



THE STATE
of **ALASKA**
GOVERNOR MICHAEL J. DUNLEAVY

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Site Program

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March 15, 2022

Kelley Nixon
Hilcorp Alaska, LLC
3800 Centerpoint Drive
Suite 100
Anchorage AK 99503

Re: Kenai Gas Field
2021 Groundwater Monitoring Program Report
ADEC Report Approval and Comments

Dear Ms. Nixon:

The Kenai Area Office of the Alaska Department of Environmental Conservation, Contaminated Site Program (ADEC) has reviewed the 2021 Groundwater Monitoring Program Report for the Kenai Gas Field, dated January 2022.

ADEC approves the 2021 report and offers the following comments:

- 1) The elimination of KGF14-6 monitoring wells MW-1, MW-3, MW-14, MW-15 and MW-21 removed the ability to monitor or estimate the concentration of free product hydrocarbon on the KGF 14-6 pad. Historical data for these monitoring wells should be maintained in the data tables, along with well locations on the maps to aid in the understanding of potential future impacts and the understanding of pad conditions. Please include a figure with historical well locations and tables that include historical data including product thickness and recovery.
- 2) "14-6 Surface water results are elevated for TAH (toluene), more so than usual after a too dry event in 2019. Toluene is a component of contamination at the site, but no other components are present in the surface water." This does seem like an anomaly. Hilcorp might consider sampling surficial pore water within the surface peat to determine if contaminants are present. For example, a temporary well screen could be hand pressed into the upper foot or two of peat, and a sample collected from the water within the peat. This is not a requirement. With the larger than average

snowfall this winter, we request that Hilcorp increase wetland inspections this spring, looking for evidence of contaminant impacts, particularly on KGF 14-6 and KGF 41-7.

- 3) On KGF 14-6, MW-24 was not included in historical sample results on Table B3-3. Please include in the next report.
- 4) On KGF 41-7, There has historically been a downward potential between the upper pad groundwater (perched aquifer) and groundwater below the pad. Wells MW-16 and MW-17 are wells that demonstrate this. The issue is well screens and other features (pipelines and utilities) that cross or come close to breaking the apparent boundary retarding downward contaminant flow into the mineral soil aquifer under the pad. Assuming this scenario is correct, the mineral soil aquifer should have a dedicated monitoring network, especially on the western side of the pad, that can detect contaminants moving off pad. An ideal network would include wells just under the peat soils, (dual cased or carefully grouted), in areas of the pad that may be likely to be source areas for contamination. Off pad wells previously installed in the wetlands were highly susceptible to frost jacking and are not recommended for long term monitoring.
- 5) MW-25R appears to be drilled through the peat into sand, silt and gravel aquifer. This area is not within a zone of contamination, so this well is not a liability.
- 6) The well screen in MW-27R is close to crossing the peat barrier. Evaluate the water level to see if the lower aquifer or the perched upper pad aquifer are influencing the well groundwater levels. There appears to be a downward potential in the well as evidenced in the groundwater contour map. This could allow pad contamination to move unimpeded into the mineral soil aquifer.
- 7) Based on the groundwater contours, it appears that MW-21R has penetrated into the mineral soil aquifer, as the new well is screened from 3-8' BGS and the original well was screened from 2.5-6.5'. Soil and groundwater contamination were present in the shallow soils around MW-21. MW-21R may be cross contaminating the aquifer and should be evaluated for decommissioning.
- 8) Hilcorp should consider assessing natural attenuation variables on Pad 41-7. There may be valuable information to be gleaned about what factors might limit natural attenuation and what might be added to stimulate remediation.
- 9) Free product on pad 41-7 is a long-term liability. There is a high risk for separate phase product to move from the pad into the surface wetlands on the west side of the pad. It would be prudent for Hilcorp to develop a release response plan and or a plan to mitigate the potential for a release.

If you have specific questions regarding this site, you can reach me at 907-262-3412 or via email at peter.campbell@alaska.gov.

Sincerely,

Peter Campbell

Peter Campbell
Project Manager
ADEC Contaminated Sites Program

Electronic copy: Kimi Lloyd, Brice Environmental Services