

State Water Survey Division

GROUNDWATER SECTION

ENR

Illinois Department of
Energy and Natural Resources

SWS Contract Report 341A

APPENDICES FOR:
DEWATERING WELL ASSESSMENT FOR THE HIGHWAY DRAINAGE SYSTEM
AT FOUR SITES IN THE EAST ST. LOUIS AREA, ILLINOIS
(PHASE 1)

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Appendix A
Step Test Data

DEWATERING WELL DATA

	Well No. I-70 W2	Piezometer No. I-70 P2
Date Drilled:	1973	1973
Casing		
Top elevation:	-	414.6
Diameter:	16-in. SS	2-in. PVC
Length:	-	na
Screen		
Bottom elevation:	307.36	na
Diameter:	16-in. SS	2-in. PVC
Length:	60 ft	3 ft
Slot size:	.080-in.	na
Measuring Point Elevation:	406.5	414.6
Date of Step Test:	7/19/83	-
Nonpumping Water Level		
Depth below MP:	23.63 ft	31.49 ft
Elevation:	382.87	383.11
Water Sample		
Time:	5:55 p.m.	-
Temperature:	60.5° F	-
Laboratory No.:	218825	-

(na: data not available)

WATER LEVEL MEASUREMENTS
1-70 W2

Hour	Time (min)	Adjusted depth to water in well* (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks**
2:45			31.98			Electric dropline
2:50			31.49			Steel tape
2:55		32.86	31.99			Steel tape p,dropline
2:56		32.93				Elec. dropline
2:59			31.98			

* Measurements from temporary pipe extension

** P: remarks refer to piezometer readings

WATER LEVEL MEASUREMENTS

1-70 W2

Hour	Time (min)	Adjusted depth to water in well (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks
3:00	0.00	32.93				Start pump Step 1
	1.00	.	32.02			
	2.00	36.67	32.08	3.35	200	
	3.00	36.67	32.08	.		
	4.00	36.71	32.11	3.35	200	
3:05	5.00	36.71	32.15	.		
	6.00	36.72	32.17	.		
3:07			32.20			
	8.00	36.78	32.23	3.35	200	
3:10	10.00	36.79	32.28	.		
	12.00	36.82	32.33	3.35	200	
	14.00	36.83	32.40	.		
	16.00	36.84	32.44	.		
3:20	20.00	36.86	32.54	3.34	200	
	25.00	36.89	32.65	3.37	200	
3:30	30.00	36.93	32.79	3.36	200	Decrease rate Step 2 (went up first then down)
3:31	1.00	35.87	32.79	.		
	2.00	35.22	32.78	0.89	101	
	3.00	35.19	32.78	.		
	4.00	35.17	32.79	.		
3:35	5.00	35.15	32.78	0.88	101	
	6.00	35.14	32.79	.		
	8.00	35.13	32.80	0.88	101	
3:40	10.00	35.12	32.80	.		
	12.00	35.11	32.81	.		
	14.00	35.10	32.80	0.88	101	
	16.00	35.10	32.80	.		
3:50	20.00	35.10	32.82	0.88	101	
	25.00	35.09	32.81	0.88	101	
	29.00		32.83			
4:00	30.00	35.08	32.82	0.88	101	Increase rate Step 3
4:01	1.00	36.77	32.83	3.35	200	
	2.00	36.82	32.85	3.35	200	
	3.00	36.84	32.85	.		
	4.00	36.85	32.89	3.35	200	
4:05	5.00	36.86	32.89	.		
	6.00	36.88	32.90	3.36		
	8.00	36.90	32.93	3.36		
4:10	10.00	36.92	32.97	3.35	200	(In shade) Air temp. = 103°F (Hotter than you know where)
	12.00	36.93	33.00	.		
	14.00	36.93	33.02	3.35	200	
	16.00	36.93	33.04	.		

WATER LEVEL MEASUREMENTS
1-70 W2

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
4:20	20.00	36.95	33.10	3.35	200	
	25.00	36.98	33.15	3.35	200	
	29.00		33.20			
4:30	30.00	36.98	33.21	.		Increase rate Step 4
4:31	1.00	38.58	33.22	.		
	2.00	38.62	33.25	7.20	295	
	3.00	38.64	33.26	7.20	295	
	4.00	38.66	33.29	.		
4:35	5.00	38.68	33.31	.		
	6.00	38.69	33.33	7.18	295	
	8.00	38.71	33.38	7.22	295	
4:40	10.00	38.73	33.42	.		
	12.00	38.74	33.46	7.22	295	
	14.00	38.76	33.51	.		
	16.00	38.76	33.55	.		
4:50	20.00	38.78	33.64	.		EWS measure
	25.00	38.81	33.72	7.20	295	
	29.00		33.78			
5:00	30.00	38.85	33.79	.		Increase rate Step 5
5:01	1.00	40.63	33.83	1.40	400	
	2.00	40.73	33.85	1.42	400	
	3.00	40.77	33.89	.		
	4.00	40.79	33.92	.		
5:05	5.00	40.81	33.96	.		
	6.00	40.80	33.98	.		
	8.00	40.82	34.02	1.43	400	
5:10	10.00	40.82	34.09	.		
	12.00	40.83	34.13	1.42	400	
	14.00	40.87	34.19	.		
	16.00	40.88	34.23	1.42	400	
5:20	20.00	40.92	34.33	.		
	25.00	40.93	34.44	.		
	29.00		34.52			
	29.50	40.94		.		
5:30	30.00	.	34.55	.		Increase rate Step 6
5:31	1.00	42.47	34.57	2.15	500	
	2.00	42.57	34.59	.		
	3.00	42.59	34.62	.		
	4.00	42.63	34.66	.		
	5.00			.		Missed
5:36	6.00	42.68	34.73	2.22	500	
	8.00	42.67	34.79	2.22	500	
5:40	10.00	42.71	34.84	.		
	12.00	42.78	34.89	.		

WATER LEVEL MEASUREMENTS
1-70 W2

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
	14.00	42.79	34.95	.		
	16.00	42.82	35.01	.		
5:50	20.00	42.80	35.09	.		
	22.00					Sample collected
	25.00	42.88	35.22	2.25	500	Temp. 60.5° F
	29.00	42.87	35.31	.		
6:00	30.00	42.88	35.33	.		Pump off
	.	.	.	.		End of test

DEWATERING WELL DATA

	Well No. I-70 W3	Piezometer No. I-70 P3
Date Drilled:	1973	1973
Casing		
Top elevation:		
Diameter:	16-in. SS	2-in. PVC
Length:		
Screen		
Bottom elevation:	304.43	na
Diameter:	16-in. SS	2-in. PVC
Length:	60 ft	3 ft
Slot size:	.080-in.	na
Measuring Point Elevation:	398.2	406.7
Date of Step Test:	6/28/83	-
Nonpumping Water Level		
Depth below MP:	16.64 ft	24.65 ft
Elevation:	381.56	382.05
Water Sample		
Time:	4:00 p.m.	-
Temperature:	56° F	-
Laboratory No.:	218685	-

(na: data not available)

WATER LEVEL MEASUREMENTS
I-70 W3

Hour	Time (min)	Adjusted depth to water in well* (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks**
11:00	.	16.64	24.99	.		Steel tape well head
11:02	.	16.64	.	.		Steel tape well head
11:07			24.65			Steel tape
11:10			24.65			Steel tape

* Measurements from temporary pipe extension

** P: remarks refer to piezometer readings

WATER LEVEL MEASUREMENTS
1-70 W3

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
11:38	.	26.03	.	.	.	Elec dropline from top of exten.
11:42	.	.	24.99	.	.	Dropline
11:53	0.00	26.03	.	.	.	
12:52	.	.	24.98	.	.	
12:54	0.00	26.03	.	.	.	
12:59	0.00	26.03	.	.	.	
1:00	0.00	.	24.98	.	.	Start pump
1:01	1.00	27.87	25.08	.	.	Step 1
1:02	2.00	27.43	25.10	0.88	101	
1:03	3.00	27.43	25.15	0.88	101	
1:04	4.00	27.43	25.17	0.88	101	
1:05	5.00	27.43	25.20	.	.	
	6.00	.	25.23	.	.	
	7.00	27.43	25.27	.	.	Missed 6 min.
	8.00	27.45	25.28	0.88	101	
1:10	10.00	27.45	25.29	.	.	
	12.00	27.45	25.33	0.87	101	
	14.00	27.47	25.33	.	.	
	16.00	27.46	25.34	0.87	101	
1:20	20.00	27.47	25.41	.	.	
	25.00	27.48	25.42	.	.	
	29.00	27.48	.	.	.	
1:30	30.00	.	25.48	.	.	Increase rate
1:31	1.00	28.67	25.51	3.35	200	Step 2
	2.00	28.70	25.52	3.33	198	
	3.00	28.73	25.56	3.32	198	
	4.00	28.74	25.57	.	.	
	5.00	28.75	25.60	.	.	
	6.00	28.77	25.63	3.32	198	
	8.00	28.78	25.68	.	.	
1:40	10.00	28.80	25.73	.	.	
	12.00	28.81	25.76	3.33	198	Gas present in water
	14.00	28.82	25.81	.	.	
	16.00	28.83	25.84	.	.	
1:51	21.00	28.85	25.93	3.33	198	
	25.00	28.86	25.97	.	.	
	29.00	28.88	26.02	.	.	
2:00	30.00	.	26.02	.	.	Increase rate
	1.00	.	26.05	.	.	Step 3
2:02	2.00	30.07	26.09	7.18	295	
	3.00	30.08	26.12	.	.	
	4.00	30.09	26.15	.	.	
	5.00	30.10	26.18	7.17	295	

