

MONTI BAY BASE WATER WELL # 1

10.0'

16" SURFACE PIPE.

12" CSG. (Sched. 40 LINE PIPE)
WELD END

DOWN HOLE COMPLETION

WELL SCREEN ASSEMBLY DETAIL

73.70' SCREEN ASSEMB. LENGTH OVERA.

JOHNSON - ROD AND WIRE STD. TYPE

1- .50' LEAD PKR 11.25" OD - 10.125" ID

2- 5.00' TOP JOINT 10.75" OD - 10.125" ID
W/ WELD END RINGS - 11.25" OD

3- 5.75' SCREEN .150" SLOT - 10.375" ID

4- 3.06' SCREEN .050" SLOT - 10.375" ID

5- 11.24' SCREEN .080" SLOT - 10.375" ID

6- 18.40' PIPE 10.750" OD - 10.125" ID
(NOTE - PIPE ENDS ARE FITTED WITH
WELD END RINGS 11.25" OD)

7- 29.75' SCREEN .020" SLOT - 10.375" ID

STAINLESS STEEL BOTTOM PLATE (WELDED)

JIMMIE PRUITT 3-24-77

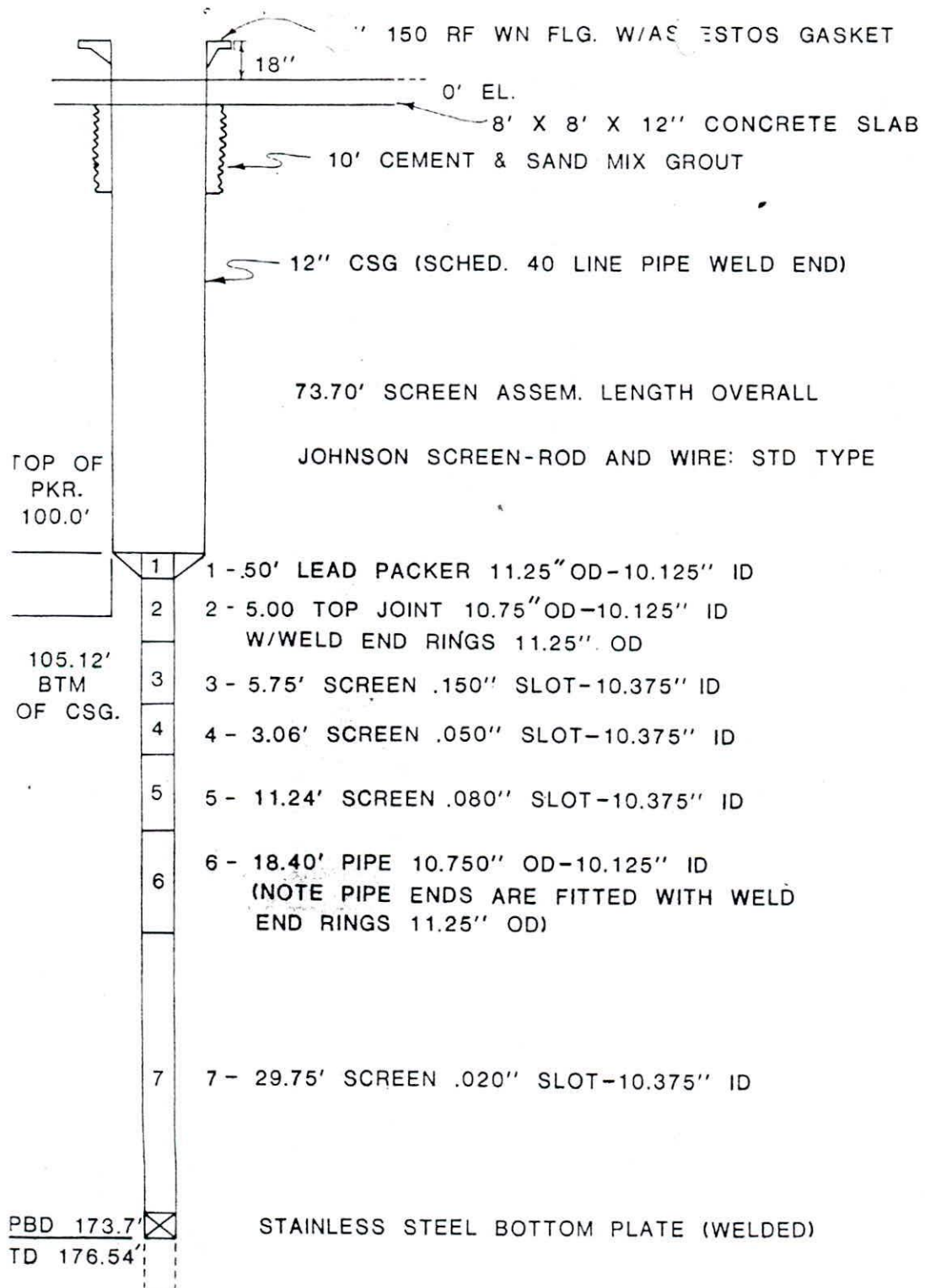
TOP
OF
PKR.
00.0'

BD

73.7'

