



STATE OF ALASKA 43836
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND & WATER
Alaska Hydrologic Survey

WATER WELL LOG Revised 08/18/2016

Drilling Started: 3 / 23 / 2004 Completed: 4 / 1 / 2004 Pump Install: / /

City/Borough	Subdivision	Block	Lot	Property Owner Name & Address
Alaska Gateway REAA				City Of Northway PO BOX 516 AK, 99764

Well location: Latitude 62.9837379 Longitude -141.948196
Meridian C Township 014N Range 018E Section 23 SE 1/4 of SE 1/4 of NE 1/4 of NW 1/4

BOREHOLE DATA: (from ground surface)

Suggest T.M. Hanna's hydrogeologic classification system*
https://my.ngwa.org/NC_Product?id=a18500000BYub3AAD

	Depth	
	From	To
FROZEN OVERBURDEN	0	5
SILT CLAY: THAWED	5	9
SILTY CLAY: FROZEN	9	68
SILTY SAND: FROZEN	68	85
FINE SAND: THAWED, WET	85	118
SANDY GRAVEL: WET, 2GPM	118	137
SILTY SAND: WET, HEAVING	137	180
FINE WATER SAND: GRAVEL STREAKS	180	200
WATER SAND; GRAVELLY CLEAN	200	220

Include description or sketch of well location (include road names, buildings, etc.):

Drilling method: ☒ Air rotary, ☐ Cable tool, ☐ Other
Well use: ☒ Public supply, ☐ Domestic, ☐ Reinjection, ☐ Hydrofracking
☐ Commercial, ☐ Observation/Monitoring, ☐ Test/Exploratory, ☐ Cooling,
☐ Irrigation/Agriculture, ☐ Grounding, ☐ Recharge/Aquifer Storage,
☐ Heating, ☐ Geothermal Exploration, ☐ Other

Fluids used:

Depth of hole: 220 ft Casing stickup: 2 ft

Casing type: STEEL Casing thickness: 0.25 inches

Casing diameter: inches Casing depth: 194 ft

Liner type: Depth: ft Diameter: inches

Note:

Well intake opening type: ☐ Open end, ☐ Open hole, ☒ Other screened

Screen type: 304SS, Screen mesh size:

Screen start: 194.5 ft, Screen stop: 205 ft, Perforated ☐ Yes ☒ No

Perforation description: Perf from: ft, Perf

to: ft, Perf from: ft, Perf to: ft

Gravel packed ☐ Yes ☒ No Gravel start: ft, Gravel stop: ft

Note:

Static water (from top of casing): 10.4 ft on 4 / 2 / 2004 Artesian well ☐

Pumping level & yield: 15.7 feet after 4 hours at 50 gpm

Method of testing:

Development method: SURGE Duration: 6HR

Recovery rate: gpm

Grout type: BENTONITE Volume 13SACKS

Depth: From 0 ft, To 20 ft

Final pump intake depth: ft Model:

Pump size: hp Brand name:

Was well disinfected upon completion? ☒ Yes ☐ No

Method of disinfection: CHLORINE

Was water quality tested? ☐ Yes ☒ No

Water quality parameters tested:

Well driller name: Kris Westberg

Company name: M-W DRILLING

Mailing address: P.O. Box 110378

City: ANCHORAGE State: AK Zip: 99511

Phone number: () -

Driller's signature:

Date: / /

Anchorage Municipal Code 15.55.060(I) and North Pole Ordinance 13.32.030(D) require that a copy of this well log be submitted to the Development Services Department/City within 30 days of well completion.

City Permit Number:

Date of Issue: / /

Parcel Identification Number: - -

AS 41.08.020(b)(4) and AAC 11 AAC 93.140(a) require that a copy of the well log be submitted to the Department of Natural Resources within 45 days of well completion. Well logs may be submitted using the online well log reporting system available at:

<https://dnr.alaska.gov/welts/>

OR email electronic well logs to

dnr.water.reports@alaska.gov

EXHIBIT A

STATE OF ALASKA DEPARTMENT OF NATURAL RESOURCES MINING, LAND, WATER HYDROLOGIC SURVEY WATER WELL LOG

43836

Drilling Started: 03/23/04, Completed: 04/01/04

City/Borough:	Subdivision/USS:	Block	Lot	Property Owner Name & Address:
Northway				Northway, City of: P.O. Box 516 Northway, AK 99764
Meridian	Township	Range	Section	1/4 of 1/4 of 1/4 of 1/4
Lat: N	Long: W	NAD: 27 OR 83 Elevation:		
BOREHOLE DATA: (from ground surface) Depth				Drilling method: <u>Air rotary</u> , Cable tool, Other
Material: Type, Color & wetness From To				Well use: <u>Public supply</u> , Domestic, Other
Frozen overburden	0	5	Depth of hole: <u>220</u> ft, Casing stickup: <u>2</u> ft	
Silty clay: thawed	5	9	Casing type: <u>A 53 Steel</u> Thickness <u>0.0250</u> inches	
			Casing diameter: <u>6 5/8</u> inches Casing depth <u>194</u> ft	
			Liner type: <u>N/A</u> Diameter: inches Depth: ft	
Silty clay: frozen	9	68	Static water (from top of casing): <u>10.5</u> ft on <u>04/02/04</u>	
			Pumping level & yield: <u>15.75</u> feet after <u>4</u> hours at <u>50</u> gpm	
Silty sand: frozen	68	85	Recovery rate: gpm, Method of testing:	
			Development method: <u>Surge</u> Duration: <u>6 hours</u>	
Fine sand: thawed, wet	85	118	Well intake opening type: Open end, Open hole	
			Screened; Start: <u>194.5</u> ft, Stopped <u>205</u> ft	
Sandy gravel: wet, 2 gpm	118	137	Screen type: <u>304 SS</u> Slot/mesh size <u>0.030"</u>	
			Perforated; Start: ft, Stopped ft	
			Start: ft, Stopped ft	
Silty sand: wet, heaving	137	180	Note:	
Fine watersand: gravel streaks	180	200	Grout type: <u>Bentonite</u> Volume <u>13 sacks</u>	
			Depth; from <u>0</u> ft, to <u>20+</u> ft	
Water sand: gravelly, clean	200	220	Pump intake depth: ft	
			Pump size hp, Brand name:	
			Was well disinfected upon completion? <u>Yes</u> , No	
			Method of disinfection: <u>Pumped chlorine solution</u>	
			Driller comments/ disclaimers:	
			Well Driller Name: <u>Kris Westberg</u>	
			Company Name: <u>M.W Drilling, Inc.</u>	
			Mailing Address: <u>P.O. Box 110378</u>	
			City: <u>Anchorage</u> State: <u>AK</u> Zip: <u>99511</u>	
			Phone Number: <u>907-345-4000</u>	
			Drillers Signature:	

State law requires that a copy of this well log be sent to the State of Alaska within 45 days. Faxes are acceptable. (AK statutes 38.05.020, 38.05.035, 41.08.020, 46.15.020 and AK regulations 11 AAC 93.140).
DEPARTMENT OF NATURAL RESOURCES
Mining, Land & Water Hydrologic Survey
550 W 7th Ave., Suite 900A
Anchorage, AK 99501-3577
Telephone (907) 269-8639 and FAX (907) 562-1384

Within the City of Anchorage, it is required that a copy of the well log be sent to the appropriate city office within 60 days and that another copy of the well log be sent to the well/property owner within 30 days.
Permit Number: _____
Date of Issue: ____/____/____
Parcel Identification Number: _____
Is well located at approved permit location? Yes or No

M-W Drilling, Inc.
TEST PUMP REPORT

Sheet 1 of 1
Date: 04-02-2004

Conducted By: Kris & Wayne Westberg

M-W Job No. 04-111

Owner: Northway, City of

Address: P.O. Box 5116, Northway, AK 99764

Well Location: Northway Washeteria Well No. 2

Well Information: Total Depth: 206' Depth of Casing: 194' Screen: From 194.5' To 205'
Casing Size: 6" Screen Diameter: 6" T Screen Slot: 0.030" Slot
Remarks: Screen Assembly: Riser & K-packer 3', Screen 10.5', Tail pipe & plate 1' 14.5'

Pump Information: Intake depth: 80' Pump Size: 3hp Water Level Meas.: Electric
Static water level: 10.5' Avg. discharge: _____ GPM, max, drawdown: _____

Misc. Pump Info.: Pump On: Date: 04-02-04 Time: 09:20 Mtr. Reading: N/A
Pump Off: Date: 04-02-04 Time: 13:40 Mtr. Reading: -

Time		Water Level	Flow GPM	Remarks	Time		Water Level	Flow GPM	Remarks
Clock	Elpsd				Clock	Elpsd			
09:20	0	10.07	50	Pump On	10:35		15.85	50	
	.30	15.75		Water clear	10:50		15.75		
	1.0	16.15			11:05				
	1.30	16.15			11:20				
	2.0				11:35				
	2.30				11:50				
	3.0				12:20				
	3.30				12:40				
	4.0				13:10				
	4.30				13:30				
09:25	5.0	16			13:40				Shut down
	6.0								RECOVERY-
	7.0								Very fast
	8.0				15 sec		10.01		
	9.0				.30		10.5		
09:30	10.0				1 min				
09:35	15.0				.30				
09:40	20.0				2 min				
09:45	25.0								
09:50	30.0	15.85							
10:05	45.0								
10:20	60.0								

* As-built Note: Readings correct.
+ 2' above ground level.

Date:	# Of Pages	QUICK FAX OfficeMax	
To: <u>Jared Hess</u>	From: <u>MW</u>		
Co./Dept:	Co./Dept: <u>M-W</u>		
Fax: <u>729-4046</u>	Fax:		
Phone:	Phone:		
Note:	E-Mail:		