WATER LEVEL MEASUREMENTS

1-70 W3

Hour	Time (min)	Adjusted depth to water in well (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks
	6.00	.	.	7.20	295	Adjust rate
	7.00	30.13	26.23	.		
	8.00	30.14	26.26	7.21	295	
2:10	10.00	30.15	26.29	.		
	12.00	30.16	26.34	7.22	295	
	14.00	30.18	26.38	7.20	295	
	16.00	30.19	26.42	7.22	295	
2:20	20.00	30.21	26.48	7.22	295	
	25.00	30.23	26.55	7.20	295	
	29.00	30.25	26.62	.		
2:30	30.00	.	.	.		Increase rate
2:32	2.00	31.61	26.66	1.43		Step 4--Change plate
	3.00	31.66	26.69	.		
	4.00	31.69	26.70	1.42	400	
	5.00	31.70	26.73	.		
	6.00	31.72	26.77	1.42	400	
	8.00	31.74	26.85	.		
2:40	10.00	31.77	26.90	.		
	12.00	31.78	26.96	1.41	400	
	14.00	31.78	27.00	1.39	400	
	16.00	31.79	27.05	1.41	400	
2:50	20.00	31.82	27.12	1.41	400	
	25.00	31.84	27.22	.		
	29.00	31.86	27.26	.		
3:00	30.00	31.85	27.27	.		Increase rate
3:00	1.00	33.11	27.30	2.24	500	Step 5
	2.00	33.17	27.34	.		
	3.00	33.18	27.37	2.22	500	
	4.00	33.18	27.41	.		
	5.00	33.20	27.45	.		
	6.00	33.21	27.48	2.22	500	
	8.00	33.22	27.55	.		
3:10	10.00	33.23	27.59	.		
	12.00	33.24	27.64	2.22	500	
	14.00	33.25	27.69	.		
	16.00	33.27	27.71	.		
3:20	20.00	33.30	27.80	2.22	500	
	25.00	33.21	27.88	2.15		Increase rate
	28.00	.	.	2.23	500	
	29.00	33.35	27.92	.		
3:30	30.00	33.35	27.93	.		Increase rate
3:31	1.00	34.55	27.94	3.25	605	Step 6
	2.00	34.53	27.98	.		

WATER LEVEL MEASUREMENTS

1-70 W3

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
	3.00	34.58	28.02	.		4.96 ft between beads (25-30 ft)
	4.00	34.56	28.07	.		
	5.00	34.58	28.09	.		
	6.00	34.60	28.12	3.13	595	
	7.00	.	28.12	3.25	605	
	8.00	34.76	28.18	3.24	605	
3:40	10.00	34.78	28.23	3.23	605	
	12.00	34.78	28.29	3.23	605	
	14.00	34.79	28.32	.		
	16.00	34.79	28.39	3.22	605	
3:50	20.00	34.83	28.45	3.22	605	
	25.00	34.85	28.54	.		
	29.00	34.86	28.58	3.22	605	
4:00	30.00	34.86	28.61	.		End of test

DEWATERING WELL DATA

	Well No. I-70 W7	Piezometer No. I-70 P7
Date Drilled:	1973	1973
Casing		
Top elevation:	-	393.8
Diameter:	16-in. SS	2-in. PVC
Length:	-	na
Screen		
Bottom elevation:	304.40	na
Diameter:	16-in. SS & 12-in. SS	2-in. PVC
Length:	60 ft na	3 ft
Slot size:	.080-in. na	na
Measuring Point Elevation:	384.7	393.8
Date of Step Test:	6/30/83	-
Nonpumping Water Level		
Depth below MP:	1.79 ft	10.61 ft
Elevation:	382.91	383.19
Water Sample		
Time:	1:30 p.m.	-
Temperature:	-	-
Laboratory No.:	218687	-

(na: data not available)

WATER LEVEL MEASUREMENTS
1-70 W7

Hour	Time (min)	Adjusted depth to water in well* (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks**
7:15		10.79			Steel tape
		10.65			Elec. dropline
8:15		10.58			
8:30		10.56			
8:55		10.57			

* Measurements from temporary pipe extension

** P: remarks refer to piezometer readings

WATER LEVEL MEASUREMENTS

1-70 W7

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
9:17		10.56			
9:25		10.57			
9:30	0.00	10.57			Start pump Step 1
	1.00	18.64			
	2.00	18.68	7.20	300	
	3.00	18.84	.		
	4.00	18.90	7.22		
	5.00	18.95	.		
	6.00	19.00	7.20	300	
	8.00	19.05	.		
	10.00	19.07	7.20	300	
	12.00	19.09	7.20	300	
	14.00	19.12	.		
	16.00	19.14	7.20	300	
	20.00	19.15	7.20	300	
	25.00	19.18	7.20	300	
	29.00	19.19	.		
10:00	30.00	19.19	.		Decrease rate Step 2
10:01	1.00	16.64	3.35	200	
	2.00	16.52	.		
	3.00	16.49	3.35	200	
	4.00	16.44	.		
	5.00	16.43	3.34	200	
	6.00	16.44	.		
	8.00	16.44	3.35	200	
	10.00	16.40	.		
	12.00	16.40	.		
	14.00	16.40	3.34		
	16.00	16.40	.		
	20.00	16.40	3.34		
	25.00	16.40	3.34		
10:30	30.00	16.40	.			Decrease rate Step 3
10:31	1.00	.	0.89	100	
	2.00	13.77	.		
	3.00	13.70	0.89	100	
	4.00	13.68	0.89	100	
	5.00	13.65	.		
	6.00	13.65	.		
	8.00	13.62	.		
	10.00	13.64	0.89	100	
	12.00	13.61	.		
	14.00	13.60	0.89	100	
	16.00	13.59	.		

WATER LEVEL MEASUREMENTS
1-70 W7

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
	20.00	13.60	0.89	100	
	25.00	13.58	0.89	100	
	29.00	13.56	.		
11:00	30.00	13.57	.		Increase rate
11:01	1.00	16.20	3.35	200	Step 4
	2.00	16.27	.		
	3.00	16.29	3.35	200	
	4.00	16.33	.		
	5.00	16.34	.		
	6.00	16.36	3.35	200	
	8.00	16.38	3.35	200	
	10.00	16.38	3.35	200	
	12.00	16.39	.		
	14.00	16.39	3.35	200	
	16.00	16.39	3.35	200	
	20.00	16.40	3.35	200	
	25.00	16.41	3.35	200	
	29.00	16.41	.		
11:30	30.00	16.41	.		Increase rate
11:31	1.00	18.99	7.20	300	Step 5
	2.00	19.10	7.22		
	3.00	19.15	7.22		
	4.00	19.19	7.22		
	5.00	19.19	.		
	6.00	19.20	7.22		
	8.00	19.21	.		
	10.00	19.23	7.21		
	12.00	19.23	.		
	14.00	19.24	7.21		
	16.00	19.25	.		
	20.00	19.25	.		
	25.00	19.26	7.20	300	
	29.00	19.25	.		
12:00	30.00	.	.		Increase rate
12:01	1.00	22.06	1.42	400	Step 6
	2.00	22.21	1.42	400	#4 plate
	3.00	22.42	1.42	400	
	4.00	22.47	1.42	400	
	5.00	22.54	.		
	6.00	22.54	1.42	400	
	8.00	22.67	.		
	10.00	22.67	1.42	400	
	12.00	22.67	1.42	400	

WATER LEVEL MEASUREMENTS
1-70 W7

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
	14.00	22.69	.		
	16.00	22.70	.		
	20.00	22.71	1.42	400	
	25.00	22.72	1.42	400	
12:30	30.00	22.73	.		Increase rate
12:31	1.00	25.53	2.21	500	Step 7
	2.00	25.71	2.22		
	3.00	25.74	2.23		
	4.00	25.85	.		
	5.00	25.87	.		
	6.00	25.88	2.24		
	8.00	25.91	2.24		
	10.00	25.88	2.24		
	12.00	25.90	.		
	14.00	25.92	.		
	16.00	25.92	2.24		
	20.00	25.92	2.24		
	25.00	25.93	2.24		
1:00	30.00	25.92	2.24		Increase rate
1:01	1.00	28.87	3.25	600	Step 8
	2.00	29.10	3.24		25-30 = 4.91 ft.
	3.00	29.18	3.25		
	4.00	29.22	3.25		
	5.00	29.21	.		
	6.00	29.24	3.25		
	8.00	29.26	.		
	10.00	29.27	3.29		
	12.00	29.25	3.23		
	14.00	29.25	3.23		
	16.00	29.25	.		
	20.00	29.25	.		
	25.00	29.28	.		
	29.00	.	3.22		
1:30	30.00	29.28	.		Pump off
	.	.	.		End of test

