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Great Falls, Montana 59404
P (406) 453-5400
Terracon.com

June 28, 2024

Montana Department of Environmental Quality
Leaking Underground Storage Tanks Unit
P.O. Box 200901
Helena, MT 59620-0901

Travel Centers of America (TA)
Attn: Clayton Barns
cbarns@ta-petro.com
216-409-3318
24601 Center Ridge Road
Westlake, OH 44145

Consultant: Terracon
Email Contacts: Keanan Allen Keanan.Allen@terracon.com
Michael Bullock, PE Michael.Bullock@terracon.com
Mark McClure Mark.McClure@terracon.com

Attn: Mr. Reed Miner
P: (406) 755-8982
E: RMiner@mt.gov

Re: Petroleum Release Corrective Action Plan (CAP) Update
TravelCenters of America #256
Facility ID 32-02822 (TID 25272), Release 5028, Work Plan ID 34849
8018 US Highway 93,
Missoula, Montana
Terracon Proposal No. P26247022

Dear Mr. Miner:

Terracon Consultants, Inc. (Terracon) on behalf of TA Operating LLC (TA) is pleased to submit this attached Petroleum Release Corrective Action Plan (CAP) update and budget for environmental consulting services at the abovementioned facility. This CAP update was prepared in response to a Montana Department of Environmental Quality (DEQ) Work Plan Request email dated June 10, 2024.

1.0 PROJECT INFORMATION

The property is located at 8018 US Highway 93 in Missoula, Montana (hereinafter the site). On June 7, 2024, Terracon attempted redevelopment of wells TERR-MW-3 and TERR-MW-4 as written in the Groundwater Monitoring Work Plan dated April 23, 2024. While on-site, Terracon noted surface infiltration of sediment for TERR-MW-1 and TERR-MW-3. On June 7, 2024, the total depth for TERR-MW-4 was 30.15 feet below ground surface (bgs), depth to water was 29.73 feet bgs, and after approximately 50 mL of water was removed the well purged dry.

Based on the previous data from the LSI report (Terracon Project Number 26187119) dated February 19, 2024, and the June 7, 2024 site visit, Terracon has proposed to redrill in place TERR-MW-1. Previously, TERR-MW-1 had a depth to water between 21 and 25.5 feet bgs during the Limited Site Investigation. However, on June 7, 2024, it was observed that the total depth was 10.89 feet bgs likely caused by surface sediment infiltration.

For this reason, it is recommended to permanently abandon TERR-MW-3 and redrill in place TERR-MW-1. The flush-mount well vault for TERR-MW-4 will be repaired and the well will be used to measure total depth as requested by Reed Miner with Montana DEQ. For TERR-MW-3, Terracon will attempt to remove the casing to permanently abandon the well in accordance with Montana DEQ and Montana DNR requirements. If pulling the casing is unsuccessful, then TERR-MW-3 will be over-drilled and then permanently abandoned in accordance with Montana DNR requirements. Existing monitoring wells and associated site features are depicted on **Exhibit 1** included as an attachment.

2.0 SCOPE OF SERVICES

The Soil Boring and Monitoring Well Installation Corrective Action Plan (CAP) (AC-03) and Monitoring Well Abandonment Work Plan (AC-08) were requested by Montana DEQ to provide an abbreviated plan for drilling and permanently abandoning wells on-site. On May 16, 2024, Montana DEQ approved the Groundwater Monitoring Work Plan dated April 23, 2024 for the Petroleum Release at Missoula Travel Center.

2.1 Drilling and Documentation

TERR-MW-1 will be redrilled in place with concrete surrounding the well, high-traffic well vault, with a total depth of approximately 40 feet, with 20 feet of 10-slot (0.10 inch) well screen. Lithology will be documented as redrilling occurs.

