

## Appendix I.2.9

### Pumping Test Data of JICA Test Wells

PUMPING TEST DATA  
(STEP DRAW DOWN TEST)

WELL NO. A-1

PUMPING TEST RECORD (STEP DRAW-DOWN TEST)

Date Performed

Pump Type: Submersible Pump

Static Water Level Before Pumping

12.40 m

below G.L.-12.4m

Time	Duration after Pump Start (min)	Measuring (mm)	Pumping rate Q (L/Min)	Water level		Remarks
				S (m)	AS	
10:00	0.5	385.0	0	13.19	0.79	
	1	385.0	0	14.10	1.70	
	1.5	385.0	0	15.49	3.09	
	2	385.0	0	16.41	4.01	
	2.5	385.0	0	17.31	4.91	
	3	385.0	0	18.15	5.75	
	3.5	385.0	0	19.01	6.61	
	4	385.0	0	20.50	8.10	
	4.5	385.0	0	21.90	9.50	
	5	385.0	0	21.56	9.16	
	6	385.0	0	21.33	8.93	
	7	385.0	0	22.20	9.80	
	8	385.0	0	23.35	10.95	
	9	385.0	0	23.80	11.40	
	10	385.0	0	23.96	11.56	
	12	385.0	0	24.13	11.73	
	14	385.0	0	24.10	11.70	
	16	385.0	0	25.65	13.25	
	18	385.0	0	26.50	14.10	
	20	385.0	0	26.80	14.40	
	25	385.0	0	26.96	14.56	
	30	385.0	0	25.50	13.10	
	35	385.0	0	24.43	12.03	
	40	385.0	0	24.28	11.88	
	45	385.0	0	25.10	12.70	
	50	385.0	0	25.40	13.00	
	55	385.0	0	25.22	12.82	
	60	385.0	0	25.18	12.78	
	70	385.0	0	25.14	12.74	
	80	385.0	0	25.20	12.80	
	90	385.0	0	25.30	12.90	
	100	385.0	0	25.30	12.90	
	110	385.0	0	25.30	12.90	
12:00	120	385.0	0	25.40	13.00	
12:00	0.5	445.70	26.00	13.6	1.6	
	1	445.70	27.50	15.1	3.1	
	1.5	445.70	28.80	16.4	4.4	
	2	445.70	29.00	16.6	4.6	
	2.5	445.70	29.35	16.95	4.95	
	3	445.70	29.40	17.0	5.0	
	3.5	445.70	29.58	17.18	5.18	
	4	445.70	29.05	16.65	4.65	
	4.5	445.70	29.05	16.65	4.65	
	5	445.70	29.05	16.65	4.65	
	6	445.70	29.48	17.08	5.08	
	7	445.70	29.46	17.06	5.06	
	8	445.70	29.30	16.9	4.9	
	9	445.70	29.36	16.96	4.96	
	10	445.70	29.34	16.94	4.94	
	12	445.70	29.30	16.9	4.9	
	14	445.70	29.30	16.9	4.9	
	16	445.70	29.38	16.96	4.96	
	18	445.70	29.31	16.94	4.94	
	20	445.70	29.36	16.96	4.96	
	25	445.70	29.30	16.9	4.9	
	30	445.70	29.35	16.95	4.95	
	35	445.70	29.35	16.95	4.95	
	40	445.70	29.35	16.95	4.95	
	45	445.70	29.35	16.95	4.95	
	50	445.70	29.35	16.95	4.95	
	55	445.70	29.35	16.95	4.95	
	60	445.70	29.35	16.95	4.95	
	70	445.70	29.28	16.88	4.88	
	80	445.70	29.26	16.86	4.86	
	90	445.70	29.25	16.85	4.85	
	100	445.70	29.26	16.86	4.86	
	110	445.70	29.27	16.865	4.865	
14:00	120	445.70	29.27	16.84	4.84	

Time	Duration after Pump Start (min)	Measuring (mm)	Pumping rate Q (L/Min)	Water level		Remarks
				S (m)	AS	
14:00	0.5	583.6	0	29.80	17.40	
	1	583.6	0	30.10	17.70	
	1.5	583.6	0	30.80	18.40	
	2	583.6	0	31.25	18.85	
	2.5	583.6	0	31.90	19.50	
	3	583.6	0	32.16	19.76	
	3.5	583.6	0	32.65	20.25	
	4	583.6	0	33.10	20.70	
	4.5	583.6	0	33.40	21.00	
	5	583.6	0	33.70	21.30	
	6	583.6	0	34.80	22.50	
	7	583.6	0	36.15	23.75	
	8	583.6	0	37.70	24.80	
	9	583.6	0	37.43	24.53	
	10	583.6	0	38.65	25.75	
	12	583.6	0	39.00	26.00	
	14	583.6	0	39.70	26.80	
	16	583.6	0	39.40	26.50	
	18	583.6	0	39.56	26.76	
	20	583.6	0	39.73	26.93	
	25	583.6	0	40.00	27.40	
	30	583.6	0	40.00	27.40	
	35	583.6	0	40.35	27.95	
	40	583.6	0	40.44	28.04	
	45	583.6	0	40.55	28.15	
	50	583.6	0	40.60	28.20	
	55	583.6	0	40.75	28.35	
	60	583.6	0	40.80	28.40	
	70	583.6	0	40.92	28.52	
	80	583.6	0	41.45	29.05	
	90	583.6	0	41.45	29.05	
	100	583.6	0	40.83	28.43	
	110	583.6	0	40.73	28.33	
16:00	120	583.6	0	40.76	28.36	
16:00	0.5	684.2	40.95	28.25	4.25	
	1	684.2	41.80	29.40	5.40	
	1.5	684.2	42.80	30.40	6.40	
	2	684.2	43.60	31.20	7.20	
	2.5	684.2	45.20	32.80	8.80	
	3	684.2	45.90	33.50	9.50	
	3.5	684.2	46.18	33.78	9.78	
	4	684.2	48.60	36.20	12.20	
	4.5	684.2	47.00	34.60	10.60	
	5	684.2	47.50	35.10	11.10	
	6	684.2	47.90	35.50	11.50	
	7	684.2	49.00	36.60	12.60	
	8	684.2	49.40	37.00	13.00	
	9	684.2	49.85	37.45	13.45	
	10	684.2	50.15	37.75	13.75	
	12	684.2	50.90	38.50	14.50	
	14	684.2	51.31	38.91	14.91	
	16	684.2	51.80	39.40	15.40	
	18	684.2	52.70	39.80	16.30	
	20	684.2	52.35	39.45	15.95	
	25	684.2	52.74	40.34	16.34	
	30	684.2	53.05	40.65	16.65	
	35	684.2	53.35	40.95	16.95	
	40	684.2	53.67	41.27	17.27	
	45	684.2	53.95	41.55	17.55	
	50	684.2	54.13	41.73	17.73	
	55	684.2	54.52	42.12	18.12	
	60	684.2	56.20	43.80	19.80	
	70	684.2	58.40	46.00	22.00	
	80	684.2	59.24	46.84	22.84	
	90	684.2	59.54	47.14	23.14	
	100	684.2	59.45	47.05	23.05	
	110	684.2	59.77	47.37	23.37	
18:00	120	684.2	59.65	47.25	23.25	

Time	Duration after Pump Start t (min)	Measuring (mm)	Pumping rate Q (Lit/Min)	Water level S (m)	Draw Down ΔS	Remarks
18.00	0.5		573.0	57.70	48.80	
0	1		573.0	56.30	49.90	
0	1.5		573.0	55.40	43.00	
0	2		573.0	54.50	42.10	
0	2.5		573.0	54.05	41.65	
0	3		573.0	52.00	39.60	
0	3.5		573.0	52.80	40.40	
0	4		573.0	50.30	37.90	
0	4.5		573.0	51.90	39.60	
0	5		573.0	50.10	37.70	
0	5.5		573.0	49.40	37.00	
0	6		573.0	47.90	35.50	
0	6.5		573.0	46.76	34.36	
0	7		573.0	45.80	33.40	
0	7.5		573.0	45.34	32.94	
0	8		573.0	44.85	31.85	
0	8.5		573.0	43.37	30.97	
0	9		573.0	42.72	30.32	
0	9.5		573.0	42.25	29.85	
0	10		573.0	41.92	29.52	
0	10.5		573.0	41.60	29.20	
0	11		573.0	41.57	29.17	
0	11.5		573.0	41.60	29.20	
0	12		573.0	41.60	29.20	
0	12.5		573.0	41.66	29.26	
0	13		573.0	41.68	29.28	
0	13.5		573.0	41.65	29.25	
0	14		573.0	41.66	29.26	
0	14.5		573.0	41.67	29.27	
0	15		573.0	41.62	29.22	
0	15.5		573.0	41.46	29.06	
0	16		573.0	41.45	29.05	
19.00	120		573.0	41.45	29.05	
20.00	0.5		473.4	39.50	27.10	
0	1		473.4	37.20	24.80	
0	1.5		473.4	35.85	23.45	
0	2		473.4	35.40	23.00	
0	2.5		473.4	35.70	22.80	
0	3		473.4	34.90	22.00	
0	3.5		473.4	34.75	22.35	
0	4		473.4	34.52	21.12	
0	4.5		473.4	34.36	21.96	
0	5		473.4	35.21	22.81	
0	5.5		473.4	34.90	21.60	
0	6		473.4	33.72	21.37	
0	6.5		473.4	33.40	21.00	
0	7		473.4	33.21	20.81	
0	7.5		473.4	33.05	20.65	
0	8		473.4	32.81	20.41	
0	8.5		473.4	31.67	20.27	
0	9		473.4	32.54	20.14	
0	9.5		473.4	32.48	20.08	
0	10		473.4	32.42	20.02	
0	10.5		473.4	32.37	19.97	
0	11		473.4	32.38	19.98	
0	11.5		473.4	32.37	19.97	
0	12		473.4	32.35	19.95	
0	12.5		473.4	32.35	19.95	
0	13		473.4	32.36	19.96	
0	13.5		473.4	32.35	19.95	
0	14		473.4	32.37	19.97	
0	14.5		473.4	32.35	19.95	
0	15		473.4	32.35	19.95	
0	15.5		473.4	32.35	19.95	
0	16		473.4	32.35	19.95	
0	16.5		473.4	32.35	19.95	
0	17		473.4	32.35	19.95	
0	17.5		473.4	32.35	19.95	
0	18		473.4	32.35	19.95	
0	18.5		473.4	32.35	19.95	
0	19		473.4	32.35	19.95	
0	19.5		473.4	32.35	19.95	
21.00	120		473.4	32.35	19.95	

Time	Duration after Pump Start t (min)	Measuring (mm)	Pumping rate Q (Lit/Min)	Water level S (m)	Draw Down ΔS	Remarks
22.00	0.5		385.0	31.40	19.00	
0	1		385.0	30.80	18.40	
0	1.5		385.0	30.80	18.20	
0	2		385.0	30.49	18.09	
0	2.5		385.0	29.06	16.66	
0	3		385.0	28.80	16.40	
0	3.5		385.0	28.49	16.00	
0	4		385.0	28.20	15.80	
0	4.5		385.0	28.10	15.70	
0	5		385.0	28.00	15.60	
0	5.5		385.0	27.86	15.46	
0	6		385.0	27.79	15.39	
0	6.5		385.0	27.65	15.25	
0	7		385.0	27.57	15.17	
0	7.5		385.0	27.57	15.17	
0	8		385.0	27.54	15.14	
0	8.5		385.0	27.60	15.20	
0	9		385.0	27.55	15.15	
0	9.5		385.0	27.49	15.09	
0	10		385.0	27.37	14.97	
0	10.5		385.0	27.21	14.81	
0	11		385.0	27.11	14.71	
0	11.5		385.0	27.15	14.76	
0	12		385.0	27.16	14.76	
0	12.5		385.0	27.60	15.20	
0	13		385.0	27.00	14.60	
0	13.5		385.0	26.80	14.40	
0	14		385.0	27.30	14.90	
0	14.5		385.0	27.00	14.60	
0	15		385.0	26.90	14.50	
0	15.5		385.0	27.00	14.60	
0	16		385.0	27.30	14.90	
0	16.5		385.0	27.50	15.10	
0	17		385.0	27.50	15.10	
23.00	120		385.0	27.50	15.10	

# PUMPING TEST DATA WELL NO. A-1 (CONTINUOUS CONSTANT DISCHARGE TEST AND RECOVERY TEST)

## PUMPING TEST RECORD (CONSTANT DISCHARGE TEST)

Data Performed: Well location: A-1  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping: 12.40 66106 02-

Time	Duration after Pump Start Pumping (min)	Measuring	Pumping Rate (lit/min)	Water Level (m)	r 27/t	Draw Down (m)	Remarks
0	0.0		0.0	12.40		0	
0.5	0.5	627.1	19.10	3.491 841 210	6.70		
1.0	1.0	627.1	24.20	1.745 926	11.80		
1.5	1.5	627.1	28.00	1.163 947	15.60		
2.0	2.0	627.1	31.00	872 960	18.60		
2.5	2.5	627.1	31.90	698 269	19.50		
3.0	3.0	627.1	32.80	581 823	20.40		
3.5	3.5	627.1	33.70	498 824	21.30		
4.0	4.0	627.1	35.10	435 480	22.70		
4.5	4.5	627.1	36.20	387 922	22.80		
5.0	5.0	627.1	37.10	349 184	24.20		
6.0	6.0	627.1	38.10	290 587	25.70		
7.0	7.0	627.1	38.10	249 417	26.70		
8.0	8.0	627.1	40.20	218 240	27.80		
9.0	9.0	627.1	40.90	192 991	28.50		
10.0	10.0	627.1	41.30	174 592	28.90		
12.0	12.0	627.1	41.90	145 432	29.50		
14.0	14.0	627.1	42.00	124 209	30.20		
16.0	16.0	627.1	43.50	109 120	31.10		
18.0	18.0	627.1	44.20	96 996	31.80		
20.0	20.0	627.1	45.20	87 296	32.80		
25.0	25.0	627.1	46.80	69 837	34.40		
30.0	30.0	627.1	48.10	58 197	36.20		
35.0	35.0	627.1	46.55	49 893	37.15		
40.0	40.0	627.1	50.20	43 548	37.80		
45.0	45.0	627.1	51.10	38 258	38.70		
50.0	50.0	627.1	52.06	34 918	39.65		
55.0	55.0	627.1	52.45	31.744	40.05		
60.0	60.0	627.1	52.80	29 098	40.40		
70.0	70.0	627.1	53.35	24 942	40.95		
80.0	80.0	627.1	51.63	21 824	41.24		
90.0	90.0	627.1	53.79	19 399	41.39		
100.0	100.0	627.1	53.60	17 458	41.20		
110.0	110.0	627.1	53.25	15.872	40.95		
120.0	120.0	627.1	53.35	14.549	40.95		
140.0	140.0	627.1	53.55	12.411	41.15		
160.0	160.0	627.1	53.71	10.912	41.37		
180.0	180.0	627.1	53.85	9.700	41.45		
200.0	200.0	627.1	54.00	8.730	41.60		
220.0	220.0	627.1	54.13	7.925	41.73		
240.0	240.0	627.1	54.49	7.275	42.00		
260.0	260.0	627.1	54.64	6.235	42.24		
280.0	280.0	627.1	55.14	5.455	42.74		
300.0	300.0	627.1	55.44	4.850	43.04		
420.0	420.0	627.1	55.45	4.157	43.05		
480.0	480.0	627.1	55.65	3.637	43.25		
540.0	540.0	627.1	55.98	3.233	43.58		
600.0	600.0	627.1	56.81	2.910	44.42		
660.0	660.0	627.1	56.90	2.645	44.50		
720.0	720.0	627.1	57.11	2.425	44.71		
780.0	780.0	627.1	57.34	2.238	44.94		
840.0	840.0	627.1	57.45	2.078	45.02		
900.0	900.0	627.1	57.63	1.940	45.23		
960.0	960.0	627.1	57.90	1.819	45.50		
1,020.0	1,020.0	627.1	58.20	1.712	45.80		
1,080.0	1,080.0	627.1	58.39	1.617	45.92		
1,140.0	1,140.0	627.1	58.44	1.537	45.04		
1,200.0	1,200.0	627.1	58.53	1.455	45.13		
1,260.0	1,260.0	627.1	58.82	1.386	46.22		
1,320.0	1,320.0	627.1	58.65	1.323	46.29		
1,380.0	1,380.0	627.1	58.74	1.265	46.24		
1,440.0	1,440.0	627.1	58.75	1.212	45.35		

## PUMPING TEST RECORD (RECOVERY TEST)

Data Performed: Well location: A-1  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping: 12.4 m below

Time	Duration After Beginning Pumping t (min)	Time After End of Pumping (min)	t/t	Water Level S' (m)	Recovery S' (t(0)-S) (m)	Water Level Variation s'-S.W.L (m)
10:00		1240.0		58.75		
0	0.5	1240.5	2.881 0	53.85	4.89	41.46
0	1.0	1241.0	1.441 0	50.10	8.65	37.70
0	1.5	1241.5	961.0	45.85	12.9	33.45
0	2.0	1242.0	721.0	42.60	16.15	30.20
0	2.5	1242.5	577.0	35.20	23.55	22.80
0	3.0	1243.0	481.0	30.70	28.05	18.30
0	3.5	1243.5	412.4	29.10	29.65	16.70
0	4.0	1244.0	361.0	28.20	30.55	15.60
0	4.5	1244.5	321.0	27.60	31.15	15.10
0	5.0	1245.0	289.0	26.30	32.45	13.90
0	6.0	1246.0	241.0	24.80	33.95	12.40
0	7.0	1247.0	206.7	22.80	35.95	10.40
0	8.0	1248.0	181.0	22.70	36.55	9.80
0	9.0	1249.0	161.0	21.30	37.45	8.90
0	10.0	1250.0	145.0	20.40	38.35	8.00
0	12.0	1252.0	121.0	18.60	40.15	6.20
0	14.0	1254.0	103.9	17.60	41.15	5.20
0	16.0	1256.0	91.0	16.60	42.15	4.20
0	18.0	1258.0	81.0	15.55	43.2	3.15
0	20.0	1260.0	73.0	15.20	43.55	2.80
0	25.0	1265.0	58.6	13.50	45.25	1.10
0	30.0	1270.0	49.0	13.30	45.45	0.90
0	35.0	1275.0	42.1	13.10	45.65	0.70
0	40.0	1280.0	37.0	12.87	45.88	0.47
0	45.0	1285.0	33.0	12.80	45.95	0.40
0	50.0	1290.0	29.8	12.74	46.01	0.34
0	55.0	1295.0	27.2	12.60	46.15	0.20
0	60.0	1300.0	25.0	12.56	46.09	0.26
0	70.0	1310.0	21.5	12.67	46.13	0.27
0	80.0	1320.0	19.0	12.65	46.15	0.20
0	90.0	1330.0	17.0	12.58	46.17	0.16
0	100.0	1340.0	15.4	12.56	46.19	0.16
0	110.0	1350.0	14.1	12.56	46.19	0.16
0	120.0	1360.0	13.0	12.55	46.2	0.15
0	140.0	1380.0	11.3	12.54	46.21	0.14
0	160.0	1390.0	10.0	12.53	46.22	0.13
0	180.0	1400.0	9.0	12.52	46.23	0.12
0	200.0	1410.0	8.2	12.51	46.24	0.11
0	220.0	1420.0	7.5	12.50	46.25	0.10
0	240.0	1430.0	7.0	12.50	46.25	0.10
0	280.0	1450.0	6.1	12.49	46.26	0.09
0	320.0	1460.0	5.5	12.49	46.26	0.09
0	360.0	1470.0	5.0	12.48	46.27	0.08
0	420.0	1480.0	4.4	12.46	46.29	0.06
0	480.0	1490.0	4.0	12.45	46.3	0.05
0	540.0	1500.0	3.7	12.44	46.31	0.04
0	600.0	1510.0	3.4	12.42	46.33	0.02
0	660.0	1520.0	3.2	12.42	46.33	0.02
0	720.0	1530.0	3.0	12.42	46.33	0.02
0	780.0	1540.0	2.8	12.41	46.34	0.01
0	840.0	1550.0	2.7	12.41	46.34	0.01
0	900.0	1560.0	2.6	12.41	46.34	0.01
0	960.0	1570.0	2.5	12.41	46.34	0.01
0	1020.0	1580.0	2.4	12.41	46.34	0.01
0	1080.0	1590.0	2.3	12.40	46.35	0.00
0	1140.0	1600.0	2.3	12.40	46.35	0.00
0	1200.0	1610.0	2.2	12.40	46.35	0.00
0	1260.0	1620.0	2.1	12.40	46.35	0.00
0	1320.0	1630.0	2.1	12.40	46.35	0.00
0	1380.0	1640.0	2.0	12.4	46.35	0
0	1440.0	1650.0	2.0	12.4	46.35	0
0	0.0	1740.0	0.0	0	58.75	0
0	0.0	0.0	0.0	0	0	0
0	0.0	0.0	0.0	0	0	0
0	0.0	0.0	0.0	0	0	0
0	0.0	0.0	0.0	0	0	0



# PUMPING TEST DATA WELL NO. A-2 (CONTINUOUS CONSTANT DISCHARGE TEST AND RECOVERY TEST)

## PUMPING TEST RECORD (CONTINUOUS TEST)

Date Performed:  
 Pump Type: Submersible Pump  
 Static Water Level Before Pump: 11.80m

Well Location: A-2

BELOW GL

Time	Duration After Beginning Pumping t (min)	Measuring	Volume (Lit/Min)	Water Level S(m)	r <sup>2</sup> /l	Draw Down ΔS(m)	Remarks
	0 0		0 0	11 80		0	
	0 5		35 1	11 95	3 491 841 X10	0 15	
	1 0		35 1	12 00	1 745 920	0 20	
	1 5		35 1	12 60	1 163 947	0 80	
	2 0		35 1	13 54	872 960	1 74	
	2 5		35 1	14 00	698 368	2 20	
	3 0		35 1	15 36	591 973	3 56	
	3 5		35 1	16 39	498 934	4 50	
	4 0		35 1	17 39	387 992	5 58	
	4 5		35 1	18 40	349 184	6 60	
	5 0		35 1	19 92	290 967	8 12	
	5 5		35 1	21 30	249 412	9 50	
	6 0		35 1	22 77	218 240	10 97	
	6 5		35 1	23 80	193 991	12 00	
	7 0		35 1	24 59	174 592	13 19	
	7 5		35 1	27 20	145 493	15 40	
	8 0		35 1	29 18	124 709	17 38	
	8 5		35 1	31 18	109 120	19 38	
	9 0		35 1	32 33	96 996	20 53	
	9 5		35 1	33 25	87 296	21 45	
	10 0		35 1	36 61	69 837	24 81	
	10 5		35 1	38 11	58 197	26 31	
	11 0		35 1	39 10	49 883	27 30	
	11 5		35 1	39 80	43 649	28 00	
	12 0		35 1	40 60	38 798	28 80	
	12 5		35 1	41 39	34 919	29 50	
	13 0		35 1	41 89	31 744	30 10	
	13 5		35 1	42 40	29 089	30 60	
	14 0		35 1	43 00	24 942	31 70	
	14 5		35 1	44 50	21 824	32 70	
	15 0		35 1	46 81	19 399	35 07	
	15 5		35 1	60 51	17 459	48 77	
	16 0		35 1	63 45	15 872	51 65	
	16 5		35 1	70 58	14 549	58 78	
	17 0		35 1	76 28	12 471	64 48	
	17 5		35 1	77 37	10 912	65 57	
	18 0		35 1	77 13	9 700	65 33	
	18 5		35 1	77 05	8 730	65 25	
	19 0		35 1	76 78	7 936	64 98	
	19 5		35 1	76 01	7 275	64 21	
	20 0		35 1	77 86	6 235	66 06	
	20 5		19 3	81 10	5 456	69 30	
	21 0		35 1	74 58	4 850	67 78	
	21 5		25 2	67 57	4 157	55 77	
	22 0		26 2	61 71	3 637	49 91	
	22 5		25 2	65 00	3 234	53 20	
	23 0		25 2	65 30	2 910	53 50	
	23 5		25 2	62 83	2 645	51 03	
	24 0		25 2	65 78	2 425	53 93	
	24 5		25 2	65 27	2 238	53 43	
	25 0		25 2	64 74	2 078	52 94	
	25 5		25 2	64 64	1 940	52 84	
	26 0		25 2	64 40	1 819	52 60	
	1 020 0		23 6	64 53	1 712	52 73	
	1 080 0		23 6	64 59	1 617	52 89	
	1 140 0		23 6	65 30	1 532	53 50	
	1 200 0		23 6	72 19	1 455	60 39	
	1 260 0		32 2	84 18	1 386	72 38	
	1 320 0		32 2	81 15	1 323	69 35	
	1 380 0		32 2	82 05	1 265	70 25	
	1 440 0		32 2	82 05	1 212	70 25	

## PUMPING TEST RECORD (RECOVERY TEST)

Date Performed:  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping

Well location: A-2

below 11.8 m

Time	Duration After Beginning Pumping t (min)	Time After End of Pumping (min)	l/t	Water Level S' (m)	Recovery S' (l'0)-S (m)	Water Level Variation s'-S W L (m)
15:30	MIN					
0	0 5	1740 0	2 881 0	82 05		70 25
0	1 0	1741 0	1 441 0	78 50	3 55	66 7
0	1 5	1741 5	961 0	77 74	4 31	65 95
0	2 0	1742 0	721 0	76 94	5 11	65 14
0	2 5	1742 5	571 0	76 49	5 56	64 69
0	3 0	1743 0	481 0	75 99	6 06	64 19
0	3 5	1743 5	412 4	75 19	6 86	63 39
0	4 0	1744 0	361 0	74 44	7 61	62 64
0	4 5	1744 5	321 0	73 81	8 24	62 01
0	5 0	1745 0	289 0	73 26	8 79	61 46
0	5 5	1745 5	241 0	72 74	9 31	60 94
0	6 0	1746 0	210 7	71 56	10 49	59 76
0	6 5	1747 0	206 7	70 73	11 32	58 93
0	7 0	1748 0	181 0	70 03	12 02	58 23
0	7 5	1749 0	161 0	69 69	12 36	57 89
0	8 0	1750 0	145 0	68 92	13 13	57 12
0	8 5	1751 0	121 0	67 84	14 21	56 04
0	9 0	1752 0	103 9	65 48	15 51	54 58
0	9 5	1753 0	91 0	65 50	16 55	53 7
0	10 0	1754 0	81 0	64 60	17 45	52 8
0	10 5	1755 0	73 0	63 99	18 06	52 19
0	11 0	1756 0	68 0	61 64	20 41	49 84
0	11 5	1757 0	49 0	59 80	22 25	48
0	12 0	1758 0	42 1	57 25	24 80	45 45
0	12 5	1759 0	37 0	56 45	25 60	44 65
0	13 0	1760 0	33 0	54 69	27 36	42 89
0	13 5	1761 0	29 6	53 29	28 76	41 49
0	14 0	1762 0	27 2	52 10	29 95	40 3
0	14 5	1763 0	25 0	50 89	31 16	39 09
0	15 0	1810 0	21 6	47 04	35 01	35 24
0	15 5	1820 0	19 0	44 39	37 66	32 50
0	16 0	1830 0	17 0	41 36	40 69	29 56
0	16 5	1840 0	15 4	39 89	42 16	28 09
0	17 0	1850 0	14 1	38 39	43 66	26 50
0	17 5	1860 0	13 0	37 14	44 91	25 34
0	18 0	1870 0	11 3	36 76	45 29	24 96
0	18 5	1880 0	10 0	35 36	46 69	23 56
0	19 0	1890 0	9 0	35 09	46 96	23 29
0	19 5	1900 0	8 2	34 94	47 11	23 14
0	20 0	1910 0	7 5	34 79	47 26	22 99
0	20 5	1920 0	7 0	34 65	47 36	22 85
0	21 0	1930 0	6 1	32 95	49 06	21 19
0	21 5	1940 0	5 5	31 39	50 66	19 59
0	22 0	1950 0	5 0	29 81	52 24	18 01
0	22 5	1960 0	4 4	26 19	55 86	14 39
0	23 0	1970 0	4 0	25 04	57 01	13 24
0	23 5	1980 0	3 7	22 64	59 41	10 84
0	24 0	1990 0	3 4	21 74	60 31	9 94
0	24 5	2000 0	3 2	20 44	61 61	8 64
0	25 0	2010 0	3 0	19 25	62 80	7 45
0	25 5	2020 0	2 8	18 17	63 88	6 37
0	26 0	2030 0	2 7	17 24	64 81	5 44
0	26 5	2040 0	2 6	16 34	65 71	4 54
0	27 0	2050 0	2 5	15 54	66 51	3 74
0	27 5	2060 0	2 4	14 74	67 31	2 94
0	28 0	2070 0	2 3	14 04	68 01	2 24
0	28 5	2080 0	2 3	13 34	68 71	1 54
0	29 0	2090 0	2 2	12 94	69 11	1 14
0	29 5	2100 0	2 1	12 54	69 51	0 74
0	30 0	2110 0	2 1	12 45	69 56	0 69
0	30 5	2120 0	2 0	12 46	69 50	0 65
0	31 0	2130 0	2 0	12 43	69 61	0 64
0	31 5	2140 0	2 0	0	0	0
0	32 0	2150 0	2 0	0	0	0

# PUMPING TEST DATA (STEP DRAW DOWN TEST)

WELL NO. A-3

## PUMPING TEST RECORD (STEP DRAW-DOWN TEST)

Date Performed  
Pump Type: Submersible Pump  
Static Water Level Before Pumping

below G.L.

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume Q (Lit/Min)	Water level S (m)	Draw Down ΔS	Remarks
10:00	0.5		616.0	18.13	13.69	
	1		616.0	17.59	13.15	
	1.5		616.0	17.26	12.82	
	2		616.0	17.06	12.62	
	2.5		616.0	16.90	12.46	
	3		616.0	16.76	12.32	
	3.5		616.0	16.67	12.23	
	4		616.0	16.62	12.18	
	4.5		616.0	16.58	12.14	
	5		616.0	16.54	12.10	
	6		616.0	16.52	12.08	
	7		616.0	16.51	12.07	
	8		616.0	16.51	12.07	
	9		616.0	16.51	12.07	
	10		616.0	16.49	12.05	
	12		616.0	16.47	12.03	
	14		616.0	16.44	12.00	
	16		616.0	16.43	11.99	
	18		616.0	16.44	12.00	
	20		616.0	16.45	12.01	
	25		616.0	16.44	12.01	
	30		616.0	16.45	12.01	
	35		616.0	16.46	12.02	
	40		616.0	16.42	11.98	
	45		616.0	16.41	11.97	
	50		616.0	16.41	11.97	
	55		616.0	16.42	11.98	
	60		616.0	16.44	12.00	
	70		616.0	16.42	11.98	
	80		616.0	16.40	11.96	
	90		616.0	16.40	11.96	
	100		616.0	16.38	11.94	
	110		616.0	16.33	11.89	
12:00	120		616.0	16.34	11.90	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume Q (Lit/Min)	Water level S (m)	Draw Down ΔS	Remarks
14:00	0.5		1000.9	25.94	21.50	
	1		1000.9	26.84	22.40	
	1.5		1000.9	27.04	22.60	
	2		1000.9	27.34	22.90	
	2.5		1000.9	27.54	23.10	
	3		1000.9	27.74	23.30	
	3.5		1000.9	28.04	23.60	
	4		1000.9	28.34	23.90	
	4.5		1000.9	28.74	24.30	
	5		1000.9	29.14	24.70	
	6		1000.9	29.54	25.10	
	7		1000.9	30.24	25.80	
	8		1000.9	30.34	25.90	
	9		1000.9	30.35	25.91	
	10		1000.9	30.36	25.92	
	12		1000.9	30.39	25.95	
	14		1000.9	30.43	25.99	
	16		1000.9	30.45	26.01	
	18		1000.9	30.47	26.03	
	20		1000.9	30.50	26.06	
	25		1000.9	30.47	26.03	
	30		1000.9	30.56	26.12	
	35		1000.9	30.53	26.09	
	40		1000.9	30.53	26.09	
	45		1000.9	30.50	26.06	
	50		1000.9	30.58	26.14	
	55		1000.9	30.59	26.15	
	60		1000.9	30.60	26.16	
	70		1000.9	30.71	26.27	
	80		1000.9	30.79	26.35	
	90		1000.9	30.82	26.38	
	100		1000.9	30.87	26.43	
	110		1000.9	30.92	26.48	
16:00	120		1000.9	30.92	26.48	
	0.5		1502.6	36.64	32.20	
	1		1502.6	37.04	32.60	
	1.5		1502.6	37.94	33.50	
	2		1502.6	39.04	34.60	
	2.5		1502.6	39.64	35.20	
	3		1502.6	41.14	36.70	
	3.5		1502.6	41.94	37.50	
	4		1502.6	42.84	38.40	
	4.5		1502.6	43.64	39.20	
	5		1502.6	44.74	40.30	
	6		1502.6	45.84	41.40	
	7		1502.6	46.94	42.50	
	8		1502.6	48.04	43.60	
	9		1502.6	48.74	44.30	
	10		1502.6	49.64	45.10	
	12		1502.6	49.37	44.93	
	14		1502.6	49.43	44.99	
	16		1502.6	49.48	45.04	
	18		1502.6	49.56	45.12	
	20		1502.6	49.59	45.15	
	25		1502.6	49.70	45.26	
	30		1502.6	49.84	45.40	
	35		1502.6	49.94	45.50	
	40		1502.6	50.12	45.68	
	45		1502.6	50.08	45.64	
	50		1502.6	50.10	45.66	
	55		1502.6	50.18	45.74	
	60		1502.6	50.23	45.79	
	70		1502.6	50.36	45.92	
	80		1502.6	50.58	46.14	
	90		1502.6	50.57	46.13	
	100		1502.6	50.61	46.17	
	110		1502.6	50.78	46.34	
18:00	120		1502.6	50.88	46.44	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume Q (Lit/Min)	Water level S (m)	Draw Down ΔS	Remarks
	0.5		794.53	17.96	13.52	
	1		794.53	18.39	13.95	
	1.5		794.53	19.35	14.94	
	2		794.53	19.94	15.5	
	2.5		794.53	20.14	15.7	
	3		794.53	20.64	16.2	
	3.5		794.53	20.94	16.5	
	4		794.53	21.09	16.65	
	4.5		794.53	21.57	17.13	
	5		794.53	22.28	17.84	
	6		794.53	23.34	18.9	
	7		794.53	23.64	19.2	
	8		794.53	23.94	19.5	
	9		794.53	24.04	19.6	
	10		794.53	24.09	19.65	
	12		794.53	24.34	19.9	
	14		794.53	24.50	20.06	
	16		794.53	24.52	20.08	
	18		794.53	24.52	20.08	
	20		794.53	24.55	20.11	
	25		794.53	24.63	20.19	
	30		794.53	24.63	20.17	
	35		794.53	24.63	20.19	
	40		794.53	24.68	20.24	
	45		794.53	24.72	20.28	
	50		794.53	24.73	20.29	
	55		794.53	24.74	20.3	
	60		794.53	24.76	20.32	
	70		794.53	24.79	20.35	
	80		794.53	24.81	20.37	
	90		794.53	24.84	20.4	
	100		794.53	24.85	20.41	
	110		794.53	24.88	20.44	
11:00	120		794.53	24.88	20.44	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume Q (Lit/Min)	Water level		Draw Down $\Delta S$	Remarks
				S (m)			
18:00	0.5		1000.9	49.94		45.50	
	1		1000.9	47.84		43.40	
	1.5		1000.9	45.74		41.30	
	2		1000.9	43.44		39.00	
	2.5		1000.9	41.74		37.30	
	3		1000.9	40.64		36.20	
	3.5		1000.9	41.04		36.60	
	4		1000.9	39.64		35.20	
	4.5		1000.9	39.14		34.70	
	5		1000.9	38.94		34.50	
	6		1000.9	37.94		33.50	
	7		1000.9	37.04		32.60	
	8		1000.9	36.14		31.70	
	9		1000.9	35.24		30.80	
	10		1000.9	34.14		29.70	
	12		1000.9	34.92		30.48	
	14		1000.9	34.91		30.47	
	16		1000.9	34.85		30.41	
	18		1000.9	34.82		30.38	
	20		1000.9	34.86		30.42	
	25		1000.9	34.87		30.43	
	30		1000.9	34.86		30.42	
	35		1000.9	34.87		30.43	
	40		1000.9	34.91		30.47	
	45		1000.9	34.92		30.48	
	50		1000.9	34.95		30.51	
	55		1000.9	34.91		30.47	
	60		1000.9	34.82		30.38	
	70		1000.9	34.72		30.28	
	80		1000.9	34.72		30.28	
	90		1000.9	34.74		30.30	
	100		1000.9	34.83		30.45	
	110		1000.9	34.94		30.50	
20:00	120		1000.9	34.94		30.50	
	0.5		794.5	32.54		28.10	
	1		794.5	30.14		25.70	
	1.5		794.5	29.64		25.20	
	2		794.5	28.94		24.50	
	2.5		794.5	27.94		23.50	
	3		794.5	26.64		22.20	
	3.5		794.5	25.94		21.50	
	4		794.5	25.04		20.60	
	4.5		794.5	24.24		19.80	
	5		794.5	23.64		19.20	
	6		794.5	23.22		18.78	
	7		794.5	23.20		18.76	
	8		794.5	23.15		18.71	
	9		794.5	23.12		18.68	
	10		794.5	23.11		18.67	
	12		794.5	23.08		18.64	
	14		794.5	23.05		18.61	
	16		794.5	23.05		18.61	
	18		794.5	23.06		18.62	
	20		794.5	23.05		18.61	
	25		794.5	23.04		18.60	
	30		794.5	23.03		18.59	
	35		794.5	23.01		18.57	
	40		794.5	22.99		18.55	
	45		794.5	23.00		18.56	
	50		794.5	22.98		18.54	
	55		794.5	22.95		18.51	
	60		794.5	22.92		18.48	
	70		794.5	22.93		18.49	
	80		794.5	22.91		18.47	
	90		794.5	22.89		18.45	
	100		794.5	22.86		18.42	
	110		794.5	22.87		18.43	
22:00	120		794.5	22.86		18.42	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level		Draw Down $\Delta S$	Remarks
			Q (Lit/Min)	S (m)				
22:00	0.5		616.0	21.94		17.50		
	1		616.0	20.54		16.10		
	1.5		616.0	20.22		15.78		
	2		616.0	20.02		15.58		
	2.5		616.0	19.91		15.47		
	3		616.0	19.84		15.40		
	3.5		616.0	19.78		15.34		
	4		616.0	19.73		15.29		
	4.5		616.0	19.69		15.25		
	5		616.0	19.66		15.22		
	6		616.0	19.61		15.17		
	7		616.0	19.58		15.14		
	8		616.0	19.55		15.12		
	9		616.0	19.73		15.29		
	10		616.0	19.49		15.05		
	12		616.0	19.48		15.04		
	14		616.0	19.46		15.02		
	16		616.0	19.47		15.03		
	18		616.0	19.45		15.01		
	20		616.0	19.43		14.99		
	25		616.0	19.41		14.97		
	30		616.0	19.38		14.94		
	35		616.0	19.37		14.93		
	40		616.0	19.37		14.93		
	45		616.0	19.35		14.91		
	50		616.0	19.32		14.88		
	55		616.0	19.32		14.88		
	60		616.0	19.33		14.89		
	70		616.0	19.30		14.86		
	80		616.0	19.30		14.86		
	90		616.0	19.31		14.87		
	100		616.0	19.28		14.84		
	110		616.0	19.26		14.82		
24:00	120		616.0	19.27		14.83		