WATER LEVEL MEASUREMENTS
1-70 W7 Observation Wells

Hour	Time (min)	Adjusted depth to water in piez. #1 (ft)	Adjusted depth to water in piez. #3 (ft)	Adjusted depth to water in piez. #4 (ft)	Adjusted depth to water in piez. #5 (ft)	Remarks
7:15		10.61	.	.	10.57	Steel tape
7:16		10.86	.	.	11.57	Electric dropline
7:20		.	9.38	.	.	Steel tape
7:21		.	9.70	.	.	Electric dropline
8:15		10.86	9.70	.	11.50	
9:00		10.87	9.71	.	.	
9:02		.	.	.	11.51	
9:17		.	9.69	.	.	
9:20		10.87	.	.	.	
9:25		.	.	.	11.51	
9:30	0.00	.	9.69	.	.	Start pump
9:31	1.00	12.02	11.10	.	11.70	Step 1--300 gpm
	2.00	12.06	11.19	.	11.95	
	3.00	12.14	11.25	.	12.10	
	4.00	12.20	11.29	.	12.21	
	5.00	12.22	11.34	.	12.33	
	6.00	12.23	11.37	.	12.38	
	8.00	12.27	11.41	11.79	12.45	
	10.00	12.29	11.43	11.79	12.53	
	12.00	12.33	11.46	11.81	12.52	
	14.00	12.35	11.48	11.83	12.55	
	16.00	12.36	11.49	11.89	12.56	
	20.00	12.37	11.51	11.86	12.58	
	25.00	12.38	11.52	11.86	12.65	
	29.00	12.40	11.54	11.86	12.63	
10:00	30.00	12.40	11.54	11.86	12.64	Decrease rate
	1.00	12.09	11.17	11.27	12.58	Step 2--200 gpm
	2.00	12.02	11.10	11.27	12.53	
	3.00	12.00	11.07	.	.	
	4.00	11.99	11.05	11.21	12.43	
	5.00	11.98	11.05	11.22	12.40	
	6.00	11.97	11.03	11.22	12.36	
	7.00	.	.	11.22	.	
	8.00	11.97	11.02	11.22	12.35	
	10.00	11.96	11.01	11.22	12.33	
	12.00	11.97	11.02	11.22	12.30	
	14.00	11.96	11.01	11.22	12.30	
	16.00	11.96	11.02	11.22	12.29	
	20.00	11.97	11.01	11.21	12.30	
	25.00	11.98	11.01	11.21	12.32	
	29.00	11.98	11.01	11.21	.	
10:30	30.00	11.97	11.01	11.21	12.31	Decrease rate
	1.00	11.63	10.62	10.80	12.25	Step 3--100 gpm
	2.00	11.58	10.56	10.69	12.27	

WATER LEVEL MEASUREMENTS
1-70 W7 Observation Wells

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in piez. #1 (ft)</u>	<u>Adjusted depth to water in piez. #3 (ft)</u>	<u>Adjusted depth to water in piez. #4 (ft)</u>	<u>Adjusted depth to water in piez. #5 (ft)</u>	<u>Remarks</u>
	3.00	11.56	10.53	10.64	12.14	
	4.00	11.54	10.51	10.58	12.09	
	5.00	11.52	10.51	10.56	12.04	
	6.00	11.52	10.51	10.56	12.02	
	8.00	11.52	10.48	10.52	12.00	
	10.00	11.50	10.47	10.52	11.96	
	12.00	11.50	10.46	10.52	11.97	
	14.00	11.48	10.44	10.51	11.96	
	16.00	11.47	10.44	10.50	11.95	
	20.00	11.48	10.43	10.50	11.96	
	25.00	11.49	10.45	10.49	11.95	
	29.00	11.48	10.44	10.49	11.94	
11:00	30.00	11.48	10.44	10.49	11.94	Increase rate
	1.00	11.84	10.84	10.92	11.99	Step 4--200 gpm
	2.00	11.89	10.91	11.02	12.04	
	3.00	11.91	10.95	11.07	12.09	
	4.00	11.92	10.96	11.11	12.14	
	5.00	11.96	10.98	11.14	12.18	
	6.00	11.94	10.99	11.14	12.21	
	8.00	11.96	11.01	11.17	12.24	
	10.00	11.97	11.01	11.18	12.26	
	12.00	11.98	11.02	11.18	12.27	
	14.00	11.98	11.03	11.19	12.27	
	16.00	11.98	11.03	11.19	12.28	
	20.00	11.99	11.03	11.20	12.28	
	25.00	12.00	11.05	11.21	12.28	
	29.00	12.00	11.04	11.22	12.28	
11:30	30.00	12.00	11.04	11.22	12.28	Increase rate
	1.00	12.36	11.47	11.65	12.31	Step 5--300 gpm
	2.00	12.38	11.52	11.71	12.39	
	3.00	12.42	11.53	11.78	12.43	
	4.00	12.43	11.55	11.82	12.48	
	5.00	12.44	11.56	11.84	12.52	
	6.00	12.45	11.57	11.86	12.54	
	8.00	12.46	11.59	11.87	12.58	
	10.00	12.48	11.60	11.90	12.60	
	12.00	12.48	11.61	11.89	12.60	
	14.00	12.50	11.62	11.90	12.62	
	16.00	12.49	11.63	11.90	12.62	
	20.00	12.51	11.63	11.91	12.62	
	25.00	12.52	11.64	11.91	12.63	
	29.00	.	11.64	11.91	12.67	
12:00	30.00	12.52	11.64	11.91	12.63	Increase rate
	1.00	12.87	12.05	12.38	12.67	Step 6--400 gpm
	2.00	12.93	12.15	12.48	12.75	

WATER LEVEL MEASUREMENTS
1-70 W7 Observation Wells

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in piez. #1 (ft)</u>	<u>Adjusted depth to water in piez. #3 (ft)</u>	<u>Adjusted depth to water in piez. #4 (ft)</u>	<u>Adjusted depth to water in piez. #5 (ft)</u>	<u>Remarks</u>
	3.00	12.98	12.19	12.57	12.83	
	4.00	13.03	12.20	12.62	12.88	
	5.00	13.06	12.24	12.64	.	
	6.00	13.09	12.27	12.64	12.94	
	8.00	13.10	12.30	12.69	.	
	10.00	13.12	12.31	12.71	13.00	
	12.00	13.13	12.33	12.71	13.04	
	14.00	13.14	12.33	12.72	13.06	
	16.00	13.15	12.34	12.73	13.07	
	20.00	13.16	12.34	12.73	13.06	
	25.00	13.17	12.35	12.74	13.08	
	29.00	13.18	12.36	12.73	13.08	
12:30	30.00	13.19	12.36	12.76	13.08	Increase rate
	1.00	13.53	12.81	13.18	13.11	Step 7--500 gpm
	2.00	13.57	12.87	13.29	13.20	
	3.00	13.60	12.91	13.36	13.27	
	4.00	13.64	12.97	13.40	13.33	
	5.00	13.66	12.97	13.43	13.38	
	6.00	13.67	12.98	13.44	13.41	
	8.00	13.68	12.99	13.47	13.45	
	10.00	13.69	12.99	13.47	13.47	
	12.00	13.70	13.00	13.47	13.48	
	14.00	13.71	13.01	13.48	13.49	
	16.00	13.72	13.02	13.49	13.49	
	20.00	13.72	13.02	13.51	13.50	
	25.00	13.73	13.04	13.51	13.51	
	29.00	13.73	13.05	13.50	13.52	
1:00	30.00	13.74	13.05	13.50	13.52	Increase rate
	1.00	14.10	13.48	13.98	13.55	Step 8--600 gpm
	2.00	14.16	13.49	14.04	13.63	
	3.00	14.19	13.58	14.12	13.70	
	4.00	14.21	13.61	14.17	13.77	
	5.00	14.22	13.64	14.19	13.81	
	6.00	14.24	13.65	14.21	13.84	
	8.00	14.25	13.67	14.22	13.88	
	10.00	14.27	13.67	.	13.92	
	12.00	14.27	13.68	14.23	13.93	
	14.00	14.28	13.69	14.24	13.93	
	16.00	14.28	13.70	14.26	13.94	
	20.00	14.30	13.70	14.25	13.93	
	25.00	14.31	13.71	14.25	13.95	
	29.00	.	13.71	14.26	.	
1:30	30.00	14.32	13.72	14.26	13.94	End of test

DEWATERING WELL DATA

	Well No.	Piezometer No.
	I-70 W12	I-70 P12
Date Drilled:	1980	1980
Casing		
Top elevation:	-	408.49
Diameter:	16-in. SS	2-in. PVC
Length:	-	na
Screen		
Bottom elevation:		na
Diameter:	16-in. SS	2-in. PVC
Length:	60 ft	3 ft
Slot size:	.080-in.	na
Measuring Point Elevation:	404.31	408.49
Date of Step Test:	6/16/83	-
Nonpumping Water Level		
Depth below MP:	6.04 ft	Piezometer
Elevation:	398.27	plugged
Water Sample		
Time:	2:00 p.m.	-
Temperature:	58° F	-
Laboratory No.:	218640	-

(na: data not available)

WATER LEVEL MEASUREMENTS
1-70 W12

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well* (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks**</u>
8:45	.	6.04	.		Meas. from perm. access
	.	13.13	.		Meas. from top exten. tube
9:00	.	13.94	.		Meas. w/elec. dropline
9:25	.	14.00	.		
9:33	.	14.00	.		

