R-Y Timber Remedial Investigation Work Plan

AST Tank Basin/Fueling Area

Facility Code 00-32566, Release 6620, Work Plan ID 34874

Revised January 23, 2026

PRESENTED TO:

Sun Mountain Lumber

April Kersch
181 Greenhouse Road
Deer Lodge, MT 59722
(406) 846-9499

PRESENTED BY

Tetra Tech, Inc.

825 West Custer Avenue
Helena, MT 59602
(406) 442-5210

Prepared by:

L Rhianna Reed 1/23/26

Rhianna Reed Date
Project Manager, Hydrogeologist

Reviewed by:

Brandon Kingsbury

10/22/2025

Brandon Kingsbury, P.G. Date
Senior Hydrogeologist

1.0 INTRODUCTION

Tetra Tech presents this proposal to complete a groundwater and soil boring investigation at R-Y Timber, located at 5284 US Highway 89 South, Livingston, Montana. This Work Plan was prepared in response to the Montana Department of Environmental Quality (DEQ) Work Plan Request letter prepared by Mr. Eric Kreuger of the Petroleum Tank Cleanup Section (PTCS) dated May 7, 2024 (MDEQ, 2024), after an evaluation of preliminary site work performed to investigate areas of potential soil staining at the R-Y Timber Facility (site). DEQ requires a remedial investigation to determine the extent and magnitude of petroleum contamination, the potential for petroleum contamination to leach to groundwater, and recommendations for remediation work required to clean up and resolve the releases at the site.

An undocumented underground storage tank (UST) was discovered below the fueling dispensers of an above ground storage tank area (AST). The tank was removed; however, petroleum impacted soils were found above the UST, likely caused by small spills, drips, and potential overfilling of fuel tanks. Figures, provided in **Attachment A**, shows the location of the AST basin and removed UST (**Figure 2**).

Sun Mountain Lumber, DEQ, and Tetra Tech reviewed the submitted work plan (from July 23, 2024) during a meeting on August 6 and determined that Sun Mountain would like to pursue Petroleum Tank Release Compensation (PTRCB) Fund eligibility. To meet eligibility requirements, this work plan revision has been prepared to reduce the scope of work to focus on the AST basin and fueling area.

Attachment A provides site figures, including a location map, previous work, and proposed boring and proposed investigation well locations.

Attachment B provides a summary of analytical data for work completed to date, which will be used to guide this investigation to define the extent and magnitude of contamination at the site.

Attachment C provides a cost estimate for the work requested by DEQ.

Attachment D provides standard operating procedures for investigation methods and sampling methodologies.

2.0 SITE CONDITIONS AND PREVIOUS WORK CONDUCTED

The R-Y Timber Facility, primarily used for board timber, was purchased by Sun Mountain Lumber in October 2023 and is currently an active sawmill and timber storage facility. Operations resumed in 2024 following damages by fire and flooding events.

The facility is accessed from the east on Highway 89 and has mostly unpaved roads/routes through the site. **Figure 1** is a location map for the facility. The facility is comprised of several buildings including a main administrative office where visitors are checked in, a weigh station, another office building on the north side of the facility near the river, log storage area on the south side of the site, planar and sawmill buildings on the east side of the site, and a maintenance shop and storage areas on the north side of the site. Three domestic wells were found onsite which were historically used for providing water to specific buildings but are not in use anymore. The Yellowstone River is located on the east side of the facility, and it flows in a northern direction. Based on a survey of domestic and monitoring wells in the area and the site's immediate proximity to the Yellowstone River, groundwater is expected to flow east to southeast towards the river.

2.1 PHASE 1 ESA INVESTIGATION

In June 2023, Sun Mountain Lumber contracted Tetra Tech to conduct a Phase 1 Environmental Site. Assessment (ESA) at R-Y Timber before the purchase of the R-Y Timber property. At the time of the site visit in

June 2023, the R-Y Timber property was found to be in cleanup and recovery activities after two recent fires and flooding. No active wood product manufacturing was taking place.

The following petroleum products were inventoried onsite and are presented on **Figure 2** (AST basin only):

- Four ASTs in a rectangular concrete-walled and floored basin (secondary containment), with the northwest corner of the AST concrete containment cracked and stained. The ASTs included:
    - 8,000-gallon #2 diesel with metered dispenser,
    - 500-gallon red-dyed diesel with manual metered dispenser,
    - 5,000-gallon gasoline tank, and
    - 500-gallon gasoline tank with metered dispenser.
- Several 55-gallon drums of hydraulic and lubricant oil were stored in a covered three-sided shed (Oil Shed) on the southeast side of the sawmill conveyor.
- Other drums and petroleum products used and stored onsite contained hydraulic oil, lubricating oils, and grinding fluid at the sawmill area.
- The maintenance shop was found to have a 300-gallon AST of motor oil stored within the east bay of the shop.
- The west bay of the maintenance shop had a 300-gallon waste oil tank used with an oil-fired heater.
- Several drums and 5-gallon buckets of motor oil, lubricants, antifreeze, and other automotive fluids are stored in the Maintenance Shop.
- A 250-gallon portable diesel tank mounted on a flatbed truck.
- A 300-gallon #2 diesel tank was mounted along fire suppression pumps in the fire pump shed and was mounted on a skid and observed to be in good condition.

