



Resource Technologies, Inc.

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March 25, 2019

Ms. Latysa Pankratz
Montana Department of Environmental Quality
Petroleum Tank Cleanup Section
P. O. Box 200901
Helena, MT 59620-0901

Subject: Corrective Action Work Plan; Farmers Union Trading Company, 337 East Main Street, Ennis, Madison County, Montana; Facility ID# 56-13852, Release #3257, Work Plan 33778.

Responsible Party: Roy Washburn
4573 Bordeaux
Dallas, Texas 75205
Contact: (214) 543-5069

Dear Ms. Pankratz:

On behalf of Mr. Roy Washburn, Resource Technologies, Inc. (RTI) is submitting the following workplan and budget for soil boring and vapor-intrusion investigation at the former Farmers Union Trading Company located at 337 East Main Street, Ennis, Montana. Proposed corrective action activities are intended to provide information to discover the magnitude and extent of petroleum contamination and assess vapor-intrusion potential. This workplan was prepared in accordance with the Montana Department of Environmental Quality Petroleum Tank Cleanup Section (MDEQ-PTCS) workplan request dated February 11, 2019.

This workplan was prepared by: Josh Minalga
Resource Technologies, Inc.
1050 East Main Street, Suite #4
Bozeman, MT 59715

SCOPE OF WORK

The scope of this proposed workplan includes the following tasks:

- Fully define the magnitude and extent of petroleum impacts associated with free product accumulating in well MW-10 using direct push soil boring.
- Collect soil samples from the soil borings to determine the vertical profile of petroleum contamination.

- Recover free product from all wells containing free phase petroleum contamination using a passive recovery method.
- Complete a petroleum vapor intrusion (PVI) investigation at the Farmers Union Trading Company occupied building.
- Collect a tap water sample from the Farmers Union Trading Company and submit for laboratory analysis by EPA Method 524.2.
- Validate all laboratory analytical data using DEQ's Data Validation Summary Form.
- Prepare a Release Closure Plan (RCP).
- Submit findings in a Standardized Generic Applications Report (Report AR-07)

Work tasks are described in the following sections.

Soil Borings

Since soil boring work will be completed in the US Highway 287 right of way, RTI will obtain an encroachment permit from the Montana Department of Transportation. RTI will develop a traffic control plan for the work zone in accordance with MDT requirements. A work zone will be established around the soil boring rig and support vehicles to reroute traffic and provide pedestrian control.

Up to 12 soil borings will be advanced using a DPT rig to the target depth of 10 feet. Eight locations are shown in Figure 1 and up to four locations will be chosen based on field results. Soil samples will be continuously collected from each borehole. The estimated depth to water is 4 to 6 feet. Following sample collection, each borehole will be abandoned using bentonite chips. Boreholes will be patched with asphalt according to MDT requirements.

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

The soil sample from each borehole exhibiting the highest PID reading and the sample collected immediately above the soil groundwater interface will be submitted for laboratory analysis. Additional soil samples may be collected to better assess the vertical distribution of soil contaminants. If no elevated PID readings are observed in a particular borehole, only the sample from the soil-groundwater interface will be submitted for laboratory analysis. The samples will be placed on ice and transported with chain-of-custody tracking documentation to the laboratory for Volatile Petroleum Hydrocarbons (VPH) and Extractable Petroleum Hydrocarbons (EPH) Screen analyses within the required holding times. Soil samples exceeding the EPH screening limit (200 mg/kg) will be further analyzed for EPH fractions.

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

Free Product Recovery

Hydrocarbon sorbent socks will be placed in wells containing free product. RTI will change the socks on a monthly basis until free product is no longer recoverable.

Tapwater Sampling

A tapwater sample will be collected from Farmers Union Trading Company building. At the sample point, the cold water line will be run for several minutes prior to sample collection. The tapwater sample will be analyzed by EPA Method 524.2.

Sub-Slab Vapor Sampling

The site building and two buildings north of the site across US Highway 287 lie within 100 feet of well MW-10 where light non-aqueous phase liquid (LNAPL) is accumulating. LNAPL is composed of 50%-80% evaporated gasoline with a heavier hydrocarbon component (as indicated by carbon scan analysis of the LNAPL).