No additional soil boring samples beyond characterization samples will be collected. Three (3) soil boring samples will be collected for analysis because prior soil samples were collected during the Limited Site Investigation. These soil samples will serve as profiling for disposal of collected investigative derived waste (IDW) which will be placed in drums for disposal. Groundwater samples will be collected for TERR-MW-1 after redrilling of TERR-MW-1 as described in the approved Groundwater Monitoring Work Plan dated April 23, 2024. Well

development will be performed using surge and purge technique with downhole 12-V electric pump. Purge water generated during well development will be disposed of in accordance with Montana DEQ Purge Water Disposal Flowchart. (Disposal of Untreated Purge Water from Monitoring Wells, 7/27/2015)

2.2 Investigative Derived Waste Disposal

The investigative derived waste from the redrilling of TERR-MW-1 and any other drilling will be placed in drums on-site and hauled to Republic Services Missoula Landfill or another designated landfill or landfarm for disposal after lab results are returned for characterization. The investigative derived waste will be confirmed to be non-hazardous through visual inspection, noting odor, and soil sampling. Soil will be tested for Toxic Characteristic Leaching Procedure (TCLP) benzene, cadmium, chromium, and lead as requested by the Republic Services Missoula, Montana Landfill.

2.3 Groundwater Sampling Methods

Groundwater sampling will take place after the redrilling of TERR-MW-3 and sufficient time will be allowed for groundwater to infiltrate the well after drilling as required by Montana DEQ and Montana DNR. Terracon anticipates collecting the following analytical samples as part of the previous Groundwater Monitoring Work Plan approved by Montana DEQ on May 16, 2024.

Samples will be collected using a peristaltic pump, disposable polyethylene tubing, and low-flow purge and sampling procedures. Purge water will be disposed of on pervious ground on-site in accordance with MDEQ guidance. Should free product be detected in a well during monitoring, purge water from the affected well(s) will be containerized and disposal arranged. One duplicate and one field blank will be collected during each event. Samples will be collected in laboratory-supplied bottles and analyzed for VPH; EPH screen, with fractionation, if necessary; and the lead scavengers 1,2-dichloroethane (1,2-DCA) and ethylene dibromide (EDB). If the first sampling event laboratory results are below Montana risk-based screening levels, lead scavenger analysis will be discontinued.

Project Number: 26187119
Project Name: TCA
SOIL SAMPLES
Three (3) soil samples – TCLP Benzene, Cadmium, Chromium, and Lead**
GROUNDWATER SAMPLES (Approved GW Monitoring Work Plan dated 4/23/2024)
Three (3) groundwater samples – VPH (Montana Method VPH)
Three (3) groundwater samples – EPH (Montana Method EPH)
Three (3) groundwater samples – Lead Scavengers EDB 1,2-DCA (EPA Method 8011/8260B)

An authorized Travel Centers of America representative or Terracon personnel with Third Party Authorization will sign the manifest(s) for the labeled drums containing the IDW.

2.4 Schedule

Terracon will coordinate schedules with the Client and Montana DEQ to finalize work schedules. Terracon will coordinate the public and private utility locates prior to drilling. Terracon anticipates performing the proposed drilling activities between July 29 and July 30, 2024.

In order to complete the project in accordance with this proposal the following items need to be provided by the Client at the time of project authorization:

- The legal right-of-entry to conduct the field services.
- Closure of fueling areas as needed prior to drilling.
- Access to the area around wells for drilling.

3.0 COMPENSATION

Based on the scope of services presented above, Terracon will perform or oversee redrilling and environmental consulting services based on the following fees:

Scope Of Services	Lump Sum Fee	Authorization
Drilling <i>Sub-contractor will perform drilling. Terracon Field work, project management and reporting</i>	\$8,050	A signed Master Services Agreement dated 2/23/2015 is in effect. The email authorization on June 16, 2024 by the TravelCenters of America representative suffices for these additional services. A copy of this Soil Boring and Monitoring Well Installation CAP & Budget (AC-03) & Abbreviated Abandonment of Monitoring Wells (AC-08) has been
Well Abandonment (1 well)	\$200	
Utility Locate/Private Utility Locate <i>Performed prior to drilling</i>	\$2,000	
Investigative Derived Waste (IDW) Disposal	\$1,600	
Mobilization – 330 miles	*	
Project Scientist Labor	*	
Per Diem (1 night)	*	
Laboratory Analysis (3 soil samples – Volatiles 1311/1312) EPA Method 8260 1311/1312 TCLP for Benzene, Cadmium, Chromium, and Lead.	\$315 (Groundwater samples covered in previous Groundwater Monitoring Work Plan)	
CAP AC-03 Abbreviated Soil Boring and Monitoring Well Installation CAP & Budget Preparation	\$1,070	

CAP AC-08 Abbreviated Abandonment of Monitoring Well CAP	\$465	provided to the Client.
Total Lump Sum Fee	\$13,700	

*Associated costs included in previous groundwater monitoring work plan.

Terracon’s invoice will be submitted to the Client on a monthly basis or upon completion of the proposed services. If conditions are encountered at the site requiring changes in the scope of services, you will be contacted for discussion and approval of such changes before we proceed.

If these assumptions or conditions presented in this proposal are not accurate or change during the project, the stated fee is subject to change. Please contact us immediately if you are aware of any inaccuracies in these assumptions and conditions, so we may revise this proposal or fee.

Terracon’s services will be performed in a manner consistent with generally accepted practices of professionals undertaken in the same geographic area during the same period. Terracon makes no warranties, express or implied, regarding its services, findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the deliverable.

We appreciate the opportunity to provide this proposal and look forward to working with you on this project. In addition to these services, our professionals provide geotechnical, environmental, construction materials, and facilities services on a wide variety of projects locally, regionally and nationally. For more detailed information on all of Terracon’s services please visit our web site at www.terracon.com. If you have any questions or comments regarding this proposal or require additional services, please contact the undersigned.

Sincerely,

Terracon Consultants, Inc.

Prepared By:



