



Resource Technologies, Inc.

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November 19, 2025

Jay Shearer
Montana Department of Environmental Quality
Petroleum Tank Cleanup Section
1371 Rimtop Drive
Billings, Montana 59105

Subject: Revised Remedial Investigation Workplan and Budget; Former Stockton Oil Company, 1607 4th Avenue North, Billings, Yellowstone County, Montana; Facility ID 56-04839 (TID 29940), Release 1154, Work Plan 35056

Responsible Party: Dan Stockton
Stockton Oil Company
5552 Bobby Jones Boulevard
Billings, MT 59106

Dear Mr. Shearer,

On behalf of Stockton Oil Co. (SOCO); Resource Technologies, Inc. (RTI), is submitting the following Work Plan (WP) and budget for, installation of additional monitoring wells, installation of additional soil vapor probes, soil-vapor extraction pilot test via piping previously installed in the excavation, groundwater and soil vapor monitoring, updating the Release Closure Plan to identify and propose additional work, and reporting associated with the petroleum release at the former Stockton Oil Company (Facility) located at 1607 4th Avenue North, Billings, Yellowstone County, Montana (Figure 1). This WP was prepared pursuant to the Montana Department of Environmental Quality (MDEQ) – Petroleum Tank Cleanup Section (PTCS) letter to Stockton Oil Company dated September 5th, 2025.

SITE HISTORY

The site, located at 1607 4th Avenue North in Billings, Montana, has operated as a bulk fuel storage facility since the 1920s, and SOCO has operated the facility since 1949. During April and May of 1992, three underground storage tanks were removed and replaced with five new USTs. In addition, lines connecting dispensers on the northeastern part of the site to the bulk rack were removed. Release 1154 was discovered during UST removal when closure samples exhibited concentrations of petroleum

hydrocarbons that exceeded Montana Department of Environmental Quality (MDEQ) action levels. During June and July of 1994, approximately 1,000 cubic yards of petroleum hydrocarbon-impacted soil were removed from the UST excavations and disposed of at the Billings Landfill.

A Remedial Investigation was initiated at the site in April 1996. Petroleum distribution infrastructure including gasoline USTs, piping, and dispensers south and east of the office building; a bulk-fuel loading rack, aboveground storage tanks, and USTs for diesel between the office building and warehouse limited accessibility for installation of soil borings and monitoring wells. Soil and groundwater sampling results indicated soil and groundwater impacts, particularly at the southwest corner of the site. The source of the release was not determined; however, potential off-site sources were determined to be unlikely contributors.

Remedial investigation and groundwater monitoring activities were conducted periodically through 2006. The most recent phase of remedial investigation completed in 2006, indicated soil impacts at depths below 10 feet on the southwestern, southeastern, and eastern portions of the site.

Groundwater analytical results collected from 1996 through 2006 indicated steadily decreasing contaminant concentrations in monitoring well SBP-3 located near the southwest corner of the site (Figure 2); however, benzene concentrations and VPH aliphatics and aromatics concentrations remained well in excess of groundwater RBSLs. Monitoring wells SBP-2 and SBP-4 located at the southwest corner of the site and east of the aboveground storage tank area exhibited low to non-detectable contaminant concentrations that decreased to levels below RBSLs during the final sampling events. Grab groundwater samples collected from soil boreholes during the 2006 remedial investigation indicated substantial groundwater impacts on the southeastern portion of the site as well as at SBP-3 on the southwestern portion of the site.

Between August 2021 and June 2022, the four ASTs and, presumably, bulk rack components were removed from the site. In December of 2022, the entire UST system and components were removed from the site. The UST-removal contractor, Marketing Specialties, Inc., indicated there were no obvious signs of releases from the removed USTs and piping. Soil data from the 1992 UST replacement, and observations made during removal of the current UST system indicated that petroleum-contaminated soil remained in place beneath the UST system components on the west, south, and east sides of the building on the south portion of the site and at the location of the diesel dispenser and bulk rack northeast of the building. The contamination was encountered a few feet beneath the floor of the UST excavations and is presumed to be associated with the release discovered in 1992.

