



Notes:
 ND = Not Detected
 J = Estimated concentration, detected below the laboratory limit of quantitation (LOQ). Flag applied by laboratory.
 J' = Estimated concentration due to quality control (QC) failures or lack of field QC samples. Flag applied by Shannon and Wilson, Inc.
 µg/L = micrograms per liter
 *Location sampled during First Quarter 2017
 -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 2017 results. Contours include some historical data where an annual 2017 sample had not been collected.
 -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

<ul style="list-style-type: none"> ● Monitoring Well △ Private Well ▲ Point-of-entry treatment system sample collected --- Approximate Sulfolane Isoleth Regardless of Depth in µg/L ⊕ Permafrost Boring ○ Initial Detection ■ Inferred Suprapermafrost and Subpermafrost Mixing Zone □ FHRA Property Boundary 	<p>MW-332-150 Monitoring Well Location ID 153 Sulfone Concentration (µg/L) < Not detected: detection limit listed</p> <p>Private Well Sulfone Results</p> <ul style="list-style-type: none"> ▲ 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 	<p>Monitoring Well Sulfone Results</p> <ul style="list-style-type: none"> ● Not Detected ● 3.1 - Less Than 20 µg/L ● 20 - 100 µg/L ● 100 - 200 µg/L
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0 2,500 5,000
SCALE IN FEET

FLINT HILLS RESOURCES ALASKA, LLC
 NORTH POLE TERMINAL, NORTH POLE, ALASKA
**ANNUAL 2017 OFFSITE
 PLUME MONITORING REPORT**

**ANNUAL 2017 APPROXIMATE EXTENT
 OF SULFOLANE IMPACTS**

ARCADIS

FIGURE
3-5