

June 26, 2019

Mr. William Bergum
Petroleum Tank Cleanup Section
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59600-0901

Re: Corrective Action Work Plan, WPID# 33869
Havre Town Pump, 136 West First Street, Havre, Hill County, Montana
Facility ID# 21-08705; Release# 4167; Olympus WO# A1571

Dear Mr. Bergum:

This letter presents a work plan for the Havre Town Pump facility located at 136 West First Street in Havre, Montana (Site). A Site location map is shown on Figure 1 and a Site layout map is shown on Figure 2. Olympus Technical Services (Olympus) has prepared this work plan in response to a Department of Environmental Quality (DEQ) letter issued May 30, 2019, requesting corrective action at the Site. The DEQ has requested that semi-annual groundwater monitoring be conducted at the Site in 2019 and 2020. This work plan presents a detailed scope of work, cost estimate, and a groundwater monitoring unit cost worksheet for the proposed scope of work.

Scope of Work

Groundwater Sample Collection and Analyses

The proposed scope of work includes semi-annual groundwater monitoring during approximate high and low groundwater condition (anticipated November 2019 and June 2020). Groundwater monitoring will include the measurement of static water levels (SWLs) and the collection of groundwater samples from select wells for laboratory analyses. SWLs will be measured in Site wells MW-1, MW-2, MW-3, MW-4, MW-6, MW-8, and MW-9, using an electronic water level probe to develop a groundwater potentiometric map of the Site. During the first semi-annual event conducted in November 2019, groundwater samples will be collected from four (4) facility groundwater monitoring wells, MW-2, MW-3, MW-4, and MW-9, to evaluate existing site conditions. The analytical results will be submitted to DEQ following receipt of the laboratory reports. Sampling at well MW-2 may be discontinued following the first event if sample results are below Human Health Standards and Risk Based Screening Levels (RBSLs). The target analytes and number of wells sampled during the second event conducted in June 2020, will be determined by DEQ and Olympus following a review of the analytical data from the 2019 monitoring event.

Groundwater samples will be collected from Site wells following Olympus standard operating procedure. Groundwater will be purged from wells using a bladder pump operating at low flow, steady state conditions. Groundwater parameters of dissolved oxygen (DO), specific conductivity (SC), temperature, pH, oxidation reduction potential (ORP), and turbidity will be measured during purging, and measurements will be recorded on groundwater sample information forms which will be included in a summary report. Upon parameter stabilization,

groundwater samples will be collected into laboratory supplied bottles, preserved, stored on ice, and submitted by chain-of-custody procedure to Energy Laboratories in Helena, Montana, for volatile petroleum hydrocarbon (VPH) and extractable petroleum hydrocarbon (EPH) analyses. Groundwater samples with EPH screen concentrations that exceed 1,000 ppb may be further analyzed for EPH fractions based on a review of the analytical data. Groundwater samples collected from facility wells will also be analyzed for intrinsic biological indicators (IBIs), which include sulfates, nitrates/nitrites, dissolved ferrous iron and manganese, and methane. Dissolved metal samples will be filtered in the field during sample collection.

Quality assurance/quality control (QA/QC) procedures will be followed for the provision of reliable, accurate and defensible data. QA/QC samples will be collected into laboratory supplied jars, stored on ice, and submitted to Energy Labs under chain-of-custody procedure. One duplicate groundwater sample will be collected to test for precision related to sampling methods, and one equipment rinsate blank will be collected to test for unwanted contamination introduced in the field. The QA/QC samples will be analyzed for VPH and EPH screen.

Release Closure Plan

As requested by DEQ, a Release Closure Plan (RCP) will be developed for the Site which will include discussion and results of investigative, post-investigative, and corrective action work to date. The RCP will be presented in the format provided by DEQ at <http://deq.mt.gov/Land/lust>, and will include site summary, remedial investigation results, conceptual site model and evaluation of exposure pathways, evaluation of cleanup alternatives and costs for compliance monitoring.

Corrective Action Report

Olympus will present the results for both the 2019 and 2020 groundwater monitoring events in one Groundwater Monitoring Report, as requested by DEQ, following receipt of the analytical results of the 2020 monitoring event. The summary report will include site maps, tabulated analytical data, groundwater sample information forms, analytical laboratory reports, QA/QC review of the analytical data, time trend graphs, and conclusions and recommendations based on the monitoring results.

