

November 26, 2024

Mr. Jonathan Love  
Environmental Science Specialist  
Petroleum Tank Cleanup Section  
Montana Department of Environmental Quality  
P.O. Box 200901  
Helena MT 59620-0901

**RE: Groundwater Monitoring Work Plan for GM Petroleum Distributors (former B&C Oil)  
500 North Fifth Street, Miles City, Custer County, Montana  
Facility ID #09-05859, TID #19449, Release #5027, Work Plan ID #34935**

**Owner/  
Responsible  
Party:** Petro Services Company, Inc.  
Dennis Whitmore  
PO Box 80405  
Billings, MT 59107

**Consultant/  
Work Plan  
Preparer:** Pioneer Technical Services, Inc.  
Charles Peterson, PG  
2310 Broadwater Ave, Suite 1  
Billings, MT 59102  
[cpeterson@pioneer-technical.com](mailto:cpeterson@pioneer-technical.com)

Dear Mr. Love:

On behalf of Petro Services Company, Inc., Pioneer Technical Services, Inc. prepared the following Groundwater Monitoring Work Plan and cost estimate for performing groundwater monitoring at GM Petroleum Distributors (former B&C Oil) in Miles City, Montana. As requested in correspondence dated September 5, 2024, from the Montana Department of Environmental Quality, our scope of work and associated proposed costs are outlined below.

If you have any questions concerning this project or the proposed scope of work, please contact me at (406) 702-2430 or [cpeterson@pioneer-technical.com](mailto:cpeterson@pioneer-technical.com).

Sincerely,



Charles Peterson, PG  
Program Manager  
Pioneer Technical Services, Inc.

Attachment 1: Figures

Attachment 2: Cost Estimates

cc: Mr. Dennis Whitmore, PO Box 80405, Billings, MT 59107

## **EXECUTIVE SUMMARY**

The purpose of this document is to provide a Groundwater Monitoring Work Plan (work plan) for the GM Petroleum Distributors facility (site), located at 500 North Fifth Street, Miles City, Custer County, Montana, Facility ID #09-05859, as requested in electronic correspondence from Montana Department of Environmental Quality (DEQ) dated September 5, 2024. The purpose of the proposed work activities is to further evaluate the impacts within the saturated zone associated with Release #5027 by conducting groundwater monitoring events. The results from the groundwater monitoring will be used to propose additional remediation work, if needed, and determine a pathway to resolve Release #5027.

The DEQ outlined their recommendations in the work plan request letter dated September 5, 2024. These recommended actions are included in this work plan, which involves conducting two semi-annual groundwater monitoring events, preparing an Interim Data Submittal (IDS) following the initial monitoring event, and preparing a Groundwater Monitoring Report appended with a Release Closure Plan (RCP) upon completion of all activities. These activities are detailed in the following work plan.

## 1 FACILITY SUMMARY AND CURRENT CONDITIONS

The B&C Oil Company facility is located at 500 North Fifth Street, Miles City, Montana. The subject property is in a mixed commercial and residential area within the Miles City boundaries. The property is bounded to the north by River Street, to the east by a commercial grain elevator and storage facility, to the south by former Milwaukee Road railroad tracks, and to the west by North Fifth Street. There are residential single-family homes and trailer houses across the street on River Street and North Fifth Street. The site is fairly level with an approximate elevation of 2,355 feet above mean sea level. The location of the property is shown on Figure 1 and Figure 2 in Attachment 1.

The B&C Oil Company facility has been operated as a fuel storage and distribution facility since the 1960s. On July 23, 2014, four soil borings were installed at the facility and constructed into temporary groundwater monitoring wells as part of a property due diligence investigation (Hydrometrics, 2014). These wells were removed from the ground shortly after soil and groundwater sample collection. Groundwater and soil testing results from that investigation indicated that a petroleum release had impacted subsurface soil and groundwater at the site near the aboveground storage tank (AST) loading rack area. The petroleum release appeared to consist mainly of diesel range petroleum hydrocarbons. In response to these findings, the release was reported to DEQ, and the site was submitted for eligibility to the Petroleum Tank Release Compensation Board (Petro Board). The site was deemed eligible for the reimbursement of cleanup costs and was assigned Release #5027.

