

**From:** Beggs, Tauren R - DNR  
**To:** ["James McDonald"](#)  
**Cc:** [Greg Buckley](#); [Stuart Boerst](#); [Judy Goodchild](#); [Harrington, Arthur](#); [Scott Ahl](#)  
**Subject:** RE: Form 4400-225 Report of Contaminant Release Discovery  
**Date:** Monday, November 07, 2016 8:38:00 AM  
**Attachments:** [image001.png](#)

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Hi Jim,

Thanks for the update! Please provide the additional results once the work has been completed.

Thanks,

**We are committed to service excellence.**

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

**Tauren R. Beggs**

Phone: (920) 662-5178

Tauren.Beggs@wisconsin.gov

**From:** James McDonald [mailto:[jammcd@two-rivers.org](mailto:jammcd@two-rivers.org)]  
**Sent:** Monday, November 07, 2016 8:36 AM  
**To:** Beggs, Tauren R - DNR  
**Cc:** [Greg Buckley](#); [Stuart Boerst](#); [Judy Goodchild](#); [Harrington, Arthur](#); [Scott Ahl](#)  
**Subject:** Re: Form 4400-225 Report of Contaminant Release Discovery

Tauren:

No, the construction and sampling of the wells has not been completed due to some poor communications on our end. We have authorized McMahan to proceed post haste with the additional wells.

We hope to be confirming the most productive locations within the next day or two.

Jim Mc Donald

On Mon, Nov 7, 2016 at 8:22 AM, Beggs, Tauren R - DNR <[Tauren.Beggs@wisconsin.gov](mailto:Tauren.Beggs@wisconsin.gov)> wrote:

Hi Jim,

I have received two release notifications for the Thermo Fisher property as a result of the sampling completed during the City water main fix. Has the below additional sampling been completed yet? Please let me know.

Thanks,

**We are committed to service excellence.**

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Tauren R. Beggs

Phone: [\(920\) 662-5178](tel:(920)662-5178)

[Tauren.Beggs@wisconsin.gov](mailto:Tauren.Beggs@wisconsin.gov)

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**From:** Beggs, Tauren R - DNR

**Sent:** Wednesday, August 31, 2016 9:26 AM

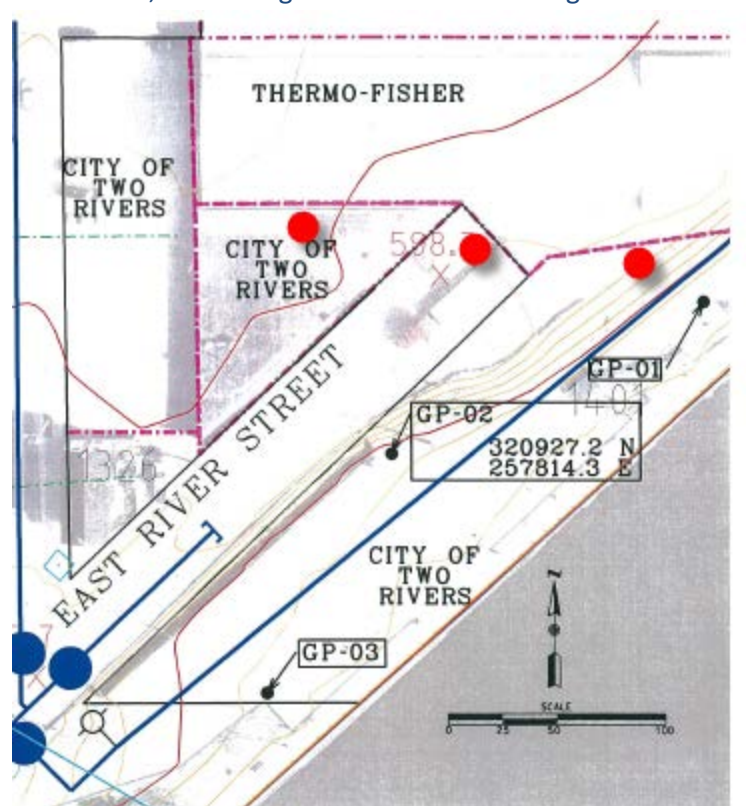
**To:** 'James McDonald'

**Cc:** Greg Buckley; Stuart Boerst; Judy Goodchild; Harrington, Arthur; Scott Ahl

**Subject:** RE: Form 4400-225 Report of Contaminant Release Discovery

Good morning,

I spoke with Keld this morning regarding this. I will hold off on making any decisions on case creation until additional sampling is completed. If you would like to determine if the contamination is migrating from an upgradient source, multiple soil and groundwater samples should be collected to determine this. Also it would be good to have enough monitoring points to get a groundwater flow direction, which you may already have gotten from the initial 3 monitoring wells. The best route to take would be collecting samples immediately adjacent to the property boundaries, something similar to the below figure:



Please let me know what you find out with the additional sampling.

Thanks,

**We are committed to service excellence.**

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Tauren R. Beggs

Phone: [\(920\) 662-5178](tel:9206625178)

[Tauren.Beggs@wisconsin.gov](mailto:Tauren.Beggs@wisconsin.gov)

**From:** James McDonald [<mailto:jammcd@two-rivers.org>]

**Sent:** Tuesday, August 30, 2016 5:01 PM

**To:** DNR RR NER

**Cc:** Beggs, Tauren R - DNR; Lauridsen, Keld B - DNR; Greg Buckley; Stuart Boerst; Judy Goodchild; Harrington, Arthur; Scott Ahl

**Subject:** Form 4400-225 Report of Contaminant Release Discovery

Dear Sirs:

Please see and take note of the several files included with this email. A description of the issues and file contents is included in the attached file titled "Cover Letter"

Should you desire any additional information, or if you have any questions, please contact this office at your earliest opportunity.

We will proceed to secure additional geoprobe samples and analysis to further confirm the off site source of the contamination.

Sincerely,

Jim Mc Donald

--

James J. Mc Donald, PE  
City Engineer / Public Works Director  
City of Two Rivers

1717 East Park Street  
PO Box 87  
Two Rivers, WI 54241-0087

[\(920\) 793-5540](tel:9207935540) Desk Phone  
[\(920\) 973-8068](tel:9209738068) Cell Phone

[jammcd@two-rivers.org](mailto:jammcd@two-rivers.org)

--

James J. Mc Donald, PE  
City Engineer / Public Works Director  
City of Two Rivers

1717 East Park Street  
PO Box 87  
Two Rivers, WI 54241-0087

(920) 793-5540 Desk Phone  
(920) 973-8068 Cell Phone

[jammcd@two-rivers.org](mailto:jammcd@two-rivers.org)



**Department of Public Works**

1717 East Park Street

Post Office Box 87

Two Rivers, WI 54241-0087

Director/Engineer.....920-793-5539

Public Works Shop.....920-793-5576

Wastewater Superintendent.....920-793-5574

Fax.....920-793-7272

pubwks@two-rivers.org

**Council Manager Government Since 1924**

August 30, 2016

R&R Program Associate  
DNR Service Center  
2984 Shawano Avenue  
Green Bay, WI 54313-6727

Re: Notification For Hazardous Substance Discharge

Dear Associate:

Enclosed with this letter you will find the following attachments, in an Acrobat File Format:

- Cover Letter: This transmittal letter
- 4400-225 – A: WDNR Form 4400-225 (09/13) – Completed Form
- Lab Analysis Report: (Sample Analysis Results)
- LotF\_G\_Probewithcontours: A Figure depicting the locations of the several geoprobe sampling points relative to the discovered release.
- Lot F Tables (SAB): Tabular summary of lab results of concern.

You will note from the tables and from the lab analysis results, the enforcement standard was found to be exceeded in GP-02 and a preventative action limit was exceeded in GP=01. Both of these locations are close to the West Twin River and adjacent to a steep gradient, rising approximately ten feet in a twenty foot horizontal distance to the north, away from the river.

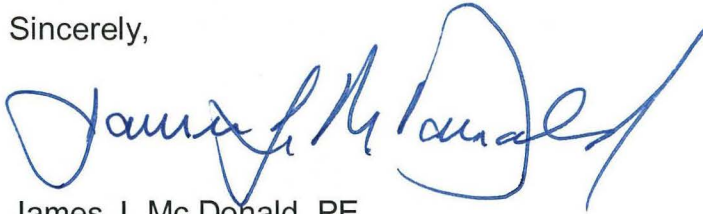
At the top of the grade (up gradient) lies the former site of a 13 acre industrial complex that occupied the site for more than a century. The buildings on the site were recently demolished and the surface covered with soil and vegetation.

Samples were collected due to the City's need to terminate a water main in the near future and will need to do some work to repair sheeting along the shore line. Both functions will likely involve dewatering operations, thus a desire to verify is the discharge needed to be directed to a waste water treatment facility, or if it could be discharged (through a filter sock) to the river. Soil removal and replacement issues were also of concern.

Due to the discovery of trichloroethene in samples from GP-01 and GP-02, with no obvious source within the boundaries of City Property in this area, the City is planning on returning to the vicinity with a geoprobe in order to secure additional soil and groundwater samples. The purpose for the additional sampling is to verify the direction from which the contaminant is migrating. It is anticipated that the additional contaminant concentration information, along with the obvious gradient in the area will provide some clear indication of the source and the responsible party.

Should you have any questions, or if additional information is desired, please feel free to contact this office at your convenience.

Sincerely,

A handwritten signature in blue ink, appearing to read "James J. Mc Donald". The signature is fluid and cursive, with a large loop at the end.