Cost Estimate

Work Plan (CAP_MR-01) development and groundwater monitoring and sample collection will be invoiced at unit cost rates approved by the Petroleum Tank Release Compensation Board (PTRCB). A unit cost worksheet for groundwater monitoring is attached to this work plan which lists PTRCB approved rates for 2019; work completed in 2020 will be invoiced at PTRCB rates updated for 2020. Project management and field work conducted to collect IBI samples will be invoiced on a time and materials basis. The PTRCB unit cost rate for sample collection is insufficient to cover the extra labor required to collect IBI samples so estimated field work labor to complete that task is listed on the attached cost estimate. IBI sample collection includes labeling, filling, preserving and handling additional sample bottles for the analyses of eight IBI analytes and filtering the dissolved metal samples in the field. Additional labor hours are included in the attached cost estimate to cover sampling for IBIs. Olympus respectfully requests that PTRCB approve sufficient labor hours to collect IBI samples.

DEQ requested that the results of both groundwater monitoring events be presented in one Standardized Groundwater Monitoring Report (MR-01); however, the unit cost rate for an MR-01

report is insufficient to cover report development that presents the data collected during two monitoring events so estimated labor hours to complete that task are listed on the attached cost estimate. The monitoring report will include potentiometric maps, isocontour maps, and tabulated analytical (VPH/EPH/IBI) results for two monitoring events; discussion of monitoring results for both the 2019 and 2020 events; IBI analyses for both events; QA/QC review of laboratory reports for both events; and time trend graphs for select analytes and wells that include two additional data sets.

Olympus appreciates the opportunity to assist you with this project. Site work will commence upon approval of the work plan by DEQ and obligation of funds by PTRCB. The first annual groundwater monitoring event is tentatively scheduled for November 2019. Please call me at 406-443-3087 with comments or questions regarding the proposed scope of work or the project.

Sincerely,
Olympus Technical Services, Inc.



Diane Tackett, PG
Project Geologist

Attachments: Figures 1 & 2, Cost Estimate, Groundwater Monitoring Unit Cost Work Sheet





Olympus Technical Services

Facility: Havre Town Pump

Facility ID# 21-08705; Release# 4167; Work Plan ID# 33869

CAP_MR-01 - CA Groundwater Monitoring Plan

Work Plan Date: June 26, 2019

Task 1. Work Plan Development

Corrective Action Work Plan (CAP_MR-01)

<u>Quant.</u>	<u>Rate</u>	<u>Total</u>
1	\$625.00	\$625.00
Total Task 1:		\$625.00

Task 2. Project Management

Labor:

PE/Scientist

<u>Quant.</u>	<u>Rate</u>	<u>Total</u>
12	\$132.00	\$1,584.00
Total Task 2:		\$1,584.00

Task 3. Mobilization

Labor:

Field Tech III

<u>Quant.</u>	<u>Rate</u>	<u>Total</u>
18	\$100.00	\$1,800.00
Subtotal Labor:		\$1,800.00

Equipment and Materials:

Mileage

830	\$0.630	\$522.90
Subtotal E&M:		\$522.90

Total Task 3: \$2,322.90
Mob Unit Cost: \$2.80

Task 4. Lodging and Per Diem

Lodging

Per Diem

2	\$100.00	\$200.00
4	23	\$92.00
Total Task 4:		\$292.00

Task 5. Monitor Wells (SWLs)

Unit Cost Monitor 3 Wells x 2 events

6	\$42.25	\$253.50
Total Task 5:		\$253.50

Task 6. Monitor/Purge/Sample Groundwater

Unit Cost Sample Collection 4 Wells x 2 events

8	\$186	\$1,488.00
Total Task 6:		\$1,488.00

Task 7. Collection of Intrinsic Bio Parameters

Labor:

Field Tech III

<u>Quant.</u>	<u>Rate</u>	<u>Total</u>
8	\$100.00	\$800.00
Total Task 7:		\$800.00

Task 8. Materials/Supplies/Equipment

Equipment:

Filters

<u>Quant.</u>	<u>Rate</u>	<u>Total</u>
8	\$24.00	\$192.00
Total Task 8:		\$192.00

Olympus Technical Services

Facility: Havre Town Pump

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CAP_MR-01 - CA Groundwater Monitoring Plan

Work Plan Date: June 26, 2019

Task 9. Estimated Analytical

	<u>Quant.</u>	<u>Rate</u>	<u>Total</u>
VPH	12	\$120	\$1,440.00
EPH Screen	12	\$75	\$900.00
EPH Fractions	8	\$150	\$1,200.00
<i>Intrinsic Biodegradation Parameters</i>			
Sulfate Method E300.0	8	\$10.00	\$80.00
Nitrate+Nitrite as Nitrogen	8	\$50.00	\$400.00
Low Nitrate Method E353.2	8	\$50.00	\$400.00
Methane	8	\$50.00	\$400.00
Low Level Manganese Method E200.7/E200.8	8	\$25.00	\$200.00
Dissolved Ferrous Iron Method E200.7	8	\$10.00	\$80.00
Metals Digestion	8	\$25.00	\$200.00
Sample Fee	12	\$10.00	\$120.00
		Total Task 9:	\$5,420.00

