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Permit Number: TNHW-169

ATTACHMENT 7. POST-CLOSURE CORRECTIVE ACTION PLAN

- 7.1. POST-CLOSURE CORRECTIVE ACTION PLAN
- 7.2. “REVISED INJECTION WORK PLAN – FORMER AGC GREENLAND PLANT
HAZARDOUS WASTE DISPOSAL UNIT”

ATTACHMENT 7.1. POST-CLOSURE CORRECTIVE ACTION PLAN

I. CORRECTIVE ACTION PLAN

The goal of the Corrective Action Plan (CAP) is to prevent hazardous constituents from exceeding the U.S. EPA and TDEC Drinking Water Standards at the compliance point and to secure approval from the Commissioner for completion of post-closure as specified in Paragraphs III.F.2 and IV.F.3 of this permit.

The permittee has operated the groundwater extraction and treatment remediation system at the facility since 1994. This permitted remedy has successfully removed a significant portion of the constituents of concern (COCs) beneath the unit. However, the permittee will pursue additional technologies to aggressively accelerate cleanup of residual concentrations of COCs.

The document titled “Revised Injection Work Plan - Former AGC Greenland Plant Hazardous Waste Disposal Unit” (Work Plan) was submitted to TDEC on 2 July 2024 and was approved by TDEC on 5 August 2024. The Work Plan is included in Attachment 7.2 and outlines an In-Situ Chemical Oxidation (ISCO) injection to be conducted at the facility. Permanganate, an oxidant, will be introduced to the subsurface via pressurized injection through direct push injection points. The oxidant will react with organic material, breaking down the chlorinated ethenes present at the facility.

A total of 20 direct push technology (DPT) injection points of an approximately 6% wt/wt sodium permanganate solution will be advanced for delivery. The injection points will be advanced within the area of known impacts, adjacent to, and beneath the concrete cap area. The treatment depth will be approximately 25- to 45-ft below ground surface, resulting in a treatment zone thickness of approximately 20 feet. Injection intervals will occur every five (5) feet, with five (5) total injection intervals per injection point. Based on the geology at the Site, a conservative radius of influence of ten feet per injection point was utilized. Figure 7-1 depicts a generalized injection layout.

Following boring advancement and completion of injection, each borehole will be abandoned by backfilling with cement-bentonite grout using a tremie-pipe to place the grout from the base to within six inches of the surrounding surface grade. Additional grout will be installed if any sloughing occurs during curing of the grout. The upper six inches of each boring will be backfilled with a six-inch column of concrete to match the surrounding grade and repair of the engineered cap. Any investigation derived waste (IDW) will be placed into 55-gallon drums and staged at the Site pending waste characterization. The material will be managed for off-site disposal at a licensed disposal facility based on waste characterization analytical sample results.

Operation of the groundwater extraction and treatment system at the facility will continue with modifications during the injection. Two of the three extraction wells, EW-01 and EW-03, will be deactivated during the injection. EW-02 will continue to operate.

II. CORRECTIVE ACTION PLAN MONITORING PROGRAM

Post-injection groundwater samples will be collected as part of the bi-annual groundwater monitoring events described in Attachment 5 of this permit.

III. IMPLEMENTATION AND REPORTING SCHEDULE

The permittee will initiate modification of the remediation system upon the effective date of this permit. Injection activities will follow. Upon completion of the ISCO injection event and evaluation of post-injection groundwater monitoring data, subsequent injection may be warranted. In addition, consideration as to whether to restart groundwater extraction from EW-01 and EW-03 will be assessed approximately 18- to 24-months after completion of the initial injection event and may be delayed further if subsequent injection events are performed. AGC will request approval from the DSWM prior to the groundwater extraction systems being restarted or remaining inoperable during or at the conclusion of the project. Post-injection groundwater sampling will occur during the ongoing semiannual groundwater monitoring in September 2025 and February 2026. Post-injection groundwater sampling will be integrated into the scheduled semiannual monitoring events occurring in September 2026 and February 2027. Consistent with the approved Work Plan, post-injection reporting will adhere to the established reporting schedule. The reporting deliverable is anticipated to follow the February 2026 monitoring event to ensure sufficient time for evaluating the effectiveness of the injection activities. The projected implementation timeline is presented in Table 7.1-1.

Table 7.1-1. Implementation Schedule		
Milestone	Anticipated Start Date	Anticipated Duration
TDEC Approval of the Class 2 Modification	Winter 2025	--
Modification of the Remediation System	Within 30 Days of Modification Approval (pending contractor availability)	18 to 24 Months
Start of ISCO Injection	Within 30 Days of Modification Approval (pending contractor availability)	Two Weeks
End of Field Work	Two Weeks After Start of ISCO Injection	--
Interim Status Update	Within 30 Days of Completion of Field Work	--
Post-Injection Groundwater Monitoring	September 2026 / February 2027	Two Days per Event
Post-Injection Groundwater Monitoring Report Submittal	Within 45 Calendar Days Following Receipt of Verified Laboratory Analytical Data	--

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