* Measurements from temporary pipe extension

** P: remarks refer to piezometer readings

WATER LEVEL MEASUREMENTS
1-70 W12

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
9:38	.	14.01	.		
9:50	.	14.01	.		
10:00	.	.	.		Start pump
10:01	1.00	.	.		Missed adjusting rate
10:02	2.00	.	0.90	101	Adjusting rate
10:03	3.50	14.68	.		
10:04	4.00	14.80	.		
10:05	5.00	14.69	.		
10:06	6.50	14.72	0.88	99	
10:07	7.50	14.69	.		
10:08	8.00	14.60	0.89	100	
10:09	9.00	.	.		Missed
10:10	10.00	14.60	.		
10:12	12.50	14.58	0.89	100	
10:14	14.00	14.58	.		
10:16	16.50	14.59	0.88	99	
10:20	20.00	14.58	0.89	100	
10:25	25.00	14.60	0.89	100	
10:30	30.00	14.62	.		Increase rate
10:31	1.00	15.10	.		Step 2
10:32	2.00	15.12	.		Some air in line
10:33	3.00	15.14	.		
10:34	4.00	15.14	3.35	200	
10:35	5.00	15.14	3.35	200	
10:36	6.00	15.15	.		
10:37	7.00	15.15	.		
10:38	8.00	15.15	.		
10:39	9.00	15.16	3.35	200	
10:40	10.00	15.16	.		
10:42	12.00	15.19	.		
10:44	14.00	15.19	3.34	198	
10:46	16.00	15.19	.		
10:50	20.00	15.20	.		
10:55	25.00	15.22	3.35	200	Still some air in line
11:00	30.00	.	.		Missed--dropline trouble increase rate
11:01	1.00	15.73	.		Step 3
11:02	2.00	15.74	7.22	300	
11:03	3.00	15.77	.		
11:04	4.00	15.76	7.22	300	
11:05	5.00	15.76	.		
11:06	6.00	15.76	.		
11:07	7.00	15.77	7.22	300	
11:08	8.00	15.77	.		

WATER LEVEL MEASUREMENTS
1-70 W12

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
11:09	9.00	15.77	7.23	300	
11:10	10.00	15.78	.		
11:12	12.00	15.80	.		
11:14	14.00	15.80	7.22	300	
11:16	16.00	15.81	.		
11:20	20.00	15.84	7.24	300	Ellis reading
11:25	25.00	15.86	.		
11:29	29.00	15.88	.		
11:30	30.00	.	.		Missed--increase rate
11:31	1.00	16.46	.		Step 4
11:32	2.00	16.47	1.41	400	
11:33	3.00	16.49	.		
11:34	4.00	16.49	.		
11:35	5.00	16.50	1.43	400	
11:36	6.00	16.52	.		
11:37	7.00	16.55	.		
11:38	8.00	16.55	1.42	400	
11:39	9.00	16.51	.		
11:40	10.00	16.55	.		
11:42	12.00	16.57	.		
11:44	14.00	16.59	1.43	400	
11:46	16.00	16.58	.		
11:50	20.00	16.59	1.43	400	
11:55	25.00	16.60	.		
12:00	30.00	16.61	1.43	400	Increase rate
12:01	1.00	17.14	.		Step 5
12:02	2.00	17.17	2.25	500	Step 5
12:03	3.00	17.17	.		
12:04	4.00	17.18	.		
12:05	5.00	17.19	2.24	500	
12:06	6.00	17.19	.		
12:07	7.00	17.20	2.24	500	
12:08	8.00	17.22	.		
12:09	9.00	17.21	.		
12:10	10.00	17.22	2.24	500	
12:12	12.00	17.23	.		
12:14	14.00	17.25	2.24	500	
12:16	16.00	17.25	.		
12:20	20.00	17.25	2.24	500	Collins reading
12:26	26.00	17.30	2.24	500	
12:30	30.00	17.31	.		Increase rate
12:31	1.00	17.82	3.20	598	Step 6
12:32	2.00	17.85	.		

WATER LEVEL MEASUREMENTS
1-70 W12

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
12:33	3:00	.	.		Missed
12:34	4:00	17.84	.		
12:35	5:75	17.84	.		
12:36	6:20	17.86	.		
12:37	7:00	17.87	.		
12:38	8:00	17.88	3.20	598	
12:39	9:00	17.86	.		Bad reading
12:40	10:00	17.90	.		
12:42	12:00	17.91	.		
12:44	14:00	17.90	.		
12:46	16:00	17.91	3.20	598	
12:50	20:50	17.93	.		
12:55	25:00	17.94	3.20	598	
1:00	30:00	17.96	.		Increase rate
1:01	1:00	18.49	4.40	700	Step 7
1:02	2:00	18.52	.		
1:03	3:00	18.53	.		
1:04	4:00	18.53	.		
1:05	5:00	18.55	4.39	700	
1:06	6:00	18.55	.		
1:07	7:00	18.56	.		
1:08	8:00	18.57	.		
1:09	9:00	18.57	4.38	699	
1:10	10:00	18.58	.		
1:12	12:00	18.58	.		
1:14	14:00	18.59	4.37	699	
1:16	16:00	18.60	.		
1:20	20:00	18.61	4.36	698	
1:25	25:00	18.63	4.36	698	
1:30	30:00	18.65	4.36	698	
1:35	.	.	.		Collect water sample
	.	.	.		Pump off
	.	.	.		End of test

DEWATERING WELL DATA

	Well No. I-64 W6	Piezometer No. I-64 P6
Date Drilled:	4/29/75	1975
Casing		
Top elevation:	393.25	399.75
Diameter:	16-in. SS	2-in. PVC
Length:	38.75 ft	na
Screen		
Bottom elevation:	304.50	na
Diameter:	16-in. SS	2-in. PVC
Length:	60.4 ft	3 ft
Slot size:	.080-in.	na
Measuring Point Elevation:	394.3	399.75
Date of Step Test:	7/21/83	-
Nonpumping Water Level		
Depth below MP:	3.80 ft	9.30 ft
Elevation:	390.50	390.45
Water Sample		
Time:	11:30 a.m.	-
Temperature:	62° F	-
Laboratory No.:	218827	-

(na: data not available)

WATER LEVEL MEASUREMENTS
I-64 W6

Hour	Time (min)	Adjusted depth to water in well* (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks**
8:00		11.21	9.55			Dropline
8:03			9.30			
8:17			9.58			
8:25		11.17				Dropline
8:28	.	11.30	9.58			Steel tape
8:32	.	11.17				Dropline
8:38			9.58			

* Measurements from temporary pipe extensions

** P: remarks refer to piezometer readings

WATER LEVEL MEASUREMENTS
1-64 W6

Hour	Time (min)	Adjusted depth to water in well (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks
8:40	.	11.18				Dropline
8:45	.	11.17				Dropline
8:49			9.58			
8:50	.	11.18				Dropline
8:55	.	11.18	9.58			Dropline
9:00	0.00	.	9.58			Pump on
9:01			10.86			
	2.00	14.04	10.94			Step 1
	3.00	14.06	10.96			
	4.00	14.09		3.34	200	
	4.50		11.01			
	5.00	14.14	11.04	.		
	6.00	14.14	11.05	3.33	200	
	8.00	14.19	11.12	3.36	200	
	10.00	14.23	11.15	.		
	12.00	14.27	11.18	.		
	14.00	14.29	11.22	3.34	200	
	16.00	14.32	11.25	.		
	20.00	14.35	11.29	3.33	200	
	25.00	14.36	11.30	3.31	199	
	29.00	14.42	11.34	.		
9:30	30.00	14.42	11.35	.		Decrease rate
9:31	1.00	13.87	11.10	.		Step 2--150 gpm
	2.00	13.83	11.08	.		
	3.00	13.82	11.07	1.95	150	
	4.00	13.81	11.05	.		
	5.00	13.80	11.05	.		
	6.00	13.78	11.05	1.97	151	Air bubbles
	8.00	13.83	11.05	.		
	10.00		11.05			
	10.50	13.78		1.95	150	
	12.00	13.76	11.03	.		
	14.00	13.77	11.03	.		
	16.00	13.76	11.03	.		
	19.00	13.75	.	.		
	20.00	13.75	11.03	1.95	150	Air in discharge causing piez. fluctuations
	25.00	13.75	11.04	.		
	29.00	13.76	11.05	.		
10:00	30.00	13.76	11.04	.		Decrease rate
10:01	1.00	13.10	10.74	0.88	100	Step 3
	2.00	13.09	10.71	.		
	3.00	13.07	10.70	0.88	100	Less fluctuation in piez. now
	4.00	13.06	10.70	.		
	5.00	13.06	10.69	.		

