

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF WATER AND IRRIGATION  
THE HASHEMITE KINGDOM OF JORDAN

THE STUDY ON  
BRACKISH GROUNDWATER DESALINATION  
IN  
JORDAN

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BRACKISH GROUNDWATER DESALINATION  
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**FINAL REPORT**  
**DATA AND DRAWINGS**

August 1995

Yachiyo Engineering Co., Ltd.  
Mitsui Mineral Development Engineering Co., Ltd.  
Tokyo Japan



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Final Report consists of the following three reports and one file of data and drawings.

- SUMMARY
- MAIN REPORT
- SUPPORTING REPORT
- DATA AND DRAWINGS

This is the Data and Drawings of the Final Report.

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## **Part I: Potential and Quality of the Brackish Groundwater Resource in the Study Area**

### **1. Pumping Test Records**

### Well 1 Step Drawdown Pumping Test

Depth: 383m

Step: One

Type of Well: Pumped

Date: 01.01.95

Time (minute)	Water Level Reading (m)	Water Level DrawDown (m)	Specific Capacity m <sup>2</sup> /day	Discharge by Weir (l/sec)	Discharge Rate(m <sup>3</sup> /d)
0.00	31.03	0.00			
1.00	37.45	6.42	398.89	29.64	2560.8953
2.00	38.71	7.68	330.05	29.34	2534.793
3.00	39.07	8.04	312.04	29.04	2508.7801
4.00	39.25	8.22	314.73	29.94	2587.0866
5.00	39.45	8.42	297.95	29.04	2508.7801
10.00	40.20	9.17	273.59	29.04	2508.7801
20.00	41.38	10.35	244.91	29.34	2534.793
30.00	41.87	10.84	231.44	29.04	2508.7801
40.00	42.10	11.07	228.98	29.34	2534.793
50.00	42.43	11.40	224.64	29.64	2560.8953
60.00	42.73	11.70	218.88	29.64	2560.8953
90.00	43.43	12.40	206.52	29.64	2560.8953
120.00	43.96	12.93	198.06	29.64	2560.8953

Average Discharge Rate= 2540.851 m<sup>3</sup>/day

### Well 1 Step Drawdown Pumping Test

Depth: 383m

Step: Two

Type of Well: Pumped

Date: 01.01.95

Time (minute)	Water Level Reading (m)	Water Level DrawDown (m)	Specific Capacity m <sup>2</sup> /day	Discharge by Weir (l/sec)	Discharge Rate(m <sup>3</sup> /d)
121.00	44.75	12.14	219.62	30.86	2666.1912
122.00	44.83	12.22	220.35	31.17	2692.7355
123.00	44.87	12.26	221.81	31.47	2719.3672
124.00	44.92	12.31	223.08	31.78	2746.0861
125.00	44.95	12.34	220.37	31.47	2719.3672
130.00	45.07	12.46	218.25	31.47	2719.3672
140.00	45.25	12.64	213.03	31.17	2692.7355
150.00	45.45	12.84	213.87	31.78	2746.0861
160.00	45.60	12.99	211.40	31.78	2746.0861
170.00	45.80	13.19	206.17	31.47	2719.3672
180.00	45.99	13.38	203.24	31.47	2719.3672
210.00	46.41	13.80	195.13	31.17	2692.7355
240.00	46.70	14.09	191.11	31.17	2692.7355

Average Discharge Rate= 2713.2483 m<sup>3</sup>/day

### Well 1 Step Drawdown Pumping Test

Depth: 383m

Step: Three

Type of Well: Pumped

Date: 01.01.95

Time (minute)	Water Level Reading (m)	Water Level DrawDown (m)	Specific Capacity m <sup>3</sup> /day	Discharge by Weir (l/sec)	Discharge Rate(m <sup>3</sup> /d)
241.00	48.03	15.42	186.83	33.34	2880.9794
242.00	48.12	15.51	184.00	33.03	2853.8285
243.00	48.18	15.57	183.29	33.03	2853.8285
244.00	48.22	15.61	184.56	33.34	2880.9794
245.00	48.25	15.64	184.21	33.34	2880.9794
250.00	48.38	15.77	182.69	33.34	2880.9794
260.00	48.52	15.91	179.37	33.03	2853.8285
270.00	48.71	16.10	178.94	33.34	2880.9794
280.00	48.78	16.17	178.17	33.34	2880.9794
290.00	48.86	16.25	177.29	33.34	2880.9794
300.00	48.95	16.34	176.31	33.34	2880.9794
330.00	49.16	16.55	172.44	33.03	2853.8285
360.00	49.44	16.83	169.57	33.03	2853.8285

Average Discharge Rate= 2870.5368 m<sup>3</sup>/day

### Well 1 Step Drawdown Pumping Test

Depth: 383m

Step: Four

Type of Well: Pumped

Date: 01.01.95

Time (minute)	Water Level Reading (m)	Water Level DrawDown (m)	Specific Capacity m <sup>3</sup> /day	Discharge by Weir (l/sec)	Discharge Rate(m <sup>3</sup> /d)
361.00	50.08	17.47	180.72	36.54	3157.1505
362.00	50.25	17.64	177.39	36.22	3129.1558
363.00	50.38	17.77	177.67	36.54	3157.1505
364.00	50.46	17.85	176.87	36.54	3157.1505
365.00	50.53	17.92	176.18	36.54	3157.1505
370.00	50.73	18.12	171.15	35.89	3101.2443
380.00	50.89	18.28	169.65	35.89	3101.2443
390.00	51.03	18.42	169.88	36.22	3129.1558
400.00	51.14	18.53	167.36	35.89	3101.2443
410.00	51.23	18.62	169.56	36.54	3157.1505
420.00	51.32	18.71	168.74	36.54	3157.1505
450.00	51.60	18.99	166.25	36.54	3157.1505
480.00	51.83	19.22	162.81	36.22	3129.1558

Average Discharge Rate= 3137.7888 m<sup>3</sup>/day



### Well 1 Step Drawdown Pumping Test

Depth: 383m

Step: Five

Type of Well: Pumped

Date: 01.01.95

Time (minute)	Water Level Reading (m)	Water Level Drawdown (m)	Specific Capacity m <sup>2</sup> /day	Discharge by Weir (l/sec)	Discharge Rate(m <sup>3</sup> /d)
481.00	52.19	19.58	180.21	40.84	3528.5469
482.00	52.36	19.75	177.19	40.50	3499.4918
483.00	52.49	19.88	177.49	40.84	3528.5469
484.00	52.54	19.93	177.05	40.84	3528.5469
485.00	52.56	19.95	178.33	41.18	3557.6819
490.00	52.78	20.17	176.38	41.18	3557.6819
500.00	52.98	20.37	170.37	40.17	3470.5169
510.00	53.14	20.53	170.46	40.50	3499.4918
520.00	53.27	20.66	169.38	40.50	3499.4918
530.00	53.41	20.80	168.24	40.50	3499.4918
540.00	53.54	20.93	165.82	40.17	3470.5169
570.00	53.85	21.24	164.76	40.50	3499.4918
600.00	54.10	21.49	162.84	40.50	3499.4918

