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Daphne Ryan
Environmental Project Officer
Department of Environmental Quality
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Mr. Paul Townsend
Town Pump, Inc.
Post Office Box 6000
Butte, Montana 59702

Re: Remedial Investigation Work Plan for the Petroleum Release at Town Pump Inc. Deer Lodge, 203 North Main Street, Deer Lodge, Powell County, Montana; Facility ID 39-08694 (TID 26716), Release 3473, Work Plan 34853

Executive Summary

Per Montana Department of Environmental Quality (DEQ) Project Manager Daphne Ryan, AJM Incorporated (AJM) has completed the following Remedial Investigation Work Plan (WP) to determine the extent and magnitude of the historical release re-discovered during the underground storage tank (UST) excavation conducted in November 2022 to install a new 12,000-gallon No Lead UST. Previously, Release 3473 was closed on June 12, 2013 after reviewing evidence of petroleum hydrocarbon concentrations below Montana Risk Based Screening Levels (RBSLs) in the groundwater monitoring wells. The general scope of work outlined in the work plan includes the installation of new monitoring wells, well development, semi-annual groundwater monitoring, and all appropriate reporting documentation.

Facility History/ Release Background

Release 3473 originated from a 3000-gallon UST failure that occurred on July 23, 1998. This release has been addressed by AJM from 1999 to 2013 until the monitoring wells on site all showed petroleum hydrocarbon constituents below RBSLs and was closed by the DEQ. Past reports for this site are on file with the DEQ.

During the UST excavation and upgrade performed by Mile High Excavation, petroleum hydrocarbon impacts were noticed at the soil water interface via odors and slight sheening on groundwater surface. One soil and one groundwater grab sample were collected on November 11, 2022 and sent to Energy Laboratories for extractable petroleum hydrocarbon (EPH) and volatile petroleum hydrocarbon (VPH) analysis. Results indicate that impact levels exceed Montana RBSLs and further environmental investigations are necessary to determine the extent and magnitude of Release 3473.

There are currently six USTs including one split UST. Product contains include 1-10,000gal No Lead, 1-10,000gal Premium, 1-12000gal No Lead (New 2022), 1-10,000gal Diesel #2, 1-5,000gal Diesel #1 (Split), 1-10,000gal Red Dye Diesel (Split), 1-8,000gal Diesel #2.

The facility is located at 203 North Main, Deer Lodge, MT 59722. The legal description is NE ¼, SW ¼, Section 33, Township 8 North, Range 9 West, Principal Meridian, Montana. See Figure 1, Appendix A for Site Location Map.

Summary of Facility Conditions

Results from the grab samples collected when the UST installation excavation was open indicate that groundwater is exceeds RBSLs. The primary surface cover includes asphalt and concrete. The Clarks Fork River is located approximately ½-mile west of the facility and flows in a northerly direction through the town of Deer Lodge, Montana (elevation 4,520 feet above sea level). Johnson Creek is located immediately north of the facility, and Cottonwood Creek is located one block to south. Both of these creeks flow toward the Clarks Fork in a northwesterly direction.

During the well installation activities in August 1999, the soils at the site were observed to be brown, silty sand and gravel with a few cobbles from ground surface to a depth of three to four feet bgs. Below four feet bgs, the soils consisted of dark brown, sandy, gravelly clay or clayey sand and gravel. Cobbles were occasionally encountered. Given the high clay content of these soils, they probably represent alluvial soils deposited in primarily quiet waters or swampy conditions. A very thin layer of organic material that appeared to be peat was observed at 5.5 feet bgs in the boreholes of MW-5 and MW-6. Groundwater was first encountered at depths ranging from 6.5 to 8.5 feet bgs and generally flows in a northwestern direction.

Work Plan Maps

Appendix A includes the required maps described in this work plan. Figure 1- Site Location illustrates the general location of this facility marked in the annotated red box. Figure 2 – Site Map illustrates the site features including UST system, abandoned groundwater monitoring wells, proposed groundwater monitoring wells, buildings and utilities. Figure 2 is a map created using survey data collected for the initial release in 2000. Another survey will be conducted following the installation of three new monitoring wells. This map will include facility buildings, property boundaries, known utilities, surface cover, and predicted groundwater characteristics.

