Periodic Review Report For NYS DOH Wadsworth Center (Site No. 401031) Albany, New York

Prepared for

New York State Department of Environmental Conservation 625 Broadway Albany, New York 12233

2021 Report

Prepared by

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1. EXECUTIVE SUMMARY

This Periodic Review Report (PRR) has been prepared to document the ongoing performance, effectiveness, and protectiveness of the selected remedy at the NYS DOH Wadsworth Center site as required by 6 New York Code of Rules and Regulations Part 375. The Wadsworth Center site (New York State Department of Environmental Conservation [NYSDEC] Site No. 401031) is located in the city of Albany, at the rear of property at 120 New Scotland Avenue (Figures 1 and 1a).

The overall purpose of this report is to demonstrate that the remedy selected in the Record of Decision (ROD) issued in March 1992 is protecting groundwater and showing current contamination concentrations in ground water are not migrating, and therefore not impacting human health or the environment. Originally the groundwater monitoring program at the Wadsworth Center site consisted of collecting groundwater samples and recording groundwater elevations from three monitoring wells every fifth quarter. An additional well (12S) was installed to the West of the site on adjacent property, and another well (8S) on the adjacent property to the South. A site map showing the four active well locations is illustrated in Figure 2. The interpreted ground water map for the March 2019 and August 2020 sampling are illustrated in Figures 3a and 3b, respectively.

2. SITE OVERVIEW

After the Wadsworth Center reported past practices of ground disposal of chemical waste at 120 New Scotland Avenue, the location was listed as an inactive waste burial site. Environmental Resources Management (ERM) was the firm contracted to perform Remedial Investigation activities (performed in 1990 and 1991), develop the remedial plan, and perform required monitoring and testing. They were subsequently involved in all aspects of the program management for this inactive waste site until 2014 when Adirondack Environmental Services, Inc. was contracted to perform the 5th quarter groundwater sampling and analysis.

In 1992 the ROD was issued and the Remedial Plan developed. In August of 1993 the Order on Consent was issued. The Remedial Plan included installation of a geomembrane cap with vents and a ground water pump and treat system, and deed restrictions to eliminate disturbance of the cap area. The area covered by the cap would include a section of property owned by the Christian Brothers Academy (CBA). That piece of property was eventually purchased by DOH to maintain institutional control over the cap area.

The pump and treat system operated under the Operations and Maintenance Plan for roughly 7 years. Water analysis reports indicated that the system was not effectively removing contaminants as intended, so a request was made to DEC to allow DOH to remove the system. Approval for removal was granted in 2000, completed in 2001, and the decommissioning report approved in Spring 2002.

Secondary to the pump and treat system was fencing and access control. While the pump and treat system was operational, the plan was followed as required and fencing and access controls were maintained. When the pump and treat system was removed, the fencing and access controls were also eventually removed. As part of the pump and treat system removal plan, the original Order on Consent was modified to include a provision for monitoring ground water, whereby certain shallow wells would be sampled every fifth quarter to evaluate water levels and

determine if contaminants were migrating from the original site. Three wells were monitored according to plan. Those Groundwater Reports are on file for Dec. '03, March '05, September '06, Dec. '07, March '09, June 2010, and September 2011. As mentioned above, a fourth well was added to the matrix, and the original well (8S) that was paved over has since been replaced and sampled as required. All four wells are currently able to be monitored.

Vapor intrusion was evaluated in 2009, through a combination of soil vapor point tests (Geoprobe), internal building air samples, and analysis of building construction, ventilation, and space uses. Sample results showed no abnormal levels that may be attributable to the inactive burial site, and the subsequent NFA memo from DEC was issued.

3. REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

3.1 INSTITUTIONAL CONTROLS/ENGINEERING CONTROLS CERTIFICATION

Engineering Controls (EC) were approved for removal and are no longer applicable to the site, with the exception of the cover system, which is still in place.

Institutional Controls (IC) could not originally be certified as land use restrictions could not be verified as being listed on deed documents. In 2012 the Wadsworth Center had a survey completed to reduce the area of the site to be considered as the "controlled area" (indicated in Figure 2), where land use and deed restrictions would apply. Due to additional information that was discovered, the survey was revised in April of 2013, with deed restrictions, and subsequently filed with the Albany County Clerk's Office.

3.1.1 Institutional Controls/Engineering Controls - Requirements and Compliance

The ICs/ECs applied at the site are in place as documented on the survey included as Figure 4. Land use restriction on deed documents have been recorded, along with the Declaration of Covenants and Restrictions document.

An area of chain link fence has been erected as a security barrier over a portion of the cap area, but the depth of footings was kept shallow so as not to impact the function/integrity of the site cap.

In 2015, excavation and soil sampling activities were completed for a 45 foot by 45 foot temporary repair work area associated with a portion of the David Axelrod Institute (DAI) parking lot above the cap area. Environmental oversight and sampling was conducted in accordance with the Site Management Plan.

In 2016, the entire DAI parking lot, with the exception of a small portion located beneath the All Hazards Receipt Facility (AHRF), was replaced. However, the construction project only involved milling of the old pavement, no soil removal, so environmental oversight and soil sampling was not required for this project.

Between 2017 and 2018, there were no activities conducted that could have impacted the cap area.