Average Discharge Rate= 3510.6915 m<sup>3</sup>/day

# Well 1 CONSTANT RATE PUMPING TEST

Depth=383.0m

Type of Well:Pumped

Date	T(min)	WL(m)	DD(m)	Discharge Rate(m3/d)	Spec.Cap. m2/day	Discharge Rate(Field) 300mm - H above weir
6.1.95	0	31.30	0.00	Weir tank		
	1	36.50	5.20	2666.19	512.73	150.00
	2	37.30	6.00	2666.19	444.37	150.00
	3	38.20	6.90	2666.19	386.40	150.00
	4	38.80	7.50	2666.19	355.49	150.00
	5	39.20	7.90	2613.37	330.81	152.00
	6	39.90	8.60	2613.37	303.88	152.00
	7	42.20	10.90	2666.19	244.60	150.00
	8	42.80	11.50	2666.19	231.84	150.00
	9	43.30	12.00	2613.37	217.78	152.00
	10	43.50	12.20	2613.37	214.21	152.00
	12	43.80	12.50	2587.09	206.97	153.00
	14	44.10	12.80	2666.19	208.30	150.00
	16	44.20	12.90	2666.19	206.68	150.00
	18	44.45	13.15	2666.19	202.75	150.00
	20	44.80	13.50	2666.19	197.50	150.00
	25	44.90	13.60	2666.19	196.04	150.00
	30	45.30	14.00	2666.19	190.44	150.00
	35	45.65	14.35	2666.19	185.80	150.00
	40	45.95	14.65	2666.19	181.99	150.00
	45	46.40	15.10	2692.74	178.33	149.00
	50	46.60	15.30	2692.74	176.00	149.00
	55	46.85	15.55	2692.74	173.17	149.00
	60	47.00	15.70	2666.19	169.82	150.00
	70	47.25	15.95	2666.19	167.16	150.00
	80	47.50	16.20	2666.19	164.58	150.00
	90	48.00	16.70	2666.19	159.65	150.00
	100	48.30	17.00	2666.19	156.83	150.00
	110	48.60	17.30	2587.09	149.54	153.00
	120	48.80	17.50	2666.19	152.35	150.00
	150	49.60	18.30	2666.19	145.69	150.00
	180	50.00	18.70	2666.19	142.58	150.00
	210	50.15	18.85	2666.19	141.44	150.00
	240	50.35	19.05	2692.74	141.35	149.00
	300	51.50	20.20	2666.19	131.99	150.00
	360	51.80	20.50	2666.19	130.06	150.00
	420	52.20	20.90	2666.19	127.57	150.00
	480	52.60	21.30	2613.37	122.69	152.00
	540	53.10	21.80	2613.37	119.88	152.00
	600	53.55	22.25	2613.37	117.45	152.00
	660	53.90	22.60	2666.19	117.97	150.00
	720	54.23	22.93	2613.37	113.97	152.00
	780	54.44	23.14	2613.37	112.94	152.00
	840	54.77	23.47	2613.37	111.35	152.00
7.1.95	900	54.97	23.67	2666.19	112.64	150.00
	960	55.23	23.93	2692.74	112.53	149.00
	1020	55.40	24.10	2692.74	111.73	149.00
	1080	55.65	24.35	2692.74	110.58	149.00
	1140	55.85	24.55	2666.19	108.60	150.00
	1200	56.05	24.75	2666.19	107.72	150.00
	1260	56.40	25.10	2692.74	107.28	149.00

Date	T(min)	WL(m)	DD(m)	Discharge Rate(m <sup>3</sup> /d)	Spec.Cap. m <sup>2</sup> /day	Discharge Rate(Field) 300mm - H above weir
7.1.95				Weir tank		
	1320	56.50	25.20	2692.74	106.85	149.00
	1380	56.55	25.25	2666.19	105.59	150.00
	1440	56.75	25.45	2666.19	104.76	150.00
	1500	56.95	25.65	2666.19	103.95	150.00
	1560	57.15	25.85	2666.19	103.14	150.00
	1620	57.25	25.95	2666.19	102.74	150.00
	1680	57.40	26.10	2666.19	102.15	150.00
	1740	57.50	26.20	2666.19	101.76	150.00
	1800	57.50	26.20	2692.74	102.78	149.00
	1860	57.65	26.35	2666.19	101.18	150.00
	1920	57.70	26.40	2666.19	100.99	150.00
	1980	57.80	26.50	2692.74	101.61	149.00
	2040	57.95	26.65	2692.74	101.04	149.00
	2100	58.00	26.70	2666.19	99.86	150.00
	2160	58.05	26.75	2666.19	99.67	150.00
	2220	58.20	26.90	2666.19	99.11	150.00
	2280	58.28	26.98	2666.19	98.82	150.00
8.1.95	2340	58.34	27.04	2666.19	98.60	150.00
	2400	58.53	27.23	2666.19	97.91	150.00
	2460	58.60	27.30	2719.37	99.61	148.00
	2520	58.70	27.40	2666.19	97.31	150.00
	2580	58.75	27.45	2666.19	97.13	150.00
	2640	58.85	27.55	2666.19	96.78	150.00
	2700	58.90	27.60	2666.19	96.60	150.00
	2760	59.00	27.70	2666.19	96.25	150.00
	2820	59.00	27.70	2666.19	96.25	150.00
	2880	59.00	27.70	2666.19	96.25	150.00
	2940	59.20	27.90	2666.19	95.56	150.00
	3000	59.20	27.90	2666.19	95.56	150.00
	3060	59.35	28.05	2666.19	95.05	150.00
	3120	59.40	28.10	2666.19	94.88	150.00
	3180	59.43	28.13	2666.19	94.78	150.00
	3240	59.50	28.20	2666.19	94.55	150.00

The Average Discharge Rate = 2663.86 m<sup>3</sup> / day

Note : The dimensions of the weir used are 300X 300 mm.

WELL 1 RECOVERY TEST				
Depth=383 m			Date : 8.1.95	
t'(MIN)	t(MIN)	t/t'	WL(m)	s'(m)
0.00	3240.00	0.00	59.50	28.20
1.00	3241.00	3241.00	52.00	20.70
2.00	3242.00	1621.00	51.20	19.90
3.00	3243.00	1081.00	51.00	19.70
4.00	3244.00	811.00	50.60	19.30
5.00	3245.00	649.00	50.10	18.80
6.00	3246.00	541.00	49.60	18.30
7.00	3247.00	463.86	49.40	18.10
8.00	3248.00	406.00	49.10	17.80
9.00	3249.00	361.00	48.80	17.50
10.00	3250.00	325.00	48.50	17.20
12.00	3252.00	271.00	48.10	16.80
14.00	3254.00	232.43	47.80	16.50
16.00	3256.00	203.50	47.60	16.30
18.00	3258.00	181.00	47.50	16.20
20.00	3260.00	163.00	47.30	16.00
25.00	3265.00	130.60	47.15	15.85
30.00	3270.00	109.00	47.05	15.75
35.00	3275.00	93.57	46.80	15.50
40.00	3280.00	82.00	46.60	15.30
45.00	3285.00	73.00	46.35	15.05
50.00	3290.00	65.80	46.05	14.75
55.00	3295.00	59.91	45.80	14.50
60.00	3300.00	55.00	45.55	14.25
70.00	3310.00	47.29	45.10	13.80
80.00	3320.00	41.50	44.75	13.45
90.00	3330.00	37.00	44.35	13.05
100.00	3340.00	33.40	43.95	12.65
110.00	3350.00	30.45	43.40	12.10
120.00	3360.00	28.00	42.80	11.50
150.00	3390.00	22.60	42.50	11.20
180.00	3420.00	19.00	41.85	10.55
210.00	3450.00	16.43	41.40	10.10
240.00	3480.00	14.50	41.00	9.70
300.00	3540.00	11.80	40.60	9.30
360.00	3600.00	10.00	39.85	8.55
420.00	3660.00	8.71	39.32	8.02
480.00	3720.00	7.75	38.85	7.55
540.00	3780.00	7.00	38.64	7.34
600.00	3840.00	6.40	38.30	7.00
660.00	3900.00	5.91	37.95	6.65
720.00	3960.00	5.50	37.62	6.32
780.00	4020.00	5.15	37.30	6.00
840.00	4080.00	4.86	37.00	5.70
900.00	4140.00	4.60	36.72	5.42
960.00	4200.00	4.38	36.76	5.46
1020.00	4260.00	4.18	36.30	5.00
1080.00	4320.00	4.00	36.15	4.85
1140.00	4380.00	3.84	36.03	4.73
1200.00	4440.00	3.70	35.88	4.58
1260.00	4500.00	3.57	35.74	4.44
1320.00	4560.00	3.45	35.60	4.30
1380.00	4620.00	3.35	35.50	4.20
1440.00	4680.00	3.25	35.48	4.18