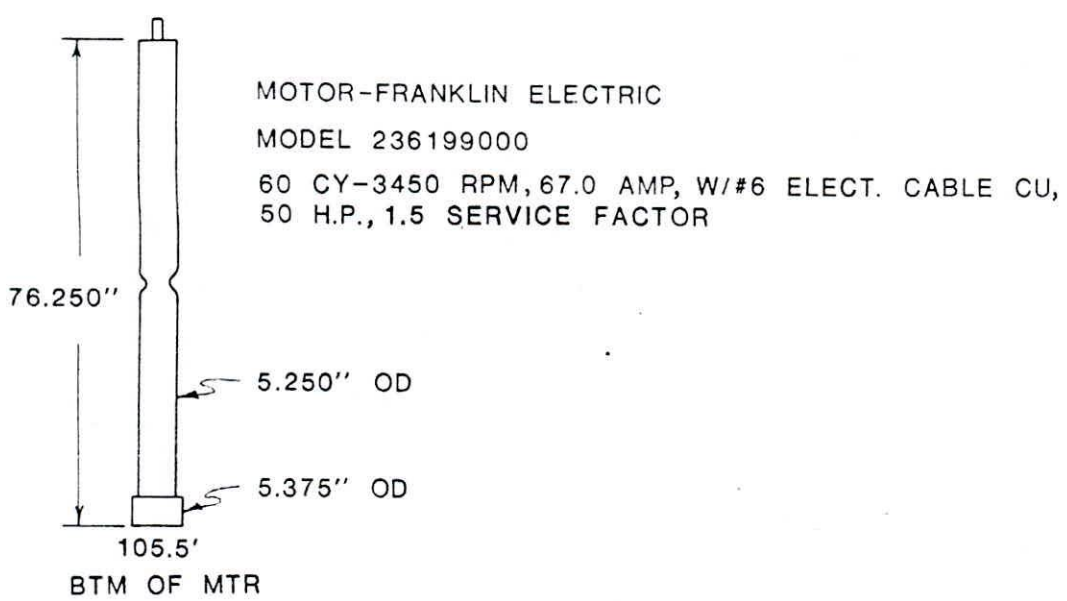
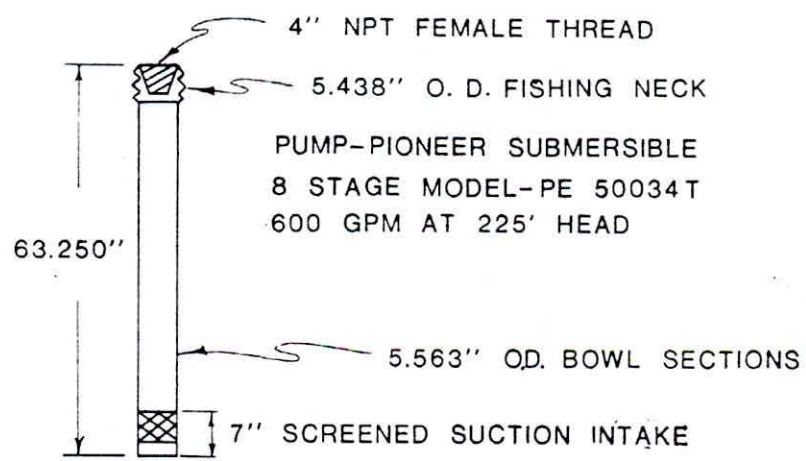
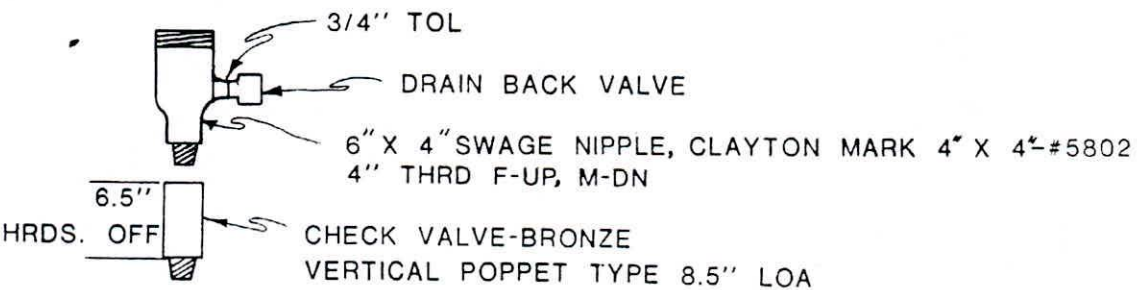
D

76.54'