In 2019, the asphalt surrounding one stormwater drain (approximately 6' x 6') located on the edge of the controlled area needed emergency repairs due to deterioration and potential for collapse. However, the repair work only involved removal of the deteriorated asphalt and no soil was remove, so soils sampling was not required for this activity. A 6' x 6' concrete apron was poured around the stormwater drain.

The condition of the four monitoring wells is generally good, but the casing cap is missing from well MW-8SR. A second well (located under a metal plate) that is no longer in service was identified as needing repair or proper decommissioning during a 2019 site visit by representatives from DEC and DOH. Aztech Environmental (LaBella Associates) has been contracted to repair both wells and the work is projected to be completed the end of February 2021. The scope of work includes the inspection, removal, and replacement of both road boxes with new, bolt-down, flush mounted steel traffic rated covers, with new concrete pads.

3.2 MONITORING PLAN COMPLIANCE

The Wadsworth Center has submitted a Site Management Plan to DEC. PRR submissions are now required every three years.

As set forth in the modified Order on Consent, fifth quarter well monitoring has, for the most part, proceeded according to schedule. It was previously noted in the 2016 PPR that groundwater testing was not completed during the fifth quarter cycle as required. As a result, the subsequent groundwater testing was conducted during the fourth quarter (i.e., Oct – Dec 2017) to ensure that we remained in compliance with the fifth quarter requirement/cycle. Since then, fifth quarter well monitoring as proceeded as required.

Also note, since well 8S to the South of the site is not on state-owned property, the Wadsworth Center annually renews an access agreement with the property owner to permit access for continued monitoring and repairs as needed. Monitoring well locations are detailed in Figure 2.

3.2.1 Groundwater Sampling

Groundwater samples have routinely been collected by qualified firms and analyzed by a NYSDOH approved environmental testing laboratory. Historically, samples were only analyzed for VOCs by USEPA Method 8260B, in accordance with the NYSDEC Analytical Services Protocol. However, since March 2017 all samples have been analyzed for volatile organics by EPA Method 8260C, 1,4-Dioxane using EPA Method 8270D SIM and PFOA/PFOS using EPA Method 537 specified in the report. The additional requirement to include perfluoronated compounds (PFCs) and 1,4-Dioxane in our groundwater sampling efforts was added in March 2017 and all subsequent groundwater monitoring analyses have included both 1,4-Dioxane and PFOA/PFOS. All laboratory results are reviewed by the Adirondack Environmental Services, Inc., Quality Assurance Manager.

March 2019 Sampling:

During the March 2019 sampling event the compound 1,4-Dioxane was detected in each well, with well MW-8SR being the highest at 2000 ug/L. There were also some low-level detections of

the PFOA/PFOS found in the wells. The other compound detected was Methyl-tert-butyl ether in MW-8SR at a level of 4.8 ug/L. No other Volatile Organics were detected above the laboratory reporting limits in the ground water samples collected from shallow monitoring wells. The results were compared to the NYSDEC Groundwater Standard for these compounds. Note that a groundwater contour map (Figure 3a) was compiled using the March 2019 water level data for the four sampled shallow monitoring wells. The ground water contour map indicates that the flow direction of shallow ground water on March 27, 2019 was generally toward the south.

Laboratory analytical data from the 2019 sampling event indicate that the no Volatile Organic Compounds were detected above the NYSDEC Ambient Water Quality Standard and only low-levels of PFOA/PFOS were detected. The compound 1,4-Dioxane does not have a specified NYSDEC Ambient Water Quality Standard.

Available historical data of detectable VOC's from ground water sampling reports are summarized in Table 1. Ground water elevations and depth to water measurements for all sampling events are summarized in Table 2.

August 2020 Sampling:

During the most recent August 2020 sampling event the compound 1,4-Dioxane was detected in each well, with well MW-8SR being the highest at 190 ug/L. This value is significantly lower than the concentrations detected during the 2017 and 2019 sampling events. There were also some low-level detections of the PFOA/PFOS found in the wells. The other compound detected was Methyl-tert-butyl ether in MW-8SR at a level of 3.1 ug/L. No other Volatile Organics were detected above the laboratory reporting limits in the ground water samples collected from shallow monitoring wells. The results were compared to the NYSDEC Groundwater Standard for these compounds. Note that a ground water contour map (Figure 3b) was compiled using the water level data for the four sampled shallow monitoring wells. Consistent with previous contour maps, the ground water contour map indicates that the flow direction of shallow ground water on August 14, 2020 was generally toward the south.

Laboratory analytical data from the August 2020 sampling event indicate that the no Volatile Organic Compounds were detected above the NYSDEC Ambient Water Quality Standard and only low-levels of PFOA/PFOS were detected. The compound 1,4-Dioxane does not have a specified NYSDEC Ambient Water Quality Standard.

Available historical data of detectable VOC's from ground water sampling reports are summarized in Table 1. Ground water elevations and depth to water measurements for all sampling events are summarized in Table 2.

4. CONCLUSIONS

The groundwater sampling results from 2019 and 2020 show that the concentrations of methyl tert-butyl ether (MTBE) at MW-8S have decreased since the groundwater sampling in 2017, and therefore continue to remain below the NYSDEC Ambient Waste Quality Standard of 10 ug/L. MTBE was not identified at any other well. Given that the MTBE concentration at MW-

8S has consistently decreased from December 2017 and still has not been detected in any of the other wells, this could suggest that the source of MTBE may be from vehicle fuel infiltration from the parking lot near the location of the well. Additionally, no other Volatile Organics were detected above the laboratory reporting limits in the ground water samples collected from shallow monitoring wells in both years, suggesting current contamination concentrations in ground water are not migrating, and therefore not impacting human health or the environment.