James J. Mc Donald, PE  
City Engineer / Director of Public Works

Copy: Tauren Beggs, Wisconsin Department of Natural Resources  
Keld Lauridsen, Wisconsin Department of Natural Resources  
Greg Buckley, City Manager, City of Two Rivers  
Stuart Boerst, Mc Mahon Group



# Notification For Hazardous Substance Discharge (Non-Emergency Only)

Form 4400-225 (09/13) Page 1 of 2

**Emergency Discharges / Spills should be reported via the 24-Hour Hotline: 1-800-943-0003**

**Notice: Hazardous substance discharges must be reported immediately** according to s. 292.11 Wis. Stats. Non-emergency hazardous substance discharges may be reported by telefaxing or e-mailing a completed report to the Department, or calling or visiting a Department office in person. If you choose to notify the Department by telefax or by email, you should use this form to be sure that all necessary information is included. However, use of this form is not mandatory. Under s. 292.99, Wis. Stats., the penalty for violating the reporting requirements of ch. 292 Wis. Stats., shall be no less than \$10 nor more than \$5000 for each violation. Each day of continued violation is a separate offense. It is not the Department's intention to use any personally identifiable information from this form for any purpose other than program administration. However, information submitted on this form may also be made available to requesters under Wisconsin's Open Records Law (ss. 19.31 – 19.39, Wis. Stats.).

Confirmatory laboratory data should be included with this form, to assist the DNR in processing this Hazardous Substance Release Notification.

Complete this form. **TYPE or PRINT LEGIBLY.** NOTIFY appropriate DNR region (see next page) **IMMEDIATELY** upon discovery of a potential release from (check one):

- Underground Petroleum Storage Tank System (additional information may be required for Item 6 below)
- Aboveground Petroleum Storage Tank System
- Dry Cleaner Facility
- Other - Describe: Park area down gradient from former industrial facility

ATTN DNR: **R & R Program Associate**

Date DNR Notified: **08/17/2016**

### 1. Discharge Reported By

Name James J. Mc Donald	Firm City of Two Rivers	Phone No. (include area code) (920) 793-5540
Mailing Address PO Box 87, Two Rivers, WI 54241-0087		Email Address jammcd@two-rivers.org

### 2. Site Information

Name of site at which discharge occurred. Include local name of site/business, not responsible party name, unless a residence/vacant property. Lot F Park, aka, 1401 East River Street, Two Rivers, WI 54241 - Down Gradient from former Thermo Fischer Industrial Site.

Location: Include street address, not PO Box. If no street address, describe as precisely as possible, i.e., 1/4 mile NW of CTHs 60 & 123 on E side of CTH 60. 1401 East River Street: Original Plat, Part of Lots 2 through 4, except as described in Volume 275, Page 527, also Lots 5 through 8 Block 69.

Municipality: (City, Village, Township) Specify municipality in which the site is located, not mailing address/city.

City of Two Rivers

County: Manitowoc	Legal Description: <u>1/4 1/4</u> Sec <u>    </u> Tn <u>    </u> Range <u>    </u> <input type="radio"/> E <input type="radio"/> W	WTM: <input checked="" type="checkbox"/> X <u>257814</u> Y <u>320927</u>
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### 3. Responsible Party (RP) and/or RP Representative

Responsible Party Name: Business or owner name that is responsible for cleanup. If more than one, list all. Attach additional pages as necessary.

Not yet documented, but site is down gradient from former industrial site that is the assumed RP. The City of Two Rivers is in the process of collecting additional samples from additional locations to better define the direction to the off site source of contamination. Per recommendation of Keld Laundsen.

- Reported in compliance with s. 292.11(2), Wis. Stats., by a local government exempt from liability under s. 292.11(9)(e), Wis. Stats. For more information see <http://dnr.wi.gov/topic/Brownfields/Liability.html>.

Contact Person Name (if different) James J. Mc Donald	Phone Number (920) 793-5540	Email Address jammcd@two-rivers.org	
Mailing Address PO Box 87	City Two Rivers	State WI	ZIP Code 54241-0087

Property owner if Different From RP: Business or owner name that is responsible for cleanup. If more than one, list all. Attach additional pages as necessary.

Contact Person Name (if different)	Phone Number	Email Address	
Mailing Address	City	State	ZIP Code

(continued)



**4. Hazardous Substance Information**

Identify hazardous substance discharged (check all that apply):

- |  |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> VOC's        | <input type="checkbox"/> Diesel                 | <input type="checkbox"/> PERC (Dry Cleaners)                |
| <input type="checkbox"/> PAH's                   | <input type="checkbox"/> Fuel Oil               | <input type="checkbox"/> RCRA Hazardous Waste               |
| <input type="checkbox"/> Metals (specify): _____ | <input type="checkbox"/> Gasoline               | <input type="checkbox"/> Leachate                           |
| <input type="checkbox"/> Arsenic                 | <input type="checkbox"/> Hydraulic Oil          | <input type="checkbox"/> Fertilizer                         |
| <input type="checkbox"/> Chromium                | <input type="checkbox"/> Jet Fuel               | <input type="checkbox"/> Pesticide/Herbicide/Insecticide(s) |
| <input type="checkbox"/> Cyanide                 | <input type="checkbox"/> Mineral Oil            | <input type="checkbox"/> Other (specify): _____             |
| <input type="checkbox"/> Lead                    | <input type="checkbox"/> Waste Oil              | <input type="checkbox"/> Unknown                            |
| <input type="checkbox"/> PCB's                   | <input type="checkbox"/> Petroleum-Unknown Type |   |

**5. Impacts to the Environment Information**

Enter "K" for known/confirmed or "P" for potential for all that apply.

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Air Contamination                            | <input type="checkbox"/> Sanitary Sewer Contamination             | <input checked="" type="checkbox"/> Soil Contamination |
| <input type="checkbox"/> Co-Contamination (Petroleum & Non-Petroleum) | <input checked="" type="checkbox"/> Contamination in Right of Way | <input checked="" type="checkbox"/> Storm Sewer        |
| <input type="checkbox"/> Contamination Within 1 Meter of Bedrock      | <input type="checkbox"/> Fire Explosion Threat                    | <input type="checkbox"/> Surface Water Contamination   |
| <input type="checkbox"/> Contaminated Private Well                    | <input type="checkbox"/> Free Product                             | <input type="checkbox"/> Within 100 ft of Private Well |
| <input type="checkbox"/> Contaminated Public Well                     | <input checked="" type="checkbox"/> Groundwater Contamination     | <input type="checkbox"/> Within 1000 ft of Public Well |
| <input type="checkbox"/> Contamination in Fractured Bedrock           | <input checked="" type="checkbox"/> Off-Site Contamination        |  |
|   | <input type="checkbox"/> Other (specify): _____                   |  |

Contamination was discovered as a result of:

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Tank closure assessment | <input type="checkbox"/> Site assessment | <input checked="" type="checkbox"/> Other - Describe: <u>Geo Probe Investigation</u> |
| Date: _____                                      | Date: _____                              | Date: <u>07/29/2016</u>  |

Lab results:  Lab results will be faxed upon receipt  Lab results are attached

Additional Comments: Include a brief description of immediate actions taken to halt the release and contain or cleanup hazardous substances that have been discharged.

The suspected RP has demolished buildings formerly on site and has provided turfed cover. The City is scheduling additional sampling to better determine the contaminant source direction up gradient from the discovered groundwater contamination.

**6. Federal Energy Act Requirements (Section 9002(d) of the Solid Waste Disposal Act (SWDA))**

For all confirmed releases from UST's occurring after 9/30/2007 please provide the following information:

- |   | <u>Source</u>  | <u>Cause</u> |
|---|--|--------------|
| <input type="checkbox"/> Tank                     | <input type="checkbox"/> Spill                             |              |
| <input type="checkbox"/> Piping                   | <input type="checkbox"/> Overfill                          |              |
| <input type="checkbox"/> Dispenser                | <input type="checkbox"/> Corrosion                         |              |
| <input type="checkbox"/> Submersible Turbine Pump | <input type="checkbox"/> Physical or Mechanical Damage     |              |
| <input type="checkbox"/> Delivery Problem         | <input type="checkbox"/> Installation Problem              |              |
| <input type="checkbox"/> Other (specify): _____   | <input type="checkbox"/> Other (does not fit any of above) |              |
|   | <input type="checkbox"/> Unknown                           |              |

Contact information to report non-emergency releases in DNR's five regions are as follows:

**Northeast Region (FAX: 920-662-5197); Attention -- R&R Program Associate: DNRRRNER@wisconsin.gov**

Brown, Calumet, Door, Fond du Lac (except City of Waupun - see South Central Region), Green Lake, Kewaunee, Manitowoc, Marinette, Marquette, Menominee, Oconto, Outagamie, Shawano, Sheboygan, Waupaca, Waushara, Winnebago counties

**Northern Region (FAX: 715-623-6773); Attention -- R&R Program Associate: DNRRRNOR@wisconsin.gov**

Ashland, Barron, Bayfield, Burnett, Douglas, Forest, Florence, Iron, Langlade, Lincoln, Oneida, Polk, Price, Rusk, Sawyer, Taylor, Vilas, Washburn counties

**South Central Region (FAX: 608-273-5610); Attention -- R&R Program Associate: DNRRRSCR@wisconsin.gov**

Columbia, Dane, Dodge, Fond du Lac (City of Waupun only), Grant, Green, Iowa, Jefferson, Lafayette, Richland, Rock, Sauk, Walworth counties

