

LOG OF CORES 5332-04, KEPANIWAI, MAUI

Depth
(feet)

3.5 - 10.3 DENSE AA: Gray, fractured boulder (?) .

10.3 - 57 COARSE ALLUVIUM: Weakly consolidated. Boulders (?) of dense aa and some vesicular aa with weathered joint cracks. Alluvial clay matrix at 34'-35', 47', 49', 52'-53'.

57 - 155 COARSE CONGLOMERATE: Gray to pinkish gray. Boulders of dense to moderately vesicular lava. Moderate to well cemented gravelly matrix, at average intervals of 3 feet.

155 - 165 VESICULAR PAHOEHOE (?): Purplish gray, thin-bedded. Indistinct bottom contact.

165 - 202 CLINKERY AA: Gray to reddish gray. Cores break in 1' or less. Some compacted clinkery and vesicular intervals.

202 - 6" of compacted ash and cinder with yellowish matrix.

202 - 301.5 CLINKERY AND VESICULAR AA (?): Gray to reddish gray. Cores mostly of moderate vesicular aa (?) with clinkery intervals throughout. Compacted cinders of a few inches thick with yellowish ash matrix at 247', 249', and 273'.

T.D.

Test hole

GEOLOGIC LOG OF DRILL HOLE

HOLE NO: 5332-04 FEATURE: KEPANIWA T.H. PROJECT: 35-MW-19
 LATITUDE: _____ LONGITUDE: _____ STATE: _____
 GROUND ELEV: 713.4' DEPTH TO WATER TABLE: 38' TOTAL DEPTH: 300' DEPTH OF OVERBURDEN: 155'
 BEGAN: 8/13/73 FINISHED: 9/18/73 DRILLER: CON'LC ORLG LOGGED BY: D. Long

NOTES Water Table Levels Water Return Character of Drilling etc.	TYPE AND SIZE OF HOLE	CORE RECOVERY (Percent)	PERCOLATION TESTS				ELEVATION	DEPTH	LOG	CLASSIFICATION AND PHYSICAL CONDITION	
			DEPTH (Feet)		LOSS (GPM)	PRESSURE (PSI)					LENGTH OF TEST (Min)
			FROM	TO							
DTW = 1.2'									0-3' RED CLAY; with cobbles		
DTW = 2.2									3'-18' BOULDERS & GRAVEL		
DTW = 17.8'									18'-47' BOULDERS; pebbles type		
CEMENT HOLE TO 46'											
DTW = 21' 5.5'											
									47'-53' SANDSTONE; thin, vesicular		
									53'-61' SANDSTONE; 4" dike rock		
LOST ALL WATER									61'- FAULTED: E gravel, boulders		
DTW = 30'											
CEMENT HOLE 30' - 113'											

<input type="checkbox"/> Core Loss <input type="checkbox"/> Core Recovery	EXPLANATION Approximate size of hole (X-series)..... Ex = 1 1/2", Ax = 1 1/2", Bx = 2 1/2", Nx = 3" Approximate size of core (X-series)..... Ex = 3/8", Ax = 1 1/8", Bx = 1 1/8", Nx = 2 1/2" Outside diameter of casing (X-series).... Ex = 1 3/8", Ax = 2 1/4", Bx = 2 1/4", Nx = 3 1/2" Inside diameter of casing (X-series).... Ex = 1 1/8", Ax = 1 5/8", Bx = 2 1/8", Nx = 3"				VERTICAL HOLE <input checked="" type="checkbox"/> ANGLE HOLE <input type="checkbox"/> Angle: _____ Bearing: _____
	HOLE NO. <u>5332-04</u>				

