

June 13, 2016

Brenna McDonald  
Missouri Geological Survey  
111 Fairgrounds Road  
Rolla, MO 65401  
TEL: (573) 368-2163  
FAX:



**RE:** Appendix I

**WorkOrder:** 16060281

Dear Brenna McDonald:

TEKLAB, INC received 1 sample on 6/3/2016 5:10:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Emily E. Pohlman  
Project Manager  
(618)344-1004 ex 44  
[epohlman@teklabinc.com](mailto:epohlman@teklabinc.com)

**Client:** Missouri Geological Survey

**Work Order:** 16060281

**Client Project:** Appendix I

**Report Date:** 13-Jun-16

### Abbr Definition

- CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
- DNI Did not ignite
- DUP Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
- ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
- LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero.
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- ND Not Detected at the Reporting Limit
- NELAP NELAP Accredited
- PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
- RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
- RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
- SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
- Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
- TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
- TNTC Too numerous to count ( > 200 CFU )

### Qualifiers

- |  |   |
|--|---|
| # - Unknown hydrocarbon                                      | B - Analyte detected in associated Method Blank |
| E - Value above quantitation range                           | H - Holding times exceeded                      |
| I - Associated internal standard was outside method criteria | J - Analyte detected below quantitation limits  |
| M - Manual Integration used to determine area response       | ND - Not Detected at the Reporting Limit        |
| R - RPD outside accepted recovery limits                     | S - Spike Recovery outside recovery limits      |
| T - TIC(Tentatively identified compound)                     | X - Value exceeds Maximum Contaminant Level     |



## Case Narrative

<http://www.teklabinc.com/>

**Client:** Missouri Geological Survey

**Work Order:** 16060281

**Client Project:** Appendix I

**Report Date:** 13-Jun-16

**Cooler Receipt Temp:** 3.22 °C

### Locations and Accreditations

	<u>Collinsville</u>	<u>Springfield</u>	<u>Kansas City</u>	<u>Collinsville Air</u>
<b>Address</b>	5445 Horseshoe Lake Road Collinsville, IL 62234-7425	3920 Pintail Dr Springfield, IL 62711-9415	8421 Nieman Road Lenexa, KS 66214	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
<b>Phone</b>	(618) 344-1004	(217) 698-1004	(913) 541-1998	(618) 344-1004
<b>Fax</b>	(618) 344-1005	(217) 698-1005	(913) 541-1998	(618) 344-1005
<b>Email</b>	jhriley@teklabinc.com	KKlostermann@teklabinc.com	dthompson@teklabinc.com	EHurley@teklabinc.com

<u>State</u>	<u>Dept</u>	<u>Cert #</u>	<u>NELAP</u>	<u>Exp Date</u>	<u>Lab</u>
Illinois	IEPA	100226	NELAP	1/31/2017	Collinsville
Kansas	KDHE	E-10374	NELAP	7/31/2016	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2017	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2017	Collinsville
Texas	TCEQ	T104704515-12-1	NELAP	7/31/2016	Collinsville
Arkansas	ADEQ	88-0966		3/14/2017	Collinsville
Illinois	IDPH	17584		5/31/2017	Collinsville
Kentucky	KDEP	98006		12/31/2016	Collinsville
Kentucky	UST	0073		1/31/2017	Collinsville
Missouri	MDNR	00930		5/31/2017	Collinsville
Missouri	MDNR	930		1/31/2017	Collinsville
Oklahoma	ODEQ	9978		8/31/2016	Collinsville



# Laboratory Results

<http://www.teklabinc.com/>

Client: Missouri Geological Survey

Work Order: 16060281

Client Project: Appendix I

Report Date: 13-Jun-16

Lab ID: 16060281-001

Client Sample ID: MO-3 SD

Matrix: GROUNDWATER

Collection Date: 06/02/2016 13:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
<b>EPA 600 350.1 R2.0 (DISTILLED) TOTAL</b>								
Nitrogen, Ammonia (as N)	NELAP	0.50	S	5.94	mg/L	5	06/07/2016 16:34	119586
<i>MS and/or MSD did not recover within control limits. Result is verified by reprep and reanalysis.</i>								
<b>EPA 600 353.2 R2.0 (TOTAL)</b>								
Nitrogen, Nitrate-Nitrite (as N)	NELAP	0.050	S	0.059	mg/L	1	06/07/2016 12:00	R219614
<i>MS and/or MSD did not recover within control limits. Result is verified by reanalysis at dilution.</i>								
<b>EPA 600 365.4 (TOTAL)</b>								
Phosphorus, Total (as P)	NELAP	0.050		0.106	mg/L	1	06/08/2016 9:01	119605
<b>EPA 600 410.4</b>								
Chemical Oxygen Demand	NELAP	50		96	mg/L	1	06/08/2016 14:24	R219669
<b>STANDARD METHODS 2540 C (TOTAL)</b>								
Total Dissolved Solids	NELAP	20		826	mg/L	1	06/08/2016 19:44	R219722
<b>SW-846 9036 (TOTAL)</b>								
Sulfate	NELAP	100	S	129	mg/L	10	06/06/2016 18:29	R219570
<i>MS and/or MSD did not recover within control limits. Results are verified by a further dilution.</i>								
<b>SW-846 9060</b>								
Total Organic Carbon (TOC)	NELAP	10.0		26.3	mg/L	10	06/06/2016 16:39	R219566
<b>SW-846 9214 (TOTAL)</b>								
Fluoride	NELAP	0.10		1.29	mg/L	1	06/07/2016 15:04	R219623
<b>SW-846 9251 (TOTAL)</b>								
Chloride	NELAP	50		124	mg/L	10	06/06/2016 18:28	R219572
<b>STANDARD METHODS 2340 B, HARDNESS (TOTAL)</b>								
Hardness, as ( CaCO <sub>3</sub> )	NELAP	1.00		421	mg/L	1	06/08/2016 0:00	R219643
<b>SW-846 3005A, 6010B, METALS BY ICP (TOTAL)</b>								
Antimony	NELAP	0.0500		< 0.0500	mg/L	1	06/08/2016 17:35	119566
Arsenic	NELAP	0.0250		< 0.0250	mg/L	1	06/08/2016 17:35	119566
Barium	NELAP	0.0025		0.286	mg/L	1	06/08/2016 17:35	119566
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	06/08/2016 17:35	119566
Boron	NELAP	0.0200		0.219	mg/L	1	06/08/2016 17:35	119566
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	06/08/2016 17:35	119566
Calcium	NELAP	0.0500	S	94.3	mg/L	1	06/08/2016 17:35	119566
Chromium	NELAP	0.0050	J	0.0040	mg/L	1	06/08/2016 17:35	119566
Cobalt	NELAP	0.0050	J	0.0031	mg/L	1	06/08/2016 17:35	119566
Copper	NELAP	0.0050		0.0059	mg/L	1	06/08/2016 17:35	119566
Iron	NELAP	0.0200		1.33	mg/L	1	06/08/2016 17:35	119566
Lead	NELAP	0.0150		< 0.0150	mg/L	1	06/08/2016 17:35	119566
Magnesium	NELAP	0.0500	S	44.9	mg/L	1	06/08/2016 17:35	119566
Manganese	NELAP	0.0030		1.29	mg/L	1	06/08/2016 17:35	119566
Nickel	NELAP	0.0050		0.0170	mg/L	1	06/08/2016 17:35	119566
Selenium	NELAP	0.0400		< 0.0400	mg/L	1	06/09/2016 13:36	119651
Silver	NELAP	0.0050		< 0.0050	mg/L	1	06/08/2016 17:35	119566
Sodium	NELAP	0.0500	S	162	mg/L	1	06/08/2016 17:35	119566
Thallium	NELAP	0.0500		< 0.0500	mg/L	1	06/08/2016 17:35	119566
Vanadium	NELAP	0.0100	J	0.0033	mg/L	1	06/08/2016 17:35	119566
Zinc	NELAP	0.0100		0.0164	mg/L	1	06/08/2016 17:35	119566