**PUMPING TEST DATA WELL NO. A-3**  
**(CONTINUOUS CONSTANT DISCHARGE TEST AND RECOVERY TEST)**

**PUMPING TEST RECORD (CONTINUOUS TEST)**

Data Period:  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping

Well Location:  
 BELOW GL-

**PUMPING TEST RECORD (RECOVERY TEST)**

Data Period:  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping

Well Location:  
 below

Time	Duration After Beginning Pumping (min)	Measuring Volume (Lit/Min)	Water Level S (m)	r <sup>2</sup> /L	Draw Down ΔS (m)	Remarks
0.0	0.0	0.0	4.75		0	
0.5	1502.6	6.84	8.491.841 X10		1.05	
1.0	1502.6	6.44	745.920		1.68	
1.5	1502.6	5.64	1163.947		4.45	
2.0	1502.6	10.84	872.860		6.09	
2.5	1502.6	12.74	688.368		7.99	
3.0	1502.6	15.04	581.873		10.29	
3.5	1502.6	15.64	498.834		10.89	
4.0	1502.6	16.34	436.480		11.59	
4.5	1502.6	17.54	387.982		12.79	
5.0	1502.6	20.24	349.184		15.49	
5.5	1502.6	22.44	290.987		17.69	
6.0	1502.6	24.14	245.417		19.39	
6.5	1502.6	26.44	218.240		21.69	
7.0	1502.6	28.24	193.981		23.49	
7.5	1502.6	31.14	174.592		26.39	
8.0	1502.6	34.44	145.483		29.69	
8.5	1502.6	36.34	124.709		33.59	
9.0	1502.6	41.44	109.120		36.69	
9.5	1502.6	42.34	96.986		37.69	
10.0	1502.6	43.54	87.286		38.79	
10.5	1502.6	44.44	69.637		39.69	
11.0	1502.6	45.24	65.197		40.49	
11.5	1502.6	46.14	49.683		41.39	
12.0	1502.6	46.74	43.648		41.99	
12.5	1502.6	47.14	38.798		42.39	
13.0	1502.6	47.64	34.916		42.89	
13.5	1502.6	48.04	31.744		43.29	
14.0	1502.6	48.54	29.099		43.79	
14.5	1502.6	48.74	24.942		43.99	
15.0	1502.6	48.99	21.824		44.24	
15.5	1502.6	49.24	19.399		44.49	
16.0	1502.6	49.44	17.459		44.69	
16.5	1502.6	49.54	15.872		44.79	
17.0	1502.6	49.64	14.549		44.89	
17.5	1502.6	49.94	12.471		45.19	
18.0	1502.6	50.14	10.912		45.39	
18.5	1502.6	50.24	9.700		45.49	
19.0	1502.6	50.44	8.730		45.69	
19.5	1502.6	50.94	7.936		45.19	
20.0	1502.6	51.14	7.275		46.39	
20.5	1502.6	51.26	6.235		45.51	
21.0	1502.6	51.38	5.456		45.63	
21.5	1502.6	51.43	4.858		45.68	
22.0	1502.6	51.48	4.157		46.73	
22.5	1502.6	51.63	3.637		46.88	
23.0	1502.6	51.71	3.233		46.96	
23.5	1502.6	51.89	2.910		47.14	
24.0	1502.6	52.12	2.645		47.37	
24.5	1502.6	52.24	2.425		47.49	
25.0	1502.6	52.48	2.238		47.73	
25.5	1502.6	52.66	2.078		47.91	
26.0	1502.6	52.79	1.940		48.04	
26.5	1502.6	53.01	1.819		48.26	
27.0	1502.6	53.15	1.712		48.40	
27.5	1502.6	52.90	1.617		48.15	
28.0	1502.6	53.11	1.532		48.36	
28.5	1502.6	53.22	1.455		48.47	
29.0	1502.6	53.33	1.386		48.58	
29.5	1502.6	53.36	1.323		48.61	

Time	Duration After Beginning Pumping (min)	Time After End of Pumping (min)	r <sup>2</sup> /L	Water Level S' (m)	Recovery S' (l'0)-S (m)	Water Level Variation s'-S.W.L. (m)
15:30				1740.0		
	0.5	1740.5	3,001.0	41.14	36.39	
	1.0	1741.0	1,501.0	32.54	27.79	
	1.5	1741.5	1,001.0	25.92	21.17	
	2.0	1742.0	751.0	20.74	15.99	
	2.5	1742.5	601.0	17.34	12.59	
	3.0	1743.0	501.0	14.54	9.79	
	3.5	1743.5	429.5	12.69	7.94	
	4.0	1744.0	376.0	11.14	6.39	
	4.5	1744.5	334.3	9.97	5.22	
	5.0	1745.0	301.0	9.14	4.39	
	6.0	1746.0	251.0	8.34	3.59	
	7.0	1747.0	215.3	8.05	3.30	
	8.0	1748.0	188.5	7.87	3.12	
	9.0	1749.0	167.7	7.77	3.02	
	10.0	1750.0	151.0	7.70	2.95	
	12.0	1752.0	126.0	7.64	2.89	
	14.0	1754.0	108.1	7.59	2.84	
	16.0	1756.0	94.8	7.52	2.77	
	18.0	1758.0	84.3	7.47	2.72	
	20.0	1760.0	76.0	7.45	2.70	
	25.0	1765.0	61.0	7.40	2.65	
	30.0	1770.0	51.0	7.35	2.60	
	35.0	1775.0	43.9	7.32	2.57	
	40.0	1780.0	38.5	7.29	2.54	
	45.0	1785.0	34.3	7.27	2.52	
	50.0	1790.0	31.0	7.24	2.49	
	55.0	1795.0	28.3	7.22	2.47	
	60.0	1800.0	26.0	7.20	2.45	
	70.0	1810.0	22.4	7.18	2.43	
	80.0	1820.0	19.8	7.14	2.39	
	90.0	1830.0	17.7	7.11	2.36	
	100.0	1840.0	16.0	7.09	2.34	
	110.0	1850.0	14.6	7.08	2.31	
	120.0	1850.0	13.5	7.01	2.26	
	140.0	1880.0	11.7	6.96	2.21	
	160.0	1900.0	10.4	6.91	2.16	
	180.0	1920.0	9.3	6.89	2.14	
	200.0	1940.0	8.5	6.86	2.11	
	220.0	1950.0	7.8	6.83	2.08	
	240.0	1950.0	7.3	6.81	2.06	
	280.0	2020.0	6.4	6.74	1.99	
	320.0	2060.0	5.7	6.70	1.95	
	360.0	2100.0	5.2	6.64	1.89	
	420.0	2160.0	4.6	6.59	1.84	
	480.0	2220.0	4.1	6.51	1.76	
	540.0	2280.0	3.8	6.46	1.71	
	600.0	2340.0	3.5	6.40	1.65	
	660.0	2400.0	3.3	6.34	1.59	
	720.0	2460.0	3.1	6.27	1.52	
	780.0	2520.0	2.9	6.23	1.48	
	840.0	2580.0	2.8	6.18	1.43	
	900.0	2640.0	2.7	6.12	1.37	
	960.0	2700.0	2.6	6.07	1.32	
	1020.0	2760.0	2.5	6.01	1.26	
	1080.0	2820.0	2.4	5.96	1.21	
	1140.0	2880.0	2.3	5.90	1.15	
	1200.0	2940.0	2.3	5.88	1.13	
	1260.0	3000.0	2.2	5.85	1.10	
	1320.0	3060.0	2.1	5.81	1.06	
	1380.0	3120.0	2.1	5.77	1.02	
	1440.0	3180.0	2.0	5.76	1.01	
	1.500		2.0	5.75		

# PUMPING TEST DATA (STEP DRAW DOWN TEST)

WELL NO. A-4

## PUMPING TEST RECORD (STEP DRAW-DOWN TEST)

Data Period

Pump Type: Submersible Pump

Static Water Level Before Pumping

m

below G.L.

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume	Water level	Draw Down	Remarks
			Q (Lit/Min)	S (m)	ΔS	
10:00	0.5		794.5	5.51	0.99	
	1		794.5	6.00	1.48	
	1.5		794.5	6.00	3.48	
	2		794.5	12.00	7.48	
	2.5		794.5	15.00	10.48	
	3		794.5	17.00	12.48	
	3.5		794.5	19.00	14.48	
	4		794.5	20.00	15.48	
	4.5		794.5	21.20	16.68	
	5		794.5	22.34	17.82	
	6		794.5	23.13	18.61	
	7		794.5	23.75	19.23	
	8		794.5	24.77	20.25	
	9		794.5	24.42	19.90	
	10		794.5	24.70	20.18	
	12		794.5	24.85	20.33	
	14		794.5	25.50	20.98	
	16		794.5	25.32	20.80	
	18		794.5	25.32	20.80	
	20		794.5	25.49	20.97	
	25		794.5	25.83	21.31	
	30		794.5	26.17	21.65	
	35		794.5	26.50	21.98	
	40		794.5	26.74	22.22	
	45		794.5	27.20	22.68	
	50		794.5	27.46	22.94	
	55		794.5	27.68	23.16	
	60		794.5	27.98	23.46	
	70		794.5	28.30	23.78	
	80		794.5	28.61	24.09	
	90		794.5	28.85	24.33	
	100		794.5	29.14	24.62	
	110		794.5	29.26	24.84	
12:00	120		794.5	29.59	25.07	
12:00	0.5		928.94	31.80	27.28	
	1		928.94	33.00	28.48	
	1.5		928.94	34.70	30.18	
	2		928.94	36.64	32.12	
	2.5		928.94	37.20	32.68	
	3		928.94	37.89	33.37	
	4		928.94	37.93	33.41	
	4.5		928.94	37.96	33.44	
	5		928.94	38.20	33.68	
	6		928.94	38.64	34.12	
	7		928.94	38.90	34.38	
	8		928.94	39.64	35.12	
	9		928.94	40.08	35.56	
	10		928.94	40.58	36.06	
	12		928.94	40.76	36.24	
	14		928.94	41.21	36.69	
	16		928.94	41.46	36.94	
	18		928.94	41.69	37.17	
	20		928.94	41.86	37.34	
	25		928.94	41.99	37.47	
	30		928.94	42.21	37.69	
	35		928.94	42.50	37.98	
	40		928.94	42.64	38.12	
	45		928.94	42.79	38.27	
	50		928.94	43.00	38.48	
	55		928.94	43.21	38.69	
	60		928.94	43.39	38.87	
	70		928.94	43.49	38.97	
	80		928.94	43.64	39.12	
	90		928.94	44.06	39.54	
	100		928.94	44.23	39.71	
	110		928.94	44.37	39.85	
	120		928.94	44.60	40.08	
14:00	120		928.94	44.78	40.26	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume	Water level	Draw Down	Remarks
			Q (Lit/Min)	S (m)	ΔS	
14:00	0.5		1091.6	46.30	41.78	
	1		1091.6	47.40	42.88	
	1.5		1091.6	48.00	43.48	
	2		1091.6	49.03	44.51	
	2.5		1091.6	49.80	45.28	
	3		1091.6	50.50	45.98	
	3.5		1091.6	50.70	46.18	
	4		1091.6	50.95	46.43	
	4.5		1091.6	51.05	46.53	
	5		1091.6	51.26	46.74	
	6		1091.6	51.62	47.10	
	7		1091.6	51.85	47.33	
	8		1091.6	52.05	47.53	
	9		1091.6	52.19	47.67	
	10		1091.6	52.30	47.78	
	12		1091.6	52.47	47.95	
	14		1091.6	52.60	48.08	
	16		1091.6	52.71	48.19	
	18		1091.6	52.80	48.28	
	20		1091.6	52.87	48.35	
	25		1091.6	53.01	48.49	
	30		1091.6	53.16	48.64	
	35		1091.6	53.30	48.78	
	40		1091.6	53.41	48.89	
	45		1091.6	53.50	48.98	
	50		1091.6	53.62	49.10	
	55		1091.6	53.75	49.23	
	60		1091.6	53.90	49.38	
	70		1091.6	54.09	49.57	
	80		1091.6	54.26	49.74	
	90		1091.6	54.49	49.97	
	100		1091.6	54.64	50.12	
	110		1091.6	54.80	50.28	
	120		1091.6	54.98	50.46	
16:00	0.5		1253.3	55.70	51.18	
	1		1253.3	56.46	51.94	
	1.5		1253.3	56.90	52.38	
	2		1253.3	57.28	52.76	
	2.5		1253.3	58.30	53.78	
	3		1253.3	59.33	54.81	
	3.5		1253.3	59.80	55.30	
	4		1253.3	60.55	56.05	
	4.5		1253.3	61.10	56.58	
	5		1253.3	61.64	57.12	
	6		1253.3	62.37	57.81	
	7		1253.3	62.86	58.34	
	8		1253.3	63.28	58.76	
	9		1253.3	63.57	59.05	
	10		1253.3	63.80	59.28	
	12		1253.3	64.11	59.59	
	14		1253.3	64.17	59.65	
	16		1253.3	64.25	59.73	
	18		1253.3	64.25	59.73	
	20		1253.3	64.25	59.73	
	25		1253.3	64.40	59.88	
	30		1253.3	64.76	60.24	
	35		1253.3	64.81	60.29	
	40		1253.3	65.11	60.59	
	45		1253.3	66.44	61.92	
	50		1253.3	67.00	62.48	
	55		1253.3	67.31	62.79	
	60		1253.3	67.80	63.28	
	70		1253.3	68.30	63.78	
	80		1253.3	68.41	63.89	
	90		1253.3	68.68	64.16	
	100		1253.3	69.00	64.48	
	110		1253.3	69.20	64.68	
18:00	120		1253.3	69.41	64.89	

# PUMPING TEST DATA WELL NO. A-4

## (CONTINUOUS CONSTANT DISCHARGE TEST AND RECOVERY TEST)

### PUMPING TEST RECORD (CONTINUOUS TEST)

Data Formed:

Pump Type: Submersible Pump

Static Water Level Before Pumping

3.48

Well Location: A-4

BELOW GL

Time	Duration After Beginning Pumping t (min)	Measuring	Volume (Lit/Min)	Water Level S (m)	r <sup>2</sup> /t	Draw Down ΔS (m)	Remarks
0.0	0.0		0.0	3.48		0	
0.5	1000.9		7.06	3.491 841 X10	3.58		
1.0	1000.9		9.96	1.745 920	6.48		
1.5	1000.9		13.16	1.163 947	9.68		
2.0	1000.9		15.96	872 960	12.48		
2.5	1000.9		19.48	698 368	16.00		
3.0	1000.9		23.16	581 913	19.68		
3.5	1000.9		25.96	498 834	22.48		
4.0	1000.9		28.56	436 460	25.08		
4.5	1000.9		29.86	387 932	26.38		
5.0	1000.9		31.06	349 184	27.58		
6.0	1000.9		32.66	290 987	29.18		
7.0	1000.9		33.83	249 417	30.35		
8.0	1000.9		34.57	218 240	31.09		
9.0	1000.9		35.36	193 931	31.88		
10.0	1000.9		36.21	174 592	32.73		
12.0	1000.9		37.16	145 493	33.68		
14.0	1000.9		37.36	124 709	33.88		
16.0	1000.9		37.98	109 120	34.48		
18.0	1000.9		38.56	95 996	35.08		
20.0	1000.9		39.10	87 296	35.62		
25.0	1000.9		40.27	69 837	36.74		
30.0	1000.9		40.88	58 197	37.40		
35.0	1000.9		42.16	49 883	38.68		
40.0	1000.9		44.34	43 648	40.86		
45.0	1000.9		44.78	38 198	40.86		
50.0	1000.9		44.48	34 918	41.00		
55.0	1000.9		46.67	31 744	43.19		
60.0	1000.9		44.96	29 059	41.48		
70.0	1000.9		45.62	24 942	47.14		
80.0	1000.9		45.36	21 824	41.88		
90.0	1000.9		45.26	19 399	41.78		
100.0	1000.9		45.16	17 459	41.68		
110.0	1000.9		45.06	15 872	41.58		
120.0	1000.9		45.06	14 549	41.58		
140.0	1000.9		45.68	12 471	42.20		
160.0	1000.9		46.08	10 912	42.60		
180.0	1000.9		46.70	9 700	43.22		
200.0	1000.9		46.96	8 730	43.48		
220.0	1000.9		47.22	7 936	43.74		
240.0	1000.9		47.59	7 275	44.11		
260.0	1000.9		48.14	6 735	44.65		
280.0	1000.9		48.59	5 456	45.02		
300.0	1000.9		48.88	4 850	45.40		
320.0	1000.9		49.20	4 157	45.72		
340.0	1000.9		49.88	3 637	46.40		
360.0	1000.9		50.18	3 233	46.68		
400.0	1000.9		50.31	2 910	46.83		
440.0	1000.9		50.57	2 645	47.09		
480.0	1000.9		50.70	2 425	47.22		
520.0	1000.9		50.79	2 238	47.31		
560.0	1000.9		50.97	2 078	47.49		
600.0	1000.9		51.17	1 940	47.69		
640.0	1000.9		51.36	1 819	47.88		
680.0	1000.9		51.49	1 712	48.01		
720.0	1000.9		51.67	1 617	48.14		
760.0	1000.9		51.79	1 532	48.31		
800.0	1000.9		51.99	1 455	48.51		
840.0	1000.9		52.10	1 386	48.62		
880.0	1000.9		52.18	1 323	48.70		
920.0	1000.9		52.20	1 265	48.77		
960.0	1000.9		52.22	1 212	48.74		

### PUMPING TEST RECORD (RECOVERY TEST)

Data Formed:

Pump Type: Submersible Pump

Static Water Level Before Pumping

Well Location: A-4

below

Time	Duration After Beginning Pumping t (min)	Time After End of Pumping (min)	t/t	Water Level S' (m)	Recovery S' (%)-S (m)	Water Level Variation s'-S.W.L (m)
10:00		1740.0		52.18		
0.5	0.5	1740.5	2.881.0	41.08	11.1	36.85
1.0	1.0	1741.0	1.441.0	37.20	14.98	32.97
1.5	1.5	1741.5	961.0	33.08	19.1	28.85
2.0	2.0	1742.0	721.0	28.38	23.8	24.15
2.5	2.5	1742.5	577.0	26.48	25.7	22.25
3.0	3.0	1743.0	481.0	24.83	27.35	20.60
3.5	3.5	1743.5	412.4	23.98	28.2	19.75
4.0	4.0	1744.0	361.0	23.68	29.1	18.85
4.5	4.5	1744.5	321.0	22.68	29.5	18.45
5.0	5.0	1745.0	289.0	22.28	29.9	18.05
6.0	6.0	1745.0	241.0	21.49	30.69	17.26
7.0	7.0	1747.0	206.7	21.06	31.12	16.83
8.0	8.0	1748.0	181.0	20.76	31.42	16.53
9.0	9.0	1749.0	161.0	20.50	31.68	16.27
10.0	10.0	1750.0	145.0	20.28	31.9	16.06
12.0	12.0	1752.0	121.0	19.89	32.29	15.66
14.0	14.0	1754.0	103.9	19.55	32.63	15.37
16.0	16.0	1756.0	91.0	19.29	32.89	15.06
18.0	18.0	1758.0	81.0	18.98	33.2	14.75
20.0	20.0	1760.0	73.0	18.73	33.45	14.50
25.0	25.0	1765.0	58.6	18.18	34	13.95
30.0	30.0	1770.0	49.0	17.68	34.5	13.45
35.0	35.0	1775.0	42.1	17.10	35.08	12.87
40.0	40.0	1780.0	37.0	16.89	35.29	12.66
45.0	45.0	1785.0	33.0	16.49	35.69	12.26
50.0	50.0	1790.0	29.8	16.29	35.89	12.06
55.0	55.0	1795.0	27.2	15.93	36.25	11.70
60.0	60.0	1800.0	25.0	15.68	36.5	11.45
70.0	70.0	1810.0	21.6	15.22	36.95	10.99
80.0	80.0	1820.0	19.0	14.79	37.39	10.56
90.0	90.0	1830.0	17.0	14.49	37.69	10.26
100.0	100.0	1840.0	15.4	14.14	38.04	9.91
110.0	110.0	1850.0	14.1	13.80	38.28	9.67
120.0	120.0	1860.0	13.0	13.54	38.64	9.31
140.0	140.0	1880.0	11.3	13.05	39.13	8.82
160.0	160.0	1900.0	10.0	12.62	39.56	8.39
180.0	180.0	1920.0	9.0	12.22	39.96	7.99
200.0	200.0	1940.0	8.2	11.86	40.32	7.63
220.0	220.0	1960.0	7.5	11.54	40.64	7.31
240.0	240.0	1980.0	7.0	11.26	40.92	7.03
260.0	260.0	2000.0	6.1	10.63	41.56	6.40
320.0	320.0	2060.0	5.5	10.29	41.89	6.06
360.0	360.0	2100.0	5.0	9.91	42.27	5.68
420.0	420.0	2160.0	4.4	9.41	42.77	5.18
480.0	480.0	2220.0	4.0	8.92	43.26	4.69
540.0	540.0	2280.0	3.7	8.53	43.65	4.30
600.0	600.0	2340.0	3.4	8.23	43.95	4.00
660.0	660.0	2400.0	3.2	7.91	44.27	3.68
720.0	720.0	2460.0	3.0	7.61	44.57	3.38
780.0	780.0	2520.0	2.8	7.32	44.86	3.09
840.0	840.0	2580.0	2.7	7.05	45.15	2.80
900.0	900.0	2640.0	2.6	6.74	45.48	2.51
960.0	960.0	2700.0	2.5	6.40	45.78	2.17
1020.0	1020.0	2760.0	2.4	6.24	45.94	2.01
1080.0	1080.0	2820.0	2.3	6.04	46.14	1.81
1140.0	1140.0	2880.0	2.3	5.87	46.31	1.64
1200.0	1200.0	2940.0	2.2	5.74	46.44	1.51
1260.0	1260.0	3000.0	2.1	5.63	46.55	1.40
1320.0	1320.0	3060.0	2.1	5.52	46.60	1.29
1380.0	1380.0	3120.0	2.0	5.41	46.77	1.18
1440.0	1440.0	3180.0	2.0	5.3	46.88	1.07
0.0	0.0	1740.0	0.0	0	52.18	0
0.0	0.0	0.0	0.0	0	0	0

PUMPING TEST DATA  
(STEP DRAW DOWN TEST)

WELL NO. B-1

PUMPING TEST RECORD (STEP DRAW-DOWN TEST)

B-1

Data Performed

Pump Type: Submersible Pump

Static Water Level Before Pumping

below G L

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level S (m)	Draw Down ΔS	Remarks
			Q (Lit/Min)	S			
12:00	0.5		108.9	0.98	0.98		
	1		108.9	1.55	1.55		
	1.5		108.9	1.86	1.86		
	2		108.9	2.29	2.29		
	2.5		108.9	2.38	2.38		
	3		108.9	2.45	2.45		
	3.5		108.9	2.46	2.46		
	4		108.9	2.46	2.46		
	4.5		108.9	2.63	2.63		
	5		108.9	2.74	2.74		
	6		108.9	2.76	2.76		
	7		108.9	2.50	2.50		
	8		108.9	2.51	2.51		
	9		108.9	2.68	2.68		
	10		108.9	2.80	2.80		
	12		108.9	3.05	3.05		
	14		108.9	3.30	3.30		
	16		108.9	3.15	3.15		
	18		108.9	2.21	2.21		
	20		108.9	2.68	2.68		
	25		108.9	2.33	2.33		
	30		108.9	2.30	2.30		
	35		108.9	2.20	2.20		
	40		108.9	2.18	2.18		
	45		108.9	2.21	2.21		
	50		108.9	2.20	2.20		
	55		108.9	2.16	2.16		
	60		108.9	2.13	2.13		
	70		108.9	2.14	2.14		
	80		108.9	2.15	2.15		
	90		108.9	2.12	2.12		
	100		108.9	2.07	2.07		
	110		108.9	1.96	1.96		
14:00	120		108.9	1.95	1.95		
14:00	0.5		152.06	2.11	2.11		
	1		152.06	2.40	2.40		
	1.5		152.06	2.43	2.43		
	2		152.06	2.45	2.45		
	2.5		152.06	2.70	2.70		
	3		152.06	2.40	2.40		
	3.5		152.06	3.00	3.00		
	4		152.06	3.00	3.00		
	4.5		152.06	3.01	3.01		
	5		152.06	3.01	3.01		
	6		152.06	2.95	2.95		
	7		152.06	2.92	2.92		
	8		152.06	2.84	2.84		
	9		152.06	2.81	2.81		
	10		152.06	2.94	2.94		
	12		152.06	3.60	3.60		
	14		152.06	3.50	3.50		
	16		152.06	3.45	3.45		
	18		152.06	3.46	3.46		
	20		152.06	3.51	3.51		
	25		152.06	3.36	3.36		
	30		152.06	3.30	3.30		
	35		152.06	3.10	3.10		
	40		152.06	3.15	3.15		
	45		152.06	3.15	3.15		
	50		152.06	3.12	3.12		
	55		152.06	3.11	3.11		
	60		152.06	3.16	3.16		
	70		152.06	3.20	3.20		
	80		152.06	3.15	3.15		
	90		152.06	3.14	3.14		
	100		152.06	3.06	3.06		
	110		152.06	3.00	3.00		
16:00	120		152.06	3.00	3.00		

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level S (m)	Draw Down ΔS	Remarks
			Q (Lit/Min)	S			
16:00	0.5		204.1	3.80	3.80		
	1		204.1	4.50	4.50		
	1.5		204.1	5.00	5.00		
	2		204.1	5.25	5.25		
	2.5		204.1	5.30	5.30		
	3		204.1	5.35	5.35		
	3.5		204.1	5.38	5.38		
	4		204.1	5.40	5.40		
	4.5		204.1	5.30	5.30		
	5		204.1	5.35	5.35		
	6		204.1	5.29	5.29		
	7		204.1	5.20	5.20		
	8		204.1	5.15	5.15		
	9		204.1	5.18	5.18		
	10		204.1	5.16	5.16		
	12		204.1	5.11	5.11		
	14		204.1	4.90	4.90		
	16		204.1	5.15	5.15		
	18		204.1	5.00	5.00		
	20		204.1	5.45	5.45		
	25		204.1	5.05	5.05		
	30		204.1	5.00	5.00		
	35		204.1	5.00	5.00		
	40		204.1	4.95	4.95		
	45		204.1	4.90	4.90		
	50		204.1	4.85	4.85		
	55		204.1	4.95	4.95		
	60		204.1	4.86	4.86		
	70		204.1	5.05	5.05		
	80		204.1	5.35	5.35		
	90		204.1	5.20	5.20		
	100		204.1	5.16	5.16		
	110		204.1	5.00	5.00		
18:00	120		204.1	5.00	5.00		
18:00	0.5		265.6	5.50	5.50		
	1		265.6	5.60	5.60		
	1.5		265.6	5.65	5.65		
	2		265.6	5.76	5.76		
	2.5		265.6	5.85	5.85		
	3		265.6	5.94	5.94		
	3.5		265.6	5.95	5.95		
	4		265.6	5.85	5.85		
	4.5		265.6	5.86	5.86		
	5		265.6	5.95	5.95		
	6		265.6	5.95	5.95		
	7		265.6	5.96	5.96		
	8		265.6	5.97	5.97		
	9		265.6	5.95	5.95		
	10		265.6	5.94	5.94		
	12		265.6	5.90	5.90		
	14		265.6	5.92	5.92		
	16		265.6	5.93	5.93		
	18		265.6	5.94	5.94		
	20		265.6	5.94	5.94		
	25		265.6	5.96	5.96		
	30		265.6	5.95	5.95		
	35		265.6	5.95	5.95		
	40		265.6	5.94	5.94		
	45		265.6	5.90	5.90		
	50		265.6	5.91	5.91		
	55		265.6	5.92	5.92		
	60		265.6	5.96	5.96		
	70		265.6	5.94	5.94		
	80		265.6	5.94	5.94		
	90		265.6	5.91	5.91		
	100		265.6	5.91	5.91		
	110		265.6	5.90	5.90		
20:00	120		265.6	5.90	5.90		

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level		Draw Down ΔS	Remarks
			Q (Lit/Min)	S	S	ΔS		
20 00	0.5		376.7	7.65	7.65			
0	1		376.7	8.55	8.55			
0	1.5		376.7	9.10	9.10			
0	2		376.7	9.50	9.50			
0	2.5		376.7	9.90	9.90			
0	3		376.7	10.45	10.45			
0	3.5		376.7	11.01	11.01			
0	4		376.7	11.35	11.35			
0	4.5		376.7	11.85	11.85			
0	5		376.7	12.15	12.15			
0	6		376.7	12.45	12.45			
0	7		376.7	12.59	12.59			
0	8		376.7	12.68	12.68			
0	9		376.7	12.84	12.84			
0	10		376.7	12.35	12.35			
0	12		376.7	12.55	12.55			
0	14		376.7	12.80	12.80			
0	16		376.7	12.86	12.86			
0	18		376.7	13.25	13.25			
0	20		376.7	13.50	13.50			
0	25		376.7	13.91	13.91			
0	30		376.7	14.01	14.01			
0	35		376.7	14.48	14.48			
0	40		376.7	15.00	15.00			
0	45		376.7	15.80	15.80			
0	50		376.7	16.15	16.15			
0	55		376.7	17.02	17.02			
0	60		376.7	16.61	16.61			
0	70		376.7	17.00	17.00			
0	80		376.7	17.48	17.48			
0	90		376.7	18.23	18.23			
0	100		376.7	18.26	18.26			
0	110		376.7	18.19	18.19			
22 00	120		376.7	18.39	18.39			
22 00	0.5		265.6	18.00	18.00			
0	1		265.6	18.01	18.01			
0	1.5		265.6	17.50	17.50			
0	2		265.6	17.31	17.31			
0	2.5		265.6	16.70	16.70			
0	3		265.6	16.35	16.35			
0	3.5		265.6	16.00	16.00			
0	4		265.6	15.65	15.65			
0	4.5		265.6	15.40	15.40			
0	5		265.6	15.29	15.29			
0	6		265.6	14.81	14.81			
0	7		265.6	14.56	14.56			
0	8		265.6	14.29	14.29			
0	9		265.6	14.02	14.02			
0	10		265.6	13.85	13.85			
0	12		265.6	13.55	13.55			
0	14		265.6	13.33	13.33			
0	16		265.6	13.22	13.22			
0	18		265.6	13.08	13.08			
0	20		265.6	12.98	12.98			
0	25		265.6	12.77	12.77			
0	30		265.6	12.64	12.64			
0	35		265.6	12.55	12.55			
0	40		265.6	12.72	12.72			
0	45		265.6	12.62	12.62			
0	50		265.6	12.68	12.68			
0	55		265.6	12.70	12.70			
0	60		265.6	11.75	11.75			
0	70		265.6	10.84	10.84			
0	80		265.6	10.83	10.83			
0	90		265.6	10.76	10.76			
0	100		265.6	10.58	10.58			
0	110		265.6	10.21	10.21			
24 00	120		265.6	10.30	10.30			

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level		Draw Down ΔS	Remarks
			Q (Lit/Min)	S	S	ΔS		
24 00	0.5		204.1	10.00	10.00			
0	1		204.1	9.60	9.60			
0	1.5		204.1	9.80	9.80			
0	2		204.1	9.60	9.60			
0	2.5		204.1	9.50	9.50			
0	3		204.1	9.57	9.57			
0	3.5		204.1	9.00	9.00			
0	4		204.1	8.50	8.50			
0	4.5		204.1	7.75	7.75			
0	5		204.1	7.87	7.87			
0	7		204.1	7.90	7.90			
0	8		204.1	8.00	8.00			
0	6		204.1	8.06	8.06			
0	9		204.1	7.97	7.97			
0	10		204.1	7.93	7.93			
0	12		204.1	7.98	7.98			
0	14		204.1	7.94	7.94			
0	16		204.1	7.95	7.95			
0	18		204.1	7.90	7.90			
0	20		204.1	8.84	8.84			
0	25		204.1	7.81	7.81			
0	30		204.1	7.83	7.83			
0	35		204.1	7.80	7.80			
0	40		204.1	7.80	7.80			
0	45		204.1	7.81	7.81			
0	50		204.1	7.79	7.79			
0	55		204.1	7.74	7.74			
0	60		204.1	7.70	7.70			
0	80		204.1	7.64	7.64			
0	90		204.1	7.59	7.59			
0	100		204.1	7.43	7.43			
0	110		204.1	7.38	7.38			
2:00	120		204.1	7.34	7.34			



PUMPING TEST DATA  
(STEP DRAW DOWN TEST)

WELL NO. B-2

PUMPING TEST RECORD (STEP DRAW-DOWN TEST)

B-2

Date Performed

Pump Type Submersible Pump

Static Water Level Before Pumping

below G.L.-0.45m

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level		Draw Down ΔS	Remarks
			Q (Lit/Min)	S (m)	S	ΔS		
9:45	0.5		265.6	1.93	1.48			
	1		265.6	2.32	1.87			
	1.5		265.6	2.73	2.18			
	2		265.6	3.09	2.54			
	2.5		265.6	3.28	2.83			
	3		265.6	3.27	2.82			
	3.5		265.6	3.28	2.83			
	4		265.6	3.32	2.87			
	4.5		265.6	3.34	2.89			
	5		265.6	3.35	2.90			
	6		265.6	3.36	2.91			
	7		265.6	3.36	2.91			
	8		265.6	3.33	2.88			
	9		265.6	3.33	2.88			
	10		265.6	3.35	2.90			
	12		265.6	3.36	2.91			
	14		265.6	3.38	2.93			
	16		265.6	3.37	2.92			
	18		265.6	3.38	2.93			
	20		265.6	3.42	2.97			
	25		265.6	3.47	3.02			
	30		265.6	3.35	2.91			
	35		265.6	3.50	3.05			
	40		265.6	3.50	3.05			
	45		265.6	3.51	3.06			
	50		265.6	3.53	3.08			
	55		265.6	3.54	3.09			
	60		265.6	3.55	3.10			
	70		265.6	3.56	3.11			
	80		265.6	3.57	3.12			
	90		265.6	3.64	3.19			
	100		265.6	3.54	3.09			
	110		265.6	3.27	2.82			
	120		265.6	3.25	2.80			
11:45	0.5		376.72	3.80	3.35			
11:45	1		376.72	4.15	3.7			
	1.5		376.72	4.10	3.65			
	2		376.72	4.02	3.57			
	2.5		376.72	4.00	3.55			
	3		376.72	4.01	3.56			
	3.5		376.72	4.01	3.56			
	4		376.72	4.08	3.63			
	4.5		376.72	4.28	3.83			
	5		376.72	4.33	3.88			
	6		376.72	4.31	3.86			
	7		376.72	4.49	4.04			
	8		376.72	4.49	4.04			
	9		376.72	4.49	4.04			
	10		376.72	4.58	4.13			
	12		376.72	4.51	4.06			
	14		376.72	4.44	3.99			
	16		376.72	4.46	4.01			
	18		376.72	4.46	4.01			
	20		376.72	4.46	4.01			
	25		376.72	4.46	4.01			
	30		376.72	4.42	3.97			
	35		376.72	4.42	3.97			
	40		376.72	4.40	3.95			
	45		376.72	4.25	3.8			
	50		376.72	4.27	3.82			
	55		376.72	4.31	3.86			
	60		376.72	4.30	3.85			
	70		376.72	4.21	3.76			
	80		376.72	4.22	3.77			
	90		376.72	4.17	3.72			
	100		376.72	4.18	3.73			
	110		376.72	4.19	3.74			
11:45	120		376.72	4.18	3.73			