WATER LEVEL MEASUREMENTS

1-64 W6

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
	6.00	13.06	10.68	0.88	100	
	8.00	13.04	10.67	.		
	10.00	13.02	10.66	.86	98	
	12.00		10.65			
	13.00	13.02		.		
	14.00	13.02	10.65	.		
	16.00	13.02	10.65	0.86	98	
	20.00	13.02	10.64	.		
	25.00	13.02	10.64	0.86	98	
	29.00	13.01	10.63	0.86	98	
10:30	30.00	13.02	10.63	.		Increase rate
10:31	1.00	13.70	10.94	.		Step 4
	2.00	13.73	10.97	1.98	152	
	3.00	13.74	10.99	.		
	4.00	13.75	11.00	.		
	5.00	13.77	11.02	2.00	153	More air in discharge
	6.00	13.77	11.03			
	8.00	13.81	11.05	2.00	153	New reader
	10.00	13.83	11.06	.		
	12.00	13.84	11.07	.		
	14.00	13.82	11.07	.		
	16.00	13.85	11.07	1.98	152	
	20.00	13.85	11.08	2.00	153	
	25.00	13.85	11.08	.		
	29.00	13.86	11.10	.		
11:00	30.00	13.86	11.10	.		Increase rate
11:01	1.00	14.40	11.32	.		Step 5 (200 gpm)
	2.00	14.47	11.39	3.35	200	
	3.00	14.49	11.40	.		
	4.00	14.49	11.41	.		
	5.00	14.49	11.42	3.35	200	
	6.00	14.50	11.43	.		
	8.00	14.51	11.44	.		
	10.00	14.52	11.46	3.35	200	
	12.00	14.52	11.46	.		
	14.00	14.53	11.46	3.34	200	
	16.00	14.55	11.47	3.33	200	
	20.00	14.55	11.49	3.34	200	
	25.00	14.55	11.49	3.33	200	
	29.00	14.56	11.50	.		
11:30	30.00	14.55	11.50	.		Pump off
	.	.	.	.		End of test

DEWATERING WELL DATA

	Well No.	Piezometer No.
	I-64 W9	I-64 P9
Date Drilled:	4/17/75	1975
Casing		
Top elevation:	390.85	397.35
Diameter:	16-in. SS	2-in. PVC
Length:	30.0 ft	na
Screen		
Bottom elevation:	300.55	na
Diameter:	16-in. SS	2-in. PVC
Length:	60 ft	3 ft
Slot size:	.080-in.	na
Measuring Point Elevation:	391.4	397.0
Date of Step Test:	10/5/83	-
Nonpumping Water Level		
Depth below MP:	2.78 ft	8.33 ft
Elevation:	388.62	388.67
Water Sample		
Time:		-
Temperature:	60° F	-
Laboratory No.:	219087	-

(na: data not available)

WATER LEVEL MEASUREMENTS

1-64 W9

Hour	Time (min)	Adjusted depth to water in well* (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks**
8:43	.	8.93		.		Steel tape
8:47		9.18				Elec. dropline
8:58			8.65			Dropline (RCK)
9:00	.	10.78				Steel tape new M.P.
9:03	.	11.01				Elec. dropline new M.P.
9:05			8.33			Steel tape (MES)

* Measurements from temporary pipe extensions

** P: remarks refer to piezometer readings

WATER LEVEL MEASUREMENTS
1-64 W9

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
9:10	.	11.01				
9:15			8.66			Dropline
9:21	.	11.01				
10:48			8.65			
10:49	.	11.02				
10:56	.	11.01	8.65			
11:00	0.00	11.01				Pump on
11:01	1.00	13.57	10.20			Step 1
11:02	2.00	13.66	10.26	7.26		
11:03	3.00	13.71	10.30	7.20	295	
11:04	4.00	13.73	10.34	.		
11:05	5.00	13.75	10.36	.		
	6.00	13.75	10.38	7.20	295	
	8.00	13.79	10.40	.		
11:10	10.00	13.80	10.43	.		
	12.00	13.83	10.44	7.20	295	
	14.00	13.84	10.46	.		
	16.00	13.86	10.47	.		
11:20	20.00	13.89	10.51	7.20	295	
	25.00	13.91	10.53	7.20	295	
	29.00	13.93	10.55	.		
11:30	30.00	13.94	10.55	.		Decrease rate
11:31	1.00	13.13	10.09	3.19	195	Step 2
11:32	2.00	13.07	10.03	.		
	3.00	13.07	10.03	.		
	4.00	13.05	10.02	3.19	195	
	5.00		10.01			
11:35	5.50	13.05		.		
	6.00	13.06	10.00	.		
	8.00	13.04	10.00	3.19	195	
11:40	10.00	13.04	9.99	.		
	12.00	13.04	9.99	3.20	195	
	14.00	13.05	9.99	.		
	16.00	13.05	9.99	3.20	195	
11:50	20.00	13.05	9.98	3.20	195	
11:55	25.00	13.05	9.99	.		Battery may be weakening
	29.00	13.04	9.99	.		
12:00	30.00	13.07	9.99	.		Decrease rate
12:01	1.50	12.24	9.53	.		Step 3
12:02	2.00	12.33	9.56	0.88	101	
	3.00	12.22	9.49	.		
	4.00	12.20	9.49	0.88	101	

WATER LEVEL MEASUREMENTS

1-64 W9

Hour	Time (min)	Adjusted depth to water in well (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks
12:05	5.00	12.20	9.47	.		
	6:00	12.19	9.46	.		
	8:00	12.19	9.45	.		
12:10	10:00	12.18	9.45	0.88	101	
	12:00	12.17	9.45	.		
	14:00	12.16	9.44	0.89	101	
	16:00		9.43			
	17:00	12.15		.		
12:20	20:00	12.15	9.42	0.88	101	
12:25	25:00	12.15	9.43	.		
	29:00	12.15	9.42	0.88	101	
12:30	30:00	12.15	9.41	.		Increase rate
12:31	1:00	12.92	9.86	3.20	195	Step 4
	2:00	12.94	9.91	.		
	3:00	12.96	9.94	.		
	4:00	12.97	9.94	.		
12:35	5:00	12.97	9.94	3.19	195	
	6:00	12.98	9.96	.		
	8:00	12.99	9.96	3.20	195	
12:40	10:00	12.99	9.97	.		
	12:00	13.00	9.97	.		
	14:00	13.01	9.97	3.21	195	
	16:00	13.01	9.98	.		
12:50	20:00	13.02	9.99	.		
12:55	25:00	13.02	10.01	.		
	29:00	13.03	10.01	.		
1:00	30:00	13.02	10.01	.		Increase rate
1:01	1:00	13.85	10.45	.		Step 5
	2:00	13.89	10.50	7.20	295	
	3:00	13.90	10.56	.		
	4:00	13.94	10.56	7.22	295	
1:05	5:00	13.94	10.56	.		
	6:00	13.96	10.58	7.22	295	
	8:00	13.96	10.59	.		
1:10	10:00	13.97	10.60	7.23	295	
	12:00	13.99	10.61	.		
	14:00	13.99	10.61	.		
	16:00	14.00	10.61	7.23	295	
1:20	20:00	13.99	10.62	.		
	25:00	13.99	10.64	.		Started taking plate #2 off
	29:00	14.02	10.65	.		
1:30	30:00	14.03	10.66	.		Increase rate
	1:00	15.35	11.37	.		Step 6
	2:00	15.03	11.29	.		

WATER LEVEL MEASUREMENTS

1-64 W9

Hour	Time (min)	Adjusted depth to water in well (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks
	3:00	15.05	11.27	1.44	400	
	4:00	15.06	11.29	.		
1:35	5:00	15.06	11.30	1.45	400	
	6:00	15.07	11.30	.		
	8:00	15.08	11.31	.		
1:40	10:00	15.08	11.32	.		
	12:00	15.09	11.33	.		
	14:00	15.09	11.34	.		
	16:00	15.10	11.35	1.44	400	
1:50	20:00	15.10	11.37	.		
	25:00	15.12	11.38	.		
	29:00	15.15	11.38	.		
2:00	30:00	.	11.38	.		Increase rate Step 7
	1:00	16.01	11.89	.		
	2:00	16.07	11.92	2.25	500	
	3:00	16.07	11.95	.		
	4:00	16.08	11.97	.		
2:05	5:00	16.08	11.96	.		
	6:00	16.10	11.97	2.24	500	
	8:00	16.12	11.98	.		
2:10	10:00	16.13	12.00	.		
	12:00	16.15	12.00	.		
	14:00	16.15	12.02	2.23	500	
	16:00	16.15	12.03	.		
2:20	20:00	16.17	12.04	.		
	25:00	16.16	12.05	2.23	500	
	29:00	16.20	12.06	.		
2:30	30:00	16.20	12.06	.		Increase rate Step 8
	1:00	17.18	12.64	3.35	600	
	2:00	17.23	12.69	.		
	3:00	17.27	12.73	.		
	4:00	17.29	12.75	.		
2:35	5:00	17.29	12.76	3.35	600	
	6:00	17.30	12.76	.		
	8:00	17.31	12.77	.		
2:40	10:00	17.33	12.79	3.35	600	
	12:00	17.34	12.80	.		
	14:00	17.34	12.81	3.35	600	Water temp. 60° F
	16:00	17.37	12.82	.		
2:50	20:00	17.40	12.85	3.35	600	
	25:00	17.42	12.87	3.37	600	
	29:00	17.42	12.89	.		
3:00	30:00	17.42	12.89	.		3.45 max