*MS QC limits for Ca, Mg, and Na are not applicable due to high sample/spike ratio.*

Client: Missouri Geological Survey

Work Order: 16060281

Client Project: Appendix I

Report Date: 13-Jun-16

Lab ID: 16060281-001

Client Sample ID: MO-3 SD

Matrix: GROUNDWATER

Collection Date: 06/02/2016 13:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
<b>SW-846 7470A (TOTAL)</b>								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	06/08/2016 11:06	119568
<b>SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>								
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
1,1,1-Trichloroethane	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
1,1,2-Trichloroethane	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
1,1-Dichloroethane	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
1,2,3-Trichloropropane	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
1,2-Dibromoethane	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
1,2-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
1,2-Dichloroethane	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
1,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
1,4-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
2-Butanone	NELAP	25.0		ND	µg/L	1	06/06/2016 13:54	119550
2-Hexanone	NELAP	25.0		ND	µg/L	1	06/06/2016 13:54	119550
4-Methyl-2-pentanone	NELAP	25.0		ND	µg/L	1	06/06/2016 13:54	119550
Acetone	NELAP	25.0		ND	µg/L	1	06/06/2016 13:54	119550
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Benzene	NELAP	2.0		8.7	µg/L	1	06/06/2016 13:54	119550
Bromochloromethane	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Bromodichloromethane	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Bromoform	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Bromomethane	NELAP	10.0		ND	µg/L	1	06/06/2016 13:54	119550
Carbon disulfide	NELAP	5.0	J	1.0	µg/L	1	06/06/2016 13:54	119550
Carbon tetrachloride	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Chlorobenzene	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Chloroethane	NELAP	10.0		ND	µg/L	1	06/06/2016 13:54	119550
Chloroform	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Chloromethane	NELAP	10.0		ND	µg/L	1	06/06/2016 13:54	119550
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
cis-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Dibromochloromethane	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Dibromomethane	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Ethylbenzene	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Iodomethane	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Methylene chloride	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Styrene	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Tetrachloroethene	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Toluene	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
trans-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	06/06/2016 13:54	119550
Trichloroethene	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	06/06/2016 13:54	119550
Vinyl acetate	NELAP	10.0		ND	µg/L	1	06/06/2016 13:54	119550



## Laboratory Results

<http://www.teklabinc.com/>

**Client:** Missouri Geological Survey

**Work Order:** 16060281

**Client Project:** Appendix I

**Report Date:** 13-Jun-16

**Lab ID:** 16060281-001

**Client Sample ID:** MO-3 SD

**Matrix:** GROUNDWATER

**Collection Date:** 06/02/2016 13:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
<b>SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>								
Vinyl chloride	NELAP	2.0		<b>ND</b>	µg/L	1	06/06/2016 13:54	119550
Xylenes, Total	NELAP	5.0		<b>ND</b>	µg/L	1	06/06/2016 13:54	119550
Surr: 1,2-Dichloroethane-d4		74.7-129		<b>104.9</b>	%REC	1	06/06/2016 13:54	119550
Surr: 4-Bromofluorobenzene		86-119		<b>98.8</b>	%REC	1	06/06/2016 13:54	119550
Surr: Dibromofluoromethane		81.7-123		<b>99.5</b>	%REC	1	06/06/2016 13:54	119550
Surr: Toluene-d8		84.3-114		<b>102.5</b>	%REC	1	06/06/2016 13:54	119550

*Allowable Marginal Exceedance of m,p-xylenes in the LCS verified per 2009 TNI Standard (Volume 1, Module 4, section 1.7.4.2).*



## Sample Summary

<http://www.teklabinc.com/>

**Client:** Missouri Geological Survey  
**Client Project:** Appendix I

**Work Order:** 16060281  
**Report Date:** 13-Jun-16

---

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
16060281-001	MO-3 SD	Groundwater	5	06/02/2016 13:05

---



## Dates Report

<http://www.teklabinc.com/>

**Client:** Missouri Geological Survey

**Work Order:** 16060281

**Client Project:** Appendix I

**Report Date:** 13-Jun-16

Sample ID	Client Sample ID	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
	Test Name				
16060281-001A	MO-3 SD	06/02/2016 13:05	06/03/2016 17:10		
	Standard Methods 2540 C (Total)				06/08/2016 19:44
	SW-846 9036 (Total)				06/06/2016 18:29
	SW-846 9214 (Total)				06/07/2016 15:04
	SW-846 9251 (Total)				06/06/2016 18:28
16060281-001B	MO-3 SD	06/02/2016 13:05	06/03/2016 17:10		
	Standard Methods 2340 B, Hardness (Total)				06/08/2016 0:00
	SW-846 3005A, 6010B, Metals by ICP (Total)			06/06/2016 19:49	06/08/2016 17:35
	SW-846 3005A, 6010B, Metals by ICP (Total)			06/09/2016 8:57	06/09/2016 13:36
	SW-846 7470A (Total)			06/06/2016 19:43	06/08/2016 11:06
16060281-001C	MO-3 SD	06/02/2016 13:05	06/03/2016 17:10		
	EPA 600 410.4				06/08/2016 14:24
	SW-846 9060				06/06/2016 16:39
16060281-001D	MO-3 SD	06/02/2016 13:05	06/03/2016 17:10		
	EPA 600 350.1 R2.0 (Distilled) Total			06/07/2016 10:01	06/07/2016 16:34
	EPA 600 353.2 R2.0 (Total)				06/07/2016 12:00
	EPA 600 365.4 (Total)			06/07/2016 22:00	06/08/2016 9:01
16060281-001E	MO-3 SD	06/02/2016 13:05	06/03/2016 17:10		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/06/2016 13:54





## Quality Control Results

<http://www.teklabinc.com/>

**Client:** Missouri Geological Survey

**Work Order:** 16060281

**Client Project:** Appendix I

**Report Date:** 13-Jun-16

### EPA 600 350.1 R2.0 (DISTILLED) TOTAL

Batch 119586		SampType: MBLK		Units mg/L						Date Analyzed
SampID: MBLK 160607 NH3-1										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Nitrogen, Ammonia (as N)	0.10		<b>0.12</b>						06/07/2016	

Batch 119586		SampType: MBLK		Units mg/L						Date Analyzed
SampID: MBLK 160607 NH3-2										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Nitrogen, Ammonia (as N)	0.10	J	<b>0.10</b>						06/07/2016	

Batch 119586		SampType: LCS		Units mg/L						Date Analyzed
SampID: LCS 160607 NH3-1										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Nitrogen, Ammonia (as N)	0.10		<b>1.89</b>	2.000	0	94.4	90	110	06/07/2016	

Batch 119586		SampType: MS		Units mg/L						Date Analyzed
SampID: 16060281-001DMS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Nitrogen, Ammonia (as N)	0.50	S	<b>8.21</b>	2.000	5.944	113.3	90	110	06/07/2016	

Batch 119586		SampType: MSD		Units mg/L		RPD Limit 15				Date Analyzed
SampID: 16060281-001DMSD										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Nitrogen, Ammonia (as N)	0.50		<b>8.08</b>	2.000	5.944	106.8	8.210	1.61	06/07/2016	