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level		Draw Down ΔS	Remarks
			Q (Lit/Min)	S (m)	S	ΔS		
13:45	0.5		511.8	6.10	5.65			
	1		511.8	6.92	6.47			
	1.5		511.8	6.07	5.62			
	2		511.8	6.14	5.69			
	2.5		511.8	6.19	5.74			
	3		511.8	6.22	5.77			
	3.5		511.8	6.27	5.82			
	4		511.8	6.72	6.27			
	4.5		511.8	6.89	6.44			
	5		511.8	6.88	6.43			
	6		511.8	6.90	6.45			
	7		511.8	6.93	6.48			
	8		511.8	9.94	9.49			
	9		511.8	6.95	6.50			
	10		511.8	6.97	6.52			
	12		511.8	7.02	6.57			
	14		511.8	7.06	6.63			
	16		511.8	7.14	6.69			
	18		511.8	7.23	6.77			
	20		511.8	7.27	6.82			
	25		511.8	7.37	6.92			
	30		511.8	7.47	7.02			
	35		511.8	7.54	7.09			
	40		511.8	7.61	7.16			
	45		511.8	7.69	7.24			
	50		511.8	7.72	7.27			
	55		511.8	7.77	7.32			
	60		511.8	7.82	7.37			
	70		511.8	7.91	7.46			
	80		511.8	8.16	7.71			
	90		511.8	8.17	7.72			
	100		511.8	8.18	7.73			
	110		511.8	8.25	7.80			
15:45	120		511.8	8.25	7.80			
15:45	0.5		616.0	10.27	9.82			
	1		616.0	10.45	10.00			
	1.5		616.0	11.25	10.80			
	2		616.0	11.32	10.87			
	2.5		616.0	11.55	11.10			
	3		616.0	11.60	11.15			
	3.5		616.0	11.75	11.30			
	4		616.0	11.80	11.35			
	4.5		616.0	11.95	11.50			
	5		616.0	12.01	11.56			
	6		616.0	12.11	11.66			
	7		616.0	12.36	11.91			
	8		616.0	12.57	12.12			
	9		616.0	13.00	12.55			
	10		616.0	14.24	13.79			
	12		616.0	15.10	14.65			
	14		616.0	15.10	14.65			
	16		616.0	15.07	14.62			
	18		616.0	15.09	14.63			
	20		616.0	15.09	14.64			
	25		616.0	15.08	14.63			
	30		616.0	15.10	14.65			
	35		616.0	15.05	14.63			
	40		616.0	15.07	14.62			
	45		616.0	15.06	14.61			
	50		616.0	15.08	14.63			
	55		616.0	15.10	14.65			
	60		616.0	15.11	14.66			
	70		616.0	15.12	14.67			
	80		616.0	15.20	14.75			
	90		616.0	15.25	14.80			
	100		616.0	15.27	14.77			
	110		616.0	15.24	14.79			
17:45	120		616.0	15.25	14.80			

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level S (m)	Draw Down $\Delta S$	Remarks
			Q (Lit/Min)	S			
17:45	0.5		419.0		14.00	13.55	
0	1		419.0		14.45	14.00	
0	1.5		419.0		13.10	12.65	
0	2		419.0		12.80	12.35	
0	2.5		419.0		12.60	12.15	
0	3		419.0		12.40	11.95	
0	3.5		419.0		12.30	11.85	
0	4		419.0		12.05	11.60	
0	4.5		419.0		11.80	11.35	
0	5		419.0		11.50	11.05	
0	6		419.0		11.40	10.95	
0	7		419.0		11.39	10.85	
0	8		419.0		11.10	10.65	
0	9		419.0		10.90	10.45	
0	10		419.0		10.85	10.40	
0	12		419.0		10.59	10.05	
0	14		419.0		10.40	9.95	
0	16		419.0		10.30	9.85	
0	18		419.0		10.21	9.76	
0	20		419.0		10.20	9.75	
0	25		419.0		10.21	9.76	
0	30		419.0		10.20	9.75	
0	35		419.0		10.23	9.78	
0	40		419.0		10.22	9.77	
0	45		419.0		10.21	9.76	
0	50		419.0		10.20	9.75	
0	55		419.0		10.22	9.77	
0	60		419.0		10.23	9.78	
0	70		419.0		10.22	9.77	
0	80		419.0		10.21	9.76	
0	90		419.0		10.24	9.79	
0	100		419.0		10.22	9.77	
0	110		419.0		10.23	9.78	
19:45	120		419.0		10.25	9.80	
19:45	0.5		337.1		9.75	9.30	
0	1		337.1		9.50	9.05	
0	1.5		337.1		8.90	8.45	
0	2		337.1		8.20	7.75	
0	2.5		337.1		8.00	7.55	
0	3		337.1		7.80	7.35	
0	3.5		337.1		7.30	6.85	
0	4		337.1		6.90	6.45	
0	4.5		337.1		6.80	6.35	
0	5		337.1		6.70	6.25	
0	6		337.1		6.60	6.15	
0	7		337.1		6.50	6.05	
0	8		337.1		6.40	5.95	
0	9		337.1		6.35	5.90	
0	10		337.1		6.30	5.85	
0	12		337.1		6.25	5.80	
0	14		337.1		6.10	5.65	
0	16		337.1		6.12	5.67	
0	18		337.1		6.13	5.68	
0	20		337.1		6.15	5.70	
0	25		337.1		6.12	5.67	
0	30		337.1		6.14	5.69	
0	35		337.1		6.14	5.69	
0	40		337.1		6.15	5.70	
0	45		337.1		6.15	5.70	
0	50		337.1		6.15	5.70	
0	55		337.1		6.14	5.69	
0	60		337.1		6.15	5.70	
0	70		337.1		6.13	5.68	
0	80		337.1		6.14	5.69	
0	90		337.1		6.14	5.69	
0	100		337.1		6.15	5.70	
0	110		337.1		6.15	5.70	
21:45	120		337.1		6.15	5.70	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level S (m)	Draw Down $\Delta S$	Remarks
			Q (Lit/Min)	S			
21:45	0.5		265.6		5.90	5.45	
0	1		265.6		5.80	5.35	
0	1.5		265.6		5.60	5.15	
0	2		265.6		5.40	4.95	
0	2.5		265.6		5.05	4.60	
0	3		265.6		4.80	4.35	
0	3.5		265.6		4.65	4.20	
0	4		265.6		4.40	3.95	
0	4.5		265.6		4.45	4.00	
0	5		265.6		4.45	4.00	
0	6		265.6		4.40	3.95	
0	7		265.6		4.42	3.97	
0	8		265.6		4.40	3.95	
0	9		265.6		4.38	3.93	
0	10		265.6		4.30	3.85	
0	12		265.6		4.25	3.80	
0	14		265.6		4.23	3.78	
0	16		265.6		4.20	3.75	
0	18		265.6		4.21	3.76	
0	20		265.6		4.23	3.78	
0	25		265.6		4.34	3.89	
0	30		265.6		4.30	3.85	
0	35		265.6		4.28	3.83	
0	40		265.6		4.24	3.79	
0	45		265.6		4.25	3.80	
0	50		265.6		4.22	3.77	
0	55		265.6		4.21	3.76	
0	60		265.6		4.20	3.75	
0	70		265.6		4.20	3.75	
0	80		265.6		4.20	3.75	
0	90		265.6		4.20	3.75	
0	100		265.6		4.20	3.75	
0	110		265.6		4.20	3.75	
23:45	120		265.6		4.20	3.75	



# PUMPING TEST DATA WELL NO. B-2 (CONTINUOUS CONSTANT DISCHARGE TEST AND RECOVERY TEST)

## PUMPING TEST RECORD (CONTINUOUS TEST)

Date Performed:  
Pump Type: Submersible Pump  
Static Water Level Before Pumping:

Well Location B-2

BELOW GL-0 45 m

Time	Duration After Beginning Pumping t (min)	Measuring Volume (Lit/Min)	Water Level S(m)	q 2/l	Draw Down ΔS(m)	Remarks
0 0	0 0	0 0	0 45		0	
0 5	376 7	2 80	5 384 803 X10	2 35		
1 0	376 7	3 92	2 692 402	3 47		
1 5	376 7	3 99	1 794 934	3 54		
2 0	376 7	4 06	1 346 201	3 61		
2 5	376 7	4 13	1 026 961	3 68		
3 0	376 7	4 20	897 467	3 75		
3 5	376 7	4 23	769 258	3 78		
4 0	376 7	4 25	673 100	3 80		
4 5	376 7	4 30	598 311	3 85		
5 0	376 7	4 35	538 480	3 91		
6 0	376 7	4 42	448 734	3 97		
7 0	376 7	4 55	384 029	4 10		
8 0	376 7	4 60	336 550	4 15		
9 0	376 7	4 60	299 156	4 15		
10 0	376 7	4 65	269 210	4 20		
12 0	376 7	4 70	224 367	4 25		
14 0	376 7	4 76	192 314	4 31		
16 0	376 7	4 81	168 275	4 36		
18 0	376 7	4 89	149 578	4 44		
20 0	376 7	4 95	134 620	4 50		
25 0	376 7	5 10	107 676	4 65		
30 0	376 7	5 20	89 747	4 75		
35 0	376 7	5 30	76 926	4 85		
40 0	376 7	5 40	67 310	4 95		
45 0	376 7	5 40	59 831	4 95		
50 0	376 7	5 44	53 818	4 99		
55 0	376 7	5 51	48 951	5 06		
60 0	376 7	5 55	44 873	5 10		
70 0	376 7	5 65	38 463	5 21		
80 0	376 7	5 87	33 855	5 37		
90 0	376 7	5 98	29 916	5 43		
100 0	376 7	5 92	26 924	5 47		
110 0	376 7	5 95	24 476	5 51		
120 0	376 7	5 80	22 437	5 35		
140 0	376 7	5 60	19 231	5 15		
160 0	376 7	5 20	16 828	4 15		
180 0	376 7	5 20	14 958	4 75		
200 0	376 7	5 13	13 462	4 68		
220 0	376 7	5 54	12 228	5 09		
240 0	376 7	5 48	11 218	5 03		
260 0	376 7	5 20	9 616	5 25		
320 0	376 7	5 20	8 414	5 25		
360 0	376 7	5 55	7 479	5 10		
420 0	376 7	5 48	6 410	5 03		
480 0	376 7	5 60	5 609	5 15		
540 0	376 7	5 30	4 985	4 85		
600 0	376 7	5 70	4 487	5 29		
660 0	376 7	5 60	4 079	5 15		
720 0	376 7	5 50	3 739	5 05		
780 0	376 7	5 62	3 452	5 17		
840 0	376 7	5 30	3 205	5 25		
900 0	376 7	5 40	2 992	4 95		
960 0	376 7	5 60	2 805	5 15		
1 020 0	376 7	5 60	2 640	5 15		
1 080 0	376 7	5 61	2 493	5 16		
1 140 0	376 7	5 60	2 362	5 15		
1 200 0	376 7	5 61	2 244	5 16		
1 260 0	376 7	5 63	2 137	5 18		
1 320 0	376 7	5 65	2 040	5 20		
1 380 0	376 7	5 65	1 951	5 20		
1 440 0	376 7	5 65	1 870	5 20		

## PUMPING TEST RECORD (RECOVERY TEST)

Date Performed: 13.8.1994  
Pump Type: Submersible Pump  
Static Water Level Before Pumping:

Well Location B-2

below 0.45 m

Time	Duration After Beginning Pumping t (min)	Time After End of Pumping (m)	t'/t	Water Level S' (m)	Recovery S' (t' 0)-S (m)	Water Level Variation s'-S W.L. (m)
11:45	0	1440 0		5 2		
0	0 5	1440 5	2 881 0	3 76	1 44	3 31
0	1 0	1441 0	1 441 0	2 80	2 40	2 35
0	1 5	1441 5	961 0	2 60	2 60	2 15
0	2 0	1442 0	721 0	2 40	2 80	1 95
0	2 5	1442 5	577 0	2 20	3 00	1 75
0	3 0	1443 0	481 0	2 00	3 20	1 55
0	3 5	1443 5	412 4	1 95	3 25	1 50
0	4 0	1444 0	361 0	1 85	3 35	1 40
0	4 5	1444 5	321 0	1 77	3 43	1 37
0	5 0	1445 0	289 0	1 70	3 50	1 25
0	6 0	1445 0	241 0	1 55	3 65	1 10
0	7 0	1447 0	206 7	1 45	3 75	1 00
0	8 0	1448 0	181 0	1 30	3 80	0 85
0	9 0	1449 0	161 0	1 20	4 00	0 75
0	10 0	1450 0	145 0	1 15	4 05	0 70
0	12 0	1452 0	121 0	1 05	4 15	0 60
0	14 0	1454 0	103 9	0 98	4 22	0 53
0	16 0	1456 0	91 0	0 90	4 30	0 45
0	18 0	1458 0	81 0	0 85	4 35	0 40
0	20 0	1460 0	73 0	0 80	4 40	0 35
0	25 0	1465 0	58 6	0 69	4 51	0 24
0	30 0	1470 0	49 0	0 60	4 60	0 15
0	35 0	1475 0	42 1	0 55	4 65	0 10
0	40 0	1480 0	37 0	0 50	4 70	0 05
0	45 0	1485 0	33 0	0 49	4 71	0 04
0	50 0	1490 0	29 8	0 47	4 73	0 02
0	55 0	1495 0	27 2	0 46	4 74	0 01
0	60 0	1500 0	25 0	0 45	4 75	0
12:55	70 0	1510 0	21 6	0 45	4 75	0

# PUMPING TEST DATA      WELL NO. B-3 (STEP DRAW DOWN TEST)

PUMPING TEST RECORD (STEP DRAW-DOWN TEST)

B-3

Data Performed

Pump Type: Submersible Pump

Static Water Level Before Pumping

below G.L.

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level S (m)	Draw Down ΔS	Remarks
			Q (Lit/Min)	S			
14:00	0.5		732.0		3.77	1.10	
	1		732.0		4.33	1.70	
	1.5		732.0		4.42	1.75	
	2		732.0		4.44	1.77	
	2.5		732.0		4.45	1.78	
	3		732.0		4.46	1.79	
	3.5		732.0		4.47	1.80	
	4		732.0		4.48	1.81	
	4.5		732.0		4.49	1.82	
	5		732.0		4.49	1.82	
	6		732.0		4.50	1.83	
	7		732.0		4.50	1.83	
	8		732.0		4.50	1.83	
	9		732.0		4.50	1.83	
	10		732.0		4.50	1.83	
	12		732.0		4.51	1.84	
	14		732.0		4.51	1.84	
	16		732.0		4.51	1.84	
	18		732.0		4.52	1.85	
	20		732.0		4.52	1.85	
	25		732.0		4.52	1.85	
	30		732.0		4.52	1.85	
	35		732.0		4.50	1.83	
	40		732.0		4.50	1.83	
	45		732.0		4.50	1.83	
	50		732.0		4.50	1.83	
	55		732.0		4.50	1.83	
	60		732.0		4.50	1.83	
	70		732.0		4.50	1.83	
	80		732.0		4.50	1.83	
	90		732.0		4.50	1.83	
	100		732.0		4.50	1.83	
	110		732.0		4.50	1.83	
16:00	120		732.0		4.50	1.83	
16:00	0.5		1000.93		4.80	2.13	
	1		1000.93		4.90	2.23	
	1.5		1000.93		5.11	2.44	
	2		1000.93		5.21	2.54	
	2.5		1000.93		5.23	2.56	
	3		1000.93		5.24	2.57	
	3.5		1000.93		5.25	2.58	
	4		1000.93		5.25	2.58	
	4.5		1000.93		5.25	2.58	
	5		1000.93		5.26	2.59	
	6		1000.93		5.26	2.59	
	7		1000.93		5.27	2.6	
	8		1000.93		5.27	2.6	
	9		1000.93		5.28	2.61	
	10		1000.93		5.30	2.63	
	12		1000.93		5.35	2.68	
	14		1000.93		5.35	2.68	
	16		1000.93		5.36	2.69	
	18		1000.93		5.38	2.71	
	20		1000.93		5.36	2.69	
	25		1000.93		5.36	2.69	
	30		1000.93		5.36	2.69	
	35		1000.93		5.36	2.69	
	40		1000.93		5.36	2.69	
	45		1000.93		5.36	2.69	
	50		1000.93		5.36	2.69	
	55		1000.93		5.36	2.69	
	60		1000.93		5.36	2.69	
	70		1000.93		5.36	2.69	
	80		1000.93		5.35	2.69	
	90		1000.93		5.36	2.69	
	100		1000.93		5.35	2.69	
	110		1000.93		5.36	2.69	
18:00	120		1000.93		5.36	2.69	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level S (m)	Draw Down ΔS	Remarks
			Q (Lit/Min)	S			
18:00	0.5		1502.6		5.50	2.83	
	1		1502.6		5.70	3.03	
	1.5		1502.6		5.74	3.07	
	2		1502.6		5.80	3.13	
	2.5		1502.6		5.81	3.14	
	3		1502.6		5.89	3.22	
	3.5		1502.6		5.91	3.24	
	4		1502.6		5.95	3.28	
	4.5		1502.6		5.98	3.31	
	5		1502.6		6.00	3.33	
	6		1502.6		6.05	3.38	
	7		1502.6		6.10	3.43	
	8		1502.6		6.14	3.47	
	9		1502.6		6.20	3.53	
	10		1502.6		6.28	3.61	
	12		1502.6		6.35	3.68	
	14		1502.6		6.41	3.74	
	16		1502.6		6.47	3.80	
	18		1502.6		6.55	3.88	
	20		1502.6		6.63	3.96	
	25		1502.6		6.71	4.04	
	30		1502.6		6.79	4.12	
	35		1502.6		6.82	4.15	
	40		1502.6		6.84	4.17	
	45		1502.6		7.00	4.33	
	50		1502.6		7.15	4.48	
	55		1502.6		7.17	4.50	
	60		1502.6		7.17	4.50	
	70		1502.6		7.15	4.48	
	80		1502.6		7.17	4.50	
	90		1502.6		7.18	4.51	
	100		1502.6		7.16	4.49	
	110		1502.6		7.17	4.50	
20:00	120		1502.6		7.17	4.50	
20:00	0.5		2248.8		7.80	5.13	
	1		2248.8		8.90	6.23	
	1.5		2248.8		9.05	6.38	
	2		2248.8		9.22	6.55	
	2.5		2248.8		9.33	6.66	
	3		2248.8		9.43	6.76	
	3.5		2248.8		9.50	6.83	
	4		2248.8		9.70	7.03	
	4.5		2248.8		9.80	7.13	
	5		2248.8		9.90	7.23	
	6		2248.8		10.18	7.49	
	7		2248.8		10.25	7.56	
	8		2248.8		10.65	7.96	
	9		2248.8		11.10	8.43	
	10		2248.8		11.75	9.08	
	12		2248.8		14.00	11.33	
	14		2248.8		16.35	13.68	
	16		2248.8		17.10	14.43	
	18		2248.8		17.80	15.13	
	20		2248.8		18.00	15.33	
	25		2248.8		18.10	15.43	
	30		2248.8		18.20	15.53	
	35		2248.8		18.24	15.57	
	40		2248.8		18.28	15.61	
	45		2248.8		18.30	15.63	
	50		2248.8		18.28	15.61	
	55		2248.8		18.36	15.69	
	60		2248.8		18.24	15.57	
	70		2248.8		18.25	15.58	
	80		2248.8		18.25	15.58	
	90		2248.8		18.27	15.60	
	100		2248.8		18.28	15.61	
	110		2248.8		18.30	15.63	
22:00	120		2248.8		18.30	15.63	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level S (m)	Draw Down ΔS	Remarks
			Q (Lit/Min)	S			
22 00	0 5		1502 6	18 00	15 33		
0	1		1502 6	17 80	15 13		
0	1 5		1502 6	17 10	14 43		
0	2		1502 6	16 90	14 23		
0	2 5		1502 6	16 50	13 83		
0	3		1502 6	16 10	13 43		
0	3 5		1502 6	15 40	12 73		
0	4		1502 6	15 51	12 84		
0	4 5		1502 6	15 32	12 65		
0	5		1502 6	15 18	12 51		
0	6		1502 6	15 65	12 38		
0	7		1502 6	15 50	12 83		
0	8		1502 6	15 10	12 43		
0	9		1502 6	14 80	12 13		
0	10		1502 6	14 55	11 88		
0	12		1502 6	14 30	11 63		
0	14		1502 6	14 00	11 33		
0	16		1502 6	13 45	10 78		
0	18		1502 6	13 00	10 33		
0	20		1502 6	12 60	9 93		
0	25		1502 6	12 18	9 51		
0	30		1502 6	12 15	9 48		
0	35		1502 6	12 12	9 45		
0	40		1502 6	12 10	9 43		
0	45		1502 6	12 00	9 33		
0	50		1502 6	11 90	9 23		
0	55		1502 6	11 16	8 49		
0	60		1502 6	11 16	8 49		
0	70		1502 6	11 16	8 49		
0	80		1502 6	11 16	8 49		
0	90		1502 6	11 16	8 49		
0	100		1502 6	11 16	8 49		
0	110		1502 6	11 16	8 49		
24 00	120		1502 6	11 16	8 49		
24 00	0 5		1000 9	10 60	7 93		
0	1		1000 9	9 35	6 68		
0	1 5		1000 9	8 80	6 13		
0	2		1000 9	8 20	5 53		
0	2 5		1000 9	7 88	5 31		
0	3		1000 9	7 70	5 03		
0	3 5		1000 9	7 60	4 90		
0	4		1000 9	7 50	4 83		
0	4 5		1000 9	7 30	4 63		
0	5		1000 9	7 00	4 33		
0	6		1000 9	6 95	4 28		
0	7		1000 9	6 84	4 17		
0	8		1000 9	6 78	4 11		
0	9		1000 9	6 72	4 05		
0	10		1000 9	6 68	4 01		
0	12		1000 9	6 64	3 97		
0	14		1000 9	6 57	3 90		
0	16		1000 9	6 53	3 86		
0	18		1000 9	6 23	3 56		
0	20		1000 9	6 10	3 43		
0	25		1000 9	5 96	3 29		
0	30		1000 9	5 89	3 22		
0	35		1000 9	5 85	3 19		
0	40		1000 9	5 85	3 18		
0	45		1000 9	5 79	3 12		
0	50		1000 9	5 79	3 12		
0	55		1000 9	5 76	3 09		
0	60		1000 9	5 73	3 06		
0	70		1000 9	5 73	3 06		
0	80		1000 9	5 73	3 06		
0	90		1000 9	5 73	3 06		
0	100		1000 9	5 73	3 06		
0	110		1000 9	5 73	3 06		
2 00	120		1000 9	5 73	3 06		

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level S (m)	Draw Down ΔS	Remarks
			Q (Lit/Min)	S			
2 00	0 5		732 0	5 64	2 97		
0	1		732 0	5 59	2 92		
0	1 5		732 0	5 57	2 90		
0	2		732 0	5 55	2 88		
0	2 5		732 0	5 49	2 82		
0	3		732 0	5 42	2 75		
0	3 5		732 0	5 39	2 71		
0	4		732 0	5 33	2 66		
0	4 5		732 0	5 30	2 63		
0	5		732 0	5 21	2 60		
0	6		732 0	5 25	2 58		
0	7		732 0	5 25	2 58		
0	8		732 0	5 22	2 55		
0	9		732 0	5 21	2 54		
0	10		732 0	5 20	2 53		
0	12		732 0	5 19	2 52		
0	14		732 0	5 16	2 49		
0	16		732 0	5 16	2 49		
0	18		732 0	5 15	2 48		
0	20		732 0	5 14	2 47		
0	25		732 0	5 13	2 46		
0	30		732 0	5 12	2 45		
0	35		732 0	4 90	2 23		
0	40		732 0	4 04	1 37		
0	45		732 0	4 04	1 37		
0	50		732 0	4 04	1 37		
0	55		732 0	4 32	1 65		
0	60		732 0	4 04	1 37		
0	70		732 0	4 04	1 37		
0	80		732 0	4 04	1 37		
0	90		732 0	4 04	1 37		
0	100		732 0	4 04	1 37		
0	110		732 0	4 04	1 37		
4 00	120		732 0	3 89	1 22		

# PUMPING TEST DATA WELL NO. B-3 (CONTINUOUS CONSTANT DISCHARGE TEST AND RECOVERY TEST)

### PUMPING TEST RECORD (CONTINUOUS TEST)

Data Performed: Well Location: B-3  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping: BELOW CL-2.70 m

Time	Duration After Beginning Pumping (min)	Measuring Volume (Lit/Min)	Water Level S (m)	r <sup>2</sup> /t	Draw Down ΔS (m)	Remarks
0 0	0 0	0 0	2.70		0	
0 5	1502 6	3 50	5.384 803 X10		0 80	
1 0	1502 6	3 70	2.692 492		1 00	
1 5	1502 6	3 90	1.794 934		1 20	
2 0	1502 6	4 10	1.346 201		1 40	
2 5	1502 6	4 30	1.016 951		1 90	
3 0	1502 6	4 50	892 467		2 50	
3 5	1502 6	4 70	789 258		3 00	
4 0	1502 6	4 90	673 100		3 50	
4 5	1502 6	5 10	596 311		3 90	
5 0	1502 6	5 30	538 480		4 20	
6 0	1502 6	5 50	448 734		4 40	
7 0	1502 6	6 10	384 629		4 70	
8 0	1502 6	6 30	336 550		5 00	
9 0	1502 6	6 50	289 156		5 30	
10 0	1502 6	7 10	269 240		5 50	
12 0	1502 6	7 40	224 357		5 70	
14 0	1502 6	7 50	192 314		5 91	
16 0	1502 6	8 10	168 275		6 09	
18 0	1502 6	8 30	149 578		6 21	
20 0	1502 6	8 50	134 620		6 34	
25 0	1502 6	9 20	107 626		6 51	
30 0	1502 6	9 50	89 747		6 61	
35 0	1502 6	10 00	76 926		6 70	
40 0	1502 6	10 30	67 310		6 80	
45 0	1502 6	10 45	59 631		6 88	
50 0	1502 6	10 50	53 848		6 92	
55 0	1502 6	10 55	48 953		6 95	
60 0	1502 6	10 57	44 873		6 97	
70 0	1502 6	9 70	38 453		7 00	
80 0	1502 6	9 72	33 605		7 02	
90 0	1502 6	9 75	29 916		7 05	
100 0	1502 6	9 78	26 924		7 08	
110 0	1502 6	9 81	24 476		7 11	
120 0	1502 6	9 82	22 437		7 12	
140 0	1502 6	9 83	19 231		7 13	
160 0	1502 6	9 91	16 828		7 21	
180 0	1502 6	9 97	14 958		7 27	
200 0	1502 6	9 95	13 462		7 25	
220 0	1502 6	9 94	12 238		7 24	
240 0	1502 6	9 97	11 218		7 27	
280 0	1502 6	9 98	9 616		7 29	
320 0	1502 6	9 98	8 414		7 28	
350 0	1502 6	10 00	7 479		7 30	
370 0	1502 6	10 00	6 410		7 30	
480 0	1502 6	10 08	5 609		7 38	
540 0	1502 6	10 06	4 985		7 36	
600 0	1502 6	10 03	4 487		7 33	
660 0	1502 6	10 03	4 079		7 33	
720 0	1502 6	10 03	3 739		7 33	
780 0	1502 6	10 03	3 452		7 33	
840 0	1502 6	10 03	3 205		7 33	
900 0	1502 6	10 03	2 992		7 33	
960 0	1502 6	10 05	2 805		7 35	
1 020 0	1502 6	10 04	2 640		7 34	
1 080 0	1502 6	10 04	2 493		7 34	
1 140 0	1502 6	10 04	2 362		7 34	
1 200 0	1502 6	10 04	2 244		7 34	
1 260 0	1502 6	10 04	2 137		7 34	
1 320 0	1502 6	10 04	2 040		7 34	
1 380 0	1502 6	10 04	1 951		7 34	
1 440 0	1502 6	10 04	1 870		7 34	

### PUMPING TEST RECORD (RECOVERY TEST)

Data Performed: Well location: B-3  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping: below 2.70 m

Time	Duration After Beginning Pumping (min)	Time After End of Pumping (min)	t'/t	Water Level S' (m)	Recovery S' (t'-0)-S (m)	Water Level Variation s'-S N.L. (m)
10:00	0	1440 0		10 04		2 34
0 5	0 5	1440 5	2 881 0	9 10	0 94	6 40
1 0	1 0	1441 0	1 451 0	8 20	1 84	5 50
1 5	1 5	1441 5	961 0	7 40	2 64	4 70
2 0	2 0	1442 0	721 0	6 60	3 44	3 90
2 5	2 5	1442 5	577 0	6 10	3 94	3 40
3 0	3 0	1443 0	481 0	5 50	4 54	2 80
3 5	3 5	1443 5	412 4	5 00	5 04	2 30
4 0	4 0	1444 0	361 0	4 80	5 24	2 10
4 5	4 5	1444 5	321 0	3 90	6 14	1 20
5 0	5 0	1445 0	289 0	3 50	6 54	0 80
6 0	6 0	1446 0	241 0	3 00	7 04	0 30
7 0	7 0	1447 0	206 7	2 90	7 14	0 20
8 0	8 0	1448 0	181 0	2 85	7 19	0 15
9 0	9 0	1449 0	161 0	2 84	7 20	0 14
10 0	10 0	1450 0	145 0	2 81	7 23	0 11
12 0	12 0	1452 0	121 0	2 80	7 24	0 10
14 0	14 0	1454 0	103 9	2 75	7 29	0 05
16 0	16 0	1456 0	91 0	2 74	7 30	0 04
18 0	18 0	1458 0	81 0	2 73	7 31	0 03
20 0	20 0	1460 0	73 0	2 72	7 32	0 02
25 0	25 0	1465 0	58 6	2 72	7 32	0 02
30 0	30 0	1470 0	49 0	2 72	7 32	0 02
35 0	35 0	1475 0	42 1	2 72	7 32	0 02
40 0	40 0	1480 0	37 0	2 72	7 32	0 02
45 0	45 0	1485 0	33 0	2 71	7 33	0 01
50 0	50 0	1490 0	29 8	2 71	7 33	0 01
55 0	55 0	1495 0	27 2	2 71	7 33	0 01
60 0	60 0	1500 0	25 0	2 71	7 33	0 01
70 0	70 0	1510 0	21 6	2 70	7 34	0

PUMPING TEST DATA  
(STEP DRAW DOWN TEST)

WELL NO. C-1

PUMPING TEST RECORD (STEP DRAW-DOWN TEST)

Data Performed

Pump Type: Submersible Pump

Static Water Level Before Pumping 0.7 m below G.L.

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water Level		Draw Down ΔS	Remarks
			Q (Lit/Min)	S (m)	Q	S		
5:00	0.5		300.1	2.55	1.85			
	1		300.1	2.64	1.94			
	1.5		300.1	2.50	1.80			
	2		300.1	2.60	1.90			
	2.5		285.0	2.38	1.68			
	3		285.0	2.34	1.64			
	3.5		279.1	2.35	1.65			
	4		279.1	2.36	1.66			
	4.5		279.1	2.37	1.67			
	5		279.1	2.38	1.68			
	6		279.1	2.37	1.67			
	7		279.1	2.38	1.68			
	8		279.1	2.38	1.68			
	9		300.1	2.57	1.87			
	10		300.1	2.55	1.85			
	12		300.1	2.54	1.84			
	14		360.6	3.12	2.40			
	16		360.6	3.16	2.46			
	18		360.6	3.16	2.46			
	20		360.6	3.16	2.46			
	25		360.6	3.16	2.46			
	30		360.6	3.15	2.45			
	35		360.6	3.15	2.45			
	40		360.6	3.15	2.46			
	45		360.6	3.16	2.46			
	50		360.6	3.16	2.46			
	55		360.6	3.15	2.46			
	60		360.6	3.16	2.46			
	70		360.6	3.16	2.46			
	80		360.6	3.16	2.46			
	90		360.6	3.17	2.47			
	100		360.6	3.17	2.47			
	110		360.6	3.18	2.48			
6:00	120		360.6	3.17	2.47			
	0.5		432.38	4.66	3.66			
	1		464.04	4.65	3.65			
	1.5		435.70	4.30	3.6			
	2		445.70	4.07	3.37			
	2.5		445.70	4.05	3.35			
	3		445.70	4.01	3.305			
	3.5		445.70	4.07	3.37			
	4		445.70	4.08	3.375			
	4.5		445.70	4.05	3.375			
	5		445.70	4.08	3.375			
	6		445.70	4.09	3.385			
	7		445.70	4.10	3.395			
	8		445.70	4.10	3.395			
	9		445.70	4.10	3.4			
	10		445.70	4.11	3.41			
	12		445.70	4.10	3.4			
	14		445.70	4.11	3.41			
	16		446.70	4.10	3.4			
	18		445.70	4.10	3.4			
	20		445.70	4.10	3.4			
	25		445.70	4.10	3.4			
	30		445.70	4.12	3.42			
	35		445.70	4.12	3.42			
	40		445.70	4.12	3.42			
	45		445.70	4.12	3.415			
	50		445.70	4.12	3.415			
	55		436.70	4.11	3.405			
	60		436.70	4.08	3.38			
	70		445.70	4.24	3.54			
	80		445.70	4.25	3.55			
	90		445.70	4.25	3.55			
	100		445.70	4.24	3.54			
	110		445.70	4.24	3.54			
7:00	120		445.70	4.24	3.54			

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water Level		Draw Down ΔS	Remarks
			Q (Lit/Min)	S (m)	Q	S		
8:00	0.5		541.9	5.20	4.50			
	1		541.9	5.30	4.60			
	1.5		541.9	5.30	4.60			
	2		541.9	5.32	4.62			
	2.5		541.9	5.35	4.65			
	3		541.9	5.36	4.66			
	3.5		541.9	5.37	4.67			
	4		541.9	5.39	4.69			
	4.5		541.9	5.40	4.70			
	5		541.9	5.43	4.75			
	6		541.9	5.46	4.78			
	7		541.9	5.46	4.76			
	8		541.9	5.48	4.78			
	9		541.9	5.47	4.77			
	10		541.9	5.49	4.79			
	12		541.9	5.50	4.80			
	14		541.9	5.52	4.82			
	16		541.9	5.53	4.83			
	18		541.9	5.54	4.84			
	20		541.9	5.53	4.83			
	25		541.9	5.54	4.84			
	30		541.9	5.52	4.82			
	35		541.9	5.53	4.83			
	40		541.9	5.56	4.86			
	45		541.9	5.57	4.87			
	50		541.9	5.59	4.89			
	55		541.9	5.62	4.92			
	60		541.9	5.65	4.95			
	70		541.9	5.67	4.97			
	80		541.9	5.70	5.00			
	90		541.9	5.65	4.95			
	100		541.9	5.65	4.95			
	110		541.9	5.68	4.98			
9:00	120		541.9	5.70	5.00			
	0.5		649.6	5.71	5.01			
	1		649.6	5.72	5.02			
	1.5		649.6	6.20	5.50			
	2		649.6	6.95	6.25			
	2.5		649.6	7.12	6.42			
	3		649.6	7.19	6.49			
	3.5		649.6	7.25	6.55			
	4		649.6	7.28	6.59			
	4.5		649.6	7.35	6.65			
	5		649.6	7.38	6.68			
	6		649.6	7.42	6.72			
	7		649.6	7.50	6.80			
	8		649.6	7.61	6.91			
	9		649.6	7.70	7.00			
	10		649.6	7.70	7.00			
	12		649.6	7.73	7.03			
	14		649.6	7.86	7.16			
	16		649.6	7.88	7.18			
	18		649.6	7.92	7.22			
	20		649.6	7.97	7.27			
	25		649.6	8.05	7.35			
	30		649.6	8.10	7.40			
	35		649.6	8.15	7.46			
	40		649.6	8.25	7.55			
	45		649.6	8.28	7.58			
	50		649.6	8.31	7.61			
	55		649.6	8.34	7.64			
	60		649.6	8.40	7.70			
	70		649.6	8.44	7.74			
	80		649.6	8.48	7.78			
	90		649.6	8.50	7.80			
	100		649.6	8.54	7.84			
	110		649.6	8.54	7.84			
10:00	120		649.6	8.51	7.81			

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Draw Down $\Delta S$	Remarks
			Q (Lit/Min)	S (m)		
13:00	0.5		649.6	8.50	7.80	
	1		541.9	7.70	7.00	
	1.5		541.9	7.95	7.25	
	2		541.9	8.10	7.40	
	2.5		594.3	8.14	7.44	
	3		594.3	8.19	7.48	
	3.5		594.3	8.20	7.50	
	4		594.3	8.21	7.51	
	4.5		541.9	8.20	7.50	
	5		541.9	7.53	6.83	
	6		541.9	7.45	6.75	
	7		541.9	7.39	6.69	
	8		541.9	7.36	6.66	
	9		541.9	7.35	6.65	
	10		541.9	7.34	6.64	
	12		541.9	7.33	6.63	
	14		541.9	7.32	6.62	
	16		541.9	7.31	6.61	
	18		541.9	7.27	6.57	
	20		541.9	7.26	6.56	
	25		541.9	7.25	6.55	
	30		541.9	7.26	6.56	
	35		541.9	7.26	6.56	
	40		541.9	7.27	6.57	
	45		541.9	7.27	6.57	
	50		541.9	7.27	6.57	
	55		541.9	7.27	6.57	
	60		541.9	7.25	6.55	
	70		541.9	7.24	6.54	
	80		541.9	7.23	6.53	
	90		541.9	7.23	6.53	
	100		541.9	7.22	6.52	
	110		541.9	7.22	6.52	
15:00	120		541.9	7.22	6.52	
	0.5		419.0	7.22	6.52	
	1		419.0	5.81	5.11	
	1.5		419.0	5.93	5.23	
	2		419.0	6.12	5.42	
	2.5		419.0	6.20	5.50	
	3		445.7	5.31	4.61	
	3.5		445.7	6.21	5.51	
	4		445.7	6.17	5.47	
	4.5		445.7	6.16	5.46	
	5		445.7	6.15	5.45	
	6		445.7	6.15	5.45	
	7		445.7	6.15	5.45	
	8		445.7	6.15	5.45	
	9		445.7	6.13	5.43	
	10		445.7	6.13	5.43	
	12		445.7	6.12	5.42	
	14		445.7	6.10	5.40	
	16		445.7	6.09	5.39	
	18		445.7	6.08	5.38	
	20		445.7	6.09	5.39	
	25		445.7	6.09	5.39	
	30		445.7	6.09	5.39	
	35		445.7	6.09	5.39	
	40		445.7	6.08	5.38	
	45		445.7	6.07	5.37	
	50		445.7	6.07	5.37	
	55		445.7	6.07	5.37	
	60		445.7	6.03	5.33	
	70		445.7	6.01	5.31	
	80		445.7	6.00	5.30	
	90		445.7	5.99	5.29	
	100		445.7	6.00	5.30	
	110		445.7	5.99	5.29	
17:00	120		445.7	5.99	5.29	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Draw Down $\Delta S$	Remarks
			Q (Lit/Min)	S (m)		
17:00	0.5		360.6	4.80	4.10	
	1		360.6	4.78	4.08	
	1.5		360.6	4.85	4.15	
	2		360.6	4.80	4.10	
	2.5		360.6	4.78	4.08	
	3		360.6	4.60	3.90	
	3.5		360.6	4.54	3.84	
	4		360.6	6.50	5.80	
	4.5		360.6	5.02	4.32	
	5		360.6	4.89	4.19	
	6		360.6	4.95	4.25	
	7		360.6	4.93	4.23	
	8		360.6	4.92	4.22	
	9		360.6	4.90	4.20	
	10		360.6	4.88	4.18	
	12		360.6	4.86	4.16	
	14		360.6	4.84	4.14	
	15		360.6	4.84	4.14	
	18		360.6	4.83	4.13	
	20		360.6	4.81	4.11	
	25		360.6	4.78	4.08	
	30		360.6	4.77	4.07	
	35		360.6	4.74	4.04	
	40		360.6	4.72	4.02	
	45		360.6	4.73	4.03	
	50		360.6	4.73	4.03	
	55		360.6	4.73	4.03	
	60		360.6	4.73	4.03	
	70		360.6	4.72	4.02	
	80		360.6	4.70	4.00	
	90		375.7	4.70	4.00	
	100		360.6	4.70	4.00	
	110		360.6	4.70	4.00	
19:00	120		360.6	4.70	4.00	