In summer 2023, RTI supervised excavation of 2,838 bank cubic yards of petroleum (gasoline and diesel) contaminated soil. The scope of work specified excavating soil from beneath the locations of former underground storage tanks and dispensers. Upon commencing excavation, soil contamination was found well beyond the anticipated areas including: aboveground storage tank area, bulk fuel loading rack, and a previously undiscovered release area apparently associated with historic pipes that did not appear to be associated with the recently removed USTs, dispensers, and ASTs. The extent of excavation is shown in Figure 2.

Prior to commencing excavation, RTI collected samples from four monitoring wells that were installed in the 1990s and 2000s that had last been sampled in 2006. Sampled wells were located at the northeast, southeast, and southwest corners of the site with the fourth well being located on the adjacent site to the west (SBP06-1). Sampling results indicated benzene impacts exceeding groundwater wells in the southwest well (SBP-3) and Volatile Petroleum Hydrocarbons (VPH) and Extractable Petroleum Hydrocarbons (EPH) aliphatics and aromatics results exceeding groundwater RBSLs in the northeast well (SBP-4).

Confirmation soil samples were collected at the limit of excavation from the excavation floor and sidewalls. Sidewall samples were collected from depths of 0 – 2 feet, 2.1 – 10 feet, and greater than 10 feet. Following confirmation sampling, the floor and sidewalls of the excavation were treated with Petro Fix™ activated carbon soil amendment. During backfilling, perforated piping was installed along excavation sidewalls to facilitate application of soil vapor extraction (Figure 2).

Backfill was allowed to settle for approximately one year prior to restoring pavement. The entire site was repaved in fall 2024.

Confirmation soil-sampling results indicated that soil impacts persist at the limit of excavation in the floor and sidewalls of the northeastern portion of the excavation, and in the floor of the UST excavation east of the office building, and dispenser areas south of the office building.

PURPOSE AND OBJECTIVES

The purpose of proposed RI activities is to assess current soil and groundwater conditions, delineate the extent of residual dissolved petroleum hydrocarbon impacts, assess petroleum vapor intrusion (PVI) potential, assess the potential efficacy of soil vapor extraction (SVE) as a potential corrective action to mitigate residual petroleum contaminated soil and groundwater at the limits of the 2023 excavation, and update the site Release Closure Plan to determine the path to site closure. Specific work tasks described herein include:

- Install nine two-inch groundwater monitoring wells;
- Install six soil-vapor monitoring probes;
- Conduct two rounds of groundwater monitoring from existing wells SBP-2, SBP-3, SBP-4, and SBP06-3; and from newly installed wells SMW-6, SMW-7, SMW-8, SMW-9, SMW-10, SMW-11, and SMW-12 in spring and fall of 2026;
- Analyze groundwater samples for Volatile Petroleum Hydrocarbons (VPH) and Extractable Petroleum Hydrocarbons (EPH) analyses;
- Conduct two rounds of soil vapor sampling from the six newly installed probes during the groundwater monitoring events in 2026;
- Analyze soil-vapor probe samples for volatile organic compounds by Method TO-15 and Air Petroleum Hydrocarbons (APH) analyses;
- Perform SVE pilot testing utilizing perforated pipes installed in the 2023 excavation adjacent to areas of inaccessible soil impacts;
- Validate all laboratory data;
- Update the Release Closure Plan, if necessary;
- Prepare and submit a Remedial Investigation Report after the first round of groundwater and soil vapor sampling, which includes data generated under this WP and discussion of soil and groundwater conditions as they pertain to the release; and
- Prepare and submit a Groundwater Monitoring Report after the second groundwater and soil vapor sampling event, which will include data generated under this WP and discussion of soil and groundwater conditions as they pertain to the release.

SCOPE OF WORK

The following tasks will be completed to achieve the previously stated objectives of the investigation.

