

Corrective Action Plan

34859

**Town Pump Inc. Troy
112 East Missoula Avenue
Troy, MT
Facility ID 27-08722 (TID 24241),
Release 6641, Work Plan 34859**

Prepared for:

**Paul Townsend
Town Pump, Inc.
PO Box 6000
Butte, MT 59702**

Prepared by:

**West Central Environmental Consultants, Inc.
1030 South Ave. W.
Missoula, MT 59801**

May 10, 2024

WCEC Project No. 2403-0789

WCEC

West Central Environmental Consultants, Inc.

Nationwide Services
www.wcec.com

Environmental



Emergency Response



Industrial Services

TABLE OF CONTENTS

1.0	Introduction.....	1
1.1	Site Location.....	1
1.2	Geologic/ Hydrogeologic Setting.....	1
2.0	Scope of Work.....	2
2.1	Scope of Work.....	2
2.2	Monitoring Well Installation & Surveying	3
2.3	Monitoring Well/Soil Boring Sample Collection	4
2.4	Groundwater Monitoring	4
2.5	Data Validation	5
2.6	Reporting.....	5
3.0	Timeline and Costs	7
3.1	Planned Workflow & Cost Explanations	7

List of Figures

- Figure 1: Site Location Maps
- Figure 2: Proposed Monitoring Well Locations

Appendix A - Estimated Cost for Corrective Action Plan #34859

Appendix B - PTRCB Groundwater Monitoring and Sampling Unit Cost Worksheet

Appendix C – Drilling Subcontractor Bids

Appendix D – WCEC sampling SOPs

1.0 Introduction

West Central Environmental Consultants (WCEC) has prepared this corrective action plan (CAP) for Remedial Investigation at the Town Pump in Troy (Facility ID 27-08722 (TID 24241), Release 6641, Work Plan ID 34859). The corrective action plan was generated in response to the request by the Montana Department of Environmental Quality (MTDEQ) on April 18, 2024.

1.1 Site Location

The Town Pump facility in Troy is operated as a truck stop convenience store. The release was discovered during an underground storage tank removal associated with upgrades and expansion of the facility. A site location map and a site details map are included as Figure 1 and 2. The Public Land Survey System (PLSS) description for the site is the SW/4, NE/4, of Section 12, T31N, R34W. The approximate geographic coordinates are Latitude 48.4637°, Longitude -115.8958°. Township, range, and section information was obtained using the United States Geological Survey (USGS) Troy, Montana 1:24,000 Quadrangle. The site is located within the Lower Kootenai River Hydrologic Unit.

1.2 Geologic/ Hydrogeologic Setting

The surficial geology at the site consists of glacial and fluvioglacial deposits gravel and large cobble. Groundwater at the site is anticipated to be present at 25 to 35 feet below ground surface and will likely fluctuate with seasonal flows in the Kootenai River.

2.0 Scope of Work

2.1 Scope of Work

The scope of work required by the MTDEQ consists of completing a Remedial Investigation Work plan to define the extent and magnitude of petroleum contamination at the facility:

- Prepare a Facility history including relevant information concerning the current and historical property use and physical and legal aspects of the property that may affect the Release, its impacts to human health and the environment, or its investigation, cleanup, and monitoring.
- Report on the background of the Release including known and suspected petroleum sources, known and potential petroleum impacts, and previous investigations of petroleum releases at the Facility and adjacent properties, and any actions taken to address the Release.
- Determine the horizontal and vertical extent of petroleum impacts to soil via collection and appropriate laboratory analysis of samples as specified in DEQ's Risked-Based Corrective Action Guidance for Petroleum Releases (RBCA) Table A – Testing Procedures for Soils.
- Determine the extent and magnitude of petroleum impacts to surface water and groundwater plume via collection and appropriate laboratory analysis of samples as specified in DEQ's RBCA Guidance Document
- Identify potential receptors of the release based on field observations.
- Install monitoring well(s) to assess the magnitude and extent of potential petroleum contamination in groundwater.
- Monitor groundwater by gauging fluid levels and collecting samples by low-flow sampling according to the Montana DEQ Groundwater Sampling Guidance.
- Analyze soil and groundwater samples for petroleum constituents and lead scavengers according to the Montana Risk-Based Corrective Action Guidance for Petroleum Releases. Include the analysis of constituents necessary to assess risk or determine appropriate remedial actions.
- Validate all laboratory analytical data using DEQ's Data Validation Summary Form (DVSF).
- Discuss ongoing WP tasks and results with DEQ's project manager; submit written agreed-upon WP modifications as required to complete the WP objectives.
- Once the magnitude and extent of petroleum contamination in groundwater has been identified, prepare and submit a Remedial Investigation Report detailing the results of the investigation. The Report is expected to include all the content outlined in the Report format, including but not limited to discussion, recommendations, conclusions, cumulative data tables, maps, and necessary appendices.