### EPA 600 353.2 R2.0 (TOTAL)

Batch R219614		SampType: MBLK		Units mg/L						Date Analyzed
SampID: ICB/MBLK										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Nitrogen, Nitrate-Nitrite (as N)	0.050		<b>&lt; 0.050</b>						06/07/2016	

Batch R219614		SampType: LCS		Units mg/L						Date Analyzed
SampID: ICV/LCS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Nitrogen, Nitrate-Nitrite (as N)	2.50		<b>11.7</b>	11.50	0	101.3	90	110	06/07/2016	

Batch R219614		SampType: MS		Units mg/L						Date Analyzed
SampID: 16060281-001DMS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Nitrogen, Nitrate-Nitrite (as N)	0.050	S	<b>0.335</b>	0.2500	0.05900	110.4	90	110	06/07/2016	



## Quality Control Results

<http://www.teklabinc.com/>

**Client:** Missouri Geological Survey

**Work Order:** 16060281

**Client Project:** Appendix I

**Report Date:** 13-Jun-16

### EPA 600 353.2 R2.0 (TOTAL)

Batch R219614 SampType: MSD		Units mg/L		RPD Limit 10						Date Analyzed
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
SampID: 16060281-001DMSD										
Nitrogen, Nitrate-Nitrite (as N)	0.050		0.323	0.2500	0.05900	105.6	0.3350	3.65	06/07/2016	

Batch R219675 SampType: MBLK		Units mg/L		RPD Limit 10						Date Analyzed
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
SampID: ICB/MBLK										
Nitrogen, Nitrate-Nitrite (as N)	0.050		< 0.050						06/08/2016	

Batch R219675 SampType: LCS		Units mg/L		RPD Limit 10						Date Analyzed
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
SampID: ICV/LCS										
Nitrogen, Nitrate-Nitrite (as N)	2.50		11.6	11.50	0	101.1	90	110	06/08/2016	

### EPA 600 365.4 (TOTAL)

Batch 119605 SampType: MBLK		Units mg/L		RPD Limit 10						Date Analyzed
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
SampID: MBLK 160607 TP-1										
Phosphorus, Total (as P)	0.050	J	0.028						06/08/2016	

Batch 119605 SampType: LCS		Units mg/L		RPD Limit 10						Date Analyzed
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
SampID: LCS 160607 TP-1										
Phosphorus, Total (as P)	0.050		1.00	1.000	0	100.1	85	115	06/08/2016	

Batch 119605 SampType: MS		Units mg/L		RPD Limit 10						Date Analyzed
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
SampID: 16060281-001DMS										
Phosphorus, Total (as P)	0.050		1.08	1.000	0.1060	97.0	85	115	06/08/2016	

Batch 119605 SampType: MSD		Units mg/L		RPD Limit 15						Date Analyzed
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
SampID: 16060281-001DMSD										
Phosphorus, Total (as P)	0.050		1.10	1.000	0.1060	99.9	1.076	2.66	06/08/2016	

### EPA 600 410.4

Batch R219669 SampType: MBLK		Units mg/L		RPD Limit 15						Date Analyzed
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
SampID: MBLK										
Chemical Oxygen Demand	50		< 50						06/08/2016	



## Quality Control Results

<http://www.teklabinc.com/>

**Client:** Missouri Geological Survey

**Work Order:** 16060281

**Client Project:** Appendix I

**Report Date:** 13-Jun-16

### EPA 600 410.4

Batch R219669		SampType: LCS		Units mg/L						
SampID: LCS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chemical Oxygen Demand	50		179	172.0	0	104.3	90	110	06/08/2016	

Batch R219669		SampType: MS		Units mg/L						
SampID: 16060281-001C MS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chemical Oxygen Demand	100		1110	1000	96.25	101.6	90	110	06/08/2016	

Batch R219669		SampType: MSD		Units mg/L						
SampID: 16060281-001C MSD										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Chemical Oxygen Demand	100		1110	1000	96.25	101.1	1112	0.42	06/08/2016	

### STANDARD METHODS 2540 C (TOTAL)

Batch R219722		SampType: MBLK		Units mg/L						
SampID: MBLK										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Total Dissolved Solids	20		< 20						06/08/2016	
Total Dissolved Solids	20		< 20						06/08/2016	

Batch R219722		SampType: LCS		Units mg/L						
SampID: LCS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Total Dissolved Solids	20		954	1000	0	95.4	90	110	06/08/2016	

Batch R219722		SampType: LCSQC		Units mg/L						
SampID: LCSQC										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Total Dissolved Solids	20		944	1000	0	94.4	90	110	06/08/2016	

Batch R219722		SampType: MS		Units mg/L						
SampID: 16060281-001A MS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Total Dissolved Solids	20		1330	500.0	826.0	101.2	85	115	06/08/2016	

Batch R219722		SampType: MSD		Units mg/L						
SampID: 16060281-001A MSD										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Total Dissolved Solids	20		1350	500.0	826.0	105.2	1332	1.49	06/08/2016	

**Client:** Missouri Geological Survey

**Work Order:** 16060281

**Client Project:** Appendix I

**Report Date:** 13-Jun-16

**SW-846 9036 (TOTAL)**

Batch R219570		SampType: MBLK		Units mg/L						
SampID: ICB/MBLK										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate	10		< 10						06/06/2016	

Batch R219570		SampType: LCS		Units mg/L						
SampID: ICV/LCS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate	10		20	20.00	0	99.0	90	110	06/06/2016	

Batch R219570		SampType: MS		Units mg/L						
SampID: 16060281-001AMS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate	100	S	210	100.0	129.0	80.7	85	115	06/06/2016	

Batch R219570		SampType: MSD		Units mg/L						
SampID: 16060281-001AMSD										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Sulfate	100		224	100.0	129.0	95.3	209.7	6.70	06/06/2016	

Batch R219648		SampType: MBLK		Units mg/L						
SampID: ICB/MBLK										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate	10		< 10						06/07/2016	

Batch R219648		SampType: LCS		Units mg/L						
SampID: ICV/LCS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate	10		19	20.00	0	96.8	90	110	06/07/2016	

**SW-846 9060**

Batch R219566		SampType: MBLK		Units mg/L						
SampID: ICB/MBLK										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Total Organic Carbon (TOC)	1.0		< 1.0						06/06/2016	

Batch R219566		SampType: LCS		Units mg/L						
SampID: ICV/LCS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Total Organic Carbon (TOC)	10.0		69.5	68.10	0	102.1	90	110	06/06/2016	



## Quality Control Results

<http://www.teklabinc.com/>

**Client:** Missouri Geological Survey

**Work Order:** 16060281

**Client Project:** Appendix I

**Report Date:** 13-Jun-16

### SW-846 9060

Batch R219566		SampType: MS		Units mg/L						
SampID: 16060281-001CMS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Total Organic Carbon (TOC)	10.0		75.9	50.00	26.27	99.3	85	115	06/06/2016	

Batch R219566		SampType: MSD		Units mg/L						
SampID: 16060281-001CMSD										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Total Organic Carbon (TOC)	10.0		78.7	50.00	26.27	104.9	75.93	3.58	06/06/2016	

### SW-846 9214 (TOTAL)

Batch R219623		SampType: MBLK		Units mg/L						
SampID: MBLK										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride	0.10		< 0.10						06/07/2016	

Batch R219623		SampType: LCS		Units mg/L						
SampID: LCS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride	0.10		1.02	1.000	0	101.7	90	110	06/07/2016	

Batch R219623		SampType: MS		Units mg/L						
SampID: 16060281-001AMS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Fluoride	0.10		3.33	2.000	1.293	101.9	85	115	06/07/2016	

