.38	3.00	79.3%	4.3%
Dibenz(a,h)anthracene	2.29	3.00	76.3%	2.42	3.00	80.7%	5.5%
Benzo(g,h,i)perylene	2.37	3.00	79.0%	2.49	3.00	83.0%	4.9%
Pentachlorophenol	2.32	3.00	77.3%	2.42	3.00	80.7%	4.2%
Total Benzofluoranthenes	6.66	9.00	74.0%	6.92	9.00	76.9%	3.8%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	77.3%	79.3%
d14-Dibenzo(a,h)anthracene	95.0%	83.3%
2,4,6-Tribromophenol	72.0%	76.0%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: YF09-Hydrometrics Inc.
Project: Idaho Pole

Client ID	MNP	DBA	TBP	TOT OUT
MB-040214	75.0%	89.3%	70.0%	0
LCS-040214	77.3%	95.0%	72.0%	0
LCSD-040214	79.3%	83.3%	76.0%	0
SP-6	78.0%	94.0%	83.3%	0
SP-7	75.3%	96.7%	86.0%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(33-120)	(33-120)
(DBA) = d14-Dibenzo(a,h)anthracene	(22-133)	(22-133)
(TBP) = 2,4,6-Tribromophenol	(46-122)	(30-160)

Prep Method: SW3520C
Log Number Range: 14-6133 to 14-6134

FORM-II SIM SW8270

YF09:00016

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: SP-2
SAMPLE

Lab Sample ID: YF09A
LIMS ID: 14-6128
Matrix: Water
Data Release Authorized:
Reported: 04/09/14

QC Report No: YF09-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 03/31/14
Date Received: 04/01/14

Date Extracted: 04/03/14
Date Analyzed: 04/08/14 21:54
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**4.0**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	81.6%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: BE-2
SAMPLE

Lab Sample ID: YF09B
LIMS ID: 14-6129
Matrix: Water
Data Release Authorized:
Reported: 04/09/14

QC Report No: YF09-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 03/31/14
Date Received: 04/01/14

Date Extracted: 04/03/14
Date Analyzed: 04/08/14 22:31
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**3.8**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	77.6%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: BE-3
SAMPLE

Lab Sample ID: YF09C
LIMS ID: 14-6130
Matrix: Water
Data Release Authorized:
Reported: 04/09/14

QC Report No: YF09-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 03/31/14
Date Received: 04/01/14

Date Extracted: 04/03/14
Date Analyzed: 04/08/14 23:06
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**3.6**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	74.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: BE-4
SAMPLE

Lab Sample ID: YF09D
LIMS ID: 14-6131
Matrix: Water
Data Release Authorized:
Reported: 04/09/14

QC Report No: YF09-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 03/31/14
Date Received: 04/01/14

Date Extracted: 04/03/14
Date Analyzed: 04/08/14 23:44
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**3.4**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	71.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: BE-5
SAMPLE

Lab Sample ID: YF09E
LIMS ID: 14-6132
Matrix: Water
Data Release Authorized:
Reported: 04/09/14

QC Report No: YF09-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 03/31/14
Date Received: 04/01/14

Date Extracted: 04/03/14
Date Analyzed: 04/09/14 00:19
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**0.57**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	72.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: LCS-040314
LCS/LCSD

Lab Sample ID: LCS-040314
LIMS ID: 14-6128
Matrix: Water
Data Release Authorized:
Reported: 04/09/14

QC Report No: YF09-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 03/31/14
Date Received: 04/01/14

Date Extracted LCS/LCSD: 04/03/14

Date Analyzed LCS: 04/08/14 20:43
LCSD: 04/08/14 21:18
Instrument/Analyst LCS: ECD1/YZ
LCSD: ECD1/YZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 50 mL
LCSD: 50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Pentachlorophenol	1.54	2.50	61.6%	1.76	2.50	70.4%	13.3%

Chlorophenols Surrogate Recovery

	LCS	LCSD
2,4,6-Tribromophenol	86.2%	91.8%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

FORM III

ANALYTICAL RESOURCES INCORPORATED

SW8041 CHLOROPHENOLICS SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: YF09-Hydrometrics Inc.
Project: Idaho Pole

Client ID	TBP	TOT OUT
LCS-040314	86.2%	0
LCSD-040314	91.8%	0
SP-2	81.6%	0
BE-2	77.6%	0
BE-3	74.0%	0
BE-4	71.2%	0
BE-5	72.0%	0

	QC LIMITS
(TBP) = 2,4,6-Tribromophenol	(26-120)

Prep Method: SW3510C
Log Number Range: 14-6128 to 14-6132

FORM-II SW8041

YF09:00023

Analytical Resources, Incorporated
Analytical Chemists and Consultants

15 April 2014

Heidi Kaiser
Hydrometrics, Inc.
5602 Hesper Road
Billings, MT 59106

RECEIVED
APR 19 2014
BY:

RE: Client Project: Idaho Pole
ARI Job No.: YF31

Dear Heidi:

Please find enclosed the original Chain-of-Custody (COC) records and the final results for the samples from the project referenced above. Analytical Resources Inc. (ARI) received seventeen water samples on April 3, 2014. The samples were analyzed for PCP as requested.

There were no anomalies associated with these analyses.

An electronic copy of these reports and all associated raw data will be kept on file at ARI. Should you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

Enclosures

cc: File YF31

MDH/mdh

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: YF31	Turn-around Requested: Normal
ARI Client Company: Hydrometrics	Phone:
Client Contact: Heidi Kraus	
Client Project Name: Idaho Pole Site-wide Sampling	
Client Project #:	Samplers: Rebecca Fabich

Page: 1 of

Date: 4/2/14 Ice Present? yes

No. of Coolers: 2 Cooler Temps:

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	PCP 8040								Notes/Comments
22	4/1/14	1025	H_2O	2	X								
15-A		1102		2	X								
P-4		1136		2	X								
P-2		1209		2	X								
5-C		1234		2	X								
5-A		1252		2	X								
P-1		1322		2	X								
P-1D		1322		2	X								
GM-8	4/2/14	926		2	X								
Res 8		1005		2	X								

Comments/Special Instructions

Relinquished by: (Signature) Rebecca Fabich	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
Printed Name: Rebecca Fabich	Printed Name: A. Volgardsen	Printed Name:	Printed Name:
Company: Idaho Pole	Company: ARI	Company:	Company:
Date & Time: 4/2/14 1407	Date & Time: 4/3/14 1035	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Normal
ARI Client Company: Hydrometrics	Phone:
Client Contact: Heidi Kaiser	
Client Project Name: Idaho Pole Sitewide Sampling	
Client Project #:	Samplers: Rebecca Fabich

Page: 2	of 2
Date: 4/2/14	Ice Present? yes
No. of Coolers: 2	Cooler Temps:

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	PCP 8040								Notes/Comments
11-A	4/2/14	1051	H_2O	2	X								
GM-6	↓	1138	↓	2	X								
GM-4		1212		2	X								
26-C		1256		2	X								
26-B		1313		2	X								
26-AF		1333		2	X								
26-A	↓	1333	↓	2	X								

Comments/Special Instructions

Relinquished by:	Received by:	Relinquished by:	Received by:
(Signature) Rebecca Fabich	(Signature)	(Signature)	(Signature)
Printed Name: Rebecca Fabich	Printed Name: A. Volgardsen	Printed Name:	Printed Name:
Company: Idaho Pole	Company: ARI	Company:	Company:
Date & Time: 4/2/14 1407	Date & Time: 4/3/14 1035	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Hydrometrics

COC No(s): _____ (NA)

Assigned ARI Job No: YF31

Project Name: Idaho Pole

Delivered by: (Fed-Ex) UPS Courier Hand Delivered Other: _____

Tracking No: 7949 3634 9214 NA
8008 9236 9863

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
Time: 1035 3.2 1.1 ___ ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 122412224

Cooler Accepted by: AV Date: 4/3/14 Time: 1035

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used? ... Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		YES	(NO)
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	(NA)	YES	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)	_____	

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

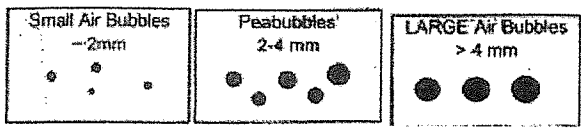
Samples Logged by: AV Date: 4/3/14 Time: 1100

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm"	(< 2 mm)
Peabubbles → "pb"	(2 to < 4 mm)
Large → "lg"	(4 to < 6 mm)
Headspace → "hs"	(> 6 mm)

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: YF31
Client: Hydrometrics Inc.
Project Event: N/A
Project Name: Idaho Pole Site Wide Sampling

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	22	YF31A	14-6238	Water	04/01/14 10:25	04/03/14 10:35
2.	15-A	YF31B	14-6239	Water	04/01/14 11:02	04/03/14 10:35
3.	P-4	YF31C	14-6240	Water	04/01/14 11:36	04/03/14 10:35
4.	P-2	YF31D	14-6241	Water	04/01/14 12:09	04/03/14 10:35
5.	5-C	YF31E	14-6242	Water	04/01/14 12:34	04/03/14 10:35
6.	5-A	YF31F	14-6243	Water	04/01/14 12:52	04/03/14 10:35
7.	P-1	YF31G	14-6244	Water	04/01/14 13:22	04/03/14 10:35
8.	P-1D	YF31H	14-6245	Water	04/01/14 13:22	04/03/14 10:35
9.	GM-8	YF31I	14-6246	Water	04/02/14 09:26	04/03/14 10:35
10.	RES 8	YF31J	14-6247	Water	04/02/14 10:05	04/03/14 10:35
11.	11-A	YF31K	14-6248	Water	04/02/14 10:51	04/03/14 10:35
12.	GM-6	YF31L	14-6249	Water	04/02/14 11:38	04/03/14 10:35
13.	GM-4	YF31M	14-6250	Water	04/02/14 12:12	04/03/14 10:35
14.	26-C	YF31N	14-6251	Water	04/02/14 12:56	04/03/14 10:35
15.	26-B	YF31O	14-6252	Water	04/02/14 13:13	04/03/14 10:35
16.	26-AF	YF31P	14-6253	Water	04/02/14 13:33	04/03/14 10:35
17.	26-A	YF31Q	14-6254	Water	04/02/14 13:33	04/03/14 10:35

Data Reporting Qualifiers

Effective 12/31/13

Inorganic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Duplicate RPD is not within established control limits

B — Reported value is less than the CRDL but ≥ the Reporting Limit

N — Matrix Spike recovery not within established control limits

NA — Not Applicable, analyte not spiked

H — The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L — Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Flagged value is not within established control limits

B — Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J — Estimated concentration when the value is less than ARI's established reporting limits

D — The spiked compound was not detected due to sample extract dilution

E — Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

YF31 : 00006

Q — Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S — Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA — The flagged analyte was not analyzed for

NR — Spiked compound recovery is not reported due to chromatographic interference

NS — The flagged analyte was not spiked into the sample

M — Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

N — The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y — The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

EMPC — Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**

C — The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P — The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

X — Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**

Z — Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

YF31 : 00007

Geotechnical Data

A — The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F — Samples were frozen prior to particle size determination

SM — Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS — Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W — Weight of sample in some pipette aliquots was below the level required for accurate weighting

YF31 : 00008

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 22
SAMPLE

Lab Sample ID: YF31A
LIMS ID: 14-6238
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/01/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/14/14 15:42
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**1.2**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	95.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 15-A
SAMPLE

Lab Sample ID: YF31B
LIMS ID: 14-6239
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/01/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/14/14 16:20
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**0.63**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	89.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: P-4
SAMPLE

Lab Sample ID: YF31C
LIMS ID: 14-6240
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/01/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/14/14 16:55
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**1,400 ES**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	103%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: P-4
DILUTION

Lab Sample ID: YF31C
LIMS ID: 14-6240
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/01/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/15/14 11:35
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 100

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**25**	**260**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	D

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: P-2
SAMPLE

Lab Sample ID: YF31D
LIMS ID: 14-6241
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/01/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/14/14 17:33
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**3.7**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	83.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 5-C
SAMPLE

Lab Sample ID: YF31E
LIMS ID: 14-6242
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/01/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/14/14 18:09
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	79.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 5-A
SAMPLE

Lab Sample ID: YF31F
LIMS ID: 14-6243
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/01/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/14/14 18:44
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**300 ES**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	87.6%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 5-A
DILUTION

Lab Sample ID: YF31F
LIMS ID: 14-6243
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/01/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/15/14 12:12
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 50.0

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**12**	**110**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	D

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: P-1
SAMPLE

Lab Sample ID: YF31G
LIMS ID: 14-6244
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/01/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/14/14 19:22
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	76.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: P-1D
SAMPLE

Lab Sample ID: YF31H
LIMS ID: 14-6245
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/01/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/14/14 19:57
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	67.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: GM-8
SAMPLE

Lab Sample ID: YF31I
LIMS ID: 14-6246
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/02/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/14/14 20:36
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	70.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: RES 8
SAMPLE

Lab Sample ID: YF31J
LIMS ID: 14-6247
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/02/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/14/14 21:11
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	68.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 11-A
SAMPLE

Lab Sample ID: YF31K
LIMS ID: 14-6248
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/02/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/14/14 22:24
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	68.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: GM-6
SAMPLE

Lab Sample ID: YF31L
LIMS ID: 14-6249
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/02/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/14/14 22:59
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**2.0**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	63.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: GM-4
SAMPLE

Lab Sample ID: YF31M
LIMS ID: 14-6250
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/02/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/14/14 23:37
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**2.1**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	57.6%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 26-C
SAMPLE

Lab Sample ID: YF31N
LIMS ID: 14-6251
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/02/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/15/14 00:13
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	64.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 26-B
SAMPLE

Lab Sample ID: YF31O
LIMS ID: 14-6252
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/02/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/15/14 00:48
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	66.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 26-AF
SAMPLE

Lab Sample ID: YF31P
LIMS ID: 14-6253
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/02/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/15/14 01:26
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	68.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 26-A
SAMPLE