# PUMPING TEST DATA WELL NO. C-1 (CONTINUOUS CONSTANT DISCHARGE TEST AND RECOVERY TEST)

## PUMPING TEST RECORD (CONTINUOUS TEST)

Date Performed: \_\_\_\_\_  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping: \_\_\_\_\_

Well Location: C-1

GL-0 75 m

P-1

Time	Duration After Beginning Pumping t (min)	Measuring Volume (Lit/Min)	Water Level S (m)	r/t	Draw Down ΔS (m)	Remarks
18:00	0.0	0.0	0.75		0	
	0.5	616.0	3.53	5.384.803 x10	2.78	
	1.0	616.0	3.50	2.692.402	2.75	
	1.5	616.0	3.55	1.394.934	2.80	
	2.0	616.0	3.60	1.346.201	2.85	
	2.5	616.0	4.50	1.076.941	2.75	
	3.0	616.0	4.80	892.462	4.05	
	3.5	616.0	5.00	769.258	4.25	
	4.0	616.0	5.10	673.100	4.35	
	4.5	616.0	5.17	598.311	4.42	
	5.0	616.0	5.32	538.480	4.57	
	6.0	616.0	5.51	448.734	4.82	
	7.0	616.0	5.70	384.679	4.95	
	8.0	616.0	5.74	335.550	4.99	
	9.0	616.0	5.90	289.156	5.05	
	10.0	616.0	5.84	238.740	5.09	
	12.0	616.0	5.84	224.367	5.09	
	14.0	616.0	5.90	192.314	5.15	
	16.0	616.0	5.94	168.235	5.19	
	18.0	616.0	5.98	149.578	5.23	
	20.0	616.0	6.02	134.620	5.27	
	25.0	616.0	6.07	107.696	5.32	
	30.0	616.0	6.50	89.747	5.75	
	35.0	616.0	7.18	76.976	6.43	
	40.0	616.0	7.29	67.310	6.53	
	45.0	616.0	7.36	59.831	6.61	
	50.0	616.0	7.41	53.848	6.66	
	55.0	616.0	7.53	48.953	6.78	
	60.0	616.0	7.52	44.873	6.77	
	70.0	616.0	7.60	38.453	6.85	
	80.0	616.0	7.90	33.555	7.15	
	90.0	616.0	7.98	29.916	7.23	
	100.0	616.0	7.99	26.924	7.24	
	110.0	616.0	8.00	24.476	7.25	
	120.0	616.0	8.05	22.437	7.30	
	140.0	616.0	8.10	19.231	7.35	
	160.0	616.0	8.15	16.828	7.40	
	180.0	616.0	8.19	14.958	7.44	
	200.0	616.0	8.19	13.462	7.44	
	220.0	616.0	8.20	12.238	7.45	
	240.0	616.0	8.23	11.218	7.48	
	280.0	616.0	8.21	9.616	7.46	
	320.0	616.0	8.23	8.414	7.48	
	360.0	616.0	8.23	7.479	7.48	
	420.0	616.0	8.23	6.410	7.48	
	480.0	616.0	8.23	5.609	7.48	
	540.0	616.0	8.23	4.985	7.48	
	600.0	616.0	8.25	4.481	7.50	
	660.0	616.0	8.32	4.079	7.57	
	720.0	616.0	8.39	3.739	7.64	
	780.0	616.0	8.43	3.452	7.68	
	840.0	616.0	8.46	3.205	7.71	
	900.0	616.0	8.49	2.992	7.74	
	960.0	616.0	8.52	2.805	7.77	
	1,020.0	616.0	8.57	2.640	7.82	
	1,080.0	616.0	8.61	2.493	7.86	
	1,140.0	616.0	8.54	2.362	7.89	
	1,200.0	616.0	8.54	2.244	7.89	
	1,260.0	616.0	8.66	2.137	7.91	
	1,320.0	616.0	8.63	2.040	7.92	
	1,380.0	616.0	8.68	1.951	7.93	
	1,440.0	616.0	8.67	1.870	7.92	
	1,500.0	616.0	8.69	1.795	7.94	
	1,560.0	616.0	8.68	1.725	7.93	
	1,620.0	616.0	8.69	1.662	7.94	
	1,680.0	616.0	8.69	1.603	7.94	
	1,740.0	616.0	8.68	1.547	7.94	

## PUMPING TEST RECORD (RECOVERY TEST)

Date Performed: \_\_\_\_\_  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping: \_\_\_\_\_

Well Location: C-1

below 0 75 m

NO1

Time	Duration After Beginning Pumping t (min)	Time After End of Pumping (min)	t/t	Water Level S' (m)	Recovery S' (t'0)-S (m)	Water Level Variation s'-S.W.L (m)
15:30	0	1740.0		8.69		
	0.5	1740.5	3.481.0	3.65	5.04	2.90
	1.0	1741.0	1.741.0	1.81	6.88	1.06
	1.5	1741.5	1.161.0	1.22	7.47	0.47
	2.0	1742.0	871.0	1.06	7.61	0.33
	2.5	1742.5	697.0	1.00	7.69	0.25
	3.0	1743.0	581.0	0.97	7.72	0.22
	3.5	1743.5	498.11	0.94	7.75	0.19
	4.0	1744.0	436.0	0.93	7.76	0.18
	4.5	1744.5	387.0	0.92	7.77	0.17
	5.0	1745.0	349.0	0.92	7.77	0.17
	6.0	1746.0	291.0	0.92	7.77	0.17
	7.0	1747.0	249.6	0.91	7.78	0.16
	8.0	1748.0	218.5	0.90	7.79	0.15
	9.0	1749.0	194.3	0.90	7.79	0.15
	10.0	1750.0	175.0	0.90	7.79	0.15
	12.0	1752.0	146.0	0.89	7.8	0.14
	14.0	1754.0	125.3	0.89	7.8	0.14
	16.0	1756.0	109.8	0.89	7.805	0.14
	18.0	1758.0	97.7	0.89	7.805	0.14
	20.0	1759.5	88.0	0.89	7.805	0.14
	25.0	1765.0	70.6	0.89	7.805	0.14
	30.0	1770.0	59.0	0.87	7.82	0.12
	35.0	1775.0	50.7	0.87	7.82	0.12
	40.0	1780.0	44.5	0.86	7.83	0.11
	45.0	1785.0	39.7	0.86	7.83	0.11
	50.0	1790.0	35.8	0.86	7.83	0.11
	55.0	1795.0	32.6	0.86	7.83	0.11
	60.0	1800.0	30.0	0.85	7.84	0.10
	70.0	1810.0	23.9	0.85	7.84	0.10
	80.0	1820.0	22.8	0.85	7.84	0.10
	90.0	1830.0	20.3	0.85	7.84	0.10
	100.0	1840.0	18.4	0.84	7.85	0.09
	110.0	1850.0	16.8	0.84	7.85	0.09
	120.0	1850.0	15.5	0.84	7.85	0.09
	140.0	1880.0	13.4	0.84	7.85	0.09
	160.0	1900.0	11.9	0.83	7.85	0.08
	180.0	1920.0	10.7	0.83	7.85	0.08
	200.0	1940.0	9.7	0.83	7.85	0.08
	220.0	1960.0	8.9	0.83	7.85	0.08
	240.0	1980.0	8.3	0.83	7.85	0.08
	280.0	2020.0	7.2	0.82	7.87	0.07
	320.0	2060.0	6.4	0.82	7.87	0.07
	360.0	2100.0	5.8	0.82	7.87	0.07
	420.0	2160.0	5.1	0.82	7.87	0.07
	480.0	2220.0	4.6	0.82	7.87	0.07
	540.0	2280.0	4.2	0.82	7.87	0.07
	600.0	2340.0	3.9	0.81	7.88	0.06
	660.0	2400.0	3.6	0.81	7.88	0.06
	720.0	2460.0	3.4	0.81	7.88	0.06
	780.0	2520.0	3.2	0.81	7.88	0.06
	840.0	2580.0	3.1	0.81	7.88	0.06
	900.0	2640.0	2.9	0.81	7.88	0.06
	960.0	2700.0	2.8	0.81	7.88	0.06
	1020.0	2760.0	2.7	0.81	7.88	0.06
	1080.0	2820.0	2.6	0.81	7.88	0.06
	1140.0	2880.0	2.5	0.81	7.88	0.06
	1200.0	2940.0	2.5	0.81	7.88	0.06
	1260.0	3000.0	2.4	0.81	7.88	0.06
	1320.0	3060.0	2.3	0.81	7.88	0.06
	1380.0	3120.0	2.3	0.81	7.88	0.06
	1440.0	3180.0	2.2	0.81	7.88	0.06
	0	0.0	0.0	0	0	0
	0	0.0	0.0	0	0	0

PUMPING TEST DATA  
(STEP DRAW DOWN TEST)

WELL NO. C-2

PUMPING TEST RECORD (STEP DRAW-DOWN TEST)

Data Performed

Pump Type: Submersible Pump

Static Water Level Before Pumping

below G t-0 71  
NO. 1

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level		Draw Down ΔS	Remarks
			Q (Lit./Min)	S (m)	S	ΔS		
13.00	0.5		108.9	2.85		1.14		
	1		108.9	2.45		0.74		
	1.5		108.9	2.40		0.69		
	2		108.9	2.40		0.69		
	2.5		204.1	2.90		1.19		
	3		204.1	2.91		1.20		
	3.5		204.1	2.85		1.14		
	4		204.1	2.87		1.16		
	4.5		152.1	2.89		1.18		
	5		152.1	2.73		1.02		
	6		152.1	2.72		1.01		
	7		152.1	2.71		1.00		
	8		152.1	2.71		1.00		
	9		129.4	2.69		0.98		
	10		129.4	2.68		0.97		
	12		129.4	2.67		0.96		
	14		129.4	2.66		0.95		
	16		129.4	2.65		0.94		
	18		152.1	2.84		1.13		
	20		147.3	2.83		1.12		
	25		147.3	2.80		1.09		
	30		152.1	2.78		1.07		
	35		142.7	2.77		1.06		
	40		142.7	2.76		1.05		
	45		152.1	2.88		1.17		
	50		152.1	2.85		1.14		
	55		147.3	2.83		1.12		
	60		152.1	2.84		1.13		
	70		152.1	2.91		1.10		
	80		152.1	2.79		1.08		
	90		152.1	2.80		1.09		
	100		152.1	2.80		1.09		
	110		152.1	2.80		1.09		
	120		152.1	2.79		1.08		
0	0.5		193.0	3.30		1.59		
	1		193.0	3.27		1.56		
	1.5		193.0	3.24		1.53		
	2		204.1	3.20		1.49		
	2.5		204.1	3.26		1.55		
	3		204.1	3.27		1.56		
	3.5		193.0	3.25		1.54		
	4		193.0	3.31		1.60		
	4.5		193.0	3.27		1.56		
	5		204.1	3.20		1.49		
	6		204.1	3.14		1.43		
	7		198.5	3.13		1.42		
	8		198.5	3.14		1.43		
	9		193.0	3.26		1.55		
	10		198.5	3.34		1.63		
	12		204.1	3.17		1.46		
	14		204.1	3.16		1.45		
	16		204.1	3.14		1.43		
	18		204.1	3.39		1.68		
	20		204.1	3.34		1.63		
	25		204.1	3.27		1.56		
	30		204.1	3.24		1.53		
	35		204.1	3.19		1.48		
	40		204.1	3.24		1.53		
	45		204.1	3.19		1.48		
	50		204.1	3.24		1.53		
	55		204.1	3.27		1.56		
	60		204.1	3.26		1.55		
	70		204.1	3.26		1.55		
	80		204.1	3.26		1.55		
	90		204.1	3.25		1.54		
	100		204.1	3.25		1.54		
	110		204.1	3.25		1.54		
	120		204.1	3.24		1.53		

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level		Draw Down ΔS	Remarks
			Q (Lit./Min)	S (m)	S	ΔS		
0	0.5		265.6	3.90		2.19		
	1		265.6	3.85		2.14		
	1.5		265.6	3.80		2.09		
	2		265.6	3.74		2.03		
	2.5		265.6	3.74		2.03		
	3		265.6	3.74		2.03		
	3.5		265.6	3.72		2.01		
	4		265.6	3.75		2.04		
	4.5		265.6	3.97		2.26		
	5		265.6	4.00		2.29		
	6		265.6	3.97		2.26		
	7		265.6	3.92		2.21		
	8		265.6	3.84		2.13		
	9		265.6	3.81		2.1		
	10		265.6	3.75		2.04		
	12		265.6	3.76		2.05		
	14		265.6	3.75		2.04		
	16		265.6	3.93		2.22		
	18		265.6	4.04		2.33		
	20		265.6	4.00		2.29		
	25		265.6	3.97		2.26		
	30		265.6	3.95		2.25		
	35		265.6	3.90		2.19		
	40		265.6	3.89		2.18		
	45		265.6	3.85		2.15		
	50		265.6	3.86		2.15		
	55		265.6	3.85		2.14		
	60		265.6	3.85		2.14		
	70		265.6	3.85		2.14		
	80		265.6	3.84		2.13		
	90		265.6	3.84		2.13		
	100		265.6	3.83		2.12		
	110		265.6	3.83		2.12		
	120		265.6	3.83		2.12		
0	0.5		337.1	4.15		2.44		
	1		337.1	4.50		2.79		
	1.5		337.1	4.70		2.99		
	2		337.1	4.80		3.09		
	2.5		337.1	4.85		3.14		
	3		337.1	4.86		3.15		
	3.5		337.1	4.86		3.15		
	4		337.1	4.86		3.15		
	4.5		337.1	4.85		3.14		
	5		337.1	4.85		3.14		
	6		337.1	4.85		3.14		
	7		337.1	4.86		3.15		
	8		337.1	4.89		3.18		
	9		337.1	4.90		3.19		
	10		337.1	4.91		3.2		
	12		337.1	4.94		3.21		
	14		337.1	4.93		3.2		
	16		337.1	4.95		3.24		
	18		337.1	4.95		3.24		
	20		337.1	4.96		3.25		
	25		337.1	5.00		3.29		
	30		337.1	5.02		3.31		
	35		337.1	5.02		3.31		
	40		337.1	5.03		3.32		
	45		337.1	5.04		3.33		
	50		337.1	5.05		3.34		
	55		337.1	5.06		3.35		
	60		337.1	5.07		3.36		
	70		337.1	5.09		3.38		
	80		337.1	5.10		3.39		
	90		337.1	5.11		3.4		
	100		337.1	5.15		3.44		
	110		337.1	5.15		3.44		
	120		337.1	5.15		3.44		



NOS

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level S (m)	Draw Down ΔS	Remarks
			Q (Lit./Min)	S			
0	0.5		285.6	5.13		3.42	
	1		285.6	5.11		3.4	
	1.5		285.6	4.52		2.81	
	2		285.6	4.37		2.66	
	2.5		285.6	4.30		2.59	
	3		285.6	4.29		2.58	
	3.5		285.6	4.22		2.56	
	4		285.6	4.25		2.54	
	4.5		285.6	4.25		2.54	
	5		285.6	4.24		2.53	
	6		285.6	4.22		2.51	
	7		285.6	4.21		2.5	
	8		285.6	4.20		2.49	
	9		285.6	4.19		2.48	
	10		285.6	4.19		2.48	
	12		285.6	4.19		2.48	
	14		285.6	4.18		2.47	
	16		285.6	4.17		2.45	
	18		285.6	4.18		2.47	
	20		285.6	4.17		2.46	
	25		285.6	4.16		2.45	
	30		285.6	4.16		2.45	
	35		285.6	4.15		2.44	
	40		285.6	4.14		2.43	
	45		285.6	4.14		2.43	
	50		285.6	4.14		2.43	
	55		285.6	4.14		2.43	
	60		285.6	4.14		2.43	
	70		285.6	4.13		2.42	
	80		285.6	4.13		2.42	
	90		285.6	4.13		2.42	
	100		285.6	4.13		2.42	
	110		285.6	4.13		2.42	
	120		285.6	4.13		2.42	
0	0.5		204.1	4.57		2.86	
	1		204.1	4.16		2.45	
	1.5		204.1	3.55		1.84	
	2		204.1	3.75		2.04	
	2.5		204.1	3.71		2	
	3		204.1	3.70		1.99	
	3.5		204.1	3.70		1.99	
	4		204.1	3.70		1.99	
	4.5		204.1	3.69		1.98	
	5		204.1	3.69		1.98	
	6		204.1	3.69		1.98	
	7		204.1	3.69		1.98	
	8		204.1	3.68		1.97	
	9		204.1	3.68		1.95	
	10		204.1	3.66		1.95	
	12		204.1	3.60		1.89	
	14		204.1	3.59		1.88	
	16		204.1	3.59		1.88	
	18		204.1	3.59		1.88	
	20		204.1	3.59		1.88	
	25		204.1	3.59		1.88	
	30		204.1	3.59		1.88	
	35		204.1	3.57		1.86	
	40		204.1	3.57		1.86	
	45		204.1	3.57		1.86	
	50		204.1	3.56		1.85	
	55		204.1	3.56		1.85	
	60		204.1	3.56		1.85	
	70		204.1	3.56		1.85	
	80		204.1	3.56		1.85	
	90		204.1	3.56		1.85	
	100		204.1	3.56		1.85	
	110		204.1	3.56		1.85	
	120		204.1	3.56		1.85	

NO. 7

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level S (m)	Draw Down ΔS	Remarks
			Q (Lit./Min)	S			
0	0.5		152.1		3.30	1.59	
	1		152.1		3.33	1.62	
	1.5		152.1		3.25	1.54	
	2		152.1		3.18	1.47	
	2.5		152.1		3.17	1.46	
	3		152.1		3.17	1.46	
	3.5		152.1		3.16	1.45	
	4		152.1		3.12	1.41	
	4.5		152.1		3.11	1.4	
	5		152.1		3.07	1.36	
	6		152.1		3.05	1.34	
	7		152.1		3.05	1.34	
	8		152.1		3.05	1.34	
	9		152.1		3.04	1.33	
	10		152.1		3.03	1.32	
	12		152.1		3.02	1.31	
	14		152.1		3.01	1.3	
	16		152.1		3.00	1.29	
	18		152.1		3.00	1.29	
	20		152.1		3.00	1.29	
	25		152.1		3.00	1.29	
	30		152.1		3.00	1.29	
	35		152.1		2.99	1.28	
	40		152.1		2.99	1.28	
	45		152.1		2.99	1.28	
	50		152.1		2.99	1.28	
	55		152.1		2.99	1.28	
	60		152.1		2.99	1.28	
	70		152.1		2.99	1.28	
	80		152.1		2.99	1.28	
	90		152.1		2.99	1.28	
	100		152.1		2.98	1.27	
	110		152.1		2.98	1.27	
	120		152.1		2.98	1.27	

# PUMPING TEST DATA WELL NO. C-2 (CONTINUOUS CONSTANT DISCHARGE TEST AND RECOVERY TEST)

## PUMPING TEST RECORD (CONTINUOUS TEST)

Data Performed 6 8 94  
 Pump Type Submersible Pump  
 Static Water Level Before Pumping

Well Location C-2

BELOW GL - 1.65 m

P-1

Time	Duration After Beginning Pumping t (min)	Measuring	Volume (Lit./Min)	Water Level S (m)	r <sup>2</sup> /t	Draw Down ΔS (m)	Remarks
18.00	0.0		0.0	1.65		0	
	0.5	337.1	4.85	5.384.803 X10		3.70	
	1.0	337.1	5.48	2.692.402		3.83	
	1.5	337.1	5.50	1.794.934		3.88	
	2.0	337.1	5.47	1.346.201		3.82	
	2.5	337.1	5.34	1.076.961		3.69	
	3.0	337.1	5.47	897.467		3.82	
	3.5	337.1	5.47	769.258		3.82	
	4.0	337.1	5.65	673.100		4.00	
	4.5	337.1	5.75	599.311		4.10	
	5.0	337.1	5.78	538.480		4.13	
	6.0	337.1	5.82	448.734		4.17	
	7.0	337.1	5.84	384.629		4.19	
	8.0	337.1	5.86	336.550		4.21	
	9.0	337.1	5.89	289.158		4.23	
	10.0	337.1	5.91	269.240		4.26	
	12.0	337.1	5.95	224.367		4.30	
	14.0	337.1	5.97	192.314		4.32	
	16.0	337.1	6.00	168.275		4.35	
	18.0	337.1	6.02	149.578		4.37	
	20.0	337.1	6.04	134.630		4.39	
	25.0	337.1	6.05	107.696		4.40	
	30.0	337.1	6.08	89.747		4.43	
	35.0	337.1	6.10	76.926		4.45	
	40.0	337.1	6.13	67.310		4.48	
	45.0	337.1	6.13	59.831		4.48	
	50.0	337.1	6.16	53.848		4.51	
	55.0	337.1	6.16	48.953		4.51	
	60.0	337.1	6.65	44.873		5.00	
	70.0	337.1	6.68	38.463		5.07	
	80.0	337.1	6.33	33.552		5.08	
	90.0	337.1	6.28	29.916		5.11	
	100.0	337.1	6.29	26.924		5.14	
	110.0	337.1	6.81	24.476		5.16	
	120.0	337.1	6.87	22.437		5.22	
	140.0	337.1	6.92	19.231		5.27	
	160.0	337.1	7.04	16.828		5.39	
	180.0	337.1	7.09	14.958		5.44	
	200.0	337.1	7.13	13.462		5.48	
	220.0	337.1	7.16	12.238		5.51	
	240.0	337.1	7.20	11.218		5.55	
	260.0	337.1	7.25	9.816		5.60	
	320.0	337.1	7.29	8.414		5.64	
	360.0	337.1	7.33	7.479		5.68	
	420.0	337.1	7.36	6.410		5.71	
	480.0	337.1	7.39	5.609		5.74	
	540.0	337.1	7.44	4.986		5.79	
	600.0	337.1	8.04	4.487		6.39	
	660.0	337.1	8.18	4.079		6.53	
	720.0	337.1	8.21	3.739		6.56	
	780.0	337.1	8.23	3.452		6.58	
	840.0	337.1	8.28	3.205		6.63	
	900.0	337.1	8.28	2.992		6.63	
	960.0	337.1	8.29	2.865		6.64	
	1,020.0	337.1	8.33	2.640		6.68	
	1,080.0	337.1	8.34	2.493		6.69	
	1,140.0	337.1	8.39	2.362		6.74	
	1,200.0	337.1	8.43	2.244		6.78	
	1,260.0	337.1	8.48	2.137		6.83	
	1,320.0	337.1	8.50	2.040		6.85	
	1,380.0	337.1	8.52	1.951		6.87	
	1,440.0	337.1	8.53	1.870		6.88	

## PUMPING TEST RECORD (RECOVERY TEST)

Data Performed  
 Pump Type Submersible Pump  
 Static Water Level Before Pumping

Well location C-2

below 1.65 m

N01

Time	Duration After Beginning Pumping t (min)	Time After End of Pumping (min)	t <sup>2</sup> /t	Water Level S (m)	Recovery S (t <sup>2</sup> )-S (m)	Water Level Variation s'-S.W.L (m)
15.30	0	1740.0		8.53		6.88
	0.5	1740.5	3.481.0	4.80	3.73	3.15
	1.0	1741.0	1.741.0	3.01	5.52	1.36
	1.5	1741.5	1.161.0	2.30	6.23	0.65
	2.0	1742.0	871.0	2.00	6.53	0.35
	2.5	1742.5	697.0	1.86	6.67	0.21
	3.0	1743.0	581.0	1.72	6.75	0.13
	3.5	1743.5	498.1	1.72	6.81	0.07
	4.0	1744.0	436.0	1.70	6.83	0.05
	4.5	1744.5	387.7	1.69	6.84	0.04
	5.0	1745.0	349.0	1.68	6.85	0.03
	6.0	1746.0	291.0	1.67	6.86	0.02
	7.0	1747.0	249.6	1.66	6.87	0.01
	8.0	1748.0	218.5	1.65	6.88	0
	9.0	1749.0	194.3	1.65	6.88	0
	10.0	1750.0	175.0	1.64	6.89	-0.01
	12.0	1752.0	146.0	1.64	6.89	-0.01
	14.0	1754.0	125.3	1.64	6.89	-0.01
	16.0	1756.0	109.8	1.63	6.90	-0.02
	18.0	1758.0	97.7	1.63	6.90	-0.02
	20.0	1760.0	88.0	1.63	6.90	-0.02
	25.0	1765.0	70.8	1.63	6.90	-0.02
	30.0	1770.0	59.0	1.61	6.92	-0.04
	35.0	1775.0	50.7	1.60	6.93	-0.05
	40.0	1780.0	44.5	1.60	6.93	-0.05
	45.0	1785.0	39.7	1.60	6.93	-0.05
	50.0	1790.0	35.8	1.60	6.93	-0.05
	55.0	1795.0	32.6	1.60	6.93	-0.05
	60.0	1800.0	30.0	1.60	6.93	-0.05
	0.0		0.0	0.00	0.00	

PUMPING TEST DATA  
(STEP DRAW DOWN TEST)

WELL NO. C-3

PUMPING TEST RECORD (STEP DRAW-DOWN TEST)  
Data Performed 23/7/94  
Pump Type Submersible Pump  
Static Water Level Before Pumping

C-3

below G L-2.45m

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level S (m)	Draw Down ΔS	Remarks
			Q (L/L/Min)	S			
20:00	0.5		108.9		3.78	1.33	
	1		108.9		5.50	3.05	
	1.5		108.9		5.95	3.50	
	2		108.9		6.40	3.95	
	2.5		108.9		6.70	4.25	
	3		108.9		7.10	4.65	
	3.5		108.9		7.40	4.95	
	4		108.9		7.65	5.20	
	4.5		108.9		7.89	5.44	
	5		108.9		8.05	5.60	
	6		108.9		8.40	5.95	
	7		108.9		8.77	6.32	
	8		108.9		9.04	6.59	
	9		108.9		9.20	6.75	
	10		108.9		9.23	6.78	
	12		108.9		9.52	7.07	
	14		108.9		9.62	7.17	
	16		108.9		9.70	7.25	
	18		108.9		9.77	7.32	
	20		108.9		9.83	7.38	
	25		108.9		9.92	7.47	
	30		108.9		9.96	7.51	
	35		108.9		10.00	7.55	
	40		108.9		10.02	7.57	
	45		108.9		10.05	7.60	
	50		108.9		10.05	7.60	
	55		108.9		10.06	7.61	
	60		108.9		10.07	7.62	
	70		108.9		10.07	7.62	
	80		108.9		10.09	7.64	
	90		108.9		10.09	7.64	
	100		108.9		10.11	7.66	
	110		108.9		10.12	7.67	
	120		108.9		10.12	7.67	
0	0.5		176.94		10.70	8.25	
	1		176.94		11.35	8.9	
	1.5		176.94		12.05	9.6	
	2		176.94		12.44	9.99	
	2.5		176.94		12.89	10.44	
	3		176.94		13.25	10.8	
	3.5		176.94		13.59	11.14	
	4		176.94		13.85	11.4	
	4.5		176.94		14.03	11.58	
	5		176.94		14.30	11.85	
	6		176.94		14.60	12.15	
	7		176.94		14.82	12.37	
	8		176.94		15.00	12.55	
	9		176.94		15.14	12.69	
	10		176.94		15.22	12.77	
	12		176.94		15.30	12.85	
	14		176.94		15.34	12.89	
	16		176.94		15.37	12.92	
	18		176.94		15.39	12.94	
	20		176.94		15.45	13	
	25		176.94		15.63	13.18	
	30		176.94		15.95	13.5	
	35		176.94		15.98	13.53	
	40		176.94		15.99	13.5	
	45		176.94		16.05	13.62	
	50		176.94		16.05	13.6	
	55		176.94		16.00	13.55	
	60		176.94		15.47	13.02	
	70		176.94		15.45	13	
	80		176.94		15.45	13	
	90		176.94		15.48	13.03	
	100		176.94		15.53	13.08	
	110		176.94		15.53	13.08	
	120		176.94		15.53	13.08	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level S (m)	Draw Down ΔS	Remarks
			Q (L/L/Min)	S			
0	0.5		233.66		22.60	20.15	
	1		233.66		22.95	20.5	
	1.5		233.66		22.50	20.05	
	2		233.66		22.45	20	
	2.5		233.66		22.41	19.96	
	3		233.66		22.36	19.91	
	3.5		233.66		22.31	19.86	
	4		233.66		21.31	18.86	
	4.5		204.12		22.00	19.55	
	5		204.12		21.70	19.25	
	6		204.12		20.68	18.23	
	7		204.12		20.97	17.62	
	8		204.12		19.91	17.45	
	9		204.12		19.87	17.42	
	10		204.12		19.76	17.31	
	12		204.12		19.61	17.16	
	14		204.12		19.56	17.11	
	16		204.12		19.38	16.91	
	18		204.12		19.20	16.75	
	20		204.12		19.15	16.7	
	25		204.12		19.10	16.65	
	30		204.12		19.07	16.62	
	35		204.12		19.04	16.59	
	40		204.12		19.00	16.55	
	45		204.12		18.98	16.53	
	50		204.12		18.98	16.53	
	55		204.12		18.97	16.52	
	60		204.12		18.96	16.53	
	70		204.12		18.97	16.53	
	80		204.12		18.98	16.53	
	90		204.12		18.97	16.52	
	100		204.12		18.97	16.52	
	110		204.12		18.98	16.53	
	120		204.12		18.97	16.52	
0	0.5		265.63		21.65	19.2	
	1		265.63		21.70	19.25	
	1.5		265.63		21.75	19.3	
	2		265.63		21.79	19.34	
	2.5		265.63		21.84	19.39	
	3		265.63		22.00	19.55	
	3.5		265.63		22.30	19.85	
	4		265.63		22.60	20.15	
	4.5		265.63		22.60	20.35	
	5		265.63		23.10	20.65	
	6		265.63		23.45	21	
	7		265.63		23.79	21.34	
	8		265.63		23.97	21.47	
	9		265.63		24.02	21.57	
	10		265.63		24.20	21.75	
	12		265.63		24.57	22.12	
	14		265.63		24.65	22.2	
	16		265.63		24.66	22.21	
	18		265.63		24.78	22.33	
	20		265.63		24.78	22.33	
	25		265.63		24.78	22.33	
	30		265.63		24.60	22.15	
	35		265.63		24.59	22.14	
	40		265.63		24.57	22.12	
	45		265.63		24.70	22.25	
	50		265.63		24.75	22.3	
	55		265.63		24.92	22.47	
	60		265.63		24.94	22.49	
	70		265.63		24.96	22.51	
	80		265.63		24.93	22.48	
	90		265.63		24.92	22.47	
	100		265.63		24.90	22.45	
	110		265.63		24.85	22.4	
	120		265.63		24.85	22.4	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume Q (Lit/Min)	Water level S (m)	Draw Down ΔS	Remarks
0	0.5		204.1	16.00	13.55	
	1		204.1	16.80	14.35	
	1.5		204.1	17.65	15.2	
	2		204.1	18.40	15.95	
	2.5		204.1	18.80	16.35	
	3		204.1	19.40	16.95	
	3.5		204.1	19.67	17.22	
	4		204.1	19.89	17.44	
	4.5		204.1	19.95	17.5	
	5		204.1	20.10	17.65	
	6		204.1	20.80	18.35	
	7		204.1	20.85	18.4	
	8		204.1	20.98	18.53	
	9		204.1	21.30	18.85	
	10		204.1	21.45	19	
	12		204.1	21.60	19.15	
	14		204.1	21.85	19.4	
	16		204.1	21.75	19.3	
	18		204.1	21.63	19.18	
	20		204.1	21.57	19.12	
	25		204.1	21.57	19.12	
	30		204.1	21.55	19.1	
	35		204.1	21.55	19.1	
	40		204.1	21.54	19.09	
	45		204.1	21.53	19.08	
	50		204.1	21.49	19.04	
	55		204.1	21.49	19.03	
	60		204.1	21.42	19.02	
	70		204.1	21.41	19.06	
	80		204.1	21.51	19.06	
	90		204.1	21.51	19.06	
	100		204.1	21.57	19.12	
	110		204.1	21.48	19.03	
	120		204.1	21.48	19.03	
0	0.5		176.9	18.54	16.09	
	1		176.9	18.50	16.05	
	1.5		176.9	18.35	15.9	
	2		176.9	18.20	15.75	
	2.5		176.9	17.98	15.53	
	3		176.9	17.72	15.27	
	3.5		176.9	17.50	15.05	
	4		176.9	18.30	15.85	
	4.5		176.9	17.15	14.7	
	5		176.9	17.00	14.55	
	6		176.9	16.80	14.35	
	7		176.9	16.61	14.15	
	8		176.9	16.44	13.99	
	9		176.9	16.32	13.87	
	10		176.9	16.20	13.75	
	12		176.9	16.06	13.61	
	14		176.9	16.02	13.57	
	16		176.9	16.04	13.59	
	18		176.9	16.04	13.59	
	20		176.9	16.06	13.61	
	25		176.9	16.59	14.14	
	30		176.9	16.69	14.24	
	35		176.9	16.60	14.15	
	40		176.9	16.55	14.1	
	45		176.9	16.51	14.06	
	50		176.9	16.51	14.06	
	55		176.9	16.52	14.07	
	60		176.9	16.43	13.98	
	70		176.9	16.47	14.02	
	80		176.9	16.51	14.06	
	90		176.9	16.50	14.05	
	100		176.9	16.50	14.05	
	110		176.9	16.51	14.06	
	120		176.9	16.51	14.06	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume Q (Lit/Min)	Water level S (m)	Draw Down ΔS	Remarks
0	0.5		108.9	14.20	11.75	
	1		108.9	14.14	11.69	
	1.5		108.9	13.75	11.3	
	2		108.9	13.51	11.06	
	2.5		108.9	13.20	10.75	
	3		108.9	12.92	10.47	
	3.5		108.9	12.72	10.27	
	4		108.9	12.59	10.14	
	4.5		108.9	12.45	10	
	5		108.9	12.35	9.9	
	6		108.9	12.18	9.73	
	7		108.9	11.98	9.53	
	8		108.9	11.85	9.4	
	9		108.9	11.77	9.32	
	10		108.9	11.20	8.75	
	12		108.9	11.65	9.2	
	14		108.9	11.62	9.17	
	16		108.9	11.55	9.1	
	18		108.9	11.42	8.97	
	20		108.9	11.34	8.89	
	25		108.9	11.30	8.85	
	30		108.9	11.23	8.8	
	35		108.9	11.35	8.9	
	40		108.9	11.48	9.03	
	45		108.9	11.85	9.4	
	50		108.9	12.05	9.6	
	55		108.9	11.55	9.1	
	60		108.9	10.55	8.1	
	70		108.9	10.74	8.29	
	80		108.9	11.46	9.01	
	90		108.9	11.60	9.15	
	100		108.9	11.52	9.07	
	110		108.9	11.45	9	
	120		108.9	11.42	8.97	

**PUMPING TEST DATA WELL NO. C-3**  
**(CONTINUOUS CONSTANT DISCHARGE TEST AND RECOVERY TEST)**

**PUMPING TEST RECORD (CONTINUOUS TEST)**

Date Performed:  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping:

Well Location: C-3

BELOW GL - 2.47 m

Time	Duration After Beginning Pumping t (min)	Measuring	Volume (Lit/Min)	Water Level S(m)	r 2/ t	Draw Down ΔS(m)	Remarks
10.00	0.0			2.47		0	
	0.5	176.9		5.30	5,384.803 X10	2.83	
	1.0	176.9		5.90	2,692.402	3.43	
	1.5	176.9		7.00	1,794.934	4.53	
	2.0	176.9		7.45	1,346.201	4.98	
	2.5	176.9		8.40	1,076.951	5.93	
	3.0	176.9		8.75	897.467	6.28	
	3.5	176.9		9.05	769.258	6.58	
	4.0	176.9		9.30	673.100	6.83	
	4.5	176.9		9.55	598.311	7.08	
	5.0	176.9		9.70	538.480	7.23	
	6.0	176.9		9.80	448.124	7.43	
	7.0	176.9		10.05	384.679	7.58	
	8.0	176.9		10.10	336.550	7.63	
	9.0	176.9		10.40	299.156	7.93	
	10.0	176.9		10.60	269.240	8.13	
	12.0	176.9		11.20	224.367	8.73	
	14.0	176.9		11.80	192.314	9.33	
	16.0	176.9		12.35	168.235	9.88	
	18.0	176.9		12.90	149.578	10.43	
	20.0	176.9		13.30	134.620	10.83	
	25.0	176.9		13.80	107.696	11.33	
	30.0	176.9		14.25	89.747	11.78	
	35.0	176.9		14.66	76.926	12.19	
	40.0	176.9		14.85	67.310	12.38	
	45.0	176.9		15.06	59.831	12.59	
	50.0	176.9		15.20	53.648	12.73	
	55.0	176.9		15.29	48.953	12.81	
	60.0	176.9		15.39	44.873	12.89	
	70.0	176.9		15.55	38.463	13.08	