### Well 2 Step Drawdown Pumping Test

Depth: 300m

Step: One

Type of Well: Flowing

Date: 25.12.94

Time (minute)	Pressure Gauge Reading (psi)	Water Level DrawDown (m)	Discharge by Flowmeter (L/sec)	Discharge by Weir (L/sec)	Discharge Rate(m <sup>3</sup> /d)
0.00	80.00	0.00			
1.00	48.90	21.77	28.70	28.59	2474.6637
2.00	47.80	22.54	28.72	28.59	2475.5252
3.00	47.00	23.10	29.06	28.59	2490.3557
4.00	46.20	23.66	28.48	28.99	2482.4718
6.00	45.70	24.01	28.76	28.59	2477.2517
10.00	44.90	24.57	28.64	28.99	2489.2924
20.00	44.20	25.06	28.80	28.59	2478.9831
30.00	43.80	25.34	28.84	28.19	2463.5928
40.00	42.40	26.32	28.92	28.59	2484.2063
50.00	42.20	26.46	28.82	28.59	2479.8506
60.00	41.90	26.67	28.60	28.99	2487.5802
90.00	41.20	27.16	28.44	28.59	2463.5724
120.00	40.60	27.58	29.08	28.19	2474.1127

Average Discharge Rate= 2478.5738 m<sup>3</sup>/day

### Well 2 Step Drawdown Pumping Test

Depth: 300m

Step: Two

Type of Well: Flowing

Date: 25.12.94

Time (minute)	Pressure Gauge Reading (psi)	Water Level DrawDown (m)	Discharge by Flowmeter (L/sec)	Discharge by Weir (L/sec)	Discharge Rate(m <sup>3</sup> /d)
121.00	25.00	38.50	40.65	32.65	2821.15
122.00	24.20	39.06	40.82	32.65	2821.15
123.00	23.90	39.27	41.25	33.07	2857.114
124.00	23.60	39.48	40.92	33.07	2857.114
125.00	23.40	39.62	41.02	32.65	2821.15
130.00	23.10	39.83	40.39	32.65	2821.15
135.00	22.90	39.97	40.75	32.65	2821.15
140.00	22.70	40.11	40.82	33.07	2857.114
150.00	22.40	40.32	40.52	32.24	2785.338
160.00	22.15	40.50	41.08	32.65	2821.15
170.00	21.95	40.64	40.68	32.24	2785.338
180.00	21.75	40.78	41.02	33.07	2857.114
210.00	21.40	41.02	40.88	32.65	2821.15
240.00	21.15	41.20	40.95	33.07	2857.114

\* The flowmeter readings are counting the gas contained in the water, but the readings of the weir are not.

Average Discharge Rate= 2828.8779 m<sup>3</sup>/day

### Well 2 Step Drawdown Pumping Test

Depth: 300m

Step: Three

Type of Well: Flowing

Date: 25.12.94

Time (minute)	Pressure Gauge Reading (psi)	Water Level DrawDown (m)	Discharge by Flowmeter (L/sec)	Discharge by Weir (L/sec)	Discharge Rate(m <sup>3</sup> /d)
241.00	12.80	47.04	50.81	36.89	3187.535
242.00	12.60	47.18	53.71	36.89	3187.535
243.00	12.50	47.25	52.14	37.33	3224.987
244.00	12.40	47.32	51.65	36.89	3187.535
245.00	12.35	47.36	51.44	37.33	3224.987
250.00	12.25	47.43	51.98	37.33	3224.987
255.00	12.15	47.50	50.86	37.33	3224.987
260.00	12.00	47.60	50.97	36.89	3187.535
270.00	11.80	47.74	51.18	36.89	3187.535
280.00	11.70	47.81	51.49	37.33	3224.987
290.00	11.70	47.81	50.61	37.33	3224.987
300.00	11.65	47.85	51.87	37.76	3262.585
330.00	11.60	47.88	51.60	36.89	3187.535
360.00	11.60	47.88	51.12	37.33	3224.987

\* The flowmeter readings are counting the gas contained in the water, but the readings of the weir are not.

Average Discharge Rate= 3211.6219 m<sup>3</sup>/day

### Well 2 Step Drawdown Pumping Test

Depth: 300m

Step: Four

Type of Well: Flowing

Date: 25.12.94

Time (minute)	Pressure Gauge Reading (psi)	Water Level DrawDown (m)	Discharge by Flowmeter (L/sec)	Discharge by Weir (L/sec)	Discharge Rate(m <sup>3</sup> /d)
361.00	8.50	50.05		38.64	3338.214
362.00	8.40	50.12		38.64	3338.214
363.00	8.30	50.19		39.08	3376.245
364.00	8.20	50.26		38.20	3300.327
365.00	8.15	50.30		38.64	3338.214
370.00	8.15	50.30		38.64	3338.214
375.00	8.10	50.33		38.64	3338.214
380.00	8.05	50.37		38.20	3300.327
390.00	8.00	50.40		38.64	3338.214
400.00	8.00	50.40		38.64	3338.214
410.00	8.00	50.40		39.08	3376.245
420.00	7.95	50.44		38.64	3338.214
450.00	7.95	50.44		38.20	3300.327
480.00	7.95	50.44		38.20	3300.327

\* The flowmeter readings are counting the gas contained in the water, but the readings of the weir are not.

Average Discharge Rate= 3332.822 m<sup>3</sup>/day

## Well 2 Step Drawdown Pumping Test

Depth: 300m

Step: Five

Type of Well: Flowing

Date: 25.12.94

Time (minute)	Pressure Gauge Reading (psi)	Water Level DrawDown (m)	Discharge by Flowmeter (L/sec)	Discharge by Weir (L/sec)	Discharge Rate(m <sup>3</sup> /d)
481.00	5.50	52.15		39.52	3414.419
482.00	5.45	52.19		39.52	3414.419
483.00	5.45	52.19		39.08	3376.245
484.00	5.40	52.22		39.52	3414.419
485.00	5.40	52.22		39.08	3376.245
490.00	5.40	52.22		38.64	3338.214
495.00	5.40	52.22		39.52	3414.419
500.00	5.40	52.22		38.20	3300.327
510.00	5.40	52.22		38.64	3338.214
520.00	5.40	52.22		38.64	3338.214
530.00	5.40	52.22		38.64	3338.214
540.00	5.40	52.22		38.64	3338.214
570.00	5.40	52.22		38.64	3338.214
600.00	5.40	52.22		38.64	3338.214

\* The flowmeter readings are counting the gas contained in the water, but the readings of the weir are not.

