

**From:** [Gilfilian, Bob](#)  
**To:** [Campbell, Peter C \(DEC\)](#)  
**Cc:** [Gilfilian, Bob](#); [Zidek, Michael](#); [Monson, Danny](#); [Petre, Leslie \(DOT sponsored\)](#); [Moorhead, Geoff](#)  
**Subject:** Work Plan for Installation of Drainfield (Infiltrator) at Speedway Store 5313 (former Tesoro 2Go Mart 101/IFC) MPC Site #157575 at 3569 Cushman Street Fairbanks, Alaska  
**Date:** Monday, August 30, 2021 7:34:58 PM  
**Attachments:** [Infiltrator\\_Q4\\_HC\\_SPEC.pdf](#)  
[PeroxyChem-Klozur-CR-Product-Sheet-03-04-ESD-14.pdf](#)  
[FIG-03\\_Site Plan remediation system.pdf](#)

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Hello Pete,

This email message is a follow up to the telephone conversation we had last week concerning the approach/work plan for the implementation of the subject project. This project is Task 3 (installation of additional drainfield) proposed in the 2021 Work Plan for this site.

Subject to the availability of Stantec's contractor, we plan to complete this task during the last week of September or the first week of October. Stantec staff consisting of myself and engineering staff in the Fairbanks office will be on-site during the construction work. I will be responsible for direction of the contractor in the execution of the construction work as described below:

1. As shown on Figure 3 (attached), the new (additional) drainfield consisting of an Infiltrator® chamber (see attached spec sheet for Infiltrator) will be installed in the **general area** shown on the figure.... Due to potential conflicts with UG utilities, the shape of the drainfield may be modified in the field during construction and may end up covering an approximate area of 10 feet wide by 55 feet long resulting in a seepage area of 550 to 600 square feet which is nearly equivalent to the size of the drainfield shown on Figure 3.
2. We anticipate excavating native silt soil (assumed to be non-contaminated) in the footprint of the drainfield from the ground surface down to the groundwater table estimated at a depth of 9 to 10 feet below the ground surface. The groundwater table lies within a gravelly sand stratum. The excavated overburden soil will be screened in the field with a calibrated PID plus olfactory and visual observation of the excavated soil to assess the soil for petroleum contamination. Excavated soil determined to be free of

contamination will be hauled off-site for disposal. However, soil determined to be contaminated (PID readings above background levels - estimated at 15 to 20 ppmv or obvious visual petroleum stains and/or petroleum odors) will be stored on-site on a 10-mil thick liner and covered with 6-mil liner per ADEC guidelines for future treatment pending ADEC approved work plan.

3. Based on previous excavation work completed on this site by Stantec, it is anticipated the gravelly sand stratum at 9 to 10 feet below the ground surface will be saturated and most likely contaminated. Stantec proposes to spread the Klozur CR™ product (see attached product sheet) across the bottom of the excavation for in-situ treatment of the contaminated soil.... The Klozur product will be broadcast with the excavator bucket and all on-site personnel will be properly protected with Tyvek suits and dust protection as recommended by PeroxyChem procedures. It is anticipated approximately 2,700 pounds of Klozur will be spread across the bottom of the drainfield excavation.
4. Following the spreading of the Klozur product at the base of the drainfield, we plan to backfill the excavation with several feet thick of screened sewer rock up to the base of the Infiltrators. The sewer rock is similar to what has been used in the existing drainfield shown the detail provided on Figure 3. It is anticipated that approximately 110 cubic yards of sewer rock will be placed in the excavation.
5. The Infiltrators will be placed level in 3 parallel rows in a bed layout over the screened rock base that will cover an area of approximately 10-feet by 55-feet. 4-inch diameter PVC observation/monitor pipes will be placed vertically at the end of each row to allow future measurement of water levels in the Infiltrator. A geofabric material will be placed over the Infiltrators to prevent soil backfill from infiltrating into the Infiltrators. Native silt soil excavated from the original excavation will be used as backfill over the Infiltrators to bring the final grade of the drainfield to match the existing ground surface with some mounding to address for potential future settlement.

6. Stantec will provide elevation control for the placement of the gravity discharge line from the existing on-site aeration treatment tank. The new drainfield will be connected to the inlet pipe header on the existing drainfield as a means to hydraulically split the flow equally into both drainfields. A header pipe with Tees will be installed to allow for equal distribution of the aerated effluent from the treatment tank into each of the Infiltrator rows in the new drainfield.
  
7. Stantec will document the construction of the new drainfield/Infiltrator with detailed field measurements for the preparation of a record drawing. Finally, Stantec will submit a report to the ADEC on the installation of the drainfield with record drawing and photographic log of the construction work.