Project Management

RTI has consulted with the Client and MDEQ regarding the scope of this investigation. This WP was developed based on these consultations. As the project progresses, RTI will communicate with MDEQ and the Client regarding field work schedule, preliminary field findings, and initial evaluation of laboratory results.

Prior to commencing field work, RTI will update the site-specific Health & Safety Plan for the soil-vapor probe installation, monitoring well installation, groundwater sampling, PVI monitoring activities, and SVE pilot testing. Standard practices for construction safety precautions will be implemented. The one-call underground utility locate service will be contacted to identify public utilities in the vicinity of the proposed vapor-probe locations.

RTI will arrange access for placement of off-site monitoring wells. An access agreement will be prepared for the property owner across 4th Avenue to the south.

Soil Borings

A work zone will be established around the drill rig and support vehicles to reroute traffic and provide pedestrian control. Nine soil borings for monitoring wells and six soil borings for soil-vapor probes will be completed with direct-push methods at the locations shown in Figure 2. Soil samples will be collected continuously in 5-foot acetate sleeves inserted in a core barrel. Monitoring-well borehole depths are anticipated to be 20 feet; however, the smear zone at these early to mid-20th century releases may be several feet thick and may extend several feet below the current 2025 groundwater fluctuation range. Consequently, boreholes will be advanced to greater depths if soil impacts are encountered that extend vertically below the anticipated borehole depth until the vertical limit of impacts is reached. Soil-vapor-probe borehole depths are expected to be five feet.

Soil characteristics (including color, texture, moisture content, etc.) in each borehole will be documented by the RTI scientist supervising drilling activities using USCS classification on a soil borehole log. Soil samples will be field screened for the presence of organic vapors using a photoionization detector (PID) and standard headspace methods.

The soil sample from each borehole exhibiting the highest PID reading, the sample collected immediately above the soil groundwater interface, and the sample representing the lower vertical limit of soil impacts or from the bottom of the borehole will be submitted for laboratory analysis. If PID readings are not elevated, only the samples from the soil-groundwater interface and the bottom depth will be submitted for laboratory analysis.

All downhole drilling and sampling equipment will be pressure washed with hot water prior to initiating the investigation and between locations to prevent possible cross-contamination.

Groundwater Monitoring Well Installation

The nine boreholes advanced to 20 feet (or deeper as necessary) will be completed as groundwater monitoring wells at the locations shown on Figure 2. The monitoring wells will be constructed using two-inch schedule 40 PVC casing and 0.010 pre-pack well screen. Screen length will be 15-feet and will be positioned to intercept the water table allowing for seasonal fluctuations. Screened intervals may be lengthened if historic soil impacts extend to greater depths than anticipated necessitating deeper well depths. The remainder of the borehole will be completed with schedule 40 PVC solid riser pipe to grade. A filter pack composed of 10/20 silica sand will be placed in the borehole annulus to a depth of no less than two feet above the screen. A bentonite seal will be placed above the sand filter pack. The well will be fitted with a locking expandable well cap,

and the wellhead will be completed in a traffic-rated flush-mount manhole set in concrete.

Well Development. The newly installed monitoring wells will be developed by surging and pumping to remove fine sediment. Pumping will continue until either the water becomes clear or until the visual turbidity of the groundwater no longer improves. The wells will be allowed to equilibrate for at least 24 hours prior to sampling.

Well Surveying and Mapping. The new and existing wells will be surveyed by a licensed Public Land Surveyor. Vertical control based on a USGS benchmark and elevation will be reported to the nearest 0.01 feet. Locations (horizontal control) of the monitoring wells will be measured relative to site features (buildings, road boundaries, utilities, etc.).

