MONTANA DEPARTMENT OF TRANSPORTATION

Montana Department of Transportation

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Christopher Dorrington,
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June 3, 2026

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RE: Workplan for Groundwater Monitoring
Ingomar Maintenance Facility
Ingomar, MT
DEQ Facility ID 44-09687 (TID 27681); Release 934, Work Plan 35171

The Montana Department of Transportation (MDT) Environmental Services Bureau has developed this workplan to continue groundwater monitoring following site cleanup activities at the above referenced facility.

Introduction

The Montana Department of Transportation (MDT) provides this Groundwater Monitoring Work Plan for the Ingomar Maintenance Facility (Facility). The general scope of work to be conducted per this workplan includes semi-annual and annual groundwater monitoring at all Facility monitoring wells, hydraulic conductivity testing, analysis of field and laboratory data associated with the sample collection, and reporting.

Site Location

The Facility is approximately located at milepost 230 on the north side of US Highway 12, approximately 0.3 miles north of Ingomar in the state of Montana (Figure 1). The Facility was constructed in the 1960s with two buildings consisting of a single-story metal side shop and a metal Quonset style sand storage house.

The Facility currently operates as a parking and equipment storage area, as well as a sand/salt storage area.

Background Information

Release number 934 is related to one 500-gallon gasoline UST (Tank #2) and one 1,000-gallon diesel UST (Tank #3) that were located approximately 30 feet east of the shop building. These USTs were removed in October 1991. Approximately 75 to 80 cubic yards of petroleum impacted soil was excavated from the tank basin and land farmed at the site. Confirmation soil samples were not collected from the bottom of the excavation; however, field screening with a photoionization detector (PID) indicated that petroleum impacted soil was left in place (WCEC, 2023).

A subsurface investigation consisting of three soil borings (SB-1 through SB-3) drilled in the vicinity of the former tank basin was performed in 1991. Petroleum impacts were observed in soil samples collected from the borings. A passive subsurface venting system was installed 1992 and was operated until 1997 (WCEC, 2023).

Release 3486 was reported from the site on April 27, 1998 when a leak was observed near the base of the gasoline dispenser for a 2,000-gallon capacity gasoline UST (Tank #4). This tank and a 2,000-gallon diesel UST (Tank #5) were located approximately 40 feet south of the southwest corner of the sand storage building. These USTs were removed from the site during January 2000. Confirmation soil samples collected under the gasoline UST did not contain detectable petroleum by Volatile Petroleum Hydrocarbon (VPH); however, no sampling was conducted beneath the fuel dispenser building. Additional excavation activities were performed under the fuel dispenser building up to 12 feet below ground surface (bgs). Soil samples were collected from the excavation and were submitted for VPH laboratory analyses. DEQ risk-based screening levels (RBSLs) were not exceeded in the samples. Release No. 3486 was closed by DEQ on December 30, 2010 (WCEC 2023).

In April 2008, MDT installed seven borings (SB1 – SB7), completing four borings as 2-inch monitoring wells (MW1, MW2, MW3, and MW6). During May 13-14, 2009, MDT completed another four hollow stem auger soil borings and converted them into groundwater monitoring wells (MW8, MW9, MW10, and MW11). At this point, the groundwater monitoring well network generally defined the extent and magnitude of soil and groundwater contamination. Monitoring wells MW10 and MW11 have since either been lost or abandoned and are no longer present (WCEC 2023).

High resolution subsurface remedial investigation activities were performed by WCEC on August 15 through 18, 2023. These activities consisted of using a laser-induced fluorescence (LIF) ultra-violet optical screening tool (UVOST) equipped with an electrical conductivity (EC) probe and membrane interface probe (MIP) combined with the hydraulic profiling tool (HPT) technologies. Three UVOST borings, 14 MIHPT boreholes, and 12 soil boreholes were installed during the investigation. Based on the results of the investigation, WCEC recommended a limited source area removal excavation of up to 400 cubic yards and the application of oxygen release compound (ORC) or carbon-based amendment to the floor of the excavation as a remedial action.

In August, 2025, Tetra Tech completed a limited excavation of the remaining source area. An approximate 45 feet by 40 feet excavation was completed to a depth 16 feet below ground surface (bgs). A total of 385 tons of petroleum impacted soil was removed and hauled to Custer County Landfill. An ORC was applied at the base of the excavation before backfilling began. Following the excavation, Tetra Tech installed four soil borings that were completed as monitoring wells. MW-2R was destroyed during excavation activities and was replaced and three wells MW-12, MW-13 and MW14 were placed downgradient of the source area to delineate the extent of the groundwater plume.

Objectives

The objective of this work plan is to monitor the groundwater contaminant levels to advance this Facility to site closure.

