Olympus Technical Services, Inc.

August 1, 2025

Donnie McCurry
Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Re: Cleanup Work Plan, WPID 35059
Former Pehrson's Exxon, 100 Illinois Street, Chinook, Blaine County, Montana
Facility ID 03-06475 (TID 17903), Release 3824, Olympus WO# A1476

Dear Mr. McCurry,

This letter presents a work plan developed by Olympus Technical Services (Olympus), on behalf of Mr. Frank Pehrson, for remedial action and groundwater monitoring at the Former Pehrson's Exxon facility (Site) located at 100 Illinois Street in Chinook, Montana. A Site location map is shown in Figure 1 and a Site Map is shown in Figure 2. The work plan was developed in response to a request letter issued by the Montana Department of Environmental Quality (DEQ) on June 23, 2025. This work plan presents a scope of work and cost estimate for remedial action to include a baseline groundwater monitoring event followed by an injection event and vapor intrusion assessment followed by additional groundwater monitoring to be performed in the fall of 2025 and 2026.

Release History

In the early 1900s, the property was reportedly used as the town dump site. In 1920, Texaco built a gasoline service station on the property which they operated until 1937, then sold the property to John Pehrson, but Texaco retained ownership of the fueling structures. John Pehrson operated the gasoline station until his son, Frank Pehrson, Sr., took over business operations in 1949. Texaco sold the fuel structures to Frank Pehrson in 1976. Gasoline operations ceased in 1999 and the fuel structures were removed from the property. Frank Pehrson, Jr., currently operates the facility as a Firestone tire store and repair shop.

The four historical USTs included three gasoline tanks (1,500-gallon, 2,000-gallon, and 3,500-gallon) and one waste oil tank (1,000-gallon). The USTs and the fuel dispensers were removed from the property in October 1999, but the fuel distribution lines were left in place along the north side of the station building. Theresa Blazicevich, with the DEQ, was on Site during tank removal activities to inspect the tanks, field screen soil samples, and collect confirmation soil samples. Ms. Blazicevich reported that petroleum hydrocarbon impacted soil was visible in the tank basin and noted that a gasoline odor was detectable during UST removal. Soil collected during excavation activities was field screened for hydrocarbon vapors using a Gastech instrument, and vapor concentrations ranged from 450 ppm to greater than 1,000 ppm. Groundwater present at approximately 6.5 feet below ground surface (bgs) reportedly had an oily sheen.

Ms. Blazicevich collected two confirmation soil samples, #1 and #2, from the tank basin for laboratory analyses. Soil sample #1 was collected at 11.5 feet bgs from the center of the excavation, and soil sample #2 was collected at 6.5 feet bgs from the south center of the excavation. The soil sample locations are shown on Figure 2. The samples were submitted to

Alpine Analytical in Helena, Montana and analyzed for volatile petroleum hydrocarbon (VPH), gasoline range organics (GRO), and GRO as gasoline (GROG). The analytical results are listed in Table 1. DEQ Risk-Based Screening Levels (RBSLs) at that time were exceeded for methyl tert-butyl ether (MTBE), benzene, toluene, ethylbenzene, C5-C8 aliphatics, and C9-C10 aromatics in both samples. The sample results compared to current RBSLs exceed the Leaching to Groundwater (0-10 ft) RBSL for MTBE and benzene in #1 and #2, and toluene, and C9-C10 aromatics in #2. No Soil samples from 1999 exceed the Direct Contact Construction RBSLs. An estimated 40 cubic yards of impacted soil was reportedly removed from the tank basin at that time and the excavation was backfilled with sand and gravel.

The current approved Risk-Based Corrective Action (RBCA) Guidance RBSLs published in 2018 and updated in July 2020 are listed in Table 1. Highlighted concentrations in the table are based on these RBSLs. The proposed RBCA Guidance Update RBSLs published in September 2023 are also included in Table 1. There are no changes to the Leaching to Groundwater (0-10 ft) RBSLs for VPH and EPH analytes in the RBCA guidance update; however, there are changes to the Direct Contact Construction RBSLs. No soil samples exceed the proposed 2023 Direct Contact Construction RBSLs.

Based on RBSL exceedances of target analyte concentrations in the confirmation soil samples, the DEQ requested that a soil and groundwater investigation be conducted to define the extent and magnitude of impacts resulting from historical petroleum release(s) at the Site. Olympus conducted a direct-push soil boring investigation in the former fuel structure areas in June 2005, which included eight soil borings (B1 through B8) and three reconnaissance groundwater samples. PID readings greater than 1,000 ppm were recorded in all eight soil borings, and five soil boring locations (B1, B3, B4, B6, and B7) were selected to conduct representative analytical sampling. Worst case impacts were exhibited in soil samples collected from a depth of about 7 feet bgs to about 15 feet bgs in both the tank basin and fuel dispenser areas. Benzene was detected above the leaching RBSL in all soil borings sampled. Soil samples collected from B1 and B7 exceeded the leaching RBSL for toluene, ethylbenzene, naphthalene,C9-C10 aromatics, and C5-C8 aliphatics. One sample from B7 exceeded the leaching RBSL for total xylenes, as well. No soil samples exceed the proposed 2023 Tier 1 Direct Contact Construction RBSLs.

Groundwater grab samples were collected from borings B1, B4, and B7. Target analyte concentrations in the three groundwater samples exceeded Human Health Standards (HHS) and RBSLs. The analytical results were presented in a Phase I Remedial Investigation Report dated November 2005.

