PF-1 PF-2

MW-311-15
<5.45
MW-311-46
<5.25

MW-328-15
<5.60

MW-328-151
<5.30

MW-181B-50
<5.30
MW-181A-15
<5.25
MW-181C-150
<5.30J*
MW-314-15
<5.10
MW-314-150
<5.50

ND

PF-3

MW-352-40
16.7

MW-167B-35
13.5

MW-346-15
20.4
MW-346-150
3.48J
MW-346-65
58.7

MW-185C-120
5.88J
MW-185B-50
5.34J

MW-347-65
14.4
MW-347-150
24.3

MW-166B-30
61.2

PF-4

MW-190BR-60
<5.10
MW-190-150
<5.10

MW-191A-15
<5.50

MW-191B-60
3.49J

MW-332-110
9.54J
MW-332-41
<5.15
MW-332-150
84.8

MW-357-150
<5.15

MW-353-65
61.4
MW-353-15
52.9
MW-353-100
67.4

MW-171BR-40
<5.05

MW-357-65
<5.45

MW-349-45
6.68J

MW-150A-10
53.0

OLD RICHARDSON HIGHWAY

Notes:
ND = Not Detected
J = Estimated concentration, detected above the detection limit (DL) and below the limit of quantitation (LOQ)
J* = Result is considered an estimate, no bias; flag applied by Shannon Wilson, Inc. based on analytical quality control issues
µg/L = micrograms per liter
-Only monitoring wells and private wells regardless of depth scheduled for sampling per the Offsite Groundwater Sulfolane Plume Monitoring Plan are shown on this figure.
-Contours are generally based on Annual 2018 results. Contours include some historical data where an Annual 2018 sample had not been collected.
-For locations with duplicate sample results, the highest result is shown.
-The ND contour on this figure may be different from the individual suprapermafrost and subpermafrost ND contours, due to detections in private wells not designated as either suprapermafrost and subpermafrost.
-The lower end of the blue color coding range is based on the method detection limit.
-Image provided courtesy of Pictometry International 2012

Legend

Symbol	Description
⊕	Monitoring Well
⚠	Point-of-entry treatment system sample collected
△	Private Well
✚	Permafrost Boring
⋯	Approximate Sulfolane Isopleth Regardless of Depth
▨	Inferred Suprapermafrost and Subpermafrost Mixing Zone
▭	FHRA Property Boundary

Private Well Sulfolane Results
- △ Not Detected
- ▲ 1.0 - Less Than 20 µg/L
- ▲ 20 - 100 µg/L
- ▲ 100 - 200 µg/L
- ▲ 200 - 300 µg/L
- ▲ 300 - 400 µg/L
- ▲ Greater than 400 µg/L

MW-153A-15 Monitoring Well Location ID
128 Sulfolane Concentration (µg/L)
< Not detected: detection limit listed

Monitoring Well Sulfolane Results
- ● Not Detected
- ● 3.1 - Less Than 20 µg/L
- ● 20 - 100 µg/L
- ● 100 - 200 µg/L
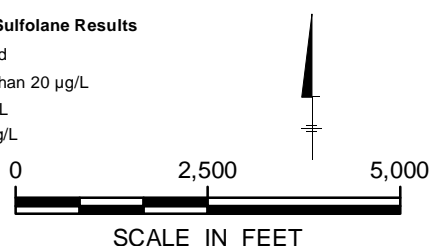
FLINT HILLS RESOURCES ALASKA, LLC
NORTH POLE TERMINAL, NORTH POLE, ALASKA
ANNUAL 2018 OFFSITE
PLUME MONITORING REPORT

ANNUAL 2018 APPROXIMATE EXTENT
OF SULFOLANE IMPACTS

ARCADIS

FIGURE
3-1

0   2,500   5,000
SCALE IN FEET