

## SCS ENGINEERS

June 22, 2017  
File No. 25211374.49

### TECHNICAL MEMORANDUM

**TO:** Jon Heberer and Mike Schmoller, WDNR

**FROM:** Eric Oelkers and Sherren Clark, SCS Engineers

**CC:** See list on last page of memorandum

**SUBJECT:** Phase 3 Investigation Update – P429D Drilling Status and Proposed Well Installation, Land & Gas Reclamation Landfill

This Technical Memorandum provides an update on the status and results of drilling the P429D borehole as part of Phase 3 of the investigation of volatile organic compounds (VOCs) in the bedrock aquifer downgradient from the former Land and Gas Reclamation Landfill (LGRL) location. The work was done in accordance with the April 2012 investigation work plan and the recommendations of the Phase 2 investigation update letter submitted to the Wisconsin Department of Natural Resources (WDNR) in June 2016. The Phase 3 objective is to install a monitoring well to better define the downgradient extent of the plume and to serve as a sentinel well for downgradient water supply wells.

For the proposed well installation, we are requesting approval of an exception to NR 141, as described in detail in the Proposed Well Construction section of this memorandum.

This memorandum also provides an update on groundwater monitoring results for the bedrock monitoring wells and water supply wells being monitored as part of the bedrock groundwater investigation.

A complete report on the Phase 3 investigation will be submitted after completion of the well installation and initial groundwater sampling.

#### **P429D Drilling Status and Results**

SCS Engineers (SCS) mobilized to the P429D well site on the Andy Oeschner property (see **Figure 1**) on January 9, 2017, after getting access approval and waiting for suitable ground conditions (frost but not too much snow and ice) to allow access by the drilling equipment. Shale bedrock was encountered at 57 feet, and a 6-inch temporary casing was installed to a depth of 78 feet below ground surface (bgs) in an 8.5-inch borehole. A total of 80 feet of casing were used, leaving 2 feet of casing sticking up above the ground surface. The casing was fitted with a drive shoe and was seated firmly into the shale. The hole was then drilled to 160 feet. No drilling occurred on January 10 because of bad weather.



On January 11, 2017, prior to the resumption of drilling, the measured depth to water from the top of the temporary casing was 49.38 feet inside the casing and 10 feet in the annulus outside the casing. Two bags of chips were added to the annular space prior to the resumption of drilling. Dolomite bedrock was encountered at 210 feet. The initial planned borehole depth was 260 feet, to potentially intercept the fracture zone identified in the upper dolomite at monitoring wells P402E, P424D, and P423D. At this location, little or no apparent water was encountered in the upper portion of the dolomite, so the borehole was extended to a depth of 380 feet. The measured depth to water at the completion of drilling was 375 feet. The geologic units encountered are shown on the attached NE-SW cross section (see **Figures 2 and 3**).

SCS returned to the site on February 9, 2017, to log the well using geophysical tools. Borehole logs are shown on **Figure 4**. The depth to water was 28.93 feet, and the approximate depth to bottom was 378 feet from the top of casing (TOC), or 376 feet bgs. Logging parameters included gamma (natural radiation/clay minerals), caliper (borehole diameter), fluid temperature and conductivity under static and pumped conditions, and borehole flow using a heat pulse tool. The borehole was pumped down to the level of the pump intake at approximately 94 feet below TOC, for a drawdown of 70 feet. The water level recovered to a depth of 82.4 feet below TOC, a distance of 11.6 feet in 141 minutes. This recovery corresponds to a flow of 0.12 gallons per minute, over the entire open length of the borehole, from 78 to 376 feet.

Compared to the shale, the dolomite appears massive and relatively unfractured in the caliper log, with a possible fracture at about 235 feet bgs. The fluid temperature log shows no sharp changes in the dolomite, with an inflection at a depth of about 185 feet in the shale. The fluid conductivity was also very uniform in the dolomite, with spikes at about 138 and 160 feet bgs in the shale. The heat pulse flow meter did not detect any flow (upward or downward) in the borehole.

Based on the borehole logging and pumping data for the P429D borehole, it appears that very little groundwater is moving through the dolomite at this location. Dan Antonioni, the well pump contractor that owns the residence and farm property supplied by PW19, reports that his well is the only one in the immediate area that produces appreciable quantities of water from the dolomite.

The observed low hydraulic conductivity of the dolomite at this location indicates that there is low potential for contaminant transport through this unit, except where fractures are present. Although a fracture zone has been observed near the top of the dolomite at other locations, it does not appear to be present at the P429D location.

### **Proposed Well Construction**

The approved work plan proposed construction of a single well at this location, in the upper dolomite; however, as discussed with you during the week of May 8, 2017, we propose to modify this approach based on the drilling and logging observations of little or no flow in the upper dolomite at this location. We propose to drill the existing P429D borehole down into the uppermost sandstone below the dolomite and install a 2-inch monitoring well (P429SS) screened

for 15 feet in the upper sandstone. The sandstone well will be used to identify whether the contamination present at PW-21RR is moving in the apparent downgradient direction to the northeast.

Following sampling of the sandstone well, we will reevaluate the need for installation of a second shallower well in the dolomite. If installed, we anticipate that the second well will be screened in the dolomite at the projected elevation of the fracture zone identified in monitoring wells P402E, P424D, and P423D. The dolomite well would be used to identify whether water is present in the dolomite at this location and whether 1,2-dichloroethene (DCE) may be migrating in the dolomite toward PW-19.

In accordance with NR 141.31(1)(b), we are requesting approval of an exception to the NR 141 requirement regarding borehole diameter. The actual diameter of the bedrock borehole is slightly less than 6 inches (about 5 5/8 inches), which is less than the requirement for a borehole diameter 4 inches larger than the 2-inch inside diameter of the PVC well casing. In prior installations, there has been no problem placing the grout seal using tremie methods in the annular space between the nominal 6-inch borehole and the 2-inch PCV casing.

### **Groundwater Monitoring Results**

The most recent data from the bedrock monitoring wells and water supply wells are summarized in **Tables 1, 2, and 3**. Trends in concentrations of DCE and vinyl chloride at the bedrock monitoring wells and water supply wells where these VOCs have been detected are shown on **Figures 5 through 8**. As indicated in **Table 2** and on **Figures 5 and 6**, contaminant concentrations in groundwater monitoring wells located along the apparent centerline of the plume (P402E, P424D, and P423D) show decreasing or stable trends.

In the water supply wells where DCE has been detected (PW-21RR, PW19, PW-28, and PW32), concentrations have remained relatively stable over the past 3 years as shown in **Table 3** and on **Figure 7**, and are well below the drinking water standard. Vinyl chloride has only been detected in one active water supply well (PW-21RR), and concentrations have generally followed a gradual decreasing trend for the last several years since the well was installed, as shown in **Table 3** and on **Figure 8**.

### **Recommendations**

Based on the results of the drilling and monitoring to date, the following next steps are proposed:

1. Extend the P429D borehole into the top of the sandstone and install a monitoring well in the upper 15 feet of sandstone as described in more detail above.
2. Collect one round of samples from the new monitoring well approximately 1 month after installation, then add the new well to the semiannual monitoring program.
3. Continue the semiannual monitoring program for existing monitoring wells and water supply wells.

4. Reassess the need for a well screened in the dolomite at the P429SS location based on sampling results.

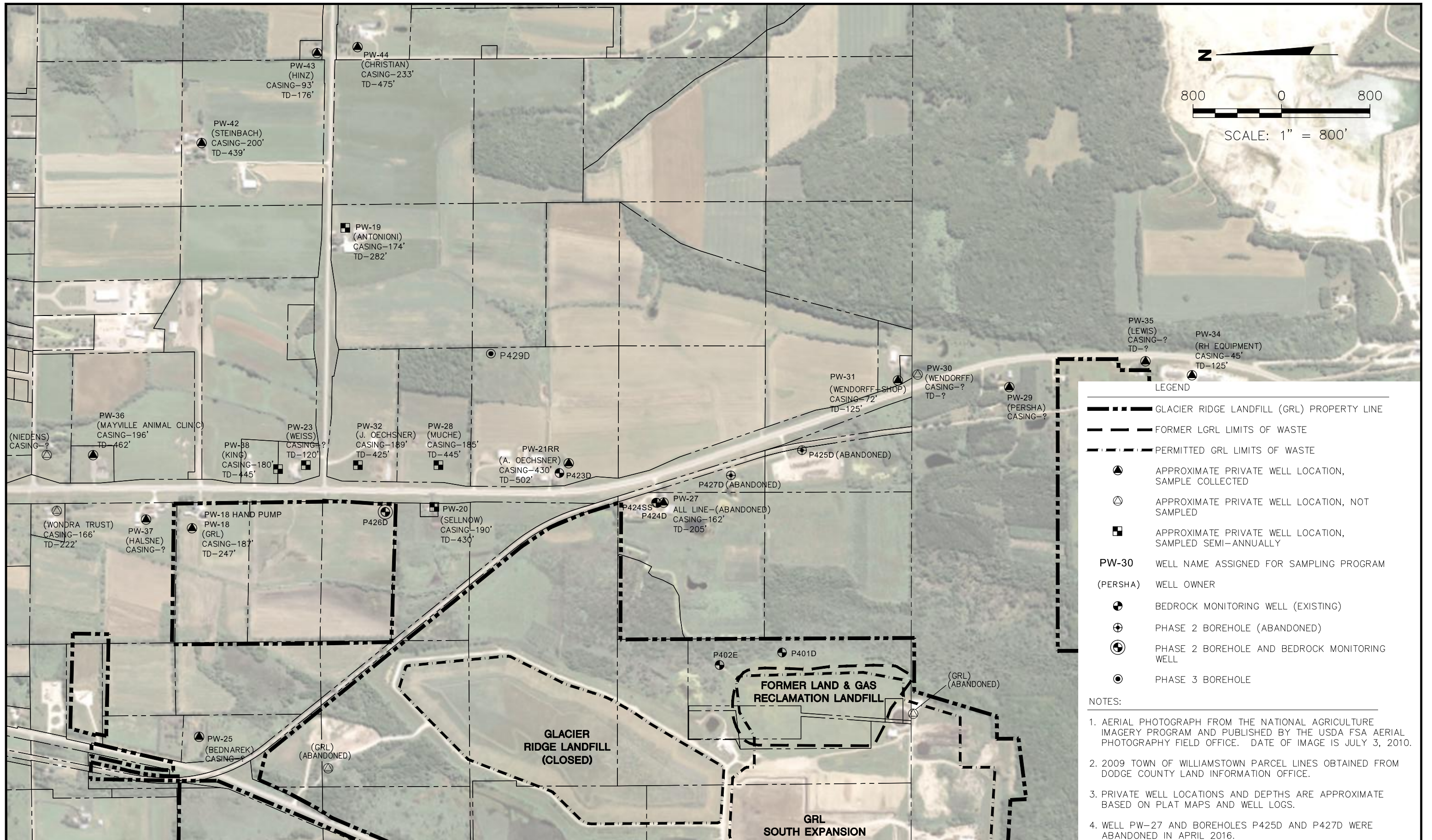
Please let us know if you have any questions or concerns regarding the proposed approach, and whether you approve the requested exception to NR 141.

Attachments: Figure 1 – Bedrock Monitoring Well Locations  
Figure 2 – Cross Section Location Map  
Figure 3 – Cross Section B-B'  
Figure 4 – P429D Borehole Logging Results  
Figure 5 – cis-1,2-DCE Concentration Trend in Bedrock Monitoring Wells  
Figure 6 – Vinyl Chloride Concentration Trend in Bedrock Monitoring Wells  
Figure 7 – cis-1,2-DCE Trend in Water Supply Wells Downgradient from LGRL  
Figure 8 – Vinyl Chloride Trend in PW-21RR Samples (Before Treatment System)  
Table 1 – Water Level Summary - Bedrock Wells  
Table 2 – LGRL VOC Investigation Bedrock Well Sample Results - Through April 2017  
Table 3 – LGRL VOC Investigation Water Supply Well Sample Results - Through April 2017

cc: Jake Margelofsky, Advanced Disposal Services (2 copies)  
Adam Hogan, WDNR

cc via email: Tim Curry, Advanced Disposal Services  
Mark Torresani, Cornerstone Environmental Group  
Joe Madonia, Barnes & Thornburg, LLP (for Wells Manufacturing)  
Martin Gallun, Metalcraft of Mayville  
Melanie Gotto, Deere & Company World Headquarters  
Jennifer Nijman, Nijman & Franzetti, LLP (for Deere & Company)  
Craig Dousharm, Mercury Marine  
Tom McElligott, Quarles & Brady, LLP (for Mercury Marine)  
Todd Schaeffer, Brenner Tank LLC  
Lew Schildkraut, E.R. Wagner Manufacturing  
Katherine Behm, Everett Smith Group, Ltd. (for Maysteel Corp.)  
Drew Zeratsky, National Rivet & Manufacturing Co.  
Don Neitzel, Kunkel Engineering (for City of Mayville)  
Paul Rosenfeldt, Edgerton, St. Peter, Petak & Rosenfeldt (for Mayville Engineering Corp.)