Olympus conducted a Phase II Investigation in October and November 2006 that included installation of two monitoring wells (MW-1 and MW-2) and the collection of groundwater samples for laboratory analyses. Groundwater monitoring well MW-1 was installed in the former tank basin and monitoring well MW-2 was installed near the historical fuel dispenser (Figure 2). The analytical results confirmed that petroleum hydrocarbon concentrations in soil and groundwater in the former fuel structure areas exceeded HHS/RBSLs, and most likely petroleum impacted soil and groundwater extended to nearby streets and under the facility building. The impacted soil was present in a clay matrix not amenable to in-situ soil remediation techniques. Olympus recommended that corrective action include the removal of affected soil to facilitate remediation. In addition, because the extent and magnitude of impacts were not fully defined east of the Site, Olympus recommended that a soil and groundwater investigation be conducted at the former Mac's Lumber Yard and gasoline service station, to assess potential up and/or cross gradient sources of dissolved petroleum hydrocarbons. NAPL was measured in well MW-1 during

monitoring events in 2008 and 2010, and HHS/RBSLs were exceeded for most petroleum analytes in the samples collected from well MW-2. A tap water sample was collected from the facility in 2008 for volatile organic compound (VOC) analyses. The only VOC analytes detected in the sample were byproducts of water disinfection and the Total Trihalomethane concentration was less than the EPA Maximum Contaminant Level (MCL) of 80 ug/L.

A remedial excavation was conducted in April 2013 and approximately 1,280 cubic yards of petroleum impacted soil were removed from the former fuel structure areas at the Site and transported to a local landfarm for remediation. The excavation was limited by existing infrastructure; however, the majority of worst-case soil was removed during the excavation (Figure 3). Soil in the sidewalls along US Highway 2 and Illinois Street, the west and north sides of the facility building contained petroleum impacts above the leaching RBSL at approximately 8 feet bgs. No sidewall samples exceeded the proposed 2023 Direct Contact Construction RBSLs. Petroleum impacted soil most likely extends to the roadways and under the facility building. The excavation was completed to a depth of 15 feet, and all samples collected from the excavation floor were below RBSLs. Groundwater monitoring well MW-1, installed in the former tank basin, was destroyed during the Site work and was replaced for monitoring purposes (MW-1R). Two downgradient wells (MW-3 and MW-4) were installed to assess the extent of the dissolved phase plume south and southeast of the historical fuel structures.

Groundwater monitoring was conducted between November 2013 and May 2020. Petroleum analyte concentrations generally decreased in groundwater following the removal of source soil from the Site. Benzene exceeded the HHS in source area wells MW-1R and MW-2 in every sample collected through 2020, which reflect impacted soil left in place along the excavation boundaries. Well MW-2 also had detections of ethylbenzene and VPH fractions above the HHS/RBSLs during some events between 2006 and 2017, but no VPH analytes apart from benzene were detected above the HHS/RBSL in groundwater samples collected in 2018. No EPH fractions have exceeded the RBSLs in groundwater samples. VPH and EPH analytes were not detected above laboratory reporting limits in any sample collected from wells MW-3 and MW-4. These two wells have been removed from the sampling program.

In 2021 and 2023, Olympus performed groundwater monitoring at the Site to evaluate contaminant trends. Only wells MW-1R and MW-2 were sampled in May 2021 and July 2023. The benzene concentration in the samples collected from wells MW-1R exceeded the HHS for benzene during both events. The groundwater sample collected from well MW-2 exceeded the HHS for benzene in 2023 at a concentration of 5.1 µg/L, but was below the HHS in 2021 at a concentration of 0.78 µg/L. All other VPH analyte concentrations in the samples collected from wells MW-1R and MW-2 were less than HHS/RBSLs for both events.

Based on the groundwater monitoring results and discussions with the DEQ, Olympus recommend additional corrective action at the Site as outlined in this work plan.

Facility Conditions

The Site is located within the City of Chinook, Montana, in Section 27, T33N, R19E of Blaine County (Figure 1). Chinook is located in north-central Montana, approximately 20 miles east of Havre and 30 miles south of the Canadian border. The Site was operated as a fueling station from about the mid 1920's to 1999 but currently operates as a Firestone tire shop. The former fuel structures at the Site included four underground storage tanks (USTs) located in a tank basin on the west side of the station building, and a pump island which was located on the north side of

the station building. The fuel structures were removed from the property when gasoline service operations ceased in the 1990's. Current and historical Site features are shown on Figure 2.

Chinook is located in the Milk River Valley, about 20 miles north of the Bear Paw Mountains. Bedrock in the area consists of Upper Cretaceous sedimentary rocks, mainly the Bearpaw Shale, and sandstone, siltstone, and shale of the Judith River Formation. Glacial plain sediments flank the Bear Paw Mountains. Chinook is located on alluvial flood plain deposits of the Milk River that are comprised mainly of interbedded layers of fine-grained sand, silt, and clay. The alluvial deposits are estimated to be 100 to 200 feet thick in the valley (Water Resources of Blaine County, 1977).

The local upper soil horizon at the Site consists of approximately six feet of silty sand, sand and gravel, and clay-rich layers of sediment that overlie clay to a depth of at least 15 feet (extent of investigatory soil borings). Interbedded at depth in the clay are thin layers of more permeable silty sand and sandy and clayey silt.

Chinook is situated between the Milk River (south) and Lodge Creek (north). Both waterways meander in an easterly to southeasterly direction and conjoin approximately 2½ miles southeast of Chinook. Groundwater is present at Pehrson's at approximately 4 to 8 feet bgs under semiconfined conditions.

Scope of Work

Groundwater Monitoring

Three groundwater monitoring events are planned for this work plan to assess pre- and post-injection groundwater conditions. One baseline groundwater monitoring event will be conducted at the Site one week before the injection event is scheduled to begin. Two semi-annual groundwater sampling events will be performed at least 3 months after the injection event during approximate high and low groundwater conditions. Groundwater monitoring will include measuring static water levels (SWLs) using an electronic water level probe for all four Site wells in addition to sample collection from MW-1R and MW-2. The SWL data will be used to develop potentiometric maps of the groundwater table.