GEOLOGIC LOG OF DRILL HOLE

HOLE NO: 5332-04 FEATURE: KEPANIWA I T.H. PROJECT: 35-MW-19
 LATITUDE: _____ LONGITUDE: _____ STATE: _____
 GROUND ELEV: _____ DEPTH TO WATER TABLE: _____ TOTAL DEPTH: _____ DEPTH OF OVERBURDEN: _____
 BEGAN: 8/13/73 FINISHED: _____ DRILLER: _____ LOGGED BY: D. C. Um

NOTES Water Table Levels Water Return Character of Drilling etc.	TYPE AND SIZE OF HOLE	CORE RECOVERY (Percent)	PERCOLATION TESTS				ELEVATION	DEPTH	LOG	CLASSIFICATION AND PHYSICAL CONDITION	
			DEPTH (Feet)		LOSS (GPM)	PRESSURE (PSI)					LENGTH OF TEST (Min)
			FROM	TO							
<p>DTW = 38' B.O.S. →</p> <p>DTW = 38' B.O.S.</p> <p>DTW = 38' B.O.S.</p>								<p>SAMPLES FOR TESTING</p>	<p>134' - 253' PAHOEHOE: slightly to highly vesicular</p>		

EXPLANATION

Core Loss
 Core Recovery

Approximate size of hole (X-series)..... Ex = 1 1/2", Ax = 1 7/8", Bx = 2 3/8", Nx = 3"
 Approximate size of core (X-series)..... Ex = 3/8", Ax = 1 1/8", Bx = 1 5/8", Nx = 2 1/8"
 Outside diameter of casing (X-series).... Ex = 1 3/8", Ax = 2 1/4", Bx = 2 7/8", Nx = 3 1/2"
 Inside diameter of casing (X-series).... Ex = 1 1/2", Ax = 1 25/32", Bx = 2 3/8", Nx = 3"

VERTICAL HOLE
 ANGLE HOLE
 Angle: _____
 Bearing: _____
 HOLE NO. _____

GEOLOGIC LOG OF DRILL HOLE

HOLE NO: _____ FEATURE: _____ PROJECT: _____
 LATITUDE: _____ LONGITUDE: _____ STATE: _____
 GROUND ELEV: _____ DEPTH TO WATER TABLE: _____ TOTAL DEPTH: _____ DEPTH OF OVERBURDEN: _____
 BEGAN: _____ FINISHED: _____ DRILLER: _____ LOGGED BY: _____

NOTES	TYPE AND SIZE OF HOLE	CORE RECOVERY (Percent)	PERCOLATION TESTS				ELEVATION	DEPTH	LOG	CLASSIFICATION AND PHYSICAL CONDITION	
			DEPTH (Feet)		LOSS (GPM)	PRESSURE (PSI)					LENGTH OF TEST (Min)
			FROM	TO							
<p>DTW = 38' E.O.S. DTW = 38' B.O.S.</p> <p>DTW = 43' E.O.S. DTW = 38' B.O.S.</p> <p>DTW = 38' E.O.S.</p>	210						210		COMPLETED DRUG 9/11/73 DTW = 38' on 9/13, 9/14, 9/17 T.D. = 301'		
	220						220				
	230							230			
	240							240			
	250							250			
	260							260			
	270							270			
	280							280			
	290							290			
	300							300			
	310							310			
	320							320			