AtlanticRichfieldCompany ♦

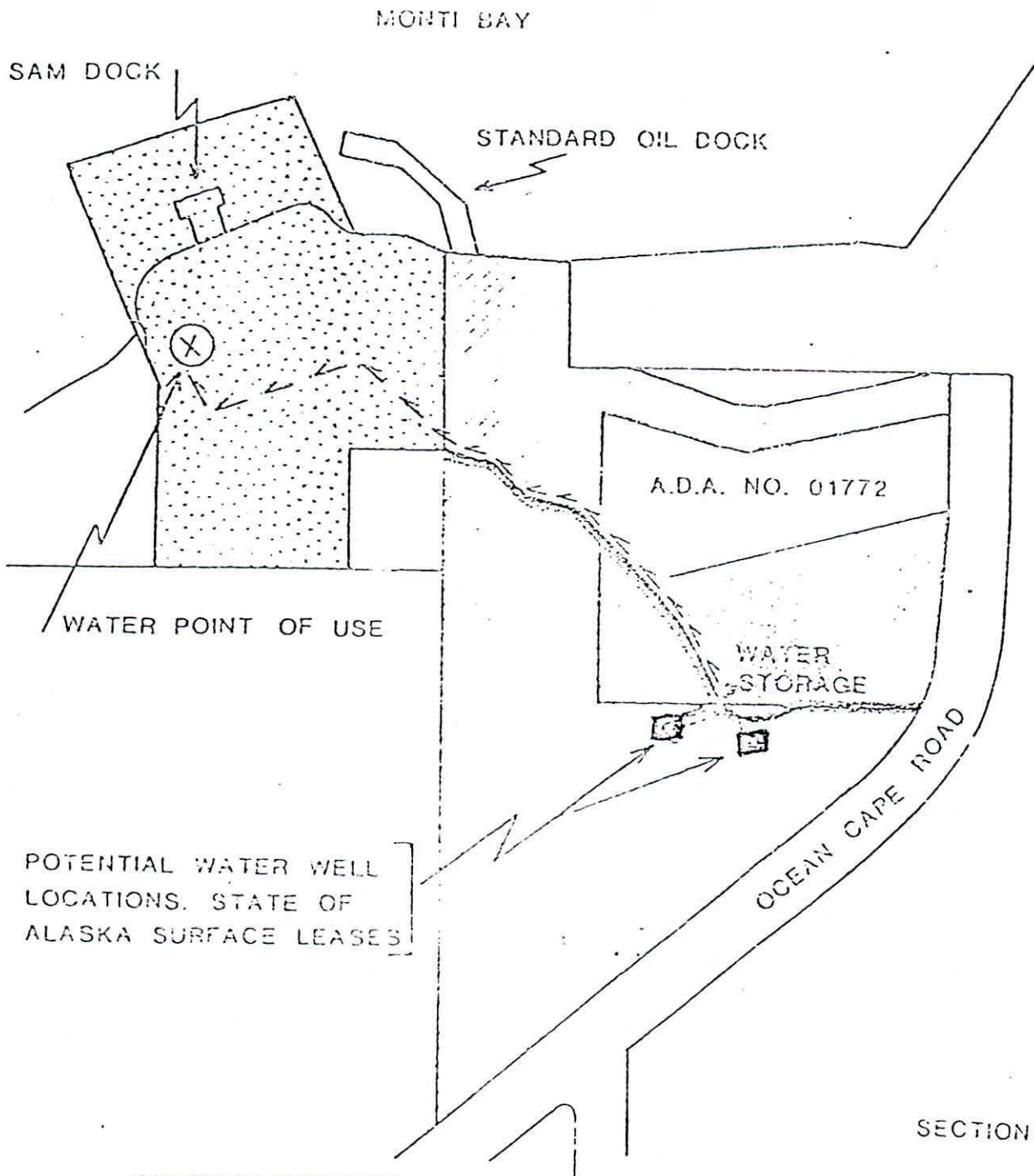
MONTI BAY TERMINAL
YAKUTAT ALASKA
DOWNHOLE COMPLETION
ASSEMBLY
WATER WELL #1
5-4-77