EO/AV\_lmh/SC



- LEGEND**
- GLACIER RIDGE LANDFILL (GRL) PROPERTY LINE
  - FORMER LGRL LIMITS OF WASTE
  - PERMITTED GRL LIMITS OF WASTE
  - APPROXIMATE PRIVATE WELL LOCATION, SAMPLE COLLECTED
  - APPROXIMATE PRIVATE WELL LOCATION, NOT SAMPLED
  - APPROXIMATE PRIVATE WELL LOCATION, SAMPLED SEMI-ANNUALLY
  - PW-30** WELL NAME ASSIGNED FOR SAMPLING PROGRAM  
(PERSHA) WELL OWNER
  - BEDROCK MONITORING WELL (EXISTING)
  - PHASE 2 BOREHOLE (ABANDONED)
  - PHASE 2 BOREHOLE AND BEDROCK MONITORING WELL
  - PHASE 3 BOREHOLE

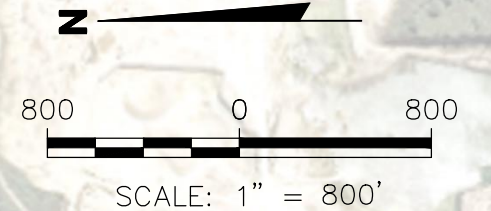
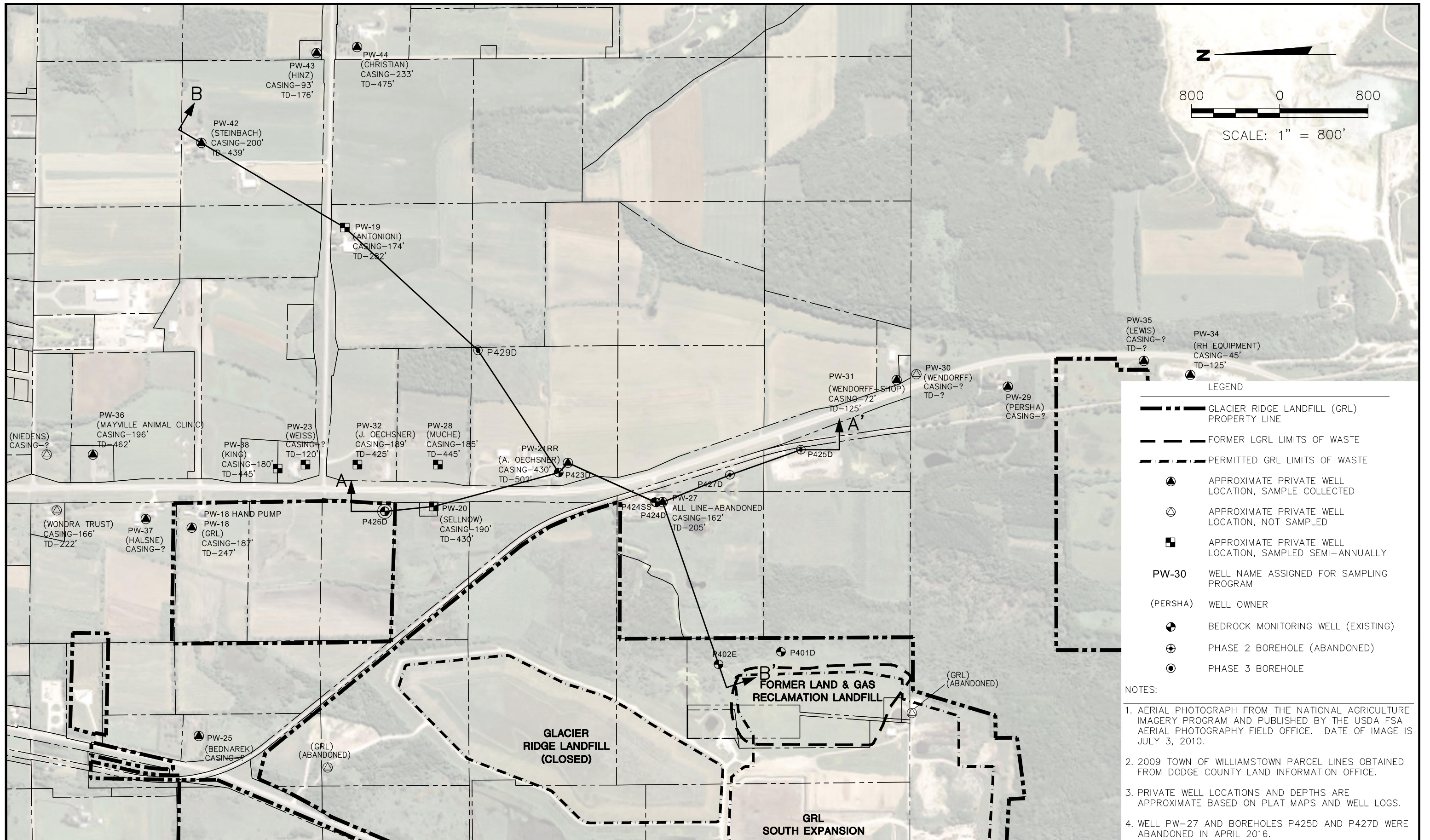
- NOTES:**
1. AERIAL PHOTOGRAPH FROM THE NATIONAL AGRICULTURE IMAGERY PROGRAM AND PUBLISHED BY THE USDA FSA AERIAL PHOTOGRAPHY FIELD OFFICE. DATE OF IMAGE IS JULY 3, 2010.
  2. 2009 TOWN OF WILLIAMSTOWN PARCEL LINES OBTAINED FROM DODGE COUNTY LAND INFORMATION OFFICE.
  3. PRIVATE WELL LOCATIONS AND DEPTHS ARE APPROXIMATE BASED ON PLAT MAPS AND WELL LOGS.
  4. WELL PW-27 AND BOREHOLES P425D AND P427D WERE ABANDONED IN APRIL 2016.

PROJECT NO.	3744	DRAWN BY:	KP
DRAWN:	09/13/11	CHECKED BY:	EO
REVISED:	01/18/17	APPROVED BY:	

ENGINEER	<b>SCS ENGINEERS</b>	CLIENT	<b>Advanced Disposal</b>
	2830 DAIRY DRIVE MADISON, WI 53718-6751		ADVANCED DISPOSAL SERVICES
	PHONE: (608) 224-2830		GLACIER RIDGE LANDFILL, LLC.

SITE	VOC INVESTIGATION LAND AND GAS RECLAMATION LANDFILL DODGE COUNTY, WISCONSIN
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FIGURE	BEDROCK MONITORING WELL LOCATIONS	1
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**LEGEND**

	GLACIER RIDGE LANDFILL (GRL) PROPERTY LINE
	FORMER LGR LIMITS OF WASTE
	PERMITTED GRL LIMITS OF WASTE
	APPROXIMATE PRIVATE WELL LOCATION, SAMPLE COLLECTED
	APPROXIMATE PRIVATE WELL LOCATION, NOT SAMPLED
	APPROXIMATE PRIVATE WELL LOCATION, SAMPLED SEMI-ANNUALLY
<b>PW-30</b>	WELL NAME ASSIGNED FOR SAMPLING PROGRAM
<b>(PERSHA)</b>	WELL OWNER
	BEDROCK MONITORING WELL (EXISTING)
	PHASE 2 BOREHOLE (ABANDONED)
	PHASE 3 BOREHOLE

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PROJECT NO.	3744	DRAWN BY:	KP
DRAWN:	04/01/16	CHECKED BY:	EO
REVISED:	04/06/16	APPROVED BY:	SC 04/11/17

**SCS ENGINEERS**  
 2830 DAIRY DRIVE MADISON, WI 53718-6751  
 PHONE: (608) 224-2830

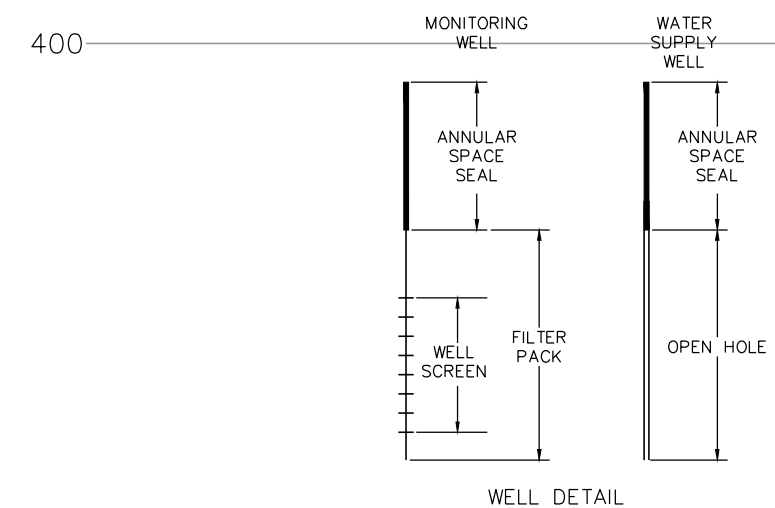
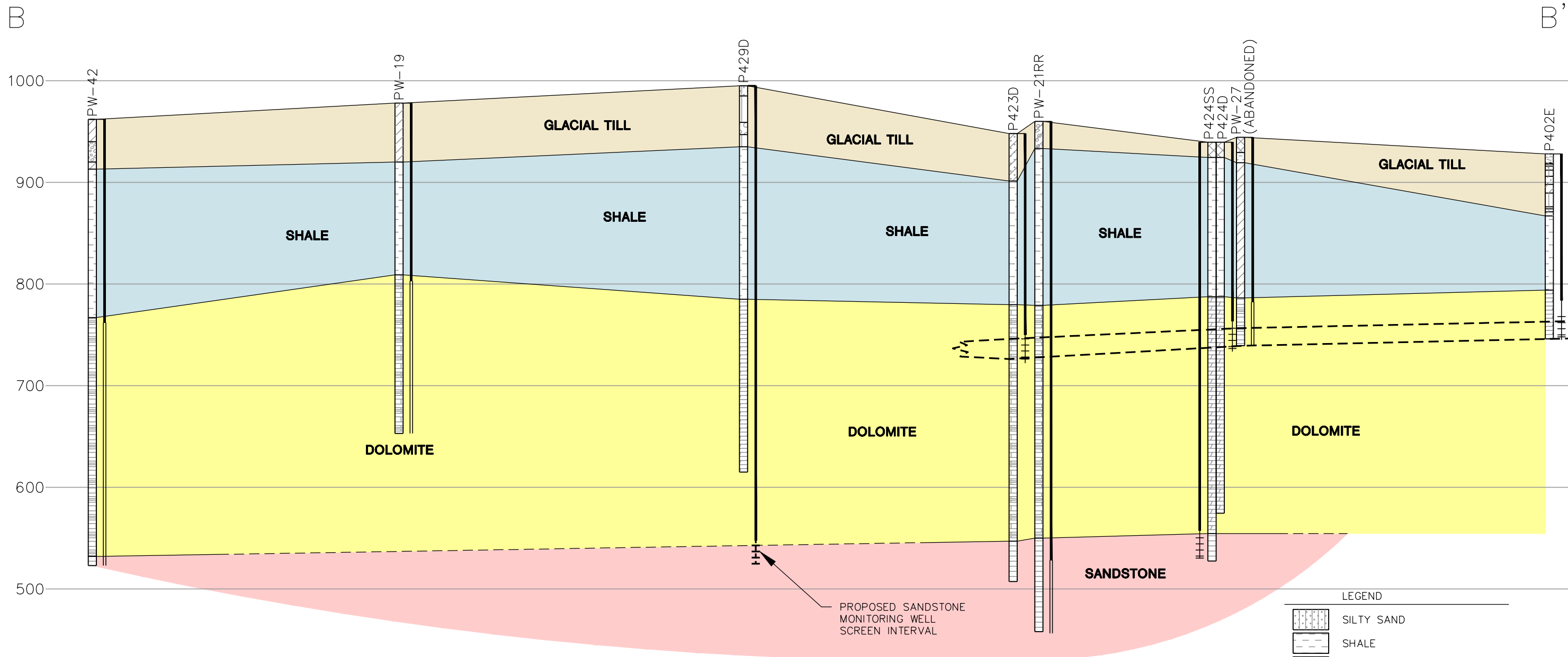
CLIENT ADVANCED DISPOSAL SERVICES  
 GLACIER RIDGE LANDFILL, LLC.

SITE VOC INVESTIGATION  
 LAND AND GAS RECLAMATION LANDFILL  
 DODGE COUNTY, WISCONSIN

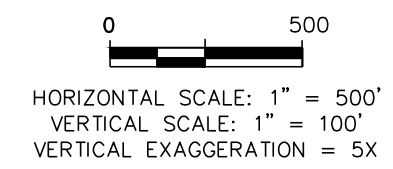
CROSS SECTION LOCATION MAP

FIGURE  
 2

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- NOTES:**
1. APPROXIMATE FRACTURED ZONE BASED ON BOREHOLE LOGGING AND PACKER PUMPING TEST IN MONITORING WELL BOREHOLES AND PW-27. THE ZONE IS INFERRED AT PW-21RR, WHICH WAS NOT TESTED.
  2. PW-19 WELL CONSTRUCTION REPORT INDICATES THIS WELL WAS ORIGINALLY DRILLED TO A DEPTH OF 282 FEET. DAN ANTONIONI, THE PRESENT OWNER, STATED ON 02/27/2017 THAT THE WELL WAS DEEPEMED TO 325 FEET IN 1962.
  3. THE PORTION OF P423D EXTENDING BELOW THE MONITORING WELL SCREEN AND FILTER PACK WAS BACKFILLED WITH BENTONITE CHIPS PRIOR TO WELL CONSTRUCTION.



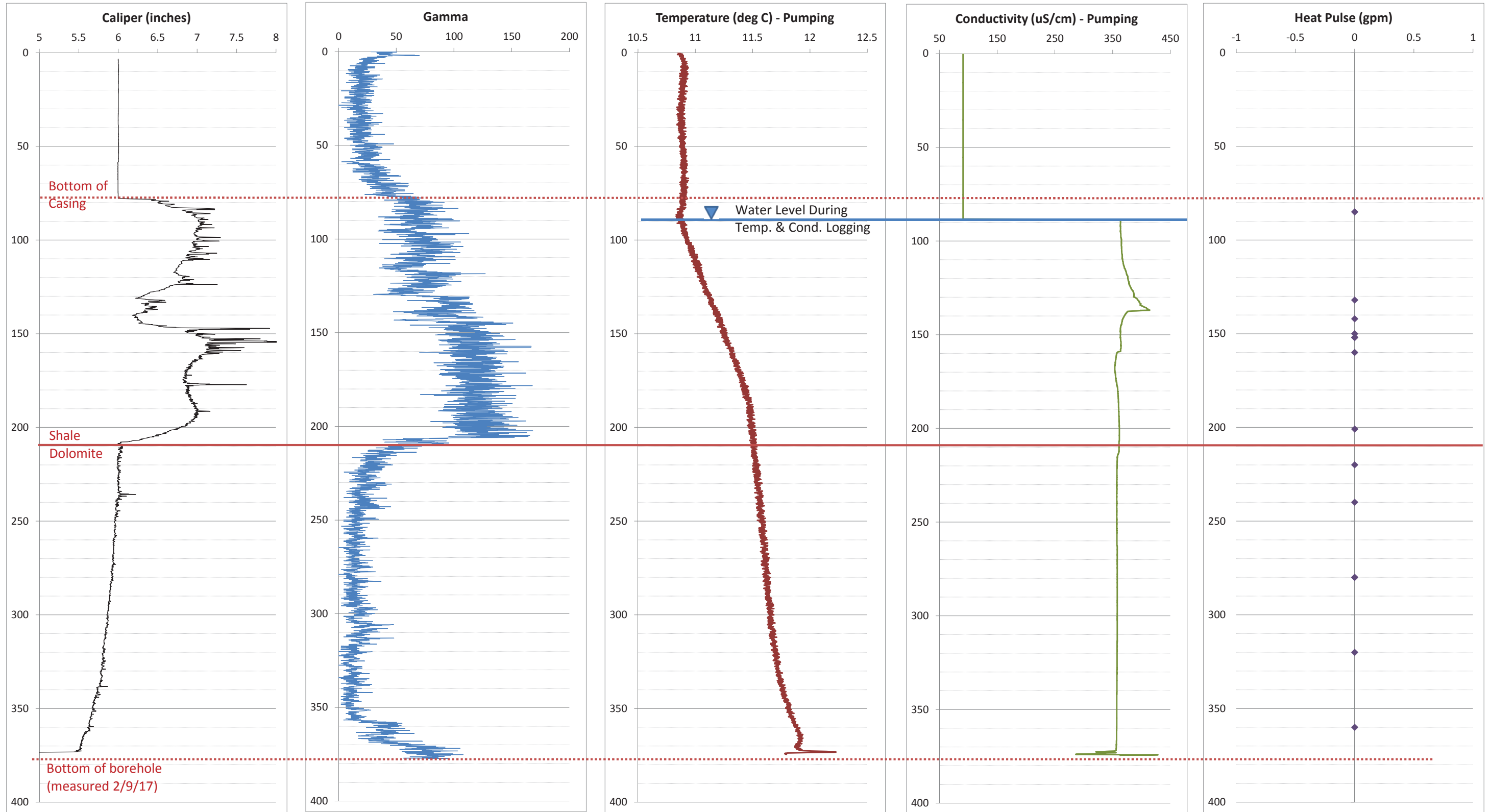
**LEGEND**

[Symbol]	SILTY SAND
[Symbol]	SHALE
[Symbol]	DOLOMITE
[Symbol]	LIMESTONE
[Symbol]	LEAN CLAY
[Symbol]	SAND, WELL GRADED
[Symbol]	SAND WITH GRAVEL
[Symbol]	SANDSTONE
[Symbol]	CLAYEY GRAVEL
[Symbol]	FILL
[Symbol]	SILT
[Symbol]	GRAVEL
[Symbol]	SAND, POORLY GRADED
[Symbol]	PEAT