**PUMPING TEST RECORD (RECOVERY TEST)**

Date Performed:  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping:

Well location:

below a

Time	Duration After Beginning Pumping t (min)	Time After End of Pumping (min)	t/t	Water Level S' (m)	Recovery S' (t'0)-S (m)	Water Level Variation s'-S.W.L. (m)
	80.0	1820.0	19.0	2.47		14.43
	90.0	1830.0	17.0	2.47		14.43
	100.0	1840.0	15.4	2.47		14.43
	110.0	1850.0	14.1	2.47		14.43
	120.0	1860.0	13.0	2.47		14.43
	140.0	1880.0	11.3	2.47		14.43
	160.0	1900.0	10.0	2.47		14.43
	180.0	1920.0	9.0	2.47		14.43
	200.0	1940.0	8.2	2.47		14.43
	220.0	1960.0	7.5	2.47		14.43
	240.0	1980.0	7.0	2.47		14.43
	260.0	2000.0	6.5	2.47		14.43
	280.0	2020.0	6.1	2.47		14.43
	320.0	2060.0	5.5	2.47		14.43
	360.0	2100.0	5.0	2.47		14.43
	420.0	2160.0	4.4	2.47		14.43
	480.0	2220.0	4.0	2.47		14.43
	540.0	2280.0	3.7	2.47		14.43
	600.0	2340.0	3.4	2.47		14.43
	660.0	2400.0	3.2	2.47		14.43
	720.0	2460.0	3.0	2.47		14.43
	780.0	2520.0	2.8	2.47		14.43
	840.0	2580.0	2.7	2.47		14.43
	900.0	2640.0	2.6	2.47		14.43
	960.0	2700.0	2.5	2.47		14.43
	1020.0	2760.0	2.4	2.47		14.43
	1080.0	2820.0	2.3	2.47		14.43
	1140.0	2880.0	2.3	2.47		14.43
	1200.0	2940.0	2.2	2.47		14.43
	1260.0	3000.0	2.1	2.47		14.43
	1320.0	3060.0	2.1	2.47		14.43
	1380.0	3120.0	2.0	2.47		14.43
	1,440.0		2.0	2.47		14.43
	0	0	0.0	0		0
	0	0	0.0	0		0

PUMPING TEST DATA  
(STEP DRAW DOWN TEST)

WELL NO. C-4

PUMPING TEST RECORD (STEP DRAW-DOWN TEST) C-4  
Date Performed  
Pump Type Submersible Pump  
Static Water Level Before Pumping

Below G L-1 08h

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level		Draw Down ΔS	Remarks
			Q (Lit/Min)	S (m)				
5:00	0.5		108.9	1.50		0.42		
	1		108.9	1.80		0.72		
	1.5		108.9	1.85		0.77		
	2		105.9	1.92		0.84		
	2.5		108.9	1.84		0.86		
	3		204.1	1.56		0.88		
	3.5		108.9	1.98		0.90		
	4		108.9	2.00		0.92		
	4.5		108.9	2.03		0.95		
	5		108.9	2.06		0.98		
	6		108.9	2.09		1.01		
	7		108.9	2.11		1.03		
	8		108.9	2.13		1.05		
	9		108.9	2.15		1.07		
	10		108.9	2.16		1.08		
	12		108.9	2.17		1.09		
	14		108.9	2.17		1.09		
	16		108.9	2.17		1.09		
	18		108.9	2.17		1.09		
	20		108.9	2.17		1.09		
	25		108.9	2.16		1.08		
	30		108.9	2.15		1.07		
	35		108.9	2.14		1.06		
	40		108.9	2.14		1.06		
	45		108.9	2.14		1.06		
	50		108.9	2.13		1.05		
	55		108.9	2.12		1.04		
	60		108.9	2.11		1.03		
	70		108.9	2.10		1.02		
	80		108.9	2.10		1.02		
	90		108.9	2.08		1.00		
	100		108.9	2.08		1.00		
	110		108.9	2.08		1.00		
7:00	120		108.9	2.08		1.00		
7:00	0.5		176.94	2.12		1.04		
	1		176.94	2.23		1.15		
	1.5		176.94	2.30		1.22		
	2		176.94	2.38		1.3		
	2.5		176.94	2.39		1.31		
	3		176.94	2.40		1.32		
	3.5		176.94	2.41		1.33		
	4		176.94	2.42		1.34		
	4.5		176.94	2.45		1.37		
	5		176.94	2.47		1.39		
	6		176.94	2.52		1.44		
	7		176.94	2.55		1.47		
	8		176.94	2.58		1.5		
	9		176.94	2.60		1.52		
	10		176.94	2.62		1.54		
	12		176.94	2.68		1.6		
	14		176.94	2.70		1.62		
	16		176.94	2.71		1.63		
	18		176.94	2.70		1.62		
	20		176.94	2.69		1.61		
	25		176.94	2.68		1.6		
	30		176.94	2.67		1.59		
	35		176.94	2.66		1.58		
	40		176.94	2.65		1.57		
	45		176.94	2.65		1.57		
	50		176.94	2.65		1.57		
	55		176.94	2.66		1.58		
	60		176.94	2.66		1.58		
	70		176.94	2.65		1.57		
	80		176.94	2.64		1.56		
	90		176.94	2.64		1.56		
	100		176.94	2.64		1.56		
	110		176.94	2.64		1.56		
9:00	120		176.94	2.63		1.55		

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level		Draw Down ΔS	Remarks
			Q (Lit/Min)	S (m)				
9:00	0.5		252.5	2.71		1.63		
	1		209.8	2.80		1.72		
	1.5		221.6	2.90		1.82		
	2		227.6	3.10		2.02		
	2.5		233.7	3.19		2.05		
	3		227.6	3.15		2.07		
	3.5		221.6	3.18		2.10		
	4		215.6	3.20		2.12		
	4.5		233.7	3.22		2.14		
	5		233.7	3.24		2.16		
	6		233.7	3.27		2.19		
	7		233.7	3.28		2.20		
	8		233.7	3.29		2.21		
	9		233.7	3.31		2.23		
	10		233.7	3.33		2.25		
	12		233.7	3.34		2.25		
	14		233.7	3.35		2.25		
	16		233.7	3.34		2.26		
	18		233.7	3.34		2.26		
	20		233.7	3.35		2.27		
	25		233.7	3.35		2.27		
	30		233.7	3.34		2.26		
	35		233.7	3.34		2.26		
	40		233.7	3.34		2.26		
	45		233.7	3.33		2.25		
	50		233.7	3.34		2.26		
	55		233.7	3.20		2.12		
	60		233.7	3.18		2.10		
	70		233.7	3.16		2.08		
	80		233.7	3.14		2.06		
	90		233.7	3.13		2.05		
	100		233.7	3.10		2.02		
	110		233.7	3.05		1.97		
11:00	120		233.7	3.03		1.95		
11:00	0.5		337.1	3.60		2.52		
	1		337.1	3.95		2.87		
	1.5		337.1	4.06		2.92		
	2		337.1	4.15		3.07		
	2.5		337.1	4.16		3.08		
	3		337.1	4.17		3.09		
	3.5		337.1	4.17		3.09		
	4		337.1	4.18		3.10		
	4.5		337.1	4.19		3.11		
	5		337.1	4.20		3.12		
	6		337.1	4.21		3.13		
	7		337.1	4.25		3.17		
	8		337.1	4.28		3.20		
	9		337.1	4.30		3.22		
	10		337.1	4.32		3.24		
	12		337.1	4.35		3.27		
	14		337.1	4.38		3.30		
	16		337.1	4.39		3.31		
	18		337.1	4.39		3.31		
	20		337.1	4.40		3.32		
	25		337.1	4.41		3.33		
	30		337.1	4.40		3.32		
	35		337.1	4.41		3.33		
	40		337.1	4.40		3.32		
	45		337.1	4.40		3.32		
	50		337.1	4.38		3.30		
	55		337.1	4.35		3.27		
	60		337.1	4.33		3.25		
	70		337.1	4.28		3.20		
	80		337.1	4.28		3.20		
	90		337.1	4.28		3.20		
	100		337.1	4.28		3.20		
	110		337.1	4.28		3.20		
13:00	120		337.1	4.28		3.20		

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume Q (Lit/Min)	Water level		Draw Down ΔS	Remarks
				S (m)			
13 00	5	233.7	3.53	3.53	2.45		
0	6	233.7	3.52	3.52	2.45		
0	7	233.7	3.52	3.52	2.44		
0	8	233.7	3.52	3.52	2.44		
0	9	233.7	3.52	3.52	2.44		
0	10	233.7	3.52	3.52	2.44		
0	12	233.7	3.52	3.52	2.44		
0	14	233.7	3.51	3.51	2.43		
0	16	233.7	3.51	3.51	2.43		
0	18	233.7	3.51	3.51	2.43		
0	20	233.7	3.51	3.51	2.43		
0	25	233.7	3.51	3.51	2.43		
0	30	233.7	3.51	3.51	2.43		
0	35	233.7	3.50	3.50	2.42		
0	40	233.7	3.50	3.50	2.42		
0	45	233.7	3.49	3.49	2.41		
0	50	233.7	3.49	3.49	2.41		
0	55	233.7	3.48	3.48	2.40		
0	60	233.7	3.47	3.47	2.39		
0	70	233.7	3.45	3.45	2.37		
0	80	233.7	3.45	3.45	2.37		
0	100	233.7	3.47	3.47	2.36		
0	110	176.9	2.80	2.80	1.72		
0	1	176.9	2.82	2.82	1.74		
0	1.5	176.9	2.84	2.84	1.76		
0	2	176.9	2.86	2.86	1.78		
0	2.5	176.9	2.88	2.88	1.80		
0	3	176.9	2.89	2.89	1.81		
0	3.5	176.9	2.95	2.95	1.87		
0	40	176.9	2.92	2.92	1.84		
0	45	176.9	2.90	2.90	1.82		
0	50	176.9	2.89	2.89	1.81		
0	55	176.9	2.88	2.88	1.80		
0	60	176.9	2.86	2.86	1.78		
0	70	176.9	2.60	2.60	1.52		
0	80	176.9	2.60	2.60	1.52		
0	90	176.9	2.60	2.60	1.52		
0	100	176.9	2.60	2.60	1.52		
0	110	176.9	2.59	2.59	1.51		
0	120	176.9	2.58	2.58	1.50		
0	130	176.9	2.57	2.57	1.49		
0	140	176.9	2.55	2.55	1.47		
0	150	176.9	2.55	2.55	1.47		
0	160	176.9	2.55	2.55	1.47		
0	170	176.9	2.55	2.55	1.47		
0	180	176.9	2.54	2.54	1.46		
0	190	176.9	2.56	2.56	1.48		
0	200	176.9	2.55	2.55	1.47		
0	210	176.9	2.55	2.55	1.47		
17 00	120	176.9	2.55	2.55	1.47		

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume Q (Lit/Min)	Water level		Draw Down ΔS	Remarks
				S (m)			
17 00	0.5		108.9	2.10	1.02		
0	1		108.9	2.09	1.01		
0	1.5		108.9	2.07	0.99		
0	2		108.9	2.06	0.98		
0	2.5		108.9	2.05	0.97		
0	3		108.9	2.04	0.96		
0	3.5		108.9	2.02	0.94		
0	4		108.9	2.00	0.92		
0	4.5		108.9	1.90	0.82		
0	5		108.9	1.85	0.77		
0	6		108.9	1.82	0.84		
0	7		108.9	1.81	0.83		
0	8		108.9	1.90	0.82		
0	9		108.9	1.89	0.82		
0	10		108.9	1.89	0.81		
0	12		108.9	1.89	0.81		
0	14		108.9	1.88	0.80		
0	16		108.9	1.88	0.80		
0	18		108.9	1.87	0.79		
0	20		108.9	1.86	0.78		
0	25		108.9	1.86	0.78		
0	30		108.9	1.85	0.77		
0	35		108.9	1.84	0.76		
0	40		108.9	1.80	0.72		
0	45		108.9	1.77	0.69		
0	50		108.9	1.77	0.69		
0	55		108.9	1.77	0.69		
0	60		108.9	1.66	0.58		
0	70		108.9	1.73	0.65		
0	80		108.9	1.74	0.66		
0	90		108.9	1.73	0.65		
0	100		108.9	1.73	0.65		
0	110		108.9	1.73	0.65		
19 00	120		108.9	1.73	0.65		

# PUMPING TEST DATA WELL NO. C-4

## (CONTINUOUS CONSTANT DISCHARGE TEST AND RECOVERY TEST)

### PUMPING TEST RECORD (CONTINUOUS TEST)

Date Performed: Well Location C-4  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping: BELOW GL -

Time	Duration After Beginning Pumping t (min)	Measuring Volume (Lit/Min)	Water Level S (m)	r 2/1	Draw Down ΔS (m)	Remarks
	0.0	0.0	1.08		0	
	0.5	204.1	2.60	5.384 803 X10	1.52	
	1.0	265.6	2.60	2.692 402	1.72	
	1.5	265.6	2.90	1.794 934	1.82	
	2.0	265.6	3.22	1.346 201	2.14	
	2.5	265.6	3.40	1.076 961	2.32	
	3.0	265.6	3.60	897 467	2.52	
	3.5	265.6	3.68	769 258	2.60	
	4.0	265.6	3.71	673 100	2.63	
	4.5	265.6	3.75	598 311	2.67	
	5.0	265.6	3.80	538 480	2.72	
	6.0	265.6	3.90	448 734	2.82	
	7.0	265.6	4.05	384 629	2.91	
	8.0	265.6	4.18	335 550	3.10	
	9.0	265.6	4.24	299 156	3.16	
	10.0	265.6	4.30	269 240	3.22	
	12.0	265.6	4.45	224 367	3.37	
	14.0	265.6	4.59	192 314	3.51	
	16.0	265.6	4.72	160 275	3.64	
	18.0	265.6	4.84	149 578	3.76	
	20.0	265.6	4.95	134 620	3.82	
	25.0	265.6	5.12	107 696	4.04	
	30.0	265.6	5.37	89 747	4.29	
	35.0	265.6	5.44	76 926	4.36	
	40.0	265.6	5.60	67 310	4.52	
	45.0	265.6	5.65	59 831	4.52	
	50.0	265.6	5.69	53 848	4.61	
	55.0	265.6	5.74	48 953	4.69	
	60.0	265.6	5.85	44 873	4.77	
	70.0	265.6	5.95	39 463	4.87	
	80.0	265.6	5.98	33 655	4.90	
	90.0	265.6	5.98	29 816	4.90	
	100.0	265.6	6.00	26 924	4.92	
	110.0	265.6	6.03	24 476	4.95	
	120.0	233.7	6.08	22 437	5.00	
	140.0	265.6	6.11	19 231	5.03	
	160.0	252.3	6.15	16 828	5.07	
	180.0	265.6	6.14	14 958	5.06	
	200.0	265.6	6.17	13 462	5.09	
	220.0	265.6	6.20	12 238	5.12	
	240.0	265.6	6.23	11 218	5.15	
	260.0	265.6	6.25	9 615	5.17	
	320.0	265.6	6.30	8 414	5.27	
	360.0	265.6	6.35	7 479	5.27	
	420.0	265.6	6.80	6 410	5.72	
	480.0	265.6	6.90	5 609	5.82	
	540.0	265.6	7.00	4 986	5.92	
	600.0	265.6	7.08	4 487	6.06	
	660.0	265.6	7.10	4 079	6.02	
	720.0	265.6	7.14	3 739	6.08	
	780.0	265.6	7.18	3 452	6.10	
	840.0	265.6	7.20	3 205	6.12	
	900.0	265.6	7.21	2 992	6.13	
	960.0	265.6	7.20	2 805	6.12	
	1,020.0	265.6	7.20	2 640	6.12	
	1,080.0	265.6	7.20	2 493	6.12	
	1,140.0	265.6	7.20	2 362	6.12	
	1,200.0	265.6	7.20	2 244	6.12	
	1,260.0	265.6	7.20	2 137	6.12	
	1,320.0	265.6	7.21	2 040	6.13	
	1,380.0	265.6	7.22	1 951	6.14	
	1,440.0	265.6	7.23	1 870	6.15	
	0.0	0.0	0.00	0.000	0.00	
	0.0	0.0	0.00	0.000	0.00	
	0.0	0.0	0.00	0.000	0.00	
	0.0	0.0	0.00	0.000	0.00	
	0.0	0.0	0.00	0.000	0.00	

### PUMPING TEST RECORD (RECOVERY TEST)

Date Performed: 1994/7/11 Well location C-4  
 Pump Type: Submersible Pump 16.5m  
 Static Water Level Before Pumping: below 1.08 m

Time	Duration After Beginning Pumping t (min)	Time After End of Pumping (min)	r 1/1	Water Level S' (m)	Recovery S' (K'0)-S (m)	Water Level Variation S'-S W L (m)
9:15	0	1440.0		7.33	0	0
0	0.5	1440.0	2.881.0	4.27	2.95	3.19
0	1.0	1441.0	1.441.0	2.40	4.83	1.32
0	1.5	1441.5	961.0	1.45	5.78	0.37
0	2.0	1442.0	721.0	1.17	6.06	0.09
0	2.5	1442.5	577.0	1.13	6.1	0.05
0	3.0	1443.0	481.0	1.12	6.11	0.04
0	3.5	1443.5	412.4	1.12	6.11	0.04
0	4.0	1444.0	361.0	1.12	6.11	0.04
0	4.5	1444.5	321.0	1.12	6.11	0.04
0	5.0	1445.0	289.0	1.12	6.11	0.04
0	6.0	1446.0	241.0	1.12	6.11	0.04
0	7.0	1447.0	206.7	1.12	6.11	0.04
0	8.0	1448.0	181.0	1.12	6.11	0.04
0	9.0	1449.0	161.0	1.12	6.11	0.04
0	10.0	1450.0	145.0	1.12	6.11	0.04
0	12.0	1452.0	121.0	1.12	6.11	0.04
0	14.0	1454.0	103.8	1.12	6.11	0.04
0	16.0	1456.0	81.0	1.12	6.11	0.04
0	18.0	1458.0	81.0	1.11	6.12	0.03
0	20.0	1460.0	73.0	1.11	6.12	0.03
0	25.0	1465.0	58.6	1.11	6.12	0.03
0	30.0	1470.0	49.0	1.11	6.12	0.03
0	35.0	1475.0	42.1	1.11	6.12	0.03
0	40.0	1480.0	37.0	1.10	6.13	0.02
0	45.0	1485.0	33.0	1.10	6.13	0.02
0	50.0	1490.0	29.8	1.10	6.13	0.02
0	55.0	1495.0	27.2	1.10	6.13	0.02
0	60.0	1500.0	25.0	1.10	6.13	0.02
0	70.0	1510.0	21.6	1.10	6.15	0.02
0	80.0	1520.0	19.0	1.10	6.13	0.02
0	90.0	1530.0	17.0	1.09	6.14	0.01
0	100.0	1540.0	15.4	1.09	6.14	0.01
0	110.0	1550.0	14.1	1.09	6.14	0.01
0	120.0	1560.0	13.0	1.09	6.14	0.01
0	140.0	1580.0	11.3	1.09	6.14	0.01
0	160.0	1600.0	10.0	1.09	6.14	0.01
0	180.0	1620.0	9.0	1.09	6.14	0.01
0	200.0	1640.0	8.2	1.09	6.14	0.01
0	220.0	1660.0	7.5	1.09	6.14	0.01
0	240.0	1680.0	7.0	1.09	6.14	0.01
0	260.0	1720.0	6.1	1.09	6.14	0.01
0	320.0	1760.0	5.5	1.09	6.14	0.01
0	360.0	1800.0	5.0	1.09	6.14	0.01
0	420.0	1860.0	4.4	1.09	6.14	0.01
0	480.0	1920.0	4.0	1.09	6.14	0.01
0	540.0	1980.0	3.7	1.09	6.14	0.01
0	600.0	2040.0	3.4	1.09	6.14	0.01
0	660.0	2100.0	3.2	1.09	6.14	0.01
0	720.0	2160.0	3.0	1.09	6.14	0.01
0	780.0	2220.0	2.8	1.09	6.14	0.01
0	840.0	2280.0	2.7	1.09	6.14	0.01
0	900.0	2340.0	2.6	1.09	6.14	0.01
0	960.0	2400.0	2.5	1.09	6.14	0.01
0	1020.0	2460.0	2.4	1.09	6.14	0.01
0	1080.0	2520.0	2.3	1.09	6.14	0.01
0	1140.0	2580.0	2.3	1.09	6.14	0.01
0	1200.0	2640.0	2.2	1.09	6.14	0.01
0	1260.0	2700.0	2.1	1.09	6.14	0.01
0	1320.0	2760.0	2.1	1.09	6.14	0.01
0	1380.0	2820.0	2.0	1.09	6.14	0.01
9:15	1440.0	2880.0	2.0	1.09	6.14	0.01
0	0	0.0	0.0	0	0	0
0	0	0.0	0.0	0	0	0
0	0	0.0	0.0	0	0	0
0	0	0.0	0.0	0	0	0
0	0	0.0	0.0	0	0	0
0	0	0.0	0.0	0	0	0



PUMPING TEST DATA  
(STEP DRAW DOWN TEST)

WELL NO. C-5

PUMPING TEST RECORD (STEP DRAW-DOWN TEST)

Date Performed

Pump Type: Submersible Pump

Static Water Level Before Pumping

below G.L.

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Draw Down $\Delta S$	Remarks
			Q (Lit/Min)	S (m)		
11:30	0.5		265.6	8.70	2.30	
	1		265.6	8.70	3.30	
	1.5		265.6	8.20	4.80	
	2		265.6	8.30	4.90	
	2.5		265.6	8.50	5.10	
	3		265.6	8.60	5.20	
	3.5		265.6	8.60	5.20	
	4		265.6	8.60	5.40	
	4.5		265.6	8.90	5.50	
	5		265.6	8.90	5.50	
	6		265.6	8.70	5.30	
	7		265.6	8.60	5.20	
	8		265.6	8.90	5.50	
	9		265.6	8.50	5.10	
	10		265.6	8.80	5.40	
	12		265.6	9.00	5.60	
	14		265.6	8.90	5.50	
	16		265.6	8.70	5.30	
	18		265.6	8.70	5.30	
	20		265.6	8.80	5.40	
	25		265.6	8.90	5.50	
	30		265.6	9.00	5.60	
	35		265.6	9.20	5.80	
	40		265.6	8.90	5.50	
	45		265.6	8.90	5.50	
	50		265.6	8.90	5.50	
	55		265.6	8.90	5.50	
	60		265.6	8.90	5.50	
	70		265.6	8.75	5.35	
	80		265.6	8.80	5.40	
	90		265.6	8.70	5.30	
	100		265.6	8.70	5.30	
	110		265.6	8.75	5.35	
13:30	120		265.6	8.75	5.35	
	0.5		376.72	8.85	5.45	
	1		376.72	9.30	5.9	
	1.5		376.72	9.50	6.1	
	2		376.72	9.60	6.2	
	2.5		376.72	9.65	6.25	
	3		376.72	9.65	6.26	
	3.5		376.72	9.67	6.27	
	4		376.72	9.68	6.28	
	4.5		376.72	9.68	6.28	
	5		376.72	9.69	6.29	
	6		376.72	9.70	6.3	
	7		376.72	9.71	6.31	
	8		376.72	9.85	6.45	
	9		376.72	9.95	6.55	
	10		376.72	10.05	6.65	
	12		376.72	10.14	6.74	
	14		376.72	10.22	6.82	
	16		376.72	10.30	6.9	
	18		376.72	10.46	7.06	
	20		376.72	10.55	7.15	
	25		376.72	10.91	7.51	
	30		376.72	10.98	7.58	
	35		376.72	11.00	7.6	
	40		376.72	11.08	7.68	
	45		376.72	11.10	7.7	
	50		376.72	11.20	7.8	
	55		376.72	11.40	8	
	60		376.72	11.40	8	
	70		376.72	11.65	8.25	
	80		376.72	11.70	8.3	
	90		376.72	11.80	8.4	
	100		376.72	11.80	8.4	
	110		376.72	11.80	8.4	
15:30	120		376.72	11.74	8.34	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Draw Down $\Delta S$	Remarks
			Q (Lit/Min)	S (m)		
15:30	0.5		562.5	12.85	9.45	
	1		562.5	12.91	9.51	
	1.5		562.5	13.00	9.60	
	2		562.5	13.50	10.10	
	2.5		562.5	13.65	10.45	
	3		562.5	14.05	10.65	
	3.5		562.5	14.28	10.88	
	4		562.5	14.50	11.10	
	4.5		562.5	14.70	11.30	
	5		562.5	14.87	11.47	
	6		562.5	15.65	12.25	
	7		562.5	16.60	13.20	
	8		562.5	16.80	13.40	
	9		562.5	16.90	13.50	
	10		562.5	16.85	13.45	
	12		562.5	17.10	13.70	
	14		562.5	17.10	13.70	
	16		562.5	17.40	14.00	
	18		562.5	17.60	14.20	
	20		562.5	17.60	14.20	
	25		562.5	17.55	14.15	
	30		562.5	17.60	14.40	
	35		562.5	17.80	14.40	
	40		562.5	17.50	14.10	
	45		562.5	17.60	14.20	
	50		562.5	17.80	14.40	
	55		562.5	17.55	14.16	
	60		562.5	17.57	14.17	
	70		562.5	17.63	14.23	
	80		562.5	17.65	14.25	
	90		562.5	17.75	14.35	
	100		562.5	17.76	14.36	
	110		562.5	17.78	14.38	
17:30	120		562.5	17.78	14.38	
	0.5		61794.5	20.50	17.10	
	1		794.5	22.30	18.90	
	1.5		794.5	23.25	19.85	
	2		794.5	23.35	19.95	
	2.5		794.5	23.50	20.10	
	3		794.5	23.65	20.25	
	3.5		794.5	23.70	20.30	
	4		794.5	23.75	20.35	
	4.5		794.5	24.00	20.60	
	5		794.5	24.07	20.67	
	6		794.5	24.10	20.70	
	7		794.5	24.13	20.73	
	8		794.5	24.30	20.90	
	9		794.5	24.40	21.00	
	10		794.5	24.30	20.90	
	12		794.5	24.55	21.15	
	14		794.5	25.58	22.18	
	16		794.5	25.80	22.40	
	18		794.5	25.98	22.58	
	20		794.5	26.10	22.70	
	25		794.5	26.40	23.00	
	30		794.5	26.75	23.35	
	35		794.5	26.95	23.55	
	40		794.5	27.15	23.75	
	45		794.5	27.35	23.95	
	50		794.5	27.35	23.95	
	55		794.5	27.55	24.15	
	60		794.5	28.00	24.60	
	70		794.5	27.20	23.80	
	80		794.5	27.63	24.23	
	90		794.5	27.91	24.51	
	100		794.5	28.30	24.90	
	110		794.5	27.95	24.55	
19:30	120		61794.5	27.90	24.50	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Draw Down $\Delta S$	Remarks
			Q (L/L/Min)	S (m)		
9:30	0.5		562.5	24.70	21.30	
	1		562.5	21.52	18.12	
	1.5		562.5	21.40	18.00	
	2		562.5	21.90	18.50	
	2.5		562.5	21.70	18.30	
	3		562.5	21.40	18.00	
	3.5		562.5	21.70	18.30	
	4		562.5	21.80	18.40	
	4.5		562.5	21.75	18.35	
	5		562.5	21.80	18.40	
	6		562.5	21.60	18.20	
	7		562.5	21.50	18.10	
	8		562.5	21.50	18.10	
	9		562.5	21.45	18.05	
	10		562.5	21.44	18.04	
	12		562.5	21.55	18.15	
	14		562.5	22.40	19.00	
	16		562.5	21.67	18.27	
	18		562.5	21.70	18.30	
	20		562.5	21.62	18.22	
	25		562.5	21.50	18.10	
	30		562.5	21.40	18.00	
	35		562.5	21.35	17.95	
	40		562.5	21.20	17.80	
	45		562.5	21.30	17.90	
	50		562.5	21.30	17.90	
	55		562.5	21.10	17.70	
	60		562.5	21.21	17.81	
	70		562.5	21.20	17.80	
	80		562.5	21.20	17.80	
	90		562.5	21.30	17.90	
	100		562.5	21.32	17.92	
	110		562.5	21.27	17.87	
21:30	120		562.5	21.27	17.87	
	0.5		376.7	19.40	18.00	
	1		376.7	19.00	15.60	
	1.5		376.7	18.60	15.20	
	2		376.7	18.45	15.05	
	2.5		376.7	18.20	14.80	
	3		376.7	17.92	14.52	
	3.5		376.7	17.57	14.17	
	4		376.7	17.50	14.10	
	4.5		376.7	17.40	14.00	
	5		376.7	16.58	13.18	
	6		376.7	17.20	13.80	
	7		376.7	17.15	13.75	
	8		376.7	17.14	13.74	
	9		376.7	17.13	13.73	
	10		376.7	17.10	13.70	
	12		376.7	17.10	13.70	
	14		376.7	16.87	13.47	
	16		376.7	16.87	13.47	
	18		376.7	16.81	13.41	
	20		376.7	16.80	13.40	
	25		376.7	16.80	13.40	
	30		376.7	16.80	13.40	
	35		376.7	16.80	13.40	
	40		376.7	16.63	13.23	
	45		376.7	16.54	13.14	
	50		376.7	16.50	13.10	
	55		376.7	16.44	13.04	
	60		376.7	16.44	13.04	
	70		376.7	16.38	12.98	
	80		376.7	16.35	12.95	
	90		376.7	16.30	12.90	
	100		376.7	16.30	12.90	
	110		376.7	16.25	12.85	
23:30	120		376.7	16.19	12.79	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Draw Down $\Delta S$	Remarks
			Q (L/L/Min)	S (m)		
21:30	0.5		265.6	13.65	10.25	
	1		265.6	13.33	9.93	
	1.5		265.6	13.39	9.99	
	2		265.6	12.80	9.40	
	2.5		265.6	12.70	9.30	
	3		265.6	12.25	8.85	
	3.5		265.6	12.04	8.64	
	4		265.6	11.96	8.56	
	4.5		265.6	11.90	8.50	
	5		265.6	11.82	8.42	
	6		265.6	11.75	8.35	
	7		265.6	11.70	8.30	
	8		265.6	11.60	8.20	
	9		265.6	11.58	8.18	
	10		265.6	11.55	8.15	
	12		265.6	11.45	8.05	
	14		265.6	11.42	8.02	
	16		265.6	11.35	7.95	
	18		265.6	11.34	7.94	
	20		265.6	11.30	7.90	
	25		265.6	11.25	7.85	
	30		265.6	11.20	7.80	
	35		265.6	11.15	7.75	
	40		265.6	11.10	7.70	
	45		265.6	11.05	7.65	
	50		265.6	11.05	7.65	
	55		265.6	11.04	7.64	
	60		265.6	10.95	7.55	
	70		265.6	10.75	7.35	
	80		265.6	10.60	7.20	
	90		265.6	10.20	6.90	
	100		265.6	10.30	6.90	
	110		265.6	10.25	6.85	
23:30	120		265.6	10.25	6.85	

# PUMPING TEST DATA WELL NO. C-5 (CONTINUOUS CONSTANT DISCHARGE TEST AND RECOVERY TEST)

## PUMPING TEST RECORD (CONTINUOUS TEST)

Date Performed: Well Location:  
 Pump Type: Submersible Pump BELOW GL-3.87 m  
 Static Water Level Before Pumping:

Time	Duration After Beginning Pumping t (min)	Measuring Volume (Lit/Min)	Water Level S(m)	r 2/ t	Draw Down ΔS(m)	Remarks
	0.0	0.0	3.87		0	
	0.5	616.0	7.40	5,384.803 X10	3.53	
	1.0	616.0	11.40	2,692.402	7.53	
	1.5	616.0	13.60	1,794.934	9.73	
	2.0	616.0	14.80	1,345.201	10.93	
	2.5	616.0	15.37	1,076.961	11.50	
	3.0	616.0	15.66	897.467	11.79	
	3.5	616.0	15.70	769.258	11.83	
	4.0	616.0	17.20	613.100	13.33	
	4.5	616.0	16.90	598.311	13.03	
	5.0	616.0	17.00	578.450	13.13	
	6.0	616.0	17.10	449.134	13.23	
	7.0	616.0	17.20	384.629	13.43	
	8.0	616.0	17.60	376.550	13.73	
	9.0	616.0	18.20	299.156	14.33	
	10.0	616.0	18.50	268.240	14.63	
	12.0	616.0	19.40	224.367	15.53	
	14.0	616.0	19.50	192.314	15.63	
	16.0	616.0	19.70	168.275	15.83	
	18.0	616.0	20.20	149.578	16.33	
	20.0	616.0	20.40	134.620	16.53	
	25.0	616.0	20.60	107.696	16.93	
	30.0	616.0	21.20	89.747	17.33	
	35.0	616.0	21.50	76.926	17.63	
	40.0	616.0	21.80	67.310	17.93	
	45.0	616.0	22.05	59.831	18.18	
	50.0	616.0	22.30	53.848	18.43	
	55.0	616.0	22.47	49.953	18.60	
	60.0	616.0	22.53	44.873	18.76	
	70.0	616.0	22.95	38.463	19.09	
	80.0	616.0	23.31	33.655	19.44	
	90.0	616.0	23.65	29.916	19.73	
	100.0	616.0	23.92	26.924	20.05	
	110.0	616.0	24.15	24.476	20.26	
	120.0	616.0	24.30	22.437	20.43	
	140.0	616.0	24.35	19.231	20.48	
	160.0	616.0	24.37	16.828	20.50	
	180.0	616.0	24.23	14.958	20.36	
	200.0	616.0	24.25	13.462	20.38	
	220.0	616.0	24.25	12.238	20.38	
	240.0	616.0	24.26	11.218	20.39	
	280.0	616.0	24.28	9.616	20.41	
	320.0	616.0	24.31	8.414	20.44	
	360.0	616.0	24.30	7.479	20.43	
	420.0	616.0	24.30	6.410	20.43	
	480.0	616.0	24.35	5.609	20.48	
	510.0	616.0	24.35	4.986	20.48	
	530.0	616.0	24.37	4.487	20.50	
	560.0	616.0	24.40	4.079	20.53	
	600.0	616.0	24.39	3.739	20.51	
	720.0	616.0	24.38	3.452	20.51	
	840.0	616.0	24.38	3.205	20.51	
	900.0	616.0	24.38	2.992	20.51	
	950.0	616.0	24.40	2.805	20.53	
	1,020.0	616.0	24.41	2.640	20.54	
	1,080.0	616.0	24.42	2.493	20.55	
	1,140.0	616.0	24.40	2.362	20.53	
	1,200.0	616.0	24.38	2.244	20.51	
	1,260.0	616.0	24.38	2.137	20.51	
	1,320.0	616.0	24.37	2.040	20.50	
16:00	1,380.0	616.0	24.30	1.951	20.43	
	1,440.0	616.0	24.40	1.870	20.53	

## PUMPING TEST RECORD (RECOVERY TEST)

Date Performed: 9.8.1994 Well location: C-5  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping 27.5m below 3.87 m

Time	Duration After Beginning Pumping t (min)	Time After End of Pumping t' (min)	t'/t	Water Level S' (m)	Recovery S' (t'-0)-S (m)	Water Level Variation S'-S W.L (m)
10:00	0	1440.0		24.40		20.53
0	0.5	1440.5	2.881.0	21.20	3.20	17.33
0	1.0	1441.0	1.441.0	18.90	5.90	14.63
0	1.5	1441.5	961.0	16.90	7.90	12.63
0	2.0	1442.0	721.0	15.80	8.60	11.93
0	2.5	1442.5	577.0	15.16	9.24	11.29
0	3.0	1443.0	481.0	13.45	10.95	9.58
0	3.5	1443.5	412.4	13.16	11.24	9.29
0	4.0	1444.0	361.0	12.65	11.75	8.78
0	4.5	1444.5	321.0	12.48	11.92	8.61
0	5.0	1445.0	289.0	12.30	12.10	8.43
0	6.0	1446.0	241.0	10.60	13.80	6.73
0	7.0	1447.0	206.7	9.95	14.45	6.08
0	8.0	1448.0	181.0	9.62	14.78	5.75
0	9.0	1449.0	161.0	9.20	15.20	5.33
0	10.0	1450.0	145.0	8.15	16.25	4.28
0	12.0	1452.0	121.0	7.55	16.65	3.68
0	14.0	1454.0	103.9	6.50	17.90	2.63
0	16.0	1456.0	91.0	6.00	18.40	2.13
0	18.0	1458.0	81.0	5.90	18.90	1.63
0	20.0	1460.0	73.0	5.20	19.20	1.33
0	25.0	1465.0	58.6	5.05	19.35	1.18
0	30.0	1470.0	49.0	4.70	19.70	0.93
0	35.0	1475.0	42.1	4.60	19.80	0.73
0	40.0	1480.0	37.0	4.50	19.90	0.63
0	45.0	1485.0	33.0	4.48	19.92	0.61
0	50.0	1490.0	28.8	4.36	20.08	0.49
0	55.0	1495.0	27.2	4.15	20.25	0.28
0	60.0	1500.0	25.0	4.10	20.30	0.23
0	70.0	1510.0	21.6	4.10	20.30	0.23
0	80.0	1520.0	19.0	4.06	20.34	0.19
0	90.0	1530.0	17.0	4.03	20.37	0.16
0	100.0	1540.0	15.4	4.02	20.38	0.15
0	110.0	1550.0	14.1	4.01	20.39	0.14
12:00	120.0	1560.0	13.0	3.98	20.42	0.11
0	140.0	1580.0	11.3	3.88	20.52	0.01
0	160.0	1600.0	10.0	3.88	20.52	0.01
0	180.0	1620.0	9.0	3.88	20.52	0.01
0	200.0	1640.0	8.2	3.88	20.52	0.01
0	220.0	1660.0	7.5	3.88	20.52	0.01
0	240.0	1680.0	7.0	3.88	20.52	0.01
0	280.0	1720.0	6.1	3.88	20.52	0.01
0	320.0	1760.0	5.5	3.88	20.52	0.01
16:00	360.0	1800.0	5.0	3.87	20.53	0.0
0	420.0	1860.0	4.4	3.87	20.53	0.0
0	480.0	1920.0	4.0	3.87	20.53	0.0
0	540.0	1980.0	3.7	3.87	20.53	0.0
0	600.0	2040.0	3.4	3.87	20.53	0.0
0	660.0	2100.0	3.2	3.87	20.53	0.0
0	720.0	2160.0	3.0	3.87	20.53	0.0
0	780.0	2220.0	2.8	3.87	20.53	0.0
0	840.0	2280.0	2.7	3.87	20.53	0.0
1:00	900.0	2340.0	2.6	3.87	20.53	0.0
0	0	0	0.0	0.00	0.00	0.00
0	0	0	0.0	0.00	0.00	0.00
0	0	0	0.0	0.00	0.00	0.00
0	0	0	0.0	0.00	0.00	0.00
0	0	0	0.0	0.00	0.00	0.00
0	0	0	0.0	0.00	0.00	0.00
0	0	0	0.0	0.00	0.00	0.00
0	0	0	0.0	0.00	0.00	0.00
0	0	0	0.0	0.00	0.00	0.00