Task 10. Release Closure Plan

	<u>Quant.</u>	<u>Rate</u>	<u>Total</u>
Labor:			
Principal	2	\$166.00	\$332.00
Project Scientist	40	\$132.00	\$5,280.00
		Total Task 10:	\$5,612.00

Task 11. Groundwater Monitoring Report

Includes monitoring results for 2019 and 2020 events

	<u>Quant.</u>	<u>Rate</u>	<u>Total</u>
Labor:			
Principal	1	\$166.00	\$166.00
Project Scientist	24	\$132.00	\$3,168.00
		Total Task 11:	\$3,334.00
		Total Project:	\$21,923.40

Petroleum Tank Release Compensation Board Groundwater Monitoring and Sampling Unit Cost Worksheet

Contractor Information

Company Name:

Address:

City, State, Zip:

Cost Estimator:

Phone:

Signature:

Date:

Project Information

Site Name:

Address:

City:

Facility ID#

Release #

WP ID#

Monitoring Well Details

Total Number of Wells at Site

Number of Water Level Measurements Only ⁽²⁾

Number of Wells to be Monitored/Sampled ⁽³⁾

Well Casing Diameter (inches)

Average Depth to Groundwater (ft)

Average Depth of Wells (ft)

Well Purging Method

Hand Bailing

Peristaltic Pump

Submersible Pump

Micropurge

No Purge

Other (please specify)

Monitoring/Sampling Interval

Estimated Start Date:

Quarterly # of events

Semi-annual # of events

Annual # of events

Other # of events (specify)

Other Services

Free Product Recovery

Groundwater Well survey

Wellhead retrofit/reconstruction

Other (please specify)

Cost Estimate Explanation:

⁽¹⁾ Mobilization/Demobilization: Includes all costs and mileage to transport equipment, materials, and personnel to and from the site location. More than one mobilization event will require justification and pre-approval by the DEQ-PTCS and Board staffs. This item should be on a per mile unit rate.

⁽²⁾ Water Level Measurements: Includes all costs (labor, equipment, materials, and well consumables) to measure groundwater depth, collect other groundwater information from well, and decontaminate equipment. The well monitoring costs should be on a per well basis and does not include purging and sampling of the well.

⁽³⁾ Well Monitoring/Purging/Sampling: Includes all costs (labor, equipment, materials, and well consumables) to monitor (see above), purge, sample groundwater, decontaminate equipment, take water level measurements and handle disposal of contaminated purge water. The cost should be on a per well basis.

⁽⁴⁾ Laboratory Analysis: Includes all laboratory costs for all wells, for duration of project. It is realized that some laboratory analyses will not be conducted for every event and that the well sampling frequency may change.

⁽⁵⁾ PTRCB Sampling Fee: Includes all costs related to management of the sample including: sample container, cooler, packing, shipping, handling, sample preservation, and office related handling charges. The sample is defined as the laboratory ID number on the laboratory invoice.

⁽⁶⁾ Report Preparation and Project Management: Includes all costs (labor and materials) project management, report preparation, and report submittal, including all office related costs, per groundwater sampling event.

Groundwater Monitoring and Sampling Unit Cost Worksheet

Task	Unit Cost	Number of Units	Total Cost
Work Plan Preparation			
Project Management	/hr		
Mobilization/Demobilization ⁽¹⁾	/mile		
Field Work			
Water Level Measurements ⁽²⁾	/well		
Well Monitoring/Purging/Sampling ⁽³⁾	/well		
Other Service (please specify)			
Other Service (please specify)			
Lodging & Per Diem (Lodging – actual only)			
Lodging: # of people	/person per day		
Food: # of people (\$23.00 max a day allowed)	/person per day		
Laboratory Analysis ⁽⁴⁾			
Volatile Petroleum Hydrocarbons (VPH)	/sample		
Extractable Petroleum Hydrocarbons (EPH)			
EPH “screen”	/sample		
EPH “fractions”	/sample		
BTEX/MTBE/Naphthalene only-method:	/sample		
Polyaromatic Hydrocarbons (PAHs)	/sample		
PTRCB sampling fee (\$10.00 allowed) ⁽⁵⁾	/sample		
Other (please specify)	/sample		
Other (please specify)	/sample		
Report Preparation ⁽⁶⁾			
Quarterly	/report		
Semi-annual	/report		
Annual	/report		
Other (Please specify)			
Monitoring & Sampling Total:			

Additional Conditions/Comments/Costs:

If you require assistance, call 406-444-9710
Submit completed form to:
Petroleum Tank Release Compensation Board
PO Box 200902, Helena MT 59620-0902