Lab Sample ID: YF31Q
LIMS ID: 14-6254
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/02/14
Date Received: 04/03/14

Date Extracted: 04/04/14
Date Analyzed: 04/15/14 02:01
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**0.44**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	60.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: MB-040414
METHOD BLANK

Lab Sample ID: MB-040414
LIMS ID: 14-6238
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: NA
Date Received: NA

Date Extracted: 04/04/14
Date Analyzed: 04/14/14 13:54
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	87.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: LCS-040414
LCS/LCSD

Lab Sample ID: LCS-040414
LIMS ID: 14-6238
Matrix: Water
Data Release Authorized:
Reported: 04/15/14

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Date Sampled: 04/01/14
Date Received: 04/03/14

Date Extracted LCS/LCSD: 04/04/14

Date Analyzed LCS: 04/14/14 14:28
LCSD: 04/14/14 15:07
Instrument/Analyst LCS: ECD1/YZ
LCSD: ECD1/YZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 50 mL
LCSD: 50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Pentachlorophenol	1.74	2.50	69.6%	1.60	2.50	64.0%	8.4%

Chlorophenols Surrogate Recovery

	LCS	LCSD
2,4,6-Tribromophenol	83.4%	87.2%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

SW8041 CHLOROPHENOLICS SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: YF31-Hydrometrics Inc.
Project: Idaho Pole Site Wide Sampling

Client ID	TBP	TOT OUT
MB-040414	87.2%	0
LCS-040414	83.4%	0
LCSD-040414	87.2%	0
22	95.2%	0
15-A	89.2%	0
P-4	103%	0
P-4 DL	D	0
P-2	83.2%	0
5-C	79.2%	0
5-A	87.6%	0
5-A DL	D	0
P-1	76.8%	0
P-1D	67.2%	0
GM-8	70.4%	0
RES 8	68.8%	0
11-A	68.0%	0
GM-6	63.2%	0
GM-4	57.6%	0
26-C	64.8%	0
26-B	66.0%	0
26-AF	68.4%	0
26-A	60.0%	0

	QC LIMITS
(TBP) = 2,4,6-Tribromophenol	(26-120)

Prep Method: SW3510C
Log Number Range: 14-6238 to 14-6254

FORM-II SW8041

Analytical Resources, Incorporated
Analytical Chemists and Consultants

RECEIVED
APR 25 2014
BY:_____

21 April 2014

Heidi Kaiser
Hydrometrics, Inc.
5602 Hesper Road
Billings, MT 59106

RE: Client Project: Idaho Pole
ARI Job No.: YF94

Dear Heidi:

Please find enclosed the original Chain-of-Custody (COC) records and the final results for the samples from the project referenced above. Analytical Resources Inc. (ARI) received thirteen water samples on April 9, 2014. The samples were analyzed for PCP as requested.

There were no anomalies associated with these analyses.

An electronic copy of these reports and all associated raw data will be kept on file at ARI. Should you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

Enclosures

cc: File YF94

MDH/mdh

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: YF94	Turn-around Requested: Normal	Page: 1 of 2	
ARI Client Company: Hydrometrics	Phone:	Date: 4/8/14	Ice Present? yes
Client Contact: Heidi Kaiser		No. of Coolers: 2	Cooler Temps: 1.3, 5.1
Client Project Name: Idaho Pole Surface Sampling			
Client Project #:	Samplers: Rebecca Fabrch		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	RP 8270								Notes/Comments
28-B	4/7/14	942	H_2O	2	X								
16-B		1008		2	X								
25-B		1038		2	X								
25-A		1059		2	X								
27-B		1207		2	X								
9-C		1247		2	X								
9-B		1311		2	X								
9-A		1325		2	X								
23-B		1408		2	X								
23-A		1428		2	X								

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) Rebecca Fabrch	(Signature)	(Signature)	(Signature)
	Printed Name: Rebecca Fabrch	Printed Name: A. Volgardsen	Printed Name:	Printed Name:
	Company: Idaho Pole	Company: ARI	Company:	Company:
	Date & Time: 4/8/14 1000	Date & Time: 4/9/14 1335	Date & Time:	Date & Time:

YF94:00002

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Normal
ARI Client Company: Hydrometrics	Phone:
Client Contact: Heidi Kaiser	
Client Project Name: Idaho Pole Superfund	
Client Project #:	Samplers: Rebecca Fabich

Page: 2 of 2	
Date: 4/8/14	Ice Present? yes
No. of Coolers: 2	Cooler Temps: 1.3, 5.1

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	PCP 8270								Notes/Comments
23-AD	4/7/14	1428	H_2O	2	X								
24-B	↓	1453	↓	2	X								
GM-5	↓	1535	↓	2	X								

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) Rebecca Fabich	(Signature)	(Signature)	(Signature)
	Printed Name: Rebecca Fabich	Printed Name: A. Volgardsen	Printed Name:	Printed Name:
	Company: Idaho Pole	Company: ARI	Company:	Company:
	Date & Time: 4/8/14 1000	Date & Time: 4/9/14 1335	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Hydrometrics

COC No(s): _____ NA

Assigned ARI Job No: YF94

Project Name: Idaho Pole

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Tracking No: 794937787565 NA
8008 9236 9852

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? ..... YES NO

Were custody papers properly filled out (ink, signed, etc.) ..... YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
Time: 1335 1.3 9.1 ___ ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 122412224

Cooler Accepted by: AV Date: 4/9/14 Time: 1335

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? ..... YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? ..... NA YES NO

Were all bottles sealed in individual plastic bags? ..... YES NO

Did all bottles arrive in good condition (unbroken)? ..... YES NO

Were all bottle labels complete and legible? ..... YES NO

Did the number of containers listed on COC match with the number of containers received? ..... YES NO

Did all bottle labels and tags agree with custody papers? ..... YES NO

Were all bottles used correct for the requested analyses? ..... YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? ..... NA YES NO

Was sufficient amount of sample sent in each bottle? ..... YES NO

Date VOC Trip Blank was made at ARI..... NA _____

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JM Date: 4/9/14 Time: 1433

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small Air Bubbles <2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
• • •	• • •	• • •

Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: YF94
Client: Hydrometrics Inc.
Project Event: N/A
Project Name: Idaho Pole

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	28-B	YF94A	14-6620	Water	04/07/14 09:42	04/09/14 13:35
2.	16-B	YF94B	14-6621	Water	04/07/14 10:08	04/09/14 13:35
3.	25-B	YF94C	14-6622	Water	04/07/14 10:38	04/09/14 13:35
4.	25-A	YF94D	14-6623	Water	04/07/14 10:59	04/09/14 13:35
5.	27-B	YF94E	14-6624	Water	04/07/14 12:07	04/09/14 13:35
6.	9-C	YF94F	14-6625	Water	04/07/14 12:47	04/09/14 13:35
7.	9-B	YF94G	14-6626	Water	04/07/14 13:11	04/09/14 13:35
8.	9-A	YF94H	14-6627	Water	04/07/14 13:25	04/09/14 13:35
9.	23-B	YF94I	14-6628	Water	04/07/14 14:08	04/09/14 13:35
10.	23-A	YF94J	14-6629	Water	04/07/14 14:28	04/09/14 13:35
11.	23-AD	YF94K	14-6630	Water	04/07/14 14:28	04/09/14 13:35
12.	24-B	YF94L	14-6631	Water	04/07/14 14:53	04/09/14 13:35
13.	GM-5	YF94M	14-6632	Water	04/07/14 15:35	04/09/14 13:35

Data Reporting Qualifiers

Effective 12/31/13

Inorganic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Duplicate RPD is not within established control limits

B — Reported value is less than the CRDL but ≥ the Reporting Limit

N — Matrix Spike recovery not within established control limits

NA — Not Applicable, analyte not spiked

H — The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L — Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Flagged value is not within established control limits

B — Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J — Estimated concentration when the value is less than ARI's established reporting limits

D — The spiked compound was not detected due to sample extract dilution

E — Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

YF94 : 00006

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**

Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

YF94 : 00007

Geotechnical Data

A — The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F — Samples were frozen prior to particle size determination

SM — Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS — Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W — Weight of sample in some pipette aliquots was below the level required for accurate weighting

YF94 : 00008

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: MB-041114
METHOD BLANK

Lab Sample ID: MB-041114
LIMS ID: 14-6620
Matrix: Water
Data Release Authorized:
Reported: 04/21/14

QC Report No: YF94-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: NA
Date Received: NA

Date Extracted: 04/11/14
Date Analyzed: 04/19/14 13:40
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	64.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 28-B
SAMPLE

Lab Sample ID: YF94A
LIMS ID: 14-6620
Matrix: Water
Data Release Authorized: MW
Reported: 04/21/14

QC Report No: YF94-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 04/07/14
Date Received: 04/09/14

Date Extracted: 04/11/14
Date Analyzed: 04/19/14 15:28
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	0.25	0.47

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	78.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 16-B
SAMPLE

Lab Sample ID: YF94B
LIMS ID: 14-6621
Matrix: Water
Data Release Authorized:
Reported: 04/21/14

QC Report No: YF94-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 04/07/14
Date Received: 04/09/14

Date Extracted: 04/11/14
Date Analyzed: 04/19/14 16:05
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	0.25	9.9

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	76.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 25-B
SAMPLE

Lab Sample ID: YF94C
LIMS ID: 14-6622
Matrix: Water
Data Release Authorized: MW
Reported: 04/21/14

QC Report No: YF94-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 04/07/14
Date Received: 04/09/14

Date Extracted: 04/11/14
Date Analyzed: 04/19/14 16:40
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	87.6%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 25-A
SAMPLE

Lab Sample ID: YF94D
LIMS ID: 14-6623
Matrix: Water
Data Release Authorized: MW
Reported: 04/21/14

QC Report No: YF94-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 04/07/14
Date Received: 04/09/14

Date Extracted: 04/11/14
Date Analyzed: 04/19/14 17:16
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	0.25	0.78

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	82.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 27-B
SAMPLE

Lab Sample ID: YF94E
LIMS ID: 14-6624
Matrix: Water
Data Release Authorized: MW
Reported: 04/21/14

QC Report No: YF94-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 04/07/14
Date Received: 04/09/14

Date Extracted: 04/11/14
Date Analyzed: 04/19/14 17:54
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	0.25	0.46

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	80.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 9-C
SAMPLE

Lab Sample ID: YF94F
LIMS ID: 14-6625
Matrix: Water
Data Release Authorized:
Reported: 04/21/14

QC Report No: YF94-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 04/07/14
Date Received: 04/09/14

Date Extracted: 04/11/14
Date Analyzed: 04/19/14 18:29
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	0.25	0.71

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	87.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 9-B
SAMPLE

Lab Sample ID: YF94G
LIMS ID: 14-6626
Matrix: Water
Data Release Authorized: MW
Reported: 04/21/14

QC Report No: YF94-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 04/07/14
Date Received: 04/09/14

Date Extracted: 04/11/14
Date Analyzed: 04/19/14 19:05
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	83.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 9-A
SAMPLE

Lab Sample ID: YF94H
LIMS ID: 14-6627
Matrix: Water
Data Release Authorized: MW
Reported: 04/21/14

QC Report No: YF94-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 04/07/14
Date Received: 04/09/14

Date Extracted: 04/11/14
Date Analyzed: 04/19/14 19:42
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	68.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 23-B
SAMPLE

Lab Sample ID: YF94I
LIMS ID: 14-6628
Matrix: Water
Data Release Authorized:
Reported: 04/21/14

QC Report No: YF94-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 04/07/14
Date Received: 04/09/14

Date Extracted: 04/11/14
Date Analyzed: 04/19/14 20:55
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	84.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 23-A
SAMPLE

Lab Sample ID: YF94J
LIMS ID: 14-6629
Matrix: Water
Data Release Authorized:
Reported: 04/21/14

QC Report No: YF94-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 04/07/14
Date Received: 04/09/14

Date Extracted: 04/11/14
Date Analyzed: 04/19/14 21:30
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	0.25	0.38

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	70.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 23-AD SAMPLE

Lab Sample ID: YF94K
LIMS ID: 14-6630
Matrix: Water
Data Release Authorized:
Reported: 04/21/14

QC Report No: YF94-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 04/07/14
Date Received: 04/09/14

Date Extracted: 04/11/14
Date Analyzed: 04/19/14 22:05
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	0.25	0.46

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	73.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 24-B
SAMPLE

Lab Sample ID: YF94L
LIMS ID: 14-6631
Matrix: Water
Data Release Authorized: MW
Reported: 04/21/14

QC Report No: YF94-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 04/07/14
Date Received: 04/09/14

Date Extracted: 04/11/14
Date Analyzed: 04/19/14 22:43
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	0.25	2.5

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	70.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: GM-5
SAMPLE

Lab Sample ID: YF94M
LIMS ID: 14-6632
Matrix: Water
Data Release Authorized:
Reported: 04/21/14

QC Report No: YF94-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 04/07/14
Date Received: 04/09/14

Date Extracted: 04/11/14
Date Analyzed: 04/19/14 23:18
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	47.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

SW8041 CHLOROPHENOLICS SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: YF94-Hydrometrics Inc.
Project: Idaho Pole

Client ID	TBP	TOT OUT
MB-041114	64.8%	0
LCS-041114	92.8%	0
LCSD-041114	102%	0
28-B	78.4%	0
16-B	76.4%	0
25-B	87.6%	0
25-A	82.4%	0
27-B	80.8%	0
9-C	87.2%	0
9-B	83.2%	0
9-A	68.8%	0
23-B	84.4%	0
23-A	70.4%	0
23-AD	73.2%	0
24-B	70.4%	0
GM-5	47.2%	0

	QC LIMITS
(TBP) = 2,4,6-Tribromophenol	(26-120)

Prep Method: SW3510C
Log Number Range: 14-6620 to 14-6632

FORM-II SW8041

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: LCS-041114
LCS/LCSD

Lab Sample ID: LCS-041114
LIMS ID: 14-6620
Matrix: Water
Data Release Authorized:
Reported: 04/21/14