Although the March 2019 groundwater sampling results showed more than double the concentration of 1,4 Dioxane at MW8S compared to the concentrations detected in December 2017, the concentration detected August 2020 at MW8S was ten times lower than 2020 and 5 times lower than 2019, while the concentrations detected at each of the other wells sampled in 2020 remained low-level and consistent with the 2019 values. The steady increase on 1,4 Dioxane concentrations detected in 2017 and 2019, follow-up by a significant drop-off in concentration in 2020 could suggest that there is some migration of 1,4 Dioxane contaminants occurring at MW8S toward the south, while the concentrations at the other three wells appear to remain stable. However, continued groundwater sampling is needed better understanding whether or not there is continued movement of contaminates.

Detection of perfluoronated compounds (PFCs) was is new requirement since March 2017, but only low-levels of PFOA/PFOS were detected in the wells with the greatest concentration detected at 0.167 ug/L (PFBA).

As stated in Section 3.1.1, the Wadsworth Center needed to repair the asphalt surrounding one stormwater drain (approximately 6’ x 6’) located on the edge of the controlled area due to deterioration and potential for collapse. However, the repair work only involved removal of the deteriorated asphalt and no soil was remove, so soils sampling was not required for this activity. A 6’ x 6’ concrete apron was poured around the stormwater drain. Additionally, two wells are scheduled for repair and the target completion date for the work is end of February 2021.

As noted in the 2016 PRR, the Wadsworth Center initiated and completed a construction project that involve replacement of the entire DAI parking lot asphalt, with the exception of a small section located beneath the existing All Hazards Receipt Facility (AHRF) located at the back of the site. The condition and integrity of that remaining section is evaluated each year for cracks and penetration by weeds or seedlings during the annual the site inspection and sealed using asphalt sealant as appropriate.

Based on our 2020 annual review of the site management plan and evaluation of the March 2019 and August 2020 groundwater sampling results, the current controls continue to be protective of public health and the environment and in compliance with requirements.

