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

2017 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 ground water elevations from three monitoring wells every fifth quarter. An additional well was located to the West of the site on adjacent property, and well 8S on adjacent property to the South was replaced after being paved over by the property owner. The site map with well locations is illustrated in Figure 2. The interpreted ground water map for the December 2017 sampling is illustrated in Figure 3.

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. The firm of Environmental Resources Management was contracted to perform Remedial Investigation activities (performed in 1990 and 1991), develop the remedial plan, and perform required monitoring and testing. They have subsequently been involved in all aspects of the program management for this inactive waste site.

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 had been 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 covered over has since been replaced and sampled. 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.

In 2017, there were no activities conducted that could may impacted the cap area.

3.2 MONITORING PLAN COMPLIANCE

The Wadsworth Center has submitted a Site Management Plan to DEC. Currently PRR submissions are required annually.

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

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 analyzed for VOCs by USEPA Method 8260B, in accordance with the NYSDEC Analytical Services Protocol. However, the December 2017 samples (collected by Adirondack Environmental Services) were 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) in our groundwater sampling efforts was added in March 2017. All laboratory results were reviewed by the Adirondack Environmental Services, Inc., Quality Assurance Manager.

During the previous sampling event (December 2016), methyl tert-butyl ether was detected in MW-8SR at 4.5 ug/L, which is below the NYSDEC Ambient Water Quality Standard (AWQS) of 10 ug/L. During the most recent sampling event in December 2017, the compound 1,4-Dioxane was detected in each well, with well MW-8SR being the highest at 960 ug/L. There was also some low-level detection of the PFOA/PFOS found in the wells. The range of PFOA compounds detected was 0.003 – 0.052 ug/L. The concentration of PFOS detected at a single well was 0.10 ug/L. The other compound detected were Acetone and Methyl-tert-butyl ether in MW-

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section located beneath the existing All Hazards Receipt Facility (AHRF) located at the back of the site. The condition and integrity of that section was satisfactorily evaluated during the 2017 annual site inspection and will continue to be monitoring closely during future annual site inspections. Additionally, the facilities manager participated in the annual site inspection and site restrictions were reviewed.

Based on our 2017 annual review of the site management plan and December 2017 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**

