19591

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

WATER WELL LOG Revised 08/18/2016

Drilling Started: ____/____/_____ Completed: 4 / 29 / 1966 Pump Install: ____/____/_____

City/Borough	Subdivision	Block	Lot	Property Owner Name & Address
Denali Borough				Gvea ,

Well location: Latitude 63.8547897 **Longitude** -148.949631
Meridian F Township 012S Range 007W Section 20 , NE 1/4 of NE 1/4 of SE 1/4 of SE 1/4

BOREHOLE DATA: (from ground surface)
Suggest T.**M. Hanna's hydrogeologic classification system***
https://my.ngwa.org/NC__Product?id=a185000000BYub3AAD

	Depth From	Depth To

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

North

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

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: 400 ft Casing stickup: _____ft
Casing type: _____ Casing thickness: _____ inches
Casing diameter: _____ inches Casing depth: _____ ft
Liner type: _____ Depth: _____ ft Diameter: _____inches
Note: _____

Well intake opening type: ☐ Open end, ☐ Open hole, ☒ Other _____
Screen type: _____, Screen mesh size: _____
Screen start: _____ ft, Screen stop:_____ 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): _____ ft on____/____/_____ Artesian well ☐
Pumping level & yield: _____ feet after _____ hours at _____ gpm
Method of testing:_____
Development method:_____ Duration: _____
Recovery rate: _____ gpm

Grout type: _____ Volume _____
Depth: From _____ft, To _____ft

Final pump intake depth: _____ ft Model: _____
Pump size: _____ hp Brand name: _____

Was well disinfected upon completion? ☐ Yes ☒ No
Method of disinfection: _____
Was water quality tested? ☐ Yes ☒ No
Water quality parameters tested: _____

Well driller name: Bill Sullivan
Company name: SULLIVAN WATER WELLS
Mailing address: PO BOX 670272
City: CHUGIAK State: AK Zip: 99567
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: _____-_____-_____

*Guide for Using the Hydrogeologic Classification System for Logging Water Well Boreholes by Thomas M. Hanna NGWA Press

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Lee Sullivan Well Drillers
Healy, Alaska
April 29, 1966

Stanley Engineering

Dear Sirs;
This a log on the well drilled by Lee Sullivan for Golden Valley Electrical Association, Healey Alaska.