PROJECT NO. 3744	DRAWN BY: AHB	 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	 CLIENT	ADVANCED DISPOSAL SERVICES GLACIER RIDGE LANDFILL, LLC.	SITE VOC INVESTIGATION LAND AND GAS RECLAMATION LANDFILL DODGE COUNTY, WISCONSIN	CROSS SECTION B-B'	FIGURE
DRAWN: 03/10/17	CHECKED BY: MDB						3
REVISED: 06/01/17	APPROVED BY:						
ENGINEER							

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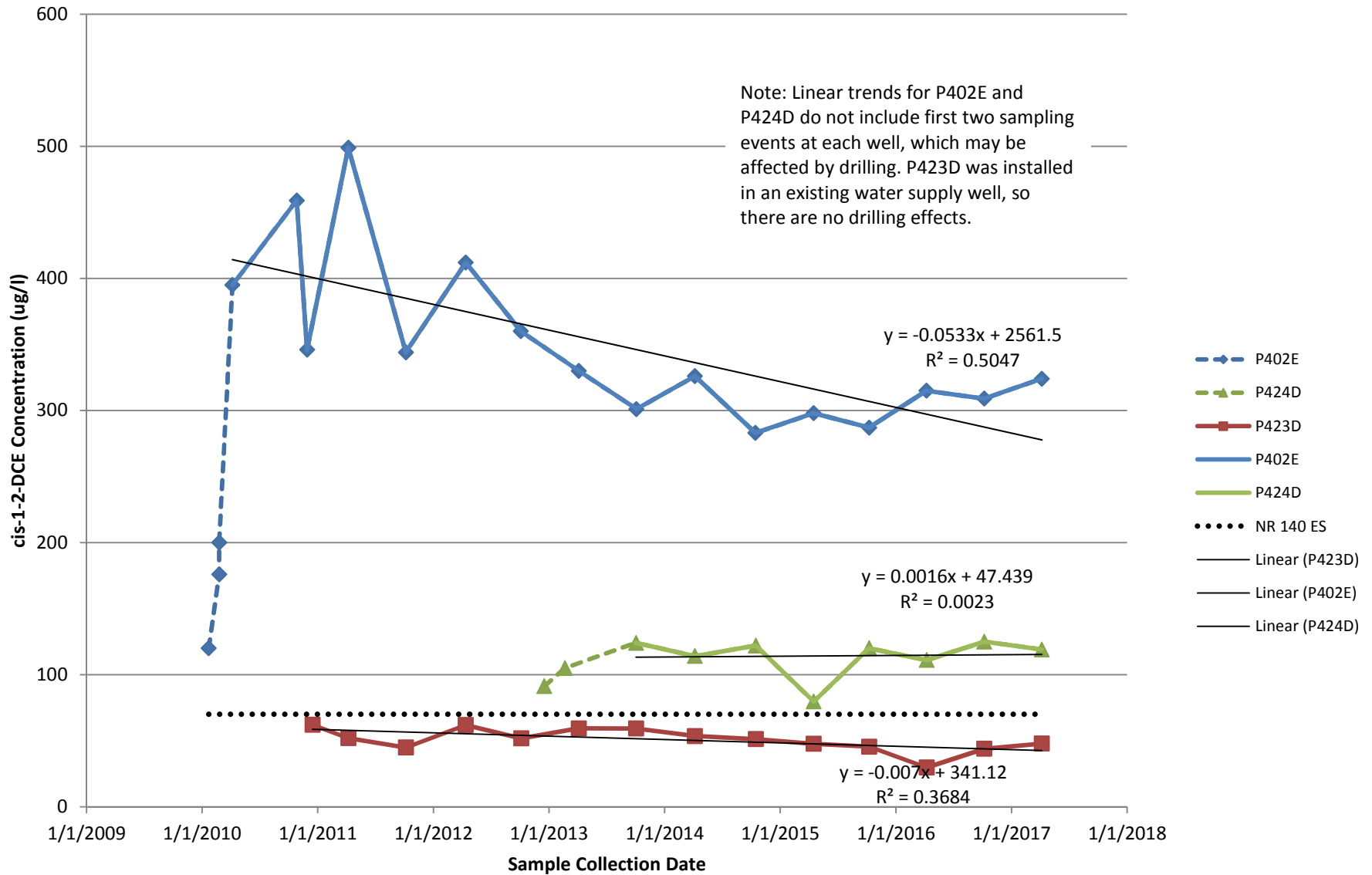
# P429D Borehole Logging



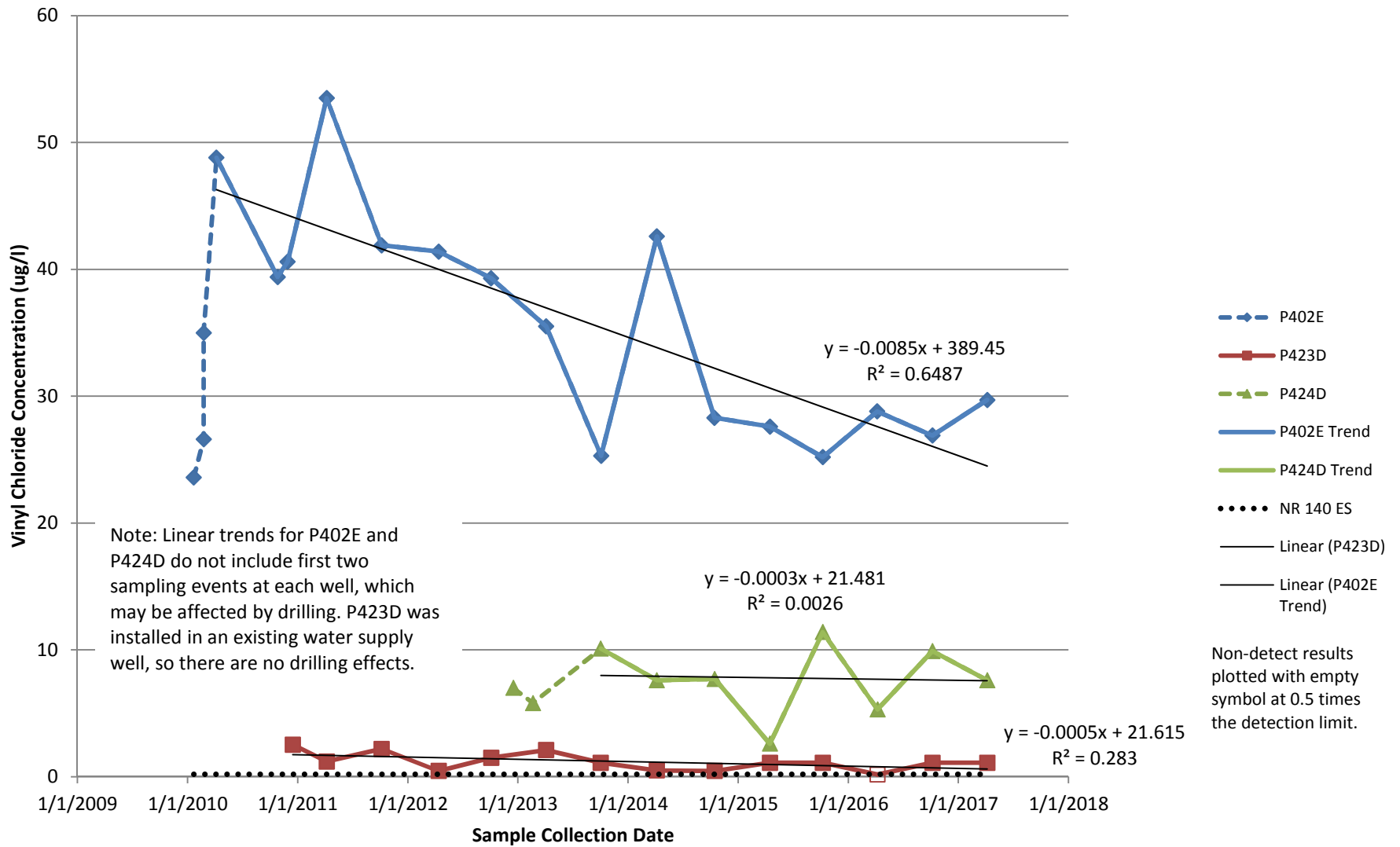
**Figure 4**  
**P429D Borehole Logging Results**  
**Land & Gas Reclamation Landfill**



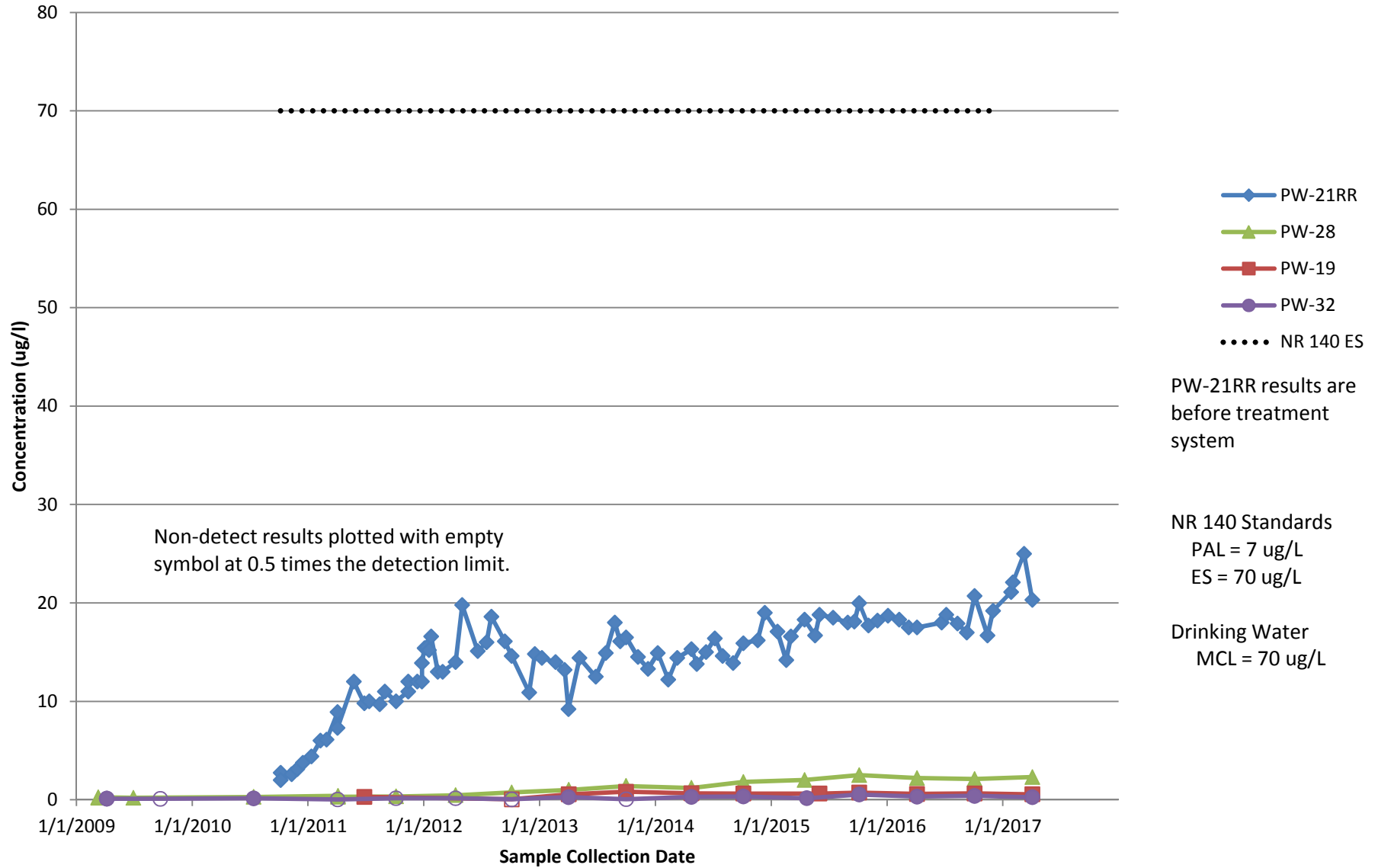
### Figure 5. Cis-1,2-DCE Concentration Trends in Bedrock Monitoring Wells