QC Report No: YF94-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 04/07/14
Date Received: 04/09/14

Date Extracted LCS/LCSD: 04/11/14

Date Analyzed LCS: 04/19/14 14:15
LCSD: 04/19/14 14:53
Instrument/Analyst LCS: ECD1/YZ
LCSD: ECD1/YZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 50 mL
LCSD: 50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Pentachlorophenol	1.35	2.50	54.0%	1.49	2.50	59.6%	9.9%

Chlorophenols Surrogate Recovery

	LCS	LCSD
2,4,6-Tribromophenol	92.8%	102%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

FORM III

ANALYTICAL DATA VERIFICATION CHECKLIST

Project Name: Idaho Pole Company	Laboratory: Analytical Resources, Inc., (ARI), Tukwila, WA
Project Reference: Spring Sampling Event	Sample Matrix: Groundwater with Water QC
Project No.: 5029	Sample Start Date: 03/31/2014
Verified By/Date Verified: Angela Roddy 06/2014	Sample End Date: 04/07/2014

Samples Analyzed:

MATRIX	SAMPLE ID	REMARKS	SAMPLE DATE	LAB PROJECT ID	LAB SAMPLE ID
Groundwater	SP-2		03/31/14	YF09	YF09A
Groundwater	BE-2		03/31/14	YF09	YF09B
Groundwater	BE-3		03/31/14	YF09	YF09C
Groundwater	BE-4		03/31/14	YF09	YF09D
Groundwater	BE-5		03/31/14	YF09	YF09E
Groundwater	SP-6		03/31/14	YF09	YF09F
Groundwater	SP-7		03/31/14	YF09	YF09G
Groundwater	22		04/01/14	YF31	YF31A
Groundwater	15-A		04/01/14	YF31	YF31B
Groundwater	P-4		04/01/14	YF31	YF31C
Groundwater	P-2		04/01/14	YF31	YF31D
Groundwater	5-C		04/01/14	YF31	YF31E
Groundwater	5-A		04/01/14	YF31	YF31F
Groundwater	P-1		04/01/14	YF31	YF31G
Groundwater	P-1 D	DUPLICATE	04/01/14	YF31	YF31H
Groundwater	GM-8		04/02/14	YF31	YF31I
Groundwater	RES 8		04/02/14	YF31	YF31J
Groundwater	11-A		04/02/14	YF31	YF31K
Groundwater	GM-6		04/02/14	YF31	YF31L
Groundwater	GM-4		04/02/14	YF31	YF31M
Groundwater	26-C		04/02/14	YF31	YF31N
Groundwater	26-B		04/02/14	YF31	YF31O
Field Blank	26-AF	DI BLANK	04/02/14	YF31	YF31P
Groundwater	26-A		04/02/14	YF31	YF31Q
Groundwater	28-B		04/07/14	YF94	YF94A
Groundwater	16-B		04/07/14	YF94	YF94B
Groundwater	25-B		04/07/14	YF94	YF94C
Groundwater	25-A		04/07/14	YF94	YF94D
Groundwater	27-B		04/07/14	YF94	YF94E
Groundwater	9-C		04/07/14	YF94	YF94F
Groundwater	9-B		04/07/14	YF94	YF94G
Groundwater	9-A		04/07/14	YF94	YF94H
Groundwater	23-B		04/07/14	YF94	YF94I
Groundwater	23-A		04/07/14	YF94	YF94J
Groundwater	23-AD	DUPLICATE	04/07/14	YF94	YF94K
Groundwater	24-B		04/07/14	YF94	YF94L
Groundwater	GM-5		04/07/14	YF94	YF94M

Parameters Verified: PCP Pentachlorophenol by SW-846 GC/ECD Method SW8041;

Semi-Volatile Organic Compounds-SW8270C

Laboratory Project IDs: YF09, YF31, YF94

ANALYTICAL DATA VERIFICATION CHECKLIST (Continued)

PRECISION, ACCURACY, METHOD COMPLIANCE, AND COMPLETENESS ASSESSMENT

Precision:	**X**	Acceptable		Unacceptable	AR	Initials

Comments: Precision is the measure of variability of individual sample measurements. Field precision was determined by comparison of field duplicate sample results. Laboratory precision was determined by examination of laboratory duplicate results. Evaluation of field and laboratory duplicates for precision was done using the Relative Percent Difference (RPD). The RPD is defined as the difference between two duplicate samples divided by the mean and expressed as a percent. RPD limits referenced EPA published QC limits or laboratory control charted QC limits. No data require qualification based on these measurements, and overall field and laboratory precision is acceptable. Precision measurements are reviewed in items 17 and 21.

Accuracy:	**X**	Acceptable		Unacceptable	AR	Initials

Comments: Field accuracy, a measure of the sampling bias, was determined by reviewing field blank results for evidence of sample contamination stemming from field activities. Laboratory accuracy, a measure of the system bias, was measured by evaluating standard reference or laboratory control sample and laboratory control sample duplicate (LCS, LCSD), matrix spike (MS), and organic system monitoring compounds (surrogate) percent recoveries (%Rs). Standard reference, LCS, and LCSD %Rs demonstrated the overall performance of the analysis. MS %Rs provided information on sample matrix interferences. System monitoring compound or surrogate recoveries measured system performance and efficiency during organic analysis. These measurements were compared to data validation and laboratory control charted QC limits. Field and laboratory accuracy is acceptable since a majority of the data is unqualified. Accuracy measurements are reviewed in items 12, 14, 15, 16, and 20.

Method Compliance:	**X**	Acceptable		Unacceptable	AR	Initials

Comments: Method compliance was determined by evaluating sample integrity, holding time, reporting limits, and laboratory blanks against method specified requirements. No data required qualification based on holding time limits and overall method compliance is acceptable based on the supplied data. Method compliance measurements are reviewed in items 4, 6, 8, 11, 13, 18, 19, 20, and 22.

Completeness:	**X**	Acceptable		Unacceptable	AR	Initials

Comments: Completeness is the overall ratio of the number of samples planned versus the number of samples with valid analyses. Completeness goals are set at 90-100%. Determination of completeness included a review of chain of custody records, laboratory analytical methods and detection limits, and laboratory case narratives. Completeness also included 100% review of the laboratory sample data results and QC summary reports. All of the data received by the laboratory are usable with qualification, and no data were missing or rejected. Completeness of the data is calculated to be 100% and is acceptable.

VERIFICATION CRITERIA CHECK

Laboratory qualifiers used in this review:

E - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

S – Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte.

Validation qualifier used in this review:

N/A

The following comments identifying sample results requiring qualification are in bold type. The other comments are of interest, but qualification of the sample results is not necessary.

Refer to the table of Qualified Analytical Results for a listing of the samples, analytes, and concentrations qualified (attached at the end of this checklist).

1. Did the laboratory identify any non-conformances related to the analytical results?	**X**	Yes		No	AR	Initials

Comments: Yes. Any problems with these analyses were noted in the laboratory case narratives. All results for these analyses are considered valid.

ANALYTICAL DATA VERIFICATION CHECKLIST (Continued)

2. Were sample Chain-of-Custody forms complete?	**X**	Yes		No	AR	Initials
Comments: COC records from field to laboratory were complete, and custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt.						
3. Were all the analyses requested for the samples on the COCs completed by the laboratory?	**X**	Yes		No	AR	Initials
Comments: All requested analyses were completed.						
4. Were samples received in good condition and at the appropriate temperature?	**X**	Yes		No	AR	Initials
Comments: All cooler temperatures were received inside the 4°C ± 2°C acceptance ranges.						
5. Were the requested analytical methods in compliance with WP/QAPP, permit, or COC?	**X**	Yes		No	AR	Initials
Comments: Reported methods were in compliance with those requested on the COC records or the reported methods are comparable and appropriate for the analysis requested and the sample matrix.						
6. Were detection limits in accordance with WP/QAPP, permit, or method?	**X**	Yes		No	AR	Initials
Comments: Reported detection limits are achievable by the quoted methods. Some samples required dilution due high sample concentration. The reporting limits for diluted results were raised appropriately.						
7. Do the laboratory reports include only those constituents requested to be reported for a specific analytical method?	**X**	Yes		No	AR	Initials
Comments: The laboratory reports include only those constituents requested.						
8. Were sample holding times met?	**X**	Yes		No	AR	Initials
Comments: Extraction and/or analytical holding times were met for all samples and analyses.						
9. Were correct concentration units reported?	**X**	Yes		No	AR	Initials
Comments: Correct concentration units were reported. For Method SW8041 results were reported as µg/L (ppb).						
10. Were the reporting requirements for flagged data met?	**X**	Yes		No	AR	Initials
Comments: Data validation qualifiers override any assigned laboratory flags.						
11. Were laboratory blank samples free of target analyte contamination?	**X**	Yes		No	AR	Initials
Comments: Reported laboratory blanks were free of target analyte contamination.						
12. Were trip blank, field blank, and/or equipment rinse blank samples free of target analyte contamination?	**X**	Yes		No	AR	Initials
Comments: All blanks submitted were free of target analyte contamination.						
13. Were instrument calibrations within method or data validation control limits?	**NA**	Yes		No	AR	Initials
Comments: Not applicable for this level of data verification – Instrument calibration data were not supplied in analytical laboratory reports and were therefore not included in this data review.						
14. Were surrogate recoveries within control limits?	**X**	Yes		No	AR	Initials
Comments: Surrogate recoveries were within control limits.						
15. Were laboratory control sample recoveries within control limits?	**X**	Yes		No	AR	Initials

ANALYTICAL DATA VERIFICATION CHECKLIST (Continued)

Comments: Reported LCS and LCSD %Rs for organic analytes were within data validation QC limits of 70-130% for organics and 80-120% for inorganics, and were within laboratory control charted QC limits for all target analytes. Inorganic standard reference %Rs were within data validation QC limits of 80-120%.						
16. Were matrix spike recoveries within control limits?	**X**	Yes		No	AR	Initials
Comments: Organic matrix spike sample results were not reported, but LCS and LCSD %Rs were used to demonstrate analytical accuracy (see item 15). Inorganic MS %Rs were within data validation QC limits of 75-125% for all reported target analytes.						
17. Were duplicate RPDs and/or serial dilution %Ds within control limits?	**X**	Yes		No	AR	Initials
Comments: Laboratory RPDs for target analytes in LCS/LCSD and laboratory duplicate samples were within the 0-20% data validation QC limits, or were not applicable due to undetected results in both samples. *Serial dilution data is not applicable for the reported methods or for this level of data verification.*						
18. Were organic system performance criteria met?	**NA**	Yes		No	AR	Initials
Comments: Not applicable for this level of data verification – Organic system performance data was not supplied in analytical laboratory reports and was therefore not included in this data review.						
19. Were internal standards within method criteria for GC/MS sample analyses?	**NA**	Yes		No	AR	Initials
Comments: Not applicable for the reported methods or for this level of data verification.						
20. Were inorganic system performance criteria met?	**NA**	Yes		No	AR	Initials
Comments: Not applicable for this level of data verification –Inorganic system performance data was not supplied in analytical laboratory reports and was therefore not included in this data review.						
21. Were blind field duplicates collected? If so, discuss the precision (RPD) of the results.	**X**	Yes		No	AR	Initials
Duplicate Sample No.	23-AD (4/07/2014)	Primary Sample No.	23-A (4/07/2014)			
Comments: For the field duplicate set collected, the RPDs for all analytes were within control limits.						
22. Were qualitative criteria for organic target analyte identification met?	**NA**	Yes		No	AR	Initials
Comments: Not applicable for this level of data verification – GC quantitation reports and chromatograms were not supplied in analytical laboratory reports and were therefore not included in this data review.						
23. Were 100% of the EDD concentrations and reporting limits compared to the hardcopy data reports?	**X**	Yes		No	AR	Initials
Comments: Not applicable – An EDD was not supplied and is therefore not included in this data review.						
24. General Comments: Data were evaluated based on validation criteria set forth in the USEPA Contract Laboratory Program National Functional Guidelines for Organic/Inorganic Data Review, document numbers EPA540/R-99/008 and EPA540/R-01/008 of October 1999 (Organic) and July 2002 (Inorganic), as they applied to the reported methodology. Field duplicate RPD control limits were taken from the USEPA Region I Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses, February 1988, upheld in DRAFT 1993.						

Analytical Resources, Incorporated
Analytical Chemists and Consultants

30 September 2014

RECEIVED
OCT 02 2014
BY:

Heidi Kaiser
Hydrometrics, Inc.
5602 Hesper Road
Billings, MT 59106

RE: Client Project: ~~Idaho Pole~~
ARI Job Nos.: YZ58, YZ59

Dear Heidi:

Please find enclosed the original Chain-of-Custody (COC) records and the final results for the samples from the project referenced above. Analytical Resources Inc. (ARI) received thirty-four water samples on September 11, 2014. The samples were analyzed for PAHs and PCP as requested.

All samples from SDG YZ58 were initially analyzed for PCP on 9/24/14.The %D for PCP was high for the closing CCAL that bracketed the analyses of these samples. Since the high bias does not compromise the PCP RL, all samples with no detected PCP were not re-analyzed. All samples with detected levels of PCP were re-analyzed on 9/25/14. The re-analyses proceeded without incident of note. The results for the re-analyses and subsequent dilutions only have been reported for the re-analyzed samples. The results for the 9/24/14 analyses have been submitted for all other samples.

There were no further anomalies associated with these analyses.