Based on the results of the due diligence investigation (Hydrometrics, 2014), DEQ requested additional corrective action for the site that included installing soil borings, constructing permanent groundwater wells, and collecting soil and groundwater samples. The DEQ requested that a Phase I Remedial Investigation be performed as detailed in a work plan request letter dated February 12, 2015. On May 14, 2015, Portage, Inc. submitted Work Plan #9950, and it was approved by DEQ on July 24, 2015. The funding for Work Plan #9950 was obligated by the Petro Board on December 21, 2015.

The Phase I Remedial Investigation occurred during January 2016 and included drilling soil borings, installing five monitoring wells, performing a utility and receptor investigation, and collecting soil and groundwater samples (Portage, 2016). The monitoring wells were installed to help investigate the impact of petroleum releases from the site to subsurface soil and groundwater. The investigation focused on several suspect source areas including a former underground storage tank location, the existing cardlock pump island, and the AST loading rack location. Based on the findings, DEQ requested that a Standardized Generic Application Corrective Action Plan (AC-07) be prepared and submitted (correspondence dated October 19, 2017). On November 16, 2017, Pioneer Technical Services, Inc. (Pioneer) submitted Work Plan #10747 to DEQ outlining the scope to perform additional investigative tasks to further define the extent and magnitude of petroleum contamination near the petroleum retail fueling island

and focus on the downgradient area of the fueling island near an 8-inch city water main located in the nearby city alley. The Petro Board and DEQ approved the work plan on December 14, 2017. The scope included installing four soil borings, constructing two groundwater monitoring wells, and collecting soil and groundwater samples. The initial field work (well installation and groundwater sampling) was completed in May 2018, as described in the *Standardized Soil Boring and Groundwater Monitoring Well Installation Report*, dated August 2, 2018 (Pioneer, 2018).

An additional groundwater monitoring event was conducted in December 2018, and the results of the monitoring were described and presented in the *Standardized Groundwater Monitoring Report*, dated January 9, 2019 (Pioneer, 2019).

Based on the results of the January 2019 report (Pioneer, 2019) and previous investigations, DEQ requested on July 22, 2019, that additional soil borings and a monitoring well be installed at the facility focusing on the area near the AST loading rack location. In response, on October 16, 2019, Pioneer prepared and submitted a Soil Boring and Monitoring Well Installation Corrective Action Plan (AC-03), Work Plan #33890, to further define the extent and magnitude of petroleum contamination near the loading rack. Work Plan #33890 was approved by DEQ on November 1, 2019, and funds were obligated by the Petro Board on February 7, 2020. Work Plan #33890 included the installation of four soil borings, construction of one groundwater monitoring well, and associated soil and groundwater sampling in the immediate area of the loading rack.

The soil boring installation and well construction activities were completed on May 11, 2020, and the groundwater monitoring activities were conducted on June 2, 2020, as listed in Work Plan #33890 prepared by Pioneer on October 16, 2019, and approved by the DEQ Petroleum Tank Cleanup Section on November 1, 2019. The funds for this work plan were obligated by the Petro Board on February 7, 2020.

Based on the analysis of the results of the 2020 investigation, Pioneer recommended continuing the groundwater monitoring program to monitor the natural attenuation of the dissolved plume (Pioneer, 2020).

## **2 OBJECTIVES OF GROUNDWATER MONITORING WORK PLAN**

The primary objective of this work plan is to define the current extent and magnitude of the groundwater contamination at the site to help determine a pathway to remediation and resolution of the release.

In summary, this work plan involves conducting two semi-annual groundwater monitoring events, preparing an IDS following the initial monitoring event, and preparing a Groundwater Monitoring Report appended with a RCP upon completion of all activities. These activities are detailed in the following work plan.