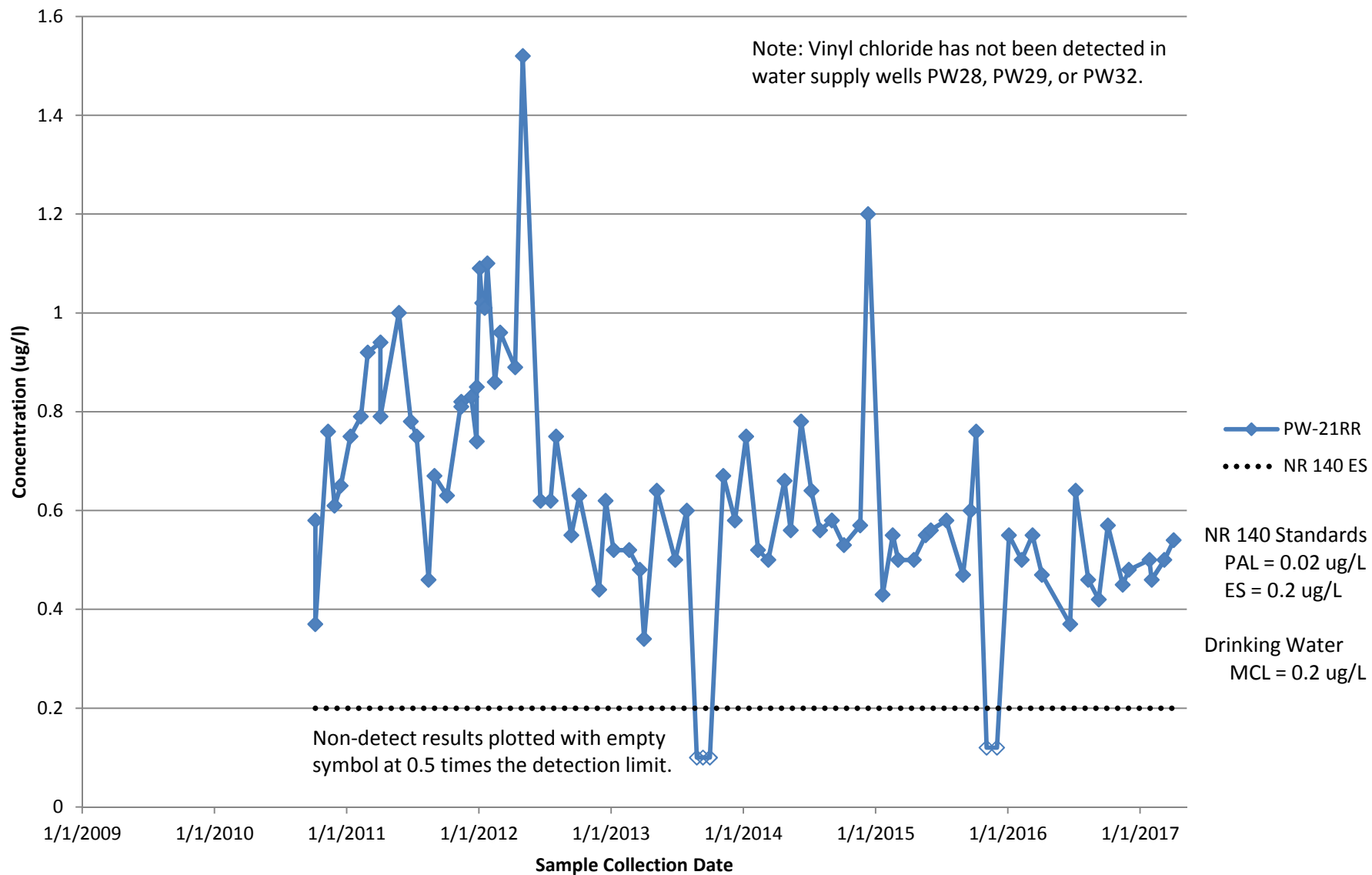
### Figure 6. Vinyl Chloride Concentration Trends in Bedrock Monitoring Wells



**Figure 7. Cis-1,2-Dichloroethylene Trends in Water Supply Wells Downgradient from LGRL**



### Figure 8. Vinyl Chloride Trend in PW-21RR Samples (Before Treatment System)



**Table 1. Water Level Summary - Bedrock Wells**  
**Land and Gas Reclamation Landfill/ File No. 25211374.49**

Raw Data	Depth to Water in feet below top of well casing								
	P401D	P402E	P423D	Office Well	PW18	PW27	P424D	P4245S	P426D
<b>Measurement Date</b>									
March 12, 2010	76.87	73.58		53.82	108.25	91.44			
April 8, 2011	76.96	73.67	95.30						
October 6-7, 2011	81.26	78.00	100.50						
April 13, 2012	77.60	74.40	96.00						
October 3-5, 2012	81.70	78.43	99.72						
December 17, 2012	82.16	78.95	100.50			96.90	93.40	92.90	
February 20, 2013	82.11	78.88	99.55			96.20	92.75	92.10	
April 1, 2013	81.20	77.70	98.60				91.75	91.20	
September 30, 2013	83.33	80.09	101.30				94.80	94.22	
April 7, 2014	80.00	76.80	97.87				91.04	90.65	
October 6, 2014	80.35	77.15	98.75				91.91	91.55	
April 17, 2015	78.75	75.45	96.88				90.10	89.72	
May 20, 2015	78.93	75.72	97.27				90.42	90.06	104.15
June 3, 2015	78.85	75.65	97.00				90.14	89.80	103.65
October 9, 2015	83.10	79.90	100.80				93.80	93.50	107.50
April 4, 2016	77.92	74.76	95.65				88.90	89.40	102.34
October 7, 2016	80.35	77.5	98.60				91.6	91.3	105.3
April 7, 2017	75.80	72.52	94.30				87.33	87.10	101.00

Ground Water Elevation in feet above mean sea level (amsl)									
Well Number	P401D	P402E	P423D	Office Well	PW18	PW27	P424D	P4245S	P426D
<b>Top of Casing Elevation (feet amsl)</b>	932.30	929.08	948.99	958.14	947.56	946.15	942.60	941.88	955.64
<b>Screen/Open Hole Length (ft)</b>	15.00	20.00	18.00	46.00	60.00	43.00	20.00	20.00	20.00
<b>Total Depth (ft from top of casing)</b>	147.40	177.98	225.01	202.00	247.00	205.00	206.10	411.45	221.80
<b>Top of Screen / Open Hole Elevation (ft)</b>	799.90	771.10	205.01	802.14	760.56	784.15	756.50	550.43	753.84
<b>Measurement Date</b>									
March 12, 2010	855.43	855.50		904.32	839.31	854.71			
April 8, 2011	855.34	855.41	853.69						
October 6-7, 2011	851.04	851.08	848.49						
April 13, 2012	854.70	854.68	852.99						
October 3-5, 2012	850.60	850.65	849.27						
December 17, 2012	850.14	850.13	848.49			849.25	849.20	848.98	
February 20, 2013	850.19	850.20	849.44			849.95	849.85	849.78	
April 1, 2013	851.10	851.38	850.39				850.85	850.68	
September 30, 2013	848.97	848.99	847.69				847.80	847.66	
April 7, 2014	852.30	852.28	851.12				851.56	851.23	
October 6, 2014	851.95	851.93	850.24				850.69	850.33	
April 17, 2015	853.55	853.63	852.11				852.50	852.16	
May 20, 2015	853.37	853.36	851.72				852.18	851.82	851.49
June 3, 2015	853.45	853.43	851.99				852.46	852.08	851.99
October 9, 2015	849.20	849.18	848.19				848.80	848.38	848.14
April 4, 2016	854.38	854.32	853.34				853.70	852.48	853.30
October 7, 2016	851.95	851.58	850.39				851.00	850.58	850.34
April 7, 2017	856.50	856.56	854.69				855.27	854.78	854.64
<b>Bottom of Well Elevation (ft)</b>	784.90	751.10	723.98	756.14	700.56	741.15	736.50	530.43	733.84

Created by: EO Date: 3/16/2010  
 Last revision by: AV Date: 5/25/2017  
 Checked by: LMH Date: 5/26/2017

**Table 2. LGRL VOC Investigation Bedrock Well Sample Results - Through April 2017**

(Results are in µg/L, except where otherwise noted)

**Note: See last page for abbreviations, notes, and groundwater standards.**

Well Number	Sample Date	Lab	Chloride (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)	Chloroethane	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Other VOCs
P-401D	10/7/2009	Siemens	<b>6.37</b>	<b>452</b>	<b>194</b>	<0.70	<0.40	<0.40	<0.40	<0.4	<0.50	<0.30	<0.4	<0.2	ND
	4/6/2010	Siemens	<b>12.3</b>	<b>400</b>	<b>278</b>	<0.70	<0.40	<0.40	<0.40	<0.4	<0.50	<0.10	<0.4	<0.2	o-Xylene <b>0.22 J</b>
	10/27/2010	Siemens	<b>10.4</b>	<b>345</b>	<b>277</b>	<0.70	<0.40	<0.40	<0.40	<0.4	<0.50	<0.30	<0.4	<0.2	ND
	11/29/2010	Siemens	<b>11.6</b>	<b>340</b>	--	<0.70	<0.40	<0.30	<0.40	<0.4	<0.50	<0.30	<0.4	<0.2	ND
	4/8/2011	Siemens	<b>9.4</b>	<b>356</b>	<b>281</b>	<0.70	<0.40	<0.40	<0.40	<0.4	<0.50	<0.30	<0.4	<0.2	cis-1,3-Dichloropropylene <b>0.25 J</b>
	10/6/2011	Siemens	<b>9.36</b>	<b>332</b>	<b>273</b>	<0.70	<0.40	<0.40	<0.40	<0.4	<0.50	<0.30	<0.4	<0.2	Carbon Disulfide <b>28.8</b>
	4/13/2012	Siemens	<b>9.44</b>	<b>365</b>	<b>226</b>	<0.70	<0.40	<0.40	<0.40	<0.4	<0.50	<0.30	<0.4	<0.2	ND
	10/4/2012	Pace	<b>9.4</b>	<b>359</b>	<b>219</b>	<0.97	<0.24	<0.75	<0.57	<0.83	<0.89	<0.45	<0.48	<0.18	ND
	10/4/2013	Pace	<b>12.6</b>	<b>360</b>	<b>251</b>	<0.44	<0.39	<0.28	<0.43	<0.42	<0.37	<0.47	<0.36	<0.18	ND
	4/7/2014	Pace	<b>10.9</b>	<b>362</b>	<b>255</b>	<0.37	<0.50	<0.16	<0.41	<0.26	<0.24	<0.50	<0.33	<0.18	ND
	10/17/2014	Pace	<b>12.4</b>	<b>340</b>	<b>280</b>	<0.37	<0.50	<0.24	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18	ND
	4/17/2015	Pace	<b>12.0</b>	<b>348</b>	<b>251</b>	<0.37	<0.50	<0.24	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18	ND
	10/9/2015	Pace	<b>12.6</b>	<b>350</b>	<b>289</b>	<0.37	<0.50	<0.24	<0.41	<b>11.0</b>	<b>0.43 J</b>	<0.50	<b>0.41 J</b>	<0.18	Acetone <b>21.2</b>
4/7/2016	Pace	<b>12.5</b>	<b>344</b>	<b>273</b>	<0.37	<0.50	<0.24	<0.41	<b>1.7</b>	<0.26	<0.50	<0.33	<0.18	Acetone <b>3.0 J</b>	
P-402D (Abandoned)	10/7/2009	Siemens	<b>60.9</b>	<b>381</b>	<b>1,050</b>	<0.70	<0.40	<0.40	<0.40	<0.40	<0.50	<0.30	<0.40	<0.20	Toluene <b>0.43 J</b>

**Table 2. LGRL VOC Investigation Bedrock Well Sample Results - Through April 2017**

(Results are in µg/L, except where otherwise noted)

**Note: See last page for abbreviations, notes, and groundwater standards.**

Well Number	Sample Date	Lab	Chloride (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)	Chloroethane	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Other VOCs
P-402E	1/22/2010	Siemens	47.3	439	516	2.6 CSH	0.53 J	2.9	0.5 J	120	4.18	<0.30	2.71	23.6	
	2/24/2010	Siemens	72.4	484	--	<3.50	<2.00	<2.00	<2.00	176	7.38	<1.50	2.66	26.6	ND
	2/24/2010	TA	--	--	--	3.9	<0.30	1.9	0.61	200	8	<0.50	1.9	35	
	4/7/2010	Siemens	68.5	414	486	7.25 J	<4.0	<4.0	<4.0	395	12.4 J	<3.0	4.84 J	48.8	ND
	10/27/2010	Siemens	78.4	403	505	<7.0	<4.0	<4.0	<4.0	459	14.8 J	<3.0	11.1 J	39.4	Methylene Chloride 8.47 J
	11/29/2010	Siemens	83.6	410	--	<7.0	<4.0	<4.0	<4.0	346	10.9 J	<3.0	9.16 J	40.6	ND
	4/8/2011	Siemens	87.7	404	483	7.64	<0.40	1.41	1.65	499	18.8	<0.30	15.7	53.5	Tetrahydrofuran 4.95 J
	10/7/2011	Siemens	73	392	502	5.87	<0.40	1.47	1.23 J	344	11.8	<0.30	13.6	41.9	Carbon Disulfide 3.30 J Tetrahydrofuran 2.77 J
	4/13/2012	Siemens	75.9	412	496	<7	<4	<4	<4	412	11.6 J	<3	11.5 J	41.4	ND
	10/4/2012	Pace	68.8	344	466	5.0	<0.24	1.3	1.2	360	13.0	<0.45	12.5	39.3	Tetrahydrofuran 2.7 J
	4/5/2013	Pace	60.2	397	566	5.8	<0.96	<3.0	<2.3	330	11.2	<1.8	10.2	35.5	ND
	10/4/2013	Pace	61.6	397	456	4.5	<0.78	1.3 J	<0.85	301	20.5	<0.94	8.3	25.3	ND
	4/7/2014	Pace	61.5	399	470	8.0	<2.0	1.2 J	<1.6	326	12.0	<2.0	8.3	42.6	ND
	10/15/2014	Pace	61.7	373	453	5.0	<2.5	<1.2	<2.1	283	17.9	<2.5	6.5	28.3	ND
	4/17/2015	Pace	62.8	383	450	4.8	<1.2	0.82 J	<1.0	298	8.5	<5.1	5.5	27.6	ND
	10/9/2015	Pace	64.5	389	465	5.2	<1.2	<0.60	<1.0	287	8.4	<1.2	4.8	25.2	Acetone 19.6 J
	4/7/2016	Pace	63.5	364	450	7.9	<1.2	1.1 J	<1.0	315	20.3	<1.2	4.4	28.8	ND
	10/7/2016	Pace	56.8	376	475	7.4	<2.0	<0.97	<1.6	309	9.4	<2.0	3.8 J	26.9	ND
	4/7/2017	Pace	65.3	392	442	7.1	<1.2	1.1 J	<1.0	324	14.3	<1.2	3.3	29.7	ND

**Table 2. LGRL VOC Investigation Bedrock Well Sample Results - Through April 2017**

(Results are in µg/L, except where otherwise noted)

Note: See last page for abbreviations, notes, and groundwater standards.