Average Discharge Rate= 3362.7134 m<sup>3</sup>/day

# Well 2 CONSTANT RATE PUMPING TEST

Depth=300m

Type of Well : Flowing

Date	T(min)	P(psi)	DD(m)	Discharge Rate(m3/d)		Spec.Cap.	Discharge Rate(Field)	
				Weir tank	Flowmeter	m2/day	309mm-over weir	Flowmeter(s/500L)
31.12.94	0	78.00	0.00					
	1	63.50	10.15	2241.09	3059.49	220.80	210.00	14.12
	2	62.50	10.85	2107.87	2805.19	194.27	214.00	15.40
	3	62.00	11.20	2074.99	3018.87	185.27	215.00	14.31
	4	61.50	11.55	2241.09	2774.57	194.03	210.00	15.57
	5	61.00	11.90	2174.14	2880.00	182.70	212.00	15.00
	6	60.50	12.25	2174.14	3010.45	177.48	212.00	14.35
	7	60.00	12.60	2274.82	2727.27	180.54	209.00	15.84
	8	60.00	12.60	2207.53	2836.51	175.20	211.00	15.23
	9	59.60	12.88	2140.92	2783.51	166.22	213.00	15.52
	10	59.50	12.95	2274.82	2838.37	175.66	209.00	15.22
	12	60.00	12.60	2207.53	2807.02	175.20	211.00	15.39
	14	60.00	12.60	2241.09	2787.10	177.86	210.00	15.50
	16	59.60	12.88	2207.53	2823.53	171.39	211.00	15.30
	18	59.50	12.95	2074.99	2859.03	160.23	215.00	15.11
	20	59.20	13.16	2074.99	2847.73	157.67	215.00	15.17
	25	58.50	13.65	2174.14	2772.79	159.28	212.00	15.58
	30	58.00	14.00	2241.09	2705.07	160.08	210.00	15.97
	35	57.70	14.21	2074.99	2510.17	146.02	215.00	17.21
	40	56.00	15.40	2107.87	2819.84	136.87	214.00	15.32
	45	54.50	16.45	2207.53	2735.91	134.20	211.00	15.79
	50	54.20	16.66	2274.82	2779.92	136.54	209.00	15.54
	55	53.90	16.87	2308.72	2767.46	136.85	208.00	15.61
	60	53.50	17.15	2411.41	2799.74	140.61	205.00	15.43
	70	53.20	17.36	2480.69	2842.11	142.90	203.00	15.20
	80	52.70	17.71	2585.83	2722.12	146.01	200.00	15.87
	90	52.30	17.99	2515.57	2729.00	139.83	202.00	15.83
	100	52.00	18.20	2585.83	2742.86	142.08	200.00	15.75
	110	51.80	18.34	3020.65	2746.34	164.70	188.00	15.73
	120	51.50	18.55	2656.72	2751.59	143.22	198.00	15.70
	150	50.80	19.04	2308.72	2778.14	121.26	208.00	15.55
	180	50.50	19.25	2411.41	2725.55	125.27	205.00	15.85
	210	50.00	19.60	2308.72	2705.07	117.79	208.00	15.97
	240	49.00	20.30	2342.78	2634.15	115.41	207.00	16.40
	300	48.50	20.65	2308.72	2723.83	111.80	208.00	15.86
	360	47.50	21.35	2308.72	2716.98	108.14	208.00	15.90
	420	46.60	21.98	2308.72	2737.64	105.04	208.00	15.78
	480	45.50	22.75	2308.72	2730.72	101.48	208.00	15.82
	540	45.00	23.10	2274.82	2718.69	98.48	209.00	15.89
	600	43.80	23.94	2308.72	2703.38	96.44	208.00	15.98
1.1.95	660	43.20	24.36	2274.82	2725.55	93.38	209.00	15.85
	720	42.90	24.57	2308.72	2693.27	93.96	208.00	16.04
	780	42.40	24.92	2342.78	2781.71	94.01	207.00	15.53
	840	41.30	25.69	2274.82	2663.38	88.55	209.00	16.22
	900	41.50	25.55	2274.82	2705.07	89.03	209.00	15.97
	960	41.00	25.90	2308.72	2642.20	89.14	208.00	16.35
	1020	40.65	26.15	2274.82	2622.95	87.01	209.00	16.47
	1080	40.24	26.43	2274.82	2653.56	86.06	209.00	16.28
	1140	40.00	26.60	2274.82	2630.94	85.52	209.00	16.42
	1200	39.80	26.74	2308.72	2594.59	86.34	208.00	16.65
	1260	39.50	26.95	2308.72	2810.67	85.67	208.00	15.37



Date	T(min)	P(psi)	DD(m)	Discharge Rate(m3/d)		Spec. Cap. m2/day	Discharge Rate(Field)	
				Weir tank	Flowmeter		309mm-over weir	Flowmeter(s/500L)
	1320	39.50	26.95	2308.72	2778.14	85.67	208.00	15.55
	1380	39.50	26.95	2274.82	2860.93	84.41	209.00	15.10
	1440	39.30	27.09	2274.82	2725.55	83.97	209.00	15.85
	1500	39.00	27.30	2308.72	2860.93	84.57	208.00	15.10
	1560	38.90	27.37	2308.72	2751.59	84.35	208.00	15.70
	1620	38.70	27.51	2274.82	2787.10	82.69	209.00	15.50
	1680	38.60	27.58	2308.72	2683.23	83.71	208.00	16.10
	1740	38.40	27.72	2274.82	2629.34	82.06	209.00	16.43
	1800	38.30	27.79	2274.82	2691.59	81.86	209.00	16.05
	1860	38.10	27.93	2308.72	2566.84	82.66	208.00	16.83
	1920	38.00	28.00	2308.72	2556.21	82.45	208.00	16.90
	1980	37.90	28.07	2274.82	2579.10	81.04	209.00	16.75
	2040	37.70	28.21	2308.72	2535.21	81.84	208.00	17.04
2.1.95	2100	37.50	28.35	2308.72	2489.91	81.44	208.00	17.35
	2160	37.30	28.49	2308.72	2514.55	81.04	208.00	17.18
	2220	37.15	28.60	2308.72	2510.17	80.74	208.00	17.21
	2280	37.00	28.70	2308.72	2488.48	80.44	208.00	17.36
	2340	36.90	28.77	2308.72	2524.84	80.25	208.00	17.11
	2400	36.80	28.84	2308.72	2511.63	80.05	208.00	17.20
	2460	36.75	28.88	2308.72	2547.17	79.96	208.00	16.96
	2520	36.75	28.88	2274.82	2603.98	78.78	209.00	16.59
	2580	36.75	28.88	2274.82	2505.80	78.78	209.00	17.24
	2640	36.60	28.98	2308.72	2557.73	79.67	208.00	16.89
	2700	36.60	28.98	2342.78	2602.41	80.84	207.00	16.60
	2760	36.60	28.98	2342.78	2559.24	80.84	207.00	16.88
	2820	36.50	29.05	2241.09	2538.19	77.15	210.00	17.02
	2880	36.50	29.05	2308.72	2668.31	79.47	208.00	16.19
	2940	36.50	29.05	2342.78	2645.44	80.65	207.00	16.33
	3000	36.50	29.05	2274.82	2545.67	78.31	209.00	16.97
	3060	36.40	29.12	2308.72	2630.94	79.28	208.00	16.42
	3120	36.40	29.12	2274.82	2674.92	78.12	209.00	16.15
	3180	36.25	29.23	2308.72	2665.02	79.00	208.00	16.21
	3240	36.00	29.40	2308.72	2603.98	78.53	208.00	16.59
	3300	36.00	29.40	2274.82	2526.32	77.37	209.00	17.10
	3360	36.00	29.40	2274.82	2508.71	77.37	209.00	17.22
	3420	36.00	29.40	2274.82	2594.59	77.37	209.00	16.65
	3480	35.75	29.58	2274.82	2577.57	76.92	209.00	16.76
3.1.95	3540	35.75	29.58	2308.72	2597.71	78.06	208.00	16.63
	3600	35.75	29.58	2274.82	2533.72	76.92	209.00	17.05
	3660	35.75	29.58	2274.82	2520.42	76.92	209.00	17.14
	3720	35.25	29.93	2274.82	2648.68	76.02	209.00	16.31
	3780	35.25	29.93	2274.82	2610.27	76.02	209.00	16.55
	3840	35.25	29.93	2274.82	2535.21	76.02	209.00	17.04
	3900	35.25	29.93	2308.72	2582.19	77.15	208.00	16.73
	3960	35.25	29.93	2274.82	2475.64	76.02	209.00	17.45
	4020	35.25	29.93	2274.82	2492.79	76.02	209.00	17.33
	4080	35.25	29.93	2274.82	2500.00	76.02	209.00	17.28
	4140	35.25	29.93	2274.82	2523.36	76.02	209.00	17.12
	4200	35.25	29.93	2274.82	2497.11	76.02	209.00	17.30
	4260	35.00	30.10	1945.21	2460.14	64.62	219.00	17.56
	4320	35.00	30.10	2074.99	2416.11	68.94	215.00	17.88
	4380	34.00	30.80	2174.14	2560.76	70.59	212.00	16.87
	4440	34.00	30.80	2009.75	2678.24	65.25	217.00	16.13
	4500	33.80	30.94	2009.75	2586.83	64.96	217.00	16.70

