



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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File No. 2320.38.032, 2320.38.032

May 16, 2023

Drew Anderson
Hilcorp Alaska, LLC.
3800 Centerpoint Drive, Suite 1400
Anchorage AK 99503

Re: Kenai Gas Field 2023 Work Plan Addendum
ADEC Comments

Mr. Anderson:

On April 26, 2023, the Department of Environmental Conservation, (DEC) Contaminated Sites Program, received the 2023 Groundwater Monitoring Program Draft Work Plan Addendum. This document was prepared by Aleut. The work plan is not approved.

DEC's September 27, 2017 letter to Hilcorp, 2017 Kenai Groundwater Monitoring Program – Work Plan - DEC Conditional Approval – Kenai Gas Field Sites, addressed the abandonment of KGF 41-7 monitoring well MW-24 and the replacement with two monitoring wells, one in the impacted pad aquifer (shallow) and one in the mineral soils under the pad (deep). A Brice Environmental work plan was approved in 2021. Hilcorp has failed to follow through with this requirement. Hilcorp will submit a work plan to address the installation of these wells this field season.

DEC is requiring additional sampling on Kenai Gas Field pad 14-6 for 1,4-dioxane in four monitoring wells. Monitoring wells MW-22, MW-23, MW-7, and MW-36 are in an area of historical glycol release.

Submit a work plan by June 12, 2023, for Kenai Gas Field sites. If you have any questions on any aspect of the project, please contact me at (907) 262-3412, or by e-mail at peter.campbell@alaska.gov

Sincerely,

Peter Campbell

Peter Campbell
Environmental Program Specialist

Electronic copies via e-mail:

Lynnda Kahn – USFWS
Sharon Yarawsky – BLM

Attachment: 2017 Kenai Groundwater Monitoring Program – Work Plan - DEC Conditional Approval – Kenai Gas Field Sites



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GOVERNOR BILL WALKER

Department of Environmental
Conservation

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File Numbers: 2320.38.029
2320.38.031
2320.38.032
2320.38.033

September 27, 2017

Kelley Nixon
Hilcorp Alaska, LLC.
3800 Centerpoint Drive, Suite 1400
Anchorage AK 99503

Re: 2017 Kenai Groundwater Monitoring Program – Work Plan
ADEC Conditional Approval – Kenai Gas Field Sites

Dear Ms. Nixon:

On August 21, 2017, the Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC), received the 2017 Kenai Groundwater Monitoring Program – Work Plan for the Swanson River, Beaver Creek, Cannery Loop and Kenai Gas Fields. This workplan was prepared by Brice Environmental.

This letter constitutes ADEC's conditional approval decision for the four (4) sites in Hilcorp's Kenai Gas Field. ADEC **conditions of approval**, as well as some comments/questions, and are presented specific to each of the 4 Kenai Gas Field sites which are identified below.

Peter Campbell will respond separately to the other "sites" included in Hilcorp's work plan.

Kenai Gas Field Pad 14-6

Comments/questions;

- 1) In section 5.2, the text states "*Monitoring wells (Figure 20) are located around the buildings and extend east into the native wetland, where surface water samples have been collected (SLR 2014a).*" We believe east should be west.
- 2) The text in section 5.2.2 states: "*Measurable LNAPL was observed in three monitoring wells: MW-23, MW-33, and MW-41.*" What about MW-32? Figure 20 indicates LNAPL present in MW-32 in 2015, however table 19 indicates that MW-32 was abandoned in 2005. Could you research this and correct the discrepancy in the work plan?
- 3) The symbol for "Monitoring Well – sample and gauge" shown in the Legend on Figure 20 indicates 10 MWs and 8 SVE wells will be sampled; however the text within section 5.2.3 and Table 19 indicate that only 10 MWs will be sampled in the 2017. Should a different symbol be used to represent the 8 SVE wells on Figure 20 for the 2017 sampling event?

- 4) In section 5.2.3, the text states “*Decommission MW-12. The well has an obstruction and is unable to be sampled. Nearby wells provide similar data.*” Is any further description on the obstruction available? Also, which nearby MWs provide similar data? Is there any history of contamination in MW-12?

Conditions Attached to Work Plan Approval;

- 1) Our August 2017 Field Sampling Guidance (Table F) requires that method 8260C and 8270D analyses be performed on samples collected from wells that are impacted by crude oil and basically all other hydrocarbon sources. We require these laboratory analyses for the monitoring wells that have historical (within last 5 years) BTEX, GRO, or DRO contamination, where no free product (LNAPL) is present. This will require changes to the analyses identified in Table 19 of the work plan.
- 2) ADEC approval of a written work plan, which describes the proposed MW decommissioning methods, is required for decommissioning of MW-12.