Groundwater samples will be collected from two Site monitoring wells (MW-1R and MW-2) following Olympus' low flow standard operating procedures. A peristaltic pump operating under low-flow steady state conditions will be utilized to collect groundwater samples. Field parameters will be measured in 3- to 5-minute intervals during groundwater purge, including dissolved oxygen (DO), oxygen reduction potential (ORP), pH, specific conductivity (SC), temperature, turbidity, and pumping water levels. Upon groundwater parameter stabilization, groundwater samples will be collected into laboratory-supplied containers, preserved, stored on ice, and submitted under chain-of-custody procedures to Energy Laboratories. Each sample collected will be analyzed for VPH.

Quality assurance/quality control (QA/QC) procedures will be followed to test for the provision of reliable, accurate, and defensible data. QA/QC samples will be collected to verify the precision and accuracy of the laboratory generated data. One duplicate groundwater sample will be collected per event to test for precision related to sampling methods. Field duplicates will be analyzed for VPH.

PetroFix® Injection

Prior to drilling activities, onsite utilities will be located and marked. Montana One Call will be notified a minimum of 72 hours before beginning drilling. A private utility locator will be subcontracted to locate private utilities. Utility location markings will be maintained throughout the project.

Regenesis reviewed the Site history and soil and groundwater analytical results to create a Budgetary Design and Application Proposal (attached) to address petroleum impacts remaining at the Site outside of the 2013 excavation limits. Regenesis recommended use of PetroFix® remedial fluid, which enhances biodegradation by stimulating short- and long-term microbial activity. Due to the limited transmissivity of the clay layer in Chinook and the relatively flat hydraulic gradient, a dense injection grid was recommended to provide even distribution of the injection solution.

The injection points will extend into the Montana Department of Transportation and City of Chinook Right-of-Way to address residual petroleum impacts at the excavation limits. Encroachment permits will be obtained prior to drilling activities. No injection points will be advanced in the roadways.

Seventy-two injection points will be advanced to approximately 15 feet bgs over a 3,050 square foot area, in accordance with Regenesis' design plan. 409 gallons of PetroFix® will be injected at depths ranging from 6.5- to 15-feet bgs, using an injection grid with spacing of approximately 5 feet within rows (perpendicular to groundwater flow) and 10 feet between rows (parallel to groundwater flow). The PetroFix® will be mixed with approximately 200 lbs. of electron acceptor blend and 20,059 gallons of water, for a total injected solution volume of approximately 20,469 gallons. The injection solution will be mixed in a 275-gallon container, requiring 74.4 batches of solution. A water truck will be utilized to transport water from the City of Chinook maintenance shop to the Site. Equipment will be coned-off and flashing hazard and amber lights will be utilized. Each injection point will be abandoned by backfilling it with bentonite pellets from the base of the boring to the ground surface. The ground surface at the Site is predominantly concrete, and each injection point will need to be patched. We anticipate that 12 days will be required to complete the injection event.

Soil Vapor Assessment

Olympus will conduct a vapor assessment to evaluate the potential for PVI into adjacent buildings. Two soil vapor points (SVPs) are anticipated and their approximate locations are shown on Figure 3; however, the number and location of the SVPs will be chosen based on the results of the first groundwater sampling event. The cost is provided on a per-foot basis. SVPs will be advanced to depths of approximately 5- to 8-feet bgs using Olympus' direct push Geoprobe® 7822DT drill rig. SVPs will be connected to Teflon lined tubing to the surface and temporarily installed. The annular space will be filled with silica sand from the bottom of the borehole to 2 feet above the SVP and bentonite will be placed to the surface. The tubing will be removed after one round of vapor sampling has been completed.

Subsequent to SVP installation, a Staff Geologist will mobilize to the Site to collect up to 2 soil vapor samples from the SVPs as well as one field duplicate. 1-liter batch-certified clean Summa canisters will be equipped with 5-minute regulators. Soil vapor samples will be collected by attaching the Summa to the Teflon lined tubing via Swagelok fittings with a pre-installed T-fitting so that the sample line can first be purged.

Two soil vapor samples and a field duplicate will be collected and analyzed for VOCs via TO-15 and air-phase hydrocarbon (APH). Samples will be submitted to Pace Laboratories in Mount Juliet, Tennessee.

Interim Data Submittal

Olympus will present the results of the first two groundwater monitoring events and soil vapor sampling in two Interim Data Submittals (IDSs) following the receipt of all laboratory reports. The IDSs will include a cover letter, updated site map, potentiometric and groundwater analytical maps, data tables, groundwater sampling forms, and analytical reports with accompanying data validation summary forms.

Release Closure Plan

The Release Closure Plan (RCP) will be updated for the Site based on results of all investigative and remedial activities conducted to date. The RCP will be included with the final Cleanup and Groundwater Monitoring Report, and will include discussion and results of all investigative, post-investigative, and corrective action, as well as evaluation of the conceptual site model, exposure pathways, possible data gaps, and remedial alternatives.

Cleanup Report

Olympus will present the results of the corrective actions in a Cleanup Report following receipt of the analytical results for the post-injection sampling events and vapor sample data. The report will include a discussion of current and historical investigation results, summary of injection events, Site maps, tabulated analytical data, groundwater sample information forms, soil boring logs, analytical laboratory reports, QA/QC review of the analytical data, time trend graphs, RCP, and conclusions and recommendations based on the cleanup and monitoring results. Costs have been provided in the attached cost estimate and *Groundwater Monitoring and Sampling Unit Cost Worksheet* to prepare and submit one final Cleanup and Groundwater Monitoring Report to satisfy this task.

Cost Estimate

Work Plan development, injection, groundwater monitoring, and report costs are summarized on the total project cost sheet. Unit cost worksheets for groundwater monitoring work plan preparation and reporting, and groundwater monitoring are attached to this work plan. Due to the duration of this WP, the costs for any work completed beyond 2025 will be subject to change. Should rates change, or should the scope of work require modification, a Form 8 will be supplied for future events, and/or invoices will reflect approved-PTRCB rates updated for the appropriate calendar year. Project management, oversight, and data validation review will be invoiced on a time and materials basis with accompanying labor summaries.