[illegible]

WELL 2 RECOVERY TEST					
Depth:300 m			Date : 4.1.95		
t'(MIN)	t(MIN)	t/t'	P(psi)	WL(m)	s'(m)
0.00	5760.00		32.65	22.86	31.75
1.00	5761.00	5761.00	46.00	32.20	22.40
2.00	5762.00	2881.00	48.70	34.09	20.51
3.00	5763.00	1921.00	49.00	34.30	20.30
4.00	5764.00	1441.00	49.80	34.86	19.74
5.00	5765.00	1153.00	50.35	35.25	19.36
6.00	5766.00	961.00	50.85	35.60	19.01
7.00	5767.00	823.86	51.20	35.84	18.76
8.00	5768.00	721.00	51.65	36.16	18.45
9.00	5769.00	641.00	52.20	36.54	18.06
10.00	5770.00	577.00	52.45	36.72	17.89
12.00	5772.00	481.00	52.80	36.96	17.64
14.00	5774.00	412.43	53.20	37.24	17.36
16.00	5776.00	361.00	53.80	37.66	16.94
18.00	5778.00	321.00	54.25	37.98	16.63
20.00	5780.00	289.00	54.65	38.26	16.35
25.00	5785.00	231.40	55.65	38.96	15.65
30.00	5790.00	193.00	56.15	39.31	15.30
35.00	5795.00	165.57	56.55	39.59	15.02
40.00	5800.00	145.00	56.90	39.83	14.77
45.00	5805.00	129.00	57.25	40.08	14.53
50.00	5810.00	116.20	57.60	40.32	14.28
55.00	5815.00	105.73	57.95	40.57	14.04
60.00	5820.00	97.00	58.00	40.60	14.00
90.00	5850.00	65.00	59.00	41.30	13.30
120.00	5880.00	49.00	60.00	42.00	12.60
150.00	5910.00	39.40	61.00	42.70	11.90
180.00	5940.00	33.00	61.65	43.16	11.45
240.00	6000.00	25.00	62.50	43.75	10.85
300.00	6060.00	20.20	63.00	44.10	10.50
360.00	6120.00	17.00	63.50	44.45	10.15
420.00	6180.00	14.71	64.00	44.80	9.80
480.00	6240.00	13.00	64.50	45.15	9.45
540.00	6300.00	11.67	65.00	45.50	9.10
600.00	6360.00	10.60	65.00	45.50	9.10
660.00	6420.00	9.73	66.00	46.20	8.40
720.00	6480.00	9.00	66.50	46.55	8.05
780.00	6540.00	8.38	67.00	46.90	7.70
840.00	6600.00	7.86	68.00	47.60	7.00
900.00	6660.00	7.40	69.00	48.30	6.30
960.00	6720.00	7.00	68.50	47.95	6.65
1020.00	6780.00	6.65	69.00	48.30	6.30
1080.00	6840.00	6.33	69.00	48.30	6.30
1140.00	6900.00	6.05	69.50	48.65	5.95
1200.00	6960.00	5.80	70.00	49.00	5.60
1260.00	7020.00	5.57	70.50	49.35	5.25
1320.00	7080.00	5.36	71.00	49.70	4.90
1380.00	7140.00	5.17	71.50	50.05	4.55

LONG TERM PUMPING TEST OF WELL 2

Depth : 300.0 m

*Type : Flowing*

[illegible]



# WELL No.2

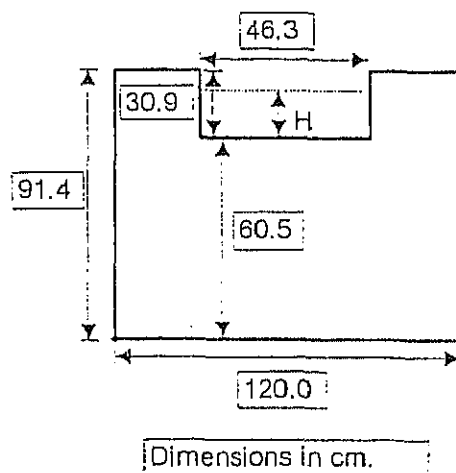
Rating Table for Flow Rate Measurement Using the Weir shown in the Figure.

H(mm)	Q(lit/sec)	H(mm)	Q(lit/sec)	H(mm)	Q(lit/sec)	H(mm)	Q(lit/sec)
1.00	0.07	53.00	10.19	105.00	28.05	157.00	51.07
2.00	0.13	54.00	10.47	106.00	28.45	158.00	51.55
3.00	0.20	55.00	10.76	107.00	28.85	159.00	52.04
4.00	0.28	56.00	11.05	108.00	29.25	160.00	52.53
5.00	0.37	57.00	11.34	109.00	29.65	161.00	53.02
6.00	0.47	58.00	11.64	110.00	30.06	162.00	53.51
7.00	0.57	59.00	11.93	111.00	30.47	163.00	54.00
8.00	0.68	60.00	12.23	112.00	30.88	164.00	54.50
9.00	0.80	61.00	12.54	113.00	31.29	165.00	54.99
10.00	0.93	62.00	12.84	114.00	31.70	166.00	55.49
11.00	1.06	63.00	13.15	115.00	32.11	167.00	55.99
12.00	1.19	64.00	13.46	116.00	32.53	168.00	56.49
13.00	1.34	65.00	13.77	117.00	32.95	169.00	57.00
14.00	1.48	66.00	14.09	118.00	33.37	170.00	57.50
15.00	1.63	67.00	14.40	119.00	33.79	171.00	58.00
16.00	1.79	68.00	14.72	120.00	34.21	172.00	58.51
17.00	1.95	69.00	15.04	121.00	34.64	173.00	59.02
18.00	2.12	70.00	15.37	122.00	35.07	174.00	59.53
19.00	2.29	71.00	15.69	123.00	35.50	175.00	60.04
20.00	2.46	72.00	16.02	124.00	35.93	176.00	60.55
21.00	2.64	73.00	16.35	125.00	36.36	177.00	61.07
22.00	2.82	74.00	16.69	126.00	36.79	178.00	61.58
23.00	3.01	75.00	17.02	127.00	37.23	179.00	62.10
24.00	3.20	76.00	17.36	128.00	37.67	180.00	62.62
25.00	3.39	77.00	17.70	129.00	38.10	181.00	63.14
26.00	3.59	78.00	18.04	130.00	38.55	182.00	63.66
27.00	3.80	79.00	18.38	131.00	38.99	183.00	64.18
28.00	4.00	80.00	18.73	132.00	39.43	184.00	64.71
29.00	4.21	81.00	19.08	133.00	39.88	185.00	65.23
30.00	4.42	82.00	19.43	134.00	40.33	186.00	65.76
31.00	4.64	83.00	19.78	135.00	40.77	187.00	66.29
32.00	4.86	84.00	20.14	136.00	41.23	188.00	66.82
33.00	5.08	85.00	20.49	137.00	41.68	189.00	67.35
34.00	5.31	86.00	20.85	138.00	42.13	190.00	67.88
35.00	5.54	87.00	21.21	139.00	42.59	191.00	68.42
36.00	5.77	88.00	21.57	140.00	43.05	192.00	68.95
37.00	6.01	89.00	21.94	141.00	43.50	193.00	69.49
38.00	6.25	90.00	22.31	142.00	43.96	194.00	70.03
39.00	6.49	91.00	22.68	143.00	44.43	195.00	70.57
40.00	6.73	92.00	23.05	144.00	44.89	196.00	71.11
41.00	6.98	93.00	23.42	145.00	45.36	197.00	71.65
42.00	7.23	94.00	23.80	146.00	45.82	198.00	72.19
43.00	7.49	95.00	24.17	147.00	46.29	199.00	72.74
44.00	7.75	96.00	24.55	148.00	46.76	200.00	73.28
45.00	8.01	97.00	24.93	149.00	47.23	201.00	73.83
46.00	8.27	98.00	25.32	150.00	47.71	202.00	74.38
47.00	8.53	99.00	25.70	151.00	48.18	203.00	74.93
48.00	8.80	100.00	26.09	152.00	48.66	204.00	75.48
49.00	9.07	101.00	26.48	153.00	49.14	205.00	76.04
50.00	9.35	102.00	26.87	154.00	49.62	206.00	76.59
51.00	9.63	103.00	27.26	155.00	50.10	207.00	77.15
52.00	9.90	104.00	27.65	156.00	50.58	208.00	77.70