Batch R219623		SampType: MSD		Units mg/L						
SampID: 16060281-001AMSD										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Fluoride	0.10		3.33	2.000	1.293	101.7	3.331	0.12	06/07/2016	

### SW-846 9251 (TOTAL)

Batch R219572		SampType: MBLK		Units mg/L						
SampID: ICB/MBLK										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride	5	J	2						06/06/2016	

Batch R219572		SampType: LCS		Units mg/L						
SampID: ICB/LCS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride	5		21	20.00	0	106.3	90	110	06/06/2016	



## Quality Control Results

<http://www.teklabinc.com/>

Client: Missouri Geological Survey

Work Order: 16060281

Client Project: Appendix I

Report Date: 13-Jun-16

### SW-846 9251 (TOTAL)

Batch R219572		SampType: MS		Units mg/L						Date Analyzed
SampID: 16060281-001AMS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride	50		324	200.0	123.9	99.9	85	115	06/06/2016	

Batch R219572		SampType: MSD		Units mg/L						Date Analyzed
SampID: 16060281-001AMSD										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Chloride	50		337	200.0	123.9	106.5	323.8	3.98	06/06/2016	

Batch R219652		SampType: MBLK		Units mg/L						Date Analyzed
SampID: ICB/MBLK										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride	5	J	2						06/07/2016	

Batch R219652		SampType: LCS		Units mg/L						Date Analyzed
SampID: ICV/LCS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Chloride	5		20	20.00	0	99.9	90	110	06/07/2016	

### SW-846 3005A, 6010B, METALS BY ICP (TOTAL)

Batch 119566		SampType: MBLK		Units mg/L						Date Analyzed
SampID: MBLK-119566										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Antimony	0.0500		< 0.0500	0.05000	0	0	-100	100	06/08/2016	
Arsenic	0.0250		< 0.0250	0.02500	0	0	-100	100	06/08/2016	
Barium	0.0025		< 0.0025	0.002500	0	0	-100	100	06/08/2016	
Beryllium	0.0005		< 0.0005	0.000500	0	0	-100	100	06/08/2016	
Boron	0.0200		< 0.0200	0.02000	0	0	-100	100	06/08/2016	
Cadmium	0.0020		< 0.0020	0.002000	0	0	-100	100	06/08/2016	
Calcium	0.0500		< 0.0500	0.05000	0	0	-100	100	06/08/2016	
Chromium	0.0050		< 0.0050	0.005000	0	0	-100	100	06/08/2016	
Cobalt	0.0050		< 0.0050	0.005000	0	0	-100	100	06/08/2016	
Copper	0.0050		< 0.0050	0.005000	0	0	-100	100	06/08/2016	
Iron	0.0200		< 0.0200	0.02000	0	0	-100	100	06/08/2016	
Lead	0.0150		< 0.0150	0.01500	0	0	-100	100	06/08/2016	
Magnesium	0.0500		< 0.0500	0.05000	0	0	-100	100	06/08/2016	
Manganese	0.0030		< 0.0030	0.003000	0	0	-100	100	06/08/2016	
Nickel	0.0050		< 0.0050	0.005000	0	0	-100	100	06/08/2016	
Selenium	0.0400		< 0.0400	0.04000	0	0	-100	100	06/08/2016	
Silver	0.0050		< 0.0050	0.005000	0	0	-100	100	06/08/2016	
Sodium	0.0500		< 0.0500	0.05000	0	0	-100	100	06/08/2016	
Thallium	0.0500		< 0.0500	0.05000	0	0	-100	100	06/08/2016	
Vanadium	0.0100		< 0.0100	0.01000	0	0	-100	100	06/08/2016	
Zinc	0.0100		< 0.0100	0.01000	0	0	-100	100	06/08/2016	

Client: Missouri Geological Survey

Work Order: 16060281

Client Project: Appendix I

Report Date: 13-Jun-16

**SW-846 3005A, 6010B, METALS BY ICP (TOTAL)**

Batch 119566		SampType: LCS		Units mg/L						
SampID: LCS-119566										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Antimony	0.0500		<b>0.474</b>	0.5000	0	94.7	85	115	06/08/2016	
Arsenic	0.0250		<b>0.499</b>	0.5000	0	99.9	85	115	06/08/2016	
Barium	0.0025		<b>2.06</b>	2.000	0	103.0	85	115	06/08/2016	
Beryllium	0.0005		<b>0.0506</b>	0.05000	0	101.2	85	115	06/08/2016	
Boron	0.0200		<b>0.485</b>	0.5000	0	97.1	85	115	06/08/2016	
Cadmium	0.0020		<b>0.0497</b>	0.05000	0	99.4	85	115	06/08/2016	
Calcium	0.0500		<b>2.52</b>	2.500	0	100.7	85	115	06/08/2016	
Chromium	0.0050		<b>0.200</b>	0.2000	0	99.8	85	115	06/08/2016	
Cobalt	0.0050		<b>0.488</b>	0.5000	0	97.7	85	115	06/08/2016	
Copper	0.0050		<b>0.249</b>	0.2500	0	99.6	85	115	06/08/2016	
Iron	0.0200		<b>2.03</b>	2.000	0	101.3	85	115	06/08/2016	
Lead	0.0150		<b>0.513</b>	0.5000	0	102.6	85	115	06/08/2016	
Magnesium	0.0500		<b>2.40</b>	2.500	0	96.1	85	115	06/08/2016	
Manganese	0.0030		<b>0.512</b>	0.5000	0	102.4	85	115	06/08/2016	
Nickel	0.0050		<b>0.499</b>	0.5000	0	99.7	85	115	06/08/2016	
Selenium	0.0400		<b>0.501</b>	0.5000	0	100.3	85	115	06/08/2016	
Silver	0.0050		<b>0.0496</b>	0.05000	0	99.2	85	115	06/08/2016	
Sodium	0.0500		<b>2.35</b>	2.500	0	93.8	85	115	06/08/2016	
Thallium	0.0500		<b>0.243</b>	0.2500	0	97.0	85	115	06/08/2016	
Vanadium	0.0100		<b>0.496</b>	0.5000	0	99.3	85	115	06/08/2016	
Zinc	0.0100		<b>0.498</b>	0.5000	0	99.7	85	115	06/08/2016	

Batch 119566		SampType: MS		Units mg/L						
SampID: 16060281-001BMS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Antimony	0.0500		<b>0.473</b>	0.5000	0	94.6	75	125	06/08/2016	
Arsenic	0.0250		<b>0.498</b>	0.5000	0	99.7	75	125	06/08/2016	
Barium	0.0025		<b>2.32</b>	2.000	0.2859	101.6	75	125	06/08/2016	
Beryllium	0.0005		<b>0.0497</b>	0.05000	0	99.4	75	125	06/08/2016	
Boron	0.0200		<b>0.691</b>	0.5000	0.2190	94.4	75	125	06/08/2016	
Cadmium	0.0020		<b>0.0476</b>	0.05000	0	95.2	75	125	06/08/2016	
Calcium	0.0500	S	<b>94.1</b>	2.500	94.34	-8.4	75	125	06/08/2016	
Chromium	0.0050		<b>0.199</b>	0.2000	0.004000	97.5	75	125	06/08/2016	
Cobalt	0.0050		<b>0.476</b>	0.5000	0.003100	94.5	75	125	06/08/2016	
Copper	0.0050		<b>0.255</b>	0.2500	0.005900	99.7	75	125	06/08/2016	
Iron	0.0200		<b>3.37</b>	2.000	1.330	101.8	75	125	06/08/2016	
Lead	0.0150		<b>0.494</b>	0.5000	0	98.7	75	125	06/08/2016	
Magnesium	0.0500	S	<b>46.3</b>	2.500	44.94	55.6	75	125	06/08/2016	
Manganese	0.0030		<b>1.75</b>	0.5000	1.293	91.8	75	125	06/08/2016	
Nickel	0.0050		<b>0.497</b>	0.5000	0.01700	96.0	75	125	06/08/2016	
Silver	0.0050		<b>0.0491</b>	0.05000	0	98.2	75	125	06/08/2016	
Sodium	0.0500	S	<b>158</b>	2.500	161.6	-160.0	75	125	06/08/2016	
Thallium	0.0500		<b>0.229</b>	0.2500	0	91.6	75	125	06/08/2016	
Vanadium	0.0100		<b>0.491</b>	0.5000	0.003300	97.5	75	125	06/08/2016	
Zinc	0.0100		<b>0.491</b>	0.5000	0.01640	95.0	75	125	06/08/2016	