Figure 1 **SITE LOCATION MAP**

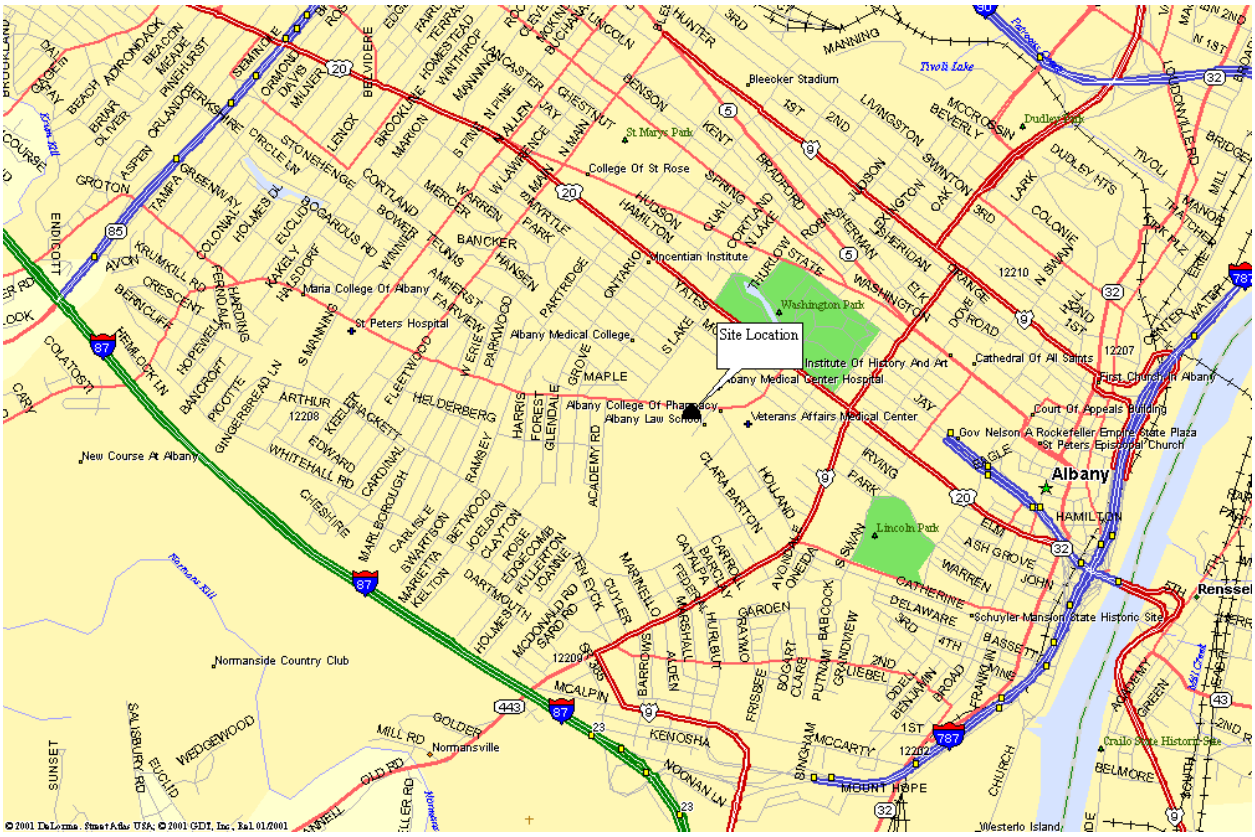


Figure 1a - Site and Site Boundaries