Objectives of Cleanup Work Plan (CWP)

The purpose of the Remedial Investigation at Deer Lodge Town Pump will be to determine the extent and magnitude of the petroleum hydrocarbon impacts encountered during the system upgrade in November 2022. To accomplish this goal, three new 2in groundwater monitoring wells will be installed to determine upgradient, source, and downgradient concentrations. Groundwater monitoring wells will be developed prior to sampling. Groundwater sampling will occur semi-annually for two years. New survey information will be collected to better represent the data. Reporting for this Work Plan includes one Soil Boring and Monitoring Well Installation Report, three Groundwater Interim Data Submittals, one final Groundwater Monitoring Report, Creating a Release Closure Plan, and all associated Data Validation Summary Forms (5 total).

Minimum Work Plan Tasks

Per discussions with the O/O, responsible party, and Montana DEQ project Manager, AJM has determined that the installation of three groundwater monitoring wells is the most effective method to determine the extent and magnitude of the impacts encountered at this facility in 2022. Minimum work plan tasks to complete this goal includes work plan submittal/approval from DEQ, project management, mobilization, completion of a receptor survey, investigate both soil collected in well installation and groundwater via semi-annual well sampling, and the submittal of all appropriate reports. A cost estimate can be found in Appendix B outlining each work plan task.

Investigation Method, Equipment, Technology, and Personnel

The proposed methods to accomplish the remedial investigation goals include using a geo-probe drill rig to collect soil samples and install groundwater monitoring wells in three locations. Specific well construction is described on the Drilling Spec Sheet found in Appendix B. Adequate observation and recording of sub-surface conditions will be collected by AJM personnel during the installation of the monitoring wells and soil boring logs will be included in the Soil Boring and Monitoring Well Installation Report. Well logs will include soil characteristics, sampling locations, construction specifications. All cuttings from monitoring well installation will be disposed of onsite.

Newly constructed monitoring wells will be developed using a 2-stage downhole pump, surging the interior well casing to draw silts through the annular space and purging the monitoring well to remove excesses silts. Monitoring well development will be completed when the purge water begins to have a turbidity less than 10ntu.

The first groundwater monitoring event will be completed at least 72 hours after the development of the monitoring well to allow for the groundwater characteristic to stabilize. Depth to water will be measured from each monitoring well to determine accurate hydraulic gradient and direction compared to the spatial data collected during the site survey. Groundwater samples will be collected following the standard operating procedures and quality assurance project plan on file with Montana DEQ. This includes collecting well stabilization parameters of temperature, pH, specific conductivity, dissolved oxygen, oxygen reduction potential (ORP), color and turbidity. Groundwater samples will be collected in appropriate sampling containers and sent under a chain of custody to an accredited laboratory for VPH and EPH (Fractionated if Total EPH is greater than 1000 µg/L).

Scheduling and Reporting

Work at the Deer Lodge Town Pump is expected to begin in the spring of 2025 by installing three groundwater monitoring wells and collecting soil samples. Following this initial investigation, a Soil Boring and Monitoring Well Installation (RPT_AR-03) will be completed. The first groundwater monitoring event will occur at least 72 hours after well development and subsequent sampling events will occur semi-annually for two years. A total of three Interim Data Submittals (RPT_GWM IDS) will be completed, one per sampling event. After completing the final groundwater sampling event, a Groundwater Monitoring Report (RPT_GWM) will be completed including a new Release Closure Plan (RCP) and all associated Data Validation Summary Forms (DVSF). All tasks under WP 34853 are expected to conclude March 2027.

A cost estimate for the above-described work plan can be found in Appendix B. Work at the Deer Lodge Town Pump can begin upon written approval by the DEQ. Please contact AJM staff regarding questions or clarification on WP 34853.