Although the Montana Vapor Intrusion Guidance document recommends bounding the VI investigation area 100 feet from the potential VI source, and three buildings are located within 100 feet of the point of LNAPL accumulation, RTI recommends investigating only the site building for VI at this time since it is substantially closer (less than 25 feet) from the source. If soil sampling indicates that LNAPL accumulation extends well north of MW-10, RTI may recommend expanding the VI investigation to include the two buildings across the street to the north.

VI investigation will include sub-slab vapor samples collected at two locations along the north interior side of the site building and one indoor air sample. RTI will install two Cox-Colvin vapor pins in the building slab to facilitate sub-slab sampling. Samples will be collected in 6-liter summa canisters with flow regulators set to collect the samples over a period of two hours. Vapor and air samples will be submitted to ALS Laboratory in Salt Lake City for TO-15 analysis.

Data Validation

All laboratory data will be validated using the DEQ Data Validation Summary Form. The data validation summary form will be included in the project report.

Release Closure Plan

Following receipt of all analytical data, RTI will prepare a standardized Release Closure Plan to be included with the project report.

Schedule

Direct push soil boring activities, free product recovery, soil vapor and indoor air sampling, and tapwater sampling will be scheduled after complete melting of winter

snow which is anticipated to be late spring 2019, which is anticipated to be seasonal high groundwater.

Reporting

Following completion of the investigation event, receipt of analytical results, and completion of the PVI investigation, a report summarizing data generated under this plan will be compiled and submitted to MDEQ. The report will include recommendations for future corrective action as appropriate and will conform to the MDEQ-PTS Standardized Report Format AR-07. Field notes, site sketches, photographs and other data will be available to MDEQ at any point during the investigation.

Cost

A breakdown of costs associated with investigation activities, sample collection, and report preparation is attached. RTI requested bids for direct push borehole services from WCEC, MonTerra Logic, and Olympus Technical Services. As of the date of this CAP, only the bid from WCEC has been received. Additional bids will be forwarded as they are received. The total cost for workplan preparation, soil borings, vapor and air sampling, and tapwater sampling, and reporting is \$21,615.37. If you have any questions or comments regarding this workplan, please do not hesitate to call.

Respectfully Submitted,
Resource Technologies, Inc.