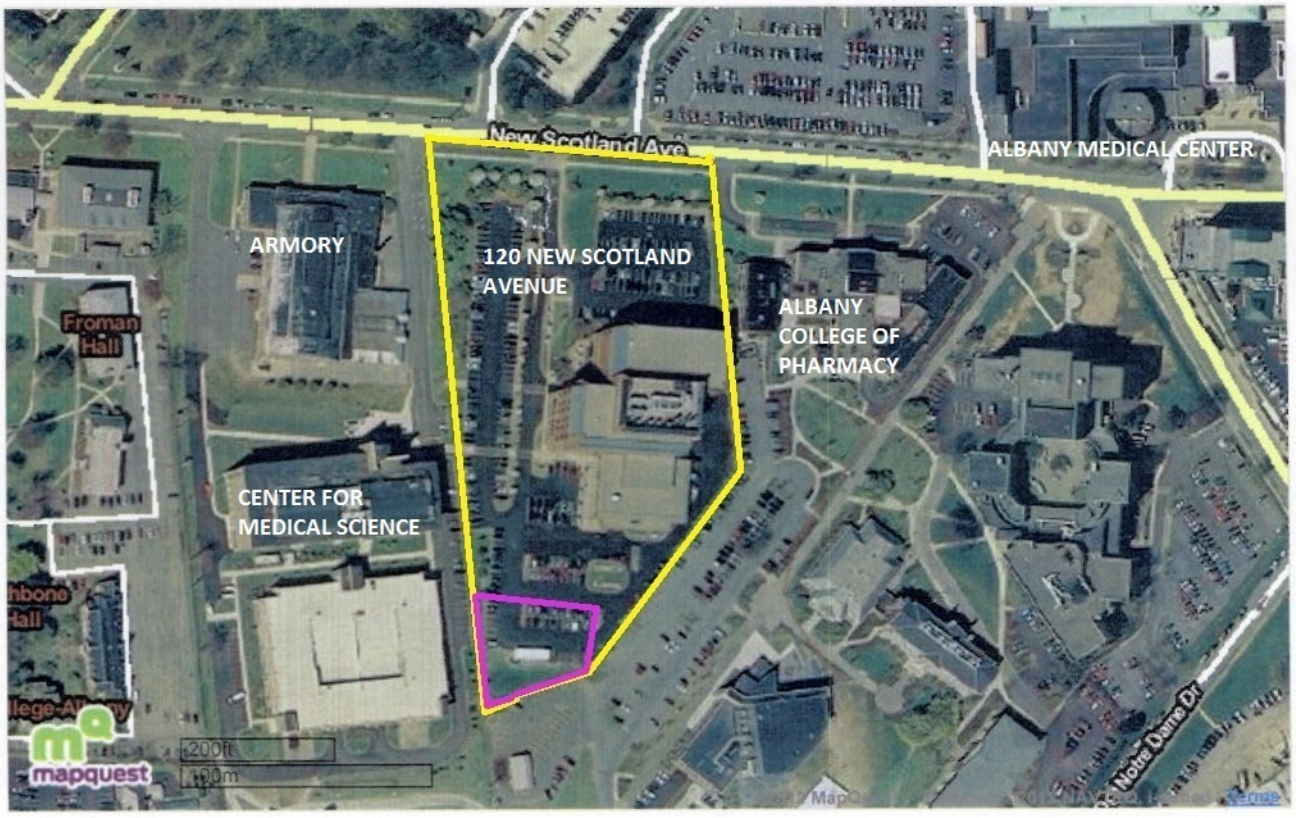
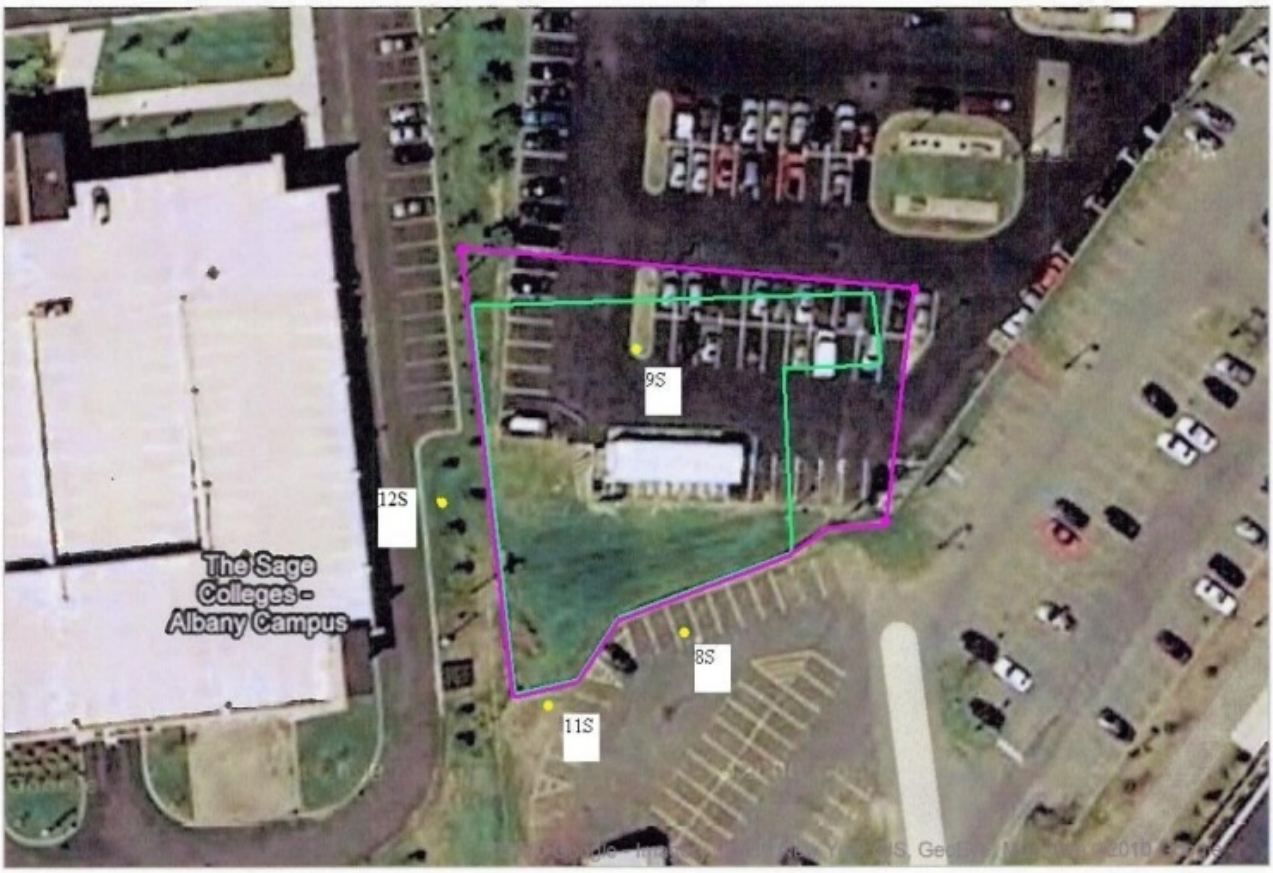