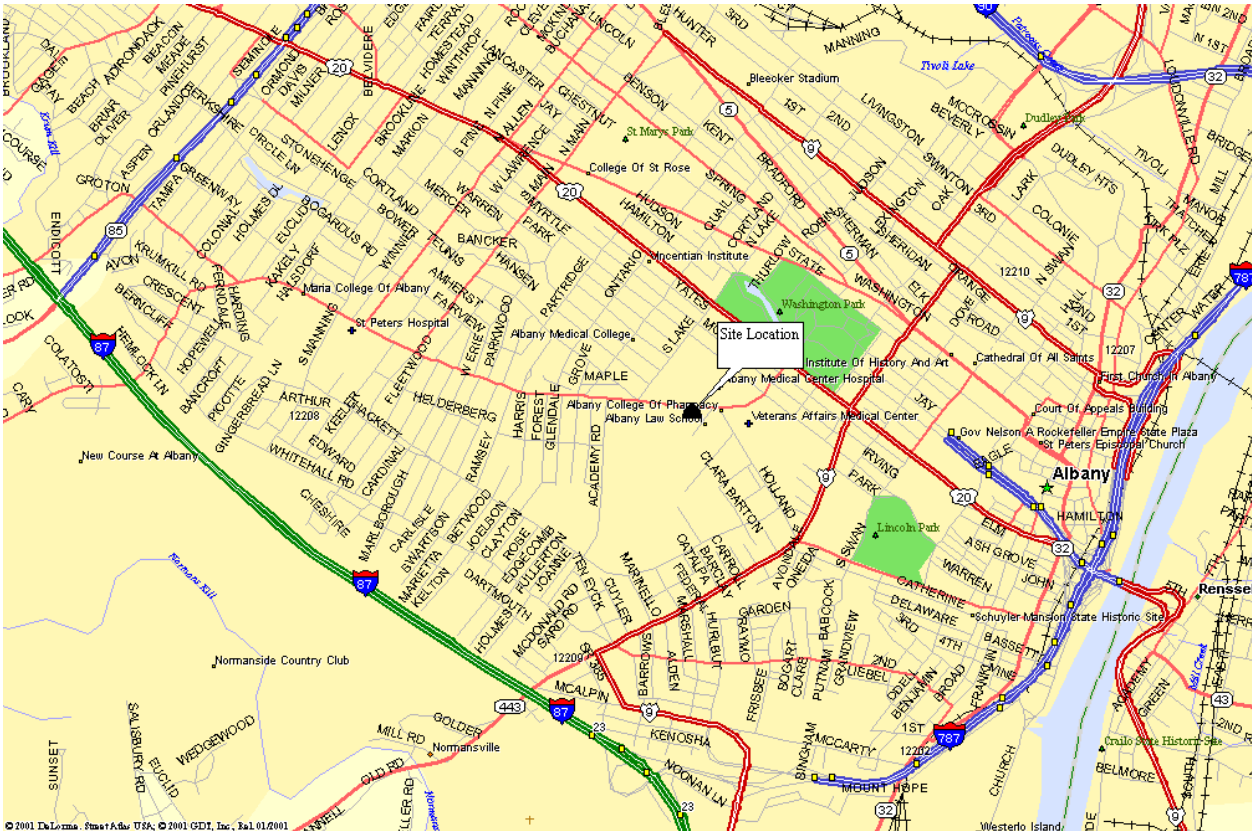


Figure 1a - Site and Site Boundaries