2.1.1 Potential Impacts

During the Phase 1 ESA site visit, areas of stained soil were identified:

- Below the fuel dispensers of three ASTs.
- Outside the maintenance shop doors on the east side of the shop. This area reportedly had oily sump water pumped out to the ground surface past a concrete pad on occasion (based on conversations with site personnel).

2.2 INVESTIGATION WORK AND UST DISCOVERY

On July 7, 2023, at the direction of Sun Mountain, Tetra Tech personnel directed an exploratory soil investigation with R-Y Timber personnel using a small excavator to look at specific areas of staining below the fueling dispensers. Piping from an underground storage tank (UST) was found during the exploratory digging on the north side of the AST fueling area, shown on **Figure 2**. The top of the tank was exposed to estimate dimensions and volume of the tank. The excavation was backfilled after the tank was daylighted, as the area was in active use for fueling activities. Further work was halted to obtain a tank removal permit from DEQ.

On August 9, 2023, the 1,000-gallon UST was removed by Marketing Specialties of Billings, Montana under DEQ Permit Number 24-0027. The tank was observed to be intact with no cracks or breaches and partially filled with a mixture of water and diesel. Liquids were pumped out of the tank into 300-gallon poly storage totes prior to tank removal and disposed of by Emerald Services.

Marketing Specialties collected floor samples and sent them to Energy Labs of Billings, Montana, for analysis of extractable petroleum hydrocarbons (EPH) and volatile petroleum hydrocarbons (VPH). Soils with detectable odor from

the top of the UST (below the fuel dispenser) were stockpiled on the west side of the AST area for disposal and sampled for VPH and EPH.

- Surface sediments were observed to be clay with gravel (fill). Clays were observed to extend to about 4 feet (ft) below ground surface (bgs), then sandy silt/clay to about 6 feet (ft) deep. Silty sand was observed from 6- to 8 ft bgs.
- Groundwater was not encountered in the excavation, which was 8 ft deep.

Also on August 9, 2023, the following work was performed:

- Tetra Tech oversaw the continued digging of an exploratory trench, started previously in the week by R-Y Timber. The trench was located along the edge of the concrete pad outside the west bay door of the maintenance shop. Samples were collected and analyzed for VPH, EPH, lead scavengers, metals, and volatile organic compounds (VOCs, method 8260) from about 1.8 ft deep and were non-detect for VPH, lead scavengers, metals, and VOC constituents. EPH results exceeded the 200 mg/kg screening limit for soil but the EPH fractions analysis were below the RBSLs (polycyclic aromatic compounds [PAH]).
- Samples of the floor and adjacent stockpile were collected from an exploratory trench dug around the concrete pad around the former oil shed where hydraulic oil was stored by the sawmill. The trench had been dug during the week before the UST excavation by R-Y Timber staff.
- Soil samples from the Maintenance Shop excavation were collected and analyzed for parameters using DEQ's Enforcement Program Soil Sampling Guidance document.

On August 15, Tetra Tech returned to the site to dig exploratory test pits in front of the east bay door and concrete pad of the maintenance shop to try and delineate the depth and distance east of the concrete pad where contamination was present. Large-scale removal was not possible at the time due to the need for work crews to maintain the use of the shop area. The excavation area around the west bay door was still open with stockpiles present. "Worst case" samples were collected of test pit sidewalls, with highest collected based on PID screening and olfactory detection. Samples from two test pit walls (at 1-1.5 ft and 1.9-2.1 ft below ground surface) were submitted for VPH, EPH, lead scavengers, and volatile organic compounds to Energy Labs in Helena. These samples showed RBSL exceedances for EPH screening (200 mg/kg).

In September 2023, a formal Release (Release #6620) was reported to DEQ after analytical results were received confirming the presence of hydrocarbon impacts.

On October 19, 2023, Sun Mountain Lumber oversaw a larger excavation in front of the maintenance shop doors. Soils were excavated to a depth of 2-3 feet deep, extending approximately 40 ft east past the front of the concrete pad in front of the bay doors (**Figure 2**). Several excavation floor samples were collected and analyzed for VPH and EPH at Energy Labs in Helena. Several loads of excavated soil were hauled to Logan Landfill over the course of a week under a waste profile accepted by Gallatin County.

On October 20, 2023, Tetra Tech collected three fresh sidewall samples of the excavation area in front of the maintenance shop and submitted them for analysis at Energy Labs in Helena for VPH and EPH, using the frequency recommended by DEQ's Enforcement Program Soil Sampling Guidance.

- Boundaries of the final excavation footprint were limited by subsurface utilities (water line) on the east-northeast side, power pole and overhead lines on the north side, and to prevent destruction of an active road needed for site work on the northwest side. EPH was detected in all three wall samples (East Wall, NW Wall, and NE Wall), but the NW Wall sample was the only one that exceeded the 200 mg/kg screening limit for EPH constituents with a concentration of 778 mg/kg. ???. The NW Wall sample was not fractionated due to a laboratory communication error.

On October 26, 2023, DEQ issued a request for a 30-Day Report for the R-Y Timber facility.

On February 15, 2024, a 30-day Release Report was submitted to the DEQ by Tetra Tech. Additional information and figures requested by DEQ were prepared and added to the 30-day Report and submitted to DEQ on February 28, 2024. **Figures 2 and 3** present site investigation areas conducted to date for the maintenance shop, AST fueling area, and former oil shed area.