Specifically, this work plan proposes the following actions to achieve these goals:

- Performing two semi-annual groundwater monitoring events.
- Validating all laboratory analytical data using DEQ's Data Validation Summary Form.
- Discussing work plan tasks and results with DEQ's project manager; any modifications required to complete the work plan objectives will be submitted and agreed upon.
- Updating the RCP and discussing the results with DEQ's project manager.
- Submitting an IDS that details the results of the monitoring events.
- Submitting work plan and reports electronically following the Petroleum Tank Cleanup Section submittal requirements.

These investigation activities will be provided to delineate the magnitude and extent of the release to resolve Release #5027. As requested by DEQ, Pioneer proposes the following scope of work:

- Task 1: Project Management, Permitting, and Planning.
- Task 2: Semi-Annual Groundwater Monitoring.
- Task 3: Reporting.

The following sections describe each task for the proposed work along with Pioneer's cost estimate and proposed schedule.

## ***2.1 Task 1 – Project Management and Planning***

Task 1 Project Management and Planning work will include:

- Work plan and cost estimate preparation.
- Project scheduling.
- Health and Safety Plan preparation.
- Coordination with subcontractors, owners, and regulators.
- Site work preparation.

## ***2.2 Task 2 – Semi-Annual Groundwater Monitoring***

This work plan proposes performing two semi-annual groundwater monitoring events. During each semi-annual event, Pioneer will collect groundwater samples from the eight existing on-site wells (BC-16-01, BC-16-02, BC-16-03, BC-16-04, BC-16-05, BC-18-06, BC-18-07, and MW-20-01). For each event, the Pioneer team will gauge and purge the wells and collect groundwater samples. Our team will attempt to complete the sampling events in conjunction with the typically high and low groundwater conditions.

Prior to groundwater sample collection, the team will gauge each of the eight monitoring wells for the presence of light non-aqueous phase liquid (LNAPL). Each well will be gauged using an electronic interface probe capable of detecting water or LNAPL hydrocarbons to within 0.01 foot. If the well does not contain LNAPL, the team will collect groundwater samples. If LNAPL is detected, the team will not collect any samples, will note the conditions in a logbook, and notify the DEQ project manager.

The groundwater samples will be collected according to low flow sampling techniques. To ensure representative groundwater samples are collected, the team will monitor the water quality parameters for the following intrinsic bioremediation indicators and allow them to stabilize during the purging process prior to sample collection: temperature (plus or minus 3%), pH (plus or minus 0.1), dissolved oxygen (plus or minus 10%), specific conductance (plus or minus 3%), oxidation-reduction potential (plus or minus 10 millivolts), and turbidity (plus or minus 10%). To complete groundwater sampling according to DEQ's low-flow sampling guidance, the wells will be gauged at each field parameter monitoring interval with a water level meter to ensure that excessive drawdown (plus or minus 0.3 feet) does not occur prior to sampling.

Pioneer's team will collect the groundwater samples with a peristaltic pump and disposable tubing and transfer the samples to the appropriate laboratory containers. The laboratory will supply new, decontaminated containers prior to sample collection. Groundwater samples from all eight monitoring wells will be submitted for laboratory analysis of volatile petroleum hydrocarbons and extractable petroleum hydrocarbons. Based on their absence during the historical sampling at the site, lead scavengers have been excluded.

Analysis of groundwater samples will be in accordance with DEQ's *Risk-Based Corrective Action (RBCA) Guidance for Petroleum Releases* (DEQ, 2024). Pioneer's team will collect one field duplicate during each sampling event. Each sample container will be preserved as directed by the laboratory, labeled, and packaged on ice. The samples will be delivered to Energy Laboratories, Inc. Chain of custody documentation will accompany the samples.

Purge water generated during the sampling activities will be infiltrated into the grassy areas available at the site in accordance with Montana DEQ standards.

### **2.3 Task 3 – Reporting**

Pioneer will prepare two separate reports for this work plan: one IDS, which will include the first groundwater sampling event, and one Groundwater Monitoring Report, which will include the results of the second groundwater sampling event and an updated RCP.