Schedule

Olympus anticipates that Site work will commence around October 2025. Olympus will provide at least one-week advance notice of Site work. Olympus expects to conduct the baseline groundwater monitoring event one week prior to the first injection event. We estimate that the SOW for this WP will be completed by December 2026, after the final Cleanup and Groundwater Monitoring Report is submitted. Please contact me at 406-443-3087 should you have any questions regarding the work plan or the project.

Sincerely,

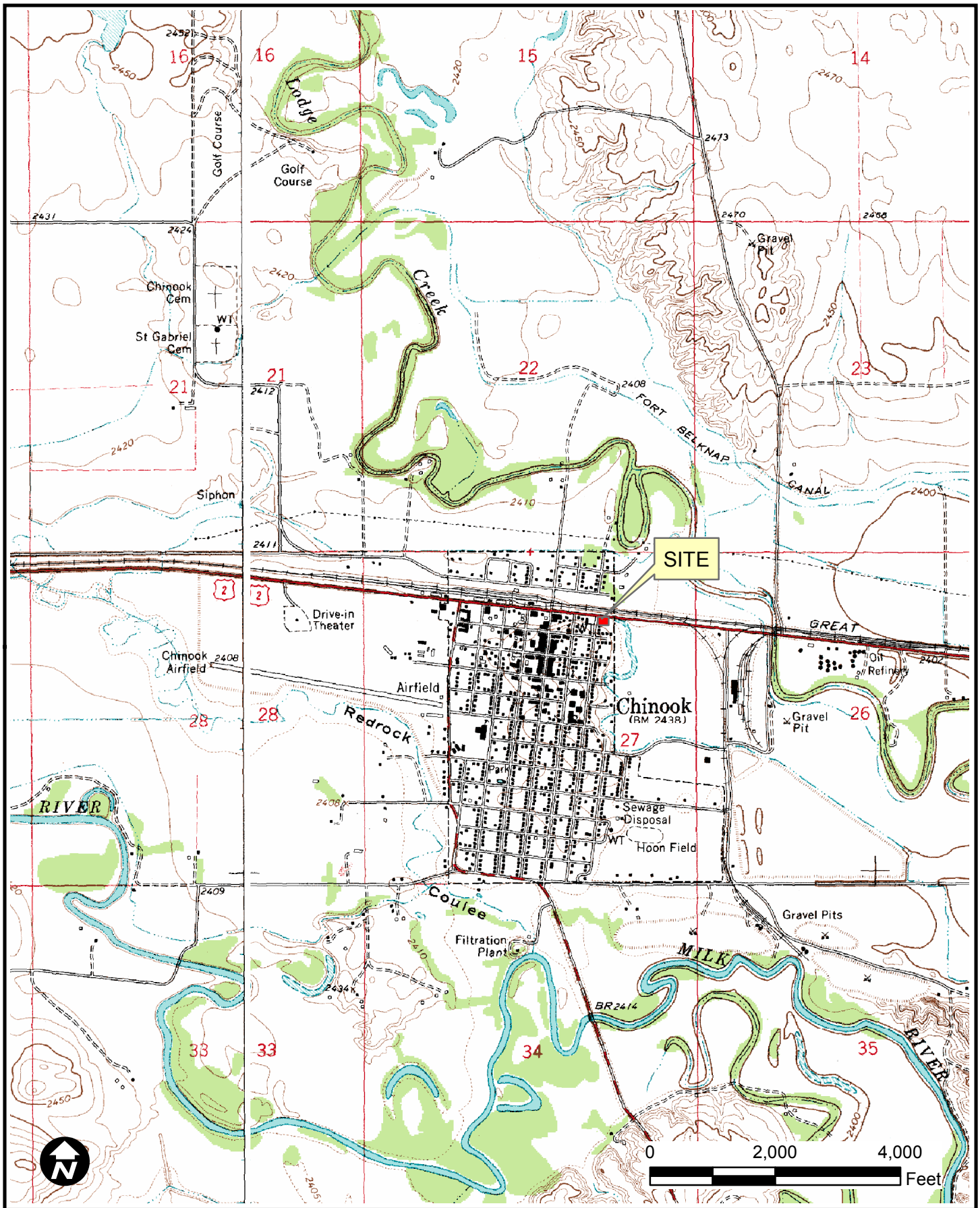
Diane Tackett

Diane Tackett, P.G.
Project Geologist

Attachments: Figures 1, 2, and 3
Detailed Cost Estimate
Groundwater Monitoring and Sampling Unit Cost Worksheet
Soil Boring/ Monitoring Well Installation Unit Cost Worksheet
Regenesis® Budgetary Design and Application Proposal

ATTACHMENTS

6809 King Avenue West, Unit F ● Billings, MT 59106
(406) 245-3554 ● Fax (406) 443-0232



Olympus Technical Services, Inc.	SITE LOCATION MAP FORMER PEHRSON'S EXXON STATION CHINOOK, MONTANA	FIGURE 1

Olympus Technical Services, Inc.

0 30 60 Feet

Site Features
Pehrson's Firestone
Chinook, MT

FIGURE 2

A1476_SiteMap.mxd

Source: Esri, Maxar, Earthstar Geographics, IGN, and the GIS User Community

Olympus Technical Services, Inc.