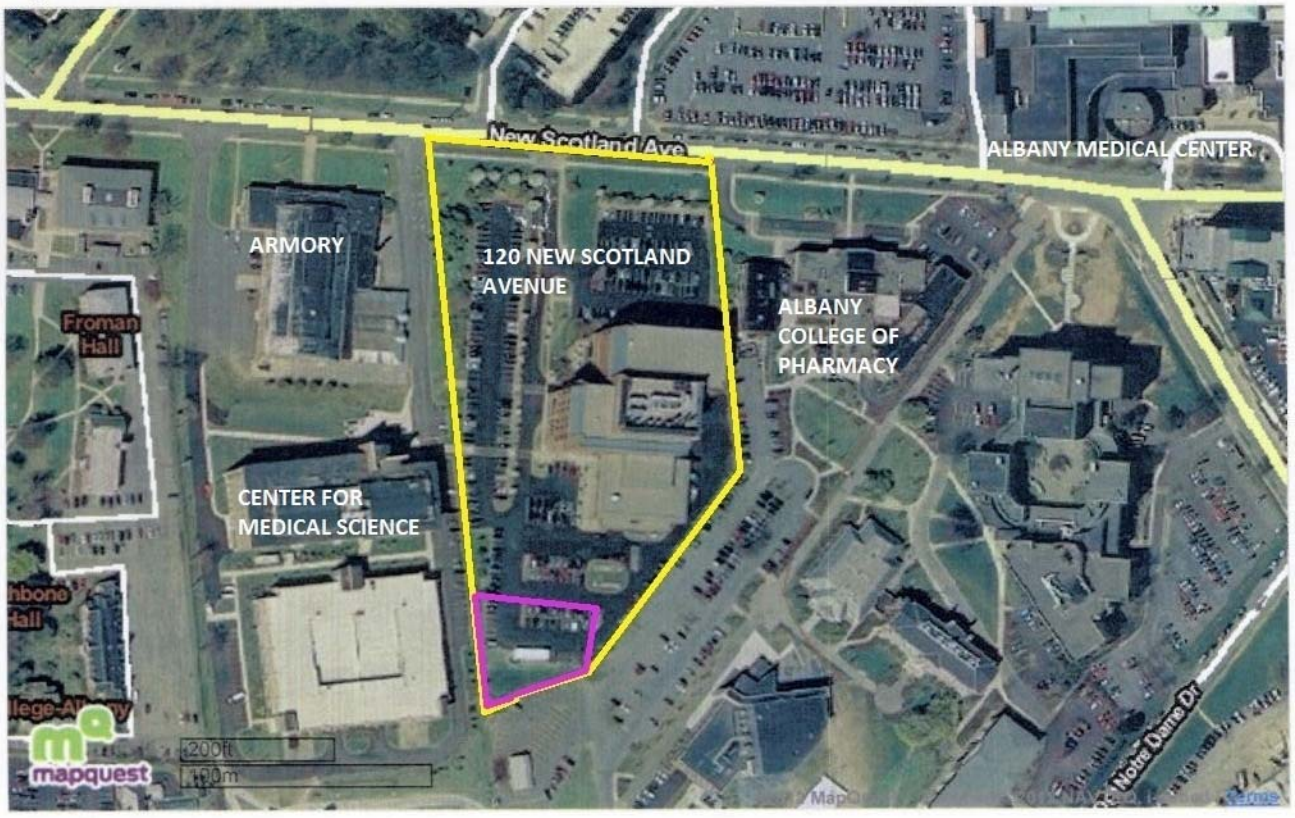
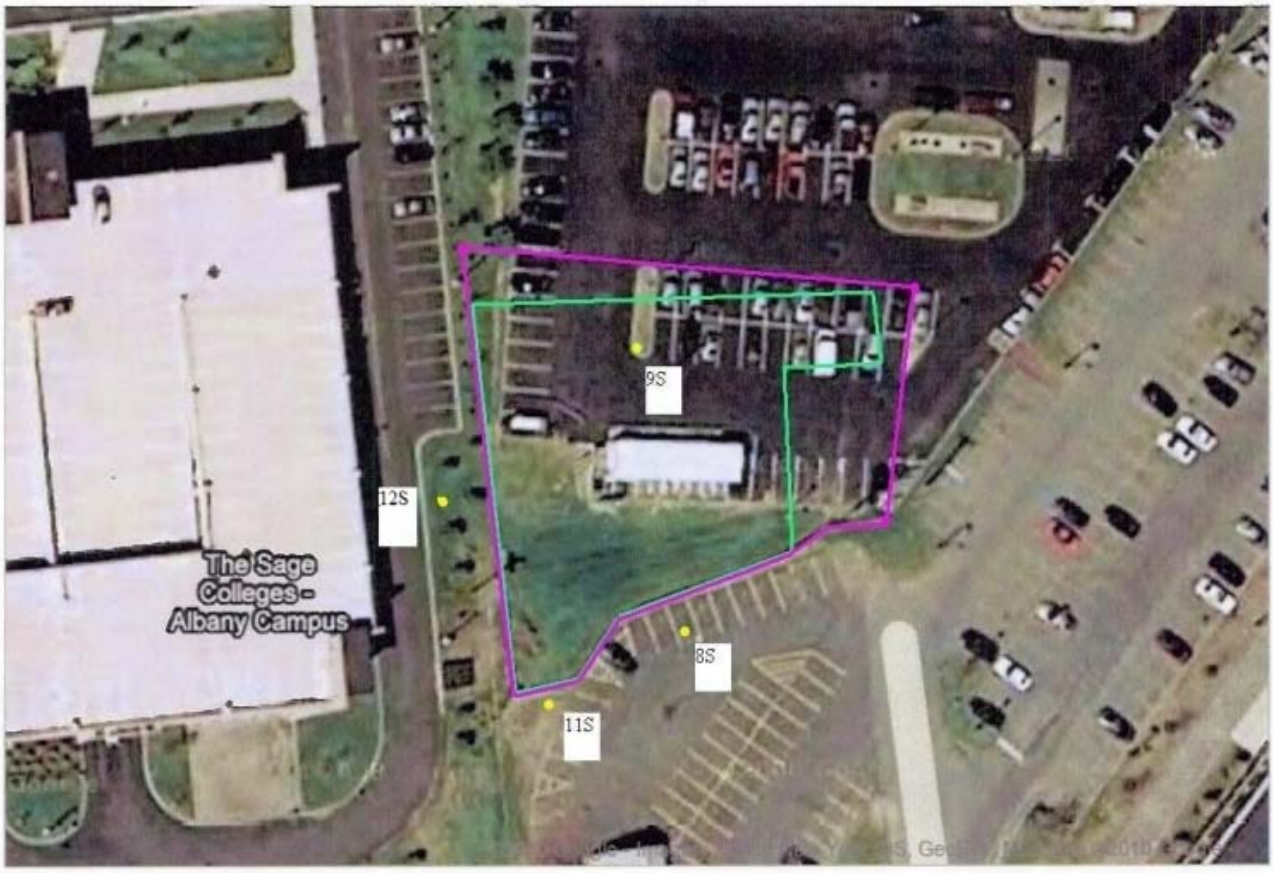