Client: Missouri Geological Survey

Work Order: 16060281

Client Project: Appendix I

Report Date: 13-Jun-16

**SW-846 3005A, 6010B, METALS BY ICP (TOTAL)**

Batch 119566		SampType: MSD		Units mg/L				RPD Limit 20		Date
SampID: 16060281-001BMSD										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Antimony	0.0500		0.471	0.5000	0	94.2	0.4730	0.40	06/08/2016	
Arsenic	0.0250		0.499	0.5000	0	99.7	0.4983	0.06	06/08/2016	
Barium	0.0025		2.32	2.000	0.2859	101.8	2.318	0.17	06/08/2016	
Beryllium	0.0005		0.0497	0.05000	0	99.4	0.04970	0.00	06/08/2016	
Boron	0.0200		0.696	0.5000	0.2190	95.5	0.6909	0.81	06/08/2016	
Cadmium	0.0020		0.0477	0.05000	0	95.4	0.04760	0.21	06/08/2016	
Calcium	0.0500	S	96.1	2.500	94.34	70.4	94.13	2.07	06/08/2016	
Chromium	0.0050		0.198	0.2000	0.004000	97.2	0.1990	0.30	06/08/2016	
Cobalt	0.0050		0.476	0.5000	0.003100	94.6	0.4758	0.02	06/08/2016	
Copper	0.0050		0.256	0.2500	0.005900	99.8	0.2552	0.12	06/08/2016	
Iron	0.0200		3.41	2.000	1.330	104.2	3.366	1.39	06/08/2016	
Lead	0.0150		0.495	0.5000	0	98.9	0.4935	0.24	06/08/2016	
Magnesium	0.0500	S	46.7	2.500	44.94	72.0	46.33	0.88	06/08/2016	
Manganese	0.0030		1.78	0.5000	1.293	97.0	1.752	1.47	06/08/2016	
Nickel	0.0050		0.498	0.5000	0.01700	96.2	0.4968	0.22	06/08/2016	
Silver	0.0050		0.0491	0.05000	0	98.2	0.04910	0.00	06/08/2016	
Sodium	0.0500	S	160	2.500	161.6	-48.0	157.6	1.76	06/08/2016	
Thallium	0.0500		0.230	0.2500	0	92.2	0.2290	0.61	06/08/2016	
Vanadium	0.0100		0.490	0.5000	0.003300	97.3	0.4907	0.16	06/08/2016	
Zinc	0.0100		0.494	0.5000	0.01640	95.4	0.4913	0.45	06/08/2016	

Batch 119651		SampType: MBLK		Units mg/L						Date
SampID: MBLK-119651										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Arsenic	0.0250		< 0.0250	0.02500	0	0	-100	100	06/09/2016	
Boron	0.0200		< 0.0200	0.02000	0	0	-100	100	06/09/2016	
Cadmium	0.0020		< 0.0020	0.00200	0	0	-100	100	06/09/2016	
Calcium	0.0500		< 0.0500	0.05000	0	0	-100	100	06/09/2016	
Chromium	0.0050		< 0.0050	0.00500	0	0	-100	100	06/09/2016	
Copper	0.0050		< 0.0050	0.00500	0	0	-100	100	06/09/2016	
Iron	0.0200		< 0.0200	0.02000	0	0	-100	100	06/09/2016	
Lead	0.0150		< 0.0150	0.01500	0	0	-100	100	06/09/2016	
Magnesium	0.0500		< 0.0500	0.05000	0	0	-100	100	06/09/2016	
Manganese	0.0030		< 0.0030	0.00300	0	0	-100	100	06/09/2016	
Nickel	0.0050		< 0.0050	0.00500	0	0	-100	100	06/09/2016	
Selenium	0.0400		< 0.0400	0.04000	0	0	-100	100	06/09/2016	
Silver	0.0050		< 0.0050	0.00500	0	0	-100	100	06/09/2016	
Zinc	0.0100		< 0.0100	0.01000	0	0	-100	100	06/09/2016	



**Client:** Missouri Geological Survey

**Work Order:** 16060281

**Client Project:** Appendix I

**Report Date:** 13-Jun-16

**SW-846 3005A, 6010B, METALS BY ICP (TOTAL)**

<b>Batch 119651</b>		<b>SampType: LCS</b>		<b>Units mg/L</b>						
SampID: LCS-119651										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Arsenic	0.0250		<b>0.493</b>	0.5000	0	98.5	85	115	06/09/2016	
Boron	0.0200		<b>0.492</b>	0.5000	0	98.4	85	115	06/09/2016	
Cadmium	0.0020		<b>0.0498</b>	0.05000	0	99.6	85	115	06/09/2016	
Calcium	0.0500		<b>2.62</b>	2.500	0	104.8	85	115	06/09/2016	
Chromium	0.0050		<b>0.202</b>	0.2000	0	101.0	85	115	06/09/2016	
Copper	0.0050		<b>0.252</b>	0.2500	0	100.9	85	115	06/09/2016	
Iron	0.0200		<b>2.05</b>	2.000	0	102.4	85	115	06/09/2016	
Lead	0.0150		<b>0.518</b>	0.5000	0	103.6	85	115	06/09/2016	
Magnesium	0.0500		<b>2.49</b>	2.500	0	99.7	85	115	06/09/2016	
Manganese	0.0030		<b>0.516</b>	0.5000	0	103.1	85	115	06/09/2016	
Nickel	0.0050		<b>0.498</b>	0.5000	0	99.6	85	115	06/09/2016	
Selenium	0.0400		<b>0.498</b>	0.5000	0	99.6	85	115	06/09/2016	
Silver	0.0050		<b>0.0500</b>	0.05000	0	100.0	85	115	06/09/2016	
Zinc	0.0100		<b>0.507</b>	0.5000	0	101.5	85	115	06/09/2016	

<b>Batch 119651</b>		<b>SampType: MS</b>		<b>Units mg/L</b>						
SampID: 16060281-001BMS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Selenium	0.0400		<b>0.438</b>	0.5000	0	87.5	75	125	06/09/2016	

<b>Batch 119651</b>		<b>SampType: MSD</b>		<b>Units mg/L</b>						
SampID: 16060281-001BMSD										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed	
Selenium	0.0400		<b>0.430</b>	0.5000	0	86.1	0.4375	1.64	06/09/2016	

**SW-846 7470A (TOTAL)**

<b>Batch 119568</b>		<b>SampType: MBLK</b>		<b>Units mg/L</b>						
SampID: MBLK-119568										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury	0.00020		< <b>0.00020</b>	0.000200	0	0	-100	100	06/08/2016	