H(mm)	Q(lit/sec)	H(mm)	Q(lit/sec)
209.00	78.26	263.00	110.33
210.00	78.82	264.00	110.96
211.00	79.38	265.00	111.58
212.00	79.95	266.00	112.21
213.00	80.51	267.00	112.85
214.00	81.08	268.00	113.48
215.00	81.64	269.00	114.11
216.00	82.21	270.00	114.75
217.00	82.78	271.00	115.38
218.00	83.35	272.00	116.02
219.00	83.92	273.00	116.66
220.00	84.49	274.00	117.30
221.00	85.07	275.00	117.94
222.00	85.64	276.00	118.58
223.00	86.22	277.00	119.22
224.00	86.80	278.00	119.87
225.00	87.38	279.00	120.51
226.00	87.96	280.00	121.16
227.00	88.54	281.00	121.81
228.00	89.13	282.00	122.45
229.00	89.71	283.00	123.10
230.00	90.30	284.00	123.76
231.00	90.88	285.00	124.41
232.00	91.47	286.00	125.06
233.00	92.06	287.00	125.72
234.00	92.65	288.00	126.37
235.00	93.24	289.00	127.03
236.00	93.84	290.00	127.69
237.00	94.43	291.00	128.34
238.00	95.03	292.00	129.00
239.00	95.63	293.00	129.67
240.00	96.22	294.00	130.33
241.00	96.82	295.00	130.99
242.00	97.43	296.00	131.66
243.00	98.03	297.00	132.32
244.00	98.63	298.00	132.99
245.00	99.24	299.00	133.66
246.00	99.84	300.00	134.33
247.00	100.45	301.00	135.00
248.00	101.06	302.00	135.67
249.00	101.67	303.00	136.34
250.00	102.28	304.00	137.01
251.00	102.89	305.00	137.69
252.00	103.50	306.00	138.36
253.00	104.12	307.00	139.04
254.00	104.73	308.00	139.72
255.00	105.35	309.00	140.40
256.00	105.97		
257.00	106.59		
258.00	107.21		
259.00	107.83		
260.00	108.45		
261.00	109.08		
262.00	109.70		

H(mm)*	Q(lit/sec)*
54.00	11.38
96.00	25.38
122.00	38.82
149.00	55.00

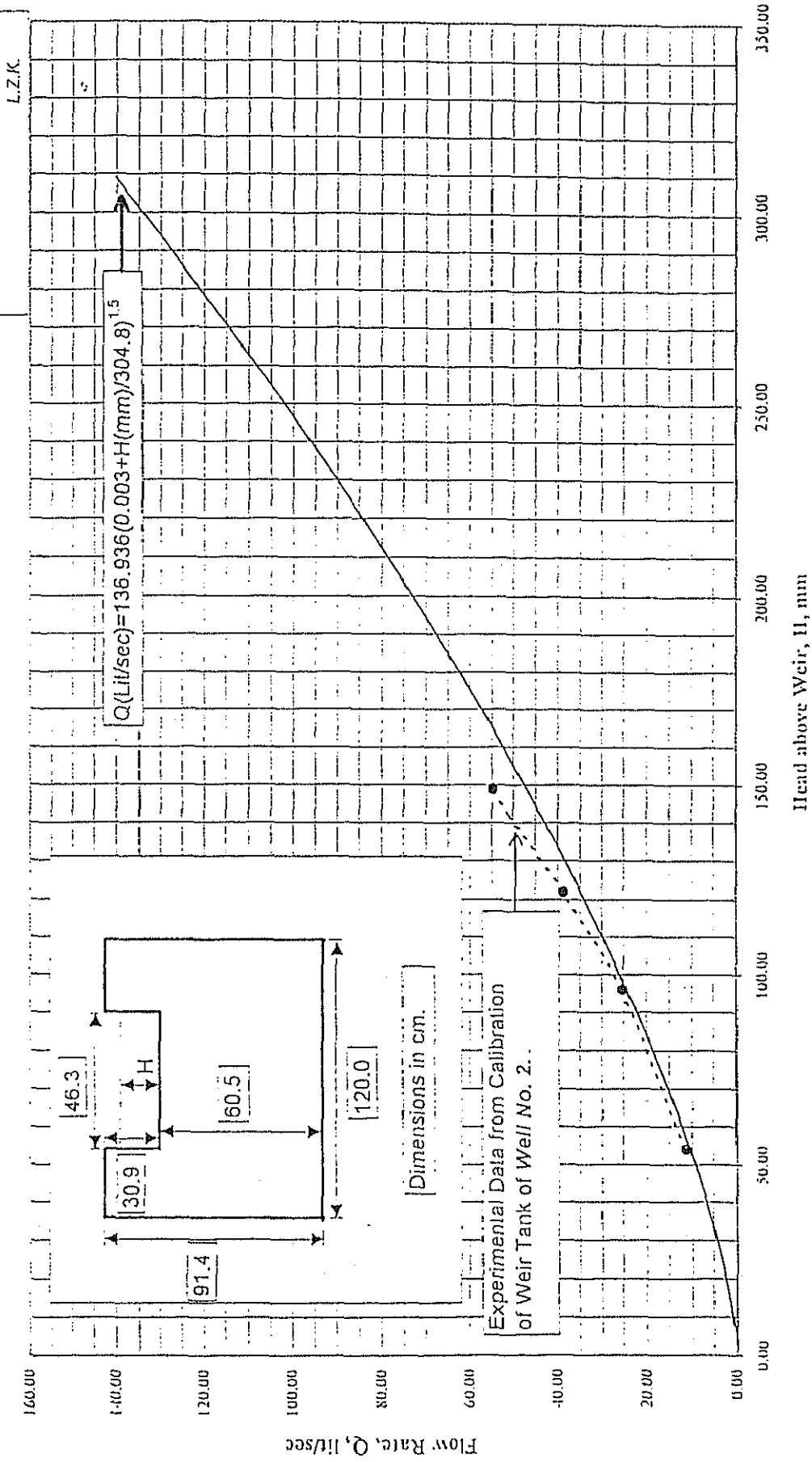
\*Experimental Data from Calibration of Weir Tank of Well No. 2..



# WELL NO.2 Rating Curve for Measuring Flow Rate by Weir

## IMPORTANT:

- Q = 28.86 lit/sec used for the constant rate pumping test and its analysis.