**Southeast Region (FAX: 414-263-8550); Attention -- R&R Program Associate: DNRRRSER@wisconsin.gov**

Kenosha, Milwaukee, Ozaukee, Racine, Washington, Waukesha counties

**West Central Region (FAX: 715-839-6076); Attention -- R&R Program Associate: DNRRRWCR@wisconsin.gov**

Adams, Buffalo, Chippewa, Clark, Crawford, Dunn, Eau Claire, Jackson, Juneau, LaCrosse, Marathon, Monroe, Pepin, Pierce, Portage, St. Croix, Trempealeau, Vernon, Wood counties

# Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 \*P 920-830-2455 \* F 920-733-0631

STUART BOERST  
 MCMAHON ASSOCIATES  
 PO BOX 1025  
 NEENAH WI 54957-1025

Report Date 12-Aug-16

Project Name TWO RIVERS  
 Project # LOT F

Invoice # E31453

Lab Code 5031453A  
 Sample ID GP-01  
 Sample Matrix Water  
 Sample Date 7/28/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Arsenic, Total	3.6	ug/L	0.6	1.9	1	7060A		8/5/2016	CWT	1
Barium, Total	81.4	ug/L	7.8	25	1	200.7		8/2/2016	CWT	1
Cadmium, Total	< 0.3	ug/L	0.3	1	1	200.7		8/2/2016	CWT	1
Chromium, Total	< 1.8	ug/L	1.8	5.6	1	200.7		8/2/2016	CWT	1
Lead, Total	64.1	ug/L	4	13	5	7421		8/5/2016	CWT	1
Mercury, Total	< 0.11	ug/l	0.11	0.35	1	245.1		8/3/2016	CWT	1
Molybdenum, Total	11.0	ug/L	1.5	5.1	1	200.7		8/2/2016	CWT	1
Selenium, Total	< 1.1	ug/l	1.1	3.7	1	7740		8/10/2016	MJR	1
Silver, Total	< 8.4	ug/L	8.4	27.9	1	200.7		8/2/2016	CWT	1
Organic										
VOC's										
Benzene	< 0.44	ug/l	0.44	1.4	1	8260B		8/2/2016	CJR	1
Bromobenzene	< 0.48	ug/l	0.48	1.5	1	8260B		8/2/2016	CJR	1
Bromodichloromethane	< 0.46	ug/l	0.46	1.5	1	8260B		8/2/2016	CJR	1
Bromoform	< 0.46	ug/l	0.46	1.5	1	8260B		8/2/2016	CJR	1
tert-Butylbenzene	< 1.1	ug/l	1.1	3.4	1	8260B		8/2/2016	CJR	1
sec-Butylbenzene	< 1.2	ug/l	1.2	3.8	1	8260B		8/2/2016	CJR	1
n-Butylbenzene	< 1	ug/l	1	3.3	1	8260B		8/2/2016	CJR	1
Carbon Tetrachloride	< 0.51	ug/l	0.51	1.6	1	8260B		8/2/2016	CJR	1
Chlorobenzene	< 0.46	ug/l	0.46	1.4	1	8260B		8/2/2016	CJR	1
Chloroethane	< 0.65	ug/l	0.65	2.1	1	8260B		8/2/2016	CJR	1
Chloroform	< 0.43	ug/l	0.43	1.4	1	8260B		8/2/2016	CJR	1
Chloromethane	< 1.9	ug/l	1.9	6	1	8260B		8/2/2016	CJR	1
2-Chlorotoluene	< 0.4	ug/l	0.4	1.3	1	8260B		8/2/2016	CJR	1
4-Chlorotoluene	< 0.63	ug/l	0.63	2	1	8260B		8/2/2016	CJR	1
1,2-Dibromo-3-chloropropane	< 1.4	ug/l	1.4	4.5	1	8260B		8/2/2016	CJR	1
Dibromochloromethane	< 0.45	ug/l	0.45	1.4	1	8260B		8/2/2016	CJR	1
1,4-Dichlorobenzene	< 0.49	ug/l	0.49	1.6	1	8260B		8/2/2016	CJR	1
1,3-Dichlorobenzene	< 0.52	ug/l	0.52	1.6	1	8260B		8/2/2016	CJR	1
1,2-Dichlorobenzene	< 0.46	ug/l	0.46	1.5	1	8260B		8/2/2016	CJR	1
Dichlorodifluoromethane	< 0.87	ug/l	0.87	2.8	1	8260B		8/2/2016	CJR	1
1,2-Dichloroethane	< 0.48	ug/l	0.48	1.5	1	8260B		8/2/2016	CJR	1



**Project Name** TWO RIVERS  
**Project #** LOT F

**Invoice #** E31453

**Lab Code** 5031453A  
**Sample ID** GP-01  
**Sample Matrix** Water  
**Sample Date** 7/28/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1-Dichloroethane	< 1.1	ug/l	1.1	3.6	1	8260B		8/2/2016	CJR	1
1,1-Dichloroethene	< 0.65	ug/l	0.65	2.1	1	8260B		8/2/2016	CJR	1
cis-1,2-Dichloroethene	0.61 "J"	ug/l	0.45	1.4	1	8260B		8/2/2016	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		8/2/2016	CJR	1
1,2-Dichloropropane	< 0.43	ug/l	0.43	1.37	1	8260B		8/2/2016	CJR	1
2,2-Dichloropropane	< 3.1	ug/l	3.1	9.8	1	8260B		8/2/2016	CJR	1
1,3-Dichloropropane	< 0.42	ug/l	0.42	1.3	1	8260B		8/2/2016	CJR	1
Di-isopropyl ether	< 0.44	ug/l	0.44	1.4	1	8260B		8/2/2016	CJR	1
EDB (1,2-Dibromoethane)	< 0.63	ug/l	0.63	2	1	8260B		8/2/2016	CJR	1
Ethylbenzene	< 0.71	ug/l	0.71	2.3	1	8260B		8/2/2016	CJR	1
Hexachlorobutadiene	< 2.2	ug/l	2.2	7.1	1	8260B		8/2/2016	CJR	1
Isopropylbenzene	< 0.82	ug/l	0.82	2.6	1	8260B		8/2/2016	CJR	1
p-Isopropyltoluene	< 1.1	ug/l	1.1	3.5	1	8260B		8/2/2016	CJR	1
Methylene chloride	< 1.3	ug/l	1.3	4.2	1	8260B		8/2/2016	CJR	1
Methyl tert-butyl ether (MTBE)	< 1.1	ug/l	1.1	3.7	1	8260B		8/2/2016	CJR	1
Naphthalene	< 1.6	ug/l	1.6	5.2	1	8260B		8/2/2016	CJR	1
n-Propylbenzene	< 0.77	ug/l	0.77	2.4	1	8260B		8/2/2016	CJR	1
1,1,2,2-Tetrachloroethane	< 0.52	ug/l	0.52	1.7	1	8260B		8/2/2016	CJR	1
1,1,1,2-Tetrachloroethane	< 0.48	ug/l	0.48	1.5	1	8260B		8/2/2016	CJR	1
Tetrachloroethene	< 0.49	ug/l	0.49	1.5	1	8260B		8/2/2016	CJR	1
Toluene	< 0.44	ug/l	0.44	1.4	1	8260B		8/2/2016	CJR	1
1,2,4-Trichlorobenzene	< 1.7	ug/l	1.7	5.6	1	8260B		8/2/2016	CJR	1
1,2,3-Trichlorobenzene	< 2.7	ug/l	2.7	8.6	1	8260B		8/2/2016	CJR	1
1,1,1-Trichloroethane	< 0.84	ug/l	0.84	2.7	1	8260B		8/2/2016	CJR	1
1,1,2-Trichloroethane	< 0.48	ug/l	0.48	1.52	1	8260B		8/2/2016	CJR	1
Trichloroethene (TCE)	0.67 "J"	ug/l	0.47	1.5	1	8260B		8/2/2016	CJR	1
Trichlorofluoromethane	< 0.87	ug/l	0.87	2.8	1	8260B		8/2/2016	CJR	1
1,2,4-Trimethylbenzene	< 1.6	ug/l	1.6	5	1	8260B		8/2/2016	CJR	1
1,3,5-Trimethylbenzene	< 1.5	ug/l	1.5	4.8	1	8260B		8/2/2016	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		8/2/2016	CJR	1
m&p-Xylene	< 2.2	ug/l	2.2	6.9	1	8260B		8/2/2016	CJR	1
o-Xylene	< 0.9	ug/l	0.9	2.9	1	8260B		8/2/2016	CJR	1
SUR - 4-Bromofluorobenzene	100	REC %			1	8260B		8/2/2016	CJR	1
SUR - Dibromofluoromethane	103	REC %			1	8260B		8/2/2016	CJR	1
SUR - Toluene-d8	96	REC %			1	8260B		8/2/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	92	REC %			1	8260B		8/2/2016	CJR	1