An electronic copy of these reports and all associated raw data will be kept on file at ARI. Should you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

Enclosures

cc: Files YZ58, YZ59

MDH/mdh

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: YZ58	Turn-around Requested: normal
ARI Client Company: Hydrometrics	Phone:
Client Contact: Heidi Kwan	
Client Project Name: Idaho Pole	
Client Project #:	Samplers: Rebecca Fabich

Page: 1	of 4
Date: 9/10/14	Ice Present? yes
No. of Coolers: 4	Cooler Temps: 5.0, 5.6, 5.9, 5.6

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	PCP 8270	PAH 8270							Notes/Comments
22	9/9/14	824	H2O	4	X	X							
3B		841		2	X								
19-B		858		2	X								
19-A		912		2	X								
4-A		929		2	X								
4-D		929		2	X								
4-B		944		2	X								
15-A		1003		4	X	X							
P-4		1022		2	X								
P-2		1048		2	X								

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) Rebecca Fabich	(Signature) Jennifer Millsap	(Signature)	(Signature)
	Printed Name: Rebecca Fabich	Printed Name: Jennifer Millsap	Printed Name:	Printed Name:
	Company: Idaho Pole	Company: ARI	Company:	Company:
	Date & Time: 9/10/14 1630	Date & Time: 9/11/14 1600	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: YZ58	Turn-around Requested: Normal
ARI Client Company: Hydrometrics	Phone:
Client Contact: Heidi Kawa	
Client Project Name: Idaho Pole	
Client Project #:	Samplers: Rebecca Fabich

Page: 2 of 4

Date: 9/10/14 Ice Present? yes

No. of Coolers: 4 Cooler Temps: 5.0, 5.6, 5.9, 5.6

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	PCP 8270	NH4 PLES							Notes/Comments
5-C	9/9/14	1110	H2O	2	X								
5-B		1124		2	X								
5-A		1138		4	X	X							
P-1		1159		2	X								
GM-7		1218		2	X								
6-A		1239		2	X								
GM-8	9/10/14	948		2	X								
Rw8		1008		2	X								
27B		1023		2	X								
27A		1031		2	X								

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) Rebecca Fabich	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Rebecca Fabich	Printed Name: Jennifer Miller	Printed Name:	Printed Name:
	Company: Idaho Pole	Company: ARI	Company:	Company:
	Date & Time: 9/10/14 1630	Date & Time: 9/11/14 1000	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Hydrometrics

Project Name: Idaho Pole

COC No(s): _____ (NA)

Delivered by: (Fed-Ex) UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 4258

Tracking No: 8062 8779 1869 / 7801 4117 9256 NA
7801 4117 9245 / 7801 4117 9267

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.0 5.6 5.9 5.6
Time: _____

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90877952

Cooler Accepted by: JM Date: 9/11/14 Time: 1000

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used? ... (Bubble Wrap) (Wet Ice) Gel Packs Baggies Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		YES	(NO)
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		YES	(NO)
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	(NA)	YES	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)	_____	

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

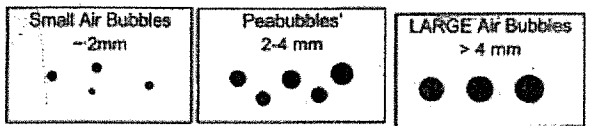
Samples Logged by: JM Date: 9/11/14 Time: 1042

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
5B	5-B		
6A	6-A		
27-B	27B		

Additional Notes, Discrepancies, & Resolutions:

By: JM Date: 9/11/14



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: YZ58
Client: Hydrometrics Inc.
Project Event: N/A
Project Name: Idaho Pole

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	22	YZ58A	14-18421	Water	09/09/14 08:24	09/11/14 10:00
2.	15-A	YZ58B	14-18422	Water	09/09/14 10:03	09/11/14 10:00
3.	5-A	YZ58C	14-18423	Water	09/09/14 11:38	09/11/14 10:00
4.	3B	YZ58D	14-18424	Water	09/09/14 08:41	09/11/14 10:00
5.	19-B	YZ58E	14-18425	Water	09/09/14 08:58	09/11/14 10:00
6.	19-A	YZ58F	14-18426	Water	09/09/14 09:12	09/11/14 10:00
7.	4-A	YZ58G	14-18427	Water	09/09/14 09:29	09/11/14 10:00
8.	4-D	YZ58H	14-18428	Water	09/09/14 09:29	09/11/14 10:00
9.	4-B	YZ58I	14-18429	Water	09/09/14 09:44	09/11/14 10:00
10.	P-4	YZ58J	14-18430	Water	09/09/14 10:22	09/11/14 10:00
11.	P-2	YZ58K	14-18431	Water	09/09/14 10:48	09/11/14 10:00
12.	5-C	YZ58L	14-18432	Water	09/09/14 11:10	09/11/14 10:00
13.	5-B	YZ58M	14-18433	Water	09/09/14 11:24	09/11/14 10:00
14.	P-1	YZ58N	14-18434	Water	09/09/14 11:59	09/11/14 10:00
15.	GM-7	YZ58O	14-18435	Water	09/09/14 12:18	09/11/14 10:00
16.	6-A	YZ58P	14-18436	Water	09/09/14 12:39	09/11/14 10:00
17.	GM-8	YZ58Q	14-18437	Water	09/10/14 09:48	09/11/14 10:00
18.	Res 8	YZ58R	14-18438	Water	09/10/14 10:08	09/11/14 10:00
19.	27B	YZ58S	14-18439	Water	09/10/14 10:23	09/11/14 10:00
20.	27A	YZ58T	14-18440	Water	09/10/14 10:31	09/11/14 10:00

Data Reporting Qualifiers

Effective 12/31/13

Inorganic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Duplicate RPD is not within established control limits

B — Reported value is less than the CRDL but ≥ the Reporting Limit

N — Matrix Spike recovery not within established control limits

NA — Not Applicable, analyte not spiked

H — The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L — Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Flagged value is not within established control limits

B — Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J — Estimated concentration when the value is less than ARI's established reporting limits

D — The spiked compound was not detected due to sample extract dilution

E — Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**

Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A — The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F — Samples were frozen prior to particle size determination

SM — Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS — Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W — Weight of sample in some pipette aliquots was below the level required for accurate weighting

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: 22
SAMPLE

Lab Sample ID: YZ58A
LIMS ID: 14-18421
Matrix: Water
Data Release Authorized:
Reported: 09/24/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/12/14
Date Analyzed: 09/23/14 16:53
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	**Acenaphthene**	**0.10**	**0.10**
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	**Fluoranthene**	**0.10**	**0.19**
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.10 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	53.3%
d14-Dibenzo(a,h)anthracene	53.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: 15-A
SAMPLE

Lab Sample ID: YZ58B
LIMS ID: 14-18422
Matrix: Water
Data Release Authorized:
Reported: 09/24/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/12/14
Date Analyzed: 09/23/14 17:21
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	**Acenaphthene**	**0.10**	**0.53**
86-73-7	**Fluorene**	**0.10**	**0.61**
85-01-8	**Phenanthrene**	**0.10**	**0.50**
120-12-7	**Anthracene**	**0.10**	**0.27**
206-44-0	**Fluoranthene**	**0.10**	**0.23**
129-00-0	**Pyrene**	**0.10**	**0.20**
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.10 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	53.3%
d14-Dibenzo(a,h)anthracene	43.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: 5-A
SAMPLE

Lab Sample ID: YZ58C
LIMS ID: 14-18423
Matrix: Water
Data Release Authorized:
Reported: 09/24/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/12/14
Date Analyzed: 09/23/14 17:49
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.10	2.4
208-96-8	Acenaphthylene	0.10	0.54
83-32-9	Acenaphthene	0.10	7.6
86-73-7	Fluorene	0.10	5.2
85-01-8	Phenanthrene	0.10	0.53
120-12-7	Anthracene	0.10	1.3
206-44-0	Fluoranthene	0.10	3.0
129-00-0	Pyrene	0.10	2.9
56-55-3	Benzo(a)anthracene	0.10	0.69
218-01-9	Chrysene	0.10	0.81
205-99-2	Benzo(b)fluoranthene	0.10	0.39
207-08-9	Benzo(k)fluoranthene	0.10	0.21
50-32-8	Benzo(a)pyrene	0.10	0.36
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	0.14
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	0.17
TOTBFA	Total Benzofluoranthenes	0.10	0.80

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	65.3%
d14-Dibenzo(a,h)anthracene	53.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: MB-091214
METHOD BLANK

Lab Sample ID: MB-091214
LIMS ID: 14-18421
Matrix: Water
Data Release Authorized:
Reported: 09/24/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 09/12/14
Date Analyzed: 09/23/14 15:30
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.10 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	60.0%
d14-Dibenzo(a,h)anthracene	51.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: LCS-091214
LAB CONTROL SAMPLE

Lab Sample ID: LCS-091214
LIMS ID: 14-18421
Matrix: Water
Data Release Authorized:
Reported: 09/24/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 09/12/14

Date Analyzed LCS: 09/23/14 15:57
LCSD: 09/23/14 16:25
Instrument/Analyst LCS: NT8/JZ
LCSD: NT8/JZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	1.74	3.00	58.0%	1.71	3.00	57.0%	1.7%
Acenaphthylene	1.27	3.00	42.3%	1.63	3.00	54.3%	24.8%
Acenaphthene	1.60	3.00	53.3%	1.64	3.00	54.7%	2.5%
Fluorene	1.94	3.00	64.7%	2.02	3.00	67.3%	4.0%
Phenanthrene	2.07	3.00	69.0%	2.11	3.00	70.3%	1.9%
Anthracene	1.93	3.00	64.3%	2.04	3.00	68.0%	5.5%
Fluoranthene	2.36	3.00	78.7%	2.42	3.00	80.7%	2.5%
Pyrene	2.06	3.00	68.7%	2.22	3.00	74.0%	7.5%
Benzo(a)anthracene	2.28	3.00	76.0%	2.37	3.00	79.0%	3.9%
Chrysene	2.29	3.00	76.3%	2.34	3.00	78.0%	2.2%
Benzo(b)fluoranthene	2.42	3.00	80.7%	2.39	3.00	79.7%	1.2%
Benzo(k)fluoranthene	2.35	3.00	78.3%	2.39	3.00	79.7%	1.7%
Benzo(a)pyrene	1.47	3.00	49.0%	1.27	3.00	42.3%	14.6%
Indeno(1,2,3-cd)pyrene	1.91	3.00	63.7%	1.94	3.00	64.7%	1.6%
Dibenz(a,h)anthracene	1.94	3.00	64.7%	1.99	3.00	66.3%	2.5%
Benzo(g,h,i)perylene	2.01	3.00	67.0%	1.90	3.00	63.3%	5.6%
Total Benzofluoranthenes	6.91	9.00	76.8%	6.95	9.00	77.2%	0.6%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	58.3%	57.3%
d14-Dibenzo(a,h)anthracene	52.3%	57.0%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Client ID	MNP	DBA	TOT OUT
MB-091214	60.0%	51.3%	0
LCS-091214	58.3%	52.3%	0
LCSD-091214	57.3%	57.0%	0
22	53.3%	53.3%	0
15-A	53.3%	43.0%	0
5-A	65.3%	53.7%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(31-120)	(31-120)
(DBA) = d14-Dibenzo(a,h)anthracene	(10-125)	(10-125)

Prep Method: SW3520C
Log Number Range: 14-18421 to 14-18423

FORM-II SIM SW8270

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 22
SAMPLE

Lab Sample ID: YZ58A
LIMS ID: 14-18421
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/25/14 22:02
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	0.91

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	82.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 15-A
SAMPLE

Lab Sample ID: YZ58B
LIMS ID: 14-18422
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/25/14 22:37
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	0.25	0.91

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	84.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 5-A
SAMPLE

Lab Sample ID: YZ58C
LIMS ID: 14-18423
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/24/14 18:35
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	270 ESP

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	95.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 5-A
DILUTION

Lab Sample ID: YZ58C
LIMS ID: 14-18423
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/25/14 23:13
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 100

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**25**	**580**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	D

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 3B
SAMPLE

Lab Sample ID: YZ58D
LIMS ID: 14-18424
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/25/14 23:48
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	1.2

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	83.6%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 19-B
SAMPLE

Lab Sample ID: YZ58E
LIMS ID: 14-18425
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/24/14 19:46
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	81.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 19-A
SAMPLE

Lab Sample ID: YZ58F
LIMS ID: 14-18426
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/24/14 20:21
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	76.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 4-A
SAMPLE

Lab Sample ID: YZ58G
LIMS ID: 14-18427
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/24/14 20:57
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	89.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 4-D SAMPLE

Lab Sample ID: YZ58H
LIMS ID: 14-18428
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/24/14 21:32
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	86.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 4-B
SAMPLE

Lab Sample ID: YZ58I
LIMS ID: 14-18429
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/24/14 22:07
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	82.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: P-4
SAMPLE

Lab Sample ID: YZ58J
LIMS ID: 14-18430
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/24/14 22:43
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**310 ESP**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	96.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: P-4
DILUTION

Lab Sample ID: YZ58J
LIMS ID: 14-18430
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/29/14 15:39
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 200

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**50**	**1,200**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	D

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: P-2
SAMPLE

Lab Sample ID: YZ58K
LIMS ID: 14-18431
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/26/14 00:59
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 10.0

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	2.5	39

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	85.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 5-C
SAMPLE

Lab Sample ID: YZ58L
LIMS ID: 14-18432
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/26/14 01:34
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	85.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 5-B
SAMPLE

Lab Sample ID: YZ58M
LIMS ID: 14-18433
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/25/14 01:04
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	84.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: P-1
SAMPLE

Lab Sample ID: YZ58N
LIMS ID: 14-18434
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/26/14 02:10
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	0.46

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	84.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: GM-7
SAMPLE

Lab Sample ID: YZ58O
LIMS ID: 14-18435
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/25/14 02:15
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	84.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 6-A
SAMPLE

Lab Sample ID: YZ58P
LIMS ID: 14-18436
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/25/14 02:50
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	80.8%

YZ58 : 000032

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: GM-8
SAMPLE

Lab Sample ID: YZ58Q
LIMS ID: 14-18437
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/25/14 03:26
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	76.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: Res 8
SAMPLE

Lab Sample ID: YZ58R
LIMS ID: 14-18438
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/25/14 04:01
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	82.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 27B
SAMPLE

Lab Sample ID: YZ58S
LIMS ID: 14-18439
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/25/14 04:37
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	83.6%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 27A
SAMPLE