Scope of Work

The scope of work will consist of:

- Two semi-annual groundwater monitoring events in 2026.
    - One sampling event during high groundwater conditions (May-June) and one sampling event during low groundwater conditions (August-October).
- Hydraulic conductivity testing for the Facility, completed by a consultant.
- Four annual groundwater monitoring events from 2027 through 2030 during high or low groundwater, to be determined in conjunction with DEQ.
- The monitoring will consist of depth to groundwater measurements, field parameter measurements and groundwater sampling of all Facility monitoring wells.
- Complete one Groundwater Monitoring report in 2026 with the results of the semi-annual sampling events.
- Modify the cumulative Monitoring Data Table to include groundwater electrical conductivity and associated groundwater temperature for each well for each past and future GWM event.
- Complete three interim data submittals, one for each year from 2027 to 2029.
- Complete one groundwater monitoring report in 2030.

This WP can be terminated before the WP expiration date if DEQ and MDT determine there is no need to continue monitoring due to site closure.

Work Plan Tasks

Groundwater Monitoring

Groundwater monitoring will be conducted semi-annually during seasonally high and low groundwater conditions in 2026 and annually every year after through 2030. Groundwater samples will be collected from all Facility monitoring wells.

Monitoring well sampling will be conducted using low flow sampling methodologies in accordance with MTDEQ requirements. New disposable tubing will be used for each monitoring well. Groundwater quality parameter data (conductivity, pH, dissolved oxygen, temperature, ORP and turbidity) will be measured 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. Groundwater quality parameter, purge rate, and stabilization data for each well will be recorded in the field on individual well sampling forms. Depth to water measurements will be recorded from all the site wells during each

groundwater monitoring event to provide an accurate potentiometric surface plot, flow direction, and gradient. Groundwater purge water will be disposed of on the gravel parking surface on site in accordance with DEQ Disposal of Untreated Purge Water from Monitoring Wells guidance document.

The groundwater sampling QA/QC will be accomplished utilizing new disposable tubing for each well. The sampler will wear new nitrile gloves for collection of the sample. Groundwater samples will be collected upon groundwater parameter stabilization and placed in laboratory supplied sample bottles.

Groundwater samples will be preserved in accordance with required laboratory methods, packed on ice, and delivered to Energy in Helena, Montana under chain of custody. All groundwater samples collected will be submitted for VPH. In 2026, laboratory analysis will also include EPH and Lead Scavengers. These analytes can be continued for subsequent samplings if deemed necessary. Laboratory analysis results will be checked utilizing the Data Validation Summary Form.

Slug Test

Tetra Tech will complete a slug test for this Facility. See attached Tetra Tech Scope of Services document for details. The slug test results will be used to determine the aquifer conductivity and will be utilized in the closure review process.

Interim Data Submittal

An Interim Data Submittal (IDS) will be completed following DEQ Interim Data Submittal Report guidance documents. The report will cover the annual monitoring events for 2027 through 2029 and include all applicable sections in the DEQ IDS guidance document.

Groundwater Monitoring Report

Two Groundwater Monitoring Reports will be completed following DEQ Groundwater Monitoring Report Guidance documents. The first report will cover the semi-annual groundwater monitoring events and slug testing completed in 2026. Additionally, the report will contain a specific conductivity table complete with historical data for the site. The second report will cover all monitoring events completed under this WP, discuss groundwater contaminant trends, and include recommendations for continuing the Facility towards closure.

Schedule, Cost and Reporting

MDT will conduct the following per the workplan:

- Sample all Facility monitoring wells semi-annually, during typical high low groundwater conditions for 2026.
- Contract with a consultant to complete the hydraulic conductivity testing in 2026.
- Submit a Groundwater Monitoring Report in December 2026.
- Sample all Facility monitoring wells annually in years 2027-2030.
- Submit an IDS in December of 2027 through 2029.
- Submit a Groundwater Monitoring Report in December 2030.

MDT estimates the cost of the WP to be $59,826.25. The Groundwater Monitoring worksheet is included in this WP for reference.

If you require additional information or details regarding this Groundwater Monitoring Work Plan, please do not hesitate to call me at (406) 461-2193 or email at kgustafson@mt.gov.

Sincerely,

Kendall Gustafson
Montana Department of Transportation
Environmental Services Bureau

C:\Users\greg.brownell\Documents\ArcGIS\Projects\MDTINGOMAR\MDTINGOMAR.aprx

LEGEND

- Monitoring Well
- Soil Borehole -2008
- Soil Borehole -2023
- Excavation Soil Samples
- Approximate Extent of Excavation
- Approximate Site Boundary

SITE MAP

MDT INGOMAR MAINTENANCE FACILITY
US HIGHWAY 12, MILE POST 230
INGOMAR, MONTANA
FIGURE 2

TETRA TECH

PROJECT #: 117-023947-25002
ORIGINAL BY: GAB
Date : 12/18/2025 11:40 AM

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Feet
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