

Table 5-1
Deep Residential Monitoring Locations

North Pole Refinery
North Pole, Alaska

Latitude	Longitude	Well Depth ⁽¹⁾ (ft bgs)	Top of Permafrost ⁽²⁾ (ft bgs)	Bottom of Permafrost ⁽²⁾ (ft bgs)	Distance between bottom of permafrost and bottom of well (ft)	Permafrost Thickness (ft)	Depth to Water ⁽¹⁾ (ft bgs)	Casing Diameter ⁽¹⁾ (inches)	Intake Length (ft above base of well ⁽³⁾)	Intake Interval ⁽¹⁾ (ft bgs)	Heat Tape ⁽¹⁾	Installation Year ⁽¹⁾
Perimeter areas surrounding the zone where sulfolane has been detected												
Location #1- Western boundary of the zone where sulfolane has been detected												
-147.4318889700	64.7696332533	236	17	230	6	213	10.5	4	5	--	yes	1984
Location #2 - Approximately 2000 feet north of the zone where sulfolane has been detected												
-147.4041492920	64.7908014979	287	16	204	83	188	8	6	--	282-287	--	--
Location #3 - Northern boundary of the zone where sulfolane has been detected ⁽⁴⁾												
Location #4- Approximately 1000 feet north of the zone where sulfolane has been detected ⁽⁴⁾												
Location #5 - Approximately 1500 feet east of the zone where sulfolane has been detected												
-147.3359057990	64.7801617284	266	3	92	174	89	5.5	4	5	--	yes	1985
Location #6 - Approximately 1500 feet east of the zone where sulfolane has been detected, approximately 1300 feet south of Location #5												
-147.3283201660	64.7737840535	94	12	71	23	59	10.5	4	5	--	yes	1984
Areas within the zone where sulfolane has been detected												
Location #7												
-147.3715987410	64.7579774181	231	33	205	26	172	12	--	--	--	--	--
Location #8												
-147.3879572130	64.7646733692	238	6	215	23	209	7	6	5	--	--	1986
Location #9												
-147.3738915660	64.7664980347	215	5	205	10	200	22	6	--	--	yes	2000
Location #10												
-147.3804045940	64.7719021579	196	12	180	16	168	8	--	--	--	yes	1981
Location #12												
-147.3687400480	64.7762440661	89	22	70	19	48	10.5	6	--	--	--	1996
-147.3685652580	64.7754024003	98	25	90	8	65	9	6	--	--	yes	2000
-147.3732632110	64.7746267164	122	5	110	12	105	9	4	--	117-122	--	2004
Location #13												
-147.3793476220	64.7771615476	120	36	105	15	69	15	--	--	--	yes	--
Location #14												
-147.3923357570	64.7801545157	305	8	228	77	220	5	6	5	--	yes	1985
Location #15												
-147.3818084100	64.7809790852	220	20	210	10	190	7	5	--	--	--	1985
-147.3839029080	64.7784618861	255	19	146	109	127	11	4	6	--	yes	1986
Location #16												
-147.3568584120	64.7662470885	105	20	103	2	83	9	5	--	--	--	1995
Location #18												
-147.4005086140	64.7604083710	140	23	105	35	82	8	6	5	--	--	2012

Notes:

- (1) All construction details from well logs generated by drillers at the time of well installation.
- (2) Permafrost depths as reported in well logs at the time of installation.
- (3) Perforations assumed to be at base of well.
- (4) Continuing to pursue access agreements with property owners in this area.

Definitions:

- ft feet
- bgs below ground surface

**Table 6-1
Proposed Offsite Phase 8 Wells**

**North Pole Refinery
North Pole, Alaska**

Well	Depth Zone (relative to water table)	Rationale
	(feet bgs)	
8-O	WT	Replace MW-160A (damaged well)
8-P	PF	Delineate top of permafrost at MW-317
8-Q	WT, intermediate, and PF	Additional characterization upgradient from wells with increasing trends (MW-187 & MW-161) and in residential areas with elevated sulfolane concentrations
8-R	WT, intermediate, and PF	Additional characterization upgradient from wells with increasing trends (MW-187 & MW-161) and in residential areas with elevated sulfolane concentrations
8-S	WT, intermediate, and PF	Additional characterization crossgradient from wells with increasing trends (MW-161) and in residential areas with elevated sulfolane concentrations
8-T	WT, intermediate, and PF	Additional characterization downgradient from wells with increasing trends (MW-161) and in residential areas with elevated sulfolane concentrations
8-U	WT, intermediate, and PF	Additional characterization downgradient from residential wells with elevated sulfolane concentrations
8-V	WT, intermediate, and PF	Additional characterization along cross-section II-II'
8-W	WT, intermediate, and PF	Additional sulfolane plume delineation near MW-332
8-X	40, 75, 110	Additional vertical characterization at MW-332
8-Y	WT, intermediate, and PF	Additional vertical characterization across Badger Slough from MW-190
8-Z	60 and PF	Replace MW-190B and delineate permafrost
8-AA	WT, intermediate, and PF	Additional vertical characterization near Badger Slough
8-AB	WT, intermediate, and PF	Additional characterization along cross-section II-II'
8-AC	WT, intermediate, and PF	Additional plume delineation at contact between cross-sections II-II' and VIII-VIII' and additional characterization across Badger Slough from MW-181
8-AD	WT, intermediate, and PF	Additional plume delineation near plume edge and west side of Badger Slough
8-AE	Intermediate	Additional vertical delineation at MW-161

Notes:

bgs Below ground surface
PF Permafrost
WT Water table