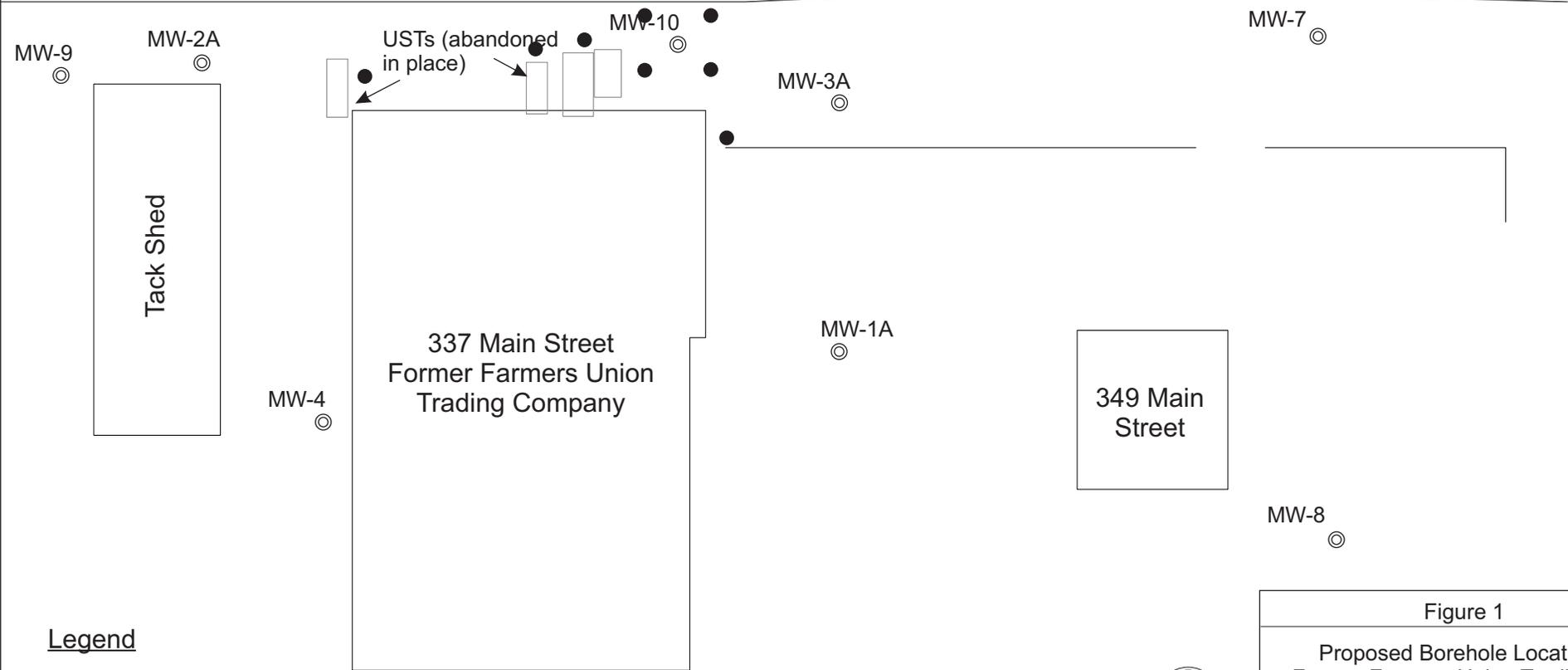


Josh Minalga
Environmental Scientist

Attachments

cc: Roy Washburn

U.S. Highway 287 (Main Street)



Legend

- MW-3A  Monitoring Well Location
-  Proposed direct-push borehole location



Figure 1

Proposed Borehole Locations
Former Farmers Union Trading Co.
337 East Main Street
Ennis, MT



**Resource
Technologies
Inc.**

COST ESTIMATE DETAIL

Task	Unit Cost	Number of Units	Total Cost
Project Management			
Abbreviated Generic Application Work Plan (AC-07)	\$134.75 /hour	10	\$1,347.50
MDT Encroachment Permit and Traffic Control Plan	\$134.75 /hour	8	\$1,078.00
Project Manager: Coordination/Scheduling/Budget Tracking	\$134.75 /hour	8	\$1,078.00
Management Subtotal			\$3,503.50
Mobilization and Travel			
Soil Boring	\$3.78 /mile	110	\$415.80
VI Sampling	\$3.78 /mile	110	\$415.80
Free Product Monitoring and Recovery (3 RT)	\$2.95 /mile	330	\$973.50
Per Diem: Meals	\$23.00 /day	5	\$115.00
Per Diem: Lodging	\$110.00 /night	1	\$110.00
Travel Subtotal			\$2,030.10
Field Work			
Field Work: Staff Sci/Eng (soil borings)	\$118.50 /hour	12	\$1,422.00
Field Work: DPT	\$2,611.00 /each	1	\$2,611.00
Subcontractor Mark-up	7 %	1	\$182.77
VI and Tapwater Sampling	\$106.00 /hour	4	\$424.00
LNAPL Monitoring and Recovery	\$106.00 /hour	4	\$424.00
Traffic Control Sign/Candlestick Rental (estimate)	\$100.00 /lump	1	\$100.00
Gloves	\$1.00 /pr	30	\$30.00
Photoionization Detector	\$15.25 /hour	12	\$183.00
PIG 1.5"x18" Hydrocarbon Sorbent Socks	\$5.00 /ea	4	\$20.00
Field Work Subtotal			\$5,396.77
Laboratory Analysis			
Soil VPH	\$120.00 /sample	24	\$2,880.00
Soil EPH Screen	\$75.00 /sample	24	\$1,800.00
EPH Afterscreen	\$150.00 /sample	10	\$1,500.00
Air TO-15 (includes canister and flow regulator rental)	\$255.00 /sample	3	\$765.00
Tapwater EPA 524.2	\$220.00 /sample	1	\$220.00
Sampling Fee	\$10.00 /sample	27	\$270.00
Laboratory Subtotal			\$7,435.00
Reporting			
Standardized Generic Application Report (AR-07)	\$2,500.00 /each	1	\$2,500.00
Release Closure Plan	\$750.00 /each	1	\$750.00
Reporting Subtotal			\$3,250.00
TOTAL ESTIMATED COSTS			\$21,615.37

Notes:

Charge for traffic control sign rental will be actual supported by rental receipt.