Core Loss

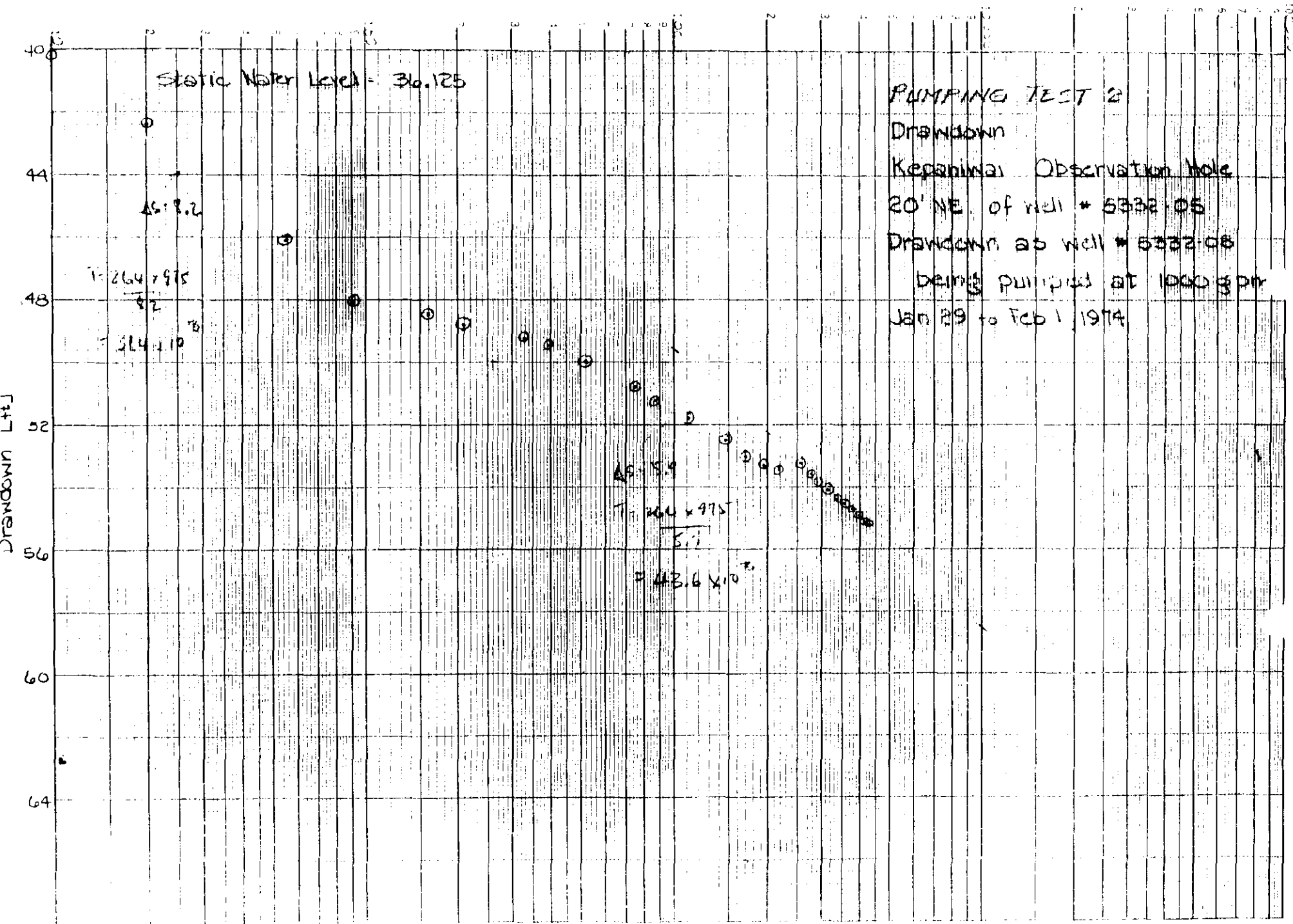
Core Recovery

EXPLANATION

Approximate size of hole (X-series)..... Ex = 1 1/2", Ax = 1 1/8", Bx = 2 3/8", Nx = 3"
 Approximate size of core (X-series)..... Ex = 1/8", Ax = 1/4", Bx = 1 3/8", Nx = 2 1/8"
 Outside diameter of casing (X-series)..... Ex = 1 3/4", Ax = 2 1/4", Bx = 2 7/8", Nx = 3 1/2"
 Inside diameter of casing (X-series)..... Ex = 1 1/2", Ax = 1 1/8", Bx = 2 3/8", Nx = 3"

