

## 4.5 Acre Site First Quarterly Sampling Report, Pinellas County, Florida, Site

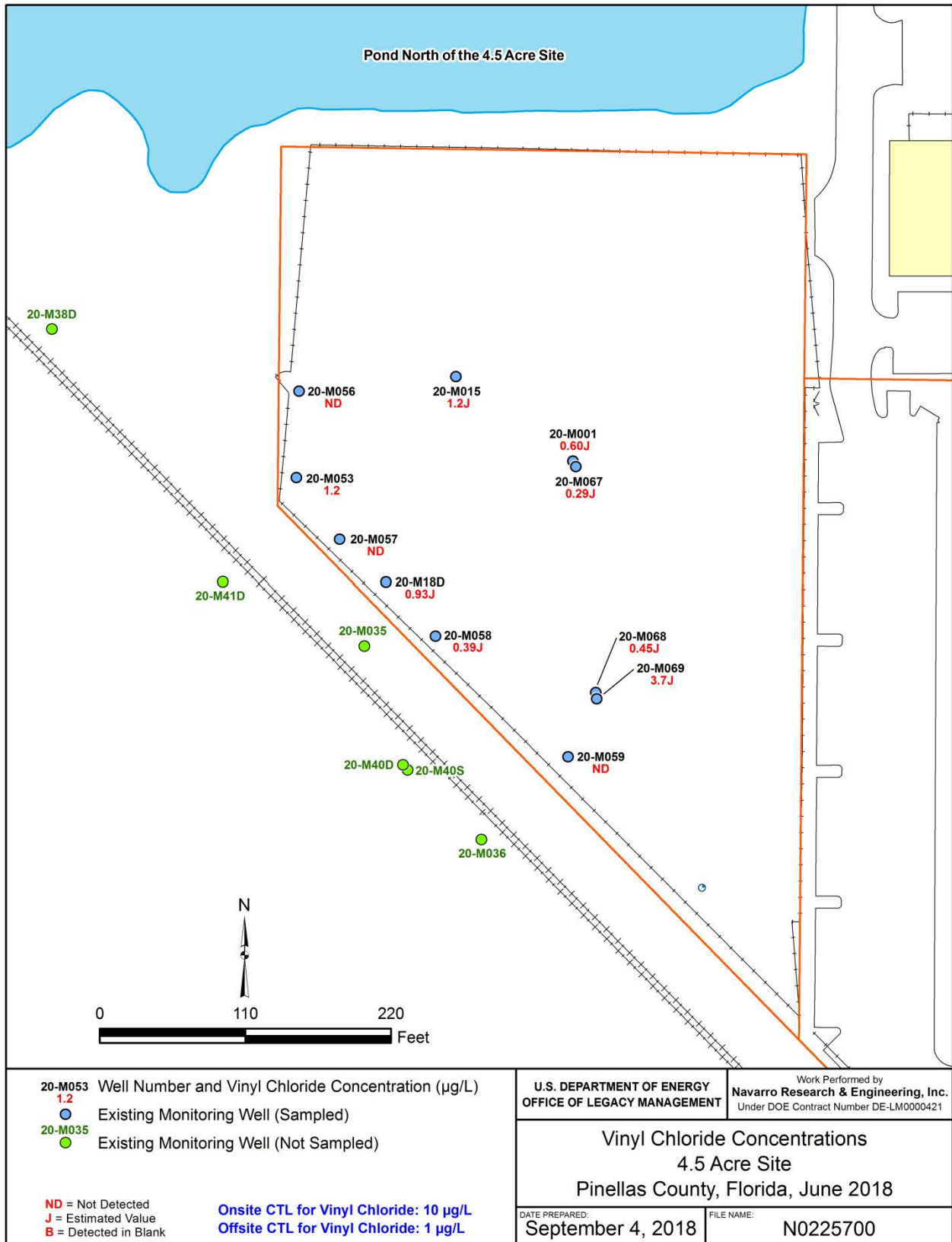
This progress report documents the first closure-monitoring sampling event for the 4.5 Acre Site. On May 31, 2018, the Florida Department of Environmental Protection (FDEP) approved a quarterly closure-monitoring sampling frequency. The first event took place on June 26 and 27, 2018. Groundwater samples were collected from the 11 onsite monitoring wells for the analysis of volatile organic compounds (VOCs). All samples were collected in accordance with FDEP procedures with the exception that a full set of field parameters (pH, specific conductance, temperature, oxidation-reduction potential, and dissolved oxygen) could not be measured in 10 of the 11 wells due to interference from soybean oil injected into the surficial aquifer during three bioinjection events from 2010 through 2016. For these 10 wells, samples were collected when water-level, turbidity, and purge-volume criteria were met.