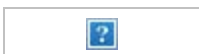
Please feel free to contact me if you have any questions regarding the proposed scope of work/approach for the installation of the new drainfield/Infiltrator.

Thank you,  
Bob

**Robert (Bob) Gilfilian** PE  
Senior Principal Civil Engineer

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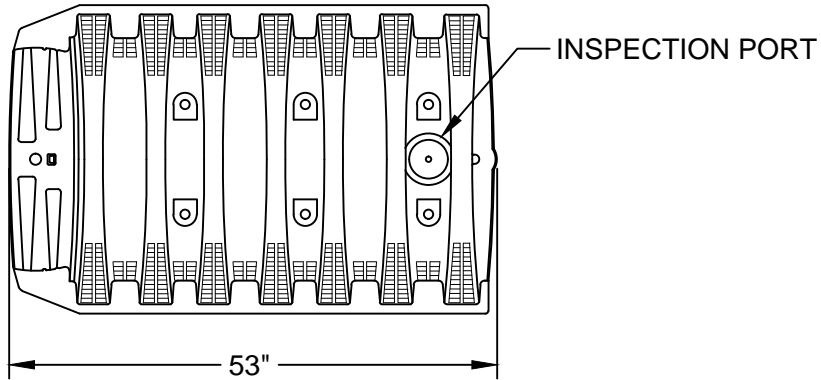
Stantec  
725 East Fireweed Lane Suite 200  
Anchorage AK 99503-2245



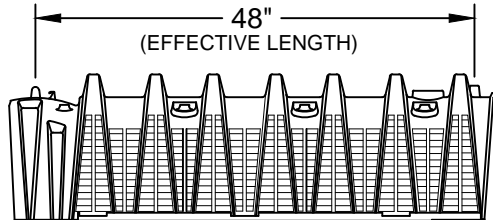
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**INFILTRATOR WATER TECHNOLOGIES**  
**QUICK4 HIGH CAPACITY CHAMBER**  
**PRODUCT SPECIFICATIONS**  
 (NOT TO SCALE)