VERTICAL HOLE
 ANGLE HOLE
 Angle: _____
 Bearing: _____

HOLE NO. 5332-64

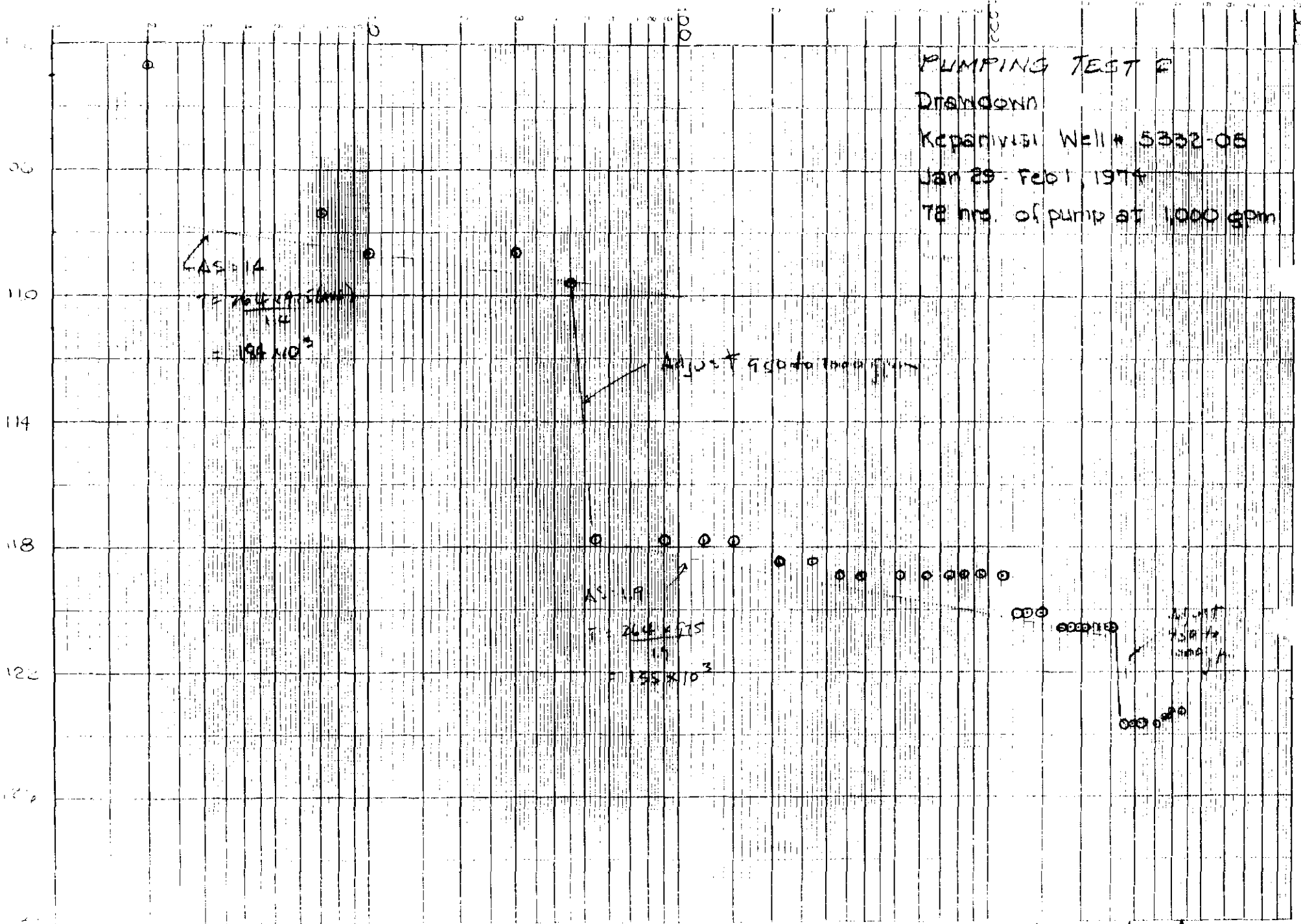


PUMPING TEST #
 DRAGONN

Reparivisi Well # 5332-05

Jan 29 - Feb 1, 1974

72 hrs. of pump at 1000 gpm



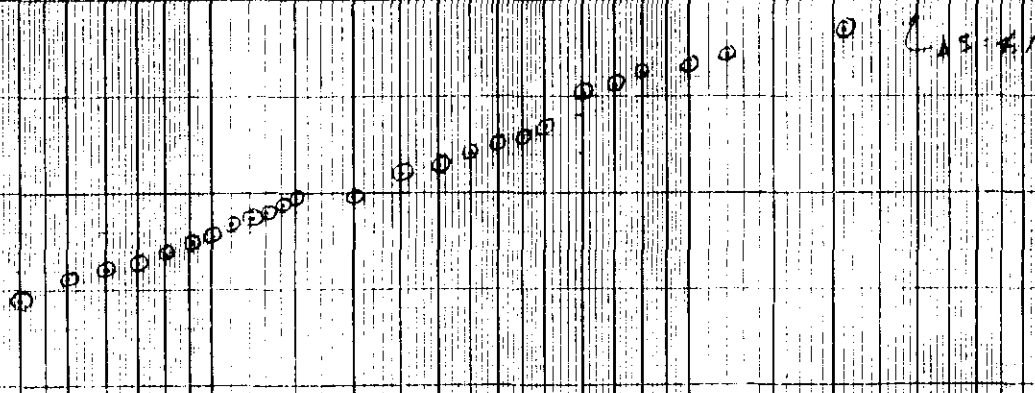
DRAWING NO. 111

$$\Delta s_2 = 4.1$$

$$T = \frac{264 \times 1000}{4.1}$$

$$= 644 \times 10^3$$

Static Water Level
36.125



Recovery Test 2
 Kepariman Observation Hole
 20' NE of well # 3332-03
 Recovery of Observation Hole
 20' well # 3332-03 was
 pumped for 72 hrs
 at 1000 gpm

Feb 1, 1974

PUMPING TEST RECORD /
for

KEPANIWAI
(Name)

Well 5332-05
(No.)

AIU Island EE MW 19 Project or Job No. JAN 7-11 1974

Description of Well--

- Elevation: ground surface 713 ft., top of casing 714.5 ft., rotary table _____ ft., referenced to _____ benchmark.
- Total depth of well 300 ft.; or 413 ft. elevation, msl
- 4 in. solid casing to 162 ft. depth, perforated to 222 ft. depth
- Static water level on JAN 4 1974: _____ ft. below ground surface, top of casing; or _____ ft. elevation msl
measured _____ method

Description of Pump and Pump Setting--