Lab Sample ID: YZ58T
LIMS ID: 14-18440
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/13/14
Date Analyzed: 09/25/14 05:12
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	81.6%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: MB-091314
METHOD BLANK

Lab Sample ID: MB-091314
LIMS ID: 14-18421
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: NA
Date Received: NA

Date Extracted: 09/13/14
Date Analyzed: 09/24/14 15:38
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	82.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: LCS-091314
LCS/LCSD

Lab Sample ID: LCS-091314
LIMS ID: 14-18421
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/09/14
Date Received: 09/11/14

Date Extracted LCS/LCSD: 09/13/14

Date Analyzed LCS: 09/24/14 16:13
LCSD: 09/24/14 16:49
Instrument/Analyst LCS: ECD8/YZ
LCSD: ECD8/YZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 50 mL
LCSD: 50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Pentachlorophenol	1.74	2.50	69.6%	1.71	2.50	68.4%	1.7%

Chlorophenols Surrogate Recovery

	LCS	LCSD
2,4,6-Tribromophenol	88.8%	80.4%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

SW8041 CHLOROPHENOLICS SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: YZ58-Hydrometrics Inc.
Project: Idaho Pole

Client ID	TBP	TOT OUT
MB-091314	82.8%	0
LCS-091314	88.8%	0
LCSD-091314	80.4%	0
22	82.4%	0
15-A	84.8%	0
5-A	95.2%	0
5-A DL	D	0
3B	83.6%	0
19-B	81.2%	0
19-A	76.4%	0
4-A	89.2%	0
4-D	86.8%	0
4-B	82.0%	0
P-4	96.8%	0
P-4 DL	D	0
P-2	85.2%	0
5-C	85.2%	0
5-B	84.0%	0
P-1	84.8%	0
GM-7	84.4%	0
6-A	80.8%	0
GM-8	76.4%	0
Res 8	82.0%	0
27B	83.6%	0
27A	81.6%	0

	QC LIMITS
(TBP) = 2,4,6-Tribromophenol	(26-120)

Prep Method: SW3510C
Log Number Range: 14-18421 to 14-18440

FORM-II SW8041

YZ58 : 000033

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 4259
Turn-around Requested: Normal
Page: 3 of 4
ARI Client Company: Hydrometrics
Phone:
Date: 9/10/14
Ice Present? yes
Client Contact: Heidi Kaiser
No. of Coolers: 4
Cooler Temps: 5.0, 5.6, 5.9, 5.6
Client Project Name: Idaho Pole
Client Project #:
Samplers: Rebecca Fabich

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	PCP 8270	PAH 8270							Notes/Comments
16-B	9/10/14	1207	H2O	2	X								
16-A		1215		2	X								
29-D		1230		2	X								
25-B		1250		2	X								
25-A		1259		2	X								
26-C		1329		2	X								
26-B		1343		2	X								
26-A		1355		2	X								
10-B		1417		2	X								
10-A		1427		2	X								

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) Rebecca Fabich	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Rebecca Fabich	Printed Name: Jennifer Millsap	Printed Name:	Printed Name:
	Company: Idaho Pole	Company: ARI	Company:	Company:
	Date & Time: 9/10/14 1630	Date & Time: 9/11/14 1000	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: Y259	Turn-around Requested: Normal
ARI Client Company: Hydrometric	Phone:
Client Contact: Heidi Kaven	
Client Project Name: Idaho Pob	
Client Project #:	Samplers: Rebecca Fabich

Page: 4 of 4

Date: 9/10/14 Ice Present? yes

No. of Coolers: 4 Cooler Temps: 5.0, 5.6, 5.9, 5.6

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Pb 239.2								Notes/Comments
9-C	9/10/14	1448	H_2O	2	X								
9-B		1459		2	X								
9-A		1513		2	X								
9-D		1513		2	X								

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) Rebecca Fabich	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Rebecca Fabich	Printed Name: Jennifer Millsap	Printed Name:	Printed Name:
	Company: Idaho Pob	Company: ARI	Company:	Company:
	Date & Time: 9/10/14 1630	Date & Time: 9/11/14 1000	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Hydrometrics

Project Name: Idaho Pole

COC No(s): _____ (NA)

Delivered by: (Fed-Ex UPS Courier) Hand Delivered Other: _____

Assigned ARI Job No: 4759

Tracking No: 8062 8779 1869 / 7801 4117 9256 NA
7801 4117 9245 / 7801 4117 9267

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)

Were custody papers included with the cooler? ..... (YES) NO

Were custody papers properly filled out (ink, signed, etc.) ..... (YES) NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.0 5.6 5.9 5.6 ___ ___
Time: _____

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90877952

Cooler Accepted by: JM Date: 9/11/14 Time: 1000

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? ..... YES (NO)

What kind of packing material was used? ... (Bubble Wrap) (Wet Ice) Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? ..... NA (YES) NO

Were all bottles sealed in individual plastic bags? ..... YES (NO)

Did all bottles arrive in good condition (unbroken)? ..... YES (NO)

Were all bottle labels complete and legible? ..... (YES) NO

Did the number of containers listed on COC match with the number of containers received? ..... (YES) NO

Did all bottle labels and tags agree with custody papers? ..... YES (NO)

Were all bottles used correct for the requested analyses? ..... (YES) NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... (NA) YES NO

Were all VOC vials free of air bubbles? ..... (NA) YES NO

Was sufficient amount of sample sent in each bottle? ..... (YES) NO

Date VOC Trip Blank was made at ARI..... (NA) _____

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

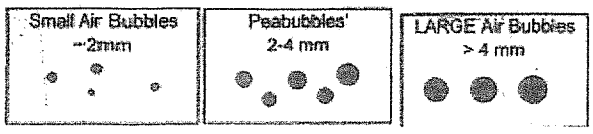
Samples Logged by: JM Date: 9/11/14 Time: 1042

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
16B	16-B	26B	26-B
16A	16-A	26A	26-A
25B	25-B	10A	10-A
25A	25-A		

Additional Notes, Discrepancies, & Resolutions:
1 lid for samples, 10-B, 9-C + 9-A were cracked, there was one bottle for each sample without cracked lids. Both bottles for Sample 9-B arrived broken.

By: Date:



Small → "sm"	(< 2 mm)
Peabubbles → "pb"	(2 to < 4 mm)
Large → "lg"	(4 to < 6 mm)
Headspace → "hs"	(> 6 mm)

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: YZ59
Client: Hydrometrics Inc.
Project Event: N/A
Project Name: Idaho Pole

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	16-B	YZ59A	14-18441	Water	09/10/14 12:07	09/11/14 10:00
2.	16-A	YZ59B	14-18442	Water	09/10/14 12:15	09/11/14 10:00
3.	29-D	YZ59C	14-18443	Water	09/10/14 12:30	09/11/14 10:00
4.	25-B	YZ59D	14-18444	Water	09/10/14 12:50	09/11/14 10:00
5.	25-A	YZ59E	14-18445	Water	09/10/14 12:59	09/11/14 10:00
6.	26-C	YZ59F	14-18446	Water	09/10/14 13:29	09/11/14 10:00
7.	26-B	YZ59G	14-18447	Water	09/10/14 13:43	09/11/14 10:00
8.	26-A	YZ59H	14-18448	Water	09/10/14 13:55	09/11/14 10:00
9.	10-B	YZ59I	14-18449	Water	09/10/14 14:17	09/11/14 10:00
10.	10-A	YZ59J	14-18450	Water	09/10/14 14:27	09/11/14 10:00
11.	9-C	YZ59K	14-18451	Water	09/10/14 14:48	09/11/14 10:00
12.	9-A	YZ59L	14-18452	Water	09/10/14 15:13	09/11/14 10:00
13.	9-D	YZ59M	14-18453	Water	09/10/14 15:13	09/11/14 10:00

YZ59 : 000043

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 16-B
SAMPLE

Lab Sample ID: YZ59A
LIMS ID: 14-18441
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ59-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/15/14
Date Analyzed: 09/22/14 12:28
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 10.0

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	2.5	21

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	80.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 16-A
SAMPLE

Lab Sample ID: YZ59B
LIMS ID: 14-18442
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ59-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/15/14
Date Analyzed: 09/21/14 11:45
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	81.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 29-D
SAMPLE

Lab Sample ID: YZ59C
LIMS ID: 14-18443
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ59-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/15/14
Date Analyzed: 09/21/14 12:20
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	82.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 25-B
SAMPLE

Lab Sample ID: YZ59D
LIMS ID: 14-18444
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ59-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/15/14
Date Analyzed: 09/21/14 13:31
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	85.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 25-A
SAMPLE

Lab Sample ID: YZ59E
LIMS ID: 14-18445
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ59-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/15/14
Date Analyzed: 09/22/14 13:04
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 2.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.50**	**19**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	78.6%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 26-C
SAMPLE

Lab Sample ID: YZ59F
LIMS ID: 14-18446
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ59-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/15/14
Date Analyzed: 09/21/14 14:42
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	72.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 26-B
SAMPLE

Lab Sample ID: YZ59G
LIMS ID: 14-18447
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ59-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/15/14
Date Analyzed: 09/21/14 15:17
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	79.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 26-A
SAMPLE

Lab Sample ID: YZ59H
LIMS ID: 14-18448
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ59-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/15/14
Date Analyzed: 09/21/14 15:53
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	0.34

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	84.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 10-B
SAMPLE

Lab Sample ID: YZ59I
LIMS ID: 14-18449
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ59-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/15/14
Date Analyzed: 09/21/14 16:28
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	78.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 10-A
SAMPLE

Lab Sample ID: YZ59J
LIMS ID: 14-18450
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ59-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/15/14
Date Analyzed: 09/21/14 17:04
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	90.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 9-C
SAMPLE

Lab Sample ID: YZ59K
LIMS ID: 14-18451
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ59-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/15/14
Date Analyzed: 09/21/14 17:39
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	91.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 9-A
SAMPLE

Lab Sample ID: YZ59L
LIMS ID: 14-18452
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ59-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/15/14
Date Analyzed: 09/21/14 18:14
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	88.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 9-D
SAMPLE

Lab Sample ID: YZ59M
LIMS ID: 14-18453
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ59-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted: 09/15/14
Date Analyzed: 09/21/14 18:50
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	84.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: MB-091514
METHOD BLANK

Lab Sample ID: MB-091514
LIMS ID: 14-18441
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ59-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: NA
Date Received: NA

Date Extracted: 09/15/14
Date Analyzed: 09/21/14 09:23
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	92.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: LCS-091514
LCS/LCSD

Lab Sample ID: LCS-091514
LIMS ID: 14-18441
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ59-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/10/14
Date Received: 09/11/14

Date Extracted LCS/LCSD: 09/15/14

Date Analyzed LCS: 09/21/14 09:59
LCSD: 09/21/14 10:34
Instrument/Analyst LCS: ECD8/YZ
LCSD: ECD8/YZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 50 mL
LCSD: 50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Pentachlorophenol	1.75	2.50	70.0%	1.51	2.50	60.4%	14.7%

Chlorophenols Surrogate Recovery

	LCS	LCSD
2,4,6-Tribromophenol	88.4%	76.8%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

SW8041 CHLOROPHENOLICS SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: YZ59-Hydrometrics Inc.
Project: Idaho Pole

Client ID	TBP	TOT OUT
MB-091514	92.8%	0
LCS-091514	88.4%	0
LCSD-091514	76.8%	0
16-B	80.8%	0
16-A	81.2%	0
29-D	82.4%	0
25-B	85.6%	0
25-A	78.6%	0
26-C	72.8%	0
26-B	79.2%	0
26-A	84.4%	0
10-B	78.8%	0
10-A	90.8%	0
9-C	91.2%	0
9-A	88.0%	0
9-D	84.8%	0

	QC LIMITS
(TBP) = 2,4,6-Tribromophenol	(26-120)

Prep Method: SW3510C
Log Number Range: 14-18441 to 14-18453

FORM-II SW8041

YZ59:00053

Analytical Resources, Incorporated
Analytical Chemists and Consultants

30 September 2014

Heidi Kaiser
Hydrometrics, Inc.
5602 Hesper Road
Billings, MT 59106

RE: Client Project: Idaho Pole
ARI Job No.: YZ88

Dear Heidi:

Please find enclosed the original Chain-of-Custody (COC) records and the final results for the samples from the project referenced above. Analytical Resources Inc. (ARI) received fourteen water samples on September 12, 2014. The samples were analyzed for PAHs and PCP as requested.

There were no anomalies associated with these analyses.