PUMPING TEST DATA  
(STEP DRAW DOWN TEST)

WELL NO. C-6

PUMPING TEST RECORD (STEP DRAW-DOWN TEST)

Data Performed  
Pump type: Submersible Pump  
Static Water Level Before Pumping

below G L-1.4

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume	Water level	Draw Down	Remarks
			Q (Lit/Min)	S (m)	ΔS	
12.00	0.5		337.1	2.00	0.57	
	1		337.1	2.20	0.77	
	1.5		337.1	2.30	0.87	
	2		337.1	2.30	0.87	
	2.5		337.1	2.32	0.89	
	3		337.1	2.32	0.89	
	3.5		337.1	2.32	0.89	
	4		337.1	2.32	0.89	
	4.5		337.1	2.32	0.89	
	5		337.1	2.32	0.89	
	6		337.1	2.32	0.89	
	7		337.1	2.31	0.88	
	8		337.1	2.31	0.88	
	9		337.1	2.31	0.88	
	10		337.1	2.31	0.88	
	12		337.1	2.31	0.88	
	14		337.1	2.30	0.87	
	16		337.1	2.30	0.87	
	18		337.1	2.29	0.86	
	20		337.1	2.29	0.86	
	25		337.1	2.29	0.85	
	30		337.1	2.29	0.85	
	35		337.1	2.29	0.85	
	40		337.1	2.29	0.85	
	45		337.1	2.29	0.85	
	50		337.1	2.29	0.85	
	55		337.1	2.29	0.85	
	60		337.1	2.29	0.85	
	70		337.1	2.29	0.85	
	80		337.1	2.29	0.85	
	90		337.1	2.29	0.85	
	100		337.1	2.29	0.85	
	110		337.1	2.29	0.85	
14.00	120		337.1	2.29	0.85	
14.00	0.5		616.03	2.62	1.19	
	1		616.03	2.62	1.19	
	1.5		616.03	2.62	1.19	
	2		616.03	2.62	1.19	
	2.5		616.03	2.62	1.19	
	3		616.03	2.62	1.19	
	3.5		616.03	2.61	1.18	
	4		616.03	2.61	1.18	
	4.5		616.03	2.61	1.18	
	5		616.03	2.61	1.18	
	6		616.03	2.61	1.18	
	7		616.03	2.51	1.18	
	8		616.03	2.60	1.17	
	9		616.03	2.60	1.17	
	10		616.03	2.60	1.17	
	12		616.03	2.60	1.17	
	14		616.03	2.60	1.17	
	16		616.03	2.60	1.17	
	18		616.03	2.60	1.17	
	20		616.03	2.60	1.17	
	25		616.03	2.60	1.17	
	30		616.03	2.60	1.17	
	35		616.03	2.60	1.17	
	40		616.03	2.60	1.17	
	45		616.03	2.60	1.17	
	50		616.03	2.60	1.17	
	55		616.03	2.60	1.17	
	60		616.03	2.60	1.17	
	70		616.03	2.60	1.17	
	80		616.03	2.60	1.17	
	90		616.03	2.60	1.17	
	100		616.03	2.60	1.17	
	110		616.03	2.60	1.17	
16.00	120		616.03	2.60	1.17	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume	Water level	Draw Down	Remarks
			Q (Lit/Min)	S (m)	ΔS	
16.00	0.5		860.2	3.05	1.62	
	1		860.2	3.00	1.57	
	1.5		860.2	3.00	1.57	
	2		860.2	3.00	1.57	
	2.5		860.2	3.00	1.57	
	3		860.2	3.00	1.57	
	3.5		860.2	3.00	1.57	
	4		860.2	3.00	1.57	
	4.5		860.2	3.00	1.57	
	5		860.2	3.00	1.57	
	6		860.2	3.00	1.57	
	7		860.2	3.00	1.57	
	8		860.2	3.00	1.57	
	9		860.2	3.00	1.57	
	10		860.2	3.00	1.57	
	12		860.2	3.00	1.57	
	14		860.2	3.00	1.57	
	16		860.2	3.00	1.57	
	18		860.2	3.00	1.57	
	20		860.2	3.00	1.57	
	25		860.2	3.00	1.57	
	30		860.2	3.00	1.57	
	35		860.2	3.00	1.57	
	40		860.2	3.00	1.57	
	45		860.2	3.00	1.57	
	50		860.2	3.00	1.57	
	55		860.2	3.00	1.57	
	60		860.2	3.00	1.57	
	70		860.2	3.00	1.57	
	80		860.2	3.00	1.57	
	90		860.2	3.00	1.57	
	100		860.2	3.00	1.57	
	110		860.2	3.00	1.57	
18.00	120		860.2	3.00	1.57	
18.00	0.5		1154.7	3.45	2.02	
	1		1154.7	3.45	2.02	
	1.5		1154.7	3.45	2.02	
	2		1154.7	3.45	2.02	
	2.5		1154.7	3.45	2.02	
	3		1154.7	3.45	2.02	
	3.5		1154.7	3.45	2.02	
	4		1154.7	3.45	2.02	
	4.5		1154.7	3.45	2.02	
	5		1154.7	3.45	2.02	
	6		1154.7	3.45	2.02	
	7		1154.7	3.45	2.02	
	8		1154.7	3.45	2.02	
	9		1154.7	3.45	2.02	
	10		1154.7	3.45	2.02	
	12		1154.7	3.45	2.02	
	14		1154.7	3.45	2.02	
	16		1154.7	3.45	2.02	
	18		1154.7	3.45	2.02	
	20		1154.7	3.45	2.02	
	25		1154.7	3.45	2.02	
	30		1154.7	3.45	2.02	
	35		1154.7	3.45	2.02	
	40		1154.7	3.45	2.02	
	45		1154.7	3.45	2.02	
	50		1154.7	3.45	2.02	
	55		1154.7	3.45	2.02	
	60		1154.7	3.45	2.02	
	70		1154.7	3.45	2.02	
	80		1154.7	3.45	2.02	
	90		1154.7	3.45	2.02	
	100		1154.7	3.45	2.02	
	110		1154.7	3.45	2.02	
20.00	120		1154.7	3.45	2.02	



# PUMPING TEST DATA WELL NO. C-6 (CONTINUOUS CONSTANT DISCHARGE TEST AND RECOVERY TEST)

連續試驗 XLS

## PUMPING TEST RECORD (CONTINUOUS TEST)

Data Performed:

Pump Type: Submersible Pump

Static Water Level Before Pumping

Well Location: C-6

GL- 1.43

Time	Duration After Beginning Pumping t(min)	Measuring Volume (Lit/Min)	Water Level S (p)	t <sup>2</sup> /t	Draw Down ΔS(m)	Remarks
	0.0	0.0	1.43		0	
	0.5	1410.5	1.21	5,384.803	0.28	
	1.0	1410.5	2.02	2,692.402	0.59	
	1.5	1410.5	2.39	1,294.934	0.96	
	2.0	1410.5	2.62	1,348.201	1.19	
	2.5	1410.5	2.76	1,076.961	1.33	
	3.0	1410.5	2.88	897.467	1.45	
	3.5	1410.5	3.00	769.258	1.57	
	4.0	1410.5	3.10	673.100	1.67	
	4.5	1410.5	3.19	598.311	1.76	
	5.0	1410.5	3.25	538.480	1.82	
	6.0	1410.5	3.38	448.734	1.90	
	7.0	1410.5	3.24	384.629	1.97	
	8.0	1410.5	3.31	336.650	2.06	
	9.0	1410.5	3.36	299.156	2.10	
	10.0	1410.5	3.40	269.240	2.14	
	12.0	1410.5	3.45	224.367	2.16	
	14.0	1410.5	3.51	192.314	2.18	
	16.0	1410.5	3.62	168.275	2.19	
	18.0	1410.5	3.64	149.578	2.21	
	20.0	1410.5	3.66	134.620	2.23	
	25.0	1410.5	3.66	107.696	2.23	
	30.0	1410.5	3.67	89.747	2.24	
	35.0	1410.5	3.67	76.926	2.24	
	40.0	1410.5	3.68	67.310	2.25	
	45.0	1410.5	3.68	59.831	2.25	
	50.0	1410.5	3.68	53.848	2.25	
	55.0	1410.5	3.68	48.953	2.25	
	60.0	1410.5	3.68	44.873	2.25	
	70.0	1410.5	3.68	38.453	2.25	
	80.0	1410.5	3.68	33.655	2.25	
	90.0	1410.5	3.69	29.916	2.26	
	100.0	1410.5	3.69	26.924	2.26	
	110.0	1410.5	3.69	24.476	2.26	
	120.0	1410.5	3.69	22.437	2.26	
	140.0	1410.5	3.69	19.231	2.26	
	160.0	1410.5	3.69	16.828	2.26	
	180.0	1410.5	3.69	14.958	2.26	
	200.0	1410.5	3.69	13.462	2.26	
	220.0	1410.5	3.69	12.238	2.26	
	240.0	1410.5	3.69	11.218	2.26	
	280.0	1410.5	3.69	9.616	2.26	
	320.0	1410.5	3.69	8.414	2.26	
	360.0	1410.5	3.69	7.479	2.26	
	420.0	1410.5	3.69	6.410	2.26	
	480.0	1410.5	3.69	5.609	2.26	
	540.0	1410.5	3.69	4.986	2.26	
	600.0	1410.5	3.69	4.487	2.26	
	660.0	1410.5	3.69	4.079	2.26	
	720.0	1410.5	3.69	3.739	2.26	
	780.0	1410.5	3.69	3.452	2.26	
	840.0	1410.5	3.69	3.205	2.26	
	900.0	1410.5	3.69	2.992	2.26	
	960.0	1410.5	3.69	2.805	2.26	
	1,020.0	1410.5	3.69	2.640	2.26	
	1,080.0	1410.5	3.69	2.493	2.26	
	1,140.0	1410.5	3.69	2.362	2.26	
	1,200.0	1410.5	3.69	2.244	2.26	
	1,260.0	1410.5	3.69	2.137	2.26	
	1,320.0	1410.5	3.69	2.040	2.26	
16:00	1,380.0	1410.5	3.69	1.951	2.26	
	1,440.0	1410.5	3.69	1.870	2.26	

## PUMPING TEST RECORD (RECOVERY TEST)

Data Performed:

Pump Type: Submersible Pump

Static Water Level Before Pumping

Well Location: C-6

below

Time	Duration After Beginning Pumping t(min)	Time After End of Pumping t'(min)	t'/t	Water Level S' (m)	Recovery S' (t'-0)-S (m)	Water Level Variation s'-S.W.L (m)
10:00	0	1440.0		3.69		2.77
0	0.5	1440.5	2.881.0	2.82	0.87	0.90
0	1.0	1441.0	1,441.0	2.46	1.23	0.54
0	1.5	1442.0	961.0	2.13	1.56	0.21
0	2.0	1442.0	721.0	1.92	1.77	0
0	2.5	1442.5	577.0	1.92	1.77	0
0	3.0	1443.0	481.0	1.92	1.77	0
0	3.5	1443.5	412.4	1.92	1.77	0
0	4.0	1444.0	361.0	1.92	1.77	0
0	4.5	1444.5	321.0	1.92	1.77	0
0	5.0	1445.0	289.0	1.92	1.77	0
0	6.0	1446.0	241.0	1.92	1.77	0
0	7.0	1447.0	206.7	1.92	1.77	0
0	8.0	1448.0	181.0	1.92	1.77	0
0	9.0	1449.0	161.0	1.92	1.77	0
0	10.0	1450.0	145.0	1.92	1.77	0
0	12.0	1452.0	121.0	1.92	1.77	0
0	14.0	1454.0	103.9	1.92	1.77	0
0	16.0	1456.0	91.0	1.92	1.77	0
0	18.0	1458.0	81.0	1.92	1.77	0
0	20.0	1460.0	73.0	1.92	1.77	0
0	25.0	1465.0	58.8	1.92	1.77	0
0	30.0	1470.0	49.0	1.92	1.77	0
0	35.0	1475.0	42.1	1.92	1.77	0
0	40.0	1480.0	37.0	1.92	1.77	0
0	45.0	1485.0	33.0	1.92	1.77	0
0	50.0	1490.0	29.8	1.92	1.77	0
0	55.0	1495.0	27.2	1.92	1.77	0
0	60.0	1500.0	25.0	1.92	1.77	0
0	0.0	0.0	0.0	0.00	0.00	0

20:00 1995/2/27

# PUMPING TEST DATA - WELL NO. C-7 (STEP DRAW DOWN TEST)

**PUMPING TEST RECORD (STEP DRAW-DOWN TEST)**

Date Performed

Pump Type: Submersible Pump

Static Water Level Before Pumping

Below 6.1-

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level (m)	Draw Down ΔS	Remarks
			Q (Lit/Min)	S			
15:00	0.5		1000.9		2.68	0.88	
	1		1000.9		2.63	0.83	
	1.5		1000.9		2.55	0.85	
	2		1000.9		2.50	0.70	
	2.5		1000.9		2.66	0.88	
	3		1000.9		2.67	0.87	
	3.5		1000.9		2.67	0.87	
	4		1000.9		2.68	0.88	
	4.5		1000.9		2.68	0.88	
	5		1000.9		2.68	0.88	
	6		1000.9		2.68	0.88	
	7		1000.9		2.68	0.88	
	8		1000.9		2.68	0.88	
	9		1000.9		2.68	0.88	
	10		1000.9		2.69	0.88	
	12		1000.9		2.68	0.88	
	14		1000.9		2.68	0.88	
	16		1000.9		2.68	0.88	
	18		1000.9		2.68	0.88	
	20		1000.9		2.68	0.88	
	25		1000.9		2.68	0.88	
	30		1000.9		2.68	0.88	
	35		1000.9		2.68	0.88	
	40		1000.9		2.69	0.89	
	45		1000.9		2.69	0.89	
	50		1000.9		2.69	0.89	
	55		1000.9		2.69	0.89	
	60		1000.9		2.69	0.89	
	70		1000.9		2.69	0.89	
	80		1000.9		2.69	0.89	
	90		1000.9		2.69	0.89	
	100		1000.9		2.69	0.89	
	110		1000.9		2.69	0.89	
17:00	120		1000.9		2.69	0.89	
17:00	0.5		1321.79		2.81	1.01	
	1		1321.79		2.81	1.01	
	1.5		1321.79		2.81	1.01	
	2		1321.79		2.81	1.01	
	2.5		1321.79		2.81	1.01	
	3		1321.79		2.81	1.01	
	3.5		1321.79		2.81	1.01	
	4		1321.79		2.81	1.01	
	4.5		1321.79		2.81	1.01	
	5		1321.79		2.81	1.01	
	6		1321.79		2.81	1.01	
	7		1321.79		2.81	1.01	
	8		1321.79		2.81	1.01	
	9		1321.79		2.81	1.01	
	10		1321.79		2.81	1.01	
	12		1321.79		2.81	1.01	
	14		1321.79		2.81	1.01	
	16		1321.79		2.81	1.01	
	18		1321.79		2.81	1.01	
	20		1321.79		2.81	1.01	
	25		1321.79		2.81	1.01	
	30		1321.79		2.81	1.01	
	35		1321.79		2.81	1.01	
	40		1321.79		2.81	1.01	
	45		1321.79		2.81	1.01	
	50		1321.79		2.81	1.01	
	55		1321.79		2.81	1.01	
	60		1321.79		2.81	1.01	
	70		1321.79		2.81	1.01	
	80		1321.79		2.81	1.01	
	90		1321.79		2.81	1.01	
	100		1321.79		2.81	1.01	
	110		1321.79		2.81	1.01	
19:00	120		1321.79		2.81	1.01	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level (m)	Draw Down ΔS	Remarks
			Q (Lit/Min)	S			
19:00	0.5		1697.6		2.91	1.11	
	1		1697.6		2.92	1.12	
	1.5		1697.6		2.92	1.12	
	2		1697.6		2.92	1.12	
	2.5		1697.6		2.92	1.12	
	3		1697.6		2.92	1.12	
	3.5		1697.6		2.92	1.12	
	4		1697.6		2.92	1.12	
	4.5		1697.6		2.92	1.12	
	5		1697.6		2.92	1.12	
	6		1697.6		2.92	1.12	
	7		1697.6		2.92	1.12	
	8		1697.6		2.92	1.12	
	9		1697.6		2.92	1.12	
	10		1697.6		2.92	1.12	
	12		1697.6		2.92	1.12	
	14		1697.6		2.92	1.12	
	16		1697.6		2.92	1.12	
	18		1697.6		2.92	1.12	
	20		1697.6		2.92	1.12	
	25		1697.6		2.92	1.12	
	30		1697.6		2.92	1.12	
	35		1697.6		2.92	1.12	
	40		1697.6		2.92	1.12	
	45		1697.6		2.92	1.12	
	50		1697.6		2.92	1.12	
	55		1697.6		2.92	1.12	
	60		1697.6		2.92	1.12	
	70		1697.6		2.92	1.12	
	80		1697.6		2.92	1.12	
	90		1697.6		2.92	1.12	
	100		1697.6		2.92	1.12	
	110		1697.6		2.92	1.12	
21:00	120		1697.6		2.92	1.12	
21:00	0.5		2248.8		3.29	1.49	
	1		2248.8		3.28	1.48	
	1.5		2248.8		3.30	1.50	
	2		2248.8		3.30	1.50	
	2.5		2248.8		3.30	1.50	
	3		2248.8		3.30	1.50	
	3.5		2248.8		3.30	1.50	
	4		2248.8		3.31	1.51	
	4.5		2248.8		3.31	1.51	
	5		2248.8		3.31	1.51	
	6		2248.8		3.31	1.51	
	7		2248.8		3.31	1.51	
	8		2248.8		3.31	1.51	
	9		2248.8		3.31	1.51	
	10		2248.8		3.31	1.51	
	12		2248.8		3.31	1.51	
	14		2248.8		3.31	1.51	
	16		2248.8		3.31	1.51	
	18		2248.8		3.31	1.51	
	20		2248.8		3.31	1.51	
	25		2248.8		3.31	1.51	
	30		2248.8		3.31	1.51	
	35		2248.8		3.31	1.51	
	40		2248.8		3.31	1.51	
	45		2248.8		3.31	1.51	
	50		2248.8		3.31	1.51	
	55		2248.8		3.31	1.51	
	60		2248.8		3.31	1.51	
	70		2248.8		3.31	1.51	
	80		2248.8		3.31	1.51	
	90		2248.8		3.31	1.51	
	100		2248.8		3.31	1.51	
	110		2248.8		3.31	1.51	
23:00	120		2248.8		3.31	1.51	

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level S (m)	Draw Down ΔS	Remarks
			Q (Lit/Min)	S			
23:00	0.5		1697.6	3.05	1.25		
0	1		1697.6	3.05	1.25		
0	1.5		1697.6	3.05	1.25		
0	2		1697.6	3.05	1.25		
0	2.5		1697.6	3.05	1.25		
0	3		1697.6	3.05	1.25		
0	3.5		1697.6	3.05	1.25		
0	4		1697.6	3.05	1.25		
0	4.5		1697.6	3.05	1.25		
0	5		1697.6	3.05	1.25		
0	6		1697.6	3.05	1.25		
0	7		1697.6	3.05	1.25		
0	8		1697.6	3.05	1.25		
0	9		1697.6	3.05	1.25		
0	10		1697.6	3.05	1.25		
0	12		1697.6	3.05	1.25		
0	14		1697.6	3.05	1.25		
0	16		1697.6	3.05	1.25		
0	18		1697.6	3.05	1.25		
0	20		1697.6	3.05	1.25		
0	25		1697.6	3.05	1.25		
0	30		1697.6	3.05	1.25		
0	35		1697.6	3.05	1.25		
0	40		1697.6	3.05	1.25		
0	45		1697.6	3.05	1.25		
0	50		1697.6	3.05	1.25		
0	55		1697.6	3.05	1.25		
0	60		1697.6	3.05	1.25		
0	70		1697.6	3.05	1.25		
0	80		1697.6	3.05	1.25		
0	90		1697.6	3.05	1.25		
0	100		1697.6	3.05	1.25		
0	110		1697.6	3.05	1.25		
1:00	120		1697.6	3.05	1.25		
1:00	0.5		1321.8	2.82	1.02		
0	1		1321.8	2.82	1.02		
0	1.5		1321.8	2.82	1.02		
0	2		1321.8	2.82	1.02		
0	2.5		1321.8	2.82	1.02		
0	3		1321.8	2.82	1.02		
0	3.5		1321.8	2.82	1.02		
0	4		1321.8	2.82	1.02		
0	4.5		1321.8	2.82	1.02		
0	5		1321.8	2.82	1.02		
0	6		1321.8	2.82	1.02		
0	7		1321.8	2.82	1.02		
0	8		1321.8	2.82	1.02		
0	9		1321.8	2.82	1.02		
0	10		1321.8	2.82	1.02		
0	12		1321.8	2.82	1.02		
0	14		1321.8	2.82	1.02		
0	16		1321.8	2.82	1.02		
0	18		1321.8	2.82	1.02		
0	20		1321.8	2.82	1.02		
0	25		1321.8	2.82	1.02		
0	30		1321.8	2.82	1.02		
0	35		1321.8	2.82	1.02		
0	40		1321.8	2.82	1.02		
0	45		1321.8	2.82	1.02		
0	50		1321.8	2.82	1.02		
0	55		1321.8	2.82	1.02		
0	60		1321.8	2.82	1.02		
0	70		1321.8	2.82	1.02		
0	80		1321.8	2.82	1.02		
0	90		1321.8	2.82	1.02		
0	100		1321.8	2.82	1.02		
0	110		1321.8	2.82	1.02		
3:00	120		1321.8	2.82	1.02		

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume		Water level S (m)	Draw Down ΔS	Remarks
			Q (Lit/Min)	S			
3:00	0.5		1000.9	2.74	0.94		
0	1		1000.9	2.74	0.94		
0	1.5		1000.9	2.74	0.94		
0	2		1000.9	2.74	0.94		
0	2.5		1000.9	2.74	0.94		
0	3		1000.9	2.74	0.94		
0	3.5		1000.9	2.74	0.94		
0	4		1000.9	2.74	0.94		
0	4.5		1000.9	2.74	0.94		
0	5		1000.9	2.74	0.94		
0	6		1000.9	2.74	0.94		
0	7		1000.9	2.74	0.94		
0	8		1000.9	2.74	0.94		
0	9		1000.9	2.74	0.94		
0	10		1000.9	2.74	0.94		
0	12		1000.9	2.74	0.94		
0	14		1000.9	2.74	0.94		
0	16		1000.9	2.74	0.94		
0	18		1000.9	2.74	0.94		
0	20		1000.9	2.74	0.94		
0	25		1000.9	2.74	0.94		
0	30		1000.9	2.74	0.94		
0	35		1000.9	2.74	0.94		
0	40		1000.9	2.74	0.94		
0	45		1000.9	2.74	0.94		
0	50		1000.9	2.74	0.94		
0	55		1000.9	2.74	0.94		
0	60		1000.9	2.74	0.94		
0	70		1000.9	2.74	0.94		
0	80		1000.9	2.74	0.94		
0	90		1000.9	2.74	0.94		
0	100		1000.9	2.74	0.94		
0	110		1000.9	2.74	0.94		
5:00	120		1000.9	2.74	0.94		



**PUMPING TEST DATA WELL NO. C-7**  
**(CONTINUOUS CONSTANT DISCHARGE TEST AND RECOVERY TEST)**

**PUMPING TEST RECORD (CONTINUOUS TEST)**

Data Performed: Well Location: C-7  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping: BELOW GL-1.80 m

Time	Duration After Beginning Pumping t (min)	Measuring	Volume (Lit/Min)	Water Level S (m)	r 2/t	Draw Down ΔS (m)	Remarks
22:00	0.0		0.0	1.80		0	
	0.5	2248 B	3.34	5.304 803 X10		1.54	
	1.0	2248 B	3.34	2.692 402 "		1.54	
	1.5	2248 B	3.34	1.794 934 "		1.54	
	2.0	2248 B	3.34	1.345 201 "		1.54	
	2.5	2248 B	3.34	1.075 961 "		1.54	
	3.0	2248 B	3.34	897 467 "		1.54	
	3.5	2248 B	3.34	763 258 "		1.54	
	4.0	2248 B	3.34	673 100 "		1.54	
	4.5	2248 B	3.34	598 311 "		1.54	
	5.0	2248 B	3.35	538 480 "		1.55	
	5.5	2248 B	3.35	487 734 "		1.55	
	6.0	2248 B	3.35	384 623 "		1.55	
	6.5	2248 B	3.35	316 550 "		1.55	
	7.0	2248 B	3.35	299 155 "		1.55	
	7.5	2248 B	3.35	269 240 "		1.55	
	8.0	2248 B	3.35	224 367 "		1.55	
	8.5	2248 B	3.35	192 314 "		1.55	
	9.0	2248 B	3.35	168 275 "		1.55	
	9.5	2248 B	3.35	149 578 "		1.55	
	10.0	2248 B	3.35	134 020 "		1.55	
	10.5	2248 B	3.35	101 696 "		1.56	
	11.0	2248 B	3.36	89 241 "		1.56	
	11.5	2248 B	3.36	76 926 "		1.56	
	12.0	2248 B	3.36	67 310 "		1.56	
	12.5	2248 B	3.36	59 831 "		1.56	
	13.0	2248 B	3.36	53 848 "		1.56	
	13.5	2248 B	3.36	48 953 "		1.56	
	14.0	2248 B	3.36	44 873 "		1.56	
	14.5	2248 B	3.37	38 463 "		1.57	
	15.0	2248 B	3.37	33 655 X10		1.57	
	15.5	2248 B	3.37	29 916 "		1.57	
	16.0	2248 B	3.37	26 924 "		1.57	
	16.5	2248 B	3.37	24 476 "		1.57	
	17.0	2248 B	3.37	22 437 "		1.57	
24:00	140.0	2248 B	3.37	19 231 "		1.57	
	160.0	2248 B	3.37	16 828 "		1.57	
1:00	180.0	2248 B	3.37	14 968 "		1.57	
	200.0	2248 B	3.37	13 462 "		1.57	
	220.0	2248 B	3.37	12 238 "		1.57	
	240.0	2248 B	3.37	11 218 "		1.57	
	260.0	2248 B	3.37	9 616 "		1.57	
	280.0	2248 B	3.37	8 414 "		1.57	
	300.0	2248 B	3.37	7 419 "		1.57	
	320.0	2248 B	3.37	6 410 "		1.57	
	340.0	2248 B	3.37	5 609 "		1.57	
	360.0	2248 B	3.37	4 996 "		1.57	
	380.0	2248 B	3.37	4 487 "		1.57	
	400.0	2248 B	3.37	4 079 "		1.57	
	420.0	2248 B	3.37	3 739 "		1.57	
	440.0	2248 B	3.37	3 452 "		1.57	
	460.0	2248 B	3.37	3 205 "		1.57	
	480.0	2248 B	3.37	2 992 "		1.57	
	500.0	2248 B	3.37	2 805 "		1.57	
	1,020.0	2248 B	3.37	2 640 "		1.57	
	1,080.0	2248 B	3.37	2 493 "		1.57	
	1,140.0	2248 B	3.37	2 362 "		1.57	
	1,200.0	2248 B	3.37	2 244 "		1.57	
	1,260.0	2248 B	3.37	2 137 "		1.57	
	1,320.0	2248 B	3.37	2 040 "		1.57	
	1,380.0	2248 B	3.37	1 951 X10		1.57	
22:00	1,440.0	2248 B	3.37	1 870 "		1.57	

**PUMPING TEST RECORD (RECOVERY TEST)**

Data Performed: Well Location: C-7  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping: below 1.80 m

Time	Duration After Beginning Pumping t (min)	Time After End of Pumping (min)	t/t	Water Level S' (m)	Recovery S' (t'0)-S (m)	Water Level Variation s'-S.R.L (m)
22:00	0	1440.0		3.37		
	0.5	1440.5	2.881.0	2.35	1.02	1.57
	1.0	1441.0	1.441.0	2.31	1.06	0.55
	1.5	1441.5	961.0	1.80	1.57	0.51
	2.0	1442.0	721.0	1.80	1.57	0
	2.5	1442.5	571.0	1.80	1.57	0
	3.0	1443.0	481.0	1.80	1.57	0
	3.5	1443.5	412.4	1.80	1.57	0
	4.0	1444.0	361.0	1.80	1.57	0
	4.5	1444.5	321.0	1.80	1.57	0
	5.0	1445.0	283.0	1.80	1.57	0
	6.0	1446.0	241.0	1.80	1.57	0
	7.0	1447.0	206.7	1.80	1.57	0
	8.0	1448.0	181.0	1.80	1.57	0
	9.0	1449.0	161.0	1.80	1.57	0
	10.0	1450.0	145.0	1.80	1.57	0
	12.0	1452.0	121.0	1.80	1.57	0
	14.0	1454.0	103.5	1.80	1.57	0
	16.0	1456.0	91.0	1.80	1.57	0
	0.0					
	0.0					
	0.0					
	0.0					
	0.0					
	0.0					
	0.0					
	0.0					
	0.0					
	0.0					
	0.0					
	0.0					
	0.0					
	0.0					

PUMPING TEST DATA  
(STEP DRAW DOWN TEST)

WELL NO. C-8

PUMPING TEST RECORD (STEP DRAW-DOWN TEST)

Date Performed

Pump Type Submersible Pump

Static Water Level Before Pumping

1.2 m

below G.L.

Time	Duration After Beginning Pumping t (min)	Measuring (cm)	Volume		Water level S (m)	Draw Down ΔS	Remarks
			Q (Lit/Min)	S			
16:00	0.5	152.1	2.80	1.60			
	1	152.1	3.00	1.80			
	1.5	152.1	3.71	2.51			
	2	152.1	3.71	2.51			
	2.5	152.1	3.70	2.50			
	3	152.1	3.70	2.50			
	3.5	152.1	3.69	2.49			
	4	152.1	3.69	2.49			
	4.5	152.1	3.68	2.48			
	5	152.1	3.68	2.48			
	6	152.1	3.68	2.48			
	7	152.1	3.68	2.48			
	8	152.1	3.68	2.48			
	9	152.1	3.68	2.48			
	10	152.1	3.68	2.48			
	12	152.1	3.68	2.48			
	14	152.1	3.69	2.49			
	16	152.1	3.69	2.49			
	18	152.1	3.69	2.49			
	20	152.1	3.69	2.49			
	25	152.1	3.70	2.50			
	30	152.1	3.71	2.51			
	35	152.1	3.71	2.51			
	40	152.1	3.71	2.51			
	45	152.1	3.71	2.51			
	50	152.1	3.71	2.51			
	55	152.1	3.71	2.51			
	60	152.1	3.71	2.51			
	70	152.1	3.71	2.51			
	80	152.1	3.71	2.51			
	90	152.1	3.71	2.51			
	100	152.1	3.71	2.51			
	110	152.1	3.71	2.51			
18:00	120	152.1	3.71	2.51			
18:00	0.5	204.12	4.30	3.17			
	1	204.12	4.40	3.27			
	1.5	204.12	4.45	3.25			
	2	204.12	4.50	3.3			
	2.5	204.12	4.50	3.3			
	3	204.12	4.50	3.3			
	3.5	204.12	4.50	3.3			
	4	204.12	4.61	3.41			
	4.5	204.12	4.61	3.41			
	5	204.12	4.61	3.41			
	6	204.12	4.48	3.28			
	7	204.12	4.54	3.34			
	8	204.12	4.55	3.35			
	9	204.12	4.59	3.39			
	10	204.12	4.58	3.38			
	12	204.12	4.58	3.38			
	14	204.12	4.58	3.38			
	16	204.12	4.55	3.35			
	18	204.12	4.53	3.33			
	20	204.12	4.52	3.32			
	25	204.12	4.52	3.32			
	30	204.12	4.52	3.32			
	35	204.12	4.52	3.32			
	40	204.12	4.51	3.31			
	45	204.12	4.52	3.32			
	50	204.12	4.52	3.32			
	55	204.12	4.54	3.34			
	60	204.12	4.54	3.34			
	70	204.12	4.54	3.34			
	80	204.12	4.54	3.34			
	90	204.12	4.54	3.34			
	100	204.12	4.54	3.34			
	110	204.12	4.54	3.34			
20:00	120	204.12	4.54	3.34			

Time	Duration After Beginning Pumping t (min)	Measuring (cm)	Volume		Water level S (m)	Draw Down ΔS	Remarks
			Q (Lit/Min)	S			
20:00	0.5	265.6	5.00	3.80			
	1	265.6	5.10	3.90			
	1.5	265.6	5.20	4.00			
	2	265.6	5.30	4.10			
	2.5	265.6	5.82	4.62			
	3	265.6	5.90	4.70			
	3.5	265.6	5.96	4.76			
	4	265.6	5.94	4.74			
	4.5	265.6	5.91	4.71			
	5	265.6	5.91	4.71			
	6	265.6	5.88	4.68			
	7	265.6	5.86	4.66			
	8	265.6	5.83	4.63			
	9	265.6	5.84	4.64			
	10	265.6	5.84	4.64			
	12	265.6	5.84	4.64			
	14	265.6	5.84	4.64			
	16	265.6	5.85	4.65			
	18	265.6	5.85	4.65			
	20	265.6	6.47	5.27			
	25	265.6	5.30	4.10			
	30	265.6	5.39	4.19			
	35	265.6	5.39	4.19			
	40	265.6	5.39	4.19			
	45	265.6	5.35	4.15			
	50	265.6	5.17	3.97			
	55	265.6	5.17	3.97			
	60	265.6	5.17	3.97			
	70	265.6	5.17	3.97			
	80	265.6	5.17	3.97			
	90	265.6	5.17	3.97			
	100	265.6	5.17	3.97			
	110	265.6	5.17	3.97			
22:00	120	265.6	5.17	3.97			
22:00	0.5	337.1	7.20	6.00			
	1	337.1	7.85	6.65			
	1.5	337.1	7.95	6.75			
	2	337.1	7.92	6.72			
	2.5	337.1	8.00	6.80			
	3	337.1	8.01	6.81			
	3.5	337.1	8.01	6.81			
	4	337.1	8.01	6.81			
	4.5	337.1	8.01	6.81			
	5	337.1	8.01	6.81			
	6	337.1	8.01	6.81			
	7	337.1	8.02	6.82			
	8	337.1	8.02	6.82			
	9	337.1	8.02	6.82			
	10	337.1	8.03	6.83			
	12	337.1	8.03	6.83			
	14	337.1	8.03	6.83			
	16	337.1	7.98	6.78			
	18	337.1	7.98	6.78			
	20	337.1	7.98	6.78			
	25	337.1	8.01	6.81			
	30	337.1	8.01	6.81			
	35	337.1	8.02	6.82			
	40	337.1	8.02	6.82			
	45	337.1	8.03	6.83			
	50	337.1	8.03	6.83			
	55	337.1	8.03	6.83			
	60	337.1	8.03	6.83			
	70	337.1	8.03	6.83			
	80	337.1	8.03	6.83			
	90	337.1	8.03	6.83			
	100	337.1	8.03	6.83			
	110	337.1	8.03	6.83			
24:00	120	337.1	8.03	6.83			