Figure 2 - Site Map with Well Locations



Approximate Cap Boundary

Monitoring Well Locations (12S, 8S, 9S, 11S)

Proposed Area Subject to SMP

Figure 3a - Groundwater Contour Map (2019)

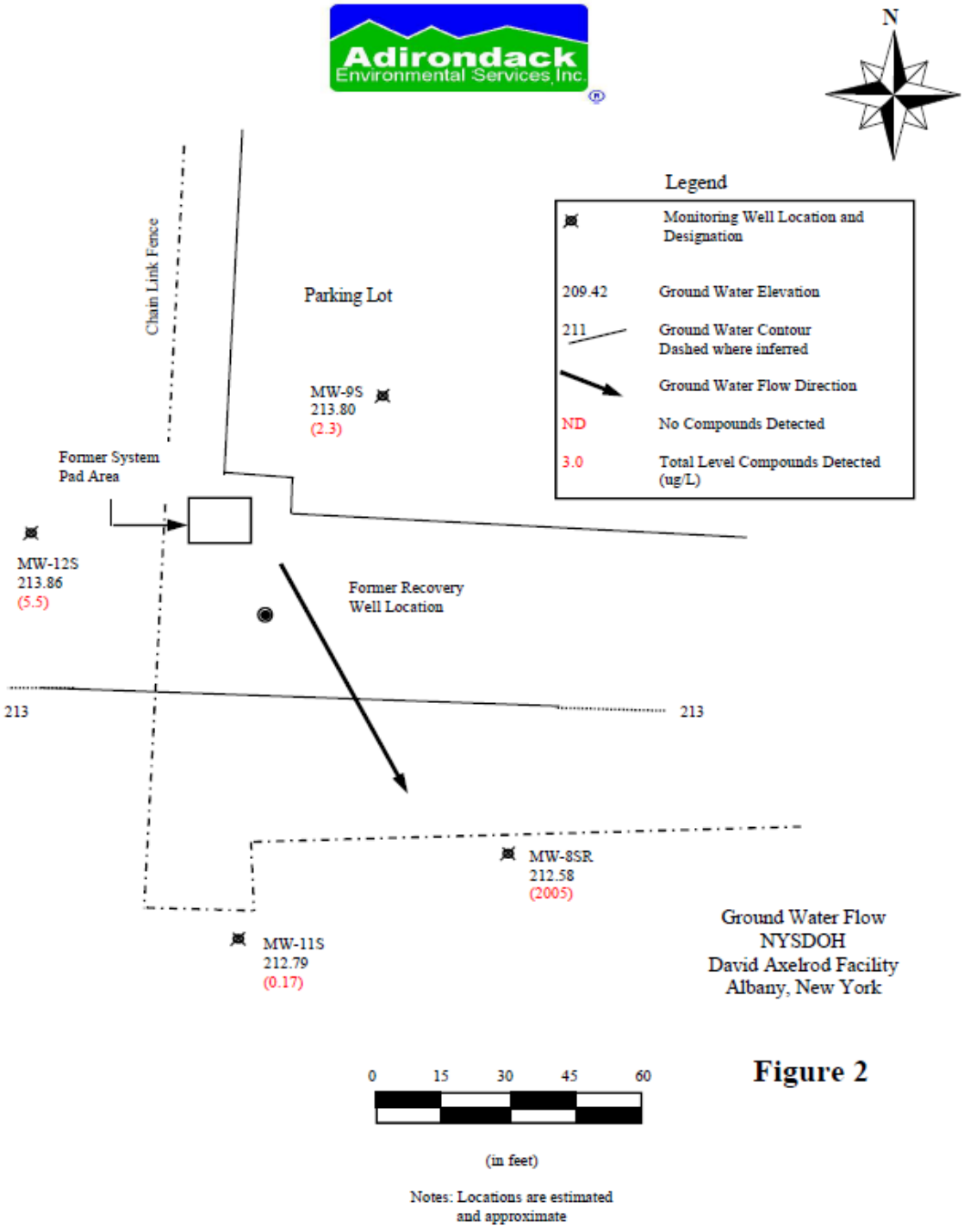


Figure 2

Figure 3b - Groundwater Contour Map (2020)