## Well 3 STEP DRAWDOWN PUMPING TEST

Depth=100m	FIRST STEP	Type of Well:Pumped
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## FIRST STEP

Type of Well: Pumped

Date	t (min)	WL(m)	DD(m)	Discharge Rate(m3/d)		Discharge Rate (Field)	
				Weir tank	Flowmeter	300mm-over weir	Flowmeter (s/100L)
17.9.94	0.00	8.96	0.00				
	5.00	13.81	4.85	1246.65	1206.70	210.00	7.16
	10.00	14.35	5.39	1457.89	1180.33	200.00	7.32
	15.00	14.90	5.94	1350.89	1208.39	205.00	7.15
	20.00	15.12	6.16	1246.65	1213.48	210.00	7.12
	25.00	15.49	6.53	1350.89	1177.11	205.00	7.34
	30.00	15.71	6.75	1436.27	1170.73	201.00	7.38
	40.00	16.25	7.29	1393.37	1186.81	203.00	7.28
	50.00	16.72	7.76	1350.89	1198.34	205.00	7.21
	60.00	17.15	8.19	1329.82	1206.70	206.00	7.16
	90.00	17.39	8.43	1246.65	1177.11	210.00	7.34
	120.00	18.38	9.42				
	150.00	19.38	10.42	1372.07	1152.00	204.00	7.50
	180.00	20.97	12.01	1246.65	1186.81	210.00	7.28
	210.00	21.68	12.72	1246.65	1177.11	210.00	7.34
	240.00	22.19	13.23	1267.27	1172.32	209.00	7.37
	270.00	22.69	13.73	1246.65		210.00	7.34
	300.00	23.20	14.24	1246.65	1177.11	210.00	7.60
	330.00	23.57	14.61	1246.65	1136.84	210.00	7.38
	360.00	24.09	15.13	1288.01	1170.73	208.00	7.50
	390.00	24.65	15.69	1288.01	1152.00	215.00	7.15
	420.00	25.01	16.05	1145.23	1208.39	215.00	7.22
	450.00	25.32	16.36	951.22	1196.68	225.00	7.38
	480.00	25.71	16.75	1046.73	1170.73	220.00	7.13
	510.00	25.98	17.02	1046.73	1211.78	220.00	7.38
	540.00	26.40	17.44	1145.23	1170.73	215.00	7.44
	570.00	26.62	17.66	1085.78	1161.29	218.00	7.29
	600.00	26.95	17.99	1046.73	1185.19	220.00	7.12
	630.00	27.19	18.23	1145.23	1213.48	215.00	7.25
	660.00	27.45	18.49	1145.23	1191.72	215.00	7.28
	690.00	27.68	18.72	1085.78	1186.81	218.00	7.21
18.9.94	720.00	27.90	18.94	1145.23	1198.34	215.00	7.25
	810.00	28.65	19.69	1046.73	1191.72	220.00	7.25
	840.00	28.90	19.94	1046.73	1191.72	220.00	7.35
	870.00	28.98	20.02	1145.23	1175.51	215.00	7.31
			SUM	40086.42	37904.747		
			Average	1214.74	1148.6287		

Cooling System Average Discharge Rate= 29.94 m3/day

The Average Discharge Rate= 1178.5687 m3/day

[illegible]

## SECOND STEP

Date	t (min)	WL(m)	DD(m)	Discharge Rate(m3/d)		Discharge Rate (Field)	
				Weir tank	Flowmeter	300mm-over weir	Flowmeter (s/100L)
18.9.94	1380	30.65	21.69	1145.23	1454.55		5.94
	1385	32.12	23.16	1501.45	1487.09	198.00	5.81
	1390	32.30	23.34	1567.57	1425.74	195.00	6.06
	1395	32.45	23.49	1567.57	1432.84	195.00	6.03
	1400	32.58	23.62	1479.61	1447.24	199.00	5.97
	1405	32.68	23.72	1414.77	1461.93	202.00	5.91
	1410	32.77	23.81	1457.89	1432.84	200.00	6.03
	1420	32.95	23.99	1501.45	1461.93	198.00	5.91
	1430	33.09	24.13	1501.45	1449.66	198.00	5.96
	1440	33.22	24.26	1457.89	1447.24	200.00	5.97
	1470	33.72	24.76	1501.45	1464.41	198.00	5.90
	1500	34.02	25.06	1350.89	1447.24	205.00	5.97
	1530	34.30	25.34	1414.77	1440.00	202.00	6.00
	1560	34.55	25.59	1523.38	1454.55	197.00	5.94
	1590	34.78	25.82	1501.45	1409.46	198.00	6.13
			SUM	21886.81	21716.70		
			Average	1459.12	1447.78		

Cooling System Average Discharge Rate= 30.3 m<sup>3</sup>/day

The Average Discharge Rate= 1483.75 m<sup>3</sup>/day

# Well 3 CONSTANT RATE PUMPING TEST

Depth=100m						Type of Well:Pumped		
Date	(min)	WL(m)	D(m)	Discharge Rate(m3/d)		Spec.Cap.	Discharge Rate(Field)	
10.11.94				Weir tank	Flowmeter	m2/day	300mm-over weir	Flowmeter(s/10L)
	0	9.78	0.00					
	1	15.02	5.24	1567.57	1457.00	299.16	195.00	5.93
	2	15.36	5.58	1679.88	1479.45	301.05	190.00	5.84
	3	15.85	6.07	1679.88	1471.89	276.75	190.00	5.87
	4	16.30	6.52	1679.88	7346.94	257.65	190.00	5.88
	5	16.42	6.64	1567.57	7272.73	236.08	195.00	5.94
	6	16.62	6.84	1457.89	7941.18	213.14	200.00	5.44
	7	16.85	7.07	1501.45	7200.00	212.37	198.00	6.00
	8	17.00	7.22	1350.89	7513.04	187.10	205.00	5.75
	9	17.14	7.36	1414.77	7783.78	192.22	202.00	5.55
	10	17.39	7.61	1457.89	7686.83	191.58	200.00	5.62
	12	17.52	7.74	1679.88	7058.82	217.04	190.00	6.12
	14	17.62	7.84	1679.88	7272.73	214.27	190.00	5.94
	16	17.71	7.93	1679.88	7384.62	211.84	190.00	5.85
	18	17.80	8.02	1567.57	7397.26	195.46	195.00	5.84
	20	18.02	8.24	1679.88	7200.00	203.87	190.00	6.00
	25	18.21	8.43	1567.57	7474.05	185.95	195.00	5.78
	30	18.51	8.73	1567.57	7448.28	179.56	195.00	5.80
	35	18.93	9.15	1457.89	7272.73	159.33	200.00	5.94
	40	19.60	9.82	1567.57	7397.26	159.63	195.00	5.84
	45	19.95	10.17	1567.57	7359.45	154.14	195.00	5.87
	50	20.45	10.67	1679.88	7116.97	157.44	190.00	6.07
	55	20.76	10.98	1589.83	7212.02	144.79	194.00	5.99
	60	21.25	11.47	1634.64	7164.18	142.51	192.00	6.03
	70	21.32	11.54	1612.18	7272.73	139.70	193.00	5.94
	80	21.53	11.75	1589.83	7359.45	135.30	194.00	5.87
	90	21.62	11.84	1589.83	7346.94	134.28	194.00	5.88
	100	21.97	12.19	1634.64	7128.71	134.10	192.00	6.06
	110	22.29	12.51	1612.18	7164.18	128.87	193.00	6.03
	120	22.75	12.97	1679.88	7359.45	129.52	190.00	5.87
	150	23.69	13.91	1612.18	7058.82	115.90	193.00	6.12
	180	24.66	14.88	1589.83	7035.83	106.84	194.00	6.14
	210	25.46	15.68	1634.64	6945.34	104.25	192.00	6.22
	240	26.39	16.61	1589.83	7093.60	95.71	194.00	6.09
	300	28.08	18.30	1589.83	7384.62	86.88	194.00	5.85
	360	29.19	19.41	1634.64	6515.84	84.22	192.00	6.63
	420	29.77	19.99	1589.83	7646.02	79.53	194.00	5.65
	480	30.28	20.50	1589.83	7322.03	77.55	194.00	5.90
	540	31.05	21.27	1612.18	7012.99	75.80	193.00	6.16
	600	31.69	21.91	1612.18	7346.94	73.58	193.00	5.88
	660	32.45	22.67	1567.57	7128.71	69.15	195.00	6.06
	720	33.06	23.28	1589.83	6878.98	68.29	194.00	6.28
11.11.94	780	33.69	23.91	1589.83	7081.97	66.49	194.00	6.10
	840	34.03	24.25	1589.83	7359.45	65.56	194.00	5.87
	900	34.36	24.58	1567.57	7105.26	63.77	195.00	6.08
	960	34.65	24.87	1634.64	7260.50	65.73	192.00	5.95
	1020	34.98	25.20	1589.83	7012.99	63.09	194.00	6.16
	1080	35.10	25.32	1589.83	7093.60	62.79	194.00	6.09
	1140	35.33	25.55	1589.83	6945.34	62.22	194.00	6.22
	1200	35.52	25.74	1545.42	7012.99	60.04	196.00	6.16
	1260	35.72	25.94	1523.38	6900.96	58.73	197.00	6.26
	1320	35.98	26.20	1634.64	7081.97	62.39	192.00	6.10