Well Number	Sample Date	Lab	Chloride (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)	Chloroethane	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Other VOCs
P-423D	12/16/2010	Siemens	34.6	394	--	2.13 J	<0.40	0.60 J	<0.40	62.1	2.6	<0.30	0.9 J	2.53	ND
	4/8/2011	Siemens	29.7	360	427	1.38 J	<0.40	0.59 J	<0.40	52	2.04	<0.30	0.73 J	1.2	
	10/7/2011	Siemens	32.1	373	441	1.57 J	<0.40	0.44 J	<0.40	44.9	1.64 J	<0.30	0.74 J	2.19	Carbon Disulfide 1.99 J
	4/13/2012	Siemens	28.2	348	432	1.36 J	<0.40	0.59 J	<0.40	61.9	2.75	<0.30	0.92 J	0.91 J	ND
	10/5/2012	Pace	8.8	364	227	1.1	<0.24	<0.75	<0.57	51.8	2.5	<0.45	0.68 J	1.5	ND
	4/5/2013	Pace	25.6	364	487	1.5	<0.24	<0.75	<0.57	59.4	2.6	<0.45	0.72 J	2.1	ND
	10/3/2013	Pace	30.6	356	413	1.1	<0.39	<0.28	<0.43	59.3	2.4	<0.47	0.74 J	1.1	ND
	4/7/2014	Pace	29.9	366	420	1.5	<0.50	0.41 J	<0.41	53.6	2.6	<0.50	0.75 J	1.0 J	ND
	10/16/2014	Pace	32.4	347	410	0.95 J	<0.50	0.37 J	<0.41	51.2	2.5	<0.50	0.66 J	0.91 J	ND
	4/17/2015	Pace	33.8	357	408	0.97 J	<0.50	0.35 J	<0.41	47.7	2.2	<0.50	0.66 J	1.1	ND
	10/9/2015	Pace	40.3	370	430	1.3	<0.50	0.32 J	<0.41	45.5	2.0	<0.50	0.60 J	1.1	ND
	4/8/2016	Pace	37.5	355	432	0.62 J	<0.50	<0.24	<0.41	29.7	1.2	<0.50	0.47 J	<0.18	ND
	10/7/2016	Pace	43.4	372	447	1.9	<0.50	0.38 J	<0.41	43.9	2.0	<0.50	0.57 J	1.1	ND
4/7/2017	Pace	43.0	364	430	1.7	<0.50	0.44 J	<0.41	47.9	2.6	<0.50	0.73 J	1.1	ND	
P-424D	12/17/2012	Pace	33.8	357	409	2.5	<0.48	<1.5	<1.1	91.2	3.5	<0.90	1.7 J	7.0	ND
	2/20/2013	Pace	32.6	382	432	2.6	<0.24	0.92 J	<0.57	105	3.2	<0.45	2.5	5.8	ND
	10/3/2013	Pace	38.5	379	444	2.6	<0.39	1.1	<0.43	124	3.5	<0.47	3.2	10.1	ND
	4/7/2014	Pace	34.8	369	427	3.1	<0.50	0.98 J	0.42 J	114	4	<0.50	3	7.6	Acetone 3.1 J
	10/16/2014	Pace	40.7	358	424	3.3	<1.0	0.92 J	<0.82	122	4.9	<1.0	2.4	7.7	ND
	4/17/2015	Pace	37.7	363	409	1.8	<0.50	0.54 J	<0.41	79.6	2.5	<0.50	2.3	2.6	ND
	10/9/2015	Pace	48.6	384	449	3.5	<0.50	0.88 J	<0.41	120	3.8	<0.50	2.2	11.4	ND
	4/8/2016	Pace	40.7	369	432	2.9	<0.50	0.82 J	<0.41	111	3.4	<0.50	2.3	5.3	ND
	10/7/2016	Pace	45.1	370	485	4.1	<1.2	0.94 J	<1.0	125	4.3	<1.2	2.3 J	9.9	ND
4/7/2017	Pace	43.2	374	422	3.6	<0.50	0.84 J	<0.41	119	4.0	<0.50	2.1	7.6	ND	



**Table 2. LGRL VOC Investigation Bedrock Well Sample Results - Through April 2017**

(Results are in µg/L, except where otherwise noted)

**Note: See last page for abbreviations, notes, and groundwater standards.**

Well Number	Sample Date	Lab	Chloride (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)	Chloroethane	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Other VOCs
P-424SS	12/17/2012	Pace	<2.0	303	287	<0.97	<0.24	<0.75	<0.57	<0.83	<0.89	<0.45	<0.48	<0.18	ND
	2/20/2013	Pace	2.1 J	309	298	<0.97	<0.24	<0.75	<0.57	<0.83	<0.89	<0.45	<0.48	<0.18	ND
	10/3/2013	Pace	2.8 J	320	298	<0.44	<0.39	<0.28	<0.43	<0.42	<0.37	<0.47	<0.36	<0.18	ND
	4/7/2014	Pace	2.5 J	311	290	<0.37	<0.50	<0.16	<0.41	<0.26	<0.24	<0.50	<0.33	<0.18	ND
	10/16/2014	Pace	2.8 J	303	283	<0.37	<0.50	<0.24	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18	ND
	4/17/2015	Pace	2.8 J	314	276	<0.37	<0.50	<0.24	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18	Acetone 3.7 J
	10/9/2015	Pace	2.4 J	323	295	<0.37	<0.50	<0.24	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18	ND
	4/8/2016	Pace	2.7 J	309	293	<0.37	<0.50	<0.24	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18	ND
	10/7/2016	Pace	1.0 JB	307	294	<0.37	<0.50	<0.24	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18	ND
	4/7/2017	Pace	0.92 J	314	288	<0.37	<0.50	<0.24	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18	ND
4/7/2017 DUP	Pace	0.91 J	317	284	<0.37	<0.50	<0.24	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18	ND	
P-426D	6/3/2015	Pace	--	--	--	<0.37	<0.50	<0.24	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18	ND
	8/12/2015	Pace	21.5	337	405	<0.37	<0.50	<0.24	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18	ND
	10/9/2015	Pace	59.6	369	499	<0.37	<0.50	<0.24	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18	Acetone 18.6 J
	4/8/2016	Pace	27.7	331	408	<0.37	<0.50	<0.24	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18	ND
	10/7/2016	Pace	55	362	532	<0.37	<0.50	<0.24	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18	ND
	4/7/2017	Pace	37.0	349	413	<0.37	<0.50	<0.24	<0.41	<0.26	<0.26	<0.50	<0.33	<0.18	ND

**Table 2. LGRL VOC Investigation Bedrock Well Sample Results - Through April 2017**

(Results are in µg/L, except where otherwise noted)

**Note: See last page for abbreviations, notes, and groundwater standards.**

Well Number	Sample Date	Lab	Chloride (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)	Chloroethane	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Other VOCs
NR 140 Groundwater Enforcement Standard			250	NS	NS	400	30	850	7	70	100	5	5	0.2	1,4 Dichlorobenzene 75 Acetone 9,000 Carbon Disulfide 1,000 Chloroform 6 Methylene Chloride 5 Tetrahydrofuran 50 Toluene 800 Xylenes 2,000
NR 140 Preventive Action Limit			125	NS	NS	80	3	85	0.7	7	20	0.5	0.5	0.02	1,4 Dichlorobenzene 15 Acetone 1,800 Carbon Disulfide 200 Chloroform 0.6 Methylene Chloride 0.5 Tetrahydrofuran 10 Toluene 160 Xylenes 400

**Table 2. LGRL VOC Investigation Bedrock Well Sample Results - Through April 2017**

Abbreviations:

ND = Not detected

NS = No standard established

mg/L = Milligrams per Liter

µg/L = Micrograms per Liter

Siemens = Siemens Water Technologies

TA = TestAmerica, Watertown, WI

Pace = Pace Analytical Services, Inc., Green Bay, WI

-- = Not Analyzed

**Bold** indicates detected compound.

**Bold and underline** indicates result above drinking water standard.

Lab Notes/Qualifiers:

J = Estimated value below laboratory limit of quantitation.

CSH = Check standard for this analyte exhibited a high bias. Sample results may also be biased high.

Created by: MOB

Date: 9/5/2012

Last revision by: AV

Date: 5/25/2017

Checked by: LMH

Date: 5/26/2017

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Table 3. LGRL VOC Investigation Water Supply Well Sample Results - Through April 2017

(Results are in µg/L, except where otherwise noted)

Note: See last page for abbreviations, notes, and groundwater standards.

Well Number	Well Owner	Sample Date	Lab	Chloride (mg/L)	Alkalinity (mg/L)	Chloroethane	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Other VOCs	
<b>Monthly Monitoring Locations</b>																
PW-21R	A. Oechsner N7548 Hwy. 67 Mayville	1/29/2009	NLS	12	310	<0.79	<0.31	<0.21	<0.13	11	0.26 J	<0.15	<0.18	0.61	ND	
			NLS	--	--	<0.79	<0.31	<0.21	<0.13	10	0.26 J	<0.15	<0.18	0.56	ND	
		2/24/2009	NLS	--	--	<0.79	<0.31	<0.21	<0.13	10	<0.19	<0.15	<0.18	0.35 J	ND	
			CT	--	--	<0.40	0.56 JB	<0.21	<0.24	8.6	<0.27	<0.30	<0.24	0.39	ND	
		6/30/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	19	0.52 J	<0.20	0.26	0.53	ND	
7/14/2010	NLS	--	--	<1.0	<0.16	<0.14	<0.11	12	0.23 J	<0.10	<0.12	0.40 J	ND			
PW-21RR Untreated	A. Oechsner N7548 Hwy. 67 Mayville	10/7/2010	Siemens	--	--	<0.70	<0.40	<0.40	<0.40	2.74	<0.50	<0.30	<0.40	0.58 J	ND	
			TA	--	--	<1.0	<0.30	<0.50	<0.50	2.0	<0.50	<0.50	<0.20	0.37 J	ND	
		11/11/2010	TA	13	320	<1.0	0.47 J	<0.50	<0.50	2.6	<0.50	<0.50	<0.20	0.76 J	Chloroform Toluene	0.29 J 21
			Siemens	12.4	347	<0.70	<0.40	<0.40	<1.30	3.12	<0.50	<0.30	<0.40	0.61 J	Toluene	1.25
		12/16/2010	Siemens	--	--	<0.70	<0.40	<0.40	<0.40	3.75	<0.50	<0.30	<0.40	0.65 J	Toluene	0.99 J
		1/12/2011	NLS	--	--	<1.0	<0.16	<0.14	<0.11	4.4	0.13 J	<0.10	<0.12	0.75	ND	
		2/10/2011	Siemens	--	--	<0.70	<0.40	<0.40	<0.40	6	<0.50	<0.30	<0.40	0.79	ND	
		3/1/2011	TA	--	--	<0.070	<0.063	<0.074	<0.059	6.1	<0.13	<0.067	<0.060	0.92	ND	
		4/5/2011	NLS	--	--	<1.6	<0.29	<0.23	<0.13	8.9	0.32 J	<0.11	<0.28	0.94	ND	
			TA	--	--	<0.10	<0.20	<0.050	<0.050	7.3	0.27 J	<0.050	<0.050	0.79	ND	
		5/26/2011	TA	--	--	0.34 J	<0.20	0.080 J	<0.05	12	0.44 J	<0.050	<0.050	1.0	ND	
		6/28/2011	TA	--	--	<0.50	<0.30	<0.25	<0.15	9.8	0.37 J	<0.15	<0.25	0.78	ND	
		7/14/2011	TA	--	--	<0.50	0.33 J	<0.25	<0.15	10	0.40 J	<0.15	<0.25	0.75	ND	
		8/16/2011	TA	--	--	<0.50	<0.30	<0.25	<0.15	9.7	0.31 J	<0.15	<0.25	0.46 J	ND	
		9/1/2011	TA	--	--	<0.50	0.46 J	<0.25	<0.15	11	0.45 J	<0.15	<0.25	0.67	ND	
		10/6/2011	TA	--	--	0.52	<0.30	<0.25	<0.15	10	0.40 J	<0.15	<0.25	0.63	ND	
		11/14/11 *	TA	--	--	<0.50	<0.30	<0.25	<0.15	11	0.43 J	<0.15	<0.25	0.82	ND	
		11/14/11 **	TA	--	--	0.64	<0.30	<0.25	<0.15	12	0.43 J	<0.15	<0.25	0.81	ND	
		12/12/2011	TA	--	--	<0.50	<0.30	<0.25	<0.15	12	0.42 J	<0.15	<0.25	0.83	ND	
		12/27/2011	TA	--	--	<0.50	<0.30	<0.25	<0.15	12	0.45 J	<0.15	<0.25	0.74	ND	
Siemens	--		--	<0.70	<0.40	<0.40	<0.40	13.9	0.57 J	<0.30	<0.40	0.85 J	ND			
1/4/2012	Siemens	--	--	<0.70	<0.40	<0.40	<0.40	15.4	0.62 J	<0.30	<0.40	1.09	ND			
1/11/2012	Siemens	--	--	<0.70	<0.40	<0.40	<0.40	15.5	0.66 J	<0.30	<0.40	1.02	ND			
1/18/2012	Siemens	--	--	<0.70	<0.40	<0.40	<0.40	15.2	0.66 J	<0.30	<0.40	1.01	ND			
1/25/2012	Siemens	--	--	<0.70	<0.40	<0.40	<0.40	16.6	0.61 J	<0.30	<0.40	1.10	ND			

**Table 3. LGRL VOC Investigation Water Supply Well Sample Results - Through April 2017**

(Results are in µg/L, except where otherwise noted)