0 30 60 Feet

Proposed Soil Vapor Points
Pehrson's Firestone
Chinook, MT

FIGURE 3

A1476_SiteMap.mxd

Source: Esri, Maxar, Earthstar Geographics, IGN, and the GIS User Community

Petroleum Tank Release Compensation Board
STATE OF MONTANA
P.O. Box 200902 • Helena, MT 59620-0902 • (406) 444-9710

Groundwater Monitoring and Sampling Unit Cost Worksheet

7/28/2022

Cost Estimate Expl. | Work Plan Tasks | Unit Cost Worksheet | Help

Contractor Information

Company Name:	Olympus Technical Services, Inc.		
Address:	765 Colleen St		
City, State, Zip:	Helena, MT 59601		
Cost Estimator/Print Name:	Diane Tackett	Phone:	406-443-3087
Signature:	Diane Tackett	Date:	7/15/2025

Project Information

Site Name:	Former Pehrson's Exxon	Facility ID#	03-06475
Address:	100 Illinois Street	Release #	3824
City:	Chinook	WP ID#	35059
		Treads ID#	17903

Petroleum Tank Release Compensation Board

STATE OF MONTANA

P.O. Box 200902 • Helena, MT 59620-0902 • (406) 444-9710

7/28/2022

Groundwater Monitoring and Sampling Summary Sheet

Cost Estimate Expl. | Work Plan Tasks | Unit Cost Worksheet | Help

Monitoring Well Details

2	Total Number of Wells at Site
2	Number of Fluid Level Measurements Only (2)
2	Number of Wells to be Monitored/Sampled (4-11)
2	Average Well Casing Diameter (inches)
5	Average Depth to Groundwater (ft)
15	Average Depth of Wells (ft)

Sampling Method

☑	Low-Flow
	Low Yield Aquifer
	No Purge
☐	Other (please specify)

of Events - Monitoring/Sampling Interval

Estimated Start Date: 10/1/2025

2	Semi-Annual
	Annual
	Bi-Annual
1	Other

3 **Total Events**

Sampling Instrument

X	Peristaltic Pump
	Bladder Pump
☐	Submersible Pump
☐	Bailer
☐	Other (please specify)

6	< 25 ft total depth
	25 - 50 ft total depth
	50 - 75 ft total depth
	75 - 100 ft total depth
6	Total

Petroleum Tank Release Compensation Board
Soil Boring/Monitoring Well Installation Unit Cost Worksheet

Contractor Information

Company Name: Olympus Technical Services, Inc.

Address: 6809 King Ave West, Unit F

City, State, Zip: Billings, MT 59106

Cost Estimator: Diane Tackett Phone: 406-443-3087

Signature: Diane Tackett Date: 7/15/25

Project Information and Specifications

Site Name: Former Pehrson's Exxon Facility ID # 03-60475

Address: 100 Illinois Street Release # 3824

City: Chinook WP ID # 35059

Type of Drilling Equipment

- ☐ Hollow-Stem Augers
- ☐ Air Rotary
- ☑ Direct Push
- ☐ Other (please specify)

Monitoring Well Specifications

Number of Wells

Surface: Concrete: ☐ Asphalt: ☐ Barren: ☐

Depth (per well)

Estimated Depth to Groundwater (ft)

Boring Diameter (inches) 2.25

Casing Diameter and type (inches)

Surface Completion: Flush Mount ☐ Aboveground ☐

Soil Boring

Number of Borings 2

Boring Diameter (inches) 2.25

Depth (per boring - ft) 5-8

Surface: Concrete: ☑ Asphalt: ☐ Barren: ☐

Soil Disposal: Onsite: ☑ Stockpile: ☐ Drums: ☐

Abandonment: Bentonite: ☐ Soil Cuttings: ☐

Soil Sampling

- ☑ Continuous Soil Sampling
- ☐ Interval Soil Sampling (specify interval)
- ☑ No Sampling

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 of either the drilling rig or support vehicle will require justification and pre-approval by the DEQ-PTCS and Board staffs. This item should be estimated on a per mile unit rate.

(2) Soil Boring Installation: Includes all costs (labor, equipment, and materials) to drill, collect soil samples and abandon soil borings, as well as decontaminate equipment. Drilling costs should be estimated using a per foot unit rate. Unit cost should include handling of contaminated soil by stockpiling or placing in drums. Assume level "C" personal protective equipment.

(3) Monitoring Well Installation: Includes all costs (labor, equipment, and materials) to drill, collect soil samples, and complete monitoring well to specifications and according to Montana Well Drillers Board rules, as well as decontaminate equipment. Drilling costs should be estimated using a per foot unit rate. Unit cost should include handling of contaminated soil by stockpiling or placing in drums. Assume level "C" personal protective equipment.

(4) Drilling Standy: Drilling standby should be estimated on an hourly basis. Prior approval and justification for accumulating standby time is needed prior to billing.

(5) Well Development: Includes all costs (labor, equipment, and materials) to develop monitoring wells. This task should be estimated using a per well unit rate.