An electronic copy of these reports and all associated raw data will be kept on file at ARI. Should you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

Enclosures

cc: File YZ88

MDH/mdh

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: Y288	Turn-around Requested: Normal
ARI Client Company: Hydrometrics	Phone:
Client Contact: Heidi Kaan	
Client Project Name: Idaho Pole	
Client Project #:	Samplers: Rebecca Fabich

Page: 1	of 2
Date: 9/11/14	Ice Present? yes
No. of Coolers: 2	Cooler Temps:

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	PCP 8040	PAH 8270							Notes/Comments
24-B	9/11/14	919	H2O	2	X								
24-A2		932		2	X								
24-A1		945		2	X								
B-A		1010		2	X								
8-A		1034		2	X								
8-B		1043		2	X								
7B		1126		2	X								
7A		1140		2	X								
23-C		1208		2	X								
23-B		1221		4	X	X							

Comments/Special Instructions	Relinquished by	Received by	Relinquished by	Received by
	(Signature) Rebecca Fabich	(Signature)	(Signature)	(Signature)
	Printed Name. Rebecca Fabich	Printed Name A. Valgardsen	Printed Name	Printed Name
	Company: Idaho Pole	Company. ARI	Company	Company
	Date & Time 9/11/14 1630	Date & Time 9/12/14 1620	Date & Time	Date & Time

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Normal	Page: 2 of 2	
ARI Client Company: Hydrometrics	Phone:	Date: 9/11/14	Ice Present? yes
Client Contact: Heidi Kauer		No. of Coolers: 2	Cooler Temps:
Client Project Name: Idaho Pole			
Client Project #:	Samplers: Rebecca Fabich		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	8270	HFD							Notes/Comments
23-A	9/11/14	1237	H_2O	4	X	X							
GM-6		1300		4	X	X							
GM-4		1305		4	X	X							
GM-5		1340		4	X	X							

Comments/Special Instructions	Relinquished by	Received by	Relinquished by	Received by
	(Signature) Rebecca Fabich	(Signature)	(Signature)	(Signature)
	Printed Name Rebecca Fabich	Printed Name A. Valgardson	Printed Name.	Printed Name.
	Company Idaho Pole	Company ARI	Company	Company
	Date & Time 9/11/14 1630	Date & Time 9/12/14 1620	Date & Time:	Date & Time

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Hydrometrics

Project Name: Idaho Pole

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other. _____

Assigned ARI Job No: 7288

Tracking No. 8664 4680 4445 NA
8662 5779 1855

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6 0 °C for chemistry) 4.0 24
Time. 1020

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID# 90897957

Cooler Accepted by: AV Date. 9/12/14 Time: 1020

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? .. Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	YES	NO
Were all bottles sealed in individual plastic bags?		YES	NO
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA	_____	

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment. _____ Split by: _____

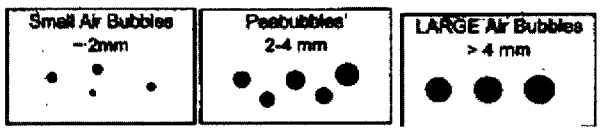
Samples Logged by. TS Date: 9-12-14 Time: 1122

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: YZ88
Client: Hydrometrics Inc.
Project Event: N/A
Project Name: Idaho Pole

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	24-B	YZ88A	14-18589	Water	09/11/14 09:19	09/12/14 10:20
2.	24-A2	YZ88B	14-18590	Water	09/11/14 09:32	09/12/14 10:20
3.	24-A1	YZ88C	14-18591	Water	09/11/14 09:45	09/12/14 10:20
4.	B-A	YZ88D	14-18592	Water	09/11/14 10:10	09/12/14 10:20
5.	8-A	YZ88E	14-18593	Water	09/11/14 10:34	09/12/14 10:20
6.	8-B	YZ88F	14-18594	Water	09/11/14 10:43	09/12/14 10:20
7.	7B	YZ88G	14-18595	Water	09/11/14 11:26	09/12/14 10:20
8.	7A	YZ88H	14-18596	Water	09/11/14 11:40	09/12/14 10:20
9.	23-C	YZ88I	14-18597	Water	09/11/14 12:08	09/12/14 10:20
10.	23-B	YZ88J	14-18598	Water	09/11/14 12:21	09/12/14 10:20
11.	23-A	YZ88K	14-18599	Water	09/11/14 12:37	09/12/14 10:20
12.	GM-6	YZ88L	14-18600	Water	09/11/14 13:00	09/12/14 10:20
13.	GM-4	YZ88M	14-18601	Water	09/11/14 13:25	09/12/14 10:20
14.	GM-5	YZ88N	14-18602	Water	09/11/14 13:40	09/12/14 10:20

Data Reporting Qualifiers

Effective 12/31/13

Inorganic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Duplicate RPD is not within established control limits

B — Reported value is less than the CRDL but ≥ the Reporting Limit

N — Matrix Spike recovery not within established control limits

NA — Not Applicable, analyte not spiked

H — The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L — Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Flagged value is not within established control limits

B — Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J — Estimated concentration when the value is less than ARI's established reporting limits

D — The spiked compound was not detected due to sample extract dilution

E — Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**

Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A	The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
F	Samples were frozen prior to particle size determination
SM	Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
SS	Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
W	Weight of sample in some pipette aliquots was below the level required for accurate weighting

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: 23-B
SAMPLE

Lab Sample ID: YZ88J
LIMS ID: 14-18598
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/19/14 17:00
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.10 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	66.0%
d14-Dibenzo(a,h)anthracene	65.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: 23-A
SAMPLE

Lab Sample ID: YZ88K
LIMS ID: 14-18599
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/19/14 17:28
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.10 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	65.3%
d14-Dibenzo(a,h)anthracene	68.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: GM-6
SAMPLE

Lab Sample ID: YZ88L
LIMS ID: 14-18600
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/19/14 17:56
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.10 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	62.3%
d14-Dibenzo(a,h)anthracene	65.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: GM-4
SAMPLE

Lab Sample ID: YZ88M
LIMS ID: 14-18601
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/19/14 18:24
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.10 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	63.3%
d14-Dibenzo(a,h)anthracene	47.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: GM-5
SAMPLE

Lab Sample ID: YZ88N
LIMS ID: 14-18602
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/19/14 18:52
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.10 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	64.0%
d14-Dibenzo(a,h)anthracene	44.0%

YZ88 00013

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: MB-091714
METHOD BLANK

Lab Sample ID: MB-091714
LIMS ID: 14-18598
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 09/17/14
Date Analyzed: 09/19/14 19:19
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.10 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	67.0%
d14-Dibenzo(a,h)anthracene	63.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: LCS-091714
LAB CONTROL SAMPLE

Lab Sample ID: LCS-091714
LIMS ID: 14-18598
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 09/17/14

Date Analyzed LCS: 09/19/14 16:04
LCSD: 09/19/14 16:32
Instrument/Analyst LCS: NT8/JZ
LCSD: NT8/JZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	1.91	3.00	63.7%	1.91	3.00	63.7%	0.0%
Acenaphthylene	1.82	3.00	60.7%	1.90	3.00	63.3%	4.3%
Acenaphthene	1.79	3.00	59.7%	1.80	3.00	60.0%	0.6%
Fluorene	2.14	3.00	71.3%	2.19	3.00	73.0%	2.3%
Phenanthrene	2.20	3.00	73.3%	2.27	3.00	75.7%	3.1%
Anthracene	2.11	3.00	70.3%	2.23	3.00	74.3%	5.5%
Fluoranthene	2.45	3.00	81.7%	2.52	3.00	84.0%	2.8%
Pyrene	2.40	3.00	80.0%	2.49	3.00	83.0%	3.7%
Benzo(a)anthracene	2.46	3.00	82.0%	2.54	3.00	84.7%	3.2%
Chrysene	2.42	3.00	80.7%	2.51	3.00	83.7%	3.7%
Benzo(b)fluoranthene	2.57	3.00	85.7%	2.68	3.00	89.3%	4.2%
Benzo(k)fluoranthene	2.64	3.00	88.0%	2.71	3.00	90.3%	2.6%
Benzo(a)pyrene	2.08	3.00	69.3%	2.39	3.00	79.7%	13.9%
Indeno(1,2,3-cd)pyrene	2.36	3.00	78.7%	2.48	3.00	82.7%	5.0%
Dibenz(a,h)anthracene	2.30	3.00	76.7%	2.34	3.00	78.0%	1.7%
Benzo(g,h,i)perylene	2.52	3.00	84.0%	2.64	3.00	88.0%	4.7%
Total Benzofluoranthenes	7.67	9.00	85.2%	7.97	9.00	88.6%	3.8%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	64.3%	61.3%
d14-Dibenzo(a,h)anthracene	70.0%	68.7%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Client ID	MNP	DBA	TOT OUT
MB-091714	67.0%	63.0%	0
LCS-091714	64.3%	70.0%	0
LCSD-091714	61.3%	68.7%	0
23-B	66.0%	65.7%	0
23-A	65.3%	68.0%	0
GM-6	62.3%	65.7%	0
GM-4	63.3%	47.0%	0
GM-5	64.0%	44.0%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(31-120)	(31-120)
(DBA) = d14-Dibenzo(a,h)anthracene	(10-125)	(10-125)

Prep Method: SW3520C
Log Number Range: 14-18598 to 14-18602

FORM-II SIM SW8270

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 24-B
SAMPLE

Lab Sample ID: YZ88A
LIMS ID: 14-18589
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/21/14 00:33
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**2.6**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	84.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 24-A2
SAMPLE

Lab Sample ID: YZ88B
LIMS ID: 14-18590
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/21/14 01:08
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	89.6%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 24-A1
SAMPLE

Lab Sample ID: YZ88C
LIMS ID: 14-18591
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/21/14 01:44
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	90.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 13-A
SAMPLE

Lab Sample ID: YZ88D
LIMS ID: 14-18592
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/21/14 02:19
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	91.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 8-A
SAMPLE

Lab Sample ID: YZ88E
LIMS ID: 14-18593
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/21/14 02:54
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	89.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 8-B
SAMPLE

Lab Sample ID: YZ88F
LIMS ID: 14-18594
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/21/14 03:30
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**0.75**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	82.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 7B
SAMPLE

Lab Sample ID: YZ88G
LIMS ID: 14-18595
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/21/14 04:05
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	84.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 7A
SAMPLE

Lab Sample ID: YZ88H
LIMS ID: 14-18596
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/21/14 04:41
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	93.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 23-C
SAMPLE

Lab Sample ID: YZ88I
LIMS ID: 14-18597
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/21/14 05:16
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**2.9**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	96.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 23-B
SAMPLE

Lab Sample ID: YZ88J
LIMS ID: 14-18598
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/21/14 05:51
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	90.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 23-A
SAMPLE

Lab Sample ID: YZ88K
LIMS ID: 14-18599
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/21/14 07:02
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**2.5**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	88.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: GM-6
SAMPLE

Lab Sample ID: YZ88L
LIMS ID: 14-18600
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/21/14 07:37
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**0.57**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	90.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: GM-4
SAMPLE

Lab Sample ID: YZ88M
LIMS ID: 14-18601
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/22/14 11:53
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 10.0

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**2.5**	**38**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	83.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: GM-5
SAMPLE

Lab Sample ID: YZ88N
LIMS ID: 14-18602
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted: 09/17/14
Date Analyzed: 09/21/14 08:48
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**0.54**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	92.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: MB-091714
METHOD BLANK

Lab Sample ID: MB-091714
LIMS ID: 14-18589
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: NA
Date Received: NA

Date Extracted: 09/17/14
Date Analyzed: 09/20/14 22:47
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	90.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: LCS-091714
LCS/LCSD

Lab Sample ID: LCS-091714
LIMS ID: 14-18589
Matrix: Water
Data Release Authorized:
Reported: 09/22/14

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/11/14
Date Received: 09/12/14

Date Extracted LCS/LCSD: 09/17/14

Date Analyzed LCS: 09/20/14 23:22
LCSD: 09/20/14 23:58
Instrument/Analyst LCS: ECD8/YZ
LCSD: ECD8/YZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 50 mL
LCSD: 50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Pentachlorophenol	1.27	2.50	50.8%	1.24	2.50	49.6%	2.4%

Chlorophenols Surrogate Recovery

	LCS	LCSD
2,4,6-Tribromophenol	83.2%	86.6%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

SW8041 CHLOROPHENOLICS SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: YZ88-Hydrometrics Inc.
Project: Idaho Pole

Client ID	TBP	TOT OUT
MB-091714	90.4%	0
LCS-091714	83.2%	0
LCSD-091714	86.6%	0
24-B	84.4%	0
24-A2	89.6%	0
24-A1	90.0%	0
13-A	91.2%	0
8-A	89.2%	0
8-B	82.4%	0
7B	84.8%	0
7A	93.6%	0
23-C	96.4%	0
23-B	90.4%	0
23-A	88.0%	0
GM-6	90.0%	0
GM-4	83.2%	0
GM-5	92.4%	0

	QC LIMITS
(TBP) = 2,4,6-Tribromophenol	(26-120)

Prep Method: SW3510C
Log Number Range: 14-18589 to 14-18602

FORM-II SW8041

Analytical Resources, Incorporated
Analytical Chemists and Consultants

1 October 2014

Heidi Kaiser
Hydrometrics, Inc.
5602 Hesper Road
Billings, MT 59106

RE: Client Project: Idaho Pole
ARI Job Nos.: ZA77, ZA78

Dear Heidi:

Please find enclosed the original Chain-of-Custody (COC) records and the final results for the samples from the project referenced above. Analytical Resources Inc. (ARI) received seventeen water samples on September 18, 2014. The samples were analyzed for PAHs and PCP as requested.

There were no anomalies associated with these analyses.