**Note: See last page for abbreviations, notes, and groundwater standards.**

Well Number	Well Owner	Sample Date	Lab	Chloride (mg/L)	Alkalinity (mg/L)	Chloroethane	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethane	cis-1,2-Dichloroethane	trans-1,2-Dichloroethane	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Other VOCs	
PW-21RR Untreated (continued)	A. Oechsner N7548 Hwy. 67 Mayville	2/15/2012	TA	--	--	<0.50	<0.30	<0.25	<0.15	13	0.47 J	<0.15	<0.25	0.86	ND	
		3/1/2012	TA	--	--	<0.50	<0.30	<0.25	<0.15	13	0.48 J	<0.15	<0.25	0.96	ND	
		4/11/2012	TA	16	290	<0.50	<0.30	<0.25	<0.15	14	0.69	<0.15	<0.25	0.89	ND	
		5/2/2012	Siemens	--	--	0.92 J	<0.40	<0.40	<0.40	19.8	0.80 J	<0.30	<0.40	1.52	ND	
		6/20/2012	Pace	--	--	0.25 J	0.73 J	0.11 J	<0.16	15.1	0.51	<0.16	<0.11	0.62	ND	
		7/18/2012	Pace	--	--	<0.20	<0.13	<0.072	<0.16	16	0.47 J	<0.16	<0.11	0.62	ND	
		8/2/2012	Pace	--	--	0.46 J	<0.13	0.12 J	<0.16	18.6	0.64	<0.16	<0.11	0.75	ND	
		9/13/2012	Pace	--	--	<0.31	<0.13	<0.072	<0.16	16.1	0.49 J	<0.16	<0.11	0.55	Benzene Toluene	0.050 J 0.088 J
		10/5/2012	Pace	13.6	316	<0.31	<0.13	<0.072	<0.16	14.6	0.51	<0.16	<0.11	0.63	ND	
		11/29/2012	Pace	--	--	<0.31	<0.13	<0.072	<0.16	10.9	0.30 J	<0.16	<0.11	0.44	ND	
		12/17/2012	Pace	--	--	<0.31	<0.13	<0.072	<0.16	14.8	0.45 J	<0.16	<0.11	0.62	ND	
		1/8/2013	Pace	--	--	0.62 J	<0.13	<0.072	<0.16	14.4	0.40 J	<0.16	<0.11	0.52	ND	
		2/20/2013	Pace	--	--	<0.31	<0.13	<0.072	<0.16	14	0.39 J	<0.16	<0.11	0.52	ND	
		3/21/2013	Pace	--	--	<0.31	<0.13	<0.072	<0.16	13.2	0.42 J	<0.16	<0.11	0.48	ND	
		4/2/2013	Pace	13.1	294	<0.31	<0.13	<0.072	<0.16	9.2	0.25 J	<0.16	<0.11	0.34 J	ND	
		5/7/2013	Pace	--	--	<0.31	<0.13	<0.072	<0.16	14.4	0.43 J	<0.16	<0.11	0.64	ND	
		6/27/2013	Pace	--	--	<0.50	<0.50	<0.25	<0.24	12.5	0.32 J	<0.25	<0.12	0.5	m&p-Xylene	0.22 JB
		7/29/2013	Pace	--	--	<0.50	<0.50	<0.25	<0.24	14.9	0.35 J	<0.25	<0.12	0.6	ND	
		8/26/2013	Pace	--	--	<0.22	<0.40	<0.20	<0.23	18	<0.20	<0.19	<0.18	<0.19	ND	
		9/12/2013	Pace	--	--	<0.22 L3	<0.40 L3	<0.20	<0.23	16.1	<0.20	<0.19	<0.18	<0.19 L3	ND	
		10/1/13	Pace	14.6	349	<0.22	<0.40	<0.20	<0.23	16.5	0.47 J	<0.19	<0.18	<0.19	ND	
		11/7/13	Pace	--	--	<0.22	<0.40	<0.20	<0.23	14.5	0.44 J	<0.19	<0.18	0.67	Methylene Chloride 1,2-Dichloroethane	0.48 J 0.55
		12/9/13	Pace	--	--	<0.50	<0.50	<0.25	<0.24	13.3	0.39 J	<0.25	<0.13	0.58	ND	
		1/9/2014	Pace	--	--	<0.50	<0.50 M1	<0.25	<0.24	14.9	0.33 J	<0.25	<0.13	0.75	ND	
		2/11/2014	Pace	--	--	<0.50	<0.50	<0.25	<0.24	12.2	0.32 J	<0.25	<0.13	0.52	ND	
		3/11/2014	Pace	--	--	<0.50	<0.50	<0.25	<0.24	14.4	0.46 J	<0.25	<0.13	0.50	ND	
		4/25/2014	Pace	14.7	356	<0.50	<0.50	<0.25	<0.24	15.3	0.42 J	<0.25	<0.13	0.66	ND	
		5/12/2014	Pace	--	--	<0.17	<0.34	<0.077	<0.13	13.8	0.26 J	<0.099	<0.084	0.56	ND	
6/10/2014	Pace	--	--	0.21 J	<0.34	<0.077	<0.13	15.0	0.38 J	<0.099	<0.084	0.78	ND			
7/8/2014	Pace	--	--	0.29 J	<0.34 M1	<0.077	<0.13	16.4	0.38 J	<0.099	<0.084	0.64 M1	ND			
8/1/2014	Pace	--	--	0.25 J	<0.34	<0.077	<0.13	14.6	0.43 J	<0.099	<0.084	0.56	ND			
9/3/2014	Pace	--	--	<0.17	<0.34	<0.077	<0.13	13.9	0.27 J	<0.099	<0.084	0.58	ND			

**Table 3. LGRL VOC Investigation Water Supply Well Sample Results - Through April 2017**

(Results are in µg/L, except where otherwise noted)

**Note:** See last page for abbreviations, notes, and groundwater standards.

Well Number	Well Owner	Sample Date	Lab	Chloride (mg/L)	Alkalinity (mg/L)	Chloroethane	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Other VOCs	
PW-21RR Untreated (continued)	A. Oechsner N7548 Hwy. 67 Mayville	9/3/2014 DUP	Pace	--	--	0.27 J	<0.34	<0.077	<0.13	14.8	0.30 J	<0.099	<0.084	0.67	ND	
		10/6/2014	Pace	14.7	338	0.47 J	<0.34	<0.087	<0.17	15.9	0.48 J	<0.12	<0.084	0.53	ND	
		11/20/2014	Pace	--	--	<0.27	<0.34	<0.087	<0.17	16.2	0.47 J	<0.12	<0.084	0.57	ND	
		12/12/2014	Pace	--	--	<0.27	<0.34	<0.087	<0.17	19.0	<0.15	<0.12	<0.084	1.2	ND	
		1/21/2015	Pace	--	--	<0.27	<0.34	<0.087	<0.17	17.1	<0.15	<0.12	<0.084	0.43	ND	
		2/18/2015	Pace	--	--	<0.27	<0.34	<0.087	<0.17	14.2	0.37 J	<0.12	<0.084	0.55	ND	
		3/5/2015	Pace	--	--	<0.27	<0.34	<0.087	<0.17	16.6	<0.15	<0.12	<0.084	0.50	ND	
		4/17/2015	Pace	15.5 B	328	<0.27	<0.34	<0.087	<0.17	18.3	0.48 J	<0.12	<0.084	0.50	ND	
		5/20/2015	Pace	--	--	<0.34	<0.64	<0.19	<0.17	16.7	0.44 J	<0.15	<0.14	0.55	ND	
		6/3/2015	Pace	--	--	<0.34	<0.64	<0.19	<0.17	18.8	0.52	<0.15	<0.14	0.56	ND	
		7/16/2015	Pace	--	--	<0.34	<0.64	<0.19	<0.17	18.5	1.2	<0.15	<0.14	0.58	ND	
		8/31/2015	Pace	--	--	<0.34	<0.64 L2	<0.19	<0.17	18.0	1.1	<0.15	<0.14	0.47	ND	
		9/21/2015	Pace	--	--	<0.34 H1	<0.64 H1,L3	0.19 J,H1	<0.17 H1	18.1 H1	0.53 H1	<0.15 H1	0.18 J,H1	0.60 H1	ND	
		10/6/2015	Pace	16.0	328	<0.88	<0.20	0.18	<0.17	20	0.35	<0.13	<0.19	0.76	ND	
		11/4/2015	Pace	--	--	<0.24 N2	<0.23 N2	<0.17 N2	<0.17 N2	17.7 N2	0.42 J,N2	<0.32 N2	<0.21 N2	<0.23 N2	ND	
		12/3/2015	Pace	--	--	<0.24	<0.23	<0.17	<0.17	18.2	0.37 J	<0.32	<0.21	<0.23	ND	
		1/5/2016	Pace	--	--	0.36 J	<0.64	<0.19 M1	<0.17	18.7	<0.18	<0.15	<0.14	0.55	ND	
		2/9/2016	Pace	--	--	<0.34	<0.64	<0.19	<0.17	18.3	0.41 J	<0.15	<0.14	0.50	Toluene	0.27 JB
		3/10/2016	Pace	--	--	<0.34	<0.64	<0.19	<0.17	17.5	0.52 J	<0.15	<0.14	0.55	ND	
		4/5/2016	Pace	16.0	345	<0.34	<0.64	<0.19	<0.17	17.5	0.42 J	<0.15	<0.14	0.47	ND	
		5/19/2016	Pace	--	--	<0.34	<0.64	<0.19	<0.17	19.7	0.24 J	<0.15	<0.14	0.45	ND	
		6/22/2016	Pace	--	--	<0.34	<0.64	<0.19	<0.17	18	0.46 J	<0.15	<0.14	0.37	ND	
		7/7/2016	Pace	--	--	<0.34	<0.64	<0.19	<0.17	18.8	0.48 J	<0.15	<0.14	0.64	ND	
		8/11/2016	Pace	--	--	<0.18	<0.21	<0.088	<0.089	17.9	0.35 J	<0.12	<0.044	0.46	ND	
		9/9/2016	Pace	--	--	<0.18	<0.21	<0.088	<0.089	17	0.47 J	<0.12	<0.044	0.42	ND	
		10/4/2016	Pace	17.0	345	0.28 J	<0.21	<0.088	<0.089	20.7	0.53	<0.12	<0.044	0.57	ND	
		11/14/2016	Pace	--	--	0.29 J	<0.21	<0.088	<0.089	16.7	0.47 J	<0.12	<0.044	0.45	ND	
		12/1/2016	Pace	--	--	0.37 J	<0.21	<0.088	<0.089	19.2	0.51	<0.12	<0.044	0.48	ND	
1/27/2017	Pace	--	--	<0.18	<0.21	<0.088	<0.089	21.1	0.42 J	<0.12	<0.044	0.5	ND			
2/2/2017	Pace	--	--	0.31 J	<0.21	<0.088	<0.089	22.1	0.44 J	<0.12	<0.044	0.46	ND			
3/9/2017	Pace	--	--	0.53 J	<0.21	<0.088	<0.089	25	0.63	<0.12	<0.044	0.5	ND			
4/4/2017	Pace	18.4	339	0.32 J	<0.21	<0.088	<0.089	20.3	0.75	<0.12	<0.044	0.54	ND			

**Table 3. LGRL VOC Investigation Water Supply Well Sample Results - Through April 2017**

(Results are in µg/L, except where otherwise noted)

**Note: See last page for abbreviations, notes, and groundwater standards.**

Well Number	Well Owner	Sample Date	Lab	Chloride (mg/L)	Alkalinity (mg/L)	Chloroethane	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Other VOCs
PW-21RR After Treatment System	A. Oechsner N7548 Hwy. 67 Mayville	6/27/13	Pace	--	--	<0.50	<0.50	<0.25	<0.24	1.5	<0.21	<0.25	<0.12	<0.20	m&p-Xylene <b>0.25 JB</b>
		7/29/13	Pace	--	--	<0.50	<0.50	<0.25	<0.24	1.4	<0.21	<0.25	<0.12	<0.20	ND
		8/26/13	Pace	--	--	<0.22	<0.40	<0.20	<0.23	2.3	<0.20	<0.19	<0.18	<0.19	ND
		9/12/13	Pace	--	--	<0.22	<0.40	<0.20	<0.23	2.1	<0.20	<0.19	<0.18	<0.19	ND
		10/1/13	Pace	--	--	<0.22	<0.40	<0.20	<0.23	2.4	<0.20	<0.19	<0.18	<0.19	ND
		11/7/13	Pace	--	--	<0.22	<0.40	<0.20	<0.23	1.2	<0.20	<0.19	<0.18	<0.19	Methylene Chloride <b>0.46 J</b>
		12/9/13	Pace	--	--	<0.50	<0.50	<0.25	<0.24	0.74	<0.21	<0.25	<0.13	<0.20	ND
		1/9/2014	Pace	--	--	<0.50	<0.50	<0.25	<0.24	0.84	<0.21	<0.25	<0.13	<0.20	ND
		2/11/2014	Pace	--	--	<0.50	<0.50	<0.25	<0.24	0.73	<0.21	<0.25	<0.13	<0.20	ND
		3/11/2014	Pace	--	--	<0.50	<0.50	<0.25	<0.24	1.6	<0.21	<0.25	<0.13	<0.20	ND
		4/25/2014	Pace	--	--	<0.50	<0.50	<0.25	<0.24	1.2	<0.21	<0.25	<0.13	<0.20	ND
		5/12/2014	Pace	--	--	<0.17	<0.34	<0.077	<0.13	1.5	<0.15	<0.099	<0.084	<0.20	ND
		6/10/2014	Pace	--	--	<0.17	<0.34	<0.077	<0.13	1.4	<0.15	<0.099	<0.084	<0.20	ND
		7/8/2014	Pace	--	--	<0.17	<0.34	<0.077	<0.13	1.3	<0.15	<0.099	<0.084	<0.20	ND
		8/1/2014	Pace	--	--	<0.17	<0.34	<0.077	<0.13	1.7	<0.15	<0.099	<0.084	<0.082	ND
		10/6/2014	Pace	--	--	<0.27	<0.34	<0.087	<0.17	1.5	<0.15	<0.12	<0.084	<0.082	ND
		11/20/2014	Pace	--	--	<0.27	<0.34	<0.087	<0.17	0.63	<0.15	<0.12	<0.084	<0.082	ND
		12/12/2014	Pace	--	--	<0.27 H1	<0.34 H1,L3	<0.087 H1	<0.17 H1	9.9 H1	0.17 J, H1	<0.12 H1	<0.084 H1	0.35 H1	ND
		1/21/2015	Pace	--	--	<0.27	<0.34	<0.087	<0.17	9.9	0.21 J	<0.12	<0.084	0.28	ND
		2/18/2015	Pace	--	--	<0.27	<0.34	<0.087	<0.17	1.0	<0.15	<0.12	<0.084	<0.082	ND
		3/5/2015	Pace	--	--	<0.27	<0.34	<0.087	<0.17	1.3	<0.15	<0.12	<0.084	<0.082	ND
		4/17/2015	Pace	15.6 B	333	<0.27	<0.34	<0.087	<0.17	1.6	<0.15	<0.12	<0.084	<0.082	ND
		5/20/2015	Pace	--	--	<0.34	<0.64	<0.19	<0.17	0.83	<0.18	<0.15	<0.14	<0.081	ND
		6/3/2015	Pace	--	--	<0.34	<0.64	<0.19	<0.17	1.3	<0.18	<0.15	<0.14	<0.15	Isopropylbenzene (Cumene) <b>0.11 J</b>
		7/16/2015	Pace	--	--	<0.34	<0.64	<0.19	<0.17	2.3	<0.18	<0.15	<0.14	<0.081	ND
		8/31/2015	Pace	--	--	<0.34	<0.64	<0.19	<0.17	2.1	<0.18	<0.15	<0.14	<0.081	ND
		9/21/2015	Pace	--	--	<0.34 H1	<0.64 H1,L3	<0.19 H1	<0.17 H1	1.9 H1	<0.18 H1	<0.15 H1	<0.14 H1	<0.081 H1	ND
		10/6/2015	Pace	--	--	<0.88	<0.20	<0.15	<0.17	2.5	<0.18	<0.13	<0.19	<0.10	ND
		11/4/2015	Pace	--	--	<0.24 N2	<0.23 N2	<0.17 N2	<0.17 N2	1.6 N2	<0.19 N2	<0.32 N2	<0.21 N2	<0.23 N2	Isopropylbenzene (Cumene) <b>0.81 N2</b>
		12/3/2015	Pace	--	--	<0.24	<0.23	<0.17	<0.17	1.1	<0.19	<0.32	<0.21	<0.23	ND
2/9/2016	Pace	--	--	<0.34	<0.64	<0.19	<0.17	2.7	<0.18	<0.15	<0.14	<0.15	Toluene <b>0.26 J</b>		
3/10/2016	Pace	--	--	<0.34	<0.64	<0.19	<0.17	1.2	<0.18	<0.15	<0.14	<0.15	ND		
4/5/2016	Pace	--	--	<0.34	<0.64	<0.19	<0.17	0.98	<0.18	<0.15	<0.14	<0.081	ND		
5/19/2016	Pace	--	--	<0.34	<0.64	<0.19	<0.17	1.2	<0.18	<0.15	<0.14	<0.081	ND		
6/22/2016	Pace	--	--	<0.34	<0.64	<0.19	<0.17	1.6	<0.18	<0.15	<0.14	<0.081	ND		
7/7/2016	Pace	--	--	<0.34	<0.64	<0.19	<0.17	2.2	<0.18	<0.15	<0.14	<0.081	ND		
8/11/2016	Pace	--	--	<0.18	<0.21	<0.088	<0.089	1.9	<0.11	<0.12	<0.044	<0.098	ND		