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume Q (Lit/Min)	Water level		Draw Down ΔS	Remarks
				S	(m)		
24.00	0.5		265.6	6.95	5.75		
0	1		265.6	7.10	5.90		
0	1.5		265.6	7.10	5.90		
0	2		265.6	7.11	5.91		
0	2.5		265.6	7.11	5.91		
0	3		265.6	7.12	5.92		
0	3.5		265.6	7.13	5.93		
0	4		265.6	7.14	5.94		
0	4.5		265.6	7.15	5.95		
0	5		265.6	7.16	5.95		
0	6		265.6	7.16	5.95		
0	7		265.6	7.16	5.95		
0	8		265.6	7.17	5.97		
0	9		265.6	7.17	5.97		
0	10		265.6	7.18	5.98		
0	12		265.6	7.19	5.99		
0	14		265.6	7.19	5.99		
0	16		265.6	7.19	5.99		
0	18		265.6	7.19	5.99		
0	20		265.6	7.19	5.99		
0	25		265.6	7.19	5.99		
0	30		265.6	7.20	6.00		
0	35		265.6	7.22	6.02		
0	40		265.6	7.24	6.04		
0	45		265.6	7.26	6.06		
0	50		265.6	7.26	6.06		
0	55		265.6	7.27	6.07		
0	60		265.6	7.28	6.08		
0	70		265.6	7.28	6.08		
0	80		265.6	7.28	6.08		
0	90		265.6	7.28	6.08		
0	100		265.6	7.28	6.08		
0	110		265.6	7.28	6.08		
2.00	120		265.6	7.28	6.08		
2.00	0.5		204.1	6.40	5.20		
0	1		204.1	6.00	4.80		
0	1.5		204.1	5.80	4.60		
0	2		204.1	5.70	4.50		
0	2.5		204.1	5.63	4.43		
0	3		204.1	5.52	4.32		
0	3.5		204.1	5.49	4.29		
0	4		204.1	5.33	4.13		
0	4.5		204.1	5.28	4.08		
0	5		204.1	5.25	4.05		
0	6		204.1	5.23	4.03		
0	7		204.1	5.22	4.02		
0	8		204.1	5.22	4.02		
0	9		204.1	5.22	4.02		
0	10		204.1	5.22	4.02		
0	12		204.1	5.23	4.03		
0	14		204.1	5.20	4.00		
0	16		204.1	5.18	3.98		
0	18		204.1	5.17	3.97		
0	20		204.1	5.16	3.96		
0	25		204.1	5.15	3.95		
0	30		204.1	5.15	3.95		
0	35		204.1	5.17	3.97		
0	40		204.1	5.15	3.95		
0	45		204.1	5.15	3.95		
0	50		204.1	5.15	3.95		
0	55		204.1	5.15	3.95		
0	60		204.1	5.15	3.95		
0	70		204.1	5.15	3.95		
0	80		204.1	5.15	3.95		
0	90		204.1	5.15	3.95		
0	100		204.1	5.15	3.95		
0	110		204.1	5.15	3.95		
4.00	120		204.1	5.15	3.95		

Time	Duration After Beginning Pumping t (min)	Measuring (mm)	Volume Q (Lit/Min)	Water level		Draw Down ΔS	Remarks
				S	(m)		
4:00	0.5		152.1	4.35	3.15		
0	1		152.1	4.28	3.08		
0	1.5		152.1	4.25	3.05		
0	2		152.1	4.21	3.01		
0	2.5		152.1	4.17	2.97		
0	3		152.1	4.15	2.95		
0	3.5		152.1	4.13	2.93		
0	4		152.1	4.12	2.92		
0	4.5		152.1	4.11	2.91		
0	5		152.1	4.10	2.90		
0	6		152.1	4.10	2.90		
0	7		152.1	4.10	2.90		
0	8		152.1	4.09	2.89		
0	9		152.1	4.08	2.88		
0	10		152.1	4.07	2.87		
0	12		152.1	4.06	2.86		
0	14		152.1	4.06	2.86		
0	16		152.1	4.06	2.86		
0	18		152.1	4.06	2.86		
0	20		152.1	4.06	2.86		
0	25		152.1	4.06	2.86		
0	30		152.1	4.06	2.86		
0	35		152.1	4.06	2.86		
0	40		152.1	4.06	2.86		
0	45		152.1	4.06	2.86		
0	50		152.1	4.06	2.86		
0	55		152.1	4.06	2.86		
0	60		152.1	4.06	2.86		
0	70		152.1	4.06	2.86		
0	80		152.1	4.06	2.86		
0	90		152.1	4.06	2.86		
0	100		152.1	4.06	2.86		
0	110		152.1	4.06	2.86		
6:00	120		152.1	4.06	2.86		

# PUMPING TEST DATA WELL NO. C-8 (CONTINUOUS CONSTANT DISCHARGE TEST AND RECOVERY TEST)

## PUMPING TEST RECORD (CONTINUOUS TEST)

Data Permed.  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping

Well Location: C-8  
 GL- 1.20 m

Time	Duration After Beginning Pumping t (min)	Measuring Volume (Lit/Min)	Water Level S (m)	r 2/ t	Draw Down ΔS (m)	Remarks
	0 0	0 0	1.20		0	
	0 5	265.6	1.90	5384.80 X10	0.70	
	1 0	265.6	2.10	2692.40	0.90	
	1 5	265.6	2.40	1794.93	1.20	
	2 0	265.6	2.80	1346.20	1.60	
	2 5	265.6	3.10	1016.96	1.90	
	3 0	265.6	3.50	897.47	2.30	
	3 5	265.6	3.90	769.26	2.70	
	4 0	265.6	4.20	673.10	3.00	
	4 5	265.6	4.50	598.31	3.30	
	5 0	265.6	4.80	538.48	3.60	
	6 0	265.6	5.01	448.73	3.81	
	7 0	265.6	5.30	384.63	4.10	
	8 0	265.6	5.64	336.55	4.44	
	9 0	265.6	5.90	299.16	4.70	
	10 0	265.6	6.26	269.24	5.06	
	12 0	265.6	6.90	224.37	5.30	
	14 0	265.6	6.72	192.31	5.52	
	16 0	265.6	7.10	168.28	5.90	
	20 0	265.6	7.20	149.58	6.00	
	25 0	265.6	7.25	134.62	6.05	
	30 0	265.6	7.38	107.70	6.18	
	35 0	265.6	7.49	89.75	6.28	
	40 0	265.6	7.64	76.93	6.44	
	45 0	265.6	7.75	59.83	6.50	
	50 0	265.6	7.80	53.85	6.60	
	55 0	265.6	7.85	48.95	6.65	
	60 0	265.6	7.90	44.67	6.70	
	70 0	265.6	7.95	38.46	6.75	
	80 0	265.6	8.01	33.66	6.81	
	90 0	265.6	8.03	29.52	6.83	
	100 0	265.6	8.04	26.92	6.84	
	110 0	265.6	8.04	24.48	6.84	
	120 0	265.6	8.05	22.44	6.85	
	140 0	265.6	8.05	19.23	6.85	
	160 0	265.6	8.05	16.83	6.85	
	180 0	265.6	8.05	14.96	6.85	
	200 0	265.6	8.05	13.46	6.85	
	220 0	265.6	8.06	12.24	6.86	
	240 0	265.6	8.06	11.22	6.86	
	260 0	265.6	8.06	9.52	6.86	
	320 0	265.6	8.06	8.41	6.86	
	360 0	265.6	8.06	7.48	6.86	
	420 0	265.6	8.06	6.41	6.86	
	480 0	265.6	8.06	5.61	6.86	
	540 0	265.6	8.06	4.99	6.86	
	600 0	265.6	8.06	4.49	6.86	
	660 0	265.6	8.05	4.08	6.85	
	720 0	265.6	8.05	3.74	6.85	
	780 0	265.6	8.06	3.45	6.86	
	840 0	265.6	8.06	3.21	6.86	
	900 0	265.6	8.06	2.99	6.86	
	960 0	265.6	8.06	2.80	6.86	
	1,020 0	265.6	8.06	2.64	6.86	
	1,080 0	265.6	8.06	2.49	6.86	
	1,140 0	265.6	8.06	2.36	6.86	
	1,200 0	265.6	8.06	2.24	6.86	
	1,260 0	265.6	8.06	2.14	6.86	
	1,320 0	265.6	8.06	2.04	6.86	
16 00	1,380 0	265.6	8.06	1.95	6.86	
	1,440 0	265.6	8.06	1.87	6.86	

## PUMPING TEST RECORD (RECOVERY TEST)

Date Performed: 23/7/84  
 Pump Type: Submersible Pump  
 Static Water Level Before Pumping 16.5m

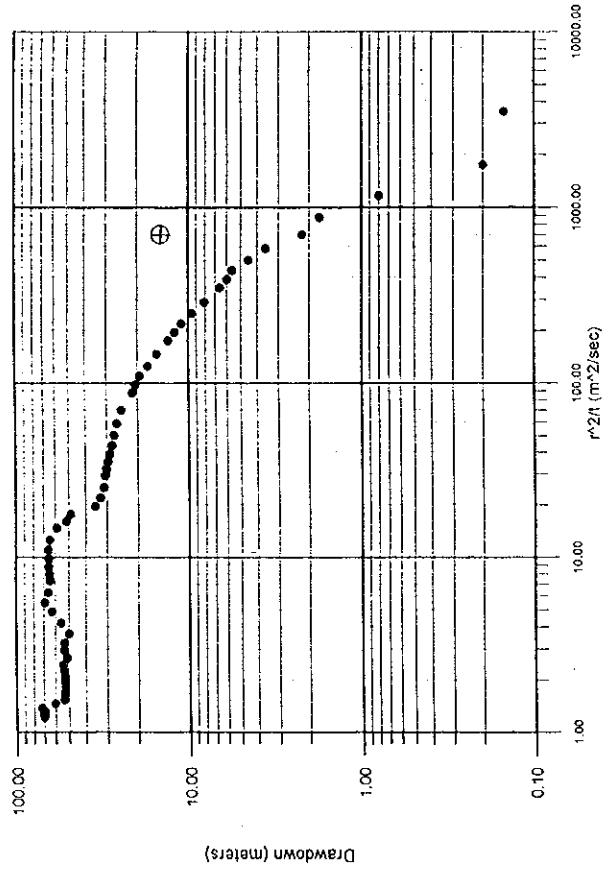
Well location: C-8  
 below 1.2 m

Time	Duration After Beginning Pumping t (min)	Time After End of Pumping (min)	L/t	Water Level S' (m)	Recovery S' (t'-O)-S (m)	Water Level Variation s'-S W.L. (m)
	11:00 MIN		1740.0	6.86		
	0	0 5	1740.5	2.881.0	1.45	5.41
	0	1 0	1741.0	1.441.0	1.24	5.62
	0	1 5	1741.5	961.0	1.22	5.64
	1 22	2 0	1742.0	721.0	1.22	5.64
	1 22	2 5	1742.5	577.0	1.22	5.64
	1 22	3 0	1743.0	481.0	1.22	5.64
	1 22	3 5	1743.5	412.4	1.22	5.64
	1 22	4 0	1744.0	361.0	1.22	5.64
	1 22	4 5	1744.5	321.0	1.22	5.64
	1 22	5 0	1745.0	289.0	1.22	5.64
	1 22	6 0	1746.0	241.0	1.22	5.64
	1 22	7 0	1747.0	206.7	1.22	5.64
	1 22	8 0	1748.0	181.0	1.22	5.64
	1 22	9 0	1749.0	161.0	1.22	5.64
	1 22	10 0	1750.0	145.0	1.22	5.64
	1 22	12 0	1752.0	121.0	1.22	5.64
	1 22	14 0	1754.0	103.9	1.22	5.64
	1 22	16 0	1756.0	91.0	1.22	5.64
	1 22	18 0	1758.0	81.0	1.22	5.64
	1 22	20 0	1760.0	73.0	1.22	5.64
	1 22	25 0	1765.0	58.6	1.22	5.64
	1 22	30 0	1770.0	49.0	1.22	5.64
	1 22	35 0	1775.0	42.1	1.22	5.64
	1 22	40 0	1780.0	37.0	1.22	5.64
	1 22	45 0	1785.0	33.0	1.22	5.64
	1 22	50 0	1790.0	29.8	1.22	5.64
	1 22	55 0	1795.0	27.2	1.22	5.64
	0	60 0	1800.0	25.0	1.22	5.64
	0	70 0	1810.0	21.6	1.22	5.64
	0	80 0	1820.0	19.0	1.22	5.64
	0	90 0	1830.0	17.0	1.21	5.65
	0	100 0	1840.0	15.4	1.21	5.65
	0	110 0	1850.0	14.1	1.21	5.65
	0	120 0	1860.0	13.0	1.20	5.66
	0	140 0	1880.0	11.3	1.20	5.66
	0	160 0	1900.0	10.0	1.20	5.66
	0	180 0	1920.0	9.0	1.20	5.66
	0	200 0	1940.0	8.2	1.20	5.66
	0	220 0	1960.0	7.5	1.20	5.66
	0	240 0	1980.0	7.0	1.20	5.66
	0	260 0	2000.0	6.1	1.20	5.66
	0	320 0	2060.0	5.5	1.20	5.66
	0	360 0	2100.0	5.0	1.20	5.66
	0 0	0 0	0 0	0 00	0 00	0 00
	0 0	0 0	0 0	0 00	0 00	0 00

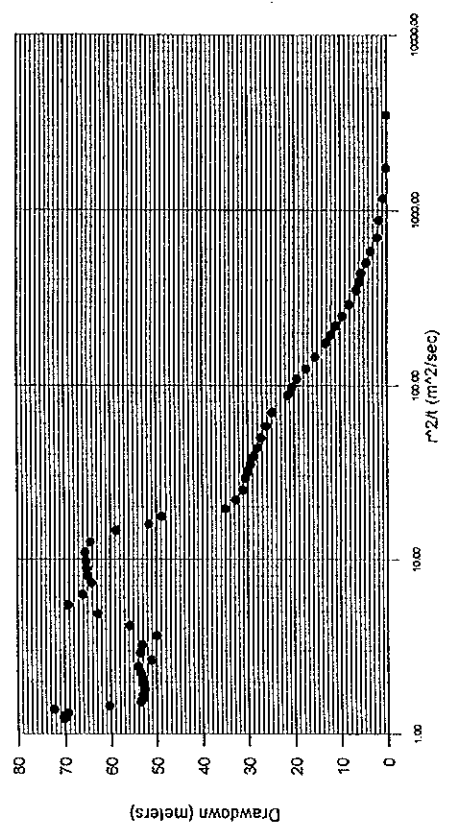
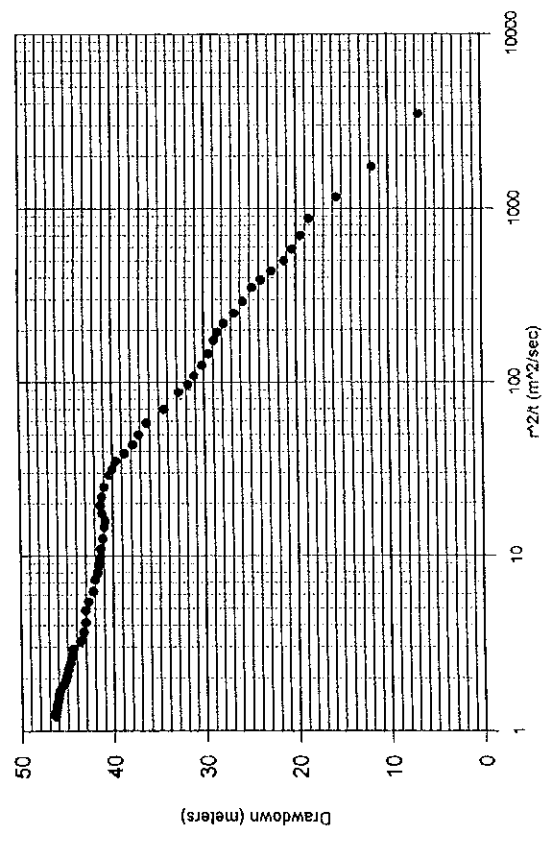
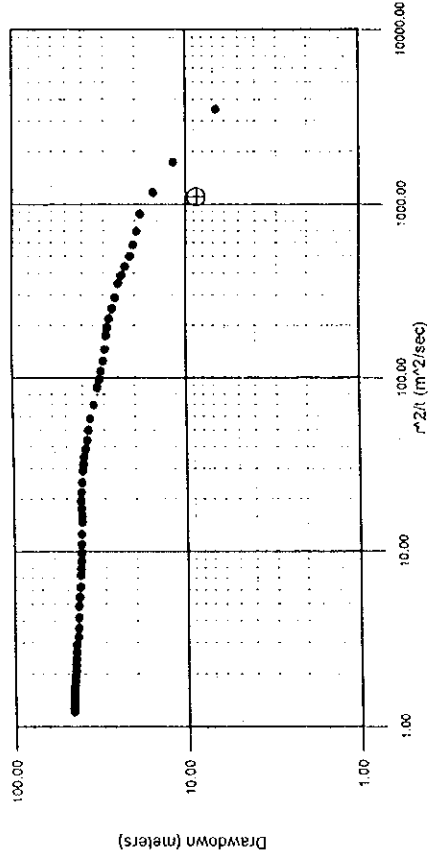
## Appendix I.2.10

### Result of Pumping Test (Drawdown Curve)

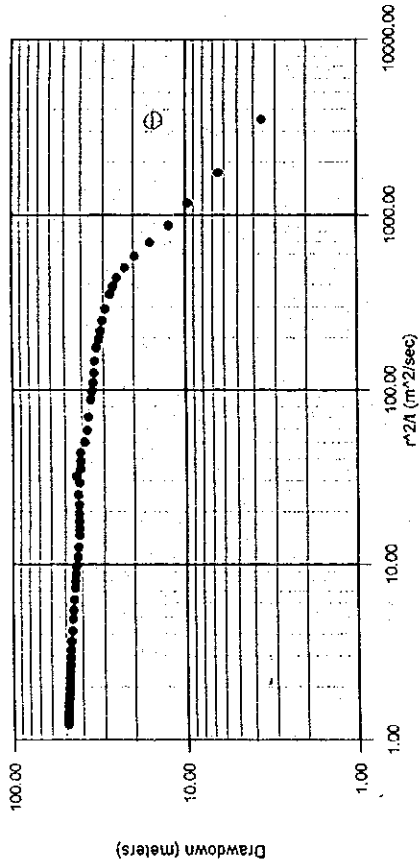
TEST WELL A-2 DRAWDOWN CURVE (Constant Discharge Test)



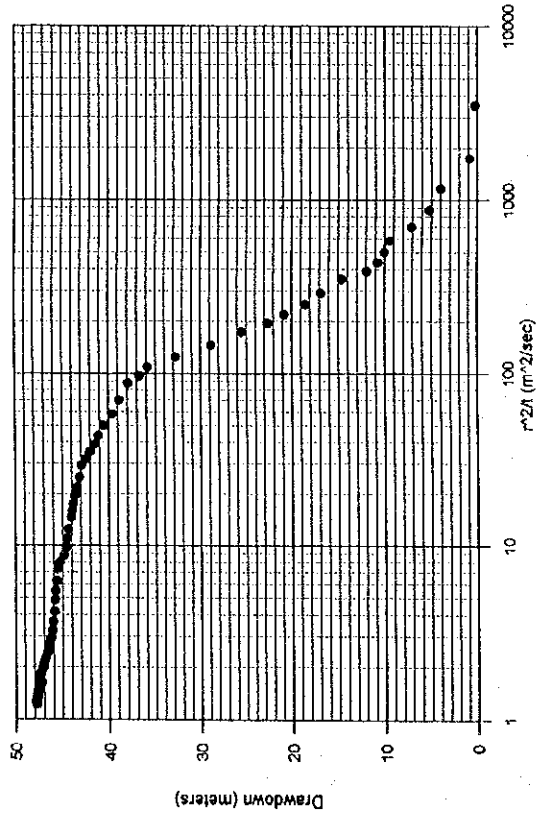
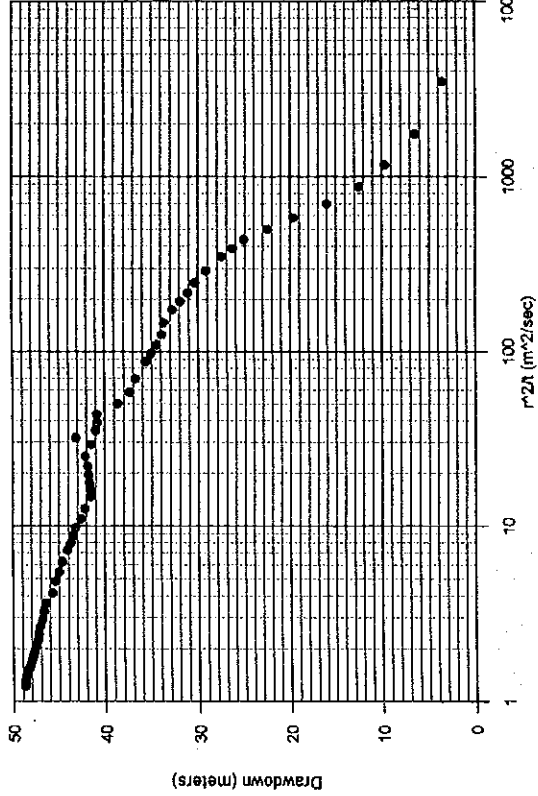
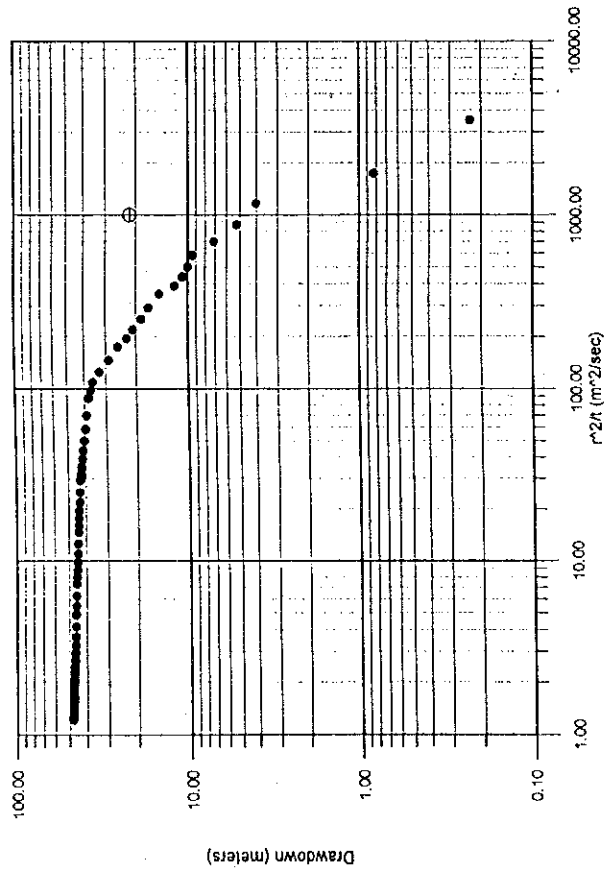
TEST WELL A-1 DRAWDOWN CURVE (Constant Discharge Test)



TEST WELL A-4 DRAWDOWN CURVE (Constant Discharge Test)



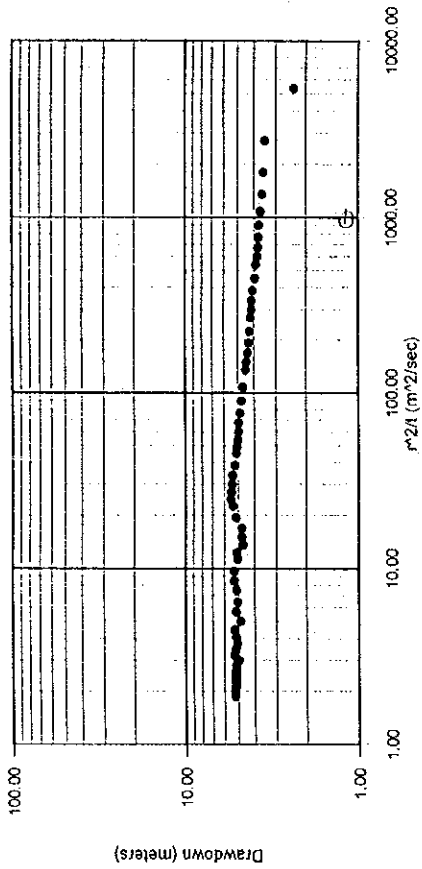
Test Well No. A-3 Drawdown Curve (Constant Discharge Test)



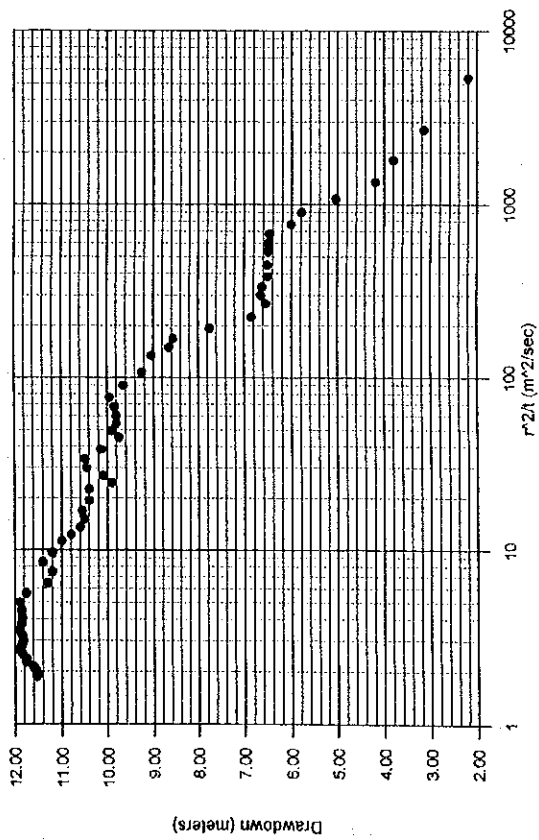
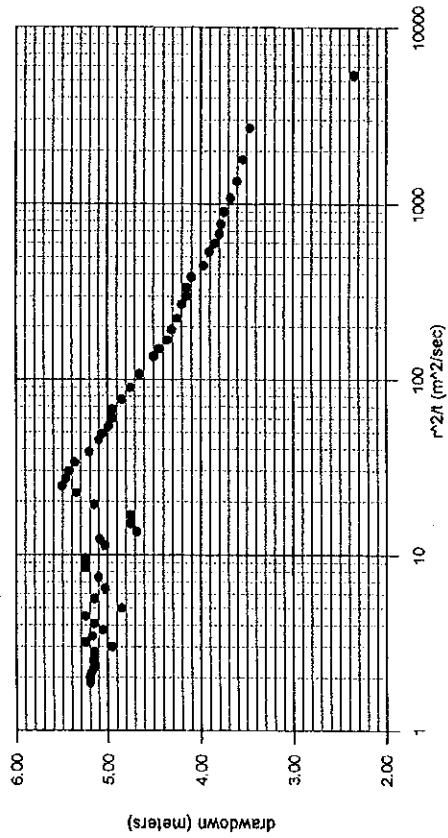
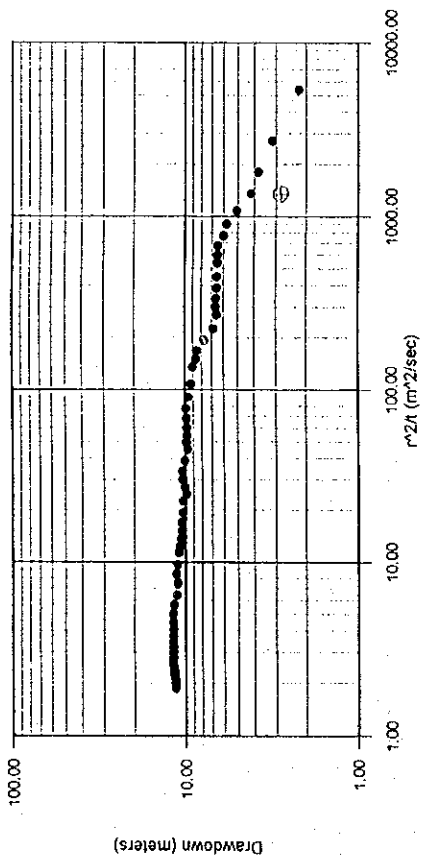
Result of Pumping Test (Drawdown Curve A-3, A-4)

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TEST WELL B-2 DRAWDOWN CURVE (Constant Discharge Test)



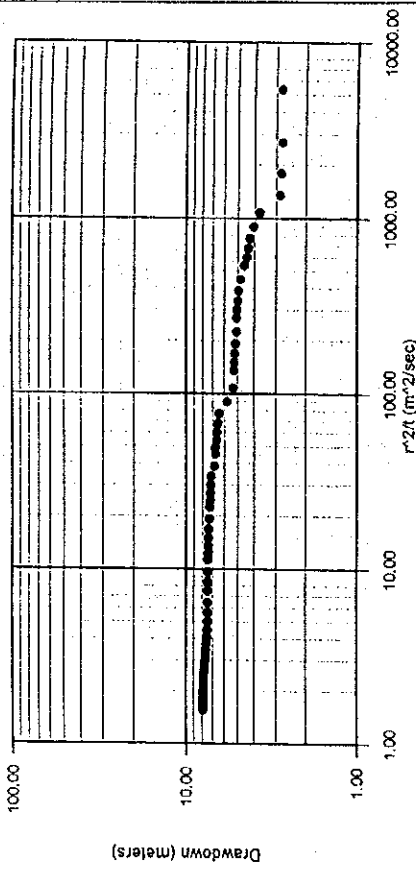
TEST WELL B-1 DRAWDOWN CURVE (Constant Discharge Test)



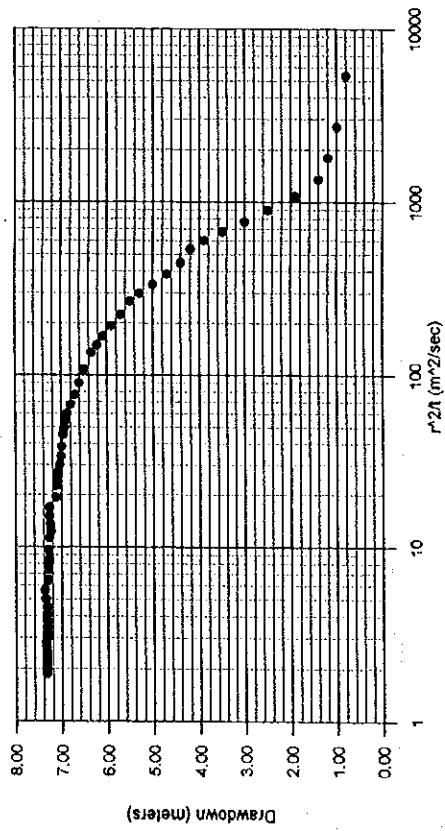
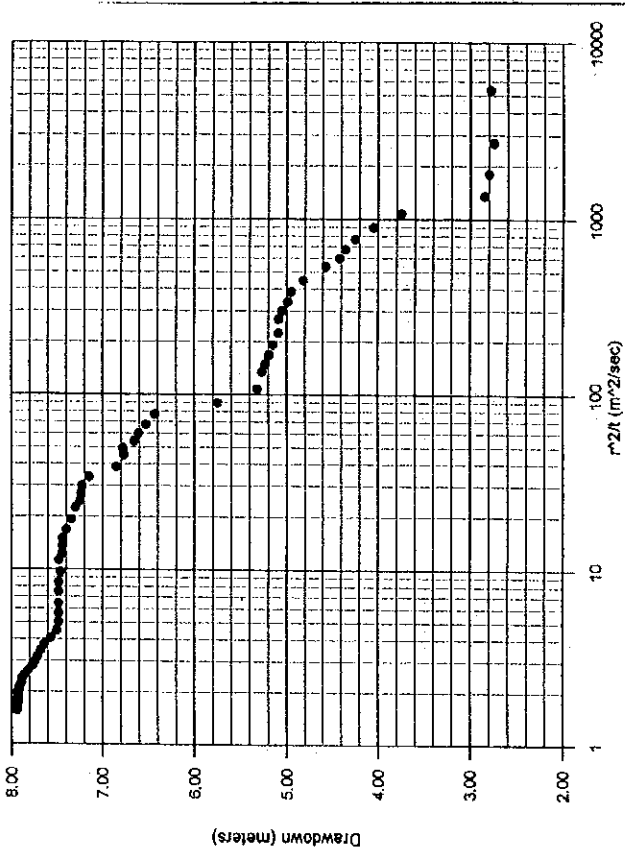
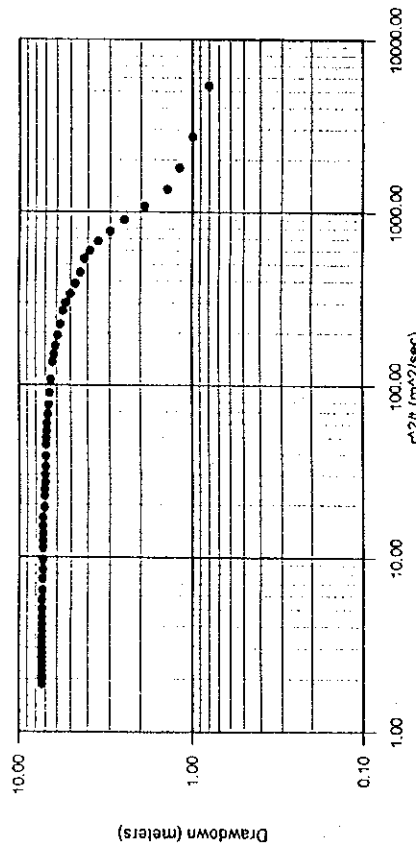
Result of Pumping Test (Drawdown Curve B-1, B-2)



TEST WELL C-1 DRAWDOWN CURVE (Constant Discharge Test)

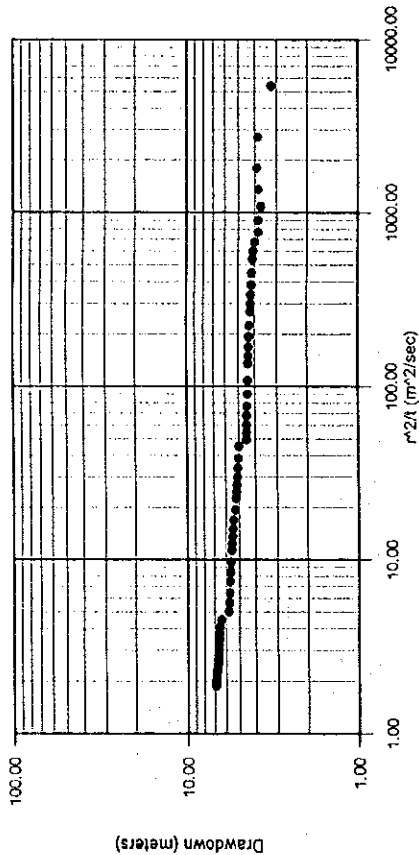


TEST WELL B-3 DRAWDOWN CURVE (Constant Discharge Test)

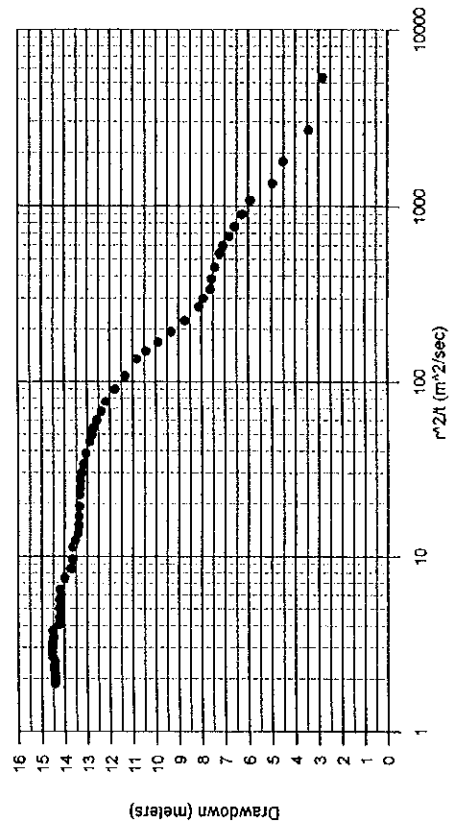
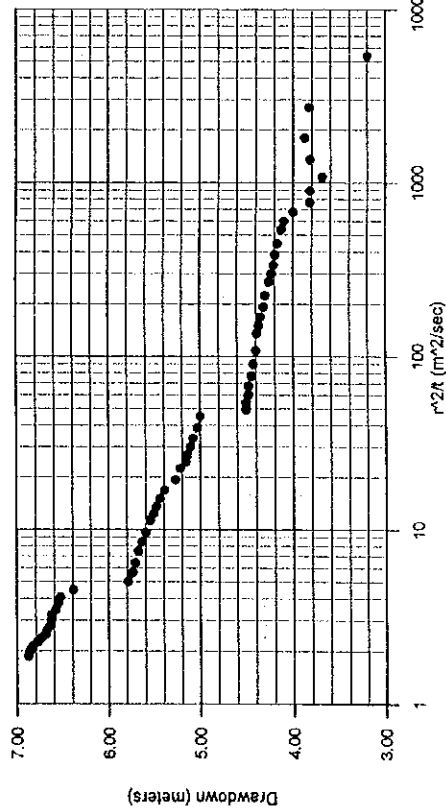
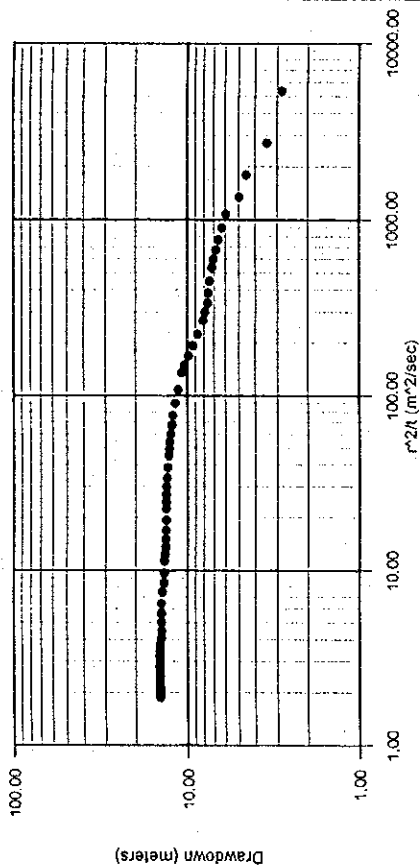


Result of Pumping Test (Drawdown Curve B-3, C-1)

TEST WELL C-2 DRAWDOWN CURVE (Constant Discharge Test)