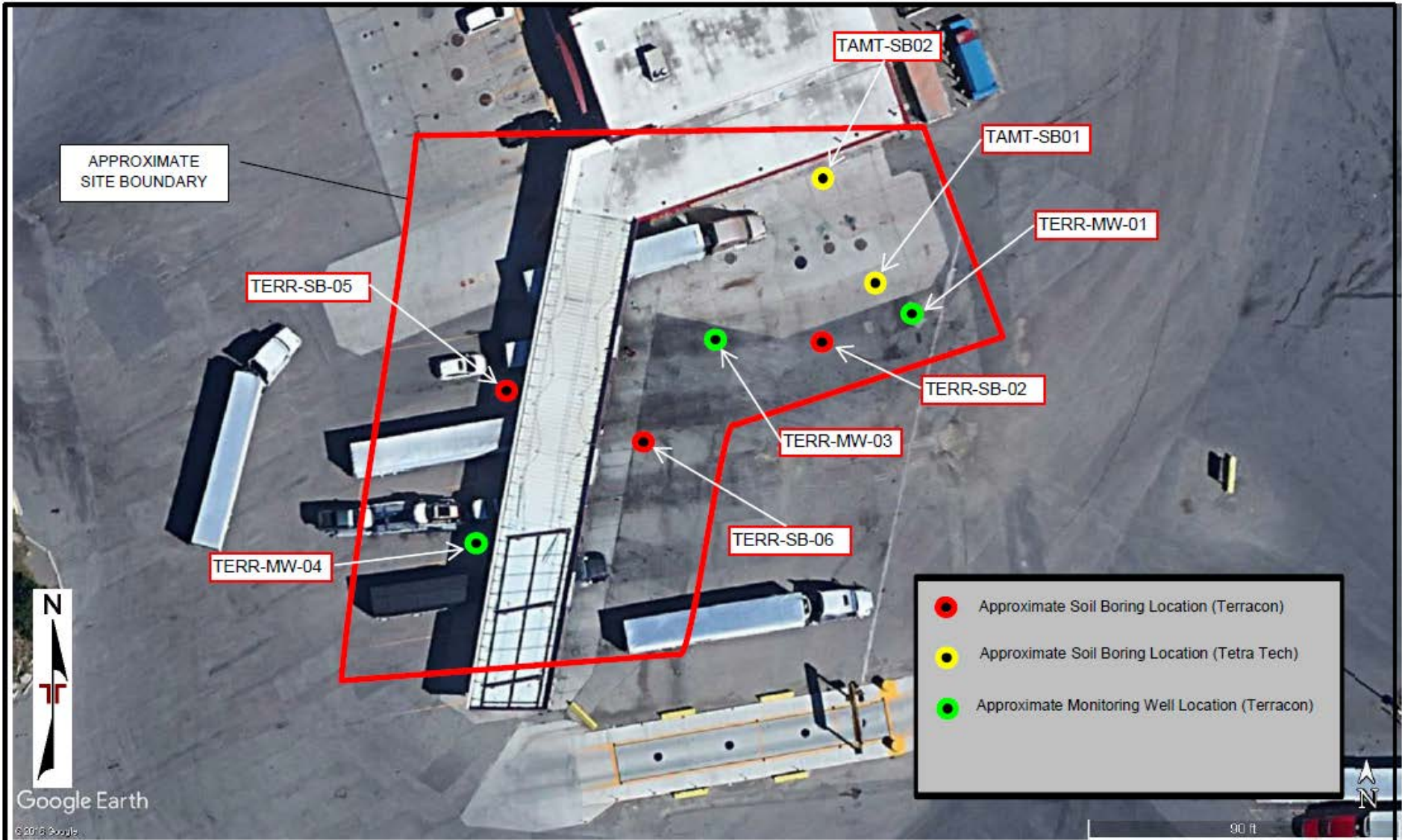
Mark A. McClure, P.E.*
Project Engineer
*Licensed in KS, MO, OK

Reviewed By:



Jared C. Geissler, PE*
Department Manager
*Licensed in CO.

Attached CAP AC-08 and AC-03
Exhibit 1



Google Earth
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Project Manager:	Project No. 26187119
Drawn by: KTA	Scale: AS SHOWN
Checked by: RRS	File Name:
Approved by: RRS	Date: Apr. 2024

Project No. 26187119
Scale: AS SHOWN
File Name:
Date: Apr. 2024



2110 Overland Ave, Ste 124
Billings, MT 59102-6440

SITE DIAGRAM

Travel Centers of America #256 LSI
8018 US Highway 93
Missoula, MT

Exhibit 1

DIAGRAM IS FOR GENERAL LOCATION ONLY,
AND IS NOT INTENDED FOR CONSTRUCTION
PURPOSES



AC-08
MONITORING WELL ABANDONMENT WORK PLAN
and BUDGET FORMAT

This Monitoring Well Abandonment Work Plan (WP) is for the routine abandonment of monitoring wells no longer needed for petroleum release investigation or cleanup, or needed by the owner/operator for their own purposes. Monitoring wells to which this WP applies include groundwater monitoring wells, soil vapor extraction wells, recovery wells, observation wells, sparge/injection wells, and piezometers.

Administrative Rules of Montana (ARM) 36.21.810 sets forth the legal requirements for properly abandoning monitoring wells. ARM 36.21.810 is attached and may be found at the following Internet address: http://www.mtrules.org/gateway/RuleNo.asp?RN=36.21.810.

Return this WP to: Petroleum Tank Cleanup Section, Montana Department of Environmental Quality, P.O. Box 200901, Helena, MT 59620-0901. Please note that incomplete and/or unsigned WPs will be returned and may delay processing of claims submitted to the Petroleum Tank Release Compensation Board.