DEWATERING WELL DATA

	Well No.	Piezometer No.
	I-64 W15	I-64 P15
Date Drilled:	4/15/75	1975
Casing		
Top elevation:	394.29	399.97
Diameter:	16-in. SS	2-in. PVC
Length:	28.67 ft	na
Screen		
Bottom elevation:	305.15	na
Diameter:	16-in. SS	2-in. PVC
Length:	60.25 ft	3 ft
Slot size:	.080-in.	na
Measuring Point Elevation:	395.1	399.8
Date of Step Test:	6/29/83	-
Nonpumping Water Level		
Depth below MP:	4.72 ft	9.40 ft
Elevation:	390.38	390.40
Water Sample		
Time:	2:00 p.m.	-
Temperature:	61.5° F	-
Laboratory No.:	218686	-

(na: data not available)

WATER LEVEL MEASUREMENTS
I-64 W15

Hour	Time (min)	Adjusted depth to water in well* (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks**
8:27			9.29			Dropline
8:32			9.40			Steel tape
8:50		12.22				Steel tape
8:55		12.49				Dropline
9:00			9.29			Dropline
9:28			9.29			

* Measurements from temporary pipe extension

** P: remarks refer to piezometer readings

WATER LEVEL MEASUREMENTS

1-61 W15

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
9:29	.	.	.	.	.	.
9:30	0:00	.	.	.	.	Start pump
	1:00	16.82	9.29	.	.	Step 1
	2:00	16.98	11.56	7.20	295	
	3:00	16.93	11.61	.	.	
	4:00	16.98	11.66	7.30	.	
9:35	5:00	17.02	11.69	.	.	
	6:00	17.04	11.70	7.24	295	
	8:00	17.08	11.74	7.24	295	
9:40	10:00	17.12	11.77	7.24	295	
	12:00	17.12	11.80	.	.	
	14:00	17.14	11.82	7.23	295	
	16:00	17.17	11.85	7.21	295	
9:50	20:00	17.20	11.86	7.22	295	
	25:00	17.23	11.90	7.21	295	
	29:00	17.25	11.94	.	.	
10:00	30:00	17.27	11.94	.	.	Decrease rate
	1:00	15.95	11.28	.	.	Step 2--200 gpm
	2:00	15.91	11.24	.	.	
	3:00	15.90	11.25	.	.	
	4:00	15.89	11.23	3.35	200	
10:05	5:00	15.89	11.23	.	.	
	6:00	15.87	11.22	.	.	
	8:00	15.87	11.22	3.35	200	
10:10	10:00	15.87	11.22	.	.	
	12:00	15.87	11.21	3.35	200	
	14:00	15.87	11.21	.	.	
	16:00	15.86	11.21	3.35	200	
10:20	20:00	15.86	11.20	3.35	200	
	25:00	15.86	11.21	.	.	
	29:00	15.86	11.20	.	.	
10:30	30:00	15.86	.	.	.	Decrease rate
	1:00	14.48	10.50	.	.	Step 3--100 gpm
	2:00	14.47	10.49	0.89	102	
	3:00	14.45	10.47	.	.	
	4:00	14.43	10.46	0.90	102	
10:35	5:00	14.42	10.46	.	.	
	6:00	14.39	10.45	.	.	
	8:00	14.39	10.42	0.87	101	
10:40	10:00	14.37	10.41	0.87	101	
	12:00	14.39	10.41	0.88	101	
	14:00	14.38	10.40	.	.	
	16:00	14.40	10.39	0.88	101	

WATER LEVEL MEASUREMENTS
1-64 W15

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
10:50	20.00	14.37	10.38	.		
	25.00	14.35	10.38	.		
	29.00	14.35	10.38	.		
11:00	30.00	14.35	10.37	.		Increase rate
	1.00	15.71	11.06	.		Step 4--200 gpm
	2.00	15.75	11.09	3.35	200	
	3.00	15.78	11.12	.		
	4.00	15.77	11.14	.		
11:05	5.00	15.78	11.14	3.35	200	
	6.00	15.79	11.15	.		
	8.00	15.81	11.16	3.35	200	
11:10	10.00	15.83	11.18	3.36	200	
	12.00	15.83	11.18	3.36	200	
	14.00	15.85	11.20	3.37	200	
	16.00	15.86	11.20	3.37	300	
11:20	20.00	15.86	11.21	3.37	200	
	25.00	15.88	11.25	3.37	200	
	29.00	15.90	11.23	.		
11:30	30.00	15.90		.		Increase rate
	1.00	17.24	11.98	.		Step 5--300 gpm
	2.00	17.20	11.91	.		
	3.00	17.29	11.95	7.23	295	
	4.00	17.30	11.95	7.22	295	
11:35	5.00	17.32	11.97	7.22	295	
	6.00	17.32	11.98	.		
	8.00	17.34	12.00	.		
11:40	10.00	17.35	12.01	7.21	295	
	12.00	17.36	12.03	7.22	295	
	14.00	17.36	12.03	7.22	295	
	16.00	17.37	12.04	.		
11:50	20.00	17.39	12.05	7.22	295	
	25.00	17.40	12.06	7.22	295	
	29.00	17.42	12.07	.		
12:00	30.00	.		.		Increase rate
	1.00	18.98		1.42	400	Step 6, switch plates
	2.00	19.04		.		
	3.00	19.08	12.92	1.42	400	
	4.00	19.09	12.95	.		
12:05	5.00	19.10	12.95	.		
	6.00	19.11	12.97	.		
	8.00	19.12	12.99	1.42	400	4.98 ft between 15 ft and
12:10	10.00	19.14	13.00	1.42	400	20 ft beads on dropline
	12.00	19.16	13.02	.		

WATER LEVEL MEASUREMENTS
1-64 W15

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
	14.00	19.18	13.03	1.42	400	
	16.00	19.18	13.04	1.42	400	
12:20	20.00	19.20	13.05	1.42	400	
	25.00	19.21	13.06	1.42	400	
	29.00	19.23	13.09	.		
12:30	30.00	19.23	13.10	.		Increase rate
	1.00	20.68	13.84	2.22	500	Step 7
	2.00	20.72	13.87	2.23	500	
	3.00	20.76	13.88	.		
	4.00	20.78	13.94	.		
12:35	5.00	20.79	13.95	.		P, 4.97' between 10'
	6.00	20.80	13.92	2.23	500	and 15' beads
	8.00	20.82	13.93	.		
12:40	10.00	20.84	13.95	2.23	500	
	12.00	20.85	13.97	.		
	14.00	20.87	13.99	2.23	500	
	16.00	20.88	13.99	2.23	500	
12:50	20.00	20.90	14.02	2.23	500	
	25.00	20.92	14.03	2.23	500	
	29.00	20.93	14.06	.		
1:00	30.00	20.93	14.05	.		Increase rate
	1.00	22.41	14.77	3.25	605	Step 8
	2.00	22.50	14.85	.		
	3.00	22.53	14.87	.		
	4.00	22.55	14.89	3.25	605	
1:05	5.00	22.56	14.92	.		
	6.00	22.59	14.94	3.25	605	
	8.00	22.61	14.95	.		
1:10	10.00	22.62	14.97	3.25	605	
	12.00	22.63	14.98	3.26	605	
	14.00	22.64	14.99	3.26	605	
	16.00	22.66	15.01	3.26	605	
1:20	20.00	22.67	15.02	3.26	605	
	25.00	22.69	15.04	.		
	29.00	22.71	15.06	3.26	605	
1:30	30.00	22.71	15.06	.		End of test
	.	.	.	.		Sample, T = 61.5° F

DEWATERING WELL DATA

	Well No. 25th St. W2	Piezometer No. 25th St. P2
Date Drilled:	7/16/75	1975
Casing		
Top elevation:	393.50	401.80
Diameter:	16-in. SS	2-in. PVC
Length:	31.89 ft	na
Screen		
Bottom elevation:	301.58	na
Diameter:	16-in. SS	2-in. PVC
Length:	60 ft	3 ft
Slot size:	.080-in.	na
Measuring Point Elevation:	394.6	401.80
Date of Step Test:	7/20/83	-
Nonpumping Water Level		
Depth below MP:	8.32 ft	15.50 ft
Elevation:	386.28	386.30
Water Sample		
Time:	2:25 p.m.	-
Temperature:	60.0° F	-
Laboratory No.:	218826	-

(na: data not available)

WATER LEVEL MEASUREMENTS
25th Street W2

Hour	Time (min)	Adjusted depth to water in well* (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks**
9:10	.	17.32	15.50	.		Steel tape
9:10	.	17.60	15.40	.		Electric dropline
9:25	.	17.58	15.38	.		
9:33	.	17.57	15.37	.		