Table 3. LGRL VOC Investigation Water Supply Well Sample Results - Through April 2017

(Results are in µg/L, except where otherwise noted)

Note: See last page for abbreviations, notes, and groundwater standards.

Well Number	Well Owner	Sample Date	Lab	Chloride (mg/L)	Alkalinity (mg/L)	Chloroethane	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Other VOCs
PW-21RR After Treatment System (continued)	A. Oechsner N7548 Hwy. 67 Mayville	9/9/2016	Pace	--	--	<0.18	<0.21	<0.088	<0.089	1.9	<0.11	<0.12	<0.044	<0.098	ND
		10/4/2016	Pace	--	--	<0.18	<0.21	<0.088	<0.089	1.9	<0.11	<0.12	<0.044	<0.098	ND
		11/14/2016	Pace	--	--	<0.18	<0.21	<0.088	<0.089	1.8	<0.11	<0.12	<0.044	<0.098	ND
		12/1/2016	Pace	--	--	<0.18	<0.21	<0.088	<0.089	1.7	<0.11	<0.12	<0.044	<0.098	ND
		1/27/2017	Pace	--	--	<0.18	<0.21	<0.088	<0.089	1.1	<0.11	<0.12	<0.044	<0.098	ND
		2/2/2017	Pace	--	--	<0.18	<0.21	<0.088	<0.089	1.1	<0.11	<0.12	<0.044	<0.098	ND
		3/9/2017	Pace	--	--	<0.18	<0.21	<0.088	<0.089	1.4	<0.11	<0.12	<0.044	<0.098	ND
4/4/2017	Pace	--	--	<0.18	<0.21	<0.088	<0.089	1.4	<0.11	<0.12	<0.044	<0.098	ND		
<b>Semi-annual Monitoring Locations</b>															
PW-19	Antonioni W2831 Zion Church Rd. Mayville	6/28/2011	TA	--	--	<0.50	<0.30	<0.25	<0.15	0.30 J	<0.30	<0.15	<0.25	<0.032	ND
		10/5/2012	Pace	45.1	372	<0.31	<0.13	<0.072	<0.16	<0.08	<0.14	<0.16	<0.11	<0.16	ND
		4/3/2013	Pace	40.2	339	<0.31	<0.13	<0.072	<0.16	0.55	<0.14	<0.16	<0.11	<0.16	ND
		10/1/2013	Pace	38.3	355	<0.22	<0.40	<0.20	<0.23	0.82	<0.20	<0.19	<0.18	<0.19	ND
		4/25/2014	Pace	37.9	375	<0.50	<0.50	<0.25	<0.24	0.65	<0.21	<0.25	<0.13	<0.20	ND
		10/6/2014	Pace	43.1	341	<0.27	<0.34	<0.087	<0.17	0.63 J	<0.15	<0.12	<0.084	<0.082	ND
		6/3/2015	Pace	41.1	352	<0.34	<0.64	<0.19	<0.17	0.63	<0.18	<0.15	<0.14	<0.15	ND
		10/6/2015	Pace	47.7	340	<0.88	<0.20	<0.15	<0.17	0.73	<0.18	<0.13	<0.19	<0.10	ND
		4/5/2016	Pace	42.6	335	<0.34	<0.64	<0.19	<0.17	0.59	<0.18	<0.15	<0.14	<0.081	ND
		10/4/2016	Pace	45.7	349	<0.18	<0.21	<0.088	<0.089	0.64	<0.11	<0.12	<0.044	<0.098	ND
4/4/2017	Pace	45.7	353	<0.18	<0.21	<0.088	<0.089	0.55	<0.11	<0.12	<0.044	<0.098	ND		
PW-20	Sellnow N7627 Hwy. 67 Mayville	3/11/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	0.22 JB	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND
		1/21/2010	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
		7/14/2010	NLS	--	--	<1.0	<0.16	<0.14	<0.11	<0.13	<0.11	<0.10	<0.12	<0.13	ND
		4/6/2011	NLS	--	--	<1.6	<0.29	<0.23	<0.13	<0.30	<0.30	<0.11	<0.28	<0.20	ND
			TA	--	--	<0.10	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.032	ND
		10/6/2011	TA	--	--	<0.50	<0.30	<0.25	<0.15	<0.30	<0.30	<0.15	<0.25	<0.032	ND
		4/13/2012	TA	33	310	<0.50	<0.30	<0.25	<0.15	<0.30	<0.30	<0.15	<0.25	<0.032	ND
		10/5/2012	Pace	45.6	323	<0.31	<0.13	<0.072	<0.16	<0.080	<0.14	<0.16	<0.11	<0.16	ND
		4/2/2013	Pace	29.3	340	<0.31	<0.13	<0.072	<0.16	<0.080	<0.14	<0.16	<0.11	<0.16	ND
10/1/2013	Pace	22.3	312	<0.22	<0.40	<0.20	<0.23	<0.12	<0.20	<0.19	<0.18	<0.19	ND		
4/25/2014	Pace	27.7	385	<0.50	<0.50	<0.25	<0.24	<0.23	<0.21	<0.25	<0.13	<0.20	ND		



**Table 3. LGRL VOC Investigation Water Supply Well Sample Results - Through April 2017**

(Results are in µg/L, except where otherwise noted)

**Note: See last page for abbreviations, notes, and groundwater standards.**

Well Number	Well Owner	Sample Date	Lab	Chloride (mg/L)	Alkalinity (mg/L)	Chloroethane	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Other VOCs	
PW-20 (continued)	Sellnow N7627 Hwy. 67 Mayville	10/6/2014	Pace	28.4	315	<0.27	<0.34	<0.087	<0.17	<0.11	<0.15	<0.12	<0.084	<0.082	ND	
		4/17/2015	Pace	62.8	365	<0.27	<0.34	<0.087	<0.17	<0.11	<0.15	<0.12	<0.084	<0.082	ND	
		10/6/2015	Pace	26.4	327	<0.88	<0.20	<0.15	<0.17	<0.16	<0.18	<0.13	<0.19	<0.10	ND	
		4/5/2016	Pace	23.0	330	<0.34	<0.64	<0.19	<0.17	<0.17	<0.18	<0.15	<0.14	<0.081	ND	
		10/4/2016	Pace	27.2	325	<0.18	<0.21	<0.088	<0.089	<0.085	<0.11	<0.12	<0.044	<0.098	ND	
		4/6/2017	Pace	30.4	333	<0.18	<0.21	<0.088	<0.089	<0.085	<0.11	<0.12	<0.044	<0.098	ND	
PW-23	Weiss W2978 Zion Church Rd. Mayville	3/11/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND	
			CT	--	--	<0.40	0.25 JB	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND	
		7/14/2010	NLS	--	--	<1.0	<0.16	<0.14	<0.11	<0.13	<0.11	<0.10	<0.12	<0.13	ND	
		4/6/2011	NLS	--	--	<1.6	<0.29	<0.23	<0.13	<0.30	<0.30	<0.11	<0.28	<0.20	ND	
			TA	--	--	<0.10	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.032	ND	
		10/6/2011	TA	--	--	<0.50	<0.30	<0.25	<0.15	<0.30	<0.30	<0.15	<0.25	<0.032	ND	
		4/11/2012	TA		160	320	<0.50	<0.30	<0.25	<0.15	<0.30	<0.30	<0.15	<0.25	<0.032	ND
		10/5/2012	Pace		135	358	<0.31	<0.13	<0.072	<0.16	<0.080	<0.14	<0.16	<0.11	<0.16	ND
		4/2/2013	Pace		108	385	<0.31	<0.13	<0.072	<0.16	<0.080	<0.14	<0.16	<0.11	<0.16	ND
		10/1/2013	Pace		107	426	<0.22	<0.40	<0.20	<0.23	<0.12	<0.20	<0.19	<0.18	<0.19	ND
		4/25/2014	Pace		94.4	383	<0.50	<0.50	<0.25	<0.24	<0.23	<0.21	<0.25	<0.13	<0.20	ND
		10/6/2014	Pace		99.3	405	<0.27	<0.34	<0.087	<0.17	<0.11	<0.15	<0.12	<0.084	<0.082	ND
		4/17/2015	Pace		108	379	<0.27	<0.34	<0.087	<0.17	<0.11	<0.15	<0.12	<0.084	<0.082	ND
		10/6/2015	Pace		100	424	<0.88	<0.20	<0.15	<0.17	<0.16	<0.18	<0.13	<0.19	<0.10	ND
		4/5/2016	Pace		66.7	353	<0.34	<0.64	<0.19	<0.17	<0.17	<0.18	<0.15	<0.14	<0.081	ND
10/4/2016	Pace		76.7	391	<0.18	<0.21	<0.088	<0.089	<0.085	<0.11	<0.12	<0.044	<0.098	ND		
		4/4/2017	Pace	83.6	411	<0.18	<0.21	<0.088	<0.089	<0.085	<0.11	<0.12	<0.044	<0.098	ND	
PW-27 (Abandoned)	All Line Construction N7477 Hwy. 67 Mayville	2/24/2009	NLS	--	--	<0.79	<0.31	0.91	0.36 J	120	3.9	<0.15	2.9	12	ND	
			CT	--	--	3.0	1.1 B	1.0	0.47 J	110	4.4	<0.30	2.8	9.4	ND	
		3/11/2009	NLS	--	--	<0.95	<0.16	0.70 J	0.26 J	100	3.2	<0.20	2.4	8.3	ND	
			CT	--	--	2.4	<0.22	0.81	0.41 J	89	4.1	<0.30	2.7	7.1	ND	
		6/30/2009	Siemens	--	--	2.55	<0.40	0.91 J	0.45 J	115	3.71	<0.30	2.83	8.26	ND	
		2/10/2011	Siemens		32.3	386	1.98 J	<0.40	0.74 J	<0.40	101	3.45	<0.30	2.31	6.48	ND
		5/2/2012	Siemens		26.4	334	1.42 J	<0.40	0.42 J	<0.40	53.6	1.81	<0.30	1.19 J	4.02	ND
		12/17/2012	Pace		39.9	349	2.3	<0.13	0.69	0.17 J	86.2	2.8	<0.16	1.2	9.1	Methyl-tert-butyl ether 1,2,4 Trimethylbenzene
2/20/2013	Pace		36.7	360	2.3	<0.13	0.77	<0.16	87	3.3	<0.16	1.9	7.1	ND		

Table 3. LGRL VOC Investigation Water Supply Well Sample Results - Through April 2017

(Results are in µg/L, except where otherwise noted)

Note: See last page for abbreviations, notes, and groundwater standards.