Facility Name Missoula Travel Center Facility ID# 32-02822 Release # 5028
Facility Address 8018 US Hwy 93 Missoula, MT 59808
Owner/Operator Name TravelCenters of America

Owner/Operator mailing address, if different from above: Attn: Clayton Barns, 24601 Center Ridge Road Westlake, OH 44145

Consultant's name, address, and phone number: Terracon, Mark McClure, 2016 SW 37th Street, Topeka, KS 66611

List monitoring wells by name and number to be abandoned: TERR-MW-3

List monitoring wells by name and number to be maintained: TERR-MW-1, TERR-MW-4

Specify the method by which the monitoring wells will be abandoned: Bentonite

Target date for abandonment of the monitoring well(s): July 29, 2024 and July 30, 2024

Unit cost per monitoring well for abandonment (include mobilization, Portland cement, grout or bentonite, equipment, and consultant or contractor labor costs): \$ 2650/well \$ /ft

Total cost of abandoning the above-listed monitoring wells: \$3,450 (includes IDW cost for transport to landfill)

*Because other drilling is occurring divided by 2. Other expenses for drilling and developing TERR-MW-1 & IDW.

[X] I elect to maintain the monitoring wells located at the above-referenced Facility and will monitor the wells at least every three years and in accordance with applicable requirements of the Montana Department of Natural Resources & Conservation Division.

[X] I elect to abandon the monitoring wells located at the above-referenced Facility and certify that the above-referenced monitoring wells are to be properly abandoned in accordance with the provisions ARM 36.21.810 and other applicable requirements of the Montana Department of Natural Resources & Conservation Division.

(Signature of Facility owner or operator or authorized representative)

(date)

36.21.810 ABANDONMENT

(1) Wells which have not been monitored for more than three years shall be deemed abandoned unless written permission is obtained from the board to maintain the well.

(2) Monitoring wells that have outlived their useful purpose shall be abandoned by one of the following methods:

(a) if the casing and screen are left in place, the casing and screen shall be sealed from the bottom up by the following methods:

(i) using a pump and hose or tremie pipe to conduct the sealing material to the bottom of the well; or

(ii) by filling the casing and screen with bentonite pellets or chips placed in a manner that will prevent bridging. Metal casings shall be cut off three feet below the ground surface and the last three feet backfilled with naturally occurring soils;

(b) the department recommends that the casing be removed in all possible instances. If the casing and/or screen are removed, the hole shall be filled with sealing material, concrete, or bentonite pellets or chips from the bottom up, as the casing and/or screen is removed. From six to three feet from the surface, bentonite shall be added to the well. The last three feet shall be filled with naturally occurring soils;

(c) the sealing material shall be bentonite pellets or chips, bentonite clay grout, neat cement grout, or concrete. The material may contain nonbiodegradable fluidizing admixtures, provided they will not contaminate the groundwater. Sealing materials which settle shall be topped to provide a continuous column of grout to within three feet of the surface; or

(d) other methods for abandonment with prior board approval.

(3) For flowing wells, the abandonment procedures outlined in ARM [36.21.671](#) shall apply.

(4) A properly abandoned well shall not produce water nor serve as a channel for movement of water.

(5) A water well log report, fully describing all abandonment procedures, shall be submitted to the Ground Water Information Center (GWIC) of the MBMG within 60 days of abandoning the well.

History: [37-43-202](#), MCA; [IMP](#), [37-43-202](#), MCA; [NEW](#), 1990 MAR p. 739, Eff. 4/13/90; [AMD](#), 1991 MAR p. 913, Eff. 6/14/91; [AMD](#), 1997 MAR p. 65, Eff. 1/17/97; [AMD](#), 2010 MAR p. 1614, Eff. 7/16/10.

For additional information or requirements for abandoning or maintaining monitoring wells, please contact the Montana Department of Natural Resources & Conservation, Board of Water Well Contractors at (406) 444-6643.