Sincerely,

Lars Heinstedt

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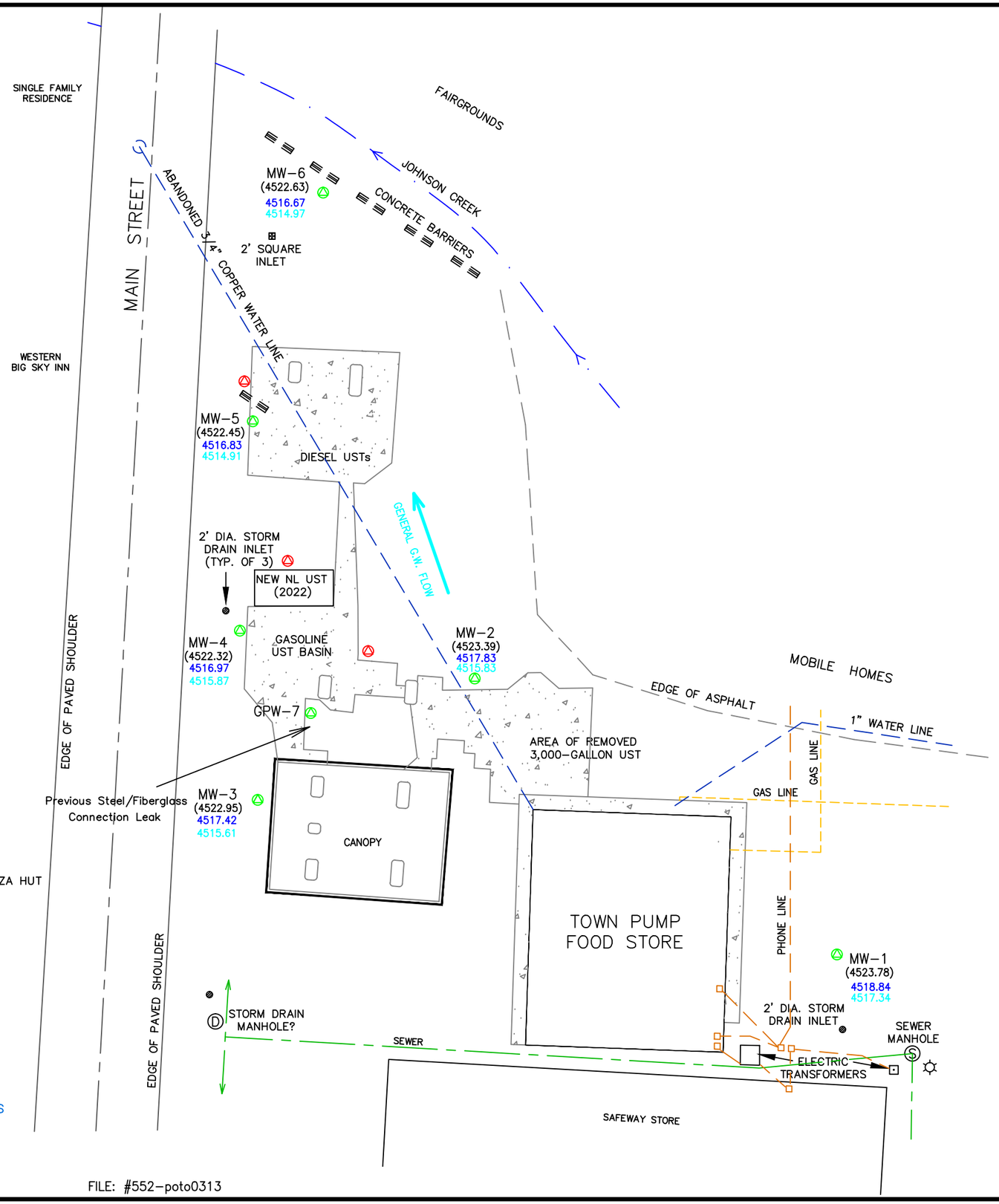
Appendix A
Figure 1 – Site Location
Figure 2 - Site Map

Figure 1 - Site Location
Deer Lodge Town Pump
Deer Lodge, Powell County, Montana

AJM INCORPORATED



LEGEND

- △ – LOCATION OF PROPOSED WELLS
- MW-1 △ – MONITOR WELL (ABANDONED 2013)
- (4523.78) – TOP OF WELL CASING ELEVATION
- 4518.84 – STATIC WATER LEVEL 7/12
- 4517.34 – STATIC WATER LEVEL 1/13

N

30 0 30

SCALE: 1" = 30'

BASE MAP

Prepared by:

Rocky Mountain Engineers

1700 W. KOCH
BOZEMAN, MT 59715
(406) 586-4859

Modified by:

AJM Incorporated

FILE: #552-poto0313

FIGURE 2

SITE MAP

TOWN PUMP FOOD STORE
DEER LODGE, MT

AJM INCORPORATED