On October 30, 2024 Tetra Tech submitted an AST-area work plan to DEQ for review. Sun Mountain Lumber pursued eligibility with PTRCB but were denied eligibility for reimbursement due to inaccurate or unresolved UST record issues at the facility. These issues are still unresolved though PTRCB funding is the preferred route of funding for the site investigation as requested by Sun Mountain.

On July 23, 2025, a report of actions undertaken at the maintenance shop and other areas of the site, outside of the AST basin and removed UST area was submitted to the DEQ Enforcement Division. No comments or responses have been received yet.

2.2.1 UST Excavation Sample Results (below fueling area of AST basin)

Sidewall samples from each cardinal direction were collected by Tetra Tech and obtained from 3- to 6 ft bgs from an excavator bucket. Marketing Specialties collected floor samples post-tank removal. The UST excavation's wall and floor samples were field screened by flame ionization detector (FID) with no results above a 50-ppm screening value.

- Floor samples of the UST excavation collected (TW and TE, tank west and tank east, respectively as named by Marketing Specialties) did not have any detections of petroleum hydrocarbons.
- No VPH exceedances above RBSLs were found for each of the wall samples of the UST excavation.
- Samples collected from the north and west walls of the UST had EPH exceedences above the 200 mg/kg screen. Upon fractionation, the following was observed:
    - The UST-N Wall sample did not have any further exceedences of fractionated constituents.
    - The UST-W Wall sample had C9 to C18 aliphatics RBSL exceedance (10-20 ft to groundwater) of 1,080 mg/kg, above the RBSL of 540 mg/kg. No other fractionated constituents had RBSL exceedances.

The East and South UST wall sample results were non-detect for EPH and VPH constituents.

3.0 WORK PLAN OBJECTIVES

On May 20, 2024, a Remedial Investigation Work Plan (ID 34874) request was issued by DEQ to:

- Install soil borings and monitoring wells to determine the extent and magnitude of the petroleum contamination.
- Collect soil samples to determine the lateral and vertical extent of petroleum contamination.
- Survey and properly develop all newly installed monitoring wells.
- Propose a plan to monitor, gauge, and sample groundwater at site groundwater monitoring wells. Collect samples using low-flow sampling methodology according to DEQ's Groundwater Sampling Guidance for petroleum constituents (Guidance dropdown found on the DEQ PTCS website).
- Validate all laboratory analytical data using DEQ's Data Validation Summary Form found online under the Guidance dropdown at the PTCS webpage.
- Discuss ongoing WP tasks and results with DEQ's project manager; submit written agreed-upon work plan modifications as required to complete work plan objectives.
- Prepare a Release Closure Plan and discuss results with DEQ.
- Prepare a Remedial Investigation Report detailing the results of the investigation and groundwater monitoring.

- Use DEQ's Remedial Investigation Work Plan Guidance for Petroleum Releases (RI Guidance) for all work, reports, and submittals. Submittals are to be submitted electronically using the Petroleum Tank Cleanup Section (PTSC) submittal requirements.

Tetra Tech prepared and submitted the Work Plan to DEQ and Sun Mountain. On August 6, 2024, a meeting was held to discuss alternative funding options for the requested site work. Sun Mountain decided to seek Petroleum Tank Release Compensation Board (PTRCB) funding eligibility. DEQ recommended that the Work Plan (ID 34874) be focused on the AST tank basin and fueling area. The UST excavation site was located below the excavation area and is included as part of this investigation area.

4.0 PROPOSED SCOPE OF WORK AND DATA QUALITY OBJECTIVES

Figure 3 shows the proposed soil boring and monitoring well locations adjacent to the AST basin and maintenance shop area. Three borings will be advanced and completed as monitoring wells around the AST basin using a Hollow Stem Auger drill rig with a split spoon sampler to delineate the lateral and vertical extent of contamination. Ttwo additional locations not completed as monitoring wells can be advanced as step-outs, if needed, to delineate contamination extents laterally.

The project's scope includes the tasks described below.

4.1 PRE-INVESTIGATION UTILITY CLEARANCE

An initial site visit will be conducted to mark the soil boring and monitoring well locations for underground utility clearance prior to the site investigation. The locations will be marked with a mobile phone-based GPS application (either OnX Maps or Google Earth) and locate request initiated with Montana 811 Utility Notification Center at least 72 hours before breaking ground. Locations will be adjusted as needed to avoid underground and overhead utilities.

- If requested, a private utility clearance service can be scheduled for a more detailed clearance and marking of known and unknown utilities.
- It is anticipated that current R-Y personnel with site knowledge will also be contacted for site history and knowledge of utility locations.

4.2 AST BASIN SOIL BORINGS AND WELL INSTALLATION

The north and west wall samples exceeded screening limits for EPH. Soil borings will be continuously cored via split spoon and screened with FID or photoionization device (PID). If PID, visual, or olfactory impacts are observed, the corresponding soils within that depth interval will be documented and screened and sampled if the depth is the highest screening value documented. If field screening shows no detections for VOCs or no apparent visual or olfactory observations of petroleum contamination are made, then a sample will be collected only from the soil-groundwater interface. The borehole will be advanced until the vertical extent of contamination is fully delineated, using visual, olfactory, and FID/PID screening results.

- One boring will be collected approximately 5-10 ft west of the W Wall sample/west boundary of the UST excavation to delineate vertical and lateral depth of contamination (**Figure 3**). DEQ has requested this location be as close to the western side of the excavation boundary as possible.
- One boring will be collected approximately 5-10 ft north of the N Wall sample/north boundary of the UST excavation to delineate vertical and lateral depth of contamination (**Figure 3**).
- One boring will be collected on the south side of the AST basin, between the tanks and the river (**Figure 3**).