#### **Interim Data Submittal**

Following the first round of groundwater monitoring, Pioneer will prepare and submit an IDS in accordance with *Montana Groundwater Monitoring Work Plan and Report Guidance for*

*Petroleum Releases* (DEQ, 2021). The report will follow the Montana DEQ report format and include the following:

- Cover letter with a brief (one page or less) executive summary including a discussion of the groundwater monitoring event.
- Updated facility maps illustrating the locations of the former fuel systems, site building, locations of petroleum source material areas, receptors including underground utilities, locations of groundwater monitoring wells, and potentiometric surface maps.
- Tables summarizing field data and cumulative laboratory analytical data for groundwater samples.
- Laboratory analytical reports for the groundwater samples.
- Field sample data sheets and related field data.
- Data validation documentation using DEQ's Data Validation Summary forms.

Following the second round of groundwater sampling, we will analyze the results and compile and submit a Groundwater Monitoring Report, prepared according to DEQ's Montana Report Guidance for Petroleum Releases (DEQ, 2021) that will include the following:

- Updated site maps, illustrating the locations of the new and existing monitoring wells, underground utilities, and surface features.
- Tables summarizing locations/depths of field data and laboratory analytical data for the new monitoring wells and the first and second round of groundwater monitoring.
- Laboratory analytical reports for groundwater samples.
- Logs, field data sheets, and related field data.
- Laboratory data validation.
- Recommendations relevant for further investigation or remedial action.
- An updated RCP.

### **3 COST ESTIMATE**

A detailed cost estimate to perform this scope of work is presented on the worksheet in Attachment 2.

### **4 SCHEDULES**

Pioneer proposes to perform the first groundwater sampling event (Task 2) during early spring of 2025. The IDS will be completed and submitted within 45 days of receipt of all laboratory analytical reports for the initial groundwater sampling event. The second groundwater sampling event will be completed during late fall of 2025. The groundwater monitoring report will be completed and submitted within 45 days of receipt of all laboratory analytical reports for groundwater samples. The full duration of the project is approximately 12 months, and the final report will be issued sometime in the winter of 2025.

## 5 REFERENCES

- DEQ, 2021. Montana Groundwater Monitoring Work Plan and Report Guidance for Petroleum Releases. Montana Department of Environmental Quality, Waste Management and Remediation Division, Petroleum Tank Cleanup Section. March 2021.
- DEQ, 2024. Montana Risk-Based Corrective Action Guidance for Petroleum Releases. Montana Department of Environmental Quality. February 2024.
- Hydrometrics, 2014. Phase II Environmental Site Assessment Results at B&C Oil, Miles City, MT. Letter report to Mr. Tim O'Neal, City Service Valcon, LLC. Hydrometrics, Inc. July 31, 2014.
- Pioneer, 2018. Standardized Soil Boring and Groundwater Monitoring Well Installation Report. B&C Oil Company, 500 North 5<sup>th</sup> Street, Miles City MT. Facility ID #09-05859 Release #5027, WP ID #10747. Prepared for Mr. Dennis Whitmore, Petro Services Company, Inc. Submitted to Montana Department of Environmental Quality Petroleum Technical Section. Prepared by Pioneer Technical Services, Inc. August 2018.
- Pioneer, 2019. Standardized Groundwater Monitoring Report. B&C Oil Company, 500 North 5<sup>th</sup> Street, Miles City MT. Facility ID #09-05859 Release #5027, WP ID #10747. Prepared for Mr. Dennis Whitmore, Petro Services Company, Inc. Submitted to Montana Department of Environmental Quality Petroleum Technical Section. Prepared by Pioneer Technical Services, Inc. January 9, 2019.
- Pioneer, 2020. Standardized Soil Boring and Groundwater Monitoring Well Installation Report. B&C Oil Company, 500 North 5<sup>th</sup> Street, Miles City MT. Facility ID #09-05859 Release #5027, WP ID #33890. Prepared for Mr. Dennis Whitmore, Petro Services Company, Inc. Submitted to Montana Department of Environmental Quality Petroleum Technical Section. Prepared by Pioneer Technical Services, Inc. August 2020.
- Portage, 2016. Summary Report Phase I Remedial Investigation and Sampling Activities. B&C Oil Company, 500 North 5<sup>th</sup> Street, Miles City, MT. Facility ID #09-05859 Release #5027, WP ID 9950. Prepared for Mr. Dennis Whitmore, Petro Services Company, Inc. Submitted to Montana Department of Environmental Quality Petroleum Technical Section. Prepared by Portage. February 2016.