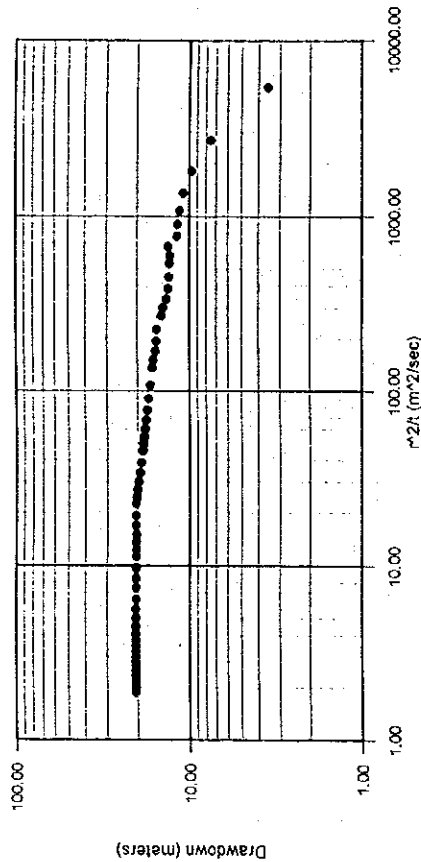


TEST WELL C-3 DRAWDOWN CURVE (Constant Discharge Test)

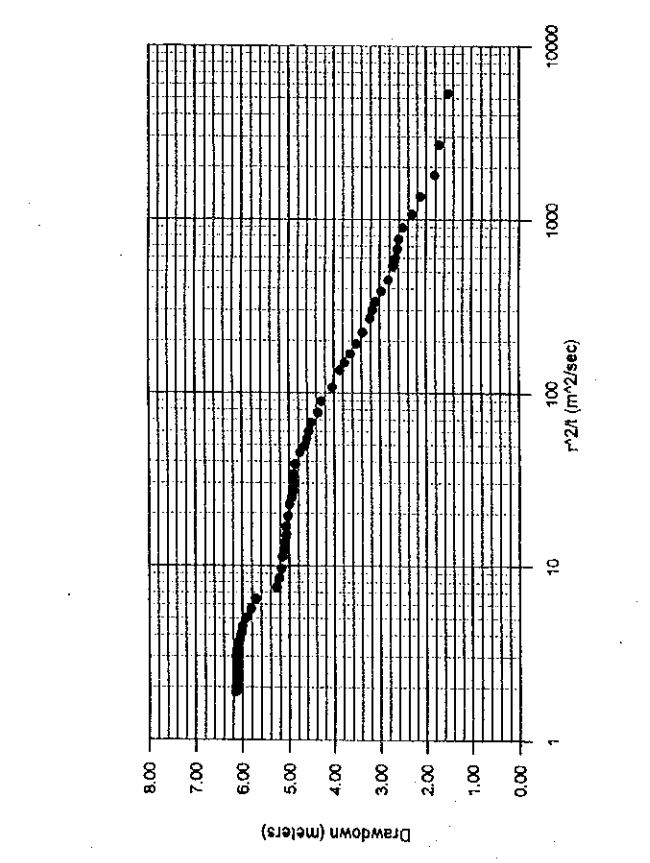
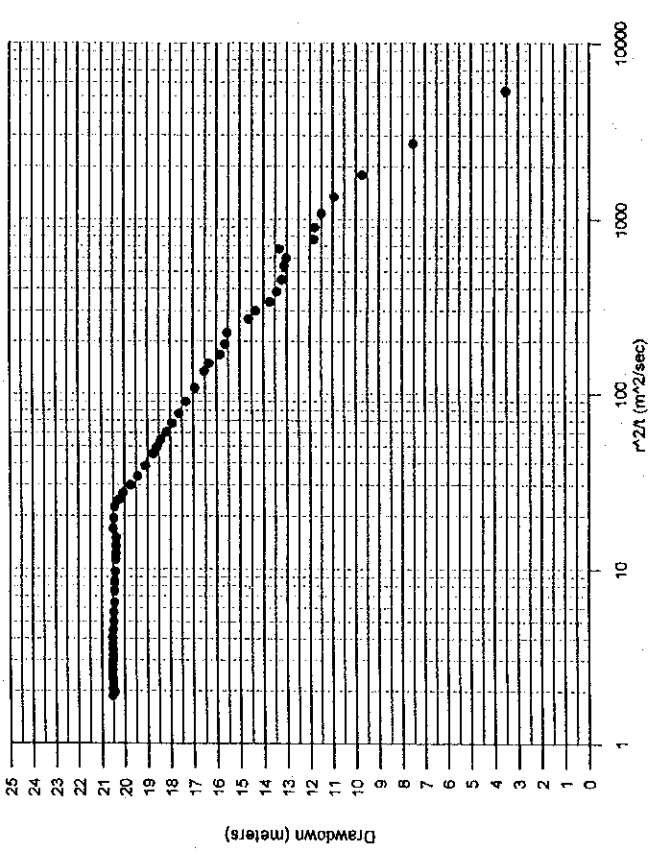
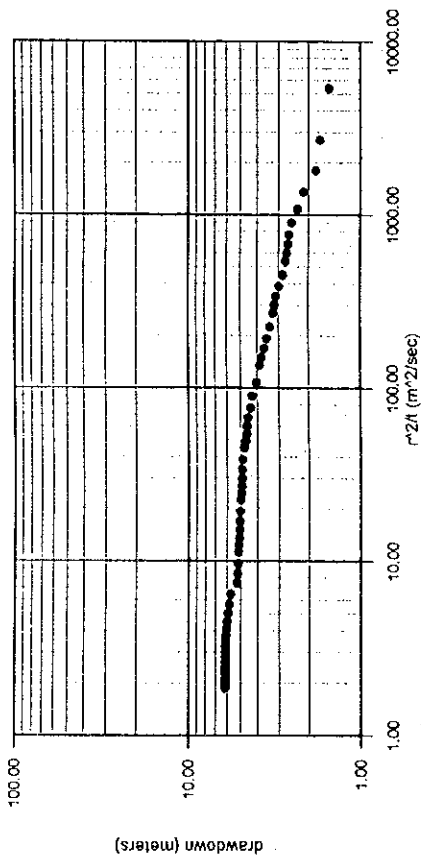


Result of Pumping Test (Drawdown Curve C-2, C-3)

TEST WELL C-5 DRAWDOWN CURVE (Constant Discharge Test)

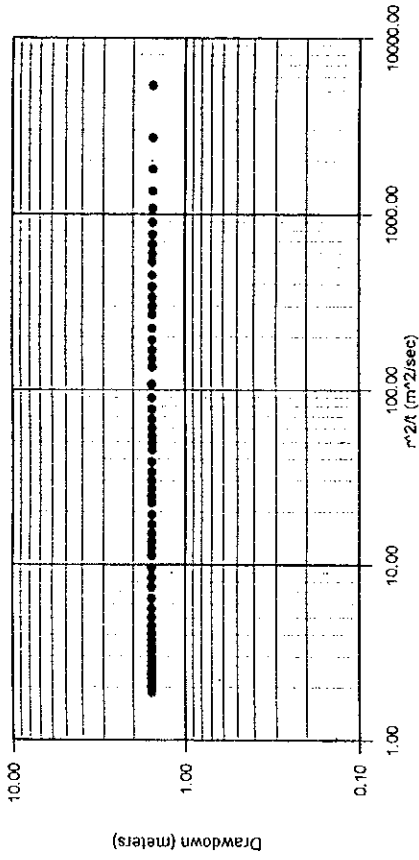


TEST WELL C-4 DRAWDOWN CURVE (Constant Discharge Test)

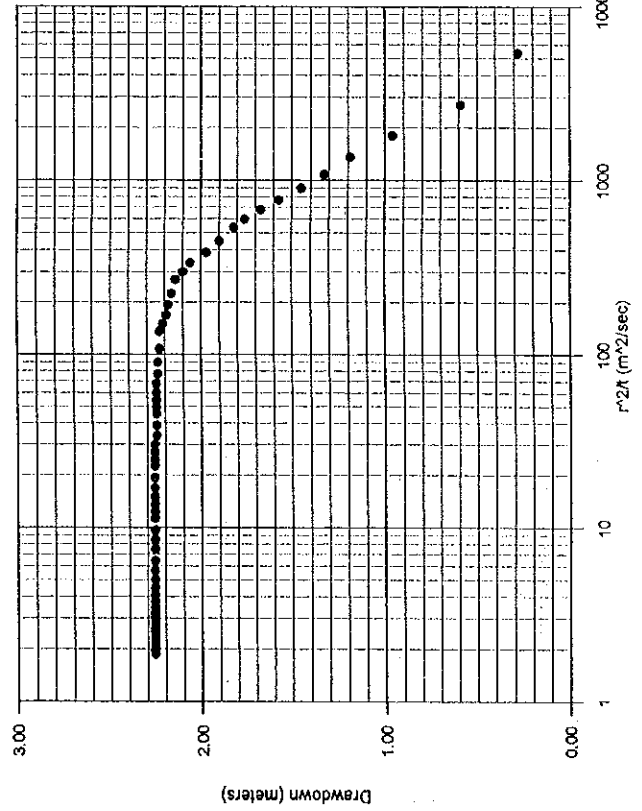
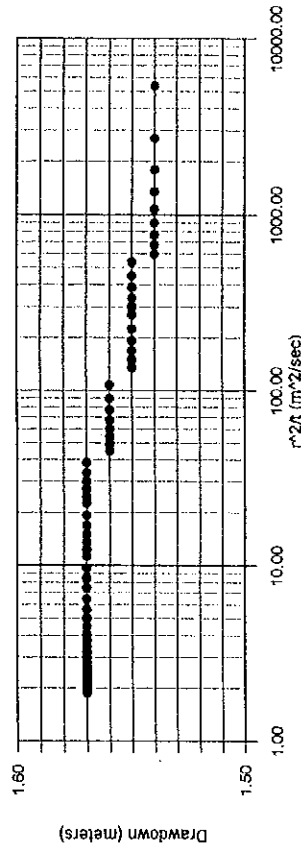
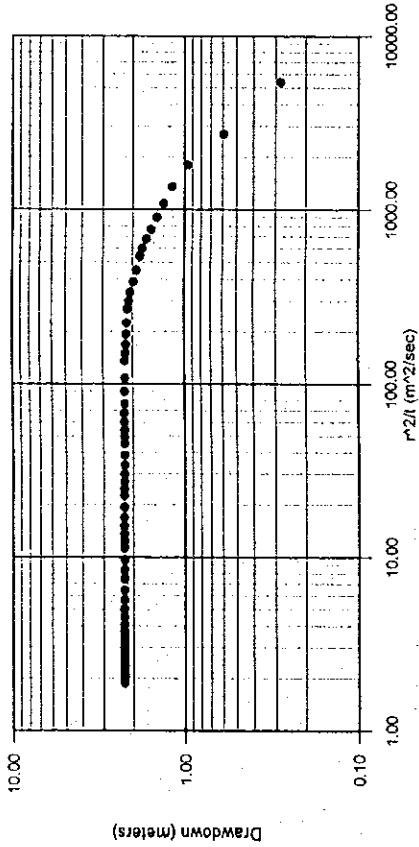


Result of Pumping Test (Drawdown Curve C-4, C-5)  
 JICA The Study on Water Supply System in Ulaanbaatar and Surroundings

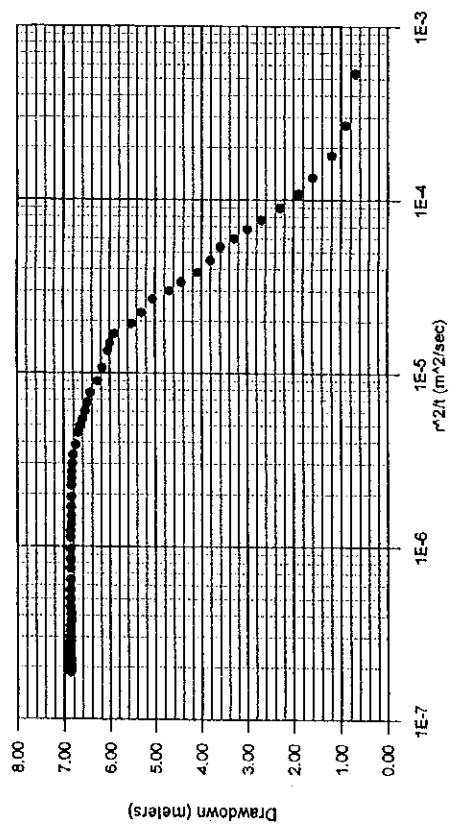
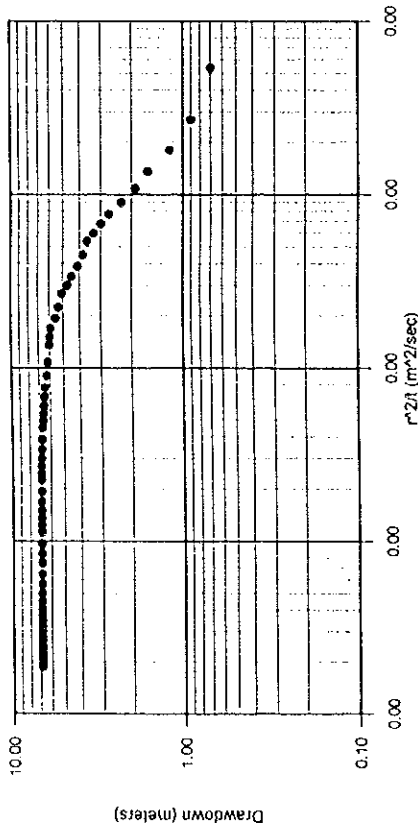
TEST WELL C-7 DRAWDOWN CURVE (Constant Discharge Test)



TEST WELL C-6 DRAWDOWN CURVE (Constant Discharge Test)



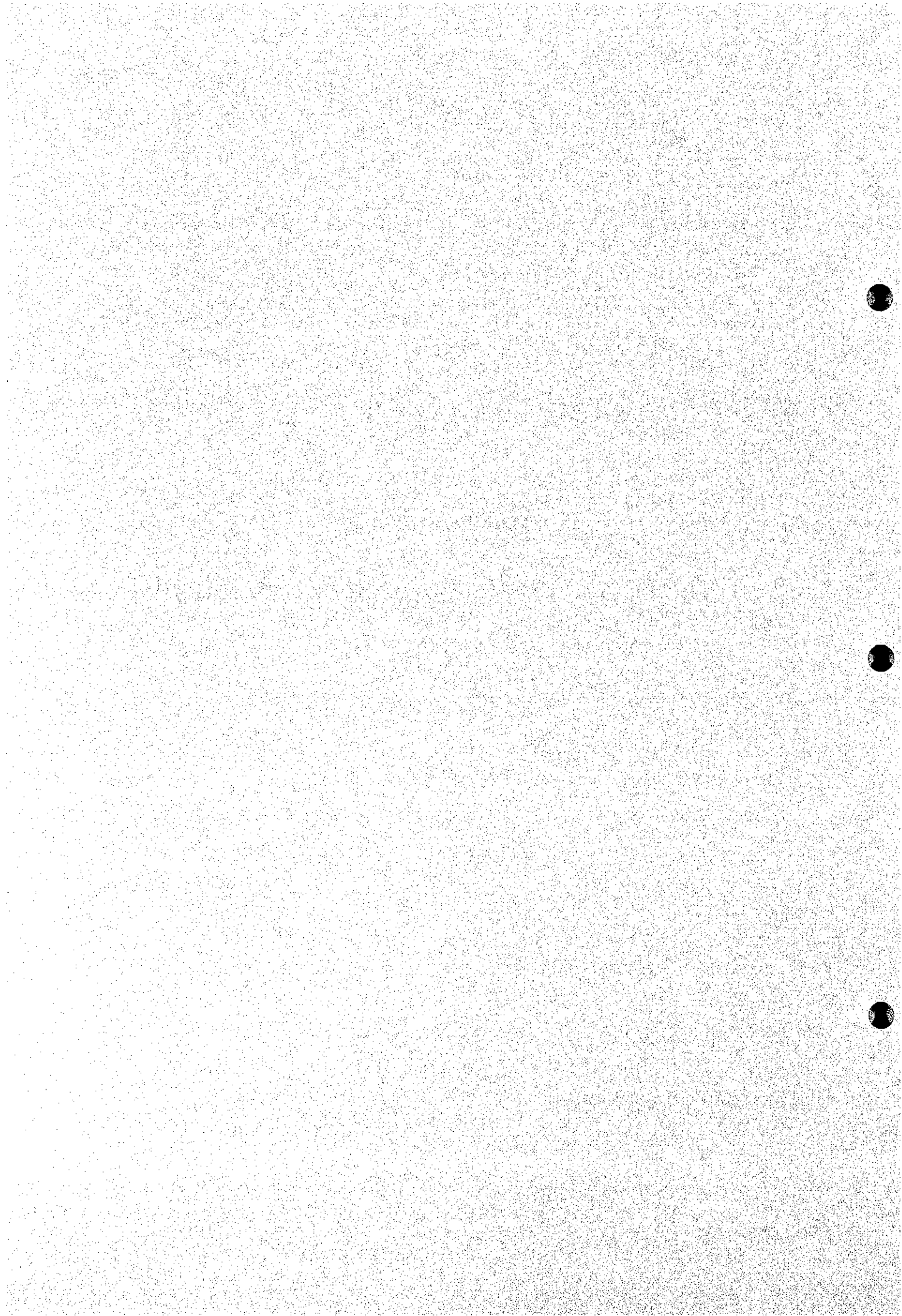
TEST WELL C-8 DRAWDOWN CURVE (Constant Discharge Test)



Result of Pumping Test (Drawdown Curve C-8)

## Appendix I 3.1

### The Data of Continuous Water Level Records



Water Levels of Upper No. 19

1993

Depth to water surface at noon from the measuring point.

Upper

YEAR: 1993

Water Source: Upper

Well No. (Ck6): 19

19

DATE	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug	Scp	Oct	Nov	Dec
1											3.22	3.26
2											3.22	3.20
3											3.22	3.22
4											3.23	3.24
5											3.23	3.24
6											3.25	3.24
7											3.25	3.23
8											3.25	3.22
9											3.26	3.21
10											3.25	3.20
11											3.25	3.20
12											3.25	3.20
13											3.26	3.19
14											3.26	3.19
15											3.28	3.20
16											3.28	3.22
17											3.29	3.21
18											3.28	3.20
19											3.24	3.20
20											3.20	3.19
21											3.16	3.19
22										3.15	3.14	3.18
23										3.15	3.13	3.18
24										3.15	3.12	3.18
25										3.16	3.14	3.18
26										3.17	3.16	3.18
27										3.18	3.19	3.17
28										3.18	3.20	3.16
29										3.20	3.21	3.16
30										3.22	3.23	3.17
31										3.22	----	3.16
Av										3.18	3.22	3.20
Max										3.22	3.29	3.26
Min										3.15	3.12	3.16
Fluctuation										0.07	0.18	0.10



Water Levels of Upper No.19

1994

Depth to water surface at noon from the measuring point.

Upper

YEAR: 1994

Water Source: Upper

Well No. (Ck6): 19

19

DATE	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	3.16	3.91	4.09	3.95	3.54	3.19	2.87	2.99	2.96	3.05		
2	3.16	3.94	4.09	3.82	3.46	3.18	2.89	2.97	2.87	3.06		
3	3.21	3.93	4.13	3.75	3.41	3.18	2.92	2.99	2.46	3.07		
4	3.26	3.99	4.09	3.64	3.39	3.17	2.94	2.98	2.49	3.08		
5	3.23	3.94	4.12	3.59	3.36	3.16	2.92	2.66	2.56	3.09		
6	3.26	3.95	4.13	3.56	3.33	3.16	2.89	2.56	2.65	3.09		
7	3.29	3.93	4.13	3.63	3.28	3.16	2.90	2.66	2.72	3.11		
8	3.32	4.03	4.24	3.69	3.26	3.15	2.91	2.75	2.75	3.11		
9	3.36	4.07	4.28	3.75	3.23	3.13	2.91	2.81	2.61	3.12		
10	3.39	4.10	4.30	3.79	3.22	3.12	2.84	2.87	2.56	3.13		
11	3.43	4.12	4.30	3.85	3.23	3.12	2.78	2.83	2.70	3.14		
12	3.50	4.14	4.24	3.89	3.22	3.12	2.81	2.63	2.79	3.14		
13	3.53	4.16	4.23	3.83	3.20	3.12	2.81	2.71	2.85	3.14		
14	3.60	4.09	4.24	3.76	3.18	3.13	2.87	2.74	2.90	3.14		
15	3.64	4.08	4.28	3.73	3.17	3.15	2.92	2.73	2.92	3.15		
16	3.67	4.07	4.26	3.83	3.21	3.14	2.95	2.71	2.94	3.16		
17	3.70	4.07	4.35	3.85	3.23	3.14	2.98	2.73	2.89	3.19		
18	3.72	4.07	4.28	3.83	3.23	3.15	3.00	2.79	2.90	3.20		
19	3.74	4.07	4.38	3.68	3.21	3.12	3.01	2.72	2.96	3.21		
20	3.76	4.08	4.43	3.67	3.22	3.13	3.01	2.16	2.99	3.22		
21	3.77		4.38	3.61	3.21	3.12	3.00	2.26	3.01	3.24		
22	3.79		4.44	3.51	3.22	3.09	2.95	2.36	3.04	3.25		
23	3.80		4.37	3.51	3.20	3.03	2.91	2.44	3.05	3.24		
24	3.83		4.33	3.53	3.19	2.94	2.93	2.53	3.07	3.25		
25	3.83	4.08	4.31	3.51	3.19	2.89	2.95	2.65	3.08	3.25		
26	3.84	4.09	4.29	3.51	3.19	2.87	2.94	2.75	3.10	3.25		
27	3.85	4.12	4.28	3.58	3.20	2.85	2.95	2.81	3.12	3.25		
28	3.86	4.11	4.40	3.52	3.21	2.83	2.96	2.87	3.14	3.29		
29	3.87	-----	4.44	3.44	3.19	2.83	2.95	2.91	3.13	3.30		
30	3.88	-----	4.43	3.47	3.19	2.85	2.96	2.94	3.04	3.30		
31	3.90	-----	4.12	-----	3.19	-----	2.96	2.95	-----	3.31		
Av	3.59	4.05	4.27	3.68	3.25	3.07	2.92	2.72	2.87	3.18		
Max	3.90	4.16	4.44	3.95	3.54	3.19	3.01	2.99	3.14	3.31		
Min	3.16	3.91	4.09	3.44	3.17	2.83	2.78	2.16	2.46	3.05		
Fluctuation	0.74	0.25	0.35	0.51	0.37	0.36	0.23	0.82	0.68	0.26		

Water Levels of Central No. 15

1993

Depth to water surface at noon from the measuring point.

Central

YEAR: 1993

Water Source: Central

Well No. (КБ): 15

15

DATE	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1											2.10	2.23
2											2.10	2.27
3											2.14	2.29
4											2.15	2.31
5											2.17	2.35
6											2.19	2.35
7											2.20	2.37
8											2.21	2.39
9											2.22	2.38
10											2.21	2.40
11										1.76	2.22	2.40
12										1.77	2.23	2.39
13										1.78	2.24	2.40
14										1.79	2.24	2.41
15										1.83	2.25	2.42
16										1.87	2.26	2.44
17										1.89	2.26	2.45
18										1.99	2.25	2.46
19										1.91	2.25	2.48
20										1.93	2.25	2.50
21										1.95	2.25	2.51
22										1.97	2.25	2.51
23										1.95	2.22	2.54
24										1.96	2.20	2.56
25										1.96	2.19	2.57
26										1.99	2.19	2.57
27										2.01	2.20	2.60
28										2.04	2.20	2.62
29										2.04	2.21	2.62
30										2.07	2.22	2.63
31										2.09	-----	2.63
Av										1.93	2.21	2.45
Max										2.09	2.26	2.63
Min										1.76	2.10	2.23
Fluctuation										0.33	0.17	0.40

Water Levels of Central No.15

1994

Depth to water surface at noon from the measuring point

Central

YEAR: 1994

Water Source: Central

Well No. (Ck6): 15

15

DATE	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	2.65	3.65	4.84	6.29	3.40	2.79	2.03	1.83	1.33	1.59		
2	2.69	3.67	4.87	6.31	3.35	2.78	2.05	1.83	1.21	1.62		
3	2.72	3.71	4.90	6.32	3.30	2.77	2.06	1.81	1.09	1.65		
4	2.74	3.84	5.10	6.30	3.26	2.76	2.07	1.69		1.67	2.18	
5	2.78	3.90	4.99	6.28	3.22	2.75	2.07	1.59		1.69		
6	2.81	3.95	5.00	6.23	3.17	2.74	2.02	1.01	0.82	1.71		
7	2.83	3.98	5.10	6.14	3.13	2.73	1.93	1.06	0.90	1.73		
8	2.86	4.03	5.17	6.01	3.08	2.72	1.89	1.19	0.88	1.75		
9	2.91	4.08	5.24	5.89	3.05	2.71	1.89	1.27	0.90	1.77		
10	2.94	4.11	5.30	5.76	3.01	2.70	1.90	1.32	0.80	1.78		
11	2.97	4.16	5.35	5.60	2.99	2.70	1.78	1.30	0.85	1.79		
12	3.00	4.21	5.39	5.50	2.97	2.70	1.74	1.11	0.94	1.81		
13	3.02	4.27	5.41	5.41	2.94	2.71	1.76	1.05	1.02	1.83		
14	3.03	4.32	5.43	5.33	2.92	2.72	1.81	1.11	1.11	1.83		
15	3.07	4.37	5.45	5.25	2.90	2.72	1.85	1.10	1.16	1.85		
16	3.07	4.41	5.49	5.15	2.88	2.71	1.90	1.05	1.19	1.87		
17	3.10	4.45	5.56	5.00	2.87	2.70	1.95	1.04	1.18	1.88		
18	3.14	4.47	5.62	4.84	2.86	2.69	1.97	1.08	1.15	1.90		
19	3.17	4.52	5.68	4.62	2.87	2.69	2.01		1.19	1.92		
20	3.21	4.53	5.74	4.38	2.88	2.67	2.02		1.24			
21	3.26	4.55	5.79	4.14	2.88	2.64	2.03		1.28			
22	3.29	4.58	5.84	3.96	2.88	2.62	2.01		1.32			
23	3.32	4.60	5.89	3.81	2.89	2.57	1.94		1.35			
24	3.37	4.65	5.93	3.70	2.87	2.48	1.90		1.38			
25	3.42	4.69	5.98	3.62	2.83	2.37	1.91		1.42			
26	3.46	4.71	6.02	3.57	2.81	2.25	1.89		1.45			
27	3.48	4.80	6.07	3.52	2.79	2.15	1.90	1.03	1.48			
28	3.53	4.81	6.12	3.48	2.80	2.08	1.92	1.10	1.50			
29	3.53	-----	6.17	3.50	2.82	2.03	1.93	1.16	1.53			
30	3.57	-----	6.22	3.45	2.81	2.01	1.91	1.23	1.57			
31	3.60	-----	6.26	-----	2.80	-----	1.89	1.28	-----			
Av	3.11	4.29	5.55	4.98	2.97	2.59	1.93	1.27	1.19	1.77	2.18	
Max	3.60	4.81	6.26	6.32	3.40	2.79	2.07	1.83	1.57	1.92	2.18	
Min	2.65	3.65	4.84	3.45	2.79	2.01	1.74	1.01	0.80	1.59	2.18	
Fluctuation	0.95	1.17	1.42	2.87	0.60	0.78	0.34	0.82	0.77	0.33	0.00	

Water Levels of Central No.69/19a

1993

Depth to water surface at 12:00

Central

YEAR: 1993

Water Source: Central

Well No. (Кв): 69/19a

69/19a

DATE	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1											2.13	2.19
2											2.14	2.21
3											2.16	2.20
4											2.17	2.20
5											2.17	2.22
6										1.97	2.17	2.23
7										1.97	2.18	2.23
8										1.98	2.17	2.21
9										1.99	2.18	2.22
10										2.00	2.19	2.22
11										2.00	2.19	2.23
12										2.01	2.22	2.25
13										2.02	2.23	2.23
14										2.02	2.23	2.24
15										2.02	2.24	2.25
16										2.03	2.24	2.25
17										2.04		2.25
18										2.04		2.25
19										2.03		2.27
20										2.04		2.28
21										2.05		2.29
22										2.06		2.29
23										2.07		2.29
24										2.07	2.19	2.27
25										2.08	2.19	2.28
26										2.08	2.20	2.29
27										2.09	2.22	2.27
28										2.10	2.22	2.29
29										2.11	2.21	2.29
30										2.12	2.21	2.29
31										2.12	----	2.28
Av										2.04	2.19	2.25
Max										2.12	2.24	2.29
Min										1.97	2.13	2.19
Fluctuation										0.16	0.11	0.11

Water Levels of Central No.69/19a

1994

Depth to water surface at 12:00

Central

YEAR: 1994

Water Source: Central

Well No. (Cк6): 69/19a

69/19a

DATE	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	2.27	2.76	3.36	3.66	2.95	2.53	1.96	1.85	1.66	1.86	2.15	
2	2.26	2.80	3.37	3.58	2.94	2.52	1.94	1.85	1.55	1.87	2.17	
3	2.25	2.82	3.41	3.55	2.93	2.52	1.93	1.79	1.52	1.88	2.17	
4	2.24	2.82	3.43	3.52	2.92	2.51	1.92	1.76	1.53	1.89	2.18	
5	2.25	2.83	3.42	3.50	2.90	2.50	1.92	1.74	1.51	1.90		
6	2.26	2.83	3.43	3.48	2.88	2.49	1.92		1.50	1.92		
7	2.28	2.86	3.45	3.42	2.87	2.48	1.91		1.51	1.93		
8	2.30	2.88	3.47	3.40	2.84	2.47	1.89		1.49	1.94		
9	2.31	2.92	3.49	3.37	2.82	2.46	1.88		1.49	1.95		
10	2.32	2.94	3.53	3.34	2.78	2.45	1.86	1.60	1.50	1.97		
11	2.33	2.98	3.53	3.32	2.75	2.44	1.84	1.57	1.51	1.98		
12	2.34	3.00	3.52	3.29	2.73	2.43	1.83	1.59	1.51	1.99		
13	2.35	3.02	3.57	3.28	2.71	2.42	1.82	1.59	1.54	2.00		
14	2.36	3.05	3.59	3.27	2.70	2.41	1.82	1.55	1.56	2.00		
15	2.38	3.07	3.61	3.27	2.69	2.40	1.83	1.55	1.59	2.01		
16	2.39	3.10	3.62	3.27	2.68	2.39	1.84	1.56	1.61	2.01		
17	2.40	3.12	3.64	3.26	2.66	2.38	1.86	1.58	1.63	2.02		
18	2.41	3.15	3.66	3.24	2.64	2.36	1.88	1.58	1.65	2.03		
19	2.39	3.17	3.68	3.22	2.63	2.35	1.89	1.45	1.66	2.04		
20	2.44	3.19	3.70	3.19	2.62	2.33	1.90	1.46	1.67	2.05		
21	2.47	3.21	3.74	3.17	2.62	2.32	1.91	1.45	1.69	2.06		
22	2.49	3.23	3.75	3.13	2.61	2.31	1.92	1.41	1.71	2.07		
23	2.54	3.26	3.76	3.10	2.61	2.28	1.91	1.41	1.73	2.08		
24	2.56	3.25	3.76	3.07	2.60	2.26	1.89	1.42	1.75	2.09		
25	2.59	3.27	3.76	3.03	2.59	2.23	1.88	1.44	1.77	2.09		
26	2.65	3.29	3.74	2.98	2.57	2.19	1.87	1.46	1.78	2.09		
27	2.64	3.31	3.72	2.96	2.56	2.13	1.88	1.49	1.80	2.11		
28	2.67	3.33	3.71	2.96	2.55	2.08	1.88	1.53	1.82	2.12		
29	2.69	-----	3.69	2.95	2.55	2.03	1.89	1.56	1.83	2.13		
30	2.71	-----	3.68	2.95	2.54	1.99	1.88	1.60	1.85	2.14		
31	2.74	-----	3.66	-----	2.53	-----	1.88	1.63	-----	2.14		
Av	2.43	3.05	3.60	3.26	2.71	2.36	1.88	1.57	1.63	2.01	2.17	
Max	2.74	3.33	3.76	3.66	2.95	2.53	1.96	1.85	1.85	2.14	2.18	
Min	2.24	2.76	3.36	2.95	2.53	1.99	1.82	1.41	1.49	1.86	2.15	
Fluctuation	0.50	0.57	0.40	0.71	0.41	0.54	0.14	0.44	0.36	0.28	0.03	

Water Levels of Meat Complex No.1

1993

Depth to water surface at noon from the measuring point.

Meat Complex

YEAR: 1993

Water Source: Meat Complex Well No. (К6) 1

1

DATE	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1											3.67	4.05
2											3.75	4.08
3											3.69	4.07
4											3.66	4.12
5											3.66	4.13
6											3.65	4.15
7										3.69	3.75	4.15
8										3.90	3.78	4.17
9										3.97	3.76	4.19
10										4.00	3.80	4.19
11										4.02	3.82	4.21
12										4.04	3.84	4.19
13										4.06	3.87	4.19
14										4.08	3.88	4.23
15										4.09	3.89	4.26
16										4.11	3.89	4.29
17										4.03	3.89	4.31
18										4.08	3.89	4.33
19										3.85	3.89	4.36
20										3.98	3.89	4.39
21										3.90	3.89	4.41
22										3.76	3.89	4.43
23										3.99	3.89	4.45
24										4.06	3.89	4.47
25										4.09	3.89	4.49
26										3.84	3.89	4.50
27										3.77	3.89	4.52
28										3.75	3.89	4.54
29										3.72	3.89	4.55
30										3.69	3.95	4.57
31										3.68	-----	4.59
Av										3.93	3.83	4.31
Max										4.11	3.95	4.59
Min										3.68	3.65	4.05
Fluctuation										0.44	0.30	0.54

Water Levels of Meat Complex No. 1

1994

Depth to water surface at noon from the measuring point.

Meat Complex

YEAR: 1994

Water Source: Meat Complex Well No. (К.к6) 1

1

DATE	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug	Scp	Oct	Nov	Dec
1	4.61	5.29	5.57	5.75	5.15	4.76	4.34	3.86	2.43	2.90	3.31	
2	4.63	5.33	5.58	5.74	5.13	4.74	4.31	3.87	2.44	2.92	3.34	
3	4.65	5.36	5.60	5.73	5.10	4.73	4.29	3.88	2.44	2.93	3.34	
4	4.69	5.38	5.61	5.75	5.08	4.72	4.27	3.88	2.45	2.95	3.52	
5	4.71	5.40	5.63	5.70	5.05	4.70	4.26	3.87	2.44	2.97		
6	4.73	5.41	5.64	5.69	5.04	4.68	4.25	3.85	2.50	2.99		
7	4.74	5.43	5.66	5.68	5.04	4.67	4.24	3.85	2.55	3.05		
8	4.76	5.45	5.67	5.67	5.04	4.67	4.22	3.82	2.53	3.06		
9	4.78	5.44	5.72	5.63	5.04	4.65	4.21	3.84	2.56	3.08		
10	4.80	5.43	5.72	5.62	5.04	4.62	4.22	3.85	2.58	3.09		
11	4.81	5.43	5.68	5.61	5.03	4.61	4.21	3.76	2.60	3.10		
12	4.82	5.44	5.71	5.59	5.03	4.62	4.19	3.63	2.61	3.12		
13	4.84	5.45	5.73	5.57	5.00	4.62	4.17	3.53	2.62	3.14		
14	4.86	5.46	5.72	5.55	5.00	4.63	4.15	3.41	2.64	3.14		
15	4.86	5.48	5.74	5.53	4.98	4.64	4.14	3.28	2.67	3.06		
16	4.88	5.46	5.74	5.51	4.95	4.63	4.13	3.16	2.68	3.05		
17	4.90	5.47	5.76	5.46	4.94	4.63	4.12	3.07	2.69	3.04		
18	4.92	5.49	5.75	5.44	4.91	4.61	4.11	3.00	2.70	3.04		
19	4.94	5.51	5.73	5.41	4.90	4.59	4.11	2.87	2.69	3.04		
20	4.96	5.53	5.77	5.38	4.89	4.56	4.09	2.67	2.68	3.05		
21	4.96	5.54	5.79	5.35	4.87	4.54	4.08	2.54	2.68	3.06		
22	4.97	5.55	5.79	5.33	4.86	4.53	4.06	2.47	2.71	3.08		
23	4.97	5.46	5.75	5.31	4.85	4.51	4.00	2.42	2.73	3.09		
24	4.97	5.47	5.78	5.30	4.84	4.49	4.00	2.39	2.76	3.11		
25	5.00	5.47	5.80	5.27	4.83	4.48	3.98	2.38	2.78	3.13		
26	5.01	5.50	5.79	5.23	4.81	4.46	3.97	2.37	2.80	3.16		
27	5.02	5.53	5.78	5.22	4.80	4.43	3.96	2.37	2.82	3.19		
28	5.08	5.55	5.79	5.21	4.79	4.41	3.95	2.37	2.84	3.22		
29	5.14	-----	5.77	5.19	4.79	4.38	3.93	2.38	2.86	3.24		
30	5.20	-----	5.78	5.17	4.77	4.36	3.88	2.39	2.88	3.27		
31	5.25	-----	5.76	-----	4.76	-----	3.85	2.41	-----	3.30		
Av	4.89	5.45	5.72	5.49	4.95	4.59	4.12	3.14	2.65	3.08	3.38	
Max	5.25	5.55	5.80	5.75	5.15	4.76	4.34	3.88	2.88	3.30	3.52	
Min	4.61	5.29	5.57	5.17	4.76	4.36	3.85	2.37	2.43	2.90	3.31	
Fluctuation	0.64	0.26	0.23	0.58	0.39	0.40	0.49	1.51	0.45	0.39	0.21	