Soil Vapor Sampling

The six boreholes advanced to depths of five feet will be completed as soil vapor probes (Figure 2). Six-inch stainless-steel Geoprobe™ or equivalent soil-vapor probes will be installed in the boreholes between four to five feet bgs with high density polyethylene tubing connected to the probe. A sandpack will be installed around the probe to a depth of six inches above the top of the probe, and a bentonite seal will be emplaced above the probe to a depth of six inches to one foot. The probes will be completed in flush mount manholes with the probe tubing end sealed inside the manhole.

Groundwater Sampling

Groundwater samples will be collected from all new and existing monitoring wells on a semi-annual basis for one year at low (fall 2025 to early spring 2026) and high (spring 2026 to summer 2026) seasonal groundwater levels. Groundwater samples will be collected with a variable speed stainless steel submersible pump, clean high-density polyethylene tubing, and low-flow sampling method. Prior to purging, groundwater level in each well will be measured with an electronic water level indicator.

During sampling, the pump intake will be situated two to four feet below the measured water level within the screened interval. Prior to sampling, each well will be purged at the lowest sustainable pumping rate (between 100 and 500 milliliters per minute). Purge water will be discharged to a flow cell where water quality parameters, including temperature, pH, conductivity, dissolved oxygen (DO), oxidation/reduction potential (ORP), and turbidity, are continuously monitored. Water-quality-indicator parameters will be recorded every three to five minutes on a sampling log. An electronic water level sounder will be inserted in the well and suspended just above the static water level to facilitate water level monitoring throughout purging to monitor drawdown. Purge volume will be measured in a graduated cylinder from the flow cell. When water quality parameters stabilize for two successive readings, the sample line will be diverted from the flow cell inlet for sample collection into laboratory provided containers.

Groundwater samples will be placed in a cooler with ice and will be maintained at a temperature of $4^{\circ}\text{C} \pm 2^{\circ}$ and will be submitted, with chain-of-custody documentation, to Energy Laboratories of Billings, for VPH and EPH analyses.

Soil Vapor Sampling

Soil vapor samples will be collected in six-liter summa canisters with flow regulators set by the laboratory to collect the sample over a period of two hours. Prior to sampling, the probe lines will be purged for a minimum of five minutes with a photoionization detector (PID). If organic vapors are detected during purging, purging will continue until organic vapor concentrations, as measured with the PID, stabilize. Soil vapor samples will be submitted, with chain-of-custody documentation, to ALS Laboratories of Simi Valley, California, for volatile organic compounds by Method TO-15 and Air Petroleum Hydrocarbons (APH) analyses.

Decontamination

After each water level measurement, the probes will be decontaminated using a detergent wash followed by a distilled water rinse. Following sample collection, sampling pumps, and cables, will be decontaminated by cycling the pump in a detergent wash, tap water rinse and distilled water final rinse.

Investigation-Derived Waste

Investigation-derived waste will consist of soil cuttings from monitoring well and vapor probe installation, purge water from groundwater sampling, decontamination water, and solid waste (pump tubing, gloves, etc.).

Clean soil cuttings will be spread on the ground surface. Soil cuttings exhibiting petroleum odor or elevated PID readings will be segregated, stockpiled on and covered with plastic sheeting pending characterization and proper disposal.

Purge water will be handled in accordance with the Options for Discharge of Hydrocarbon Contaminated Wastewater Technical Guidance Document. It is anticipated that purge water will be discharged to the ground surface adjacent to the sampled well. Decontamination water will be discharged to the ground surface. Pump tubing, latex gloves, and any other solid refuse will be disposed of in a solid waste receptacle.

Data Validation

All laboratory data generated under this workplan will be validated using the MDEQ Data Validation Summary Form (DVSF). Any data qualifiers will be indicated in data tables and will be discussed in reports. DVSFs will be appended to reports.

Release Closure Plan

Following the second groundwater sampling event, RTI will update the previously developed Release Closure Plan (RCP) in the format provided by MDEQ if necessary. If further corrective action appears warranted, remedial alternatives will be re-evaluated for

cost effectiveness, performance effectiveness (protectiveness and compliance), reliability, ease of implementation, and public safety.

