



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10

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OFFICE OF
COMPLIANCE AND ENFORCEMENT

Reply To: OCE-082

Randy Vanderwood
Chief, Central Region Maintenance and Operations
Alaska Department of Transportation and Public Facilities
P.O. Box 196900
Anchorage, Alaska 99519-6900

Re: Conditional Approval of Permanent Closure of One Motor Vehicle Waste Disposal Well at the Alaska Department of Transportation and Public Facilities Cold Bay Airport Old Maintenance Building, Cold Bay, Alaska 99571
(UIC ID#AK013S5-19-13626)

Dear Mr. Vanderwood:

On October 31, 2012, the U.S. Environmental Protection Agency (EPA), Region 10 Underground Injection Control (UIC) program, received your closure report for one Class V injection well at the Alaska Department of Transportation and Public Facilities (ADOT&PF) Cold Bay Airport Old Maintenance Building, 100 Kennedy Drive, Cold Bay, Alaska. This well was not previously inventoried because it was just discovered in June 2012 during the cleanup of a diesel fuel spill at the site. Instead of submitting the Class V Well Pre-Closure Notification Form before the closure work occurred, you provided it with the closure report on October 31, 2012, because the well was closed and removed immediately after it was discovered during the cleanup efforts at this site.

The Class V injection well that you closed at the Cold Bay Airport Old Maintenance Building was a perforated tank that was connected to floor drains in the old maintenance shop where motor vehicles were serviced in the past. ADOT&PF used the shop and injection well from about 1964 to 2002. Since 2002, the shop has been used for warm storage of materials, not vehicles, with no fluids entering the well. The injection well is categorized as a motor vehicle waste disposal well. See 40 Code of Federal Regulations (C.F.R.) § 144.81(16).

Closures of motor vehicle waste disposal wells are conducted under 40 C.F.R. §§ 144.82, 144.89, and 146.10(c). Pursuant to the EPA's authorities under 40 C.F.R. Parts 144 and 146, the EPA has reviewed and conditionally approves your closure report with the conditions described in detail below.

Background

On November 7, 2011, there was a diesel fuel spill from an above ground storage tank (AST) at the Cold Bay Airport Old Maintenance Building. The initial effort to remove the contaminated soil began in November 2011, and during this work, the field crew discovered what they thought was an underground storage tank (UST) immediately northeast of the AST location. They

registered the tank (UST #3577) with the Alaska Department of Environmental Conservation (ADEC). The top of the UST was exposed at the time of the investigation, and the tank was found to be mostly empty. It was determined that hydrocarbon impacted soil was greater than four feet below ground surface (bgs) in the immediate area of the AST release and that a bigger cleanup effort was needed, so the second phase was scheduled for spring 2012.

Contaminated soil cleanup and removal of the tank proceeded from June 11-14, 2012. However, the field crew discovered that the tank was perforated and had a pipe connected to it, which indicated that the tank was actually an injection well connected to the floor drains in the old maintenance shop. ADOT&PF completed the cleanup of the contaminated soil from the AST and closure of the injection well in June 2012. The excavation activities associated with the AST release were subdivided into three separate excavations (A, B, and C) and the injection well closure was included in excavation B.

Well Design

The injection well consisted of three one-foot by one-foot floor drain sumps that each had a discharge pipe. The three discharge pipes were manifolded together into one 2.5-inch diameter steel pipe that exited under the building to the injection well, which consisted of the perforated tank buried outside the building. The injection well is five feet by five feet by seven feet. The top of the injection well was located approximately 3.5 feet bgs and the bottom was approximately 8.5 feet bgs.

Closure Work

During the closure of the well, all piping connections were verified; there was one pipe from the floor drains in the building to the well. The three floor drains were cleaned out and filled with concrete, which plugged the discharge piping in each drain. The pipe connecting the floor drains to the perforated tank was disconnected and filled with Bentonite. A rubber plumbing end cap was put on the end of the pipe.

The perforated tank and approximately 40 to 45 cubic yards of contaminated liquids, sludge (approximately two to four inches in the tank), and soil from in and around the injection well were removed. The excavation was performed in sequential steps to facilitate the removal of the well and the segregation of contamination from the AST and the injection well. Field observations indicated that the AST contamination excavated above the top of the well was not co-mingled with soil contaminated by the injection well. The soil was stockpiled and will be disposed of in a manner appropriate with the contaminant concentrations. ADOT&PF is continuing consultation with ADEC to dispose of the soil and achieve site closure. A photoionization detector (PID) was used to test the soil during the excavation. Soil removal stopped when contaminant concentrations were at or below ADEC cleanup levels, the integrity of the building was in question, or the excavation equipment limits were reached. The completed excavation measured approximately 140 square feet and varied in depth from 12 to 14 feet bgs.

One soil sample (UST-Pipe NE-4.0) was collected immediately below the point where the discharge piping entered the perforated tank. A second soil sample (UST-B-SW-8.8) was

collected from material that was observed to be heavily stained immediately below the injection well following well removal. Post soil excavation samples were also collected from two locations: one sample (UST1-B-14) from the longitudinal center of the bottom of the excavation where the perforated tank had been (which coincided with the highest field screen location), and one sample and a duplicate (UST2-B-12 and UST3-B-12) from the base of the east excavation sidewall below the well (which coincided with the second highest field screen location). The soil samples were analyzed for gasoline range organics (GRO), diesel range organics (DRO), residual range organics (RRO), Resource Conservation and Recovery Act (RCRA) metals, volatile organic compounds (VOCs) by EPA Method 8260 B, and polychlorinated biphenyls (PCBs) by EPA Method 8082A. The sample from immediately below the injection well (UST-B-SW-8.8) was also analyzed for polyaromatic hydrocarbons (PAHs) by EPA Method 8270D-SIM.