An electronic copy of these reports and all associated raw data will be kept on file at ARI. Should you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

Enclosures

cc: Files ZA77, ZA78

MDH/mdh

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 2477	Turn-around Requested: Normal	Page: 1 of 2	
ARI Client Company: Hydrometrics	Phone:	Date: 9/16/14	Ice Present? yes
Client Contact: Heidi Kaiser		No. of Coolers: 2	Cooler Temps:
Client Project Name: Idaho Pole			
Client Project #:	Samplers: Rebecca Fabich		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No Containers	Analysis Requested: PCP 8270								Notes/Comments
11-A	9/16/14	854	H_2O	2	X								
11-D		854		2	X								
12-A		912		2	X								
9-B		935		2	X								
28-B		1013		2	X								
28-F		1013		2	X								
IP-0409-339		1020		2	X								
IP-0409-334		1115		2	X								
IP-0409-336		1120		2	X								
IP-0409-335		1124		2	X								

Comments/Special Instructions	Relinquished by	Received by	Relinquished by	Received by
	(Signature) Rebecca Fabich	(Signature)	(Signature)	(Signature)
	Printed Name Rebecca Fabich	Printed Name A. Volgardsen	Printed Name.	Printed Name:
	Company Idaho Pole	Company ARI	Company	Company.
	Date & Time 9/16/14 1630	Date & Time: 9/18/14 1030	Date & Time	Date & Time

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: ZA77	Turn-around Requested: Normal	Page: 2 of 2	
ARI Client Company: Hydrometrics	Phone:	Date: 9/16/14	Ice Present? yes
Client Contact: Heidi Kaiser		No. of Coolers: 2	Cooler Temps:
Client Project Name: Idaho Pole			
Client Project #:	Samplers: Rebecca Fabich		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No Containers	PCP 8270	PAH 8270							Notes/Comments
IP-0409-333	9/16/14	1130	H_2O	2	X								
IP-0409-332		1134	H_2O	2	X								
IP-0409-331		1140	H_2O	2	X								
IP-0409-337		1145		2	X								
BFEG		1430		4	X	X							

Comments/Special Instructions	Relinquished by (Signature)	Received by (Signature)	Relinquished by (Signature)	Received by: (Signature)
	Printed Name: Rebecca Fabich	Printed Name: A. Volgandsen	Printed Name:	Printed Name:
	Company: Idaho Pole	Company: ARI	Company:	Company:
	Date & Time: 9/16/14 1630	Date & Time: 9/18/14 1030	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

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Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Hydrometrics

Project Name: Idaho Pole

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No. ZA77

Tracking No: 7801 4228 5743 NA
8062 8779 1619

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2 0-6.0 °C for chemistry)
Time: 1030 11.3 2.3 ___ ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90877952

Cooler Accepted by: AN Date: 9/18/14 Time: 1030

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs). NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI ____ NA

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

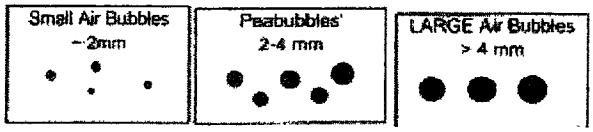
Samples Logged by: TB Date: 9.18.14 Time: 1321

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

Cooler#: 1	Temperature(°C): 11.3	
Sample ID	**Bottle Count**	**Bottle Type**
BFE 6	2	
28-F	2	500 mL Amber
IP-334	2	
IP-333	2	
IP-332	2	
IP-331	2	
IP-335	2	

Cooler#:	Temperature(°C):	
Sample ID	**Bottle Count**	**Bottle Type**

Cooler#:	Temperature(°C):	
Sample ID	**Bottle Count**	**Bottle Type**

Cooler#:	Temperature(°C):	
Sample ID	**Bottle Count**	**Bottle Type**

Completed by: TB Date: 9-18-14 Time: 1325

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: ZA77
Client: Hydrometrics Inc.
Project Event: N/A
Project Name: Idaho Pole

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	11-A	ZA77A	14-19251	Water	09/16/14 08:54	09/18/14 10:30
2.	11-D	ZA77B	14-19252	Water	09/16/14 08:54	09/18/14 10:30
3.	12-A	ZA77C	14-19253	Water	09/16/14 09:12	09/18/14 10:30
4.	9-B	ZA77D	14-19254	Water	09/16/14 09:35	09/18/14 10:30
5.	28-B	ZA77E	14-19255	Water	09/16/14 10:13	09/18/14 10:30
6.	28-F	ZA77F	14-19256	Water	09/16/14 10:13	09/18/14 10:30
7.	IP-0409-339	ZA77G	14-19257	Water	09/16/14 10:20	09/18/14 10:30
8.	IP-0409-334	ZA77H	14-19258	Water	09/16/14 11:15	09/18/14 10:30
9.	IP-0409-336	ZA77I	14-19259	Water	09/16/14 11:20	09/18/14 10:30
10.	IP-0409-335	ZA77J	14-19260	Water	09/16/14 11:24	09/18/14 10:30
11.	IP-0409-333	ZA77K	14-19261	Water	09/16/14 11:30	09/18/14 10:30
12.	IP-0409-332	ZA77L	14-19262	Water	09/16/14 11:34	09/18/14 10:30
13.	IP-0409-331	ZA77M	14-19263	Water	09/16/14 11:40	09/18/14 10:30
14.	IP-0409-337	ZA77N	14-19264	Water	09/16/14 11:45	09/18/14 10:30
15.	BFEG	ZA77O	14-19265	Water	09/16/14 14:30	09/18/14 10:30

Data Reporting Qualifiers

Effective 12/31/13

Inorganic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Duplicate RPD is not within established control limits

B — Reported value is less than the CRDL but ≥ the Reporting Limit

N — Matrix Spike recovery not within established control limits

NA — Not Applicable, analyte not spiked

H — The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L — Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Flagged value is not within established control limits

B — Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J — Estimated concentration when the value is less than ARI's established reporting limits

D — The spiked compound was not detected due to sample extract dilution

E — Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**

Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A — The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F — Samples were frozen prior to particle size determination

SM — Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS — Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W — Weight of sample in some pipette aliquots was below the level required for accurate weighting

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: BFEG
SAMPLE

Lab Sample ID: ZA77O
LIMS ID: 14-19265
Matrix: Water
Data Release Authorized:
Reported: 09/26/14

QC Report No: ZA77-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: 09/16/14
Date Received: 09/18/14

Date Extracted: 09/22/14
Date Analyzed: 09/26/14 13:25
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	**Acenaphthene**	**0.10**	**0.41**
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	**Fluoranthene**	**0.10**	**0.25**
129-00-0	**Pyrene**	**0.10**	**0.25**
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	**Benzo(b)fluoranthene**	**0.10**	**0.14**
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	**Benzo(a)pyrene**	**0.10**	**0.13**
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	**Benzo(g,h,i)perylene**	**0.10**	**0.12**
TOTBFA	**Total Benzofluoranthenes**	**0.10**	**0.27**

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	54.3%
d14-Dibenzo(a,h)anthracene	69.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: MB-092214
METHOD BLANK

Lab Sample ID: MB-092214
LIMS ID: 14-19265
Matrix: Water
Data Release Authorized:
Reported: 09/26/14

QC Report No: ZA77-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 09/22/14
Date Analyzed: 09/26/14 12:29
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.10 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	60.7%
d14-Dibenzo(a,h)anthracene	85.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: LCS-092214
LAB CONTROL SAMPLE

Lab Sample ID: LCS-092214
LIMS ID: 14-19265
Matrix: Water
Data Release Authorized:
Reported: 09/26/14

QC Report No: ZA77-Hydrometrics Inc.
Project: Idaho Pole
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 09/22/14
Date Analyzed LCS: 09/26/14 12:57
Instrument/Analyst LCS: NT8/JZ

Sample Amount LCS: 500 mL
Final Extract Volume LCS: 0.50 mL
Dilution Factor LCS: 1.00

Analyte	LCS	Spike Added	Recovery
Naphthalene	2.04	3.00	68.0%
Acenaphthylene	1.76	3.00	58.7%
Acenaphthene	1.88	3.00	62.7%
Fluorene	2.17	3.00	72.3%
Phenanthrene	2.25	3.00	75.0%
Anthracene	2.06	3.00	68.7%
Fluoranthene	2.46	3.00	82.0%
Pyrene	2.44	3.00	81.3%
Benzo(a)anthracene	2.34	3.00	78.0%
Chrysene	2.41	3.00	80.3%
Benzo(b)fluoranthene	3.06	3.00	102%
Benzo(k)fluoranthene	3.05	3.00	102%
Benzo(a)pyrene	2.24	3.00	74.7%
Indeno(1,2,3-cd)pyrene	2.80	3.00	93.3%
Dibenz(a,h)anthracene	2.89	3.00	96.3%
Benzo(g,h,i)perylene	3.31	3.00	110%
Total Benzofluoranthenes	9.04	9.00	100%

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	67.0%
d14-Dibenzo(a,h)anthracene	91.7%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: ZA77-Hydrometrics Inc.
Project: Idaho Pole

Client ID	MNP	DBA	TOT OUT
MB-092214	60.7%	85.3%	0
LCS-092214	67.0%	91.7%	0
BFEG	54.3%	69.3%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(31-120)	(31-120)
(DBA) = d14-Dibenzo(a,h)anthracene	(10-125)	(10-125)

Prep Method: SW3520C
Log Number Range: 14-19265 to 14-19265

FORM-II SIM SW8270

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 11-A
SAMPLE

Lab Sample ID: ZA77A
LIMS ID: 14-19251
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: ZA77-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/16/14
Date Received: 09/18/14

Date Extracted: 09/22/14
Date Analyzed: 09/29/14 18:01
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**0.87**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	94.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 11-D
SAMPLE

Lab Sample ID: ZA77B
LIMS ID: 14-19252
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: ZA77-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/16/14
Date Received: 09/18/14

Date Extracted: 09/22/14
Date Analyzed: 09/29/14 18:36
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**0.29**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	87.6%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 12-A
SAMPLE

Lab Sample ID: ZA77C
LIMS ID: 14-19253
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: ZA77-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/16/14
Date Received: 09/18/14

Date Extracted: 09/22/14
Date Analyzed: 09/29/14 19:12
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	90.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 9-B
SAMPLE

Lab Sample ID: ZA77D
LIMS ID: 14-19254
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: ZA77-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/16/14
Date Received: 09/18/14

Date Extracted: 09/22/14
Date Analyzed: 09/30/14 09:59
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 2.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.50**	**12**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	92.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 28-B
SAMPLE

Lab Sample ID: ZA77E
LIMS ID: 14-19255
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: ZA77-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/16/14
Date Received: 09/18/14

Date Extracted: 09/22/14
Date Analyzed: 09/29/14 20:22
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	87.6%

FORM I

ZA77:000018

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: 28-F
SAMPLE

Lab Sample ID: ZA77F
LIMS ID: 14-19256
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: ZA77-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/16/14
Date Received: 09/18/14

Date Extracted: 09/22/14
Date Analyzed: 09/29/14 20:58
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	82.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: MB-092214
METHOD BLANK

Lab Sample ID: MB-092214
LIMS ID: 14-19251
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: ZA77-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: NA
Date Received: NA

Date Extracted: 09/22/14
Date Analyzed: 09/29/14 16:14
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	68.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: LCS-092214
LCS/LCSD

Lab Sample ID: LCS-092214
LIMS ID: 14-19251
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: ZA77-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/16/14
Date Received: 09/18/14

Date Extracted LCS/LCSD: 09/22/14

Date Analyzed LCS: 09/29/14 16:50
LCSD: 09/29/14 17:25
Instrument/Analyst LCS: ECD8/YZ
LCSD: ECD8/YZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 50 mL
LCSD: 50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Pentachlorophenol	1.47	2.50	58.8%	1.74	2.50	69.6%	16.8%

Chlorophenols Surrogate Recovery

	LCS	LCSD
2,4,6-Tribromophenol	88.0%	99.4%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: BFEG SAMPLE

Lab Sample ID: ZA77O
LIMS ID: 14-19265
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: ZA77-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/16/14
Date Received: 09/18/14

Date Extracted: 09/22/14
Date Analyzed: 09/29/14 21:33
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**0.25**	**7.0**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	85.6%

FORM I

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: ZA78	Turn-around Requested: Normal
ARI Client Company: Hydrometrics	Phone:
Client Contact: Heidi Kaul	
Client Project Name: Idaho Pole	
Client Project #:	Samplers: Rebecca Fabich

Page: 1 of 1	
Date: 9/16/14	Ice Present? yes
No. of Coolers: 1	Cooler Temps:

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No Containers	ZA78								Notes/Comments
NWE-04	9/16/14	1040	H_2O	2	X								
NWE-05	↓	955	H_2O	2	X								

Comments/Special Instructions	Relinquished by (Signature)	Received by (Signature)	Relinquished by (Signature)	Received by: (Signature)
	Rebecca Fabich	[signature]		
	Printed Name: Rebecca Fabich	Printed Name. A. Volgardsen	Printed Name:	Printed Name.
	Company: Idaho Pole	Company: ARI	Company:	Company:
	Date & Time: 9/16/14 1630	Date & Time. 9/18/14 1030	Date & Time:	Date & Time

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Hydrometrics

Project Name: Idaho Pole

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No. 2278

Tracking No: 780142285743 NA
806287791619

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
Time: 1030 — 11.3 2.3 ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F — Temp Gun ID#: 90877952

Cooler Accepted by: AV Date: 9/18/14 Time: 1030

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	YES	NO
Were all bottles sealed in individual plastic bags?		YES	NO
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA	_____	

Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: TJ Date: 9-18-14 Time: 1527

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small Air Bubbles <2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm

Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: ZA78
Client: Hydrometrics Inc.
Project Event: N/A
Project Name: Idaho Pole

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	NWE-04	ZA78A	14-19266	Water	09/16/14 10:40	09/18/14 10:30
2.	NWE-05	ZA78B	14-19267	Water	09/16/14 09:55	09/18/14 10:30

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: NWE-04
SAMPLE

Lab Sample ID: ZA78A
LIMS ID: 14-19266
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: ZA78-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/16/14
Date Received: 09/18/14

Date Extracted: 09/22/14
Date Analyzed: 09/29/14 22:08
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	85.6%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: NWE-05
SAMPLE

Lab Sample ID: ZA78B
LIMS ID: 14-19267
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: ZA78-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/16/14
Date Received: 09/18/14

Date Extracted: 09/22/14
Date Analyzed: 09/29/14 22:44
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	81.6%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C

Sample ID: MB-092214
METHOD BLANK

Lab Sample ID: MB-092214
LIMS ID: 14-19266
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: ZA78-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: NA
Date Received: NA

Date Extracted: 09/22/14
Date Analyzed: 09/29/14 16:14
Instrument/Analyst: ECD8/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	68.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: LCS-092214
LCS/LCSD

Lab Sample ID: LCS-092214
LIMS ID: 14-19266
Matrix: Water
Data Release Authorized:
Reported: 09/30/14

QC Report No: ZA78-Hydrometrics Inc.
Project: Idaho Pole

Date Sampled: 09/16/14
Date Received: 09/18/14

Date Extracted LCS/LCSD: 09/22/14

Date Analyzed LCS: 09/29/14 16:50
LCSD: 09/29/14 17:25
Instrument/Analyst LCS: ECD8/YZ
LCSD: ECD8/YZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 50 mL
LCSD: 50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Pentachlorophenol	1.47	2.50	58.8%	1.74	2.50	69.6%	16.8%

Chlorophenols Surrogate Recovery

	LCS	LCSD
2,4,6-Tribromophenol	88.0%	99.4%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

SW8041 CHLOROPHENOLICS SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: ZA78-Hydrometrics Inc.
Project: Idaho Pole