Estimated Costs
Soil Boring Investigation
RTI, Ennis, MT

2.20.19

TASK	Unit Cost	Units	Total Cost
GeoProbe Equipment & Operator			
Mobilization - Truck, Drill Rig, Trailer (1 trip, per mile)	\$2.50	400	\$1,000.00
Soil Boring & Abandonment (per foot)	\$12.00	120	\$1,440.00
	Sub Total		\$2,440.00
Per Diem			
Per Diem (Food)	\$23.00	2	\$46.00
Lodging (will be billed actual cost)	\$125.00	1	\$125.00
	Sub Total		\$171.00
	Total Cost		\$2,611.00

RTI will coordinate all site access and complete utility locates. WCEC anticipates completion of the work during a single field day. Drilling work may be conducted by WCEC's affiliated company, Dakota Technologies.



Olympus Technical Services, Inc.

March 21, 2019

Josh Minalga
RTI
1050 E Main St #4
Bozeman, MT 59715

Re: Cost Proposal for Direct Push Drilling
Ennis, MT

Dear Mr. Minalga:

Olympus Technical Services, Inc. (Olympus) is pleased to present this cost estimate to advance soil borings at the above referenced location. We understand that the scope of work will consist of the following tasks:

- Advance 12 boring to a depth of 10 feet below ground surface, collecting samples on a continuous basis in five-foot intervals; and
- Abandon soil borings with bentonite chips and patch surface as necessary after soil sample collection.

We propose to complete the borings with a track-mounted 7822DT Geoprobe™ and a two-person crew based out of our Billings, MT office. We propose to mobilize to the site and begin advancing borings on day one and advance the remaining soil borings, rehabilitate surface cover and mobilize back to Billings on day two.

The estimate is based on the following assumptions:

- Client will be responsible for making a One-Call utility locate notification prior to drilling and providing Olympus with a locate ticket number;
- Subsurface lithology is suitable for use of the direct push drill rig;
- Client is responsible for disposal of investigation derived waste; and
- Client will be responsible for soil sample collection.

We propose to complete the above scope of work on a unit cost basis not to exceed \$4,068.50 in accordance with the attached cost sheet. Should you authorize these Services, you will be invoiced on a lump sum basis in accordance with this proposal. Invoices will be submitted on a monthly basis, as a percent of project completed. Should unforeseen circumstances arise and warrant further work and additional costs, Olympus will contact you prior to further efforts. Any changes to our agreement must be mutually agreed and in writing.

Our current General Services Agreement shall govern this Task Order. Please acknowledge your acceptance of these Services by having this Task Order properly executed by a person authorized to purchase these Services and returning a signed copy to us. We appreciate the

opportunity to offer this proposal and look forward to working with you on this project. Please contact me should you have any questions regarding this proposal.

Sincerely,
Olympus Technical Services, Inc.



Jake Hover
Project Scientist

Attachment: Cost Sheet

Approved for _____ by:

Signature

Date

Name/Title – Please Print

Olympus Technical Services, Inc. Cost Estimate

Date: 3/21/2019

Client: RTI
 Project Name: Direct Push Soil Borings
 Olympus Project No.: AP4851

ODC 14%

Project Management:

Program Manager	1	/hr	\$126.00	\$126.00
Admin	0.5	/hr	\$48.00	\$24.00
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				\$150.00

Mobilization:

Mileage	350	/mile	\$4.25	\$1,487.50
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				\$1,487.50

Drilling

Daily Rate	1	Day	\$2,000.00	\$2,000.00
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				\$2,000.00

Per Diem

Per Diem	2	Each	\$46.00	\$92.00
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				\$92.00

Lodging

Lodging	1	Day	\$200.00	\$200.00
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				\$200.00

Drilling Supplies

	Quantity	Unit	Rate	ODC*	Cost
Sample Sleeves	15	Day	\$6.00		\$90.00
Bentonite	3	Day	\$13.00		\$39.00
Asphalt Patch	1	Each	\$10.00		\$10.00
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					\$139.00

Comments/Notes:

1.		Subtotal	\$4,068.50
2.		Contingency	\$0.00
3.			
4.			
5.		GRAND TOTAL	\$4,068.50