- _____ type pump with 3 stage bowl assembly
- Gasoline diesel, electric, power with _____ horsepower
- Shaft speed: _____ rpm at _____ gpm flow
- Depth of pump intake: 140 ft. below _____; or 215 ft. elev. msl
- Depth of airline bottom: 145 ft. below _____; or 214.5 ft. elev. msl
- Center of gage: _____ ft. elev., msl. Flow measured with _____
- Test conducted by T NALAMA J MENOR

Assumed reversed 4/24/75

Date & Time	Sample No.	Pumping rate (gpm)	Airline Press (psi) / (feet)	Drawdown (feet)	Chlorides (ppm)	Temp. (°F)	Cond. (µmhos/cm @ 25°C)
JAN 7 1974			151 / FT	0			36.5 / C
1030		0	44.6 / 103.5	0			
1250		0	44.8 / 103.5	0			
1300		start pump					
1304		650	750 /	68.8			
1309		Adjust Engine					
1315		750	9.2 /				
1322			210 PSI / 19.10'	82.7			
1325	1	750	9.0 / 19.30	82.5		69.5	
1345		725	18.90	82.9			
1400		725	18.85				
1410		725	8.3 / 18.60				
		725	11.4				
		725	11.4				
		725	11.4				
		725	11.4				
		725	11.4				
		725	11.4				
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		725	11.4				
		725	11.4				
		725	11.4				
		725	11.4				
		725	11.4				

PUMPING TEST RECORD /
for

Kapapa Well 35-MW-19
(name) (No.)