* Measurements from temporary pipe extension

** P: remarks refer to piezometer readings

WATER LEVEL MEASUREMENTS
25th Street W2

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
9:35	0:00	.	.	.	.	Pump on
9:36	1:00	20:26	17:53	.	.	Step 1
9:37	2:00	20:26	17:54	.	.	
9:38	3:00	20:27	17:54	.	.	
9:39	4:00	20:29	17:55	7.23	300	
9:40	5:00	20:29	17:55	.	.	
	6:00	20:30	17:56	7.23	300	
	8:00	20:29	17:56	.	.	
9:45	10:00	20:29	17:56	7.23	300	
	12:00	20:29	17:56	.	.	
	14:00	20:29	17:57	.	.	
	16:00	20:29	17:57	7.25	300	
9:55	20:00	20:29	17:58	7.23	300	
	25:00	20:29	17:58	7.24	300	
	29:00	20:29	.	.	.	
10:05	30:00	20:29	17:57	.	.	Decrease rate
10:06	1:00	19:45	16:88	3.36	200	Step 2
	2:00	19:42	16:86	.	.	
	3:00	19:42	16:86	.	.	
	4:00	19:41	16:86	.	.	
10:10	5:00	19:40	16:86	.	.	
	6:00	19:40	16:87	3.34	200	
	8:00	19:39	.	.	.	
10:15	10:00	19:41	.	.	.	
	12:00	19:40	16.86	3.34	200	
	14:00	19:40	16.86	.	.	
	16:00	19:40	16.86	3.34	200	
10:25	20:00	19:39	16.86	3.34	200	
	25:00	19:39	16.84	3.33	200	P, new person measuring
	29:00	19:39	16.82	.	.	
10:35	30:00	19:38	16.82	.	.	Decrease rate
10:36	1:00	18:51	16.13	0.90	101	Step 3
	2:00	18:49	16.10	.	.	
	3:00	18:47	16.09	0.88	101	
	4:00	18:47	16.09	.	.	
10:40	5:00	18:47	16.09	0.88	101	
	6:00	18:47	16.08	.	.	
	8:00	18:46	16.08	.	.	
10:45	10:00	18:46	16.08	.	.	
	12:00	18:46	16.08	0.89	101	
	14:00	18:47	16.08	.	.	
	16:00	18:47	16.08	.	.	
10:55	20:00	18:46	16.08	0.88	101	
	25:00	18:46	16.08	0.88	101	
	29:00	18:46	16.07	0.88	101	

WATER LEVEL MEASUREMENTS
25th Street W2

Hour	Time (min)	Adjusted depth to water in well (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks
11:05	30.00	18.45	16.07	.		Increase rate
11:06	1:00	19.33	16.78	3.36	200	Step 4
	2:00	19.35	16.80	.		
	3:00	19.35	16.80	.		
	4:00	19.36	16.80	3.36	200	
11:10	5:00	19.35	16.80	.		
	6:00	19.35	16.81	.		
	8:00	19.36	16.80	3.37	200	
11:15	10:00	19.35	16.80	.		
	13:00	19.36		3.37	200	
	14:00	19.35	16.81	.		
	16:00	19.36	16.80	3.37	200	
11:25	20:00	19.35	16.81	3.37	200	
	25:00	19.35	16.80	3.37	200	
	29:00	19.34	16.82	.		Change readers
11:35	30:00	19.35	16.82	.		Increase rate
11:36	1:00	20.21	17.51	.	300	Step 5
	2:00	20.23	17.50	7.20	295	
	3:00	20.22	17.52	.		
	4:00	20.24	17.51	7.20	295	
11:40	5:00	20.23	17.51	.		
	6:00	20.24	17.51	7.20	295	
	8:00	20.23	17.51	.		
11:45	10:00	20.23	17.51	.		
	12:00	20.23	17.50	.		
	14:00	20.23	17.50	7.20	295	
	16:00	20.23	17.51	.		Train passed overhead
11:55	20:00	20.27	17.55	7.20	295	Train passing
	25:00	20.33	17.50	.		
	29:00	20.23	17.50	.		
12:05	30:00	20.23	17.50	.		Increase rate
12:06	1:00	21.13	18.26	.		Step 6
	2:00	21.16	18.27	.		Removed plate
	3:00	21.15	18.27	1.38	400	1/2 minute late
	4:00	21.18	18.30	.		
12:10	5:00	21.18	18.30	.		
	6:00	21.17	18.29	.		
	8:00	21.22	18.30	1.42	400	
12:15	10:00	21.22	18.33	1.42	400	
	12:00	21.21	18.33	1.42	400	
	14:00	21.22	18.33	.		
	16:00	21.22	18.33	1.42	400	
12:25	20:00	21.22	18.33	1.42	400	
	25:00	21.22	18.33	.		
	29:00	21.22	18.34	1.42	400	

WATER LEVEL MEASUREMENTS
25th Street W2

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
12:35	30.00	21.23	18.27	.		Increase rate Step 7
12:36	1:00	22.14	19.07	.	500	
	2:00	22.15	19.08	2.20	495	
	3:00	22.16	19.07	.		
	4:00	22.16	19.08	2.18	495	
12:40	5:00	22.15	19.09	.		EWS measure
	6:00	22.18	19.09	.		
	8:00	22.16	19.09	2.20	495	
12:45	10:00	22.17	19.08	.		
	12:00	22.17	19.08	2.20	495	
	14:00	22.17	19.09	2.20	495	
	16:00	22.19	19.09	.		
12:55	20:00	22.18	19.08	2.20	495	
	25:00	22.17	19.07	2.19	495	
	29:00	22.19	19.06	2.20	495	
1:05	30:00	22.19	18.99	.		Increase rate Step 8
1:06	1:00	23.21	19.86	3.25	600	
	2:00	23.24	19.89	.		
	3:00	23.24	19.89	3.26	600	
	4:00	23.24	19.89	.		
1:10	5:00	23.24	19.89	3.25	600	
	6:00	23.23	19.89	.		
	8:00	23.24	19.89	3.25	600	
1:15	10:00	23.25	19.89	.		
	12:00	23.24	19.89	3.25	600	
	14:00	23.24	19.89	.		
	16:00	23.24	19.90	3.26	600	
1:25	20:00	23.25	19.89	3.26	600	
	25:00	23.25		.		
	29:00	23.26		3.26	600	
1:35	30:00	23.26	19.84	.		Increase rate Step 9
1:36	1:00	24.21	20.63	4.40	700	
	2:00	24.22	20.63	.		
	3:00	24.22	20.63	.		
	4:00	24.19	20.64	.		
1:40	5:00	24.18	20.65	4.38	700	
	6:00	24.18	20.65	.		
	8:00	24.16	20.64	.		
1:45	10:00	24.18	20.64	4.38	700	
	12:00	24.19	20.64	.		
	14:00	24.18	20.64	4.38	700	
	16:00	24.18	20.64	.		
1:55	20:00	24.20	20.64	4.38	700	
	25:00	24.20	20.65	4.38	700	
	29:00	24.21	20.66	.		

WATER LEVEL MEASUREMENTS
25th Street W2

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
2:05	30.00	24.21	20.59	.		Increase rate
	1.00	.	21.38	5.70	800	Step 10
	2.00	.	21.45	5.84		Missed
	3.00	25.27	21.47	5.84		Adjust rate
	4.00	25.19	21.41	5.70	800	
2:10	5.00	25.18	21.40	.		
	6.00	25.18	21.40	.		
	8.00	25.18	21.41	.		
2:15	10.00	25.18	21.41	5.70	800	
	12.00	25.18	21.42	.		
	14.00	25.19	21.41	5.70	800	
	16.00	25.18	21.41	.		
2:25	20.00	25.19	21.41	5.68	800	Sample: T = 60° F
	25.00	25.19	21.42	5.68	800	
	29.00	25.20	21.42	.		
2:35	30.00	25.20	21.35	.		Pump off
	.	.	.	.		End of test

DEWATERING WELL DATA

	Well No. 25th St. W8	Piezometer No. 25th St. P8
Date Drilled:	8/22/75	1975
Casing		
Top elevation:	389.66	400.5
Diameter:	16-in. SS	2-in. PVC
Length:	29.27 ft	na
Screen		
Bottom elevation:	300.39	na
Diameter:	16-in. SS	2-in. PVC
Length:	60 ft	2 ft
Slot size:	.080-in.	na
Measuring Point Elevation:	390.8	400.5
Date of Step Test:	6/15/83	-
Nonpumping Water Level		
Depth below MP:	4.81 ft	14.37 ft
Elevation:	385.99	386.13
Water Sample		
Time:	3:00 p.m.	-
Temperature:	58° F	-
Laboratory No.:	218639	-

(na: data not available)

WATER LEVEL MEASUREMENTS
25th Street W8

Hour	Time (min)	Adjusted depth to water in well* (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks**
2:40	.	4.84	14.34	.		From top of pipe in pit; P, steel tape
8:45	.	4.87		.		From top of pipe in pit
9:00	.	17.36		.		From top of ext. pipe
9:04			14.37			P, steel tape
9:13			15.29			P, elec. dropline

* Measurements from temporary pipe extension

** P: remarks refer to piezometer readings

WATER LEVEL MEASUREMENTS
25th Street W8

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
9:28	.	17.31		.		
9:30			15.18	.		
9:32	.	17.34		.		
9:35			15.18	.		
9:40	.	17.34	15.18	.		
9:50	0:00	17.36	15.18	.		Plate No. 2
	1:00	18.67		.		Rate high, adjusting
	1.5		15.87			
	2:00	18.43	15.77	0.81	95	
	3:00	18.24	15.77	.		
	4:00	18.24	15.77	0.81	95	
9:55	5:00	18.70	15.76	.		Bad reading
	6:00	18.18	15.77	.		
	7:00	18.33	15.76	.		
	8:00	18.18	15.76	.		
	9:00		15.75			
	9.50	18.20		0.80	95	
10:00	10:00	18.23	15.75	.		
	12:00	18.21	15.77	0.79	94	
	14:00	18.23	15.76	.		
	16:00	18.21	15.77	0.79	94	
10:10	20:00	18.18	15.77	.		Bad reading
	21:00	18.25		0.80	95	
	25:00	18.20	15.77	.		
10:20	30:00	.	15.78	.		Missed--increase rate
	1:00		16.08	.		Step 2
	1.25			.		Plate No. 2
	2:00	18.93	16.20	3.10	190	
	3:00	19.05	16.24	.		
	4:00	18.93		.		
	4.5		16.39			
10:25	5:00	19.02	16.30	3.10	190	Step 2
	6:00	18.98	16.26	.		
	7:00	18.94	16.24	.		
	8:00	18.94	16.23	.		
	9:00	18.94	16.25	.		
10:30	10:00	18.93	16.26	.		
	12:00	18.97	16.27	.		
	14:00	18.97	16.28	3.09	190	D.L. #4464 15-20 ft = 4.98
	16:00		16.28			
	17:00	18.94		.		
10:40	20:00	18.96	16.31	3.10	190	
	25:00	18.94	16.29	.		