2.2 Monitoring Well Installation & Surveying

WCEC will install four monitoring wells at the facility. A source well will be installed in the former UST basin near the location of maximum hydrocarbon impacts identified during the UST removal. A second well will be installed at the location of the former Pump Island south of the UST basin. The third well will be placed east of the tank basin near the front of the previous convenience store. A fourth well will be installed northeast of the tank basin near the northeast corner of the new convenience store. These proposed soil boring and monitoring well installation locations are depicted in Figure 2. Based on facility as-built drawings and a review of available site photos, WCEC doesn't believe that monitoring wells can be located in the alley behind the facility due to constraints from overhead power and buried utilities.

These wells will be completed using air rotary drilling with split spoon sampling being attempted at 5-7, 10-13, 15-17, 20-23, 25-27, 30-33, and 35-40 feet below grade. If split spoon sampling methods are not possible due to the anticipated presence of cobble underlying the site, samples will be collected from the air rotary cuttings. The groundwater monitoring wells will be drilled by Bolland Drilling of Great Falls, Montana. Wells will be constructed using 2-inch schedule 40 PVC riser and 0.010 slot PVC screen. Each monitoring well will be screened from 25 to 40 feet bgs with solid riser extending from 25 feet bgs to near ground surface. The well annulus will be filled with 10/20 silica sandpack from the bottom of the boring to 6 inches above the screened interval, with the remainder of the boring annulus consisting of a bentonite seal. Surface completions will be constructed using 8-inch flush mount monuments set in concrete. Soil cuttings will be drummed up for disposal at the Republic Services Class II Landfill in Missoula, MT.

WCEC will survey the top of casing on all monitoring wells at the facility to The Forth Order (0.10 feet times the square root of total distance of the level loop in miles) with a measurement precision of 0.01 feet. The latitude and longitude of all site wells will be surveyed using a Trimble Geo 7X GPS with 1-centimeter post processed accuracy. Site well casing elevations will be correlated to the North American Vertical Datum of 1988 (NAVD 88) using an onsite elevation control point which will be created using the Trimble Geo 7x GPS.

2.3 Monitoring Well Development

Monitoring well development will be completed using a combination of surging and over pumping. This will meet the purpose of monitoring well development, which is to ensure removal of fines from the vicinity of the well screen and allow free flow of water from the formation into the well. This well development helps reduce the turbidity during future groundwater monitoring events.

Surging involves raising and lowering a surge block inside the well. This generates a hydraulic surge which forces water into the formation and loosens sediments allowing them to be pulled from the formation into

Corrective Action Plan 34859

Town Pump - Troy

112 East Missoula Ave., Troy, MT

the well. This surging is completed for approximately 5 minutes and then is followed by pumping using a down hole pump. A total of 5 well volumes are pumped following surging, with the process being repeated up to 4 times or until water being purged from the well exhibits minimal fines.

2.4 Monitoring Well/Soil Boring Sample Collection

Split spoon soil boring cores will be collected from the bottom of every 5-foot increment if the split spoon can be advanced in the formation. If split spoon sampling is not possible samples will be collected from the air rotary cuttings. These samples will be field screened using a Rae Systems MiniRae™ 3000 photoionization detector (PID). Soil samples will be collected from the soil horizon that exhibits the highest PID reading and from the groundwater interface. An additional sample will be collected from the 0-2 ft and 2-10 ft soil horizon if PID screening indicates that hydrocarbon impacts are present at these depths. If no hydrocarbon impacts are identified through field screening, one sample will be collected from the 10-13 ft soil horizon with the other sample being collected from the groundwater interface.

Soil samples will be packed on ice and shipped to Energy Laboratory (Energy) in Helena, Montana under chain of custody. All the soil samples will be analyzed for volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH) screen, and lead scavengers (1,2-dichloroethane & 1,2-dibromoethane), as required by the MTDEQ Technical Guidance Document. If the EPH screen exceeds 200 mg/kg Energy will be instructed to run Total Extractable Hydrocarbon (TEH) fractions.