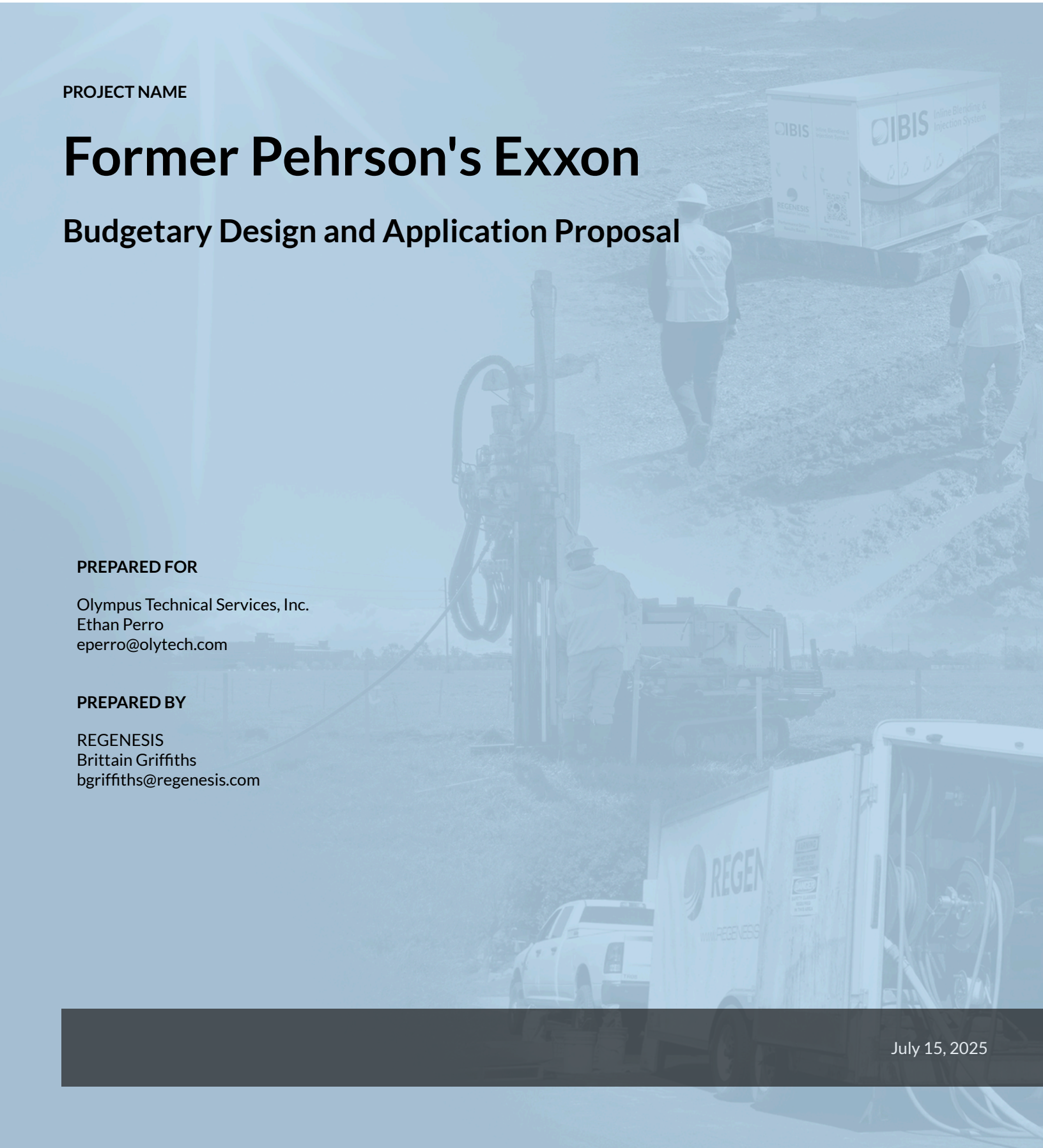
(6) Monitoring Well Abandonment: Includes all costs (labor, equipment, and materials) to properly abandon a well location according to the Montana Well Drillers Board rules. Abandonment costs should be estimated using a per well unit rate.

REGENESIS®

PROJECT NAME

Former Pehrson's Exxon

Budgetary Design and Application Proposal



PREPARED FOR

Olympus Technical Services, Inc.
Ethan Perro
eperro@olytech.com

PREPARED BY

REGENESIS
Brittain Griffiths
bgriffiths@regenesis.com

July 15, 2025

PROJECT SUMMARY

REGENESIS is pleased to present Olympus Technical Services, Inc. with a budgetary remedial design and cost range estimate for the Former Pehrson's Exxon project. This budgetary proposal is intended for evaluation and planning purposes. We look forward to providing a comprehensive, detailed proposal once you have reviewed this information and confirmed that our approach aligns with your remedial goals.