MAUI Island 35-MW-19 Project or Job No. 19

Date & Time	Sample No.	Pumping rate (gpm)	Airline (feet)	Drawdown (feet)	Chlorides (ppm)	Temp. (°F)	Cond. (mmhos 25°C)
1:30		714	15.5	7.5			21.5
2:00		714	15.7	7.1			21.6
2:30		714	15.7	7.1			21.7
3:00		714	15.7	7.1			21.7
3:30		714	15.7	7.1			21.7
4:00		714	15.5	7.3			21.7
4:30		714	15.6	7.6			22.0
5:00		714	15.5	7.5			22.0
5:30		714	15.4	7.4			22.1
6:00		714	15.5	7.2			22.1
6:30		714	15.7	7.1			22.2
7:00		714	15.6	7.0			22.2
7:30		714	15.6	7.2			22.2
8:00		714	15.5	7.2			22.2
8:30		714	15.5	7.3	95		22.2
9:00		714	15.5	7.5			22.2
9:30		714	15.5	7.5			22.2
10:00		714	15.5	7.5			22.2
10:30		714	15.5	7.5			22.2
11:00		714	15.5	7.5			22.2
11:30		714	15.5	7.5			22.2
12:00		714	15.5	7.5			22.2
12:30		714	15.5	7.5			22.2
1:00		714	15.5	7.5			22.2
1:30		714	15.5	7.5			22.2
2:00		714	15.5	7.5			22.2
2:30		714	15.5	7.5			22.2
3:00		714	15.5	7.5			22.2
3:30		714	15.5	7.5			22.2
4:00		714	15.5	7.5			22.2
4:30		714	15.5	7.5			22.2
5:00		714	15.5	7.5			22.2
5:30		714	15.5	7.5			22.2
6:00		714	15.5	7.5			22.2
6:30		714	15.5	7.5			22.2
7:00		714	15.5	7.5			22.2
7:30		714	15.5	7.5			22.2
8:00		714	15.5	7.5			22.2
8:30		714	15.5	7.5			22.2
9:00		714	15.5	7.5			22.2
9:30		714	15.5	7.5			22.2
10:00		714	15.5	7.5			22.2
10:30		714	15.5	7.5			22.2
11:00		714	15.5	7.5			22.2
11:30		714	15.5	7.5			22.2
12:00		714	15.5	7.5			22.2

KEPANIWAI WELL 5332-05 RECOVERY TEST 1/12/74

ELAPSED TIME	RECOVERY PSI	Feet	DD	ELAPSED TIME	RECOVERY PSI	Feet
10.0	15	88.6	17.2			
45	25	85.0	16.5			
1.15	32	87.8	14.0			
1.45	32.5	85.9	12.9			
2.00	37	83.0	11.7			
3.00	32.5	81.2	10.6			
4.00	31.2	80.5	10.2			
5.00	31.1	82.2	9.6			
7.00	40.0	82.4	9.4			
10.00	40.0	82.0	9.0			
20	40.5	82.2	8.8			
40	40.7	84.3	7.5			
45	41.0	84.1	7.1			
1 hr	41.0	84.1	7.1			
1.15	41.0	84.7	7.1			
1.30	41.2	85.2	6.6			
1.45	41.3	85.4	6.4			
2.00	41.5	85.8	5.9			
2-15	41.5	85.8	5.9			
2-30	41.5	85.8	5.9			
2-45	41.5	85.8	5.9			
3.00	41.5	85.8	5.9			

AIRLIFT REQUEST SWL = 101.8'