Project Name TWO RIVERS  
 Project # LOT F

Invoice # E31453

Lab Code 5031453B  
 Sample ID GP-02  
 Sample Matrix Water  
 Sample Date 7/28/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Arsenic, Total	13.1	ug/L	0.6	1.9	1	7060A		8/5/2016	CWT	1
Barium, Total	41.9	ug/L	7.8	25	1	200.7		8/2/2016	CWT	1
Cadmium, Total	< 0.3	ug/L	0.3	1	1	200.7		8/2/2016	CWT	1
Chromium, Total	< 1.8	ug/L	1.8	5.6	1	200.7		8/2/2016	CWT	1
Lead, Total	31.9	ug/L	4	13	5	7421		8/5/2016	CWT	1 49
Mercury, Total	< 0.11	ug/l	0.11	0.35	1	245.1		8/3/2016	CWT	1
Molybdenum, Total	8.0	ug/L	1.5	5.1	1	200.7		8/2/2016	CWT	1
Selenium, Total	2.3 "J"	ug/l	1.1	3.7	1	7740		8/10/2016	MJR	1
Silver, Total	< 8.4	ug/L	8.4	27.9	1	200.7		8/2/2016	CWT	1
Organic										
VOC's										
Benzene	< 0.44	ug/l	0.44	1.4	1	8260B		8/2/2016	CJR	1
Bromobenzene	< 0.48	ug/l	0.48	1.5	1	8260B		8/2/2016	CJR	1
Bromodichloromethane	< 0.46	ug/l	0.46	1.5	1	8260B		8/2/2016	CJR	1
Bromoform	< 0.46	ug/l	0.46	1.5	1	8260B		8/2/2016	CJR	1
tert-Butylbenzene	< 1.1	ug/l	1.1	3.4	1	8260B		8/2/2016	CJR	1
sec-Butylbenzene	< 1.2	ug/l	1.2	3.8	1	8260B		8/2/2016	CJR	1
n-Butylbenzene	< 1	ug/l	1	3.3	1	8260B		8/2/2016	CJR	1
Carbon Tetrachloride	< 0.51	ug/l	0.51	1.6	1	8260B		8/2/2016	CJR	1
Chlorobenzene	< 0.46	ug/l	0.46	1.4	1	8260B		8/2/2016	CJR	1
Chloroethane	< 0.65	ug/l	0.65	2.1	1	8260B		8/2/2016	CJR	1
Chloroform	< 0.43	ug/l	0.43	1.4	1	8260B		8/2/2016	CJR	1
Chloromethane	< 1.9	ug/l	1.9	6	1	8260B		8/2/2016	CJR	1
2-Chlorotoluene	< 0.4	ug/l	0.4	1.3	1	8260B		8/2/2016	CJR	1
4-Chlorotoluene	< 0.63	ug/l	0.63	2	1	8260B		8/2/2016	CJR	1
1,2-Dibromo-3-chloropropane	< 1.4	ug/l	1.4	4.5	1	8260B		8/2/2016	CJR	1
Dibromochloromethane	< 0.45	ug/l	0.45	1.4	1	8260B		8/2/2016	CJR	1
1,4-Dichlorobenzene	< 0.49	ug/l	0.49	1.6	1	8260B		8/2/2016	CJR	1
1,3-Dichlorobenzene	< 0.52	ug/l	0.52	1.6	1	8260B		8/2/2016	CJR	1
1,2-Dichlorobenzene	< 0.46	ug/l	0.46	1.5	1	8260B		8/2/2016	CJR	1
Dichlorodifluoromethane	< 0.87	ug/l	0.87	2.8	1	8260B		8/2/2016	CJR	1
1,2-Dichloroethane	< 0.48	ug/l	0.48	1.5	1	8260B		8/2/2016	CJR	1
1,1-Dichloroethane	< 1.1	ug/l	1.1	3.6	1	8260B		8/2/2016	CJR	1
1,1-Dichloroethene	< 0.65	ug/l	0.65	2.1	1	8260B		8/2/2016	CJR	1
cis-1,2-Dichloroethene	3.0	ug/l	0.45	1.4	1	8260B		8/2/2016	CJR	1
trans-1,2-Dichloroethene	0.78 "J"	ug/l	0.54	1.7	1	8260B		8/2/2016	CJR	1
1,2-Dichloropropane	< 0.43	ug/l	0.43	1.37	1	8260B		8/2/2016	CJR	1
2,2-Dichloropropane	< 3.1	ug/l	3.1	9.8	1	8260B		8/2/2016	CJR	1
1,3-Dichloropropane	< 0.42	ug/l	0.42	1.3	1	8260B		8/2/2016	CJR	1
Di-isopropyl ether	< 0.44	ug/l	0.44	1.4	1	8260B		8/2/2016	CJR	1
EDB (1,2-Dibromoethane)	< 0.63	ug/l	0.63	2	1	8260B		8/2/2016	CJR	1
Ethylbenzene	< 0.71	ug/l	0.71	2.3	1	8260B		8/2/2016	CJR	1
Hexachlorobutadiene	< 2.2	ug/l	2.2	7.1	1	8260B		8/2/2016	CJR	1
Isopropylbenzene	< 0.82	ug/l	0.82	2.6	1	8260B		8/2/2016	CJR	1
p-Isopropyltoluene	< 1.1	ug/l	1.1	3.5	1	8260B		8/2/2016	CJR	1
Methylene chloride	< 1.3	ug/l	1.3	4.2	1	8260B		8/2/2016	CJR	1
Methyl tert-butyl ether (MTBE)	< 1.1	ug/l	1.1	3.7	1	8260B		8/2/2016	CJR	1
Naphthalene	< 1.6	ug/l	1.6	5.2	1	8260B		8/2/2016	CJR	1
n-Propylbenzene	< 0.77	ug/l	0.77	2.4	1	8260B		8/2/2016	CJR	1
1,1,2,2-Tetrachloroethane	< 0.52	ug/l	0.52	1.7	1	8260B		8/2/2016	CJR	1
1,1,1,2-Tetrachloroethane	< 0.48	ug/l	0.48	1.5	1	8260B		8/2/2016	CJR	1
Tetrachloroethene	< 0.49	ug/l	0.49	1.5	1	8260B		8/2/2016	CJR	1
Toluene	< 0.44	ug/l	0.44	1.4	1	8260B		8/2/2016	CJR	1
1,2,4-Trichlorobenzene	< 1.7	ug/l	1.7	5.6	1	8260B		8/2/2016	CJR	1
1,2,3-Trichlorobenzene	< 2.7	ug/l	2.7	8.6	1	8260B		8/2/2016	CJR	1
1,1,1-Trichloroethane	< 0.84	ug/l	0.84	2.7	1	8260B		8/2/2016	CJR	1

**Project Name** TWO RIVERS  
**Project #** LOT F

**Invoice #** E31453

**Lab Code** 5031453B  
**Sample ID** GP-02  
**Sample Matrix** Water  
**Sample Date** 7/28/2016

	<b>Result</b>	<b>Unit</b>	<b>LOD</b>	<b>LOQ</b>	<b>Dil</b>	<b>Method</b>	<b>Ext Date</b>	<b>Run Date</b>	<b>Analyst</b>	<b>Code</b>
1,1,2-Trichloroethane	< 0.48	ug/l	0.48	1.52	1	8260B		8/2/2016	CJR	1
Trichloroethene (TCE)	36	ug/l	0.47	1.5	1	8260B		8/2/2016	CJR	1
Trichlorofluoromethane	< 0.87	ug/l	0.87	2.8	1	8260B		8/2/2016	CJR	1
1,2,4-Trimethylbenzene	< 1.6	ug/l	1.6	5	1	8260B		8/2/2016	CJR	1
1,3,5-Trimethylbenzene	< 1.5	ug/l	1.5	4.8	1	8260B		8/2/2016	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		8/2/2016	CJR	1
m&p-Xylene	< 2.2	ug/l	2.2	6.9	1	8260B		8/2/2016	CJR	1
o-Xylene	< 0.9	ug/l	0.9	2.9	1	8260B		8/2/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	92	REC %			1	8260B		8/2/2016	CJR	1
SUR - 4-Bromofluorobenzene	101	REC %			1	8260B		8/2/2016	CJR	1
SUR - Dibromofluoromethane	105	REC %			1	8260B		8/2/2016	CJR	1
SUR - Toluene-d8	97	REC %			1	8260B		8/2/2016	CJR	1