<b>Batch 119568</b>		<b>SampType: LCS</b>		<b>Units mg/L</b>						
SampID: LCS-119568										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury	0.00020		<b>0.00431</b>	0.005000	0	86.2	85	115	06/08/2016	

<b>Batch 119568</b>		<b>SampType: MS</b>		<b>Units mg/L</b>						
SampID: 16060281-001BMS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Mercury	0.00020		<b>0.00397</b>	0.005000	0	79.5	75	125	06/08/2016	



## Quality Control Results

<http://www.teklabinc.com/>

Client: Missouri Geological Survey

Work Order: 16060281

Client Project: Appendix I

Report Date: 13-Jun-16

### SW-846 7470A (TOTAL)

Batch 119568		SampType: MSD		Units mg/L				RPD Limit 15		Date
SampID: 16060281-001BMSD										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Analyzed	
Mercury	0.00020		<b>0.00403</b>	0.00500C	0	80.5	0.003974	1.28	06/08/2016	



## Quality Control Results

<http://www.teklabinc.com/>

**Client:** Missouri Geological Survey

**Work Order:** 16060281

**Client Project:** Appendix I

**Report Date:** 13-Jun-16

**SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS**

Batch 119550		SampType: MBLK		Units µg/L							
SampID: MBLK-N160606A-1											Date Analyzed
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit			
1,1,1,2-Tetrachloroethane	5.0		ND								06/06/2016
1,1,1-Trichloroethane	5.0		ND								06/06/2016
1,1,2,2-Tetrachloroethane	5.0		ND								06/06/2016
1,1,2-Trichloroethane	5.0		ND								06/06/2016
1,1-Dichloroethane	5.0		ND								06/06/2016
1,1-Dichloroethene	5.0		ND								06/06/2016
1,2,3-Trichloropropane	5.0		ND								06/06/2016
1,2-Dibromo-3-chloropropane	5.0		ND								06/06/2016
1,2-Dibromoethane	5.0		ND								06/06/2016
1,2-Dichlorobenzene	5.0		ND								06/06/2016
1,2-Dichloroethane	5.0		ND								06/06/2016
1,2-Dichloropropane	5.0		ND								06/06/2016
1,4-Dichlorobenzene	5.0		ND								06/06/2016
2-Butanone	25.0		ND								06/06/2016
2-Hexanone	25.0		ND								06/06/2016
4-Methyl-2-pentanone	25.0		ND								06/06/2016
Acetone	25.0		ND								06/06/2016
Acrylonitrile	5.0		ND								06/06/2016
Benzene	2.0		ND								06/06/2016
Bromochloromethane	5.0		ND								06/06/2016
Bromodichloromethane	5.0		ND								06/06/2016
Bromoform	5.0		ND								06/06/2016
Bromomethane	10.0		ND								06/06/2016
Carbon disulfide	5.0		ND								06/06/2016
Carbon tetrachloride	5.0		ND								06/06/2016
Chlorobenzene	5.0		ND								06/06/2016
Chloroethane	10.0		ND								06/06/2016
Chloroform	5.0		ND								06/06/2016
Chloromethane	10.0		ND								06/06/2016
cis-1,2-Dichloroethene	5.0		ND								06/06/2016
cis-1,3-Dichloropropene	5.0		ND								06/06/2016
Dibromochloromethane	5.0		ND								06/06/2016
Dibromomethane	5.0		ND								06/06/2016
Ethylbenzene	5.0		ND								06/06/2016
Iodomethane	5.0		ND								06/06/2016
Methylene chloride	5.0		ND								06/06/2016
Styrene	5.0		ND								06/06/2016
Tetrachloroethene	5.0		ND								06/06/2016
Toluene	5.0		ND								06/06/2016
trans-1,2-Dichloroethene	5.0		ND								06/06/2016
trans-1,3-Dichloropropene	5.0		ND								06/06/2016
trans-1,4-Dichloro-2-butene	10.0		ND								06/06/2016
Trichloroethene	5.0		ND								06/06/2016
Trichlorofluoromethane	5.0		ND								06/06/2016
Vinyl acetate	10.0		ND								06/06/2016
Vinyl chloride	2.0		ND								06/06/2016
Xylenes, Total	5.0		ND								06/06/2016

**Client:** Missouri Geological Survey

**Work Order:** 16060281

**Client Project:** Appendix I

**Report Date:** 13-Jun-16

**SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS**

**Batch 119550**      **SampType: MBLK**      Units µg/L

SampID: MBLK-N160606A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 1,2-Dichloroethane-d4			<b>53.4</b>	50.00		106.7	74.7	129	06/06/2016
Surr: 4-Bromofluorobenzene			<b>50.8</b>	50.00		101.6	86	119	06/06/2016
Surr: Dibromofluoromethane			<b>49.3</b>	50.00		98.5	81.7	123	06/06/2016
Surr: Toluene-d8			<b>52.1</b>	50.00		104.2	84.3	114	06/06/2016

