New York State Department of Environmental Conservation

Department of Environmental Remediation • 625 Broadway • Albany, New York 12233

Site Number 7-09-009

Gladding Cordage Site Quarterly Report

First Quarter 2009

New York State Department of Environmental Conservation Work Assignment D004443-5

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1. Introduction

The New York State Department of Environmental Conservation (NYSDEC) has issued a Work Assignment (# D004443-5) to Malcolm Pirnie, Inc. (Malcolm Pirnie) for Operation, Maintenance, and Monitoring at the Gladding Cordage Site in New York State (Site # 7-09-009). Malcolm Pirnie has prepared this Quarterly Report in accordance with the NYSDEC-approved Work Plan to summarize site activities.

2. Site Activities

2.1 SITE DESCRIPTION

The Gladding Cordage Site is located on Ridge Road, South Otselic, Chenango County, New York (Figure 2-1), along the western bank of the Otselic River.

2.2 OPERATION AND MAINTENANCE

On August 23, 2007, NYSDEC provided a training session to Malcolm Pirnie personnel on the operation and maintenance (O&M) of the groundwater treatment plant at the Gladding Cordage Site. Since then, Malcolm Pirnie has maintained operation of the groundwater treatment plant. This includes the operation, maintenance, and influent/effluent sampling in accordance with the NYSDEC O&M manual (Operation and Maintenance Manual, Volume I, Gladding Cordage Site, Site 7-09-009, TAMS Consultants, Inc., 1996) (O&M Manual).

2.2.1 System Operation

The groundwater treatment system operated without interruption during the first quarter, 2009. O&M Check Lists and Daily Phone Logs are provided in Appendix A. Groundwater recovery wells RW-1 and RW-2 operated 100 percent of the time that the treatment system was on during the first quarter.

The monthly flow rates and total flow volumes for the 2009 first quarter operating period are summarized in Table 2-1. As shown in Table 2-1, the first quarter groundwater treatment system pumping rates for RW-1 were approximately 31 GPM. The flow meter for RW-2 was removed for repairs in November 2007 and has not been replaced; no flow measurements are currently reported for this recovery well. The flow rate for RW-2 is estimated based on previously reported values. As shown in Table 2-1, approximately 6.9 million gallons of water were treated during the first quarter, 2009.

2.1.1. Variable Frequency Drive

A variable frequency drive (VFD) was installed on the air stripper blower motor on January 9. 2008. Following the installation of the VFD, effluent samples were collected at various blower motor frequencies (speeds) including 40 HZ, 50 HZ, and 60 HZ. The analyte 1,1,1-trichloroethane (1,1,1-TCA) was detected at 6 ug/l in the 40 HZ effluent sample but was not detected in the 50 HZ and 60 HZ samples. Following the completion of the January 9, 2008 sampling event the VFD was set to 50 HZ. Additional sampling was conducted in February 2008 to optimize the treatment system blower speed. Effluent

samples were collected at 42 HZ, 44 HZ, and 46 HZ, respectively. No VOCs were detected in any of these effluent samples. Based on the results, the VFD setting was reduced to 42 HZ beginning in March 2008.

The April 2008 and June 2008 effluent samples contained 1,1,1-TCA at estimated (based on "J" qualifier) concentrations of 2.2 micrograms per liter (ug/L) and 1.9 ug/L, respectively, which is less than the corresponding NYSDEC Class GA Standard of 5 ug/L. In response to the detections, however, the blower frequency was increased from 42 HZ to 43 HZ in June 2008 and from 43HZ to 44HZ in July 2009, which is the current setting.

2.2.2 Treatment System Sampling

Influent and effluent groundwater samples were collected from the Gladding Cordage treatment system in accordance with the Work Plan. Influent and effluent groundwater samples were sent to Chemtech Laboratories following chain-of-custody protocols for analysis of target compound list (TCL) volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260B. Analytical Reporting Forms are provided in Appendix B.

2.1.1.1. Influent Sample Results

Table 2-2 and Table 2-3 summarize the VOC influent and effluent sample results, respectfully. Figure 2-2 provides a summary of 1,1,1-TCA concentrations in samples from recovery wells RW-1 and RW-2 since September 2007. Table 2-2 and Figure 2-2 show that the first quarter 2009 concentrations of 1,1,1-TCA in the samples from recovery well RW-1 ranged from 64 ug/L to 75 ug/L and ranged from 49 ug/L to 61 ug/L in the samples from RW-2. These results exceed the corresponding NYSDEC Class GA Standard of 5 ug/L.

Carbon tetrachloride was detected in the January 8, 2009 and February 10, 2009 samples from recovery wells RW-1 (7.8 ug/L and 8.0 ug/L, respectively) and RW-2 (5.9 ug/L and 6.4 ug/L, respectively) at concentrations greater than the applicable NYSDEC Class GA Standard of 5 ug/L. As shown in Table 2-2, this was the first time that carbon tetrachloride was detected in samples collected from the treatment system. Carbon tetrachloride was not detected in the March 4, 2009 samples from recovery wells RW-1 or RW-2 at concentrations greater than the indicated quantitation limits.

The concentrations of 1,1-dichloroethene and 1,1-dichloroethane in the first quarter 2009 samples from recovery well RW-1 and RW-2 were within the range of concentrations previously reported from these wells. As shown in Table 2-1, none of the samples collected during the first quarter 2009 contained concentrations of 1,1-dichloroethene or 1,1-dichloroethane greater than the applicable NYSDEC Class GA Standard of 5 ug/L.

2.1.1.2. Effluent Sample Results

Table 2-3 summarizes laboratory analytical data for effluent samples collected from the treatment system. As shown on Table 2-3, no VOCs were detected in any of the effluent samples during the first quarter 2009 operational period.

Based on influent sample concentrations and total flow volumes from the Gladding Cordage treatment system, approximately 4.1 pounds of VOCs were removed by the treatment system during the first quarter, 2009.

2.2.3 General Operation and Maintenance

No significant repairs were performed at the Gladding Cordage site during the first quarter 2009 operational period.

2.3 GROUNDWATER MONITORING PROGRAM

At the direction of the NYSDEC, groundwater samples were collected from the site using Passive Diffusion Bags (PDBs) during the fourth quarter 2008. The results of the sampling event were submitted with fourth quarter 2008 Gladding Cordage Site Quarterly Report and Annual Groundwater Monitoring Summary (Malcolm Pirnie, 2009). The next annual groundwater monitoring event is scheduled for the second quarter 2009.

3. Summary

The Gladding Cordage groundwater treatment system operated continuously during the first quarter 2009. The average total flow rate through the treatment system during this period was approximately 56 GPM. Total flow through the treatment system during the third quarter operational period was approximately 6.9 million gallons. Based on monthly influent and effluent sampling, the treatment system successfully removes VOCs from groundwater extracted from the capture zone. No VOCs were detected in any of the first quarter effluent samples. Approximately 4.1 pounds of VOCs were removed by the treatment system during the first quarter 2009.