**Project Name** TWO RIVERS  
**Project #** LOT F

**Invoice #** E31453

**Lab Code** 5031453C  
**Sample ID** GP-03  
**Sample Matrix** Water  
**Sample Date** 7/28/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
<b>Inorganic</b>										
<b>Metals</b>										
Arsenic, Total	3.9	ug/L	0.6	1.9	1	7060A		8/5/2016	CWT	1
Barium, Total	127	ug/L	7.8	25	1	200.7		8/2/2016	CWT	1
Cadmium, Total	0.4 "J"	ug/L	0.3	1	1	200.7		8/2/2016	CWT	1
Chromium, Total	< 1.8	ug/L	1.8	5.6	1	200.7		8/2/2016	CWT	1
Lead, Total	34.1	ug/L	1.6	5.2	2	7421		8/5/2016	CWT	1
Mercury, Total	< 0.11	ug/l	0.11	0.35	1	245.1		8/3/2016	CWT	1
Molybdenum, Total	6.4	ug/L	1.5	5.1	1	200.7		8/2/2016	CWT	1
Selenium, Total	< 1.1	ug/l	1.1	3.7	1	7740		8/10/2016	MJR	1
Silver, Total	< 8.4	ug/L	8.4	27.9	1	200.7		8/2/2016	CWT	1
<b>Organic</b>										
<b>VOC's</b>										
Benzene	< 0.44	ug/l	0.44	1.4	1	8260B		8/2/2016	CJR	1
Bromobenzene	< 0.48	ug/l	0.48	1.5	1	8260B		8/2/2016	CJR	1
Bromodichloromethane	< 0.46	ug/l	0.46	1.5	1	8260B		8/2/2016	CJR	1
Bromoform	< 0.46	ug/l	0.46	1.5	1	8260B		8/2/2016	CJR	1
tert-Butylbenzene	< 1.1	ug/l	1.1	3.4	1	8260B		8/2/2016	CJR	1
sec-Butylbenzene	< 1.2	ug/l	1.2	3.8	1	8260B		8/2/2016	CJR	1
n-Butylbenzene	< 1	ug/l	1	3.3	1	8260B		8/2/2016	CJR	1
Carbon Tetrachloride	< 0.51	ug/l	0.51	1.6	1	8260B		8/2/2016	CJR	1
Chlorobenzene	< 0.46	ug/l	0.46	1.4	1	8260B		8/2/2016	CJR	1
Chloroethane	< 0.65	ug/l	0.65	2.1	1	8260B		8/2/2016	CJR	1
Chloroform	< 0.43	ug/l	0.43	1.4	1	8260B		8/2/2016	CJR	1
Chloromethane	< 1.9	ug/l	1.9	6	1	8260B		8/2/2016	CJR	1
2-Chlorotoluene	< 0.4	ug/l	0.4	1.3	1	8260B		8/2/2016	CJR	1
4-Chlorotoluene	< 0.63	ug/l	0.63	2	1	8260B		8/2/2016	CJR	1
1,2-Dibromo-3-chloropropane	< 1.4	ug/l	1.4	4.5	1	8260B		8/2/2016	CJR	1
Dibromochloromethane	< 0.45	ug/l	0.45	1.4	1	8260B		8/2/2016	CJR	1
1,4-Dichlorobenzene	< 0.49	ug/l	0.49	1.6	1	8260B		8/2/2016	CJR	1
1,3-Dichlorobenzene	< 0.52	ug/l	0.52	1.6	1	8260B		8/2/2016	CJR	1
1,2-Dichlorobenzene	< 0.46	ug/l	0.46	1.5	1	8260B		8/2/2016	CJR	1
Dichlorodifluoromethane	< 0.87	ug/l	0.87	2.8	1	8260B		8/2/2016	CJR	1
1,2-Dichloroethane	< 0.48	ug/l	0.48	1.5	1	8260B		8/2/2016	CJR	1
1,1-Dichloroethane	< 1.1	ug/l	1.1	3.6	1	8260B		8/2/2016	CJR	1
1,1-Dichloroethene	< 0.65	ug/l	0.65	2.1	1	8260B		8/2/2016	CJR	1
cis-1,2-Dichloroethene	< 0.45	ug/l	0.45	1.4	1	8260B		8/2/2016	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		8/2/2016	CJR	1
1,2-Dichloropropane	< 0.43	ug/l	0.43	1.37	1	8260B		8/2/2016	CJR	1
2,2-Dichloropropane	< 3.1	ug/l	3.1	9.8	1	8260B		8/2/2016	CJR	1
1,3-Dichloropropane	< 0.42	ug/l	0.42	1.3	1	8260B		8/2/2016	CJR	1
Di-isopropyl ether	< 0.44	ug/l	0.44	1.4	1	8260B		8/2/2016	CJR	1
EDB (1,2-Dibromoethane)	< 0.63	ug/l	0.63	2	1	8260B		8/2/2016	CJR	1
Ethylbenzene	< 0.71	ug/l	0.71	2.3	1	8260B		8/2/2016	CJR	1
Hexachlorobutadiene	< 2.2	ug/l	2.2	7.1	1	8260B		8/2/2016	CJR	1
Isopropylbenzene	< 0.82	ug/l	0.82	2.6	1	8260B		8/2/2016	CJR	1
p-Isopropyltoluene	< 1.1	ug/l	1.1	3.5	1	8260B		8/2/2016	CJR	1
Methylene chloride	< 1.3	ug/l	1.3	4.2	1	8260B		8/2/2016	CJR	1
Methyl tert-butyl ether (MTBE)	< 1.1	ug/l	1.1	3.7	1	8260B		8/2/2016	CJR	1
Naphthalene	< 1.6	ug/l	1.6	5.2	1	8260B		8/2/2016	CJR	1
n-Propylbenzene	< 0.77	ug/l	0.77	2.4	1	8260B		8/2/2016	CJR	1
1,1,2,2-Tetrachloroethane	< 0.52	ug/l	0.52	1.7	1	8260B		8/2/2016	CJR	1
1,1,1,2-Tetrachloroethane	< 0.48	ug/l	0.48	1.5	1	8260B		8/2/2016	CJR	1
Tetrachloroethene	< 0.49	ug/l	0.49	1.5	1	8260B		8/2/2016	CJR	1
Toluene	< 0.44	ug/l	0.44	1.4	1	8260B		8/2/2016	CJR	1
1,2,4-Trichlorobenzene	< 1.7	ug/l	1.7	5.6	1	8260B		8/2/2016	CJR	1
1,2,3-Trichlorobenzene	< 2.7	ug/l	2.7	8.6	1	8260B		8/2/2016	CJR	1
1,1,1-Trichloroethane	< 0.84	ug/l	0.84	2.7	1	8260B		8/2/2016	CJR	1

**Project Name** TWO RIVERS  
**Project #** LOT F

**Invoice #** E31453

**Lab Code** 5031453C  
**Sample ID** GP-03  
**Sample Matrix** Water  
**Sample Date** 7/28/2016

	<b>Result</b>	<b>Unit</b>	<b>LOD</b>	<b>LOQ</b>	<b>Dil</b>	<b>Method</b>	<b>Ext Date</b>	<b>Run Date</b>	<b>Analyst</b>	<b>Code</b>
1,1,2-Trichloroethane	< 0.48	ug/l	0.48	1.52	1	8260B		8/2/2016	CJR	1
Trichloroethene (TCE)	< 0.47	ug/l	0.47	1.5	1	8260B		8/2/2016	CJR	1
Trichlorofluoromethane	< 0.87	ug/l	0.87	2.8	1	8260B		8/2/2016	CJR	1
1,2,4-Trimethylbenzene	< 1.6	ug/l	1.6	5	1	8260B		8/2/2016	CJR	1
1,3,5-Trimethylbenzene	< 1.5	ug/l	1.5	4.8	1	8260B		8/2/2016	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		8/2/2016	CJR	1
m&p-Xylene	< 2.2	ug/l	2.2	6.9	1	8260B		8/2/2016	CJR	1
o-Xylene	< 0.9	ug/l	0.9	2.9	1	8260B		8/2/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	82	REC %				1 8260B		8/2/2016	CJR	1
SUR - 4-Bromofluorobenzene	98	REC %				1 8260B		8/2/2016	CJR	1
SUR - Dibromofluoromethane	97	REC %				1 8260B		8/2/2016	CJR	1
SUR - Toluene-d8	95	REC %				1 8260B		8/2/2016	CJR	1

**Project Name** TWO RIVERS  
**Project #** LOT F

**Invoice #** E31453

**Lab Code** 5031453D  
**Sample ID** GP-01/2'  
**Sample Matrix** Soil  
**Sample Date** 7/28/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	74.8	%			1	5021		8/1/2016	NJC	1
Inorganic										
Metals										
Arsenic, Total	1.39	mg/kg	0.65	0.11	2	6010B		8/5/2016	ESC	1
Barium, Total	72.9	mg/kg	0.17	0.5	1	6010B		8/5/2016	ESC	1
Cadmium, Total	0.389 "J"	mg/kg	0.07	0.5	1	6010B		8/5/2016	ESC	1
Chromium, Total	19.3	mg/kg	0.14	1	1	6010B		8/5/2016	ESC	1
Lead, Total	44.5	mg/kg	0.19	0.5	1	6010B		8/5/2016	ESC	1
Mercury, Total	0.081	mg/kg	0.0028	0.0093	1	7471		8/4/2016	CWT	1
Molybdenum, Total	< 0.160	mg/kg	0.16	0.533	1	6010B		8/5/2016	ESC	1
Selenium, Total	< 0.74	mg/kg	0.74	2	1	6010B		8/5/2016	ESC	1
Silver, Total	< 0.28	mg/kg	0.28	1	1	6010B		8/5/2016	ESC	1
Organic										
VOC's										
Benzene	< 0.016	mg/kg	0.016	0.049	1	8260B		8/8/2016	CJR	1
Bromobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		8/8/2016	CJR	1
Bromodichloromethane	< 0.015	mg/kg	0.015	0.048	1	8260B		8/8/2016	CJR	1
Bromoform	< 0.023	mg/kg	0.023	0.073	1	8260B		8/8/2016	CJR	1
tert-Butylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		8/8/2016	CJR	1
sec-Butylbenzene	< 0.036	mg/kg	0.036	0.11	1	8260B		8/8/2016	CJR	1
n-Butylbenzene	< 0.086	mg/kg	0.086	0.27	1	8260B		8/8/2016	CJR	1
Carbon Tetrachloride	< 0.021	mg/kg	0.021	0.067	1	8260B		8/8/2016	CJR	1
Chlorobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		8/8/2016	CJR	1
Chloroethane	< 0.045	mg/kg	0.045	0.14	1	8260B		8/8/2016	CJR	1
Chloroform	< 0.026	mg/kg	0.026	0.081	1	8260B		8/8/2016	CJR	1
Chloromethane	< 0.25	mg/kg	0.25	0.78	1	8260B		8/8/2016	CJR	1
2-Chlorotoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		8/8/2016	CJR	1
4-Chlorotoluene	< 0.032	mg/kg	0.032	0.1	1	8260B		8/8/2016	CJR	1
1,2-Dibromo-3-chloropropane	< 0.078	mg/kg	0.078	0.25	1	8260B		8/8/2016	CJR	1
Dibromochloromethane	< 0.031	mg/kg	0.031	0.098	1	8260B		8/8/2016	CJR	1
1,4-Dichlorobenzene	< 0.03	mg/kg	0.03	0.096	1	8260B		8/8/2016	CJR	1
1,3-Dichlorobenzene	< 0.03	mg/kg	0.03	0.097	1	8260B		8/8/2016	CJR	1
1,2-Dichlorobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		8/8/2016	CJR	1
Dichlorodifluoromethane	< 0.043	mg/kg	0.043	0.14	1	8260B		8/8/2016	CJR	1
1,2-Dichloroethane	< 0.03	mg/kg	0.03	0.096	1	8260B		8/8/2016	CJR	1
1,1-Dichloroethane	< 0.025	mg/kg	0.025	0.079	1	8260B		8/8/2016	CJR	1
1,1-Dichloroethene	< 0.029	mg/kg	0.029	0.093	1	8260B		8/8/2016	CJR	1
cis-1,2-Dichloroethene	< 0.021	mg/kg	0.021	0.068	1	8260B		8/8/2016	CJR	1
trans-1,2-Dichloroethene	< 0.024	mg/kg	0.024	0.076	1	8260B		8/8/2016	CJR	1
1,2-Dichloropropane	< 0.025	mg/kg	0.025	0.078	1	8260B		8/8/2016	CJR	1
2,2-Dichloropropane	< 0.1	mg/kg	0.1	0.33	1	8260B		8/8/2016	CJR	1
1,3-Dichloropropane	< 0.031	mg/kg	0.031	0.097	1	8260B		8/8/2016	CJR	1
Di-isopropyl ether	< 0.012	mg/kg	0.012	0.04	1	8260B		8/8/2016	CJR	1
EDB (1,2-Dibromoethane)	< 0.035	mg/kg	0.035	0.11	1	8260B		8/8/2016	CJR	1
Ethylbenzene	< 0.027	mg/kg	0.027	0.086	1	8260B		8/8/2016	CJR	1
Hexachlorobutadiene	< 0.11	mg/kg	0.11	0.36	1	8260B		8/8/2016	CJR	1
Isopropylbenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		8/8/2016	CJR	1
p-Isopropyltoluene	< 0.056	mg/kg	0.056	0.18	1	8260B		8/8/2016	CJR	1
Methylene chloride	< 0.22	mg/kg	0.22	0.7	1	8260B		8/8/2016	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.025	0.078	1	8260B		8/8/2016	CJR	1
Naphthalene	< 0.087	mg/kg	0.087	0.28	1	8260B		8/8/2016	CJR	1
n-Propylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		8/8/2016	CJR	1
1,1,2,2-Tetrachloroethane	< 0.013	mg/kg	0.013	0.04	1	8260B		8/8/2016	CJR	1
1,1,1,2-Tetrachloroethane	< 0.029	mg/kg	0.029	0.093	1	8260B		8/8/2016	CJR	1
Tetrachloroethene	< 0.054	mg/kg	0.054	0.17	1	8260B		8/8/2016	CJR	1