Evaluation and Reporting

Upon completion of monitoring-well and soil-vapor probe installation, the first round of groundwater and PVI sampling, and receipt of analytical data, RTI will prepare and submit a Remedial Investigation Report (RIR) that will incorporate data generated under this WP. The report will include the following:

- Discussion of groundwater monitoring well installation, sampling methods and results;
- Discussion of soil-vapor probe installation and sampling methods and results;
- Facility map(s) showing site infrastructure (including former fuel systems), utilities, prior excavations, and locations of borings/wells and vapor probes;
- Tabulated summaries of soil, groundwater, and soil-vapor data from the first round of groundwater sampling (laboratory analytical results and data validation checklists will be appended to the report);
- Cumulative soil and groundwater analytical tables incorporating all soil and groundwater data generated at the site to date;
- Potentiometric surface maps;
- Contaminant distribution maps; and,
- Field data sheets, laboratory analytical reports, and data validation summary forms.

Following the second semi-annual groundwater sampling event, RTI will prepare a Groundwater Monitoring Report that will include:

- Tabulated groundwater analytical and elevation data including cumulative data;
- Soil-vapor data including cumulative data;
- Potentiometric surface maps;
- Contaminant distribution maps;
- Field data sheets, laboratory analytical reports, and data validation summary forms; and
- Assessment of PVI risk for site redevelopment based on soil vapor sampling data.
- If RCP update is deemed necessary, the updated RCP will be summarized in the report, and a copy of the RCP will be appended to the report, and
- Recommendations for additional remediation or monitoring to resolve the Releases.

Electronic copies of the reports will be submitted to MDEQ and the responsible party.

SCHEDULE AND BUDGET

Groundwater-monitoring well and soil-vapor probe installation will occur during fall of 2025 and will be followed by groundwater and soil-vapor sampling at low (fall 2025 to early spring 2026) and high (spring 2026 to summer 2026) seasonal groundwater levels. The soil-vapor probe installation will be completed at the same time as well installation. Soil-vapor probe sampling will be completed during the same trips as the groundwater sampling events. A Remedial Investigation Report will be submitted within 30 days following receipt of laboratory results of the first groundwater and soil-vapor sampling event, and the Groundwater Monitoring Report, including soil-vapor data, will be submitted within 30 days following receipt of the second sampling event.