Client ID	TBP	TOT OUT
MB-092214	68.0%	0
LCS-092214	88.0%	0
LCSD-092214	99.4%	0
NWE-04	85.6%	0
NWE-05	81.6%	0

	QC LIMITS
(TBP) = 2,4,6-Tribromophenol	(26-120)

Prep Method: SW3510C
Log Number Range: 14-19266 to 14-19267

FORM-II SW8041

ANALYTICAL DATA VERIFICATION CHECKLIST

Project Name: Idaho Pole Company	Laboratory: Analytical Resources, Inc., (ARI), Tukwila, WA
Project Reference: Fall Sampling Event	Sample Matrix: Groundwater with Water QC
Project No.: 5029	Sample Start Date: 09/09/2014
Verified By/Date Verified: Angela Roddy 11/2014	Sample End Date: 09/16/2014

Samples Analyzed:

MATRIX	SAMPLE ID	REMARKS	SAMPLE DATE	LAB PROJECT	LAB ID	MATRIX	SAMPLE ID	REMARKS	SAMPLE DATE	LAB PROJECT	LAB ID
GW	22		9/9/2014	YZ58	YZ58A	GW	24-B		9/11/2014	YZ88	YZ88A
GW	15-A		9/9/2014	YZ58	YZ58B	GW	24-A2		9/11/2014	YZ88	YZ88B
GW	5-A		9/9/2014	YZ58	YZ58C	GW	24-A1		9/11/2014	YZ88	YZ88C
GW	3B		9/9/2014	YZ58	YZ58D	GW	13-A		9/11/2014	YZ88	YZ88D
GW	19-B		9/9/2014	YZ58	YZ58E	GW	8-A		9/11/2014	YZ88	YZ88E
GW	19-A		9/9/2014	YZ58	YZ58F	GW	8-B		9/11/2014	YZ88	YZ88F
GW	4-A		9/9/2014	YZ58	YZ58G	GW	7B		9/11/2014	YZ88	YZ88G
GW	4-D	DUPLICATE	9/9/2014	YZ58	YZ58H	GW	7A		9/11/2014	YZ88	YZ88H
GW	4-B		9/9/2014	YZ58	YZ58I	GW	23-C		9/11/2014	YZ88	YZ88I
GW	P-4		9/9/2014	YZ58	YZ58J	GW	23-B		9/11/2014	YZ88	YZ88J
GW	P-2		9/9/2014	YZ58	YZ58K	GW	23-A		9/11/2014	YZ88	YZ88K
GW	5-C		9/9/2014	YZ58	YZ58L	GW	GM-6		9/11/2014	YZ88	YZ88L
GW	5-B		9/9/2014	YZ58	YZ58M	GW	GM-4		9/11/2014	YZ88	YZ88M
GW	P-1		9/9/2014	YZ58	YZ58N	GW	GM-5		9/11/2014	YZ88	YZ88N
GW	GM-7		9/9/2014	YZ58	YZ58O	GW	11-A		9/16/2014	ZA77	ZA77A
GW	6-A		9/9/2014	YZ58	YZ58P	GW	11-D	DUPLICATE	9/16/2014	ZA77	ZA77B
GW	GM-8		9/10/2014	YZ58	YZ58Q	GW	12-A		9/16/2014	ZA77	ZA77C
GW	Res 8		9/10/2014	YZ58	YZ58R	GW	9-B	RESAMPLE	9/16/2014	ZA77	ZA77D
GW	27B		9/10/2014	YZ58	YZ58S	GW	28-B		9/16/2014	ZA77	ZA77E
GW	27A		9/10/2014	YZ58	YZ58T	GW	28-F	DI BLANK	9/16/2014	ZA77	ZA77F
GW	16-B		9/10/2014	YZ59	YZ59A	GW	BFEG		9/16/2014	ZA77	ZA77O
GW	16-A		9/10/2014	YZ59	YZ59B	GW	NWE-04		9/16/2014	ZA78	ZA78A
GW	29-D		9/10/2014	YZ59	YZ59C	GW	NWE-05		9/16/2014	ZA78	ZA78B
GW	25-B		9/10/2014	YZ59	YZ59D						
GW	25-A		9/10/2014	YZ59	YZ59E						
GW	26-C		9/10/2014	YZ59	YZ59F						
GW	26-B		9/10/2014	YZ59	YZ59G						
GW	26-A		9/10/2014	YZ59	YZ59H						
GW	10-B		9/10/2014	YZ59	YZ59I						
GW	10-A		9/10/2014	YZ59	YZ59J						
GW	9-B	SEE BELOW	9/10/2014	-	-						
GW	9-C		9/10/2014	YZ59	YZ59K						
GW	9-A		9/10/2014	YZ59	YZ59L						
GW	9-D	DUPLICATE	9/10/2014	YZ59	YZ59M						

Parameters Verified: PCP Pentachlorophenol by SW-846 GC/ECD Method SW8041;

Semi-Volatile Organic Compounds-SW8270C

Laboratory Project IDs: YZ58, YZ59, YZ88, ZA77, ZA78

ANALYTICAL DATA VERIFICATION CHECKLIST (Continued)

PRECISION, ACCURACY, METHOD COMPLIANCE, AND COMPLETENESS ASSESSMENT						
Precision:	X	Acceptable		Unacceptable	AR	Initials
Comments: Precision is the measure of variability of individual sample measurements. Field precision was determined by comparison of field duplicate sample results. Laboratory precision was determined by examination of laboratory duplicate results. Evaluation of field and laboratory duplicates for precision was done using the Relative Percent Difference (RPD). The RPD is defined as the difference between two duplicate samples divided by the mean and expressed as a percent. RPD limits referenced EPA published QC limits or laboratory control charted QC limits. No data require qualification based on these measurements, and overall field and laboratory precision is acceptable. Precision measurements are reviewed in items 17 and 21.						
Accuracy:	X	Acceptable		Unacceptable	AR	Initials
Comments: Field accuracy, a measure of the sampling bias, was determined by reviewing field blank results for evidence of sample contamination stemming from field activities. Laboratory accuracy, a measure of the system bias, was measured by evaluating standard reference or laboratory control sample and laboratory control sample duplicate (LCS, LCSD), matrix spike (MS), and organic system monitoring compounds (surrogate) percent recoveries (%Rs). Standard reference, LCS, and LCSD %Rs demonstrated the overall performance of the analysis. MS %Rs provided information on sample matrix interferences. System monitoring compound or surrogate recoveries measured system performance and efficiency during organic analysis. These measurements were compared to data validation and laboratory control charted QC limits. Field and laboratory accuracy is acceptable since a majority of the data is unqualified. Accuracy measurements are reviewed in items 12, 14, 15, 16, and 20.						
Method Compliance:	X	Acceptable		Unacceptable	AR	Initials
Comments: Method compliance was determined by evaluating sample integrity, holding time, reporting limits, and laboratory blanks against method specified requirements. No data required qualification based on holding time limits and overall method compliance is acceptable based on the supplied data. Method compliance measurements are reviewed in items 4, 6, 8, 11, 13, 18, 19, 20, and 22.						
Completeness:	X	Acceptable		Unacceptable	AR	Initials
Comments: Completeness is the overall ratio of the number of samples planned versus the number of samples with valid analyses. Completeness goals are set at 90-100%. Determination of completeness included a review of chain of custody records, laboratory analytical methods and detection limits, and laboratory case narratives. Completeness also included 100% review of the laboratory sample data results and QC summary reports. All of the data received by the laboratory are usable with qualification, and no data were missing or rejected. Completeness of the data is calculated to be 100% and is acceptable.						

ANALYTICAL DATA VERIFICATION CHECKLIST (Continued)

VERIFICATION CRITERIA CHECK						
Laboratory qualifiers used in this review: D – The spiked compound was not detected due to sample extract dilution. E - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte. P – The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference. S – Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte. U – Indicates that the target analyte was not detected at the reported concentration. Validation qualifier used in this review: **N/A** The following comments identifying sample results requiring qualification are in bold type. The other comments are of interest, but qualification of the sample results is not necessary. **Refer to the table of Qualified Analytical Results for a listing of the samples, analytes, and concentrations qualified (attached at the end of this checklist).**						
1. Did the laboratory identify any non-conformances related to the analytical results?	**X**	Yes		No	AR	Initials
Comments: Yes. Any problems with these analyses were noted in the laboratory case narratives. All results for these analyses are considered valid.						
2. Were sample Chain-of-Custody forms complete?	**X**	Yes		No	AR	Initials
Comments: COC records from field to laboratory were complete, and custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt.						
3. Were all the analyses requested for the samples on the COCs completed by the laboratory?	**X**	Yes		No	AR	Initials
Comments: All requested analyses were completed.						
4. Were samples received in good condition and at the appropriate temperature?		Yes	**X**	No	AR	Initials
Comments: All cooler temperatures were received inside the 4°C ± 2°C acceptance ranges; except one cooler from batch ZA87, which was received at 11.3°C. Sample 9-B arrived with two broken bottles. It was re-sampled and submitted with batch ZA77.						
5. Were the requested analytical methods in compliance with WP/QAPP, permit, or COC?	**X**	Yes		No	AR	Initials
Comments: Reported methods were in compliance with those requested on the COC records or the reported methods are comparable and appropriate for the analysis requested and the sample matrix.						
6. Were detection limits in accordance with WP/QAPP, permit, or method?	**X**	Yes		No	AR	Initials
Comments: Reported detection limits are achievable by the quoted methods. Some samples required dilution due high sample concentration. The reporting limits for diluted results were raised appropriately.						
7. Do the laboratory reports include only those constituents requested to be reported for a specific analytical method?	**X**	Yes		No	AR	Initials
Comments: The laboratory reports include only those constituents requested.						
8. Were sample holding times met?	**X**	Yes		No	AR	Initials

ANALYTICAL DATA VERIFICATION CHECKLIST (Continued)

Comments: Extraction and/or analytical holding times were met for all samples and analyses.						
9. Were correct concentration units reported?	**X**	Yes		No	AR	Initials
Comments: Correct concentration units were reported. For Method SW8041 results were reported as µg/L (ppb).						
10. Were the reporting requirements for flagged data met?	**X**	Yes		No	AR	Initials
Comments: Data validation qualifiers override any assigned laboratory flags.						
11. Were laboratory blank samples free of target analyte contamination?	**X**	Yes		No	AR	Initials
Comments: Reported laboratory blanks were free of target analyte contamination.						
12. Were trip blank, field blank, and/or equipment rinse blank samples free of target analyte contamination?	**X**	Yes		No	AR	Initials
Comments: All blanks submitted were free of target analyte contamination.						
13. Were instrument calibrations within method or data validation control limits?	**NA**	Yes		No	AR	Initials
Comments: Not applicable for this level of data verification – Instrument calibration data were not supplied in analytical laboratory reports and were therefore not included in this data review.						
14. Were surrogate recoveries within control limits?	**X**	Yes		No	AR	Initials
Comments: Surrogate recoveries were within control limits.						
15. Were laboratory control sample recoveries within control limits?	**X**	Yes		No	AR	Initials
Comments: Reported LCS and LCSD %Rs for organic analytes were within data validation QC limits of 70-130% for organics and 80-120% for inorganics, and were within laboratory control charted QC limits for all target analytes. Inorganic standard reference %Rs were within data validation QC limits of 80-120%.						
16. Were matrix spike recoveries within control limits?	**X**	Yes		No	AR	Initials
Comments: Organic matrix spike sample results were not reported, but LCS and LCSD %Rs were used to demonstrate analytical accuracy (see item 15). Inorganic MS %Rs were within data validation QC limits of 75-125% for all reported target analytes.						
17. Were duplicate RPDs and/or serial dilution %Ds within control limits?	**X**	Yes		No	AR	Initials
Comments: Laboratory RPDs for target analytes in LCS/LCSD and laboratory duplicate samples were within the 0-20% data validation QC limits, or were not applicable due to undetected results in both samples. *Serial dilution data is not applicable for the reported methods or for this level of data verification.*						
18. Were organic system performance criteria met?	**NA**	Yes		No	AR	Initials
Comments: Not applicable for this level of data verification – Organic system performance data was not supplied in analytical laboratory reports and was therefore not included in this data review.						
19. Were internal standards within method criteria for GC/MS sample analyses?	**NA**	Yes		No	AR	Initials
Comments: Not applicable for the reported methods or for this level of data verification.						
20. Were inorganic system performance criteria met?	**NA**	Yes		No	AR	Initials

ANALYTICAL DATA VERIFICATION CHECKLIST (Continued)

Comments: Not applicable for this level of data verification –Inorganic system performance data was not supplied in analytical laboratory reports and was therefore not included in this data review.						
21. Were blind field duplicates collected? If so, discuss the precision (RPD) of the results.	**X**	Yes		No	AR	Initials
Duplicate Sample No.	4-D (9/9/2014) 9-D (9/10/2014) 11-D (9/16/2014)	Primary Sample No.	4-A (9/9/2014) 9-A (9/10/2014) 11-A (9/16/2014)			
Comments: For the field duplicate set collected, the RPDs for all analytes were within control limits.						
22. Were qualitative criteria for organic target analyte identification met?	**NA**	Yes		No	AR	Initials
Comments: Not applicable for this level of data verification – GC quantitation reports and chromatograms were not supplied in analytical laboratory reports and were therefore not included in this data review.						
23. Were 100% of the EDD concentrations and reporting limits compared to the hardcopy data reports?	**X**	Yes		No	AR	Initials
Comments: Not applicable – An EDD was not supplied and is therefore not included in this data review.						
24. General Comments: Data were evaluated based on validation criteria set forth in the USEPA Contract Laboratory Program National Functional Guidelines for Organic/Inorganic Data Review, document numbers EPA540/R-99/008 and EPA540/R-01/008 of October 1999 (Organic) and July 2002 (Inorganic), as they applied to the reported methodology. Field duplicate RPD control limits were taken from the USEPA Region I Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses, February 1988, upheld in DRAFT 1993.						