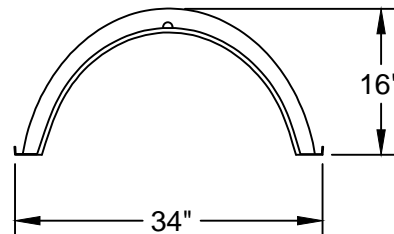
**TOP VIEW**



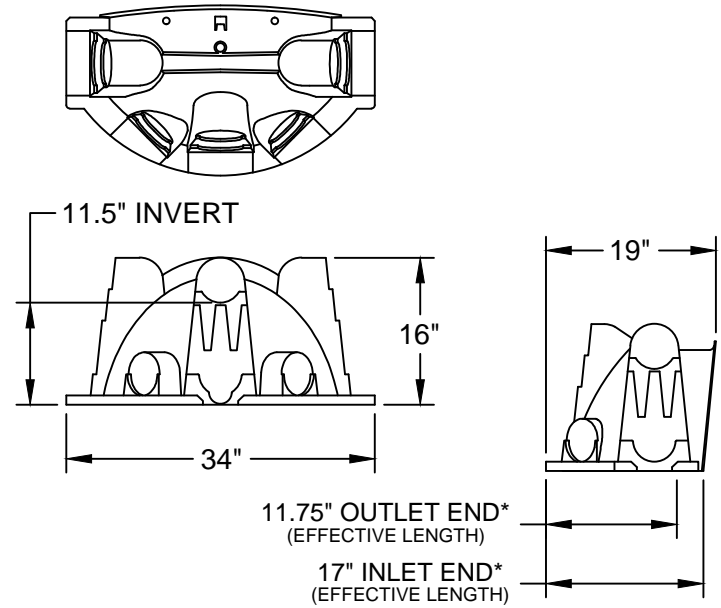
**SIDE VIEW**




**END VIEW**



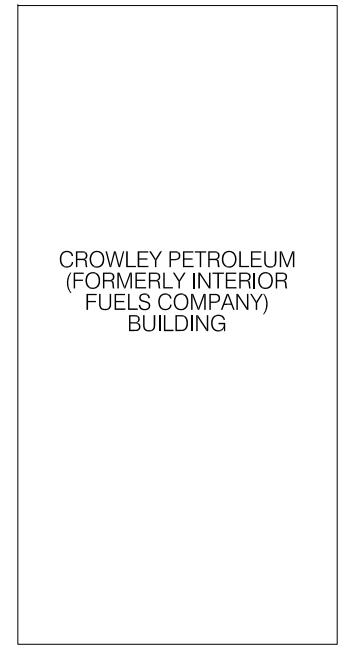
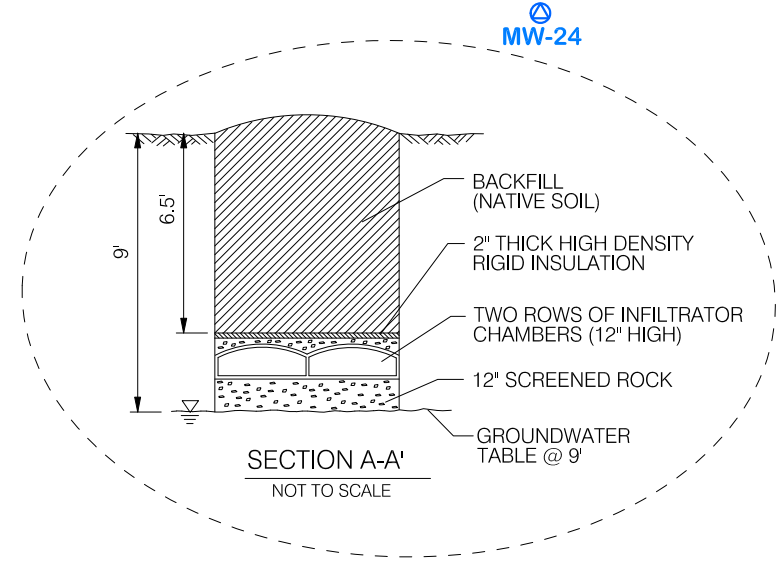
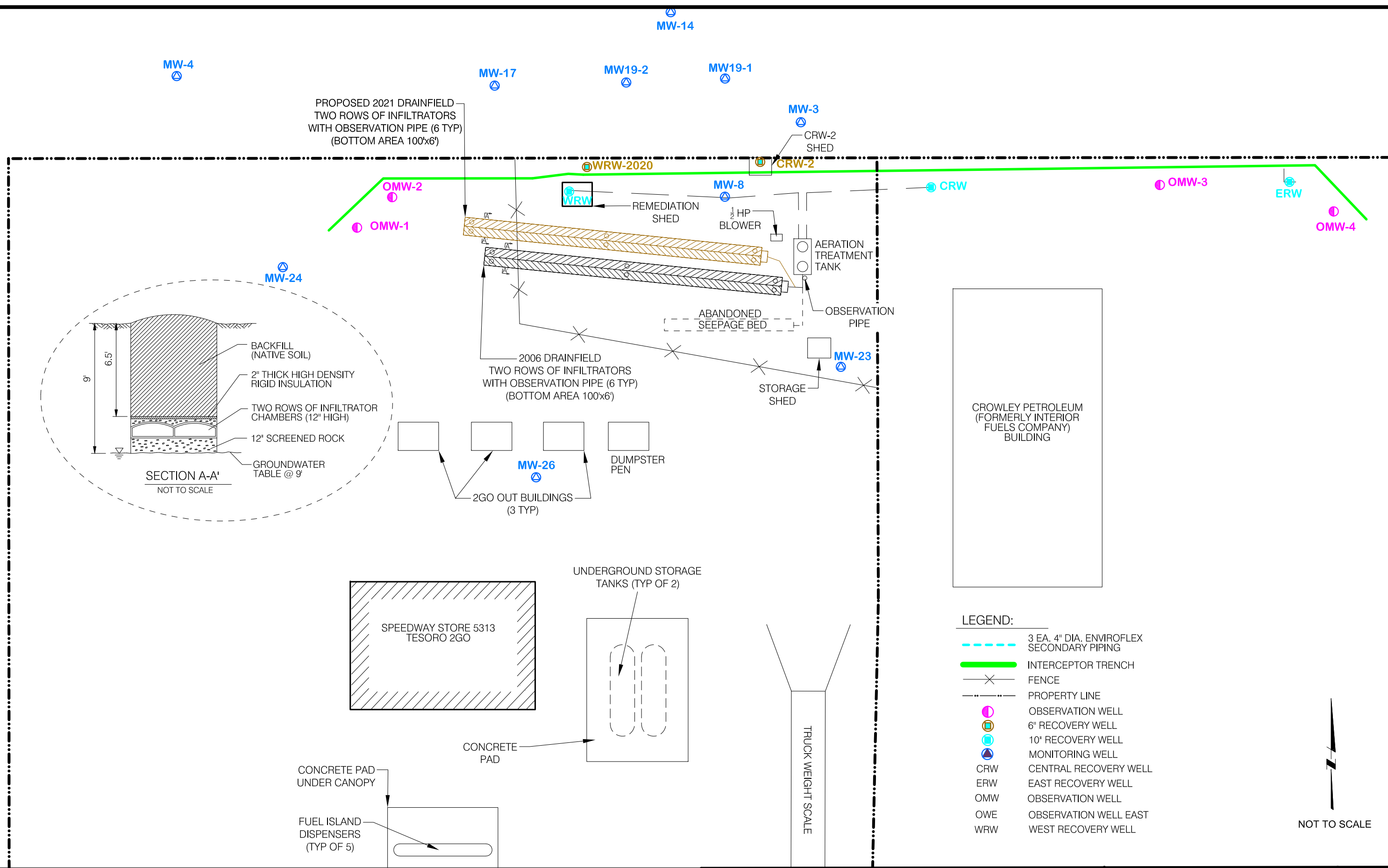
**QUICK4 HIGH CAPACITY MULTIPOINT END CAP**