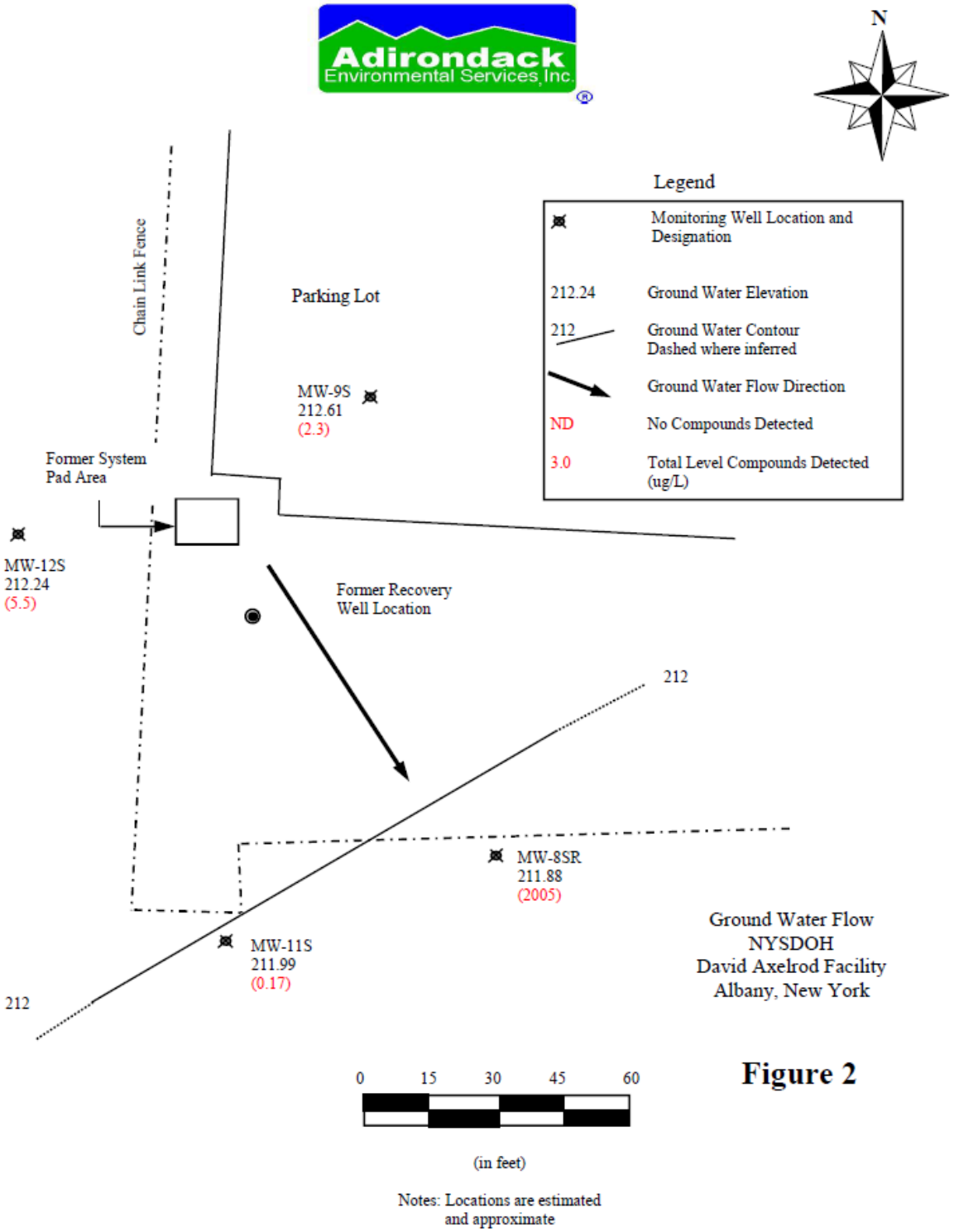


Figure 2

Figure 4 – Survey With Deed Restrictions

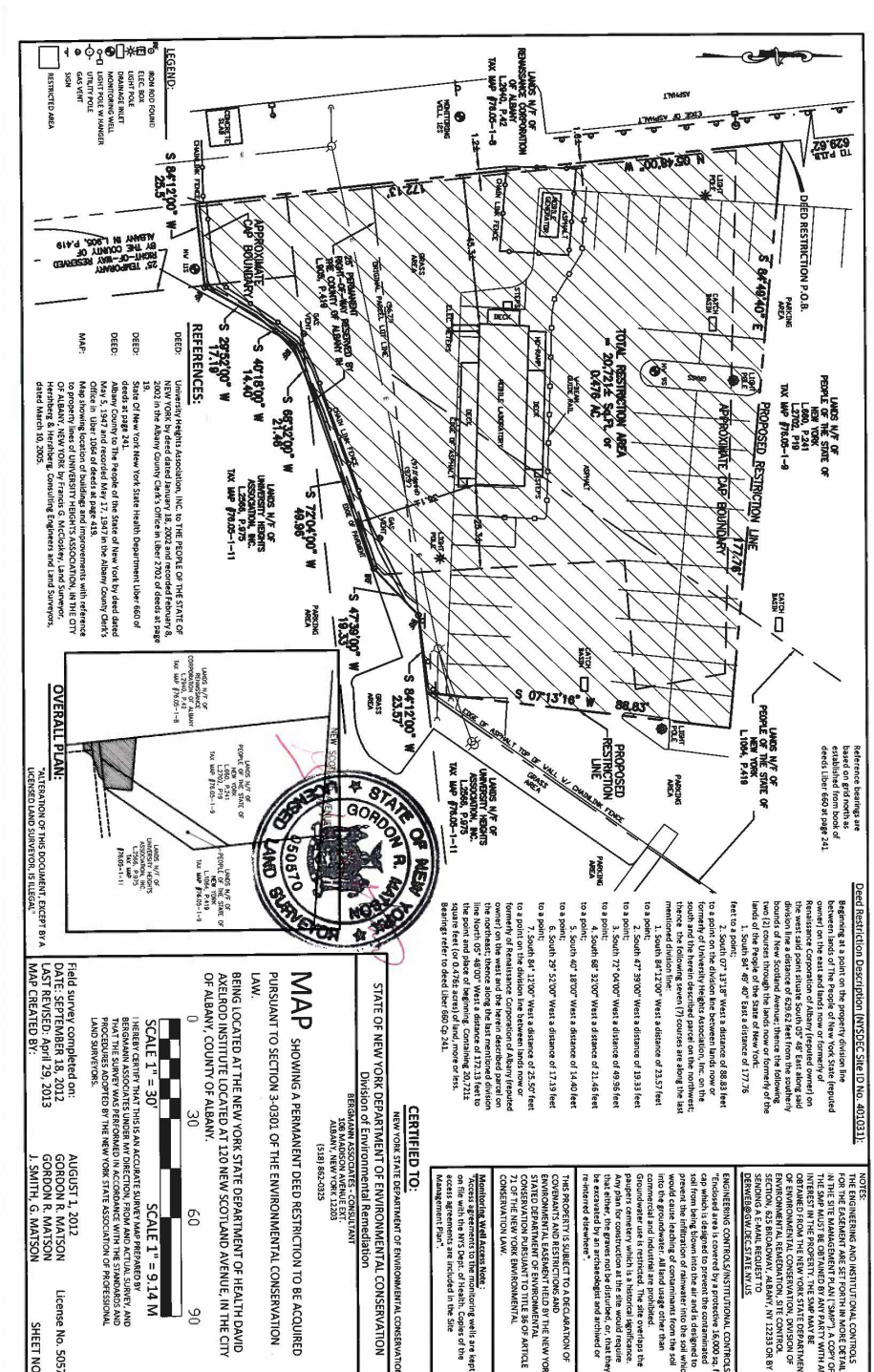


Table 1 – Summary of Volatile Organics Detected (2020)

Adirondack Environmental Services, Inc

Experience is the Solution

314 North Pearl Street . Albany, New York 12207 . (518) 434-4546 . Fax (518) 434-0891

www.adirondackenvironmental.com

Table 1
Summary of Volatile Organics Detected
Axelrod Facility
Albany, New York

AES project: 200814047

Sample Location / Date Sampled	NYSDEC Standard	MW-8S 12/22/2003	MW-9S 12/22/2003	MW-10S 12/22/2003	MW-11S 12/22/2003	MW-8S 3/2/2005	MW-9S 3/2/2005	MW-10S 3/2/2005	MW-11S 3/2/2005
TCL VOCs (ug/L)									
Methyl tert-butyl ether	10	U	U	NS	U	U	U	NS	2.10

Sample Location / Date Sampled	NYSDEC Standard	MW-8S 9/7/2006	MW-9S 9/7/2006	MW-10S 9/7/2006	MW-11S 9/7/2006	MW-8S 12/4/2007	MW-9S 12/4/2007	MW-10S 12/4/2007	MW-11S 12/4/2007
TCL VOCs (ug/L)									
Methyl tert-butyl ether	10	U	U	NS	**19 J**	8.24 J	U	NS	6.91 J

Sample Location / Date Sampled	NYSDEC Standard	MW-8S 3/19/2009	MW-9S 3/19/2009	MW-10S 3/19/2009	MW-11S 3/19/2009	MW-8S 6/8/2010	MW-9S 6/8/2010	MW-10S 6/8/2010	MW-11S 6/8/2010
TCL VOCs (ug/L)									
Methyl tert-butyl ether	10	**13**	U	NS	U	**13**	U	NS	U