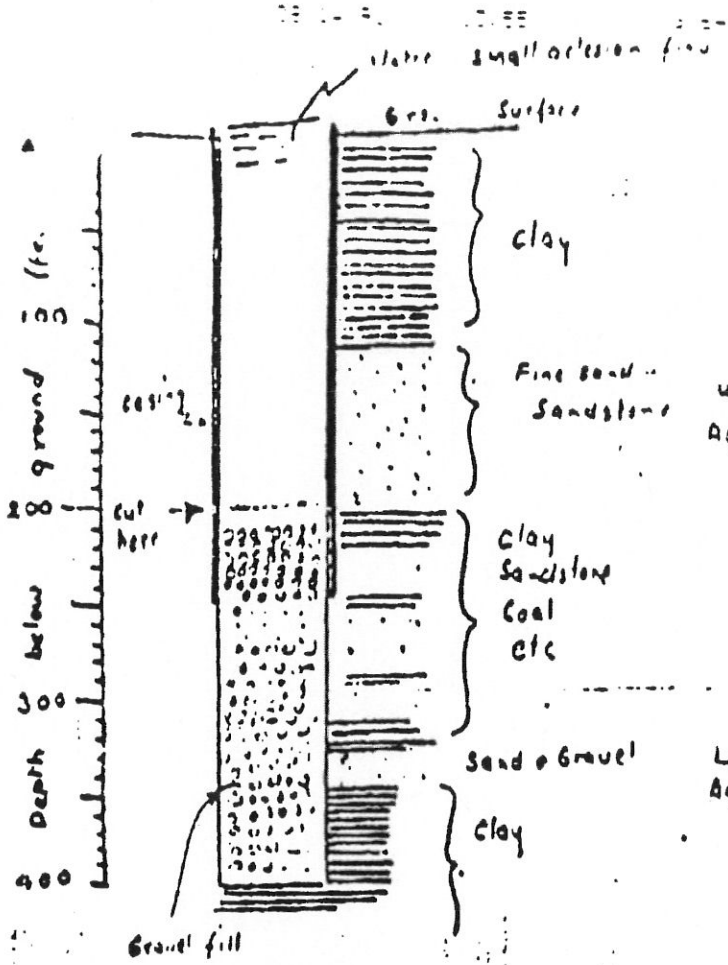
Elevation 1259 MSL

	From	To	
1	0	15	Sand and Gravel , Surface warter
	15	114	Clay
	114	118	Fine Sand Wet
	118	132	Sand Stone with Fractures
	132	186	Sand Stone with Fractures and Clay Seams 1-2 inch thi
1	186	200	Fractures and Broken Sand Stone water 20 G.P.M. developed to 60 G.P.M. (pump was at 193 ft.) 36 hrs/air, 24 hrs/pump
	200	202	Clay
	202	238	Sand Stone
	~~234~~ 238	247	Coal and Sand Stone layer
	247	292	Fine Sand
	292	327	Clay Hard and Dry
	327	351	Sand and Gravel with thin Clay layer. Developed with Air 6 hrs. Max 40 G.P.M., no increase in water.
1	351	400	Hard Clay

249 ft of 8 in. casing.

11-15-90
AS per Tim Brabets of USGS
This well is used To produse
Electrisity & Domestic use

6351211485659901
FC 12-7-20 DDAA1-1


Water
Small artesian flow
Grd. Surface
clay
Fine sand
Sandstone
Clay
Sandstone
Coal
etc
Sand & Gravel
Clay
Gravel fill
Depth below ground (ft.)
100
200
300
400
Fig. 1
Presumed Existing Conditions

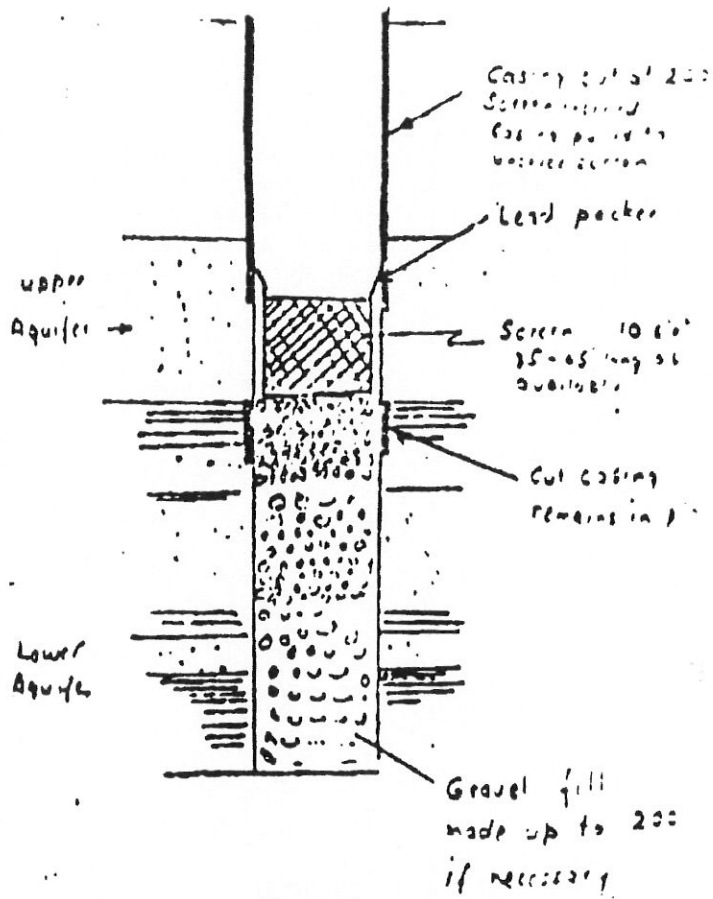

Lead packer
Upper Aquifer
Screen
Cut casing
Lower Aquifer
Gravel fill
Fig 2.
Required well

FIGURE 4

26032

The first is the well which supplies water to the existing Healy 1 power plant, and is referred to as the "Healy 1" well. This well is located in the basement of the power plant, about 140 feet east of the HCCP well (Figure 2). The original driller's log for this well, attached as Figure 3, indicates a total depth of 400 feet, and a sketch of unknown origin (Figure 4) suggests that the lower 200 feet of the well have been filled with gravel. The log indicates 249 feet of 8-inch casing. We understand that the pump is set in this well at a depth of 147 feet. This well is also capable of producing an artesian flow. The well supplies water to a 5000-gallon raw water tank, controlled by a float switch which activates the pump when the level in the tank drops to 4000 gallons. During normal plant operation we understand that this results in the well cycling about every 3 to 6 hours. This well was observed to produce about 58 gpm during a cycle when it pumped a total of about 3460 gallons. We understand that during operation the top of the casing of the Healy 1 well must be kept sealed to avoid causing the pump to cavitate. However, based on observations of water level in the casing immediately after the pump shut off following a pumping cycle, it appears that even with the casing seal installed, the water column in the well draws down to a depth at least as great as 112 feet which was measured several minutes after the pump shut off.