Figure 2 - Site Map with Well Locations



Approximate Cap Boundary

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

Proposed Area Subject to SMP

Figure 3 - Groundwater Contour Map

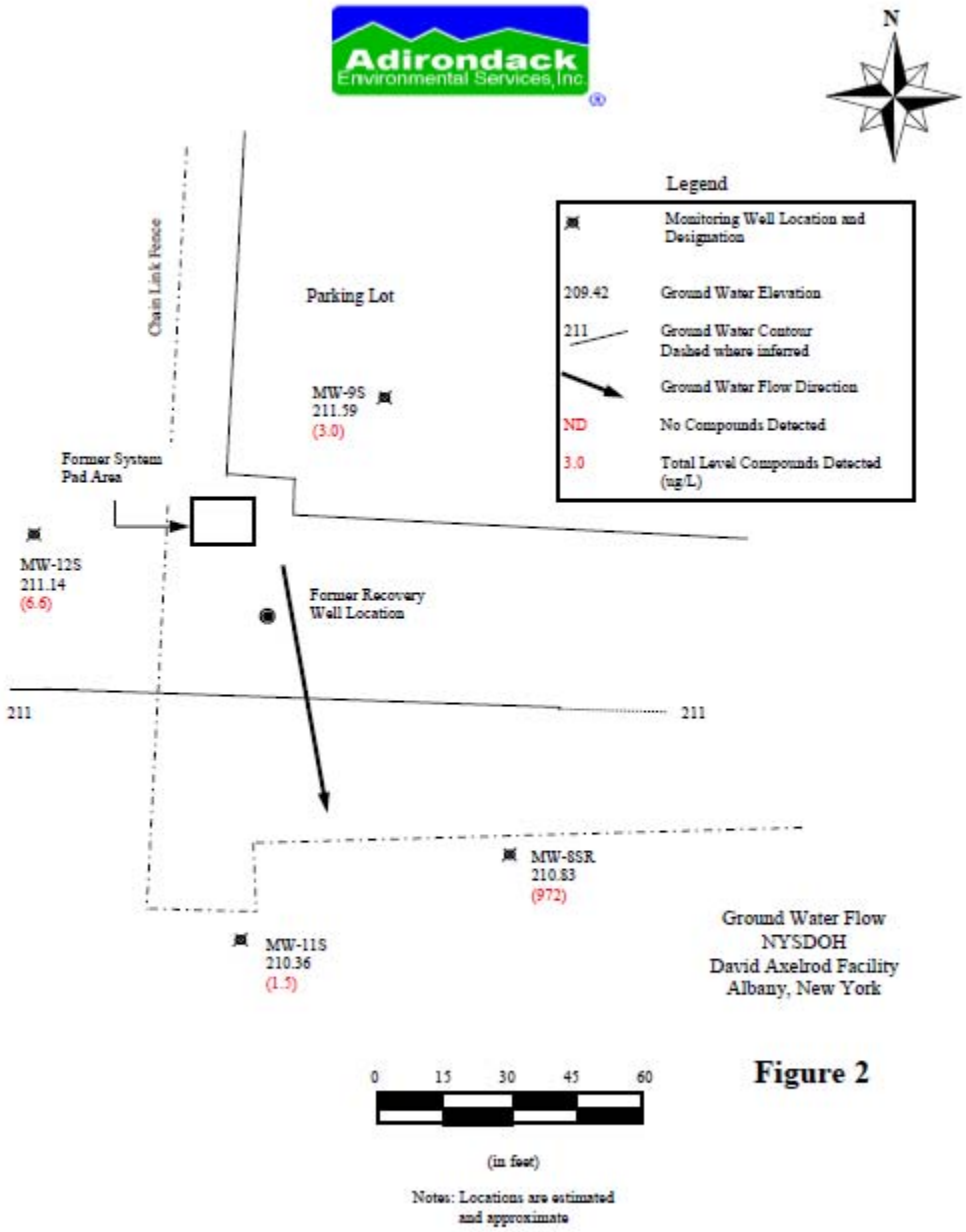


Figure 2

Figure 4 – Survey With Deed Restrictions

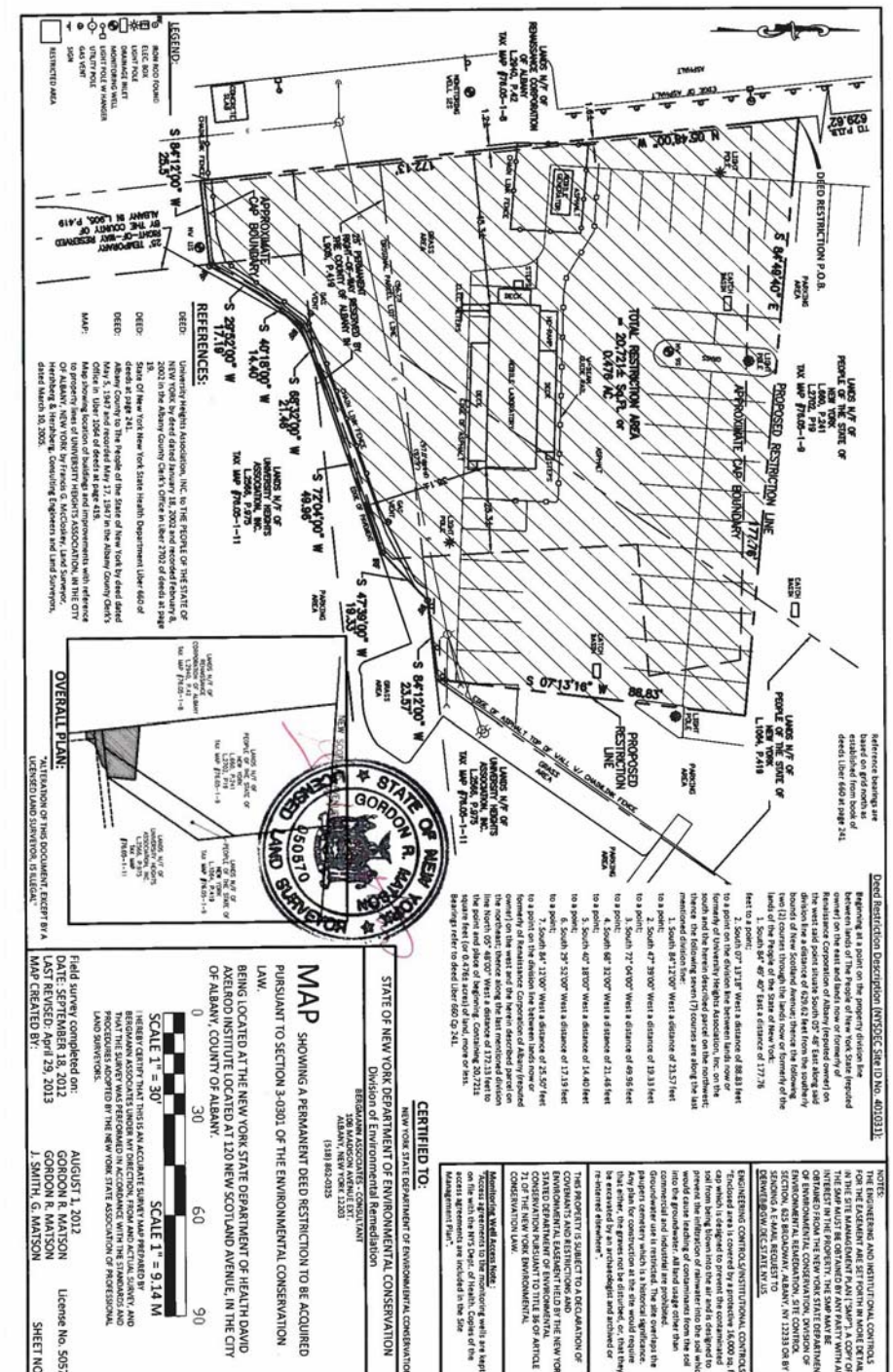


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Table 1
Summary of Volatile Organics Detected
Axelrod Facility
Albany, New York

AES project: 171204001

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

Sample Location	NYSDEC	MW-8S	MW-9S	MW-10S	MW-11S	MW-8S	MW-9S	MW-10S	MW-11S
Date Sampled	Standard	9/7/2006	9/7/2006	9/7/2006	9/7/2006	12/4/2007	12/4/2007	12/4/2007	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	NYSDEC	MW-8S	MW-9S	MW-10S	MW-11S	MW-8S	MW-9S	MW-10S	MW-11S
Date Sampled	Standard	3/19/2009	3/19/2009	3/19/2009	3/19/2009	6/8/2010	6/8/2010	6/8/2010	6/8/2010
TCL VOCs (ug/L)									
Methyl tert-butyl ether	10	**13**	U	NS	U	**13**	U	NS	U

Sample Location	NYSDEC	MW-8S	MW-9S	MW-11S	MW-12S	MW-8SR	MW-9S	MW-11S	MW-12S
Date Sampled	Standard	9/8/2011	9/8/2011	9/8/2011	9/8/2011	1/30/2013	1/30/2013	1/30/2013	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	NYSDEC	MW-8SR	MW-9S	MW-11S	MW-12S	MW-8SR	MW-9S	MW-11S	MW-12S
Date Sampled	Standard	3/17/2014	3/17/2014	3/17/2014	3/17/2014	6/26/2015	6/26/2015	6/26/2015	6/26/2015
TCL VOCs (ug/L)									
Methyl tert-butyl ether	10	U	U	U	U	5.7	U	U	U

Sample Location	NYSDEC	MW-8SR	MW-9S	MW-11S	MW-12S	MW-8SR	MW-9S	MW-11S	MW-12S
Date Sampled	Standard	12/28/2016	12/28/2016	12/28/2016	12/28/2016	12/1/2017	12/1/2017	12/1/2017	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

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.

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

AES project: 171204001

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

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