Sample Location / Date Sampled	NYSDEC Standard	MW-8S 9/8/2011	MW-9S 9/8/2011	MW-11S 9/8/2011	MW-12S 9/8/2011	MW-8SR 1/30/2013	MW-9S 1/30/2013	MW-11S 1/30/2013	MW-12S 1/30/2013
TCL VOCs (ug/L)									
Methyl tert-butyl ether	10	NS	U	U	U	5.52	U	U	U
Ethyl Ether	NS	NS	U	U	U	54.2	1.32	U	U
Di-isopropyl ether	NS	NS	U	U	U	2.87	U	U	U
1,4-Dioxane	NS	NS	U	U	U	398	U	U	U

Sample Location / Date Sampled	NYSDEC Standard	MW-8SR 3/17/2014	MW-9S 3/17/2014	MW-11S 3/17/2014	MW-12S 3/17/2014	MW-8SR 6/26/2015	MW-9S 6/26/2015	MW-11S 6/26/2015	MW-12S 6/26/2015
TCL VOCs (ug/L)									
Methyl tert-butyl ether	10	U	U	U	U	5.7	U	U	U

Sample Location / Date Sampled	NYSDEC Standard	MW-8SR 12/28/2016	MW-9S 12/28/2016	MW-11S 12/28/2016	MW-12S 12/28/2016	MW-8SR 12/1/2017	MW-9S 12/1/2017	MW-11S 12/1/2017	MW-12S 12/1/2017
TCL VOCs (ug/L)									
1,4-Dioxane	NS					960	1.7	1.5	6.6
Acetone	NS					2.4	1.3	U	U
Methyl tert-butyl ether	10	4.5 J	U	U	U	8.8	U	U	U

Sample Location / Date Sampled	NYSDEC Standard	MW-8SR 3/27/2019	MW-9S 3/27/2019	MW-11S 3/27/2019	MW-12S 3/27/2019	MW-8SR 8/14/2020	MW-9S 8/14/2020	MW-11S 8/14/2020	MW-12S 8/14/2020
TCL VOCs (ug/L)									
1,4-Dioxane	NS	2000	2.3	0.17	5.5	190	2.1	1.3	17
Acetone	NS	U	U	U	U	U	U	U	U
Methyl tert-butyl ether	10	4.8 J	U	U	U	3.1 J	U	U	U

NOTES:

U = Not Detected above the laboratory detection limits
NYSDEC Standards - NYSDEC Ambient Water Quality Standards - TOGS 1.1.1;
NS = No standard or guidance value given
TCL VOCs = Target Compound List Volatile Organic Compounds
ug/L = micrograms per liter
Bold Text - Above the NYSDEC Standard
J = Estimated Value
- Only those analytes that were detected in at least one sample are presented.
- All samples analyzed for TCL VOCs by EPA Method 8260
- MW-10S was not sampled (NS) since the well was destroyed.
- MW-8S was not sampled (NS) since the well was covered with new asphaltic pavement.

Table 2 – Summary of Groundwater Elevation Data (2020)

Adirondack Environmental Services, Inc.

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www.adirondackenvironmental.com

Table 2
Summary of Groundwater Elevation Data
Axelrod Facility
Albany, New York

AES project: 190328007

Well ID	MW-8S	MW-9S	MW-11S	MW-12S
Elevation at Top of Casing	216.42	219.64	219.39	220.94
Total Depth of Well	17.92	19.88	16.35	19.75
Screen Length	10	15	10	10
Date				
12/22/2003	211.74	213.24	212.17	NA
3/2/2005	211.40	213.00	211.54	NA
9/7/2006	211.27	212.42	211.41	NA
12/4/2007	211.90	213.22	211.99	NA
3/19/2009	212.36	213.63	212.31	NA
6/8/2010	211.56	212.59	211.47	NA
9/8/2011	NM	214.32	214.97	216.88
1/30/2013	211.77	212.74	212.01	212.64
3/17/2014	209.42	213.21	212.99	216.89
6/26/2015	212.26	213.30	210.26	212.72
12/28/2016	208.38	212.49	211.43	212.25
12/1/2017	210.83	211.59	210.36	211.14
3/27/2019	212.58	213.80	212.79	213.86
8/14/2020	211.88	212.61	211.99	212.24

NOTES:

- All measurements reported in feet.
NA - Not Applicable - MW-12S installed April 8, 2011
NM = Not Measured (Well was covered with new asphaltic pavement since June 2010 sampling event).
* - Replacement Well MW-8SR installed January 26, 2013 - Elevation TOC = 216.88
Total depth of replacement well MW-8SR = 17.42 feet and screen length is 10 feet.

Depth to Water Data	MW-8S MW-8SR *	MW-9S	MW-11S	MW-12S
Date				
12/22/2003	4.68	6.40	7.22	NA
3/2/2005	5.02	6.64	7.85	NA
9/7/2006	5.15	7.22	7.98	NA
12/4/2007	4.52	6.42	7.40	NA
3/19/2009	4.06	6.01	7.08	NA
6/8/2010	4.86	7.05	7.92	NA
9/8/2011	NM	5.32	4.42	4.06
1/30/2013	5.11 *	6.90	7.38	8.30
3/17/2014	7.46	6.43	6.40	4.05
6/26/2015	4.62	6.34	9.13	8.22
12/28/2016	8.50	7.15	7.96	8.69
12/1/2017	6.05	8.05	9.03	9.80
3/27/2019	4.30	5.84	6.60	7.08
8/14/2020	5.00	7.03	7.40	8.70