Well Number	Well Owner	Sample Date	Lab	Chloride (mg/L)	Alkalinity (mg/L)	Chloroethane	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Other VOCs
PW-28	W. Muche N7650 Hwy. 67 Mayville	3/11/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	0.18 J	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	<0.22	<0.21	<0.24	0.24 J	<0.27	<0.30	<0.24	<0.11	ND
		6/30/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	0.19 J	<0.28	<0.20	<0.25	<0.19	ND
		7/14/2010	NLS	--	--	<1.0	<0.16	<0.14	<0.11	0.28 J	<0.11	<0.10	<0.12	<0.13	ND
		4/6/2011	NLS	--	--	<1.6	<0.29	<0.23	<0.13	0.39 J	<0.30	<0.11	<0.28	<0.20	ND
			TA	--	--	<0.10	<0.20	<0.050	<0.050	0.30 J	<0.050	<0.050	<0.050	<0.032	ND
		10/6/2011	TA	--	--	<0.50	<0.30	<0.25	<0.15	0.33 J	<0.30	<0.15	<0.25	<0.032	ND
		4/11/2012	TA	17	280	<0.50	<0.30	<0.25	<0.15	0.45 J	<0.30	<0.15	<0.25	<0.032	ND
		10/5/2012	Pace	15.3	316	<0.31	<0.13	<0.072	<0.16	0.74	<0.14	<0.16	<0.11	<0.16	ND
		4/3/2013	Pace	16.1	339	<0.31	<0.13	<0.072	<0.16	1	<0.14	<0.16	<0.11	<0.16	ND
		10/1/2013	Pace	18.0	353	<0.22	<0.40	<0.20	<0.23	1.4	<0.20	<0.19	<0.18	<0.19	ND
		4/25/2014	Pace	18.3	374	<0.17	<0.34	<0.077	<0.13	1.2	<0.15	<0.099	<0.084	<0.20	ND
		10/6/2014	Pace	26.2	331	<0.27	<0.34	<0.087	<0.17	1.8	<0.15	<0.12	<0.084	<0.082	ND
		4/17/2015	Pace	21.7	344	<0.27	<0.34	<0.087	<0.17	2.0	<0.15	<0.12	<0.084	<0.082	ND
		10/6/2015	Pace	24.4	365	<0.88	<0.20	<0.15	<0.17	2.5	<0.18	<0.13	<0.19	<0.10	ND
4/5/2016	Pace	24.1	362	<0.34	<0.64	<0.19	<0.17	2.2	<0.18	<0.15	<0.14	<0.081	ND		
10/4/2016	Pace	27.2	354	<0.18	<0.21	<0.088	<0.089	2.1	<0.11	<0.12	<0.044	<0.098	ND		
4/4/2017	Pace	27.4	354	<0.18	<0.21	<0.088	<0.089	2.3	<0.11	<0.12	<0.044	<0.098	ND		
PW-32	J. Oechsner W2983 Zion Church Rd. Mayville	4/7/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	0.12 J	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	<0.22	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND
		9/23/2009	NLS	--	--	<1.2	<0.48	<0.19	<0.22	<0.17	<0.19	<0.17	<0.23	<0.21	ND
		7/14/2010	NLS	--	--	<1.0	<0.16	<0.14	<0.11	0.14 J	<0.11	<0.10	<0.12	<0.13	ND
		4/5/2011	NLS	--	--	<1.6	<0.29	<0.23	<0.13	<0.30	<0.30	<0.11	<0.28	<0.20	ND
			TA	--	--	<0.10	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.032	Chlorobenzene 0.050 J
		10/6/2011	TA	--	--	<0.50	<0.30	<0.25	<0.15	<0.30	<0.30	<0.15	<0.25	<0.032	ND
		4/11/2012	TA	41	300	<0.50	<0.30	<0.25	<0.15	<0.30	<0.30	<0.15	<0.25	<0.032	ND
		10/5/2012	Pace	40.2	349	<0.31	<0.13	<0.072	<0.16	<0.080	<0.14	<0.16	<0.11	<0.16	ND
		4/2/2013	Pace	39.8	478	<0.31	<0.13	<0.072	<0.16	0.27 J	<0.14	<0.16	<0.11	<0.16	ND
		10/1/2013	Pace	40.5	362	<0.22	<0.40	<0.20	<0.23	<0.12	<0.20	<0.19	<0.18	<0.19	ND
		4/25/2014	Pace	40.7	374	<0.50	<0.50	<0.25	<0.24	0.30 J	<0.21	<0.25	<0.13	<0.20	ND
		10/6/2014	Pace	41.2	355	<0.27	<0.34	<0.087	<0.17	0.33 J	<0.15	<0.12	<0.084	<0.082	ND
		4/24/2015	Pace	35.4	334	<0.27	<0.34	<0.087	<0.17	0.16 J	<0.15	<0.12	<0.084	<0.082	ND
10/6/2015	Pace	37.1	355	<0.88	<0.20	<0.15	<0.17	0.53	<0.18	<0.13	<0.19	<0.10	ND		

**Table 3. LGRL VOC Investigation Water Supply Well Sample Results - Through April 2017**

(Results are in µg/L, except where otherwise noted)

**Note:** See last page for abbreviations, notes, and groundwater standards.

Well Number	Well Owner	Sample Date	Lab	Chloride (mg/L)	Alkalinity (mg/L)	Chloroethane	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Other VOCs
PW-32 (cont.)	J. Oechsner W2983 Zion Church Rd. Mayville	4/5/2016	Pace	39.0	348	<0.34	<0.64	<0.19	<0.17	0.32 J	<0.18	<0.15	<0.14	<0.081	ND
		10/4/2016	Pace	42.3	345	<0.18	<0.21	<0.088	<0.089	0.39 J	<0.11	<0.12	<0.044	<0.098	ND
		4/4/2017	Pace	41.6	340	<0.18	<0.21	<0.088	<0.089	0.26 J	<0.11	<0.12	<0.044	<0.098	ND
PW-38	King N7746 Hwy. 67 Mayville	5/14/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	0.57 J	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND
		7/14/2010	NLS	--	--	<1.0	<0.16	<0.14	<0.11	<0.13	<0.11	<0.10	<0.12	<0.13	ND
		4/6/2011	NLS	--	--	<1.6	<0.29	<0.23	<0.13	<0.30	<0.30	<0.11	<0.28	<0.20	ND
			TA	--	--	<0.10	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.032	Toluene 0.22 J
		10/6/2011	TA	--	--	<0.50	<0.30	<0.25	<0.15	<0.30	<0.30	<0.15	<0.25	<0.032	Toluene 0.35 J
		4/11/2012	TA	<3.1	310	<0.50	<0.30	<0.25	<0.15	<0.30	<0.30	<0.15	<0.25	<0.032	ND
		10/5/2012	Pace	<2.0	338	<0.31	<0.13	<0.072	<0.16	<0.080	<0.14	<0.16	<0.11	<0.16	ND
		4/2/2013	Pace	2.4 J	268	<0.31	<0.13	<0.072	<0.16	<0.080	<0.14	<0.16	<0.11	<0.16	ND
		10/1/2013	Pace	3.2 J	349	<0.22	<0.40	<0.20	<0.23	<0.12	<0.20	<0.19	<0.18	<0.19	ND
		4/25/2014	Pace	2.9 J	361	<0.50	<0.50	<0.25	<0.24	<0.23	<0.21	<0.25	<0.13	<0.20	ND
		10/6/2014	Pace	3.2 J	335	<0.27	<0.34	<0.087	<0.17	<0.11	<0.15	<0.12	<0.084	<0.082	ND
		4/24/2015	Pace	2.9 JB	338	<0.27	<0.34	<0.087	<0.17	<0.11	<0.15	<0.12	<0.084	<0.082	ND
		10/6/2015	Pace	2.7 J	341	<0.88	<0.20	<0.15	<0.17	<0.16	<0.18	<0.13	<0.19	<0.10	ND
		4/5/2016	Pace	3.0 J	344	<0.34	<0.64	<0.19	<0.17	<0.17	<0.18	<0.15	<0.14	<0.081	ND
10/4/2016	Pace	1.6 J	340	<0.18	<0.21	<0.088	<0.089	<0.085	<0.11	<0.12	<0.044	<0.098	ND		
4/4/2017	Pace	1.5 J	339	<0.18	<0.21	<0.088	<0.089	<0.085	<0.11	<0.12	<0.044	<0.098	ND		
<b>Annual Monitoring Locations</b>															
PW-42	Steinbach W2772 Zion Church Rd. Mayville	10/5/2012	Pace	<2.0	324	<0.31	<0.13	<0.072	<0.16	<0.080	<0.14	<0.16	<0.11	<0.16	ND
		4/2/2013	Pace	2.2 J	320	<0.31	<0.13	<0.072	<0.16	<0.080	<0.14	<0.16	<0.11	<0.16	ND
		10/6/2014	Pace	3.4 J	327	<0.27	<0.34	<0.087	<0.17	<0.11	<0.15	<0.12	<0.084	<0.082	ND
		10/6/2015	Pace	3.0 J	342	<0.88	<0.20	<0.15	<0.17	<0.16	<0.18	<0.13	<0.19	<0.10	ND
		10/4/2016	Pace	1.6 J	330	<0.18	<0.21	<0.088	<0.089	<0.085	<0.11	<0.12	<0.044	<0.098	ND
PW-43	Hinze W2698 Zion Church Rd. Mayville	10/5/2012	Pace	11.4	215	<0.31	<0.13	<0.072	<0.16	<0.080	<0.14	<0.16	<0.11	<0.16	ND
		4/3/2013	Pace	10.8	211	<0.31	<0.13	<0.072	<0.16	<0.080	<0.14	<0.16	<0.11	<0.16	ND
		10/6/2014	Pace	12.9	226	<0.27	<0.34	<0.087	<0.17	<0.11	<0.15	<0.12	<0.084	<0.082	ND
		10/6/2015	Pace	15	223	<0.88	<0.20	<0.15	<0.17	<0.16	<0.18	<0.13	<0.19	<0.10	ND
10/4/2016	Pace	12.5	218	<0.18	<0.21	<0.088	<0.089	<0.085	<0.11	<0.12	<0.044	<0.098	ND		

**Table 3. LGRL VOC Investigation Water Supply Well Sample Results - Through April 2017**

(Results are in µg/L, except where otherwise noted)

**Note: See last page for abbreviations, notes, and groundwater standards.**

Well Number	Well Owner	Sample Date	Lab	Chloride (mg/L)	Alkalinity (mg/L)	Chloroethane	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Other VOCs
PW-44	Christian N7686 Ekren Rd. Mayville	10/5/2012	Pace	<2.0	291	<0.31	<0.13	<0.072	<0.16	<0.080	<0.14	<0.16	<0.11	<0.16	ND
		4/2/2013	Pace	2.3 J	316	<0.31	<0.13	<0.072	<0.16	<0.080	<0.14	<0.16	<0.11	<0.16	ND
		10/6/2014	Pace	2.9 J	319	<0.27	<0.34	<0.087	<0.17	<0.11	<0.15	<0.12	<0.084	<0.082	ND
		10/6/2015	Pace	2.7 J	342	<0.88	<0.20	<0.15	<0.17	<0.16	<0.18	<0.13	<0.19	<0.10	ND
		10/4/2016	Pace	1.2 J	326	<0.18	<0.21	<0.088	<0.089	<0.085	<0.11	<0.12	<0.044	<0.098	ND
<b>Non-Routine Monitoring Locations</b>															
PW-1	Church View Farms J. Qualmann N7110 Hwy. V Horicon	4/7/2009	NLS	34	240	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
PW-3	Horicon Marsh Bowmen N7240 Hwy. V Horicon	4/30/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	<0.22	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND
PW-4	Advanced Disposal N7271 Hwy. V Horicon	4/3/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	<0.22	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND
None	Wondra N7877 Hwy 67 Mayville	10/22/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	Chloroform <b>0.36</b>
PW-18	Advanced Disposal N7785 Hwy. 67 Mayville	4/3/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	<0.22	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND
PW-18 Hand Pump	Advanced Disposal N7785 Hwy. 67 Mayville	4/3/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	<0.22	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND
PW-24	St. John's Lutheran Church N7074 Hwy. V Mayville	4/30/2009	NLS	33	320	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	0.3 J	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND
PW-26	Goodearle W3653 Decora Rd. Horicon	4/30/2009	NLS	13	310	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
PW-29	Persha N7241 Hwy. 67 Mayville	4/3/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	<0.22	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND
PW-30	Wendorff N7306 Hwy. 67 Mayville	6/23/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	<0.22	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND
PW-31	Wendorff N7306 Hwy. 67 Mayville	4/3/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	<0.22	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND

**Table 3. LGRL VOC Investigation Water Supply Well Sample Results - Through April 2017**

(Results are in µg/L, except where otherwise noted)

**Note: See last page for abbreviations, notes, and groundwater standards.**

Well Number	Well Owner	Sample Date	Lab	Chloride (mg/L)	Alkalinity (mg/L)	Chloroethane	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	Other VOCs
PW-33	Lagerman W3230 STH 33 Iron Ridge	4/3/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	<0.22	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND
PW-34	R H Equipment N7123 Hwy. 67 Mayville	4/13/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	<0.22	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND
PW-35	Lewis N7143 Hwy. 67 Mayville	4/13/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	<0.22	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND
PW-36	Mayville Animal Clinic N7860 Hwy. 67 Mayville	4/21/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	<0.22	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND
PW-37	Halsne N7817 Hwy. 67 Mayville	4/30/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	<b>0.40 J</b>	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND
PW-Office Well	Advanced Disposal N7296 Hwy. V Horicon	4/7/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<b>3.5</b>	<0.25	<0.19	1,4 Dichlorobenzene <b>0.27 J</b>
			CT	--	--	<0.40	<0.22	<0.21	<0.24	<0.21	<0.27	<b>3.3</b>	<0.24	<0.11	1,4 Dichlorobenzene <b>0.22 J</b>
		4/30/2009	NLS	--	--	<0.95	<0.16	<0.25	<0.18	<0.10	<0.28	<0.20	<0.25	<0.19	ND
			CT	--	--	<0.40	<0.22	<0.21	<0.24	<0.21	<0.27	<0.30	<0.24	<0.11	ND
NR 140 Groundwater Enforcement Standard				250	NS	400	30	850	7	70	100	5	5	0.2	1,2-Dichloroethane 5 1,4 Dichlorobenzene 75 Benzene 5 Chloroform 6 Methyl-tert-butyl ether 60 Methylene Chloride 5 Toluene 800 Trimethylbenzenes 480
Drinking Water Standard (Maximum Contaminant Level)				125	NS	NS	NS	NS	7	70	100	5	5	0.2	1,2-Dichloroethane 5 1,4 Dichlorobenzene 75 Benzene 5 Chloroform (TTHM) 80 Methylene Chloride 5 Toluene 1,000

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**Table 3. LGRL VOC Investigation Water Supply Well Sample Results - Through April 2017**

Abbreviations:

NS = No standard established  
THM = Trihalomethanes (disinfection byproducts including chloroform)  
ND = Not detected  
mg/L = Milligrams per Liter  
µg/L = Micrograms per Liter  
-- = Not Analyzed

CT = CT Laboratories, Baraboo, WI  
NLS = Northern Lake Service, Inc., Crandon, WI  
Siemens = Siemens Water Technologies  
TA = TestAmerica, Watertown, WI  
Pace = Pace Analytical Services, Inc., Green Bay, WI

**Bold** indicates detected compound.  
**Bold and underline** indicates result above drinking water standard.

Notes:

\* Sample collected at the pressure tank prior to the iron filtration system.  
\*\* Sample collected at the kitchen tap after the water passed through the iron filtration system.

Laboratory Notes/Qualifiers:

B = Compound also detected in blank sample  
J = Estimated value below laboratory limit of quantitation  
H1 = Analysis conducted outside the recognized method holding time. Analyzed 2 days outside of hold time.  
L2 = Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.  
L3 = Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.  
M1 = Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.  
N2 = The lab does not hold The NELCA Institute (TNI) accreditation for this parameter.

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