24097

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: 2 / 24 / 1997 Pump Install: ___/___/_____

City/Borough	Subdivision	Block	Lot	Property Owner Name & Address
Municipality of Anchorage				US DOD, AIR FORCE, ELMENDORF AFB ,HOSPITAL ,

Well location: Latitude 61.23740799999999 **Longitude** -149.741138
Meridian S Township 013N Range 003W Section 12 , SE 1/4 of NE 1/4 of NW 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=a185000000BYub3AAD

	Depth From	Depth To
Gravel and sand	0	36
Gravelly, sandy silt	36	50
Sand some water	50	61
Gravelly	61	110
Sandy silty gravel	110	119
Gravelly clay	119	124
Sandy gravel	124	143
Gravelly silts & clays	143	221
Silty,sandy gravel-some water	221	234
Silty,sandy gravel-clay lenses-some water	234	248
Coarse-clean gravel & sand-water	248	257
Gravelly sand w/clay lenses-water	257	260
Grey clay-some large rock	260	278

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

North

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: 267 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): 113 ft on___/___/_____ Artesian well ☐
Pumping level & yield: _____ feet after _____ hours at 750 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: WAYNE WESTBERG
Company name: M-W DRILLING
Mailing address: PO BOX 110378
City: ANCHORAGE State: AK Zip: 99511
Phone number: (907) 945 - 3287
Driller's signature: _____
Date: _____/_____/_____

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

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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M-W DRILLING, Inc.
P.O. Box 110378 • 10330 Old Seward Highway
(907) 349-8535
ANCHORAGE, ALASKA 99511

PW-2

DRILLING LOG

Well Owner U.S. Air Force Use of Well Test

Location (address of: Township, Range, Section, if known; or distance main road
New Elmendorf Hospital - NE corner of site -
(20'± NW ot TW-4)

Size of casing 14" Depth of Hole 278 feet Cased to 267 feet

Static water level 113' ft. ~~(above)~~ (below) land surface. Finish of well (check one) open end ( ); Screen (X); Perforated ( )

Describe screen or perforation SEE ATTACHED DESIGN

Well pumping test at 750 gallons per ~~(hour)~~ (minute) for 8 hours with 52½ ft. of drawdown from static level.

Date of completion 24 FEB 97

WELL LOG

Depth in feet from ground surface	Give details of formations penetrated, size of material, color and hardness
0 TO 36	Gravel & sand
36 TO 50	Gravelly, sandy silt
50 TO 61	Sand some water
61 TO 110	Gravelly clay
110 TO 119	Sandy silty gravel
119 TO 124	Gravelly clay
124 TO 143	Sandy gravel
143 TO 221	Gravelly silts & clays
221 TO 234	Silty, sandy gravel - some water
234 TO 248	Silty, sandy gravel - clay lenses - some water
248 TO 257	Coarse, clean gravel & sand - water
257 TO 260	Gravelly sand w/clay lenses - water
260 TO 278	Gray clay - some large rock
TO	
TO	