The soil borings will be completed as monitoring wells so that groundwater flow can be determined through triangulation, representing an upgradient, mid, and downgradient location. Well construction will consist of 2-inch diameter Schedule

40 polyvinyl chloride (PVC) casing with 0.010 slot screen, constructed with approximately 15 to 20 ft screens depending on depth to water encountered, with screens spanning the soil-groundwater interface. Wells in the area are constructed from a variable depth of 18 ft to 50 ft bgs, but these wells are anticipated to be approximately 30 ft bgs. Wells will be completed with flush-mount construction with casing cut 4-6-inches below ground surface with an expandable, locking well cap.

4.2.1 Additional Borings

If the monitoring well boreholes described in **Section 4.2** are inadequate for delineating the lateral extent of contamination, additional "step-out" boreholes will be advanced, to be determined in the field and by DEQ and client approval. Step-out locations will be determined in the field with locations moved approximately 25-30 ft away from the UST excavation area and advanced to a depth until field screening with PID indicates no visual or olfactory impacts. The drilling quote contains time and materials-based footage for borehole materials and drilling up to 190 feet.

4.3 GROUNDWATER DEVELOPMENT

After well installation around the AST basin, the new wells will be developed using a stainless-steel bailer to surge water through the filter pack and then pumped or bailed until dry or several casing volumes are removed. Turbidity will be recorded prior to commencement and after development. Water removed from the well will be containerized in a 55-gallon drum. Water will be discharged to the ground unless visibly impacted by fuel or other petroleum products. Water that is impacted will be containerized and added to the site's wastewater disposal system or disposed of according to DEQ's Disposal of Untreated Purge Water from Monitoring Wells flow chart. During the groundwater well development activities, Tetra Tech will survey well and boring locations and elevations utilizing resource grade equipment capable of achieving sub-meter accuracy.

4.4 GROUNDWATER MONITORING

At a minimum of forty-eight hours after well development, the three wells will be sampled using low flow techniques according to DEQ's Montana Groundwater Sampling Guidance. Prior to sampling, all site wells will be gauged using an oil-water interface probe to document static water levels and thickness of free product, if present.

The recently identified undocumented monitoring well will be gauged and redeveloped also if desired by DEQ. This well will be included in the monitoring well network and surveyed to assist in groundwater elevation contours.

- A metal tape measure will be used to try and identify the top of screen interval in the well to try and determine the top of the well screen. The well was measured at 18 ft below top of casing (btoc) with water level at 2 ft btoc. This well will not be sampled because it is not associated with the UST or AST basin investigation.

A second groundwater monitoring event will be conducted at higher or lower groundwater surface elevations, depending on when the initial sampling event occurred.

5.0 INVESTIGATION METHODS AND QUALITY CONTROL MANAGEMENT

Work will be conducted in accordance with DEQ's Risk-Based Corrective Action Guidance for Petroleum Releases, Montana Groundwater Sampling Guidance, and Cleanup Guidance for Petroleum Releases.

Continuous cores will be collected from the split spoon sampler and screened with FID or PID, with samples collected in laboratory-provided jars from the interval of highest FID/PID reading and soil-groundwater interface of the borehole. If field screening is below 50 ppm for VOCs or no apparent visual or olfactory observations of petroleum contamination

are made, then a sample will be collected from the soil-groundwater interface only. All samples will be logged using the United Soil Classification System (USCS) and boring logs will be prepared.

All samples collected will be immediately placed on ice and kept secure, with temperatures between 4-6°C. One duplicate sample will be collected with a frequency of 1:20 samples. Samples will be submitted to the analytical laboratory within recommended holding times based on preservation and analytical requirements shown in the table below.

Table 1. Soil Analyses and Holding Times

Media	Analysis	Container	Holding Time (shortest)
Soil	VPH - Modified Massachusetts Method (MA-VPH) Lead Scavengers (EDB, EDC) – SW8011	4-40 mL VOA, pre-preserved with Methanol (Terracore™)	7 days
	EPH – MA-EPH (with fractionation)	2 4-oz amber jars, unpreserved (for EPH, EDB and EDC)	7 days

Soil boring samples will be named: **RY-01 (10-11)**, meaning boring number 1 at an example depth of 10 to 11 ft bgs as designated in the field during soil boring activities.

5.1 GROUNDWATER

Wells will be sampled using low-flow techniques with a peristaltic pump for wells shallower than 25 feet bgs, or with a bladder pump if deeper than 25 ft bgs. The pump intake will be placed in the center of the water column, unless water is within and below the top of the screened interval, then the intake will be set halfway within the available water column.

During well purging, drawdown and water quality parameters (temperature, pH, conductivity, oxidation-reduction potential, dissolved oxygen, and turbidity) will be monitored. The parameters will be recorded until three stable readings are reached, per the Groundwater Sampling Guidance document prepared by Montana DEQ shown below.

Table 2. Stabilization Parameters for Groundwater

Water Quality Indicator Parameter	Stabilization Range
pH	± 0.1 units
Specific Conductance	± 3%
Dissolved Oxygen (DO)	± 10%

Turbidity	± 10%
Oxidation/Reduction Potential (ORP)	± 10 millivolts

All parameters will be recorded on paper or electronic field forms. Disposable tubing and bladders will be used, as needed, with all non-dedicated equipment decontaminated with a three-rinse method that includes a Liquinox™ soap solution, 10% methanol rinse, finished with a final deionized water rinse.