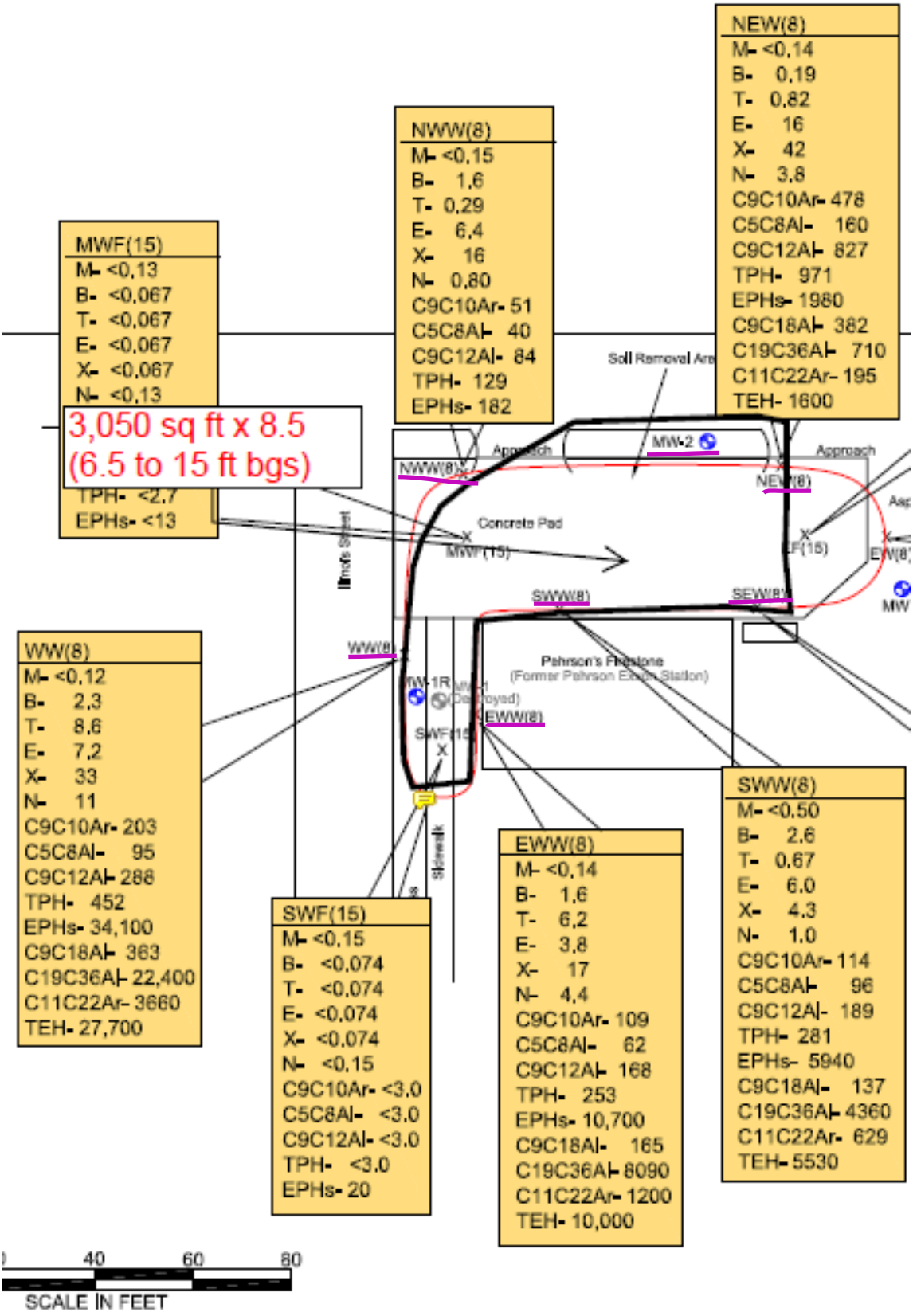
Project Drivers and Solution

In the 3,050 square foot area outlined on the attached site map we recommend the application of Petrofix to absorb and remediate the dissolved phase petroleum hydrocarbons. The goal of the application is to reach 5 ug/L or less of benzene. To achieve your project goal, REGENESIS proposes an integrated treatment strategy using PetroFix® remedial fluid—an innovative solution designed specifically for petroleum-contaminated sites. This strategy combines rapid stabilization of petroleum hydrocarbon plumes with enhanced biodegradation and cradle-to-grave remediation support:

- **Rapid Petroleum Stabilization:** PetroFix rapidly interacts with petroleum compounds, stabilizing them to limit migration and create favorable conditions for biodegradation.
- **Enhanced Biodegradation:** The unique formulation of PetroFix stimulates native microbial activity, accelerating the breakdown of petroleum constituents into benign end products.
- **Enhanced Distribution Efficiency:** Utilizing low-pressure injection, PetroFix achieves superior subsurface distribution, ensuring uniform treatment across the contaminated zone and maximizing overall remediation effectiveness.
- **Sustained Remediation Performance:** Engineered for longevity, PetroFix delivers continuous treatment over multiple years, ensuring that both initial and residual petroleum contaminants are effectively managed for long-term site recovery.

In the 3,050 square foot treatment area with a treatment interval of 8.5 ft (6.5 ft bgs to 15 ft bgs) we recommend the application of 4,000 lbs of Petrofix. The product should be mixed with 20,059 gallons of water and injected into 72 points spaced 6.5 ft on center. Offset the points in the grid by half the distance between rows. The grid pattern should resemble the arrangement of stars on the American Flag. *See spreadsheet for injection details.*

This proposal's technology overview and resource sections provide more specific information on PetroFix.



Former Pehrson's Exxon
Olympus Technical Services, Inc.
July 15, 2025

Figure 1-Treatment Area Map

REMEDIAL DESIGN OUTPUT

REGENESIS

PetroFix Application Summary
Grid Estimate

Pehrson's Exxon

PetroFIX Remediation Fluid

PetroFix Amount	4,000 lb
Electron Acceptor Amount	200 lb
Treatment Surface Area	3,050 ft^2
Injection Points	72
Point Spacing	6.5 ft
Top of Treatment Interval	6.5 ft bgs
Bottom of Treatment Interval	15.0 ft bgs
Treatment Volume	960 yd^3
PetroFix Dose	4.2 lb/yd^3

Total Volume	20,469 gal
Product Volume	409 gal
Water Volume	20,059 gal
Injection Volume Per Point	284 gal
Injection Volume Per Vertical Foot	33 gal
Product/Point	5.7 gal
Water/Point	278.6 gal
Soil Type	Mix of Coarse and Fine
Effective Pore Volume Fill %	53%

Mix Tank Volume*	275 gal
Dilution Factor	50.0 x
PetroFix per Mix Tank	5.5 gal
Water Per Mix Tank	269.5 gal
Electron Acceptor per Mix Tank	2.7 lb
Number of Batches Required	74.4

**Adjust tank volume to that used in field.*

AREA NOTES

Reported Groundwater Concentrations (

Benzene	0.093	Isopropylbenzene	0.000
Toluene	0.000	Naphthalenes	0.000
Ethylbenzene	0.000	MTBE	0.000
Xylenes	0.000	TPH-GRO	0.266
Trimethylbenzenes	0.000	TPH-DRO	0.000
Butylbenzene	0.000	TPH-ORO	0.000

Pricing

Below is the cost estimate to provide the remediation technologies provided in this proposal. Please also see the assumptions and qualifications section.

DVT Items or Remediation Technologies (Select one)	Price	Qty	Subtotal
PlumeStop	$4.90	4000	$19,600
PlumeStop EA Blend	$0	200	$0
Shipping and Tax (estimated) (18%)			+$3,528
Total			**$23,128**

COST ESTIMATE DISCLAIMER: The cost listed assumes conditions set forth within the proposed scope of work and assumptions and qualifications. Changes to either could impact the final cost of the project. This may include final shipping arrangements, sales tax or application-related tasks such as product storage and handling, access to water, etc. If items listed need to be modified, please contact Regenesis for further evaluation.

REGENESIS developed this Scope of Work in reliance upon the data and professional judgments provided by those who completed the earlier environmental site assessment(s), and in reliance upon REGENESIS' prior experience on similar project sites. The fees and charges associated with the Scope of Work were generated through REGENESIS' proprietary formulas and thus may not conform to billing guidelines, constraints or other limits on fees. REGENESIS does not seek reimbursement directly from any government agency or any governmental reimbursement fund (the "Government"). In any circumstance where REGENESIS may serve as a supplier or subcontractor to an entity that seeks reimbursement from the Government for all or part of the services performed or products provided by REGENESIS, it is the sole responsibility of the entity seeking reimbursement to ensure the Scope of Work and associated charges are in compliance with and acceptable to the Government prior to submission. When serving as a supplier or subcontractor to an entity that seeks reimbursement from Government, REGENESIS does not knowingly present or cause to be presented any claim for payment to the government.