AtlanticRichfieldCompany ♦

MONTI BAY TERMINAL
YAKUTAT ALASKA
PUMP ASSEMBLY
WATER WELL #1
5-4-77

TOWNSHIP 27 SOUTH RANGE 33 EAST
COPPER RIVER MERIDIAN
CITY OF YAKUTAT, ALASKA

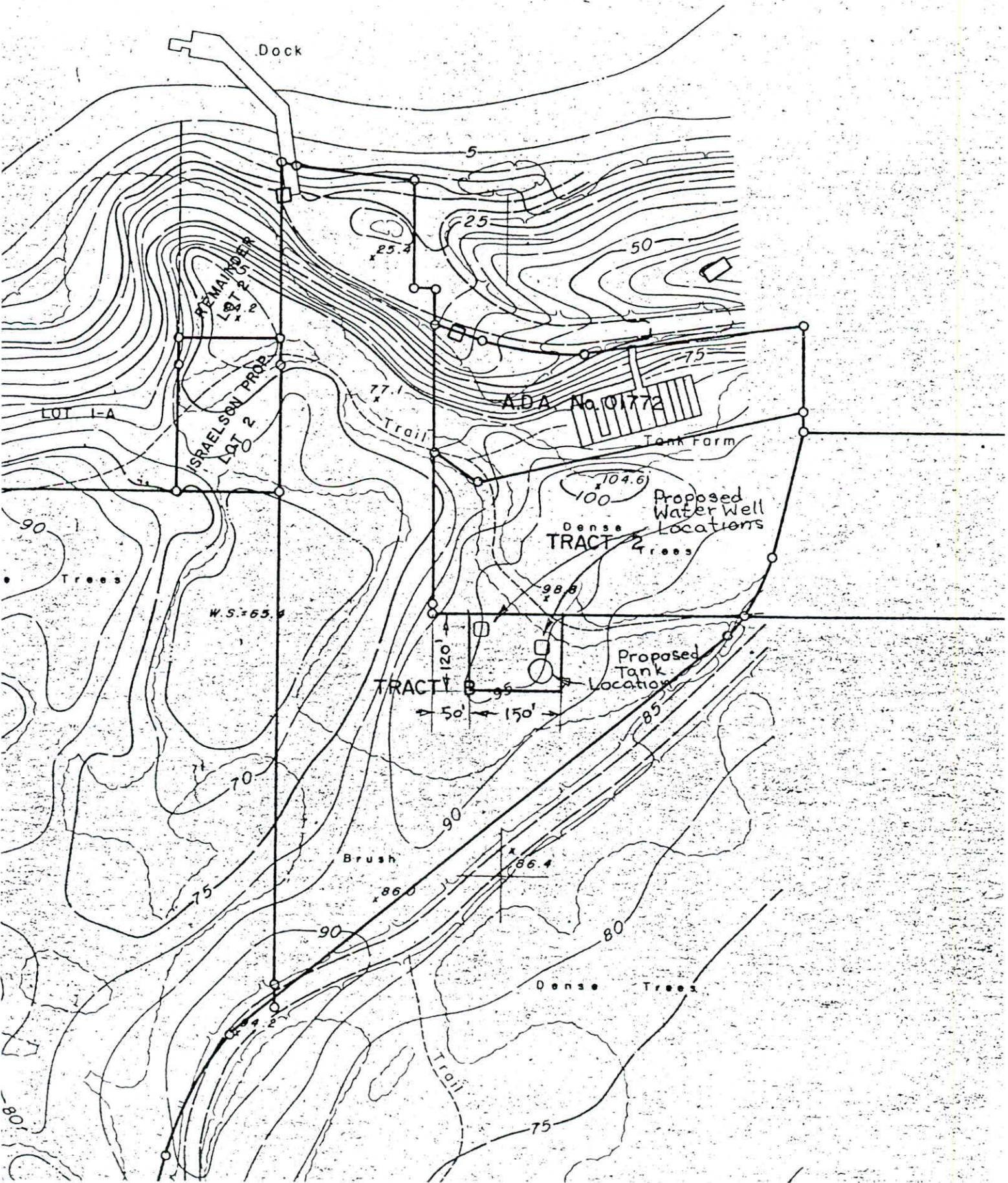


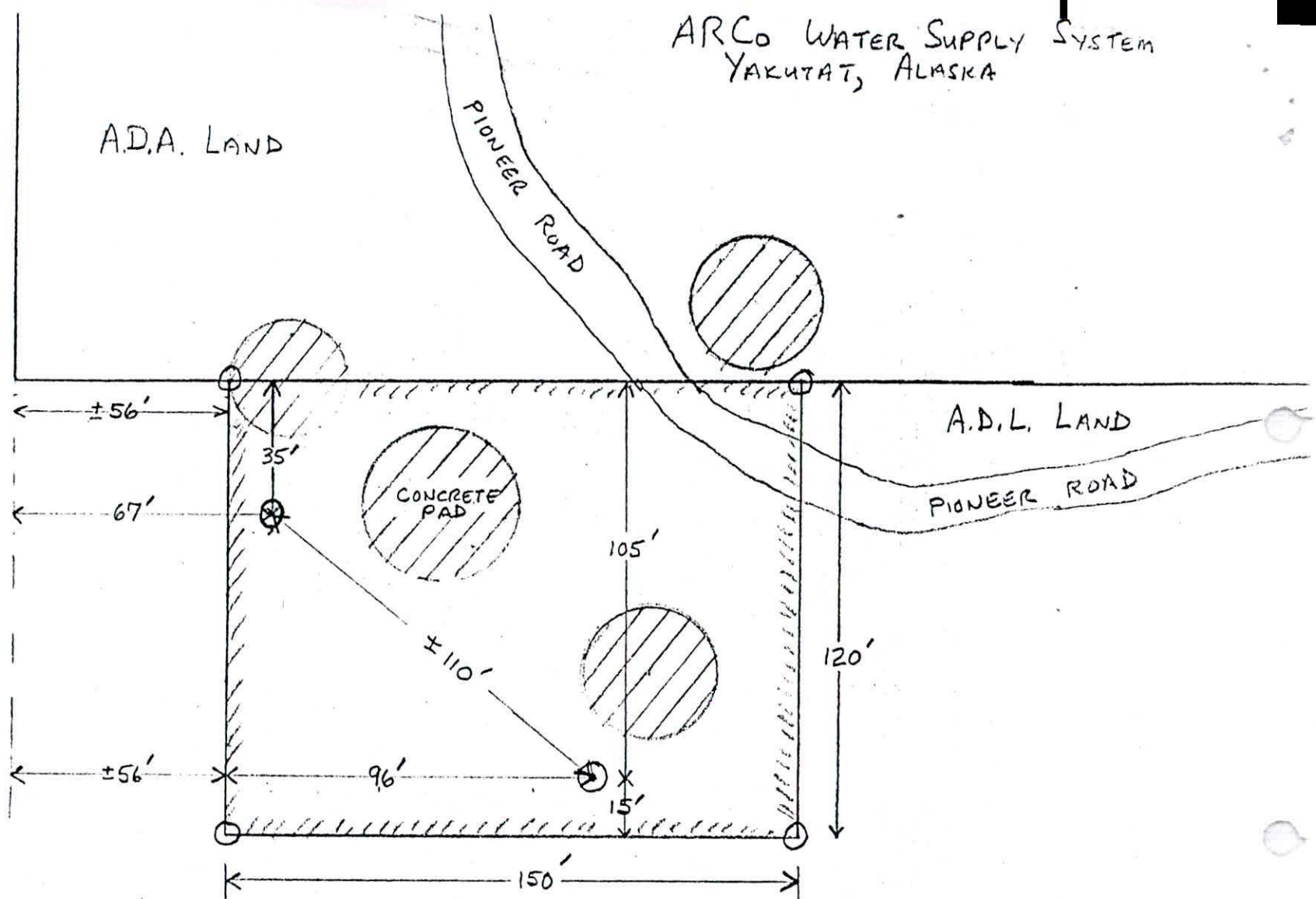
SECTION 25

LEGEND	
	STATE LAND (NOT SUBJECT TO STATE/ YAKUTAT KWAAN EXCHANGE)
	SAM PROPERTY (OPERATION SITE)
	A.D.A. TRACT 2
	PROPOSED ROWL FOR WATER AND POWER LINES
	EXISTING ROAD

E 23,000

MONTI BAY





- (1) ⓧ LOCATIONS TO BE STAKED. = 6
- (2) FLAG EACH SIDE OF 120' X 150' AREA TO ADEQUATELY DEFINE BOUNDARIES. NORTHERN BOUNDARY SHOULD BE WELL DEFINED.