- Groundwater wells will be named **RY-01, 02, 03** as designated in the field during soil boring/well installation activities.

Groundwater samples will be analyzed for VPH using the Massachusetts Method, EPH screen with fractionation (as needed), and lead scavengers at Energy Labs in Helena, Montana. One duplicate sample will be collected during the monitoring event and laboratory-provided trip blanks will be analyzed for VPH. Samples will be submitted to the analytical laboratory within recommended holding times based on preservation and analytical requirements, shown below

Table 3. Groundwater Analyses and Holding Times

Media	Analysis	Container	Holding Time (shortest)
Groundwater	VPH – MA-VPH	3-40mL VOAs, preserved with hydrochloric acid	7 days
	Lead Scavengers (EDB, EDC) – SW8011, SW8260D	6-40 mL VOAs, preserved	
	EPH – SW8015 (with fractionation)	2-1 Liter amber bottles, preserved with hydrochloric acid	

5.2 INVESTIGATION DERIVED WASTE

If soil is field screened below 50 ppm and not visually or olfactorily impacted, the soil can be thin spread onsite. If impacted, the soil/solid investigation derived waste (IDW) will be collected in a construction roll-off bin that will be sampled and transported by Paradise Valley Waste pending acceptance of a waste profile by the City of Livingston or Park County landfills. If IDW sampling is required, the material will be sampled for VPH (benzene focused), EPH, Semi-volatile organic compounds (if requested by landfill due to site), and total RCRA metals with toxicity characteristic leaching procedure (TCLP) if the total metals exceed 20 times the toxicity limit.

If groundwater does not have free product, then it can be dispersed onsite. Water that is above RBSLs will be disposed of according to DEQ's Disposal of Untreated Purge Water from Monitoring Wells flow chart.

6.0 REPORTING

After the first groundwater monitoring event, an Interim Data Submittal will be prepared which includes a brief summary of sampling activities, tabulated (cumulative) groundwater results, field data sheets, data validation forms, and figure with new monitoring points and water levels.

Per PTCS request, a Remedial Investigation Report will be prepared after second monitoring event using the Montana Remedial Investigation Guidance for Petroleum Releases (RI Guidance), with collected data compared with the most recent RBSL data tables (DEQ 2024) based on distance between sample point and groundwater depth encountered during soil excavation/boring activities. includes a brief summary of sampling activities, tabulated (cumulative) groundwater results, field parameters, data validation forms, groundwater elevation and potentiometric surface maps, and iso-concentration maps of contaminants that depicts extent and magnitude of the plume.

- For soil, data comparisons to the RBSLs for Direct Contact – Construction, Leaching 0-10 ft, Leaching 10-20 ft (as applicable), and depth to groundwater (>10 ft or 10-20 ft) once known.

Analytical results will be presented in data tables with applicable RBSLs along with figures documenting boring and monitoring well locations, groundwater contours, RBSL data in groundwater as applicable, according to the Montana Remedial Investigation Guidance for Petroleum Releases (DEQ, 2017).

Analytical data will be validated using the DEQ Data Validation Summary Form Report. Soil boring logs and well logs will be prepared as part of a field documents package.

A Release Closure Plan (RCP) will be prepared, which summarizes the information presented in the RI report with focus on risks, impacts, utilities, potential cleanup remedies, and estimated time frames for achieving closure.

7.0 SCHEDULE AND BUDGET

Tetra Tech will initiate this work upon receiving authorization from DEQ but not earlier than May 2026. Prior to site investigation work, a site-specific health and safety plan (HASP) will be generated in accordance with Tetra Tech's corporate Health and Safety Program, and Sun Mountain's Safety Program as applicable, to identify anticipated hazards and management techniques, relevant emergency phone numbers, hospital routes, and required personal protective equipment for site work. HazTech Drilling of Billings, Montana has been selected to provide drilling and monitoring well installation services. One week before invasive activities, a site visit to mark locations for investigative borings will be undertaken by Tetra Tech with Sun Mountain or R-Y Timber personnel, to initiate utility locate requests with Montana 811. The report will be submitted approximately 30 days after data has been received.

Laboratory costs are estimated based on a maximum cost of analysis and will be adjusted based on the actual number of samples collected and analysis required (PAH may or may not need analysis depending on EPH screening results). A cost estimate is presented in **Attachment C**. Exceedance of the proposed amount will be contingent on approval from DEQ or PTRCB. Any modifications required can be submitted via email or telephone conversation.

