

M-W DRILLING, Inc.

P.O. Box 110378 • 10330 Old Seward Highway

(907) 349-8535

ANCHORAGE, ALASKA 99511

DRILLING LOGWell Owner CITY OF BETHELUse of Well PUBLIC

Location (address of: Township, Range, Section, if known; or distance main road _____)

BETHEL HEIGHTS WATER TREATMENT FACILITY, WELL #2

GPS LOCATION: 60 DEGREES 48.097 N, 161 DEGREES 46.553 W, BETHEL, ALASKA

Size of casing 8" Depth of Hole 492 feet Cased to 437.44 feetStatic water level 125 ft. (~~above~~) (below) land surface. Finish of well (check one) open end ();Screen (X); Perforated ().Describe screen ~~or perforation~~ 304SS, 0.10" SLOT; 439.38' TO 490.96'Well pumping test at 390 gallons per (~~hour~~) (minute) for 24 hours with 43.5 ft. of drawdown from static level.Date of completion 10 APRIL 1999**WELL LOG**Depth in feet from
ground surface

Give details of formations penetrated, size of material, color and hardness

0 TO 2CASING STICK UP2 TO 7SAND: FINE/PUTTY7 TO 12BLACK SAND: ORGANICS, FINE12 TO 27GREY SAND: CLAYEY, BLACK STREAKS, STRINGY27 TO 42AS ABOVE: ICE LENSES42 TO 385SILT: GREY, FINE SANDY, DRILL CUTTINGS ARE LIKE A
SANDY MORTAR MIX; ICE CRYSTALS ON STEM

TO

385 TO 430BROWN GREY SAND: SILTY, ICE LENSES AND CRYSTALS430 TO 492SAND: FINER RELATIVELY CLEAN, WATERBEARING

TO

TO

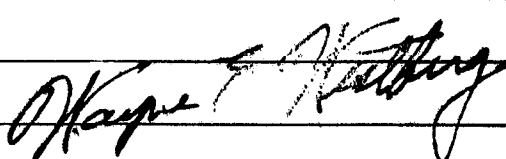
NOTE: COULD NOT TELL EXACTLY WHERE PERMAFROST ENDED
IF THAT WAS ABOVE 430'.

TO

TO

TO

TO


NWWA Certified Contractor
Certificate No's. 814 & 973

2 - STATE

24963

SB 8-71

M-W DRILLING, INC.

Well History Profile/Equipment Inventory

Client: ALASKA MECHANICAL, INC

GENERAL

Owner: CITY OF BETHEL Engineer: C.R.W.
City: BETHEL County: _____ State: AK
Contact: MIKE RABE Phone: 562-3252
Well Used for: PUBLIC
Date Drilled: SEPT-DEC 1998 Date in Service: _____

CONSTRUCTION

Drill Method: CABLETOOL Aquifer Type: SAND TD: 492'
Type Screen: SS "V" WIRE Gravel Pack (Y/N): N Other: NATURAL
Drill Fluid Type: WATER Developed by: SURGEBLOCK
Chemicals Used: NONE

MATERIALS

Surface Csg OD: 12.75" Depth: 77.19' Matl: STEEL Seal: FROZEN
Pump Csg OD: _____ Depth: _____ Matl: _____ Seal: _____
Prod Csg OD: 8 5/8" Depth: 437.44' Matl: STEEL Seal: BENTONITE
Screen OD: 8" Slot: 0.010" Matl: 304SS Gravel Pack Size: NATURAL
Packers/Plugs: FIGURE K + 10' RISER (6 5/8 STEEL) + 51.58' SCREEN = 62.29'

ORIGINAL TEST DATA

Static Level: 17' Pumping Level: 56' Drawdown: 43.5'
GPM: 390 Duration: 24 HOURS Recovery: 15 MINUTES
Specific Capacity: 9 Sand Content: NONE
Turbidity: CLEAR Other: _____

PUMP & MOTOR

Type: SUB GPM: 400 TDH: 250 PSI (dis): _____
Pump Mfg: GRUNDFOS Model No.: 38S400-4 Serial No.: 98-08-37A
Bowl OD: 6" Stgs: _____ HD/Stg: _____ Pump Eff: _____
Column OD: 4 1/2" - 10 2 1/2" 10' Shaft: _____ Wire Size: _____
Motor Mfg: FRANKLIN HP: 40 RPM: 3600 Volt: 460
Amps: (Lock) _____ (Full Load) _____ SF: _____ PF: _____ Eff: _____

Recent repair history/treatment/test data:

Date last serviced: _____ Reason: _____
SWL: _____ PWL: _____ GPM: _____ PSI: _____
DD: _____ Specific Capacity: _____ Duration: _____
Last treated: _____ How: _____
Results: _____