SCALE : 1" = 40'

WATERWELL - TEST PUMP REPORT

Date: _____

Conducted By M-W DRILLING INC

Owner ARCO

Address YAKUTAT AK

Well Location WELL #1

Well Information: Ttl. Depth 173.7 Depth of Casing 133.67 Screen From 143.95 To 173.7

Casing Size 18" Screen Diam 12" MIN Screen Slot 0.020-AS SEE ATTACHED DIAGRAM

Remarks STAGE ONE PUMP TEST

Pump Information: Intake Depth 95.69 Pump Size 12" NOMINAL Air Line Depth _____

Static Water Level 70.6' Av. Discharge 300 GPM, Max. Drawdown 22'

Pump On: Time 09:00 Date 3/26/77 Pump Off: 12:00 Time 12:00 Date 3/26/77

TIME	WATER LEVEL	PIEZO-TUBE	FLOW GPM	REMARKS	TIME	WATER LEVEL	PIEZO-TUBE	FLOW GPM	REMARKS
9:00		26"	300	UNABLE TO RECORD STATIC LEVEL BETWEEN 90'-95'	12:16:30				RECOVERY
				BECAUSE OF PUMP BOWL DIAMETER	12:17				
2:00	30"	325		PUMP FOR 15 MIN	12:17:30	72'			
1:15	33"	340		PUMPED FOR 35 SECS THEN PULLED	12:18	71.87			
				AIR (SHUT PUMP OFF)	12:18:20	71.87			
2:16				RECOVERY	12:19	71.85			
					12:19:30	71.83			
					12:20	71.82			
					12:20:30	71.80			
					12:21	71.82			
					12:26	71.80			
					12:31	71.82			
					12:36	71.82			
					12:41	71.30			
					12:46	71.30			
					13:01	71.24			
					13:16	71.20			PULL PUMP FROM WELL
					14:00	69.40			STATIC LEVEL INCREASED BY 1.2' FROM PUMP TEST

TEST PUMP SUMMARY

PUMP SECTION INTAKE 95.69'
 PUMPED AT 300 GPM RATE FOR 3 HRS.
 WATER SAMPLE - SUBJECT CLEAR-SAND FREE
 TESTED LOWER SAND BODY. BOTTOM OF CSG. 133.67'
29.75' OF 0.020" S.S. SCREEN OPEN FOR TEST.

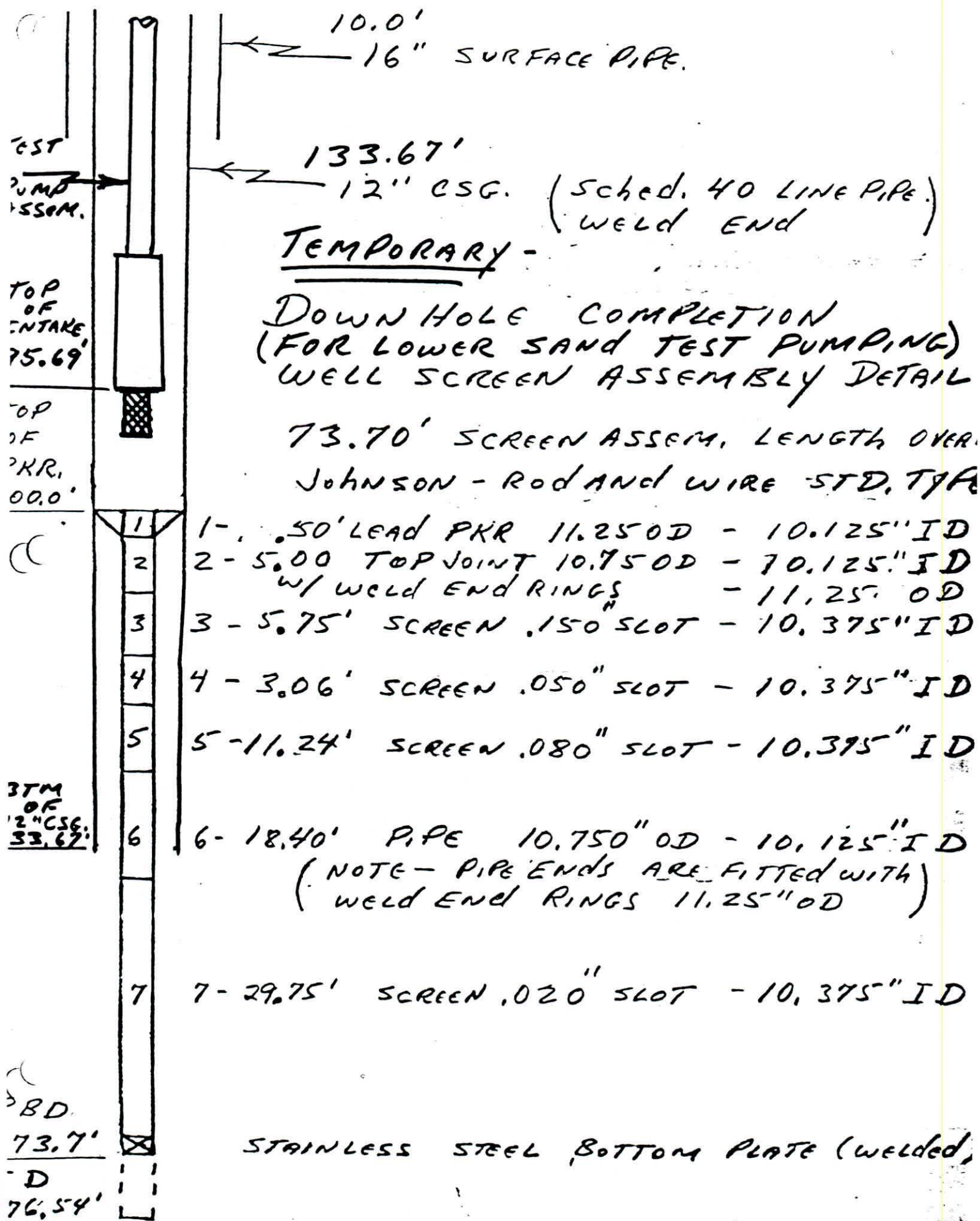
INCREASED PUMP RATE TO 325 GPM FOR 15 MIN.