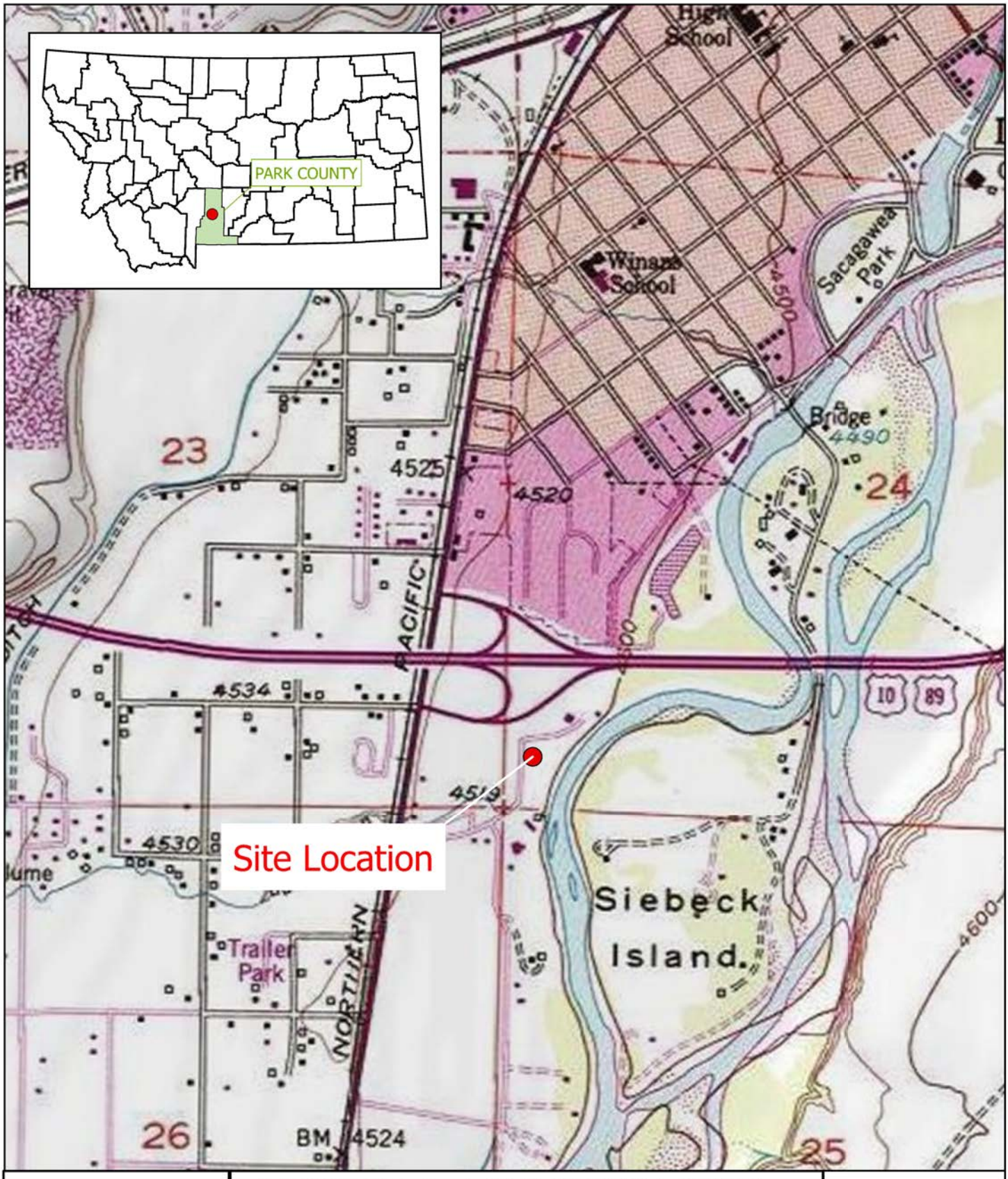
If you have questions or comments about this work plan, please reach out via email or at my mobile number (406) 422-7457. A copy of this work plan, once approved, will be forwarded to DEQ for approval.