**Client:** Missouri Geological Survey

**Work Order:** 16060281

**Client Project:** Appendix I

**Report Date:** 13-Jun-16

**SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS**

Batch	SampType:	Units	µg/L		RPD Limit		40		Date
119550	LCSD								Analyzed
SampID: LCSD-N160606A-1									
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date
1,1,1,2-Tetrachloroethane	5.0		53.3	50.00	0	106.6	53.86	1.01	06/06/2016
1,1,1-Trichloroethane	5.0		49.2	50.00	0	98.4	49.90	1.37	06/06/2016
1,1,2,2-Tetrachloroethane	5.0		53.2	50.00	0	106.5	53.76	0.95	06/06/2016
1,1,2-Trichloroethane	5.0		50.5	50.00	0	101.0	50.48	0.04	06/06/2016
1,1-Dichloroethane	5.0		47.0	50.00	0	93.9	47.83	1.84	06/06/2016
1,1-Dichloroethene	5.0		49.8	50.00	0	99.6	50.29	0.96	06/06/2016
1,2,3-Trichloropropane	5.0		47.6	50.00	0	95.2	47.46	0.32	06/06/2016
1,2-Dibromo-3-chloropropane	5.0		47.1	50.00	0	94.1	47.19	0.25	06/06/2016
1,2-Dibromoethane	5.0		48.2	50.00	0	96.4	48.12	0.17	06/06/2016
1,2-Dichlorobenzene	5.0		49.6	50.00	0	99.2	50.10	1.02	06/06/2016
1,2-Dichloroethane	5.0		50.4	50.00	0	100.9	50.82	0.77	06/06/2016
1,2-Dichloropropane	5.0		48.3	50.00	0	96.6	48.91	1.28	06/06/2016
1,4-Dichlorobenzene	5.0		52.3	50.00	0	104.6	53.34	1.99	06/06/2016
2-Butanone	25.0		141	125.0	0	113.1	142.1	0.45	06/06/2016
2-Hexanone	25.0		143	125.0	0	114.0	142.6	0.04	06/06/2016
4-Methyl-2-pentanone	25.0		136	125.0	0	108.8	136.3	0.15	06/06/2016
Acetone	25.0		133	125.0	0	106.7	133.9	0.37	06/06/2016
Acrylonitrile	5.0		50.1	50.00	0	100.2	50.38	0.56	06/06/2016
Benzene	2.0		49.6	50.00	0	99.1	50.63	2.12	06/06/2016
Bromochloromethane	5.0		48.2	50.00	0	96.4	48.54	0.68	06/06/2016
Bromodichloromethane	5.0		50.6	50.00	0	101.2	51.36	1.53	06/06/2016
Bromoform	5.0		50.4	50.00	0	100.9	49.99	0.92	06/06/2016
Bromomethane	10.0		55.3	50.00	0	110.6	51.67	6.79	06/06/2016
Carbon disulfide	5.0		43.4	50.00	0	86.8	44.09	1.55	06/06/2016
Carbon tetrachloride	5.0		47.6	50.00	0	95.2	48.02	0.88	06/06/2016
Chlorobenzene	5.0		49.0	50.00	0	98.1	50.07	2.10	06/06/2016
Chloroethane	10.0		63.9	50.00	0	127.8	63.45	0.69	06/06/2016
Chloroform	5.0		47.8	50.00	0	95.5	48.66	1.89	06/06/2016
Chloromethane	10.0		46.0	50.00	0	92.1	45.84	0.46	06/06/2016
cis-1,2-Dichloroethene	5.0		50.9	50.00	0	101.8	51.66	1.44	06/06/2016
cis-1,3-Dichloropropene	5.0		49.6	50.00	0	99.3	50.24	1.18	06/06/2016
Dibromochloromethane	5.0		49.6	50.00	0	99.2	49.58	0.08	06/06/2016
Dibromomethane	5.0		50.9	50.00	0	101.8	51.12	0.41	06/06/2016
Ethylbenzene	5.0		54.8	50.00	0	109.6	55.75	1.74	06/06/2016
Iodomethane	5.0		31.9	50.00	0	63.9	32.46	1.65	06/06/2016
Methylene chloride	5.0		48.7	50.00	0	97.5	49.89	2.35	06/06/2016
Styrene	5.0		52.0	50.00	0	104.0	52.16	0.35	06/06/2016
Tetrachloroethene	5.0		46.8	50.00	0	93.5	47.04	0.58	06/06/2016
Toluene	5.0		52.0	50.00	0	103.9	52.43	0.92	06/06/2016
trans-1,2-Dichloroethene	5.0		50.4	50.00	0	100.7	51.03	1.30	06/06/2016
trans-1,3-Dichloropropene	5.0		51.2	50.00	0	102.4	51.95	1.49	06/06/2016
trans-1,4-Dichloro-2-butene	10.0		59.0	50.00	0	118.0	58.43	0.99	06/06/2016
Trichloroethene	5.0		47.9	50.00	0	95.8	48.60	1.45	06/06/2016
Trichlorofluoromethane	5.0		51.4	50.00	0	102.8	52.09	1.37	06/06/2016
Vinyl acetate	10.0		53.0	50.00	0	106.0	50.56	4.69	06/06/2016
Vinyl chloride	2.0		60.9	50.00	0	121.8	60.21	1.14	06/06/2016
Xylenes, Total	5.0		166	150.0	0	110.4	168.2	1.50	06/06/2016

**Client:** Missouri Geological Survey

**Work Order:** 16060281

**Client Project:** Appendix I

**Report Date:** 13-Jun-16

**SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS**

Batch 119550		SampType: LCSD		Units µg/L				RPD Limit 40		Date
SampID: LCSD-N160606A-1										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Analyzed	
Surr: 1,2-Dichloroethane-d4			54.7	50.00		109.5			06/06/2016	
Surr: 4-Bromofluorobenzene			48.3	50.00		96.6			06/06/2016	
Surr: Dibromofluoromethane			50.2	50.00		100.4			06/06/2016	
Surr: Toluene-d8			50.7	50.00		101.4			06/06/2016	

Client: Missouri Geological Survey

Work Order: 16060281

Client Project: Appendix I

Report Date: 13-Jun-16

**SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS**

Batch 119550		SampType: LCS		Units µg/L						
SampID: LCS-N160606A-1										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
1,1,1,2-Tetrachloroethane	5.0		53.9	50.00	0	107.7	81.9	115	06/06/2016	
1,1,1-Trichloroethane	5.0		49.9	50.00	0	99.8	79.4	124	06/06/2016	
1,1,2,2-Tetrachloroethane	5.0		53.8	50.00	0	107.5	74.7	116	06/06/2016	
1,1,2-Trichloroethane	5.0		50.5	50.00	0	101.0	80.8	111	06/06/2016	
1,1-Dichloroethane	5.0		47.8	50.00	0	95.7	79.4	114	06/06/2016	
1,1-Dichloroethene	5.0		50.3	50.00	0	100.6	74.1	117	06/06/2016	
1,2,3-Trichloropropane	5.0		47.5	50.00	0	94.9	77.3	112	06/06/2016	
1,2-Dibromo-3-chloropropane	5.0		47.2	50.00	0	94.4	76	122	06/06/2016	
1,2-Dibromoethane	5.0		48.1	50.00	0	96.2	80.8	114	06/06/2016	
1,2-Dichlorobenzene	5.0		50.1	50.00	0	100.2	78.3	112	06/06/2016	
1,2-Dichloroethane	5.0		50.8	50.00	0	101.6	70.6	118	06/06/2016	
1,2-Dichloropropane	5.0		48.9	50.00	0	97.8	79.6	113	06/06/2016	
1,4-Dichlorobenzene	5.0		53.3	50.00	0	106.7	77.8	114	06/06/2016	
2-Butanone	25.0		142	125.0	0	113.6	70.7	136	06/06/2016	
2-Hexanone	25.0		143	125.0	0	114.1	73.3	125	06/06/2016	
4-Methyl-2-pentanone	25.0		136	125.0	0	109.0	76.3	122	06/06/2016	
Acetone	25.0		134	125.0	0	107.1	56.4	147	06/06/2016	
Acrylonitrile	5.0		50.4	50.00	0	100.8	74.1	128	06/06/2016	
Benzene	2.0		50.6	50.00	0	101.3	80	114	06/06/2016	
Bromochloromethane	5.0		48.5	50.00	0	97.1	73.3	121	06/06/2016	
Bromodichloromethane	5.0		51.4	50.00	0	102.7	81.6	121	06/06/2016	
Bromoform	5.0		50.0	50.00	0	100.0	83.1	127	06/06/2016	
Bromomethane	10.0		51.7	50.00	0	103.3	44.4	154	06/06/2016	
Carbon disulfide	5.0		44.1	50.00	0	88.2	73.2	118	06/06/2016	
Carbon tetrachloride	5.0		48.0	50.00	0	96.0	79.4	130	06/06/2016	
Chlorobenzene	5.0		50.1	50.00	0	100.1	81.4	110	06/06/2016	
Chloroethane	10.0		63.4	50.00	0	126.9	52.1	137	06/06/2016	
Chloroform	5.0		48.7	50.00	0	97.3	82.7	116	06/06/2016	
Chloromethane	10.0		45.8	50.00	0	91.7	48.2	144	06/06/2016	
cis-1,2-Dichloroethene	5.0		51.7	50.00	0	103.3	78.2	116	06/06/2016	
cis-1,3-Dichloropropene	5.0		50.2	50.00	0	100.5	83	119	06/06/2016	
Dibromochloromethane	5.0		49.6	50.00	0	99.2	81.2	121	06/06/2016	
Dibromomethane	5.0		51.1	50.00	0	102.2	78.3	118	06/06/2016	
Ethylbenzene	5.0		55.8	50.00	0	111.5	77.2	113	06/06/2016	
Iodomethane	5.0		32.5	50.00	0	64.9	61.3	140	06/06/2016	
Methylene chloride	5.0		49.9	50.00	0	99.8	74.1	114	06/06/2016	
Styrene	5.0		52.2	50.00	0	104.3	83.4	113	06/06/2016	
Tetrachloroethene	5.0		47.0	50.00	0	94.1	72.5	125	06/06/2016	
Toluene	5.0		52.4	50.00	0	104.9	77.5	113	06/06/2016	
trans-1,2-Dichloroethene	5.0		51.0	50.00	0	102.1	79	114	06/06/2016	
trans-1,3-Dichloropropene	5.0		52.0	50.00	0	103.9	78	115	06/06/2016	
trans-1,4-Dichloro-2-butene	10.0		58.4	50.00	0	116.9	63.3	128	06/06/2016	
Trichloroethene	5.0		48.6	50.00	0	97.2	84.4	114	06/06/2016	
Trichlorofluoromethane	5.0		52.1	50.00	0	104.2	75.2	132	06/06/2016	
Vinyl acetate	10.0		50.6	50.00	0	101.1	64.5	127	06/06/2016	
Vinyl chloride	2.0		60.2	50.00	0	120.4	58	134	06/06/2016	
Xylenes, Total	5.0		168	150.0	0	112.1	80.1	114	06/06/2016	