INCREASED PUMP RATE TO 340 GPM
 SURGING OCCURRED IN 35 SECONDS
 (AIR PULLED INTO PUMP SECTION)

Jimie Pruitt

* PUMP SHUT DOWN AT 12:16 AFTER 3 HRS. PUMPING AT THE INSTRUCTIONS OF JIMIE PRUITT, PROJECT ENGINEER.

MONTI BA, BASE WATER WELL # 1



MONTI BAY BASE - WATER WELL #1
3-28-77

21:55 HRS

STATIC LEVEL 70.30'

STARTED TEST PUMPING @ 21:55

VARIED PUMPING RATE FROM
600 TO 900 GPM RATES.

STABILIZED STATIC LEVEL AT
635 GPM RATE.

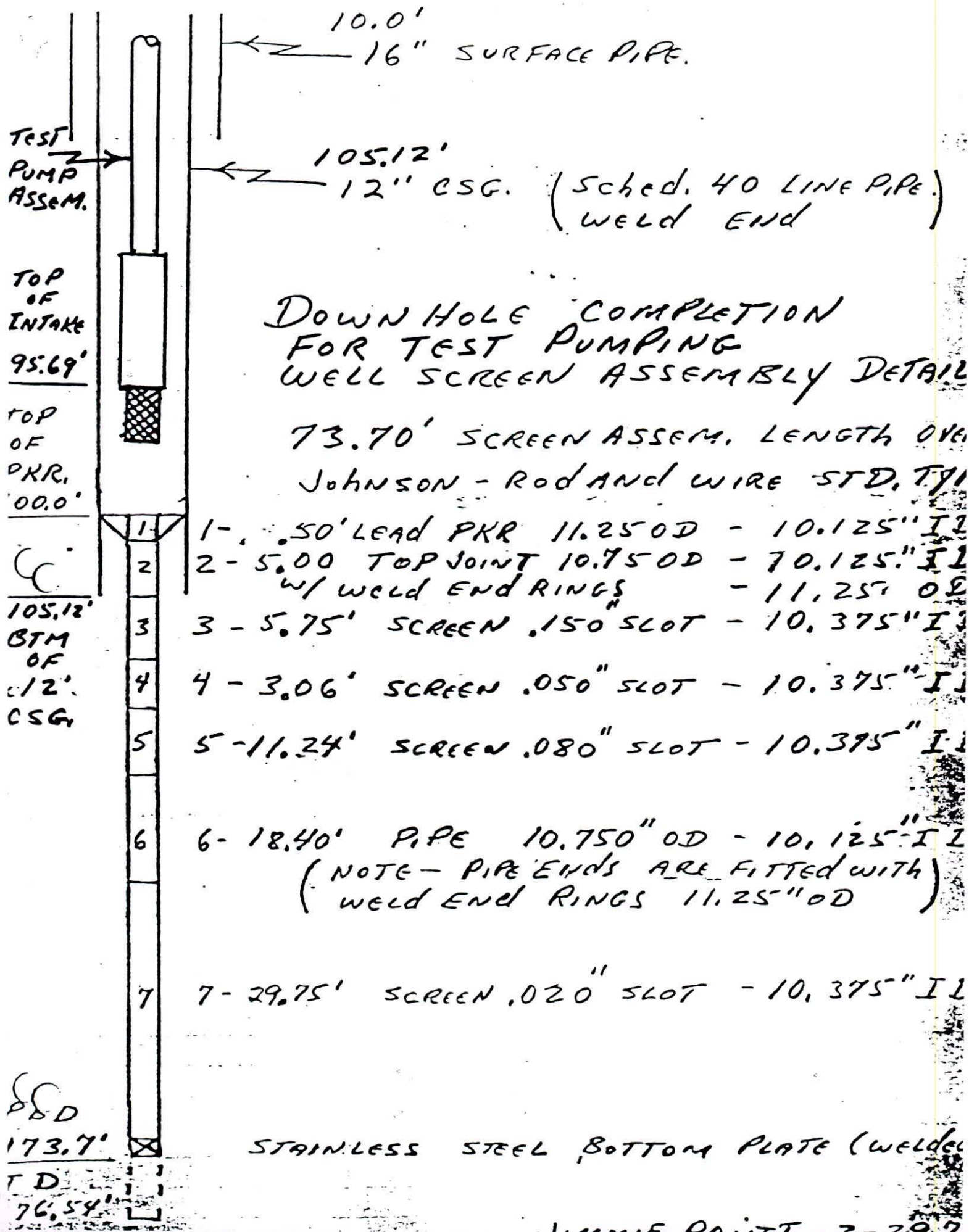
PUMPED AT 635 FOR 2 HRS.

OPERATING STATIC AFTER 1 HR.
86.68'

NOTE. BOTTOM OF 12" CSG.
105.12'

BOTH WATER SANDS
DEVELOPED BEFORE
TEST.