Samples were submitted to TestAmerica Laboratories in Denver, Colorado, for the analysis of VOCs using U.S. Environmental Protection Agency SW-846 method 8260B. This analytical method includes the five contaminants of potential concern (COPCs) for the 4.5 Acre Site: trichloroethene (TCE), *cis*-1,2-dichloroethene (*cis*-1,2-DCE), *trans*-1,2-dichloroethene (*trans*-1,2-DCE), vinyl chloride (VC), and benzene. The COPC concentrations are presented in Table 1. The only well to have a COPC that exceeded its cleanup target level was 20-M069, which had a VC concentration of 3.7 micrograms per liter. Figure 1 shows the VC concentrations for the 11 wells in June 2018.

The results from TestAmerica were checked for quality assurance/quality control through laboratory duplicates and blanks, three field duplicates, and one trip blank. In addition, a data-validation software module for identifying and tracking anomalous groundwater data was used to analyze results that fall outside of historical minimum or maximum values. The analytical data from the 11 monitoring wells are acceptable, representing the current groundwater conditions at these locations. All but one of the vinyl chloride detections are J qualified, indicating that those concentrations are estimated values that fall between the contract-required quantitation limit and the method detection limit.

The compounds acetone and 2-butanone, which are not site COPCs, were detected in several samples. The data validation process did not U qualify these results as nondetects. Both of these compounds are common laboratory artifacts. These two compounds will be monitored again in the September 2018 samples.

The second closure-monitoring sampling event took place in September 2018. DOE may request that the third event take place prior to December 2018, as the property owner already has construction activities scheduled to start at the site in October 2018.



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Figure 1. Vinyl Chloride Concentrations at the 4.5 Acre Site, June 2018

Table 1. COPC Concentrations at the 4.5 Acre Site, June 2018

Location	Screen Depth (feet)	Date Sampled	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl Chloride	Benzene
<b>Cleanup Target Level (µg/L)</b>			<b>3</b>	<b>70</b>	<b>100</b>	<b>1</b>	<b>1</b>
M001	20–25	6/27/2018	<0.16J	0.40J	1.0J	0.60J	0.94J
M015	20.8–25.8	6/27/2018	<0.16	0.45J	<0.15	1.2J	<0.16
M053	20–30	6/26/2018	<0.16	2.1	<0.15	1.2	<0.16
M056	19–29	6/27/2018	<0.16	3.0	<0.15	<0.10	<0.16
M057	20–30	6/27/2018	<0.16	5.9	0.39J	<0.10	<0.16
M058	18–28	6/27/2018	<0.16	1.2	<0.15	0.39J	<0.16
M059	19–29	6/27/2018	<0.16J	0.27J	<0.15J	<0.10J	0.48J
M067	10–20	6/27/2018	<0.16	0.44J	<0.15	0.29J	<0.16
M068	20–30	6/26/2018	<0.16	<0.15	0.64J	0.45J	0.39J
M069	10–20	6/26/2018	<0.16	3.1J	1.3J	3.7J	<0.16
M18D	20–30	6/26/2018	<0.16	0.95J	0.16J	0.93J	<0.16

**Note:**

Concentrations shown in micrograms per liter (µg/L).

**Abbreviation:**

J = estimated value