Form WRP 0102 rev. 10/98

AS BUILT NOTE: 1) 10" CASING LOST IN HOLE(99.75')
FROM 380' - 280.25'

Date: MARCH 1999

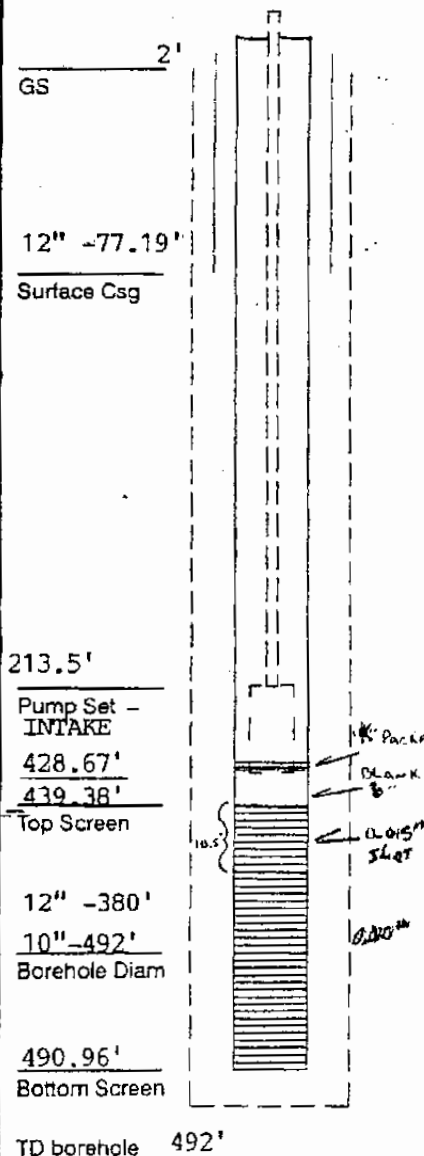
Job No.: 98-140

Loc'n: BETHEL HIS WIF

Sec: _____ Tnshp: _____ Rng: _____

Well No.: 2

All depths below top of casing



98-140

STEP DD TEST

Pump On: Time 1840 Date 4/8/99 Off: Time 2006 Date 4/8/99

AMP 49

[illegible]

M-W DRILLING, INC.

TEST PUMP REPORT

Sheet 1 of 1

Date: 4-9-99

98-140

Crew: GARY F. AND BILL S.

Owner: CITY OF BETHEL

Address:

Well location: BETHEL HTS WIF WELL #2

Well Information: Tot. Depth 492 Depth of Casing 437.44 Screen From 439.8 To 490.96

Casing Size 8" Screen Diam 8" Screen Slot 0.010" SLOT

Pump Information: Intake Depth 210' Pump Size & Model 40HP SUBMERSIBLE

AIR LINE Depth ELECTRIC

Dischg. Pipe: 6" Orifice Size: 4"

Remarks:

Static Water Level: 12.5'

Av. Discharge 390

GPM, Max. Drawdown

Pump On:

Time 0837

Date 4-9-99

Off:

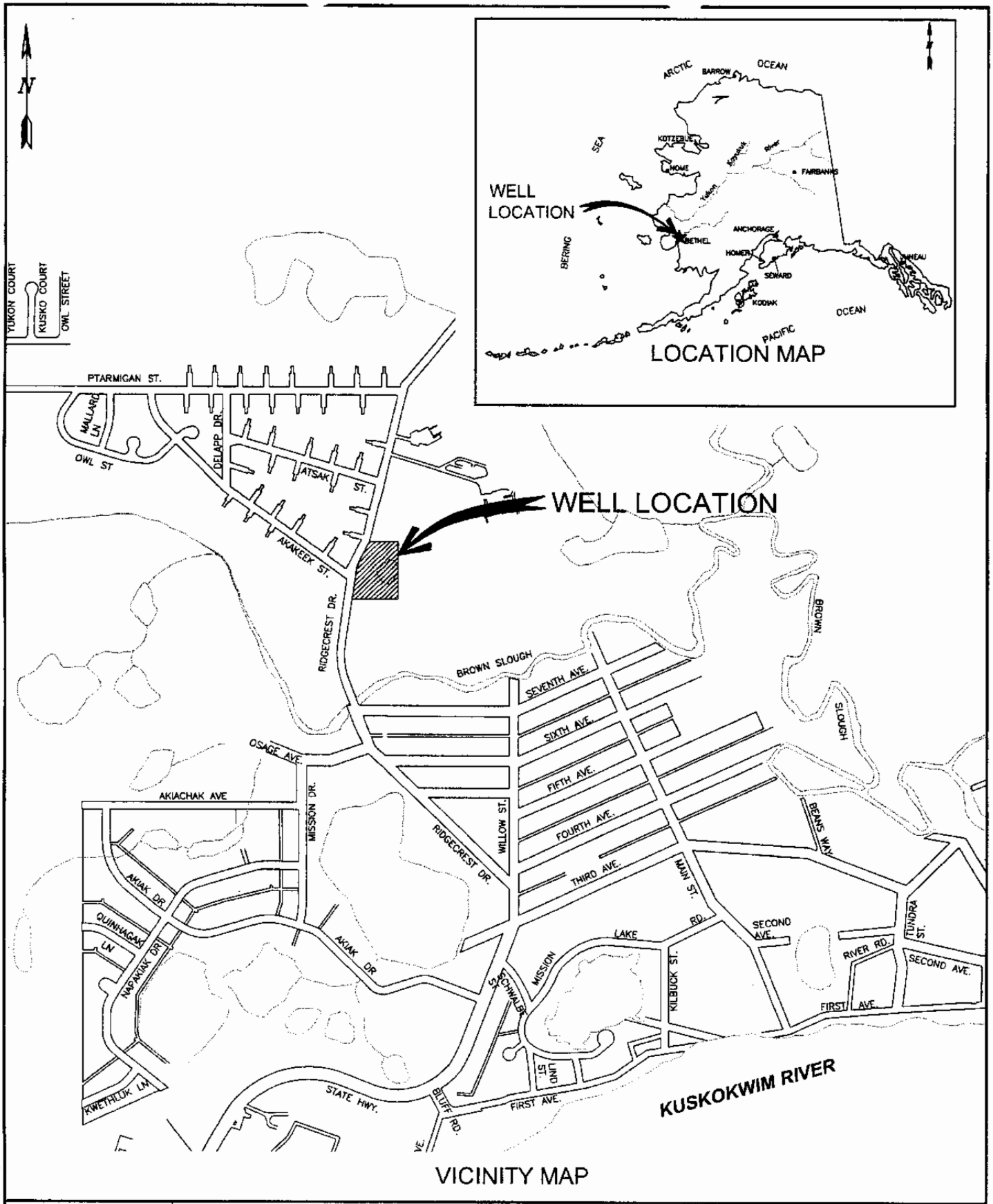
Time 0900


Date 4-10-99

WELL INSIDE PUMPHOUSE IN USE AT 320 GPM

TIME	ELAPSED TIME	WATER LEVEL	PIEZO-TUBE	FLOW GPM	REMARKS	TIME	ELAPSED TIME	WATER LEVEL	PIEZO-TUBE	FLOW GPM	REMARKS
0837		12.50'			START UP	0901	1 MIN	29.30'			RECOVERED
0839	2 MIN	59.00'	36"	385	+ VALVE ADJUST	0902		24.10'			
0840		59.05'	37"	390	LOW TIDE	0903		23.30'			
0841		59.05'				0904		22.20'			
0842		59.10'				0905		21.80'			
0843		59.20'	34"	400		0910	5 MIN	17.40'			
0848	5 MIN	63.20'	37"	390	VALVE ADJUST	0915	5 MIN	15.70'			
0853		61.70'									
0858		61.90'									
0903		61.60'	37"		PIEZO FLEX: 37'-37.5'						
0908		61.30'									
0913		61.15'									
0923	10 MIN	63.20'									
0933		63.25'									
0943		63.25'									
0953		63.20'									
1003		63.20'									
1013		63.20'									
1043	30 MIN	63.20'									
1113		64.40'									
1143		56.90'									
1213		56.70'									
1243		54.00'									
1343	60 MIN	55.30'									
1443		56.40'									
1543		57.80'									
1643		56.45'									
1743		55.10'									
1843		56.55'									
1943		56.10'									
2043		56.15'									
2143		56.15'									
2243		56.10'									
2343		56.10'									
0043		56.10'									
0143		56.05'									
0243		56.10'			PIEZO TUBE FROZE						
0343		56.10'			PUT HEAT NEXT TO IT						
0443		56.10'									
0543		56.15'									
0643		56.15'									
0743		56.14'									
0843		56.15'	37"	390							
0900	17 MIN	56.15'			SHUT DOWN PUMP						

File: 4lb_vicinity map.dwg



Project No. 9641B
Drawn by: MCE


CITY OF BETHEL, ALASKA
BETHEL HEIGHTS WELL #2
WATER RIGHTS PERMIT APPLICATION
LOCATION AND VICINITY MAPS

Scale: NTS
Date: JAN 2003
Status: PERMIT