Depth=100m				Type of Well:Pumped				
Date	(min)	WL(m)	D(m)	Discharge Rate(m3/d)		Spec.Cap.	Discharge Rate(Field)	
				Weir tank	Flowmeter	m2/day	300mm-over weir	Flowmeter(s/10L)
	1380	36.24	26.46	1589.83	7105.26	60.08	194.00	6.08
	1440	36.38	26.60	1612.18	7188.02	60.61	193.00	6.01
	1500	36.38	26.60	1612.18	7128.71	60.61	193.00	6.06
	1560	36.81	27.03	1612.18	7260.50	59.64	193.00	5.95
	1620	37.08	27.30	1589.83	7058.82	58.24	194.00	6.12
	1680	37.21	27.43	1567.57	7105.26	57.15	195.00	6.08
	1740	37.41	27.63	1589.83	7224.08	57.54	194.00	5.98
	1800	37.64	27.86	1634.64	7346.94	58.67	192.00	5.88
	1860	37.72	27.94	1545.42	7448.28	55.31	196.00	5.80
	1920	37.92	28.14	1545.42	7105.26	54.92	196.00	6.08
	1980	38.10	28.32	1567.57	7260.50	55.35	195.00	5.95
	2040	38.43	28.65	1567.57	7346.94	54.71	195.00	5.88
	2100	38.61	28.83	1523.38	7461.14	52.84	197.00	5.79
	2160	38.83	29.05	1567.57	7359.45	53.96	195.00	5.87
12.11.94	2220							
	2280	39.79	30.01	1589.83	7284.99	52.98	194.00	5.93
	2340	39.79	30.01	1589.83	7128.71	52.98	194.00	6.06
	2400	40.07	30.29	1567.57	7035.83	51.75	195.00	6.14
	2460	40.07	30.29	1589.83	6990.29	52.49	194.00	6.18
	2520	40.12	30.34	1567.57	6956.52	51.67	195.00	6.21
	2580	40.25	30.47	1545.42	7128.71	50.72	196.00	6.06
	2640	40.37	30.59	1545.42	7359.45	50.52	196.00	5.87
	2700	40.54	30.76	1545.42	7272.73	50.24	196.00	5.94
	2760	40.70	30.92	1567.57	7105.26	50.70	195.00	6.08
	2820	40.82	31.04	1523.38	7058.82	49.08	197.00	6.12
	2880	41.40	31.62	1589.83		50.28	194.00	
	2940	41.94	32.16	1589.83		49.43	194.00	
	3000	42.25	32.47	1589.83		48.96	194.00	
	3060	42.94	33.16	1545.42		46.61	196.00	
	3120	43.28	33.50	1567.57		46.79	195.00	
	3180	43.59	33.81	1567.57		46.36	195.00	
	3240	43.65	33.87	1589.83		46.94	194.00	
	3300	43.80	34.02	1545.42		45.43	196.00	
	3360							
	3420							
	3480	44.30	34.52	1567.57		45.41	195.00	
	3540	44.36	34.58	1545.42		44.69	196.00	
	3600	44.37	34.59	1589.83		45.96	194.00	
13.11.94	3660	44.37	34.59	1589.83		45.96	194.00	
	3720	44.50	34.72	1567.57		45.15	195.00	
	3780	44.65	34.87	1246.65		35.75	210.00	
	3840	44.65	34.87	1246.65		35.75	210.00	
	3900	44.65	34.87	1246.65		35.75	210.00	
	3960	44.65	34.87	1246.65		35.75	210.00	
	4020	44.65	34.87	1246.65		35.75	210.00	
	4080	44.88	35.10	1267.27		36.10	209.00	
	4140	45.07	35.29	1308.86		37.09	207.00	
	4200	45.16	35.38	1329.82		37.59	206.00	
	4260	45.23	35.45	1246.65		35.17	210.00	
	4320	45.23	35.45	1145.23		32.31	215.00	
	4380	45.23	35.45	1246.65		35.17	210.00	
	4440	45.30	35.52	1288.01		36.26	208.00	

Depth=100m				Type of Well:Pumped				
Date	(min)	WL(m)	D(m)	Discharge Rate(m3/d)		Spec.Cap.	Discharge Rate(Field)	
				Weir tank	Flowmeter	m2/day	300mm-over weir	Flowmeter(s/10L)
	4500	45.41	35.63	1329.82		37.32	206.00	
	4560	45.60	35.82	1267.27		35.38	209.00	
	4620							
	4680	45.75	35.97	1350.89		37.56	205.00	
	4740	45.75	35.97	1372.07		38.14	204.00	
	4800	45.94	36.16	1329.82		36.78	206.00	
	4860	46.05	36.27	1372.07		37.83	204.00	
	4920	46.08	36.30	1350.89		37.21	205.00	
	4980	46.16	36.38	1350.89		37.13	205.00	
			SUM	162353.2	524487.92			
			Avera	1517.32	6993.17			
Cooling System Average Discharge Rate=						18.9m3/day		
The Average Discharge Rate=						1507.55 m3/day		

WELL 3 RECOVERY TEST				
Depth=100 m			Date : 18.09.94	
t'(MIN)	t(MIN)	l/l'	WL(m)	s'(m)
0.00	4980.00	0.00	46.16	36.38
1.00	4981.00	4981.00	40.00	30.22
2.00	4982.00	2491.00	39.87	30.09
3.00	4983.00	1661.00	39.29	29.51
4.00	4984.00	1246.00	39.22	29.44
5.00	4985.00	997.00	39.10	29.32
6.00	4986.00	831.00	38.95	29.17
7.00	4987.00	712.43	38.77	28.99
8.00	4988.00	623.50	38.63	28.85
9.00	4989.00	554.33	37.48	27.70
10.00	4990.00	499.00	37.27	27.49
12.00	4992.00	416.00	37.09	27.31
14.00	4994.00	356.71	36.90	27.12
16.00	4996.00	312.25	36.61	26.83
18.00	4998.00	277.67	36.43	26.65
20.00	5000.00	250.00	36.22	26.44
25.00	5005.00	200.20	35.83	26.05
30.00	5010.00	167.00	35.46	25.68
35.00	5015.00	143.29	35.09	25.31
40.00	5020.00	125.50	34.82	25.04
45.00	5025.00	111.67	34.46	24.68
50.00	5030.00	100.60	34.22	24.44
55.00	5035.00	91.55	34.00	24.22
60.00	5040.00	84.00	33.67	23.89
70.00	5050.00	72.14	33.24	23.46
80.00	5060.00	63.25	33.00	23.22
90.00	5070.00	56.33	32.84	23.06
100.00	5080.00	50.80	32.47	22.69
110.00	5090.00	46.27	32.10	22.32
120.00	5100.00	42.50	31.74	21.96
150.00	5130.00	34.20	31.11	21.33
180.00	5160.00	28.67	30.54	20.76
210.00	5190.00	24.71	30.06	20.28
240.00	5220.00	21.75	29.65	19.87
300.00	5280.00	17.60	28.31	18.53
360.00	5340.00	14.83	27.15	17.37
420.00	5400.00	12.86	26.64	16.86
480.00	5460.00	11.38	25.72	15.94
540.00	5520.00	10.22	25.03	15.25
600.00	5580.00	9.30	24.00	14.22
660.00	5640.00	8.55	23.22	13.44
720.00	5700.00	7.92	22.13	12.35