2.5 Groundwater Monitoring

WCEC will complete semiannual groundwater monitoring events for a period of one year. It is anticipated that the initial monitoring event will be conducted in the fall of 2024 during low water conditions at the facility, with the second semiannual event being conducted in May or June of 2025. The initial groundwater monitoring event will be conducted no sooner than one week after monitoring well installation.

Groundwater samples will be collected from all four of the newly installed monitoring wells. Well sampling will be conducted using low flow sampling methodologies in accordance with MTDEQ requirements and WCEC SOPs. WCEC will use a bladder pump to purge and sample each monitoring well. Groundwater quality parameter data (conductivity, pH, salinity, dissolved oxygen, temperature, ORP, and turbidity) will be acquired from all site wells sampled during each event using a flow through cell. Groundwater sample collection from each well will be completed following stabilization of groundwater quality parameters. Static water levels, groundwater quality parameter, and purge rate for each well will be recorded in the field using WCEC's Well Sampling Form. Depth to water measurements will be used to calculate the potentiometric groundwater surface, flow direction, and gradient for each event.

Corrective Action Plan 34859

Town Pump - Troy

112 East Missoula Ave., Troy, MT

Purge water will be properly handled according to the MTDEQ Purge Water Disposal Flowchart. WCEC does not anticipate any of the new wells to contain free product or RCRA listed or characteristic waste. Water will be collected from the shallowest aquifer and based on the current known impacts at the site it is not anticipated that purge water will contain enough petroleum hydrocarbons to result in exceedances of soil screening cleanup levels if it is disposed of on the ground surface. The distance to surface water from the facility does not present a potential for directly reaching groundwater. Based on these anticipated realities, WCEC plans to dispose of purge water on a permeable ground surface at the site. If free product is identified in any of the purge water obtained from site wells, WCEC will purchase portable gasoline containers for containment and transport back to their office in Missoula, MT. In this even WCEC will submit a Form 8 adjustment of the work plan to cover disposal costs associated with proper disposal through an oil recycler.

Groundwater samples will be preserved in accordance with analytical methods, packed on ice, and shipped to Energy in Helena, Montana under chain of custody. All groundwater samples collected will be submitted for VPH, EPH, and lead scavenger analyses. Additionally, EPH fraction analysis will be performed for any samples which exceed the EPH screening limit of 1,000 µg/L.

2.6 Data Validation

WCEC will complete the MTDEQ – Waste Management and Remediation Division Data Validation Summary Form. The completed data validation form for each monitoring event will be included with the laboratory report as an appendix of the monitoring report.

2.7 Reporting

An interim data submittal (IDS) will be generated following the receipt of analytical data following the initial groundwater monitoring event. This IDS will include a map detailing the location of groundwater monitoring wells, groundwater potentiometric surface with flow direction and gradient, and analytical soil and groundwater data. Data validation will be included for each analytical report. A remedial investigation report will be completed following the receipt of the groundwater analytical report from the second semiannual sampling event. The report will detail the remedial investigation at the facility and cover soil boring, monitoring well installation, and groundwater monitoring. Cumulative data tables will include all new and historical soil and groundwater analytical data associated with the facility. Figures will detail the locations of monitoring wells and buried utilities at the facility. A groundwater potentiometric surface map will be created for each groundwater monitoring event.

The remedial activities report will include discussion and recommendations to bring the site to closure. These recommendations will be based on the results of the analysis in the Release Closure Plan that will be included as an appendix to the report. Additional appendices will include soil and groundwater analytical

Corrective Action Plan 34859

Town Pump - Troy

112 East Missoula Ave., Troy, MT

reports, groundwater monitoring field data sheets, monitoring well installation logs, and data validation summary forms.

3.0 Timeline and Costs

The attached *Estimated Costs for Corrective Action Plan #34859* and *PTRCB Groundwater Monitoring and Sampling Unit Cost Work Sheet* [Appendix A] details anticipated project costs to complete the MTDEQ required scope of work. The scope of work outlined in this work plan will be conducted following approval of the MTDEQ. WCEC tentatively expects the well drilling to occur in the summer of 2024 with the groundwater monitoring being conducted within one month following the drilling event.