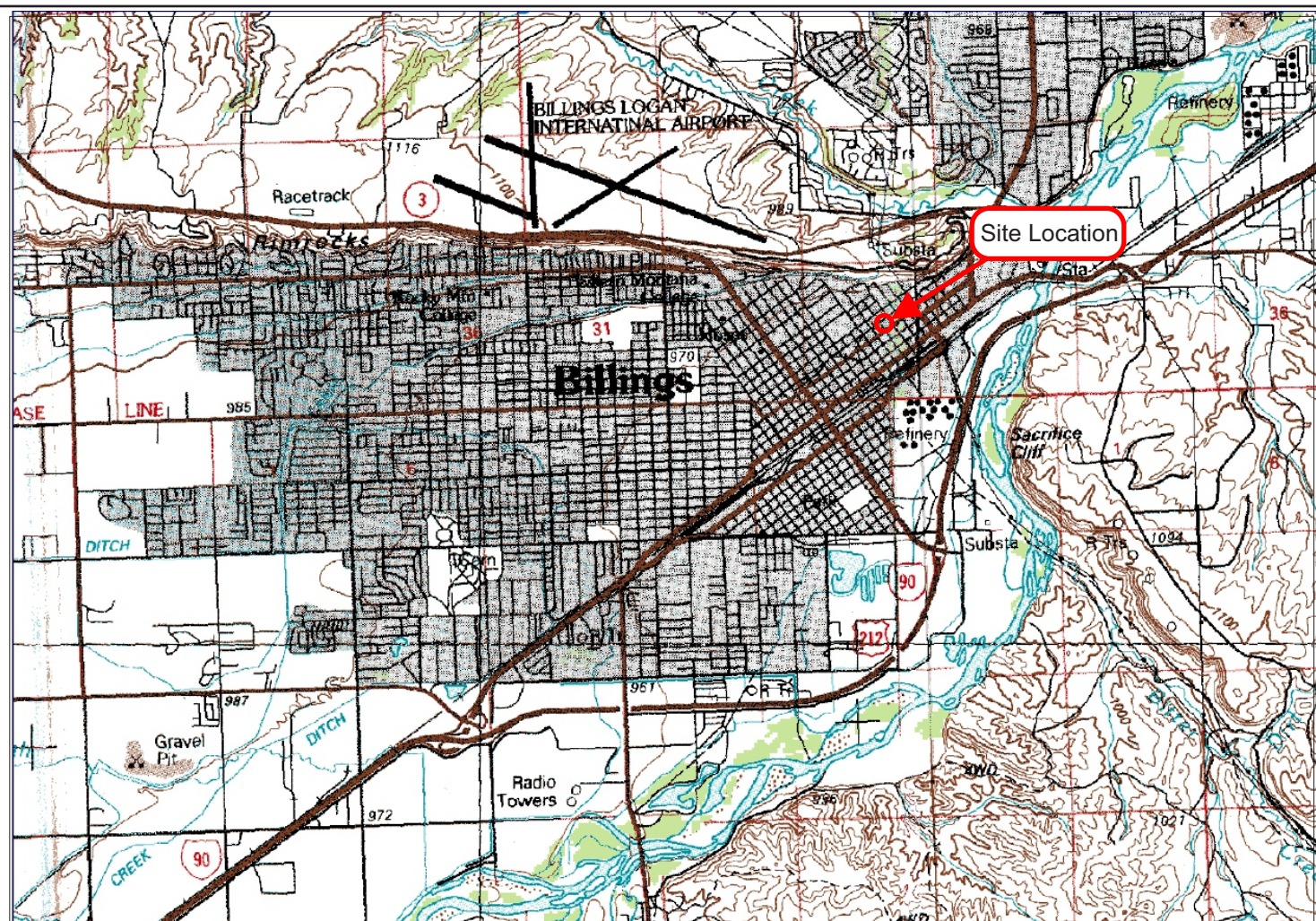
A breakdown of costs for the groundwater monitoring well and soil-vapor probe installation, groundwater and soil vapor sampling, and reporting is provided in the attached cost estimate. A breakdown of groundwater sampling costs are included in the attached Groundwater Monitoring Tool Worksheet. RTI solicited three bids from qualified drilling contractors. Olympus Technical Services of Billings provided the low bid. Subcontractor bids are attached. The total estimated cost for all activities described in this work plan is \$78,120.55.

Respectfully Submitted,
Resource Technologies, Inc.



Meredith Pepka, EIT
Associate Environmental Engineer

cc: Dan Stockton



Base Map: U.S.G.S. Billings East Quadrangle, 7.5 Minute Series - Scale: 1 inch = 2,000 feet

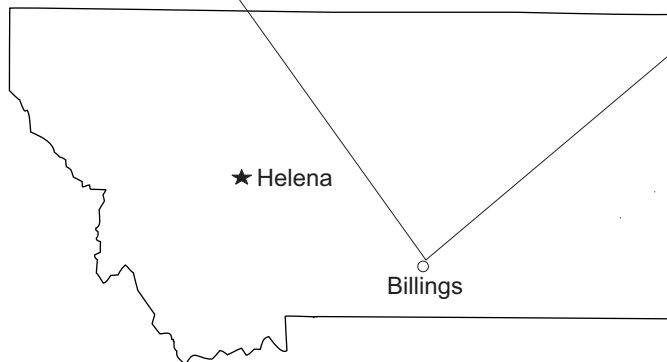


Figure 1

Site Location Map
Former Stockton Oil Co. Bulk Plant
1607 4th Avenue North
Billings, Montana



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