**Client:** Missouri Geological Survey

**Work Order:** 16060281

**Client Project:** Appendix I

**Report Date:** 13-Jun-16

**SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS**

Batch 119550		SampType: LCS		Units µg/L						
SampID: LCS-N160606A-1										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Surr: 1,2-Dichloroethane-d4			55.2	50.00		110.3	74.7	129	06/06/2016	
Surr: 4-Bromofluorobenzene			48.3	50.00		96.6	86	119	06/06/2016	
Surr: Dibromofluoromethane			50.4	50.00		100.8	81.7	123	06/06/2016	
Surr: Toluene-d8			50.8	50.00		101.6	84.1	114	06/06/2016	

Batch 119550		SampType: MS		Units µg/L						
SampID: 16060281-001EMS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
1,1-Dichloroethene	5.0		50.0	50.00	0	100.1	35.7	136	06/06/2016	
Benzene	2.0		59.9	50.00	8.670	102.5	62.5	121	06/06/2016	
Chlorobenzene	5.0		48.8	50.00	0	97.7	78.6	114	06/06/2016	
Ethylbenzene	5.0		54.1	50.00	0	108.1	74.4	130	06/06/2016	
Toluene	5.0		51.8	50.00	0	103.5	69.5	118	06/06/2016	
Trichloroethene	5.0		50.3	50.00	0	100.6	69.4	117	06/06/2016	
Xylenes, Total	5.0		104	100.0	0	103.9	71.1	125	06/06/2016	
Surr: 1,2-Dichloroethane-d4			55.1	50.00		110.2	74.7	129	06/06/2016	
Surr: 4-Bromofluorobenzene			50.3	50.00		100.6	86	119	06/06/2016	
Surr: Dibromofluoromethane			49.5	50.00		99.0	81.7	123	06/06/2016	
Surr: Toluene-d8			50.7	50.00		101.4	84.3	114	06/06/2016	

Batch 119550		SampType: MSD		Units µg/L				RPD Limit 20		Date Analyzed	
SampID: 16060281-001EMSD											
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed		
1,1-Dichloroethene	5.0		50.2	50.00	0	100.4	50.04	0.34	06/06/2016		
Benzene	2.0		59.3	50.00	8.670	101.3	59.91	1.01	06/06/2016		
Chlorobenzene	5.0		48.0	50.00	0	95.9	48.83	1.80	06/06/2016		
Ethylbenzene	5.0		52.6	50.00	0	105.2	54.06	2.74	06/06/2016		
Toluene	5.0		50.6	50.00	0	101.2	51.77	2.25	06/06/2016		
Trichloroethene	5.0		50.0	50.00	0	100.0	50.28	0.56	06/06/2016		
Xylenes, Total	5.0		102	100.0	0	101.9	103.9	1.88	06/06/2016		
Surr: 1,2-Dichloroethane-d4			54.7	50.00		109.5			06/06/2016		
Surr: 4-Bromofluorobenzene			50.5	50.00		101.0			06/06/2016		
Surr: Dibromofluoromethane			49.6	50.00		99.3			06/06/2016		
Surr: Toluene-d8			50.3	50.00		100.6			06/06/2016		





# Receiving Check List

<http://www.teklabinc.com/>

Client: Missouri Geological Survey

Work Order: 16060281

Client Project: Appendix I

Report Date: 13-Jun-16

Carrier: Nick Reed

Received By: MAK

Completed by: *Kalyn Foecke*  
On: 06-Jun-16  
Kalyn Foecke

Reviewed by: *Emily Pohlman*  
On: 06-Jun-16  
Emily E. Pohlman

Pages to follow: Chain of custody  Extra pages included

- Shipping container/cooler in good condition? Yes  No  Not Present  Temp °C **3.22**
- Type of thermal preservation? None  Ice  Blue Ice  Dry Ice
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time? Yes  No
- Reported field parameters measured: Field  Lab  NA
- Container/Temp Blank temperature in compliance? Yes  No

*When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.*

- Water – at least one vial per sample has zero headspace? Yes  No  No VOA vials
- Water - TOX containers have zero headspace? Yes  No  No TOX containers
- Water - pH acceptable upon receipt? Yes  No  NA
- NPDES/CWA TCN interferences checked/treated in the field? Yes  No  NA

**Any No responses must be detailed below or on the COC.**

Additional sulfuric acid was needed upon arrival at the laboratory for 125ml Amber container. AMD 6/6/16

# CHAIN OF CUSTODY

pg. 1 of 1 Work order # 16060281

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

**Client:** Missouri Geological Survey  
**Address:** 111 Fairgrounds Road  
**City / State / Zip:** Rolla, MO 65401  
**Contact:** Brenna McDonald **Phone:** (573) 368-2163  
**E-Mail:** brenna.mcdonald@dnr.mo.gov **Fax:**

**Samples on:**  ICE  BLUE ICE  NO ICE 3-22°C  
**Preserved in:**  LAB  FIELD **FOR LAB USE ONLY**  
**Lab Notes:** only white  
Added H2SO4 to DSM Amber Oms

Are these samples known to be involved in litigation? If yes, a surcharge will apply  Yes  No  
 Are these samples known to be hazardous?  Yes  No  
 Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section.  Yes  No

**Client Comments:**  
 Metals: Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Ni Se Ag Na Tl V Zn and Hg  
TEKLAB INC. 6/16/16  
Carrier Dist 77  
Zero headspace Oms 6/16/16

Project Name/Number Appendix I		Sample Collector's Name <u>Jessie Hahn</u>							MATRIX		INDICATE ANALYSIS REQUESTED																	
Results Requested <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 1-2 Day (100% Surcharge) <input type="checkbox"/> Other <input type="checkbox"/> 3 Day (50% Surcharge)		Billing Instructions		# and Type of Containers					Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	Ammonia	Chloride	COD	Fluoride	Hardness	Mercury	Metals	N3N2	Phosphorous	Sulfate	TDS	TOC	VOCs	
Lab Use Only		Sample Identification		Date/Time Sampled		UNPRES	HNO3	NaOH																				H2SO4
<u>16060281-SD</u>		<u>MO-3-SD</u>		<u>6-2-2016 1305</u>		<u>1</u>	<u>1</u>		<u>2</u>	<u>3</u>																		

Relinquished By		Date/Time		Received By		Date/Time	
<u>Jessie Hahn</u>		<u>6/3/2016 0800</u>		<u>Renee Powell</u>		<u>8:00 / 6-3-2016</u>	
<u>Wish Reed</u>		<u>6/3/2016 3:45</u>		<u>Wish Reed</u>		<u>6/3/16 1545</u>	
		<u>6/3/16 1710</u>		<u>M. Kammerer</u>		<u>6/3/16 17:10</u>	