MONTI BA, BASE WATER WELL # 1



Date: 3/25/77

WATERWELL - TEST PUMP REPORT

Conducted By M-W DRILLING INCOwner ARCOAddress YAKUTAK AKWell Location WELL #1

Well Information: Ttl. Depth 173.7 Depth of Casing 105.29 Screen From 105.29 To 125.21 PLUS 143.9-173.3
 Casing Size 12" Screen Diam 12" NOMINAL Screen Slot REFER TO ATTACHED DIAGRAM
 Remarks FINAL PUMP TEST

Pump Information: Intake Depth 95.69 Pump Size 12" NOMINAL Air Line Depth -
 Static Water Level 70.30 Av. Discharge 635 GPM, Max. Drawdown 14.15"

Pump On: Time 08:35 Date 3/25/77 Pump Off: Time - Date -

TIME	WATER LEVEL	PIEZO-TUBE	FLOW GPM	REMARKS	TIME	WATER LEVEL	PIEZO-TUBE	FLOW GPM	REMARKS
08:35	70.30'			START PUMP TEST	17:40	85.90	"	"	H ₂ O CLEAR
08:35:20	84.60'	14"	635	TRACE OF SAND - SLIGHT TURBIDITY	18:10	86.05	"	"	
08:36	85.10'	"	"	LESS SAND	18:40	85.90	"	"	SAMPLE #2 TAKEN
08:36:30	84.55'	"	"	"	19:10	86.40	18"	"	
08:37	84.64'	"	"	"	19:40	86.10	16"	635	PUMP RUNNING MORE STABLY
08:37:30	84.09'	"	"	"	20:10	85.90	17"	635	H ₂ O CLEAR
08:38	84.62'	"	"	"	20:40	86.05	16.5"	645	
08:38:30	85.29'	16-17"	635+	"	21:10	86.06	16"	635	NO TURBIDITY
08:39	85.20	"	"	"	21:40	86.12	16.5"	645	
08:39:30	85.16	"	"	SANDS CLEARED - H ₂ O CLEAR	22:10	86.02	16"	635	H ₂ O CLEAR
08:40	82.41	15"	635-	PUMP RESTARTED	22:40	86.03	"	"	
08:45	85.53'	16-17"	635+		23:10	85.97	"	"	
08:50	85.60	"	"		23:40	86.03	"	"	H ₂ O CLEAR
08:55	85.65	"	"						MARK 20, 1977
09:00	85.60	"	"						NO TURBIDITY PRESENT
09:10	85.52	16-18"	635-675	BECAUSE OF PUMP					
09:20	85.90	"	"	DEL TO 1346 WELLS					
09:30	85.60	"	"	GPM VARY FROM					
09:40	85.75	"	"	FROM 09:16					
09:55	85.80	"	"						
10:10	85.90	"	"						
10:25	85.65	"	"						
10:40	85.30	"	"	SAMPLE #1 TAKEN					
10:55	86.00	"	"	H ₂ O REMAINS CLEAR					
11:10	86.04	"	"	NO TURBIDITY					
11:25	85.92	"	"						
11:40	85.85	"	"						
11:55	86.20	"	"						
12:10	85.70	"	"	H ₂ O CLEAR					
12:25	86.20	"	"						
12:40	86.05	"	"	NO TURBIDITY					
12:55	85.50	"	"						
13:10	85.70	"	"	H ₂ O CLEAR					
13:25	85.90	"	"						
13:40	85.80	"	"	NO TURBIDITY					
13:55	85.80	"	"						
14:10	85.65	"	"	H ₂ O CLEAR					
14:25	86.45	"	"						
14:40	86.00	"	"	NO TURBIDITY					
15:10	86.15	"	"	H ₂ O CLEAR					
15:40	85.75	"	"						
16:10	86.20	"	"	NO TURBIDITY					
16:40	85.90	"	"	H ₂ O CLEAR					
17:10	86.50	"	"						

Date: 3/30/77

WATERWELL - TEST PUMP REPORT

Conducted By M-W DRILLINGOwner ARCOAddress YAKUTAT AKWell Location WELL #1Well Information: Ttl. Depth 173.7 Depth of Casing 145.29 Screen From 145.29 To 125.29 + 143.5 - 173.7Casing Size 12" Screen Diam 12" NOMINAL Screen Slot REFER TO ATTACHED DRAWINGRemarks FINAL PUMP TEST (STAGE II)Pump Information: Intake Depth 95.65 Pump Size 12" NOMINAL Air Line Depth ELECTRIC SOUNDERStatic Water Level 70.30 Av. Discharge 653 GPM, Max. Drawdown 86.58Pump On: Time 08:35 Date 3/29/77 Pump Off: ✓ Time 14:00 HR Date 3/30/77