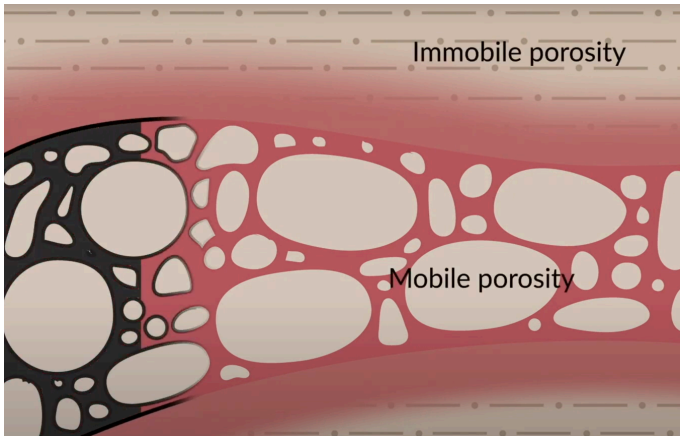
PetroFix® Technology Overview

PetroFix uses colloidal activated carbon (CAC) particles (1-2 micrometers) to quickly adsorb and immobilize dissolved hydrocarbons. This small particle size differentiates PetroFix and increases surface area and adsorption speed compared to larger carbon particles. Integrated anaerobic electron acceptors also promote microbial biodegradation of hydrocarbons, providing long-term contaminant reduction and regeneration of the CAC. PetroFix is versatile for various applications, including source and plume treatment, excavation polishing, and barrier applications.

Features and Benefits:

- **Rapid and Sustained Treatment**: Quickly captures hydrocarbons and supports ongoing biodegradation to prevent rebound.
- **Low-Pressure Application**: PetroFix is injected at low pressures, avoiding the need for fracturing and ensuring even distribution in aquifer flux zones.
- **Ease of Use and Safety**: Shipped as a ready-to-use liquid, avoiding handling risks of powders, and simplifying application.
- **Mitigation of Back-Diffusion and Rebound**: Immobilizes hydrocarbons and supports biodegradation to address back-diffusion.
- **Comprehensive Support**: Offers extensive resources and customer support from design to post-application evaluation.

Hyperlinked YouTube Overview of PetroFix



PetroFix Resources

Media:

- **PetroFix Case Studies**: Over 25 case studies in varied conditions. Use search or pull-downs on this weblink to identify case studies of interest.
- **PetroFix Webinars:** Webinars highlighting performance and best practices at PetroFix sites.
- **PetroFix - An Animated Overview:** An animated explanation of how PetroFix works in groundwater.

Product Literature:

- **PetroFix Spec Sheet:** Summary of specifications and properties of PetroFix.
- **PetroFix 'Mini-Brochure':** A concise brochure highlighting the features and benefits of PetroFix.

Application Instructions:

- **Direct Push Application Instructions**: Instructions for using direct push injection equipment, verifying distribution.
- **Excavation Application Guidance:** Instructions for applying PetroFix within excavation sites.
- **Well Application Guidance:** Procedures for administering PetroFix via wells.

Safety Data Sheets:

- **PetroFix SDS:** Safety data sheet detailing handling and safety information for PetroFix.
- **Electron Acceptor Blend SDS:** Safety data sheet for the electron acceptor blend used with PetroFix.
- **Electron Acceptor Blend Nitrate-Free SDS:** Safety data sheet for the nitrate-free electron acceptor blend.

Technical Bulletins:

- **PetroFix Performance Monitoring Parameters:** Key parameters for monitoring the performance of PetroFix applications.
- **PetroFix Freezing and Hot Weather Handling Technical Memo:** Guidance on managing PetroFix under hot and cold weather conditions.
- **CAC Groundwater Sampling Guidance:** Best practices for sampling groundwater containing colloidal activated carbon.
- **Well Flushing Technical Bulletin:** Procedures for flushing wells post-PetroFix application to ensure optimal performance.
- **Nitrate/Sulfate Addition and Syntrophic Biodegradation:** This paper provides insights into the role of nitrate and sulfate in enhancing biodegradation processes.
- **Laboratory and Field Results Documenting The Biodegradation of Contaminants From CAC**: Summary of work documenting biodegradation of contaminants with colloidal carbon.

Recommended PetroFix Monitoring Parameters

Regenesis recommends collecting baseline samples for all recommended monitoring parameters before injection. Be sure to review state-specific Underground Injection Control (UIC) guidelines for any additional required parameters not listed in this table.

Recommended Monitoring Parameters

Analytical Parameter	Method
Contaminants of Concern (COC's)	Varies by site. Recommend a minimum of BTEX analysis plus Total Petroleum Hydrocarbon (TPH) measurements for gasoline (TPH-G) and/or diesel range contamination (TPH-D) based on contaminant source.
pH	Meter reading taken in flow-through cell
Dissolved Oxygen (DO)	Meter reading taken in flow-through cell (DO can also be measured with a Hach kit)
Oxidation Reduction Potential (ORP)	Meter reading taken in flow-through cell
Electrical Conductivity (EC)	Meter reading taken in flow-through cell
Cations - Ca, Mg, Al (only if using injection wells)*	EPA Method 6010
Nitrate	EPA 353.1 or EPA 9056
Sulfate	EPA 375.3 or EPA 9056
Electrical Conductivity (EC)	Meter reading
Methane and $C0_2$	ASTM D1945

Optional - Baseline and at least 1 year post application (To document microbial response) | Evaluation of biodegradation response through measurement of functional genes | QuantArray Petroleum

**Cations are only recommended for baseline analysis in applications using dedicated injection wells or open borehole injections.*

PetroFix Distribution and Monitoring: The appearance of PetroFix in monitoring wells is normal and desirable and confirms product distribution. An optional clearwater flush may be used to clear it from wells post-injection. Please review the **REGENESIS Groundwater sampling guidance document for PetroFix** for extensive sampling guidance.