Sample Results

The results for the soil sample (UST-Pipe NE-4.0) collected immediately below the point where the discharge piping entered the perforated tank indicate that DRO and arsenic are present at concentrations that exceed ADEC's cleanup standards. You reported that although much of the material located immediately below the pipe was removed during excavation activities, the reported DRO concentration is representative of hydrocarbon contaminant concentrations remaining on the west excavation sidewall below the shop foundation, which could not be excavated safely. The concentration of arsenic is also slightly above ADEC's cleanup level (4.29 mg/kg compared to ADEC's standard of 3.9 mg/kg), but the extent of this arsenic contamination is very localized because no other confirmation samples from the excavation exceeded the arsenic cleanup level.

The results for the soil sample (UST-B-SW-8.8) collected from the material that was observed to be heavily stained immediately below the injection well indicate that GRO, DRO, and RRO were present at concentrations that exceed ADEC's cleanup standards. This sample was collected for contaminant profiling purposes and the material that it was collected from was removed during the excavation activities.

The results for the post soil excavation samples (UST1-B-14, UST2-B-12 and UST3-B-12) all indicate that DRO is present at concentrations that exceed ADEC's cleanup standards. Reported concentrations ranged from 2,450-3,230 mg/kg compared to ADEC's standard of 250 mg/kg. The results for sample UST1-B-14 also indicate that GRO is present at a concentration that exceeds ADEC's cleanup standard (800 mg/kg compared to ADEC's standard of 300 mg/kg). The results for samples UST2-B-12 and UST3-B-12 also indicate that 1,2,3-Trichloropropane (TCP) is present at concentrations that exceed ADEC's cleanup standard (0.171 and 0.0632 mg/kg compared to ADEC's standard of 0.00053 mg/kg). However, you reported that the presence of TCP at these concentrations from samples collected at 12 feet bgs is suspect based on the fact that no other samples (including the heavily impacted sample from below the base of the injection well) collected during the excavation activities had concentrations of TCP that exceeded ADEC's standard.

In addition to confirmation sample results, field screening results were also reported for each sidewall within the completed excavation. The results for the southern wall were the lowest of the four walls at 18.2 ppmv. However, the field screening levels for the north (605 ppmv), east

(755 ppmv), and west (453 ppmv) sidewalls indicate that the remaining contamination is likely above applicable cleanup levels and the vertical and horizontal extent of contamination remaining at the base of the excavation and along these sidewalls is unknown.

Conditions of Approval

EPA has reviewed the information provided and consulted with the staff of the ADEC Contaminated Sites Program (CSP) regarding the closure activities. Pursuant to the EPA's authority under 40 C.F.R. § 144.89(a)(1), the UIC program file for this facility now documents that one motor vehicle waste disposal well has been permanently closed with the following conditions:

1. Because the levels of DRO, GRO, arsenic, and TCP were detected above ADEC cleanup criteria in the confirmation samples, ADOT&PF must continue to work with the ADEC CSP to address the remaining contamination.
2. EPA normally requires that confirmation samples for the closures of motor vehicle waste disposal wells are analyzed for semivolatile organic compounds (SVOCs) using the full suite of EPA Method 8270 parameters. However, because the samples were analyzed for DRO and RRO because you originally thought the injection well was an UST, and at least one sample was analyzed for PAHs by 8270D-SIM, EPA will accept the more limited 8270 parameters for this well closure.
3. It was reported that groundwater was not encountered during the cleanup efforts. However, because the remaining vertical and horizontal extent of DRO and GRO contamination is unknown at the base of the excavation and along the north, east, and west sidewalls, ADOT&PF should evaluate the potential impacts to groundwater and the nature and extent of groundwater contamination (if any).
4. The contaminated soil that was excavated and stockpiled must be disposed of or treated in a manner appropriate with the contaminant concentrations. ADOT&PF must continue consultation with the ADEC CSP to dispose of or treat the soil and achieve site closure.

Pursuant to the conditions described above, the closure report for the motor vehicle waste disposal well at the Cold Bay Airport Old Maintenance Building is approved.

Please note that fulfilling conditions discussed above and related to closure of the motor vehicle waste disposal well does not relieve ADOT&PF of any applicable requirements of federal, state, or local law. In addition, the EPA reserves all rights to take enforcement actions as authorized under Section 1423 of the Safe Drinking Water Act (SDWA), 42 U.S.C. § 300h-2, for the underlying SDWA violation or for any future or past violation of a requirement or permit issued pursuant to the SDWA or any other applicable legal requirements. If you have any questions, please contact Anne Christopher of my staff at (206) 553-8293.

Sincerely,



Peter Contreras, Manager
Ground Water Unit

By email:

Jennifer Micolichek

Alaska Department of Transportation and Public Facilities

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Contaminated Sites Program