Sincerely,

L Rhianna Reed

L. Rhianna Reed, Hydrogeologist/Project Manager

ATTACHMENT A - FIGURES



TETRA TECH

www.tetratech.com

825 W. Custer Ave
Helena, MT 59601

FIGURE 1. LOCATION MAP

RY TIMBER
PARK COUNTY, MONTANA

N

0 0.1 0.2 Miles

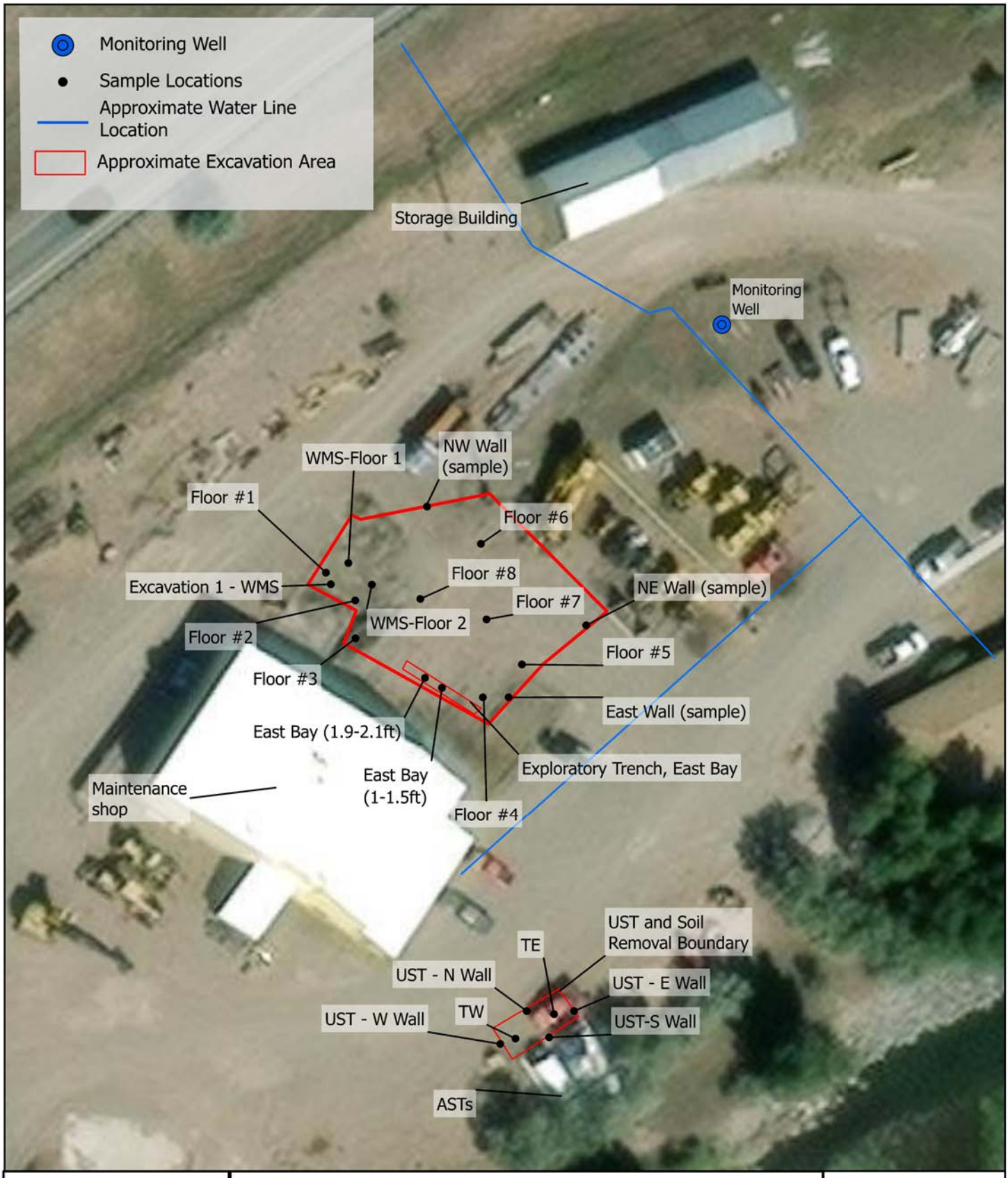
Date: 07/03/2024

Remedial Investigation

Figure No.