**Project Name** TWO RIVERS  
**Project #** LOT F

**Invoice #** E31453

**Lab Code** 5031453D  
**Sample ID** GP-01/2'  
**Sample Matrix** Soil  
**Sample Date** 7/28/2016

	<b>Result</b>	<b>Unit</b>	<b>LOD</b>	<b>LOQ</b>	<b>Dil</b>	<b>Method</b>	<b>Ext Date</b>	<b>Run Date</b>	<b>Analyst</b>	<b>Code</b>
Toluene	< 0.031	mg/kg	0.031	0.099	1	8260B		8/8/2016	CJR	1
1,2,4-Trichlorobenzene	< 0.085	mg/kg	0.085	0.27	1	8260B		8/8/2016	CJR	1
1,2,3-Trichlorobenzene	< 0.12	mg/kg	0.12	0.38	1	8260B		8/8/2016	CJR	1
1,1,1-Trichloroethane	< 0.04	mg/kg	0.04	0.13	1	8260B		8/8/2016	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		8/8/2016	CJR	1
Trichloroethene (TCE)	< 0.042	mg/kg	0.042	0.13	1	8260B		8/8/2016	CJR	1
Trichlorofluoromethane	< 0.06	mg/kg	0.06	0.19	1	8260B		8/8/2016	CJR	1
1,2,4-Trimethylbenzene	< 0.078	mg/kg	0.078	0.25	1	8260B		8/8/2016	CJR	1
1,3,5-Trimethylbenzene	< 0.089	mg/kg	0.089	0.28	1	8260B		8/8/2016	CJR	1
Vinyl Chloride	< 0.01	mg/kg	0.01	0.031	1	8260B		8/8/2016	CJR	1
m&p-Xylene	< 0.07	mg/kg	0.07	0.22	1	8260B		8/8/2016	CJR	1
o-Xylene	< 0.029	mg/kg	0.029	0.092	1	8260B		8/8/2016	CJR	1
SUR - Toluene-d8	102	Rec %			1	8260B		8/8/2016	CJR	1
SUR - Dibromofluoromethane	99	Rec %			1	8260B		8/8/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	80	Rec %			1	8260B		8/8/2016	CJR	1
SUR - 4-Bromofluorobenzene	105	Rec %			1	8260B		8/8/2016	CJR	1

**Project Name** TWO RIVERS  
**Project #** LOT F

**Invoice #** E31453

**Lab Code** 5031453E  
**Sample ID** GP-02/2.5'  
**Sample Matrix** Soil  
**Sample Date** 7/28/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	87.5	%			1	5021		8/1/2016	NJC	1
Inorganic										
Metals										
Arsenic, Total	< 0.65	mg/kg	0.65	2	1	6010B		8/5/2016	ESC	1
Barium, Total	28.0	mg/kg	0.17	0.5	1	6010B		8/5/2016	ESC	1
Cadmium, Total	0.114 "J"	mg/kg	0.07	0.5	1	6010B		8/5/2016	ESC	1
Chromium, Total	9.02	mg/kg	0.14	1	1	6010B		8/5/2016	ESC	1
Lead, Total	4.71	mg/kg	0.19	0.5	1	6010B		8/5/2016	ESC	1
Mercury, Total	0.234	mg/kg	0.0028	0.0093	1	7471		8/4/2016	CWT	1
Molybdenum, Total	< 0.160	mg/kg	0.16	0.533	1	6010B		8/5/2016	ESC	1
Selenium, Total	< 0.74	mg/kg	0.74	2	1	6010B		8/5/2016	ESC	1
Silver, Total	< 0.28	mg/kg	0.28	1	1	6010B		8/5/2016	ESC	1
Organic										
VOC's										
Benzene	< 0.016	mg/kg	0.016	0.049	1	8260B		8/8/2016	CJR	1
Bromobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		8/8/2016	CJR	1
Bromodichloromethane	< 0.015	mg/kg	0.015	0.048	1	8260B		8/8/2016	CJR	1
Bromoform	< 0.023	mg/kg	0.023	0.073	1	8260B		8/8/2016	CJR	1
tert-Butylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		8/8/2016	CJR	1
sec-Butylbenzene	< 0.036	mg/kg	0.036	0.11	1	8260B		8/8/2016	CJR	1
n-Butylbenzene	< 0.086	mg/kg	0.086	0.27	1	8260B		8/8/2016	CJR	1
Carbon Tetrachloride	< 0.021	mg/kg	0.021	0.067	1	8260B		8/8/2016	CJR	1
Chlorobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		8/8/2016	CJR	1
Chloroethane	< 0.045	mg/kg	0.045	0.14	1	8260B		8/8/2016	CJR	1
Chloroform	< 0.026	mg/kg	0.026	0.081	1	8260B		8/8/2016	CJR	1
Chloromethane	< 0.25	mg/kg	0.25	0.78	1	8260B		8/8/2016	CJR	1
2-Chlorotoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		8/8/2016	CJR	1
4-Chlorotoluene	< 0.032	mg/kg	0.032	0.1	1	8260B		8/8/2016	CJR	1
1,2-Dibromo-3-chloropropane	< 0.078	mg/kg	0.078	0.25	1	8260B		8/8/2016	CJR	1
Dibromochloromethane	< 0.031	mg/kg	0.031	0.098	1	8260B		8/8/2016	CJR	1
1,4-Dichlorobenzene	< 0.03	mg/kg	0.03	0.096	1	8260B		8/8/2016	CJR	1
1,3-Dichlorobenzene	< 0.03	mg/kg	0.03	0.097	1	8260B		8/8/2016	CJR	1
1,2-Dichlorobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		8/8/2016	CJR	1
Dichlorodifluoromethane	< 0.043	mg/kg	0.043	0.14	1	8260B		8/8/2016	CJR	1
1,2-Dichloroethane	< 0.03	mg/kg	0.03	0.096	1	8260B		8/8/2016	CJR	1
1,1-Dichloroethane	< 0.025	mg/kg	0.025	0.079	1	8260B		8/8/2016	CJR	1
1,1-Dichloroethene	< 0.029	mg/kg	0.029	0.093	1	8260B		8/8/2016	CJR	1
cis-1,2-Dichloroethene	< 0.021	mg/kg	0.021	0.068	1	8260B		8/8/2016	CJR	1
trans-1,2-Dichloroethene	< 0.024	mg/kg	0.024	0.076	1	8260B		8/8/2016	CJR	1
1,2-Dichloropropane	< 0.025	mg/kg	0.025	0.078	1	8260B		8/8/2016	CJR	1
2,2-Dichloropropane	< 0.1	mg/kg	0.1	0.33	1	8260B		8/8/2016	CJR	1
1,3-Dichloropropane	< 0.031	mg/kg	0.031	0.097	1	8260B		8/8/2016	CJR	1
Di-isopropyl ether	< 0.012	mg/kg	0.012	0.04	1	8260B		8/8/2016	CJR	1
EDB (1,2-Dibromoethane)	< 0.035	mg/kg	0.035	0.11	1	8260B		8/8/2016	CJR	1
Ethylbenzene	< 0.027	mg/kg	0.027	0.086	1	8260B		8/8/2016	CJR	1
Hexachlorobutadiene	< 0.11	mg/kg	0.11	0.36	1	8260B		8/8/2016	CJR	1
Isopropylbenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		8/8/2016	CJR	1
p-Isopropyltoluene	< 0.056	mg/kg	0.056	0.18	1	8260B		8/8/2016	CJR	1
Methylene chloride	< 0.22	mg/kg	0.22	0.7	1	8260B		8/8/2016	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.025	0.078	1	8260B		8/8/2016	CJR	1
Naphthalene	< 0.087	mg/kg	0.087	0.28	1	8260B		8/8/2016	CJR	1
n-Propylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		8/8/2016	CJR	1
1,1,2,2-Tetrachloroethane	< 0.013	mg/kg	0.013	0.04	1	8260B		8/8/2016	CJR	1
1,1,1,2-Tetrachloroethane	< 0.029	mg/kg	0.029	0.093	1	8260B		8/8/2016	CJR	1
Tetrachloroethene	< 0.054	mg/kg	0.054	0.17	1	8260B		8/8/2016	CJR	1