Kenai Gas Field Pad 41-7

Comments/questions;

- 1) The legend on Figure 22 includes a symbol for Monitoring wells with LNAPL present in 2015. I don’t see that symbol applied to MW-24 or for any other MW on Figure 22? Was LNAPL not present in any MW in 2015? We expected to see LNAPL in MW-24.

Conditions Attached to Work Plan Approval;

- 1) Our August 2017 Field Sampling Guidance (Table F) requires that method 8260C and 8270D analyses be performed on samples collected from wells that are impacted by crude oil and basically all other hydrocarbon sources. We require these laboratory analyses for the monitoring wells that have historical (within last 5 years) BTEX, GRO, or DRO contamination, where no LNAPL is present. This will require changes to the analyses identified in Table 21 of the work plan.
- 2) ADEC approval of a written work plan, which describes the proposed MW decommissioning methods, is required for the decommissioning of MW-24.
- 3) Two MWs must be installed at the MW-24 location. One screened to sample each of the two separate aquifers (shallow & deeper aquifers). ADEC approval of work plan describing the construction of these two replacement monitoring wells is required.

Kenai Gas Field Pad 41-18

Comments/questions;

- 1) In section 5.5.3, the text states “*Decommission wells MW-A, MW-C, MW-1, MW-5, MW-6, MW-7, and MW-13.*” We’ve searched Figure 23 but cannot locate MW-C. Is MW-C shown on Figure 23, or is MW-C a typographical error?

Conditions Attached to Work Plan Approval;

- 3) Our August 2017 Field Sampling Guidance (Table F) requires that method 8260C and 8270D analyses be performed on samples collected from wells that are impacted by crude oil and basically all other hydrocarbon sources. We require these laboratory analyses for the monitoring wells that have historical (within last 5 years) BTEX, GRO, or DRO contamination, where no LNAPL is present. This will require changes to the analyses identified in Table 22 of the work plan.

- 4) ADEC approval of a written work plan, which describes the proposed MW decommissioning methods, is required for the decommissioning of MW-A, MW-C, MW-1, MW-5, MW-6, MW-7, and MW-13.

Kenai Gas Field Pad 34-31

Conditions Attached to Work Plan Approval;

- 1) In section 5.5.3, the text states “*Locate and decommission monitoring wells MW-A, MW-C, MW-E, and MW-3.*” ADEC approval of a written work plan, which describes the proposed MW decommissioning methods, is required for the decommissioning of these monitoring wells.
- 2) Our August 2017 Field Sampling Guidance (Table F) requires that method 8260C and 8270D analyses be performed on samples collected from wells that are impacted by crude oil and basically all other hydrocarbon sources. We require these laboratory analyses for the monitoring wells that have historical (within last 5 years) BTEX, GRO, or DRO contamination, where no LNAPL is present. This will require changes to the analyses identified in Table 20 of the work plan.

For clarification, the following list of volatiles are considered compounds of concern in petroleum products and are required to be included under the EPA test method 8260C analyses:

Benzene
n-Butylbenzene
sec-Butylbenzene
tert-Butylbenzene
Ethylbenzene
Isopropylbenzene (cumene)
Naphthalene
Toluene
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
Total Xylenes

Wells that have LNAPL should be monitored and maintained so that free product is not present. These wells should be inspected at least annually, preferably in the spring during annual low groundwater conditions when larger LNAPL volumes could be expected. Monitoring wells that still having a column of LNAPL present after removal of the LNAPL-absorbent socks will need to be maintained more frequently. The inspection and maintenance schedule may best be managed on a site by site basis, or even a MW by MW basis. This is too complicated to address in this correspondence, so perhaps the best way of proceeding going forward is for Hilcorp to present a work plan for LNAPL monitoring and removal.

Presenting conceptual groundwater contours at these pads may lead to erroneous interpretation of data. MWs that have been left out of groundwater contouring because of anomalous data should be resurveyed and gauged for inclusion in the groundwater gradient modeling, and contour presentation.

Elevation data from all monitoring wells should be included in groundwater contouring, so that all of the site data locations are represented.

If you have any questions on any aspect of the project, please contact me at (907) 262-3422, or by e-mail at paul.horwath@alaska.gov

Sincerely,



Paul Horwath
Engineer I, DEC

Electronic copy via e-mail:
Greg Rutkowski – Hilcorp Alaska