1

Copyright © 2013 National Geographic Society, i-cubed



TETRA TECH

www.tetratech.com

825 W. Custer Ave
Helena, MT 59601

FIGURE 2. SITE WORK TO DATE, MAINTENANCE SHOP AND AST AREA

RY TIMBER
PARK COUNTY, MONTANA

N

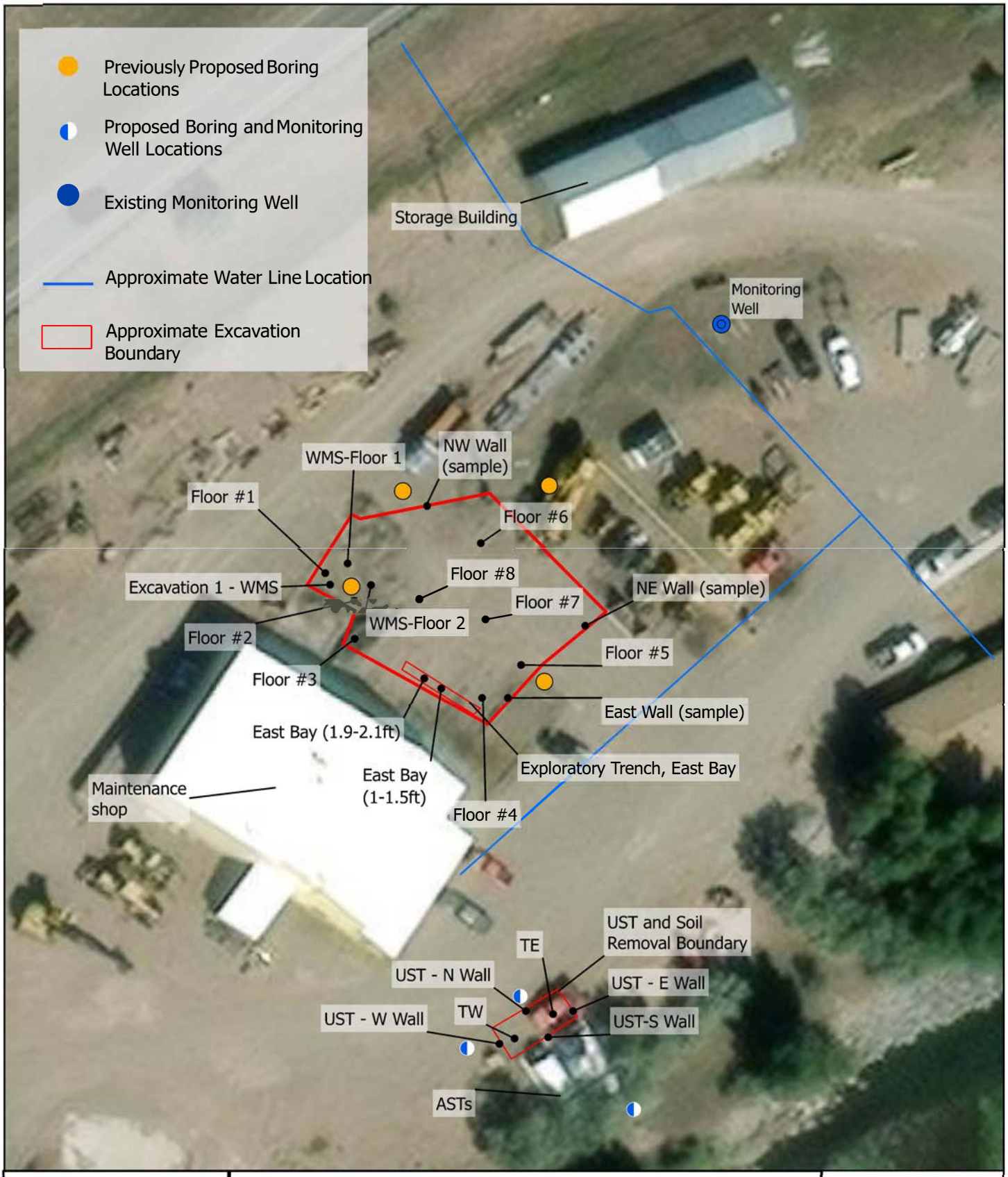
0 0 0.01 Miles

Date: 07/08/2024

Remedial Investigation

Figure No.

2



TETRA TECH

www.tetratech.com

825 W. Custer Ave
Helena, MT 59601

FIGURE 3. PROPOSED BORING AND MONITORING WELL LOCATIONS AT THE AST AREA

RY TIMBER
PARK COUNTY, MONTANA

N

0 0 0.01 Miles

Date: 10/30/2024

Remedial Investigation

Figure No.

3

ATTACHMENT B – DATA SUMMARY

APPENDIX B - TABLE 1
SUMMARY OF VOLATILE PETROLEUM HYDROCARBON DATA - SOIL
R-Y Timber, Livingston, Montana

Concentrations are shown in milligrams per liter (mg/L

						Volatile Petroleum Hydrocarbons									
						MTBE (mg/kg - dry)	Benzene (mg/kg - dry)	Toluene (mg/kg - dry)	Ethylbenzene (mg/kg - dry)	Xylenes (mg/kg - dry)	Naphthalene (mg/kg - dry)	C9 to C10 Aromatics (mg/kg - dry)	C5 to C8 Aliphatics (mg/kg - dry)	C9 to C12 Aliphatics (mg/kg - dry)	Total Purgeable Hydrocarbons (TPH) (mg/kg - dry)
					Screening Levels	< 10 ft to Groundwater (ppm)	0.16	0.07	21	26	310	12	360	220	130	-
						10 - 20 ft to Groundwater (ppm)	0.16	0.21	65	28	310	19	470	290	360	-
						Direct Contact - Construction	8900	240	5500	130	610	140	1000	410	640	-
						Leaching 0-10 ft	0.078	0.07	21	26	320	12	130	220	11000	-
						Leaching 10-20 ft	770	0.21	65	84	1000	40	470	770	40000	-
Sample ID	**Location**	**Features/Rational**	**Depth (ft bgs)**	**Date**	**Time**	MTBE (mg/kg - dry)	Benzene (mg/kg - dry)	Toluene (mg/kg - dry)	Ethylbenzene (mg/kg - dry)	Xylenes (mg/kg - dry)	Naphthalene (mg/kg - dry)	C9 to C10 Aromatics (mg/kg - dry)	C5 to C8 Aliphatics (mg/kg - dry)	C9 to C12 Aliphatics (mg/kg - dry)	TPH (mg/kg - dry)
UST Basin (Below AST Fueling Dispensers)															
TW	West floor UST excavation (UST removal contractor sample)	Grab sample	8 ft	8/9/2023	15:30	<0.1	<0.052	<0.052	<0.052	<0.052	<0.10	<2.1	<2.1	<2.1	**1.6**
TE	East floor UST excavation (UST removal contractor sample)	Grab sample	8 ft	8/9/2023	15:30	<0.1	<0.052	<0.052	<0.052	<0.052	<0.10	<2.1	<2.1	<2.1	<2.1
UST-N Wall	North wall of UST excavation, 3-8ft deep	Composite sample	3-8 ft	8/9/2023	15:37	<0.12	<0.058	<0.058	<0.058	<0.058	<0.12	**1.4 J**	<2.3	**3.4**	**21**
UST-W Wall	West wall of UST excavation, 3-8ft deep	Composite sample	3-8 ft	8/9/2023	15:42	<0.11	<0.056	<0.056	<0.056	<0.056	**0.7**	**27**	<2.3	**67**	**138**
UST-E Wall	East wall of UST excavation, 3-8ft deep	Composite sample	3-8 ft	8/9/2023	15:45	<0.11	<0.055	<0.055	<0.055	<0.055	<0.11	<2.2	<2.2	<2.2	<2.2
UST-S Wall	South wall of UST, 3-8ft deep excavation	Composite sample	3-8 ft	8/9/2023	15:50	<0.11	<0.056	<0.056	<0.056	<0.056	<0.11	<2.2	<2.2	<2.2	<2.2
UST Stockpile	Soils from below fuel dispensers and above UST	Composite sample for disposal purposes	1-8 ft	8/9/2023	15:30	<0.55	<0.28	<0.28	<0.28	<0.28	**1.9**	**54**	<11	**132**	**323**

Notes:
Bolded values are detections above the laboratory reporting limit
Detected above RBSLs
- compound not analyzed
<0.0079 compound not detected above laboratory reporting limit (0.0079)