**Project Name** TWO RIVERS  
**Project #** LOT F

**Invoice #** E31453

**Lab Code** 5031453E  
**Sample ID** GP-02/2.5'  
**Sample Matrix** Soil  
**Sample Date** 7/28/2016

	<b>Result</b>	<b>Unit</b>	<b>LOD</b>	<b>LOQ</b>	<b>Dil</b>	<b>Method</b>	<b>Ext Date</b>	<b>Run Date</b>	<b>Analyst</b>	<b>Code</b>
Toluene	< 0.031	mg/kg	0.031	0.099	1	8260B		8/8/2016	CJR	1
1,2,4-Trichlorobenzene	< 0.085	mg/kg	0.085	0.27	1	8260B		8/8/2016	CJR	1
1,2,3-Trichlorobenzene	< 0.12	mg/kg	0.12	0.38	1	8260B		8/8/2016	CJR	1
1,1,1-Trichloroethane	< 0.04	mg/kg	0.04	0.13	1	8260B		8/8/2016	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		8/8/2016	CJR	1
Trichloroethene (TCE)	< 0.042	mg/kg	0.042	0.13	1	8260B		8/8/2016	CJR	1
Trichlorofluoromethane	< 0.06	mg/kg	0.06	0.19	1	8260B		8/8/2016	CJR	1
1,2,4-Trimethylbenzene	< 0.078	mg/kg	0.078	0.25	1	8260B		8/8/2016	CJR	1
1,3,5-Trimethylbenzene	< 0.089	mg/kg	0.089	0.28	1	8260B		8/8/2016	CJR	1
Vinyl Chloride	< 0.01	mg/kg	0.01	0.031	1	8260B		8/8/2016	CJR	1
m&p-Xylene	< 0.07	mg/kg	0.07	0.22	1	8260B		8/8/2016	CJR	1
o-Xylene	< 0.029	mg/kg	0.029	0.092	1	8260B		8/8/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	97	Rec %			1	8260B		8/8/2016	CJR	1
SUR - 4-Bromofluorobenzene	119	Rec %			1	8260B		8/8/2016	CJR	1
SUR - Dibromofluoromethane	100	Rec %			1	8260B		8/8/2016	CJR	1
SUR - Toluene-d8	101	Rec %			1	8260B		8/8/2016	CJR	1



Project Name TWO RIVERS  
 Project # LOT F

Invoice # E31453

Lab Code 5031453F  
 Sample ID GP-03/3'  
 Sample Matrix Soil  
 Sample Date 7/28/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	86.5	%			1	5021		8/1/2016	NJC	1
Inorganic										
Metals										
Arsenic, Total	0.99 "J"	mg/kg	0.65	2	1	6010B		8/5/2016	ESC	1
Barium, Total	26.0	mg/kg	0.17	0.5	1	6010B		8/5/2016	ESC	1
Cadmium, Total	< 0.07	mg/kg	0.07	0.5	1	6010B		8/5/2016	ESC	1
Chromium, Total	5.01	mg/kg	0.14	1	1	6010B		8/5/2016	ESC	1
Lead, Total	17.1	mg/kg	0.19	0.5	1	6010B		8/5/2016	ESC	1
Mercury, Total	0.038	mg/kg	0.0028	0.0093	1	7471		8/4/2016	CWT	1
Molybdenum, Total	< 0.160	mg/kg	0.16	0.533	1	6010B		8/5/2016	ESC	1
Selenium, Total	< 0.74	mg/kg	0.74	2	1	6010B		8/5/2016	ESC	1
Silver, Total	< 0.28	mg/kg	0.28	1	1	6010B		8/5/2016	ESC	1
Organic										
VOC's										
Benzene	< 0.016	mg/kg	0.016	0.049	1	8260B		8/8/2016	CJR	1
Bromobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		8/8/2016	CJR	1
Bromodichloromethane	< 0.015	mg/kg	0.015	0.048	1	8260B		8/8/2016	CJR	1
Bromoform	< 0.023	mg/kg	0.023	0.073	1	8260B		8/8/2016	CJR	1
tert-Butylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		8/8/2016	CJR	1
sec-Butylbenzene	< 0.036	mg/kg	0.036	0.11	1	8260B		8/8/2016	CJR	1
n-Butylbenzene	< 0.086	mg/kg	0.086	0.27	1	8260B		8/8/2016	CJR	1
Carbon Tetrachloride	< 0.021	mg/kg	0.021	0.067	1	8260B		8/8/2016	CJR	1
Chlorobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		8/8/2016	CJR	1
Chloroethane	< 0.045	mg/kg	0.045	0.14	1	8260B		8/8/2016	CJR	1
Chloroform	< 0.026	mg/kg	0.026	0.081	1	8260B		8/8/2016	CJR	1
Chloromethane	< 0.25	mg/kg	0.25	0.78	1	8260B		8/8/2016	CJR	1
2-Chlorotoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		8/8/2016	CJR	1
4-Chlorotoluene	< 0.032	mg/kg	0.032	0.1	1	8260B		8/8/2016	CJR	1
1,2-Dibromo-3-chloropropane	< 0.078	mg/kg	0.078	0.25	1	8260B		8/8/2016	CJR	1
Dibromochloromethane	< 0.031	mg/kg	0.031	0.098	1	8260B		8/8/2016	CJR	1
1,4-Dichlorobenzene	< 0.03	mg/kg	0.03	0.096	1	8260B		8/8/2016	CJR	1
1,3-Dichlorobenzene	< 0.03	mg/kg	0.03	0.097	1	8260B		8/8/2016	CJR	1
1,2-Dichlorobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		8/8/2016	CJR	1
Dichlorodifluoromethane	< 0.043	mg/kg	0.043	0.14	1	8260B		8/8/2016	CJR	1
1,2-Dichloroethane	< 0.03	mg/kg	0.03	0.096	1	8260B		8/8/2016	CJR	1
1,1-Dichloroethane	< 0.025	mg/kg	0.025	0.079	1	8260B		8/8/2016	CJR	1
1,1-Dichloroethene	< 0.029	mg/kg	0.029	0.093	1	8260B		8/8/2016	CJR	1
cis-1,2-Dichloroethene	< 0.021	mg/kg	0.021	0.068	1	8260B		8/8/2016	CJR	1
trans-1,2-Dichloroethene	< 0.024	mg/kg	0.024	0.076	1	8260B		8/8/2016	CJR	1
1,2-Dichloropropane	< 0.025	mg/kg	0.025	0.078	1	8260B		8/8/2016	CJR	1
2,2-Dichloropropane	< 0.1	mg/kg	0.1	0.33	1	8260B		8/8/2016	CJR	1
1,3-Dichloropropane	< 0.031	mg/kg	0.031	0.097	1	8260B		8/8/2016	CJR	1
Di-isopropyl ether	< 0.012	mg/kg	0.012	0.04	1	8260B		8/8/2016	CJR	1
EDB (1,2-Dibromoethane)	< 0.035	mg/kg	0.035	0.11	1	8260B		8/8/2016	CJR	1
Ethylbenzene	< 0.027	mg/kg	0.027	0.086	1	8260B		8/8/2016	CJR	1
Hexachlorobutadiene	< 0.11	mg/kg	0.11	0.36	1	8260B		8/8/2016	CJR	1
Isopropylbenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		8/8/2016	CJR	1
p-Isopropyltoluene	< 0.056	mg/kg	0.056	0.18	1	8260B		8/8/2016	CJR	1
Methylene chloride	< 0.22	mg/kg	0.22	0.7	1	8260B		8/8/2016	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.025	0.078	1	8260B		8/8/2016	CJR	1
Naphthalene	< 0.087	mg/kg	0.087	0.28	1	8260B		8/8/2016	CJR	1
n-Propylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		8/8/2016	CJR	1
1,1,2,2-Tetrachloroethane	< 0.013	mg/kg	0.013	0.04	1	8260B		8/8/2016	CJR	1
1,1,1,2-Tetrachloroethane	< 0.029	mg/kg	0.029	0.093	1	8260B		8/8/2016	CJR	1
Tetrachloroethene	< 0.054	mg/kg	0.054	0.17	1	8260B		8/8/2016	CJR	1