RECOVERY OF KEPANIWAI TEST HOLE S 332-04

ELAPSED TIME	RECOVERY FT.	ELAPSED TIME	RECOVERY FT.	
8:00 AM	22.2 (Stopped Pump)			1/12/74 8 AM to
1 min	16.5	25	9.8	11 AM
2	14.9	27	9.8	
3	13.8	30	9.7	
4	13.2	31	9.7	
5	12.8	32	9.6	
6	12.5	37	9.4	
7	12.1	42	9.3	
8	11.8	47	9.0	
9	11.5	52	8.9	
10	11.2	57	8.8	
11	11.1	1 hr	8.7	
12	11.0	1-10	8.5	
13	10.9	1-30	8.3	
14	10.8	1-45	8.1	
15	10.7	2 hr	8.0	
16	10.6	2-15	7.9	
17	10.5	2-30	7.8	
18	10.4	2-45	7.7	
19	10.3	3-00	7.6	
20	10.3			
21	10.3			
22	10.2			
23	10.1			
24	10.0			
25	10.0			
26	9.9			
27	9.9			

Dowald 8/63

CHLORIDE TITRATION RECORD 1

for

KEPA

Well

1332-05

(No.)

MA

Island

35 MW 19

Project or Job No.

1-1

1974

Titration conducted by

T. NALATA S. MENIK

Sample No.	Date Taken	Sample (ml)	Burette Rdg		AgNO ₃ (ml)	AgNO ₃ -.2 ml	Mult. Factor	Chlorides (ppm)
			Before	After				
			0.5	2.6	2.1	2.0	1.7	20
			2.6	5.1	2.5	2.4		21
			5.1	7.6	2.5	2.4		24
			7.6	10.2	2.6	2.5		25
			10.2	12.7	2.5	2.4		24
			12.7	15.2	2.5	2.4		24
			15.2	17.7	2.5	2.4		24
			17.7	20.2	2.5	2.4		24
			20.2	22.7	2.5	2.4		24
			22.7	25.2	2.5	2.4		24
			25.2	27.7	2.5	2.4		24
			27.7	30.2	2.5	2.4		24
			30.2	32.7	2.5	2.4		24
			32.7	35.2	2.5	2.4		24

PUMPING TEST RECORD 2
for

Well 2230-05
(Name) (No.)

Island 2230-05 Project or Job No. 19

Description of Well--

- Elevation: ground surface ft., top of casing ft., rotary table ft., referenced to bechmark.
- Total depth of well ft.; or ft. elevation, msl
- in. solid casing to ft. depth, perforated to ft. depth
- Static water level on 19 ; ft. below ground surface, top of casing; or ft. elevation msl measured method

Description of Pump and Pump Setting--

- type pump with stage bowl assembly
- ~~Gasoline~~ diesel, electric, power with horsepower
- Shaft speed: rpm at gpm flow
- Depth of pump intake: ft. below ; or ft. elev. msl
- Depth of airline bottom: ft. below ; or ft. elev. msl
- Center of gage: ft. elev., msl. Flow measured with
- Test conducted by

Elapsed Time

Date & Time	Sample No.	Pumping rate (gpm)	Airline (feet)	Drawdown (feet)	Chlorides (ppm)	Temp. (°F)	Cond. (mmhos 25°C)
1/29/74							
1:00							
1:05							
1:10							
1:15							
1:20							
1:25							
1:30							
1:35							
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11:55							
12:00							

PUMPING TEST RECORD 2
for

Reservoir Department Well (Name) (No.)