3.1 Planned Workflow & Cost Explanations

The estimated costs in Appendix A include completion of monitoring well installation and semiannual groundwater monitoring events included in this work plan. WCEC will complete these tasks during 2024 and 2025 in three separate events as follows:

Event 1: Monitoring well installation, well development, and surveying (staff – Staff scientist & field tech (2 staff, 1 vehicle)

Events 2: Initial Semiannual Groundwater monitoring event (1 staff, 1 vehicle)

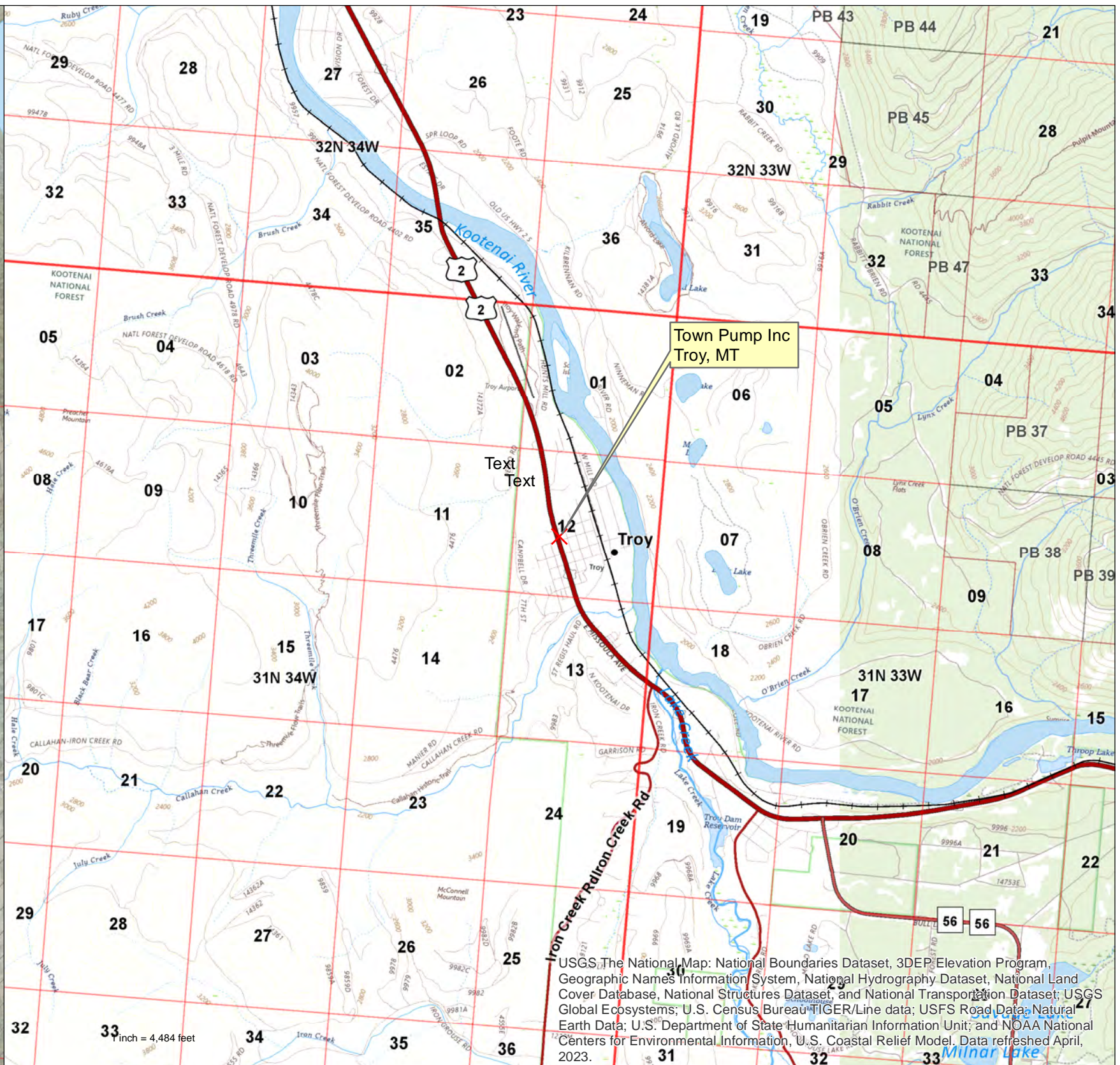
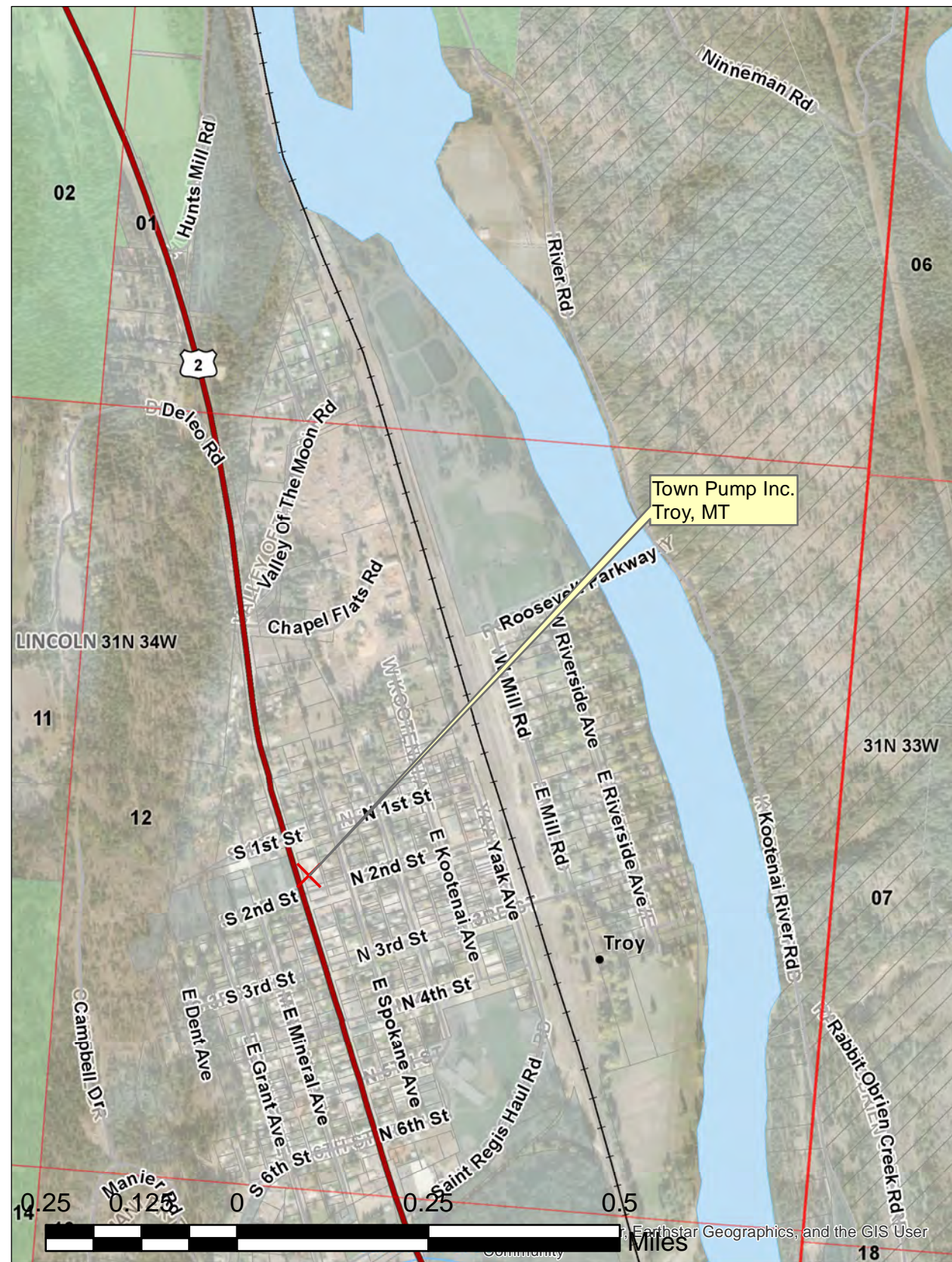
Events 3: Secon Semiannual Groundwater monitoring event (1 staff, 1 vehicle)

This workflow is outlined in sequential order of tasks outlined in this CAP. The attached PTRCB Groundwater Monitoring and Sampling Unit Cost Worksheet includes groundwater sampling costs with a corresponding cost total for all remedial action outside groundwater monitoring detailed on the *Estimated Cost Spreadsheet for Corrective Action Plan #34859*.

List of Figures

Figure 1: Site Location Map

Figure 2: Proposed Monitoring Well Installation Locations



✗ Site Location



Site Location Maps

Town Pump Troy
112 East Missoula Ave
Troy, MT 59935

DRAWN BY: NO

DATE: 05/09/24

SCALE: 1:12,000

PROJECT NUMBER: 2-15XXX-70

IMAGE SOURCE: ESRI BASEMAPS



FIGURE 1