**Project Name** TWO RIVERS  
**Project #** LOT F

**Invoice #** E31453

**Lab Code** 5031453F  
**Sample ID** GP-03/3'  
**Sample Matrix** Soil  
**Sample Date** 7/28/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Toluene	< 0.031	mg/kg	0.031	0.099	1	8260B	8/8/2016	8/8/2016	CJR	1
1,2,4-Trichlorobenzene	< 0.085	mg/kg	0.085	0.27	1	8260B	8/8/2016	8/8/2016	CJR	1
1,2,3-Trichlorobenzene	< 0.12	mg/kg	0.12	0.38	1	8260B	8/8/2016	8/8/2016	CJR	1
1,1,1-Trichloroethane	< 0.04	mg/kg	0.04	0.13	1	8260B	8/8/2016	8/8/2016	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B	8/8/2016	8/8/2016	CJR	1
Trichloroethene (TCE)	< 0.042	mg/kg	0.042	0.13	1	8260B	8/8/2016	8/8/2016	CJR	1
Trichlorofluoromethane	< 0.06	mg/kg	0.06	0.19	1	8260B	8/8/2016	8/8/2016	CJR	1
1,2,4-Trimethylbenzene	< 0.078	mg/kg	0.078	0.25	1	8260B	8/8/2016	8/8/2016	CJR	1
1,3,5-Trimethylbenzene	< 0.089	mg/kg	0.089	0.28	1	8260B	8/8/2016	8/8/2016	CJR	1
Vinyl Chloride	< 0.01	mg/kg	0.01	0.031	1	8260B	8/8/2016	8/8/2016	CJR	1
m&p-Xylene	< 0.07	mg/kg	0.07	0.22	1	8260B	8/8/2016	8/8/2016	CJR	1
o-Xylene	< 0.029	mg/kg	0.029	0.092	1	8260B	8/8/2016	8/8/2016	CJR	1
SUR - Toluene-d8	103	Rec %			1	8260B	8/8/2016	8/8/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	89	Rec %			1	8260B	8/8/2016	8/8/2016	CJR	1
SUR - 4-Bromofluorobenzene	114	Rec %			1	8260B	8/8/2016	8/8/2016	CJR	1
SUR - Dibromofluoromethane	95	Rec %			1	8260B	8/8/2016	8/8/2016	CJR	1

"J" Flag: Analyte detected between LOD and LOQ

LOD Limit of Detection

LOQ Limit of Quantitation

**Code**      **Comment**

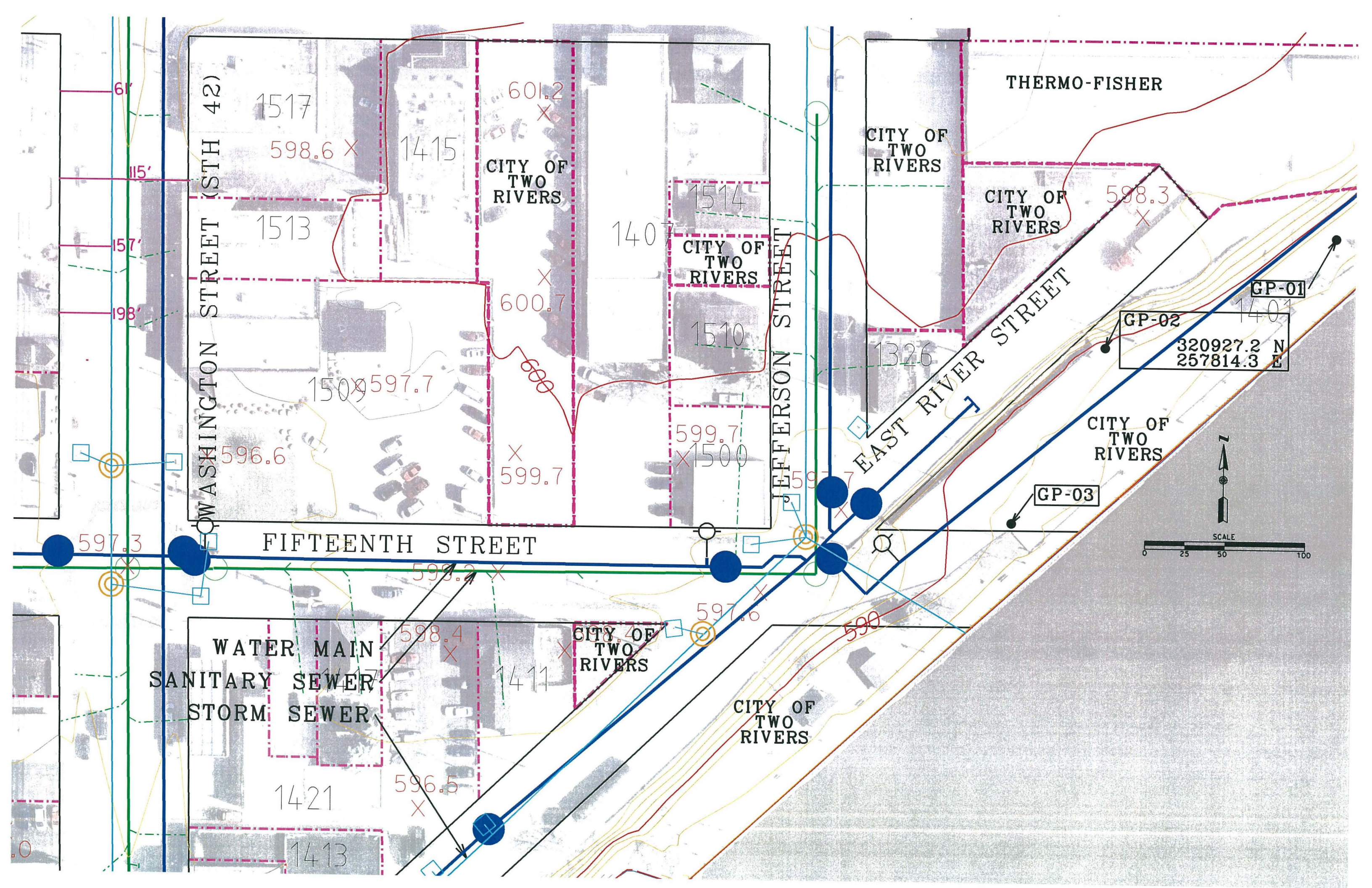
- 1      Laboratory QC within limits.
- 49      Sample diluted to compensate for matrix interference.
- CWT denotes sub contract lab - Certification #445126660
- ESC denotes sub contract lab - Certification #998093910

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

**Authorized Signature**









**Table #1**

**GROUNDWATER ANALYTICAL RESULTS**  
 Detected VOCs, Total 8 RCRA Metals and Total Molybdenum  
 CITY OF TWO RIVERS | LOT F

August 17, 2016  
 McM. No. T0007-9-16-00248.00

Well Name	Sample Date	Trichloroethene (ug/l)	cis-1,2,- Dichloroethene (ug/l)	trans-1,2,- Dichloroethene (ug/l)	Arsenic (ug/l)	Barium (ug/l)	Cadmium (ug/l)	Chromium (ug/l)	Lead (ug/l)	Mercury (ug/l)	Selenium (ug/l)	Silver (ug/l)	Molybdenum (ug/l)
GP-01	7/28/2016	0.67*	0.61*	<0.54	3.6	81.4	<0.3	<1.8	64.1	<0.11	<1.1	<8.4	11.0
GP-02	7/28/2016	36	3.0	0.78*	13.1	41.9	<0.3	<1.8	31.9	<0.11	2.3*	<8.4	8.0
GP-03	7/28/2016	<0.47	<0.45	<0.47	3.9	127	0.4*	<1.8	34.1	<0.11	<1.1	<8.4	6.4
Enforcement Standard, Chapter NR 140.10		5.0	70	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
Preventive Action Limit, Chapter NR 140.10		0.5	7	20	NA	NA	NA	NA	NA	NA	NA	NA	NA

EXPLANATION:


VOC = Volatile Organic Compounds

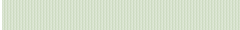
-- = No Established State Groundwater Standard

\* = Analyte Detected Between Limit of Detection & Limit of Quantitation

ug/l = Microgram/Liter (ppb)

NA = Not Applicable

 = Exceeds Enforcement Standards (ES)

 = Exceeds Preventive Action Limit (PAL)

**Table #2**

**SOIL ANALYTICAL RESULTS**

Detected VOCs, Total 8 RCRA Metals and Total Molybdenum  
CITY OF TWO RIVERS | LOT F

August 17, 2016

McM. No. T0007-9-16-00248.00

Sample Name / Depth (feet)	Sample Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Molybdenum (mg/kg)
GP-01 / 2'	7/28/2016	1.39	72.9	0.389*	19.3	44.5	0.081	<0.74	<0.28	<0.16
GP-02 / 2.5'	7/28/2016	<0.65	28.0	0.114*	9.02	4.71	0.234	<0.74	<0.28	<0.16
GP-03 / 3'	7/28/2016	0.99*	26.0	<0.07	5.01	17.1	0.038	<0.74	<0.28	<0.16
Industrial DC RCLs		2.39	100,000	799	100,000**	800	3.13	5,110	5,110	5,110
Non-Industrial DC RCLs		0.61	15,300	70	100,000	400	3.13	391	391	391
GW RCLs		0.584	164.8	0.752	360,000	27	0.208	0.52	0.8491	1.6192
Background Threshold Value		8	364	1.0	44	52	--	--	--	--

EXPLANATION:

VOC = Volatile Organic Compounds

mg/kg = Milligram/Kilogram (ppm)

< = Less Than

DC = Direct Contact


RCL = Residual Contaminant Level

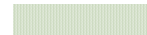
GW = Groundwater

\* = Analyte Detected Between Limit of Detection & Limit of Quantitation

\*\* = Standard for Chromium III

 = Exceeds Industrial DC RCLs

 = Exceeds Non-Industrial DC RCLs

 = Exceeds GW RCLs