Island Project or Job No. 81-4-19

Description of Well--

- 1. Elevation: ground surface _____ ft., top of casing _____ ft., rotary table _____ ft., referenced to _____ benchmark.
- 2. Total depth of well _____ ft.; or _____ ft. elevation, msl
- 3. _____ in. solid casing to _____ ft. depth, perforated to _____ ft. depth
- 4. Static water level on _____ 19____ : _____ ft. below ~~ground surface~~ surface, top of casing; or _____ ft. elevation msl measured _____ method

Description of Pump and Pump Setting--

- 5. _____ type pump with _____ stage bowl assembly
- 6. Gasoline diesel, electric, power with _____ horsepower
- 7. Shaft speed: _____ rpm at _____ gpm flow
- 8. Depth of pump intake: _____ ft. below _____ ; or _____ ft. elev. msl
- 9. Depth of airline bottom: _____ ft. below _____ ; or _____ ft. elev. msl
- 10. Center of gage: _____ ft. elev., msl. Flow measured with _____
- 11. Test conducted by _____

Date & Time	Sample No.	Pumping rate (gpm)	Airline (feet)	Drawdown OBS. TMC ROD (feet)	Chlorides (ppm) <small>DECIMAL</small>	Temp. (°F)	Cond. (mmhos 25°C)
1/29/74							
1/10		static				0	
1/15					35.25	0	
1/20	start	pump					
1/25					40.25	12.13	
1/30					42.42	12.70	
2/5					46.25	12.73	
2/10					48.19	12.97	
2/15				49' 4 5/16"	48.79	12.27	
2/20				49' 5 1/2"	48.46	12.34	
2/25				49' 9"	48.79	12.17	
3/1				49' 11"	49.09	12.27	
3/6				49' 11"	49.21	13.02	
3/11				49' 6"	49.50	13.38	
3/16				50' "	50.0	13.82	
3/21				50' "	50.33	14.21	
3/26				50' 9"	50.75	14.63	
4/1				51' 3"	51.25	15.13	
4/6				51' 6"	51.56	15.22	
4/11				51' 10"	51.83	15.10	

PUMPING TEST RECORD 2
for

Kapacasi Deberistan Well
(name) (No.)

Island at 100 Project or Job No. 10039 1971

Date & Time	Sample No.	Pumping rate (gpm)	Airline (feet)	Drawdown (feet)	Chlorides (ppm)	Temp. (°F)	Cond. (mmhos 25°C)
				30 00	52.0	15.33	
				31 10 30	51.15	15.71	
					51.53	15.45	
					51.29	15.17	
					51.24	14.92	
					50.33	14.71	
					50.67	14.55	
					50.50	14.32	
					50.73	14.21	
					50.19	14.07	
					50.07	13.95	
					49.51	13.79	
					48.50	13.62	
					48.50	13.36	
					48.24	13.12	
					48.02	12.90	
					47.934	11.69	
					47.77	11.52	
					47.41	11.34	
					47.34	11.15	
					46.93	10.71	
					46.92	10.70	
					46.71	10.59	
					46.52	10.40	
					46.49	10.37	
					46.03	9.96	
					45.33	9.71	
					45.53	9.41	

PUMPING TEST RECORD /
for

Kepanui TH
(name)

Well 5332-04
(No.)

Mau Island 35-MW-19 Project or Job No. Jan 7 1974

Date & Time	Sample No.	Pumping rate (gpm)	Airline Drawdown		Chlorides (ppm)	Temp. (°F)	Cond. (mmhos 25°C)
			(feet)	(feet)			
Mon. 1/9/74							
1:02 PM	7' 6"						
1:03	8 0						
2:04	8 7						
05	9						
06	11 3						
07	11 6						
08	10'						
12	11 9						
13	12'						
14	12 2						
15	12 4						
20	12 9						
25	13 1						
30	13 5						
35	13 7 1/2						
40	13 10"						
45	14						
50	14 1 3/4						
55	14 3 1/2						
2:00 PM	14 5						
10	14 7						
20	14 9						
30	14 10						
40	14 11 1/2						
50	15' 1"						
3:00 PM	15' 2"						
15	15' 3"						
45	15 4 1/2						
4:15	15 9						
5:00	15' 10"						