SITE ID

LOCAL NO. SB 13-3-12 BBAD

1 — CUSTOMER

24097

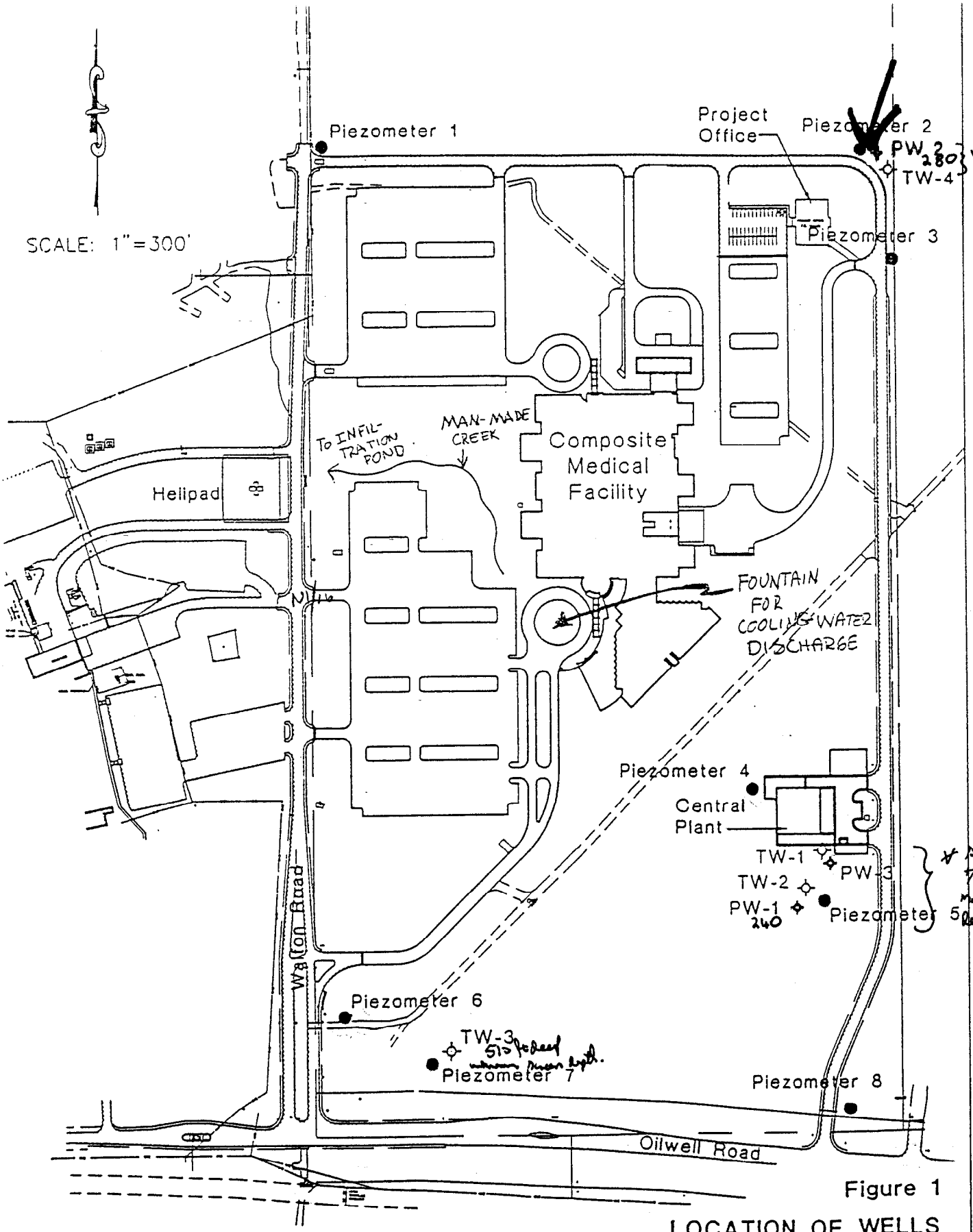

Figure 1

LOCATION OF WELLS

DOWL ENGRS / HOSPITAL WELLS / ELMENDORF AFB

OJECT NO 963-5289 AutoCAD FILEwells97.dwg DATE 6/20/97 DRAWN Dowl APPROVED Golder Associates

ATTACHMENTS

SB13-3-12BBAD

January 22, 1997

MEMO

TO: Bill Hamm

FROM: Bill Kranich

RE: PW-2 Screen Selection

I have reviewed the mechanical analysis test reports from the formation samples and the drillers log and have arrived at the proposed screen design as follows:

225'	Fig. "K" packer
225' - 230'	Blank pipe
230' - 238'	#30 slot screen
238' - 240'	#60 slot screen
240' - 242'	#120 slot screen
242' - 248'	#200 slot screen
248' - 257'	#250 slot screen
257' - 260'	#20 slot screen
266' - 265'	Blank pipe
265'	Plate bottom

I have discussed this design with Mark Birch of Golder and he is in agreement.

You will note that this design calls for 30 LF of screen (230' - 260') whereas the scope of work only includes 20 LF. We believe that in the interest of maximizing production of the completed well, all formations that present reasonable possibilities of adding to the total capability should be screened.

I have discussed this point with Wayne Westberg of M-W Drilling and he responded that he would furnish, install and develop the additional 10 LF of screen for an additional $4,300.

Attached are copies of the MA's as well as a preliminary copy of the well log.

Bill Kranich