## **Attachment 1**

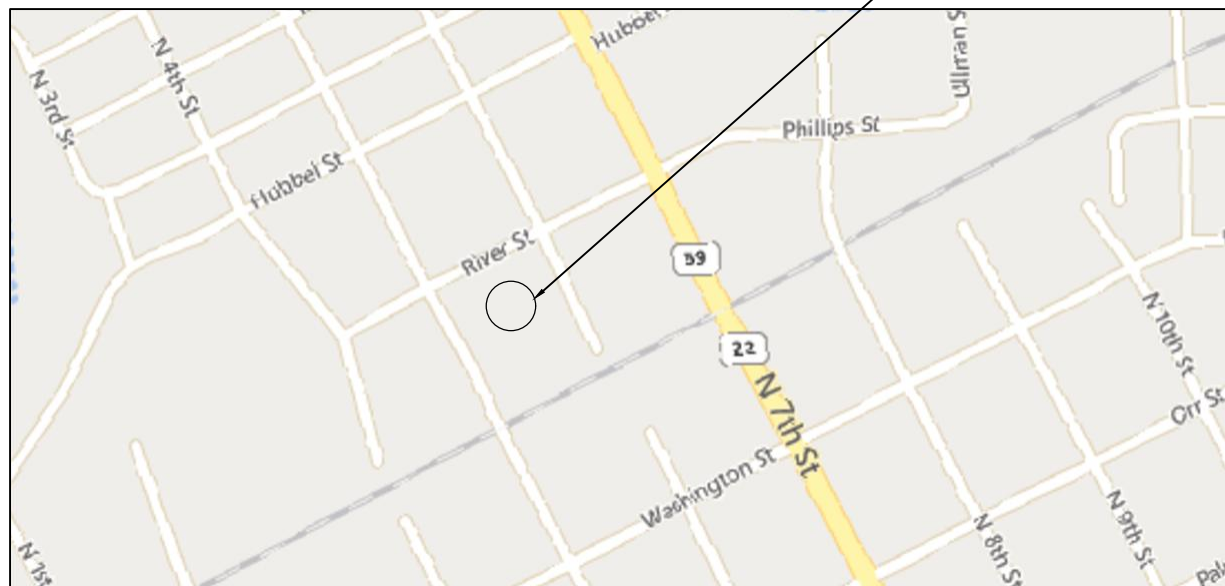
### **Figures**

**Figure 1. Location and Vicinity Map**

**Figure 2. Site Map**



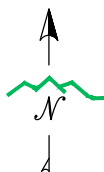
**PROJECT  
LOCATION**



**SITE VICINITY MAP**

DEQ FACILITY ID: 09-05859  
 RELEASE NUMBER: 5027  
 WORK PLAN NUMBER: 33890

B&C OIL COMPANY FACILITY  
 500 NORTH 5TH STREET  
 MILES CITY, MT 59301



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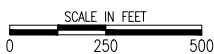


FIGURE 1





(406) 545-4805

LOCATION AND VICINITY MAP  
 B&C OIL  
 COMPANY FACILITY  
 MILES CITY, MT

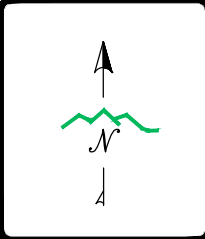
DATE: NOVEMBER 2024



**LEGEND:**

-  MONITORING WELL
-  SOIL BORING

DEQ FACILITY ID: 09-05859  
 RELEASE NUMBER: 5027  
 WORK PLAN NUMBER: 33890



DISPLAYED AS:  
 COORD SYS/ZONE: NAD83, NAVD88  
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 UNITS: INT. FEET  
 SOURCE: BING

SCALE IN FEET  
 0 25 50



**FIGURE 2**

**SITE MAP**  
**B&C OIL**  
**COMPANY FACILITY**  
**MILES CITY, MT**

DATE: NOVEMBER 2024