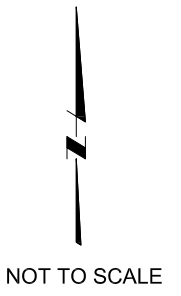
\*ALL VIEWS = INSTALLED LENGTHS.

 <b>INFILTRATOR</b> water technologies		
INFILTRATOR WATER TECHNOLOGIES 4 Business Park Rd. Old Saybrook, CT 06475 (800) 221-4436		
<b>QUICK4 HIGH CAPACITY CHAMBER</b> <b>PRODUCT SPECIFICATIONS</b>		
Drawn by: EMB		Date: 05/21/2015
Scale: NOT TO SCALE	Checked by: DFH	Sheet: 1 of 1

FILE: \\1857\ACTIVE\185751324\03\_REMEDIATION\_SYSTEM\2021\FIG-03\_REMEDIATION\_SYSTEM.DWG PLOTTED: Feb. 3, 2021 - 3:21:02 AM (Peter, Leslie)



- LEGEND:**
- 3 EA. 4" DIA. ENVIROFLEX SECONDARY PIPING
  - INTERCEPTOR TRENCH
  - FENCE
  - PROPERTY LINE
  - OBSERVATION WELL
  - 6" RECOVERY WELL
  - 10" RECOVERY WELL
  - MONITORING WELL
  - CRW CENTRAL RECOVERY WELL
  - ERW EAST RECOVERY WELL
  - OMW OBSERVATION WELL
  - OWE OBSERVATION WELL EAST
  - WRW WEST RECOVERY WELL



## An All-In-One Combined Remedy Approach to Address Soil and Groundwater Contamination

Klozur<sup>®</sup> CR, a Combined Remedy technology, is comprised of a specially formulated mixture of Klozur<sup>®</sup> SP and PermeOx<sup>®</sup> Ultra.

Klozur CR is a single, all-in-one formulated product that can be readily applied to either source areas or plumes with mixed petroleum and chlorinated solvents contamination. Klozur CR destroys contaminants in soil and groundwater by promoting three modes of action: Klozur activated persulfate chemical oxidation, aerobic bioremediation and anaerobic bioremediation.

### The benefits of Klozur CR

Two field proven technologies formulated into an all-in-one preblended product.

- **The Power of Klozur Activated Persulfate**
  - A built in Klozur persulfate activator delivers proven and powerful chemical oxidation action from generated sulfate and hydroxyl radicals
  - Rapid in situ chemical oxidation to target source and hot spot contaminate zones, typically lasting 3-6 months
- **The Performance of PermeOx Ultra**
  - Engineered calcium peroxide providing extended oxygen release for up to one year; longer than any other oxygen release compound available
  - Longevity delivers enhanced aerobic bioremediation in down gradient plumes



### The sound science of Klozur CR

Klozur CR provides self-activating Klozur persulfation oxidation technology, utilizing the alkalinity generated by calcium peroxide to achieve a pH in the range of 11. In addition, the calcium peroxide will slowly generate hydrogen peroxide allowing for peroxide activation of persulfate. High pH activated persulfate is capable of destroying a wide range of contaminants, including petroleum hydrocarbons and chlorinated solvents.

Following the initial chemical oxidation phase, Klozur CR will continue to release oxygen to be used as an electron receptor for aerobic bioremediation for up to a year, as a result of the slow hydration of the engineered calcium peroxide. Diffusion and transport of oxygen downgradient will support contaminant reductions in plume areas, treating BTEX, PAH's and petroleum hydrocarbons.

As a result of the persulfate oxidation with organic compounds, generated sulfate ions can be utilized by sulfate reducing bacteria as an electron acceptor under anaerobic conditions to degrade BTEX, PAH's and petroleum hydrocarbons.

### Application Methods

- Direct push injection
- Soil blending
- Direct application in an excavation

For more information and detailed case studies, please visit our website.

### Examples of Contaminants of Concern

#### CHLORINATED SOLVENTS

PCE, TCE, DCE,  
VC, TCA, DCA

#### PETROLEUM

GRO, DRO, ORO, BTEX

#### PAHs

Creosote, MGP residuals  
1,4-dioxane, MTBE, TBA