TIME	WATER LEVEL	PIEZO-TUBE	FLOW GPM	REMARKS	TIME	WATER LEVEL	PIEZO-TUBE	FLOW GPM	REMARKS
				CONTINUED FROM 3/29 2400 HR	10:16	86.04	36"	950	TRY To Pump For 4 HRS
00:10	86.04	16"	635		10:20	"	"	"	AT REQUEST OF PROJECT ENG.
00:40	86.09	16.5"	675	PUMP RUNNING SMOOTH	10:25	"	"	"	
01:10	86.00	16"	635	H ₂ O CLEAR	10:30	"	"	"	
01:40	86.02	"	"		10:33	"	"	"	
02:10	85.95	"	"	NO TURBIDITY	10:33.01	~	~	~	PUMP STARTS SURGING
02:40	85.85	"	"		10:38	86.04	36"	925	PUMP LEVELLED AT: 925 GPM
03:10	85.96	"	"	H ₂ O CLEAR	10:38	"	34.5"	925	
03:40	86.01	"	"		10:40	"	"	"	
04:10	85.97	15.5"	625	NO TURBIDITY	10:45	"	"	"	PUMP HOLDING
04:40	85.95	16"	635		10:50	"	"	"	STEADY
05:10	85.97	16"	635	H ₂ O CLEAR	10:55	"	"	"	
05:40	85.99	16"	"		11:00	"	"	"	
06:10	86.07	16.5"	645		11:01	~	~	~	PUMP SURGING AGAIN
06:40	86.16	16"	635	NO TURBIDITY	11:05	86.04	33"	900	PUMP LEVELLED 900 GPM
07:10	86.07	"	"		11:10	"	"	"	
07:40	85.94	"	"	H ₂ O CLEAR	11:15	"	"	"	
08:10	86.58	17.5"	665	PUMP ADVANCED	11:20	"	"	"	PUMPING STEADY
08:40	86.21	16.5"	645		11:30	"	"	"	
08:55	85.95	16"	635		12:00	"	"	"	
				SPEED UP PUMP IN SEARCH	12:30	"	"	"	
				OF MAX CAP	13:00	"	"	"	
09:00	86.04	22.5"	750	SH. CAN NOT BE NOTED DUE TO PUMP	13:30	~	~	~	PUMP SURGES AGAIN
09:05	"	"	"	NO SURGING AFTER 15 MIN	13:35	86.04	31"	875	LEVELLED AT: 875 GPM
09:10	"	"	"	OF PUMPING	13:45	"	"	"	
09:15	"	"	"		14:00	"	"	"	ORDER TO STOP AT 14:00
09:15.01	"	25.5"	800						PUMP SHUT DOWN AT
09:20	"	"	"	NO SURGING AFTER 15 MIN					14:00 HRS
09:25	"	"	"	OF PUMPING					BEGIN RECOVERY
09:30	"	"	"		14:00.01				ONE MINUTE ELAPSED TO
09:30.1	"	29"	850		14:01				SHUT DOWN PUMP
09:35	"	"	"	NO SURGING AFTER 15 MIN	14:01				WATER LEVEL INDICATOR
09:40	"	"	"	OF PUMPING					HINGS UP ON BOWLS
09:45	"	"	"		14:03	71.80			INDICATOR FREE
09:45.01	"	33"	900		14:03.30	71.65			
09:50	"			NO SURGING AFTER 15 MIN	14:04	71.56			
09:55	"			OF PUMPING	14:04.30	71.55			
10:00	"				14:05	71.54			
10:00.01	"	36"	950		14:05.30	71.51			
10:05	"	"	"	NO SURGING AFTER 15 MIN	14:06	71.51			
10:10	"	"	"	OF PUMPING	14:06.30	71.51			
10:15	"	"	"		14:07	71.49			
10:15.01	86.04	37"	965	PUMP SURGED AT THIS	14:07.30	71.46			
	~	~	~	APPROXIMATE LEVEL + RATE	14:08	71.46			

Date: 3/20/77

WATERWELL - TEST PUMP REPORT

Conducted By M-W DRILLINGOwner ARCOAddress YAKUTAI AK.Well Location WELL #1

Well Information: Ttl. Depth 173.7 Depth of Casing 105.29 Screen From 105.29 To 121.29 + 142.9 - 173.3
 Casing Size 12" Screen Diam 12" Nom. Screen Slot REFER TO ATTACHED DRAWING
 Remarks FINAL PUMP TEST (STAGE II)

Pump Information: Intake Depth 95.69 Pump Size 12" Nominal Air Line Depth ELECTRIC SPOUNDER
 Static Water Level 70.30 Av. Discharge 653 GPM, Max. Drawdown ~~8.4~~ 25.29
 Pump On: Time 08:35 Date 3/29/77 Pump Off: Time 14:01 HR Date 3/20/77

TIME	WATER LEVEL	PIEZO-TUBE	FLOW GPM	REMARKS	TIME	WATER LEVEL	PIEZO-TUBE	FLOW GPM	REMARKS
14:08.30	71.44'				15:10	71.13'			
14:09	71.42'				15:12	71.13'			
14:09.30	71.42'				15:14	71.12'			
14:10	71.41'				15:15	71.11'			
14:11	71.39'				15:20	71.10'			
14:12	71.37'				15:25	71.07'			
14:13	71.37'				15:30	71.07'			
14:14	71.36'				15:35	71.05'			
14:15	71.35'				15:40	71.05'			
14:16	71.35'				15:45	71.05'			
14:17	71.33'				15:50	71.04'			
14:18	71.32'				15:55	71.04'			
14:19	71.31'				16:00	71.03'			
14:20	71.31'				16:10	71.02'			
14:21	71.30'				16:20	71.01'			
14:22	71.30'				16:30	71.00'			
14:23	71.29'				16:40	70.99'			
14:24	71.29'				16:50	70.97'			
14:25	71.28'				17:00	70.95'			
14:26	71.28'				17:15	70.93'			
14:27	71.27'				17:30	70.92'			
14:28	71.27'				17:45	70.90'			
14:29	71.26'				18:00	70.89'			
14:30	71.26'				18:15	70.88'			
14:32	71.25'				18:30	70.86'			
14:34	71.24'				19:00	70.85'			
14:36	71.23'				19:30	70.84'			
14:38	71.22'				20:00	70.79'			
14:40	71.22'				20:30	70.76'			
14:42	71.21'				21:00	70.73'			
14:44	71.21'				21:30	70.70'			
14:46	71.20'				22:00	70.67'			
14:48	71.20'				22:30	70.65'			
14:50	71.19'				23:00	70.64'			
14:52	71.18'				23:30	70.63'			
14:54	71.18'				24:00	70.62'			
14:56	71.17'				01:00	70.54			3/3/77
14:58	71.16'				10:00	70.49			" "
15:00	71.16'				13:00	70.40			" "
15:02	71.15'				19:00	70.30			4/1/77
15:04	71.15'								
15:06	71.14'								
15:08	71.13'								