WATER LEVEL MEASUREMENTS
25th Street W8

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
10:50	30.00	18.94	16.27	.		Increase rate--Step 3 Plate No. 2
	1.00	19.67	16.56	.		
	2.00	19.67	16.61	.		
	3.00	19.63	16.68	7.20	300	
	4.00	19.67	16.72	.		
10:55	5.00	19.69	16.72	.		
	6.00	19.71	16.75	.		
	7.00	19.69	16.76	.		
	8.00	19.69	16.76	7.19	300	
	9.00	19.69	16.76	.		
11:00	10.00	19.69	16.76	7.19	300	
	12.00	19.69	16.80	7.19	300	
	14.00	19.70	16.79	.		
	16.00	19.70	16.78	.		
11:10	20.00	19.71	16.80	7.18	300	
	25.00	19.72	16.82	.		
	29.00	19.70	16.82	.		
11:20	30.00	19.71	.	.		Increase rate Step 4 Plate No. 4
	1.00	20.34	16.96	.		
	2.00	20.41	17.12	1.40	400	
	3.00	20.42	17.21	.		
	4.00	20.43	17.22	.		
11:25	5.00	20.43	17.27	1.40	400	
	6.00	20.44	17.27	.		
	7.00	20.42	17.28	.		
	8.00	20.44	17.27	.		
	9.00	20.43	17.30	.		
11:30	10.00	20.44	17.27	.		
	12.00	20.44	17.30	1.40	400	
	14.00	20.44	17.30	.		
	16.00	20.44	.	.		
	16.50	.	17.28	.		
11:40	20.00	20.46	17.30	.		
	25.00	20.45	17.30	1.40	400	
11:50	30.00	20.45	17.31	.		Increase rate Step 5 Plate No. 4
	1.00	21.12	17.69	.		
	2.00	21.14	17.73	2.09	485	
	3.00	21.14	17.74	2.09	485	
	4.00	21.14	17.77	.		
11:55	5.00	21.17	17.77	.		
	6.00	21.17	17.77	2.09	485	
	7.00	21.15	17.77	.		
	8.00	21.17	17.76	.		
	9.00	21.16	17.76	.		

WATER LEVEL MEASUREMENTS
25th Street W8

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
12:00	10.00	21.19	17.77	2.09	485	
	12:00	21.16	17.79	.		
	14:00	21.15	17.80	.		
	16:00	21.17	17.79	.		
12:11	21:00	21.19	17.82	.		
	25:00	21.16	17.80	.		
12:20	30:00	21.19	17.80	.		Increase rate
	1:00	22.03	.	.		Step 6
	1:50		18.18			
	2:00	22.05	18.31	3.20	600	Plate No. 4
	3:00	22.06	18.36	.		
	4:00		18.36			
	4:50	22.07		.		
12:25	5:00	22.06	18.36	3.20	600	
	6:00	22.08	18.39	.		
	7:00	22.06	18.40	.		
	8:00	22.07	18.39	3.20	600	
	9:00	22.06	18.40	.		
12:30	10:00	22.08	18.40	.		
	12:00	22.09	18.39	3.20	600	
	14:00	22.08		.		
	16:00	22.11	18.43	.		
12:40	20:00	22.06	18.49	.		
	25:00	22.06	18.42	3.20	600	
12:50	30:00	22.06	18.43	.		Increase rate
	1:00		18.80			
	1:15	22.85		.		Step 7
	2:00	22.85	18.88	4.40		
	3:00	22.85	18.92	.		Plate No. 4
	4:00	22.88	18.96	.		
12:55	5:00	22.87	18.92	4.41	700	
	6:00	22.87	18.93	.		
	7:00	22.84	18.92	4.40	700	
	8:00	22.84	18.91	.		
	9:00	22.89	18.91	.		
1:00	10:00	22.88	18.92	.		
	12:00	22.84	18.93	.		
	14:00	22.85	18.93	.		
	16:00	22.86	18.93	4.40	700	
1:10	20:00	22.85	18.93	.		
	25:00	22.85	18.94	.		
1:20	30:00	22.86	18.95	4.40	700	Increase rate
	1:00	23.62	19.25	.		Step 8
	2:00	23.65	19.39	5.77	800	Plate No. 4

WATER LEVEL MEASUREMENTS
25th Street W8

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
	3:00	23.62	19.40	5.76	800	
	4:00	23.62	19.41	5.74	800	
1:25	5:00	23.62	19.41	.		
	6:00	23.61	19.41	5.70	795	
	7:00	23.57	19.41	5.70	795	
	8:00	23.58	19.41	.		
	9:00	23.62	19.41	.		
	10:00		19.41			
	10:50	23.62		5.67	790	
	12:00		19.41			
	12:50	23.62		5.68	790	
	14:00	23.61	19.42	.		
	16:00	23.59	19.42	5.67	790	Adjusted 0 to 5.76 at 18
1:40	20:00	23.64	19.45	5.76	800	
	25:00	23.58	19.44	5.65	790	
1:50	30:00	23.56	19.44	5.61	785	
	.	.	.	.		Sample: T = 58° F
						Pump off
						End of test

DEWATERING WELL DATA

	Well No. Venice W1	Piezometer No. Venice P1
Date Drilled:	1979	1982
Casing		
Top elevation:	405.3	411.2
Diameter:	16-in. SS	2-in. PVC
Length:	50 ft	
Screen		
Bottom elevation:	322.1	na
Diameter:	16-in. SS	2-in. PVC
Length:	50.9 ft	3 ft
Slot size:	.080-in.	na
Measuring Point Elevation:	405.55	411.21
Date of Step Test:	11/30/83	-
Nonpumping Water Level		
Depth below MP:	15.05 ft	21.13 ft
Elevation:	390.50	390.08
Water Sample		
Time:	1:00 p.m.	-
Temperature:	59° F	-
Laboratory No.:	219239	-

(na: data not available)

WATER LEVEL MEASUREMENTS
Venice W1

Hour	Time (min)	Adjusted depth to water in well* (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks**
8:38			21.13			Steel tape
8:40			21.36			
8:55			21.35			
9:02	.	22.98				Steel tape
9:10	.	23.46	21.37			Electric dropline
9:15	.	23.46	21.36			# 4464
9:24			21.35			

* Measurements from temporary pipe extension
 ** P: remarks refer to piezometer readings

WATER LEVEL MEASUREMENTS
Venice W1

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
9:25	.	23.46				
9:27	.	23.46				
9:28			21.35			
9:30	.	.				False start
9:33	.	23.35	21.29			
9:35	.	23.35	21.31			
9:37	.	23.41				
9:38			21.33			
9:39	.	23.52				
9:40			21.34			
9:42	.	23.49	21.34			
9:44			21.33			
9:46			21.33			
9:47	.	23.49				
9:48	.	23.49	21.33			
9:49			21.33			
9:50	0.00	.				Start pump
	1.00	.	23.64			Step 1
	2.00		23.47			
	2.50	29.44				
	3.00		23.48			P, 4.95 ft between 20 and 25 ft mark on DR
	3.50	29.18				
	4.00		23.50			
	4.50	29.35				
	5.00		23.53			
	6.00		23.54			
	6.50	29.38				
	8.00		23.55			
	10.00		23.58			
	12.00		23.59			
	13.50	29.48				New M-scope
	14.00		23.60			
	14.75	29.42				# 6908
	15.25	29.36				
	16.00	29.34	23.62			
	18.00	29.35		3.39	200	
10:10	20.00	29.37	23.63	.		
	23.00	29.37		.		
	25.00	29.38	23.65	3.38	200	
	29.00	29.38	23.67	.		
10:20	30.00	29.36	23.67	.		Decrease rate
	1.00	26.84	22.80	.		Step 2
	2.00	26.74	22.70	.		

WATER LEVEL MEASUREMENTS
Venice W1

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
	3.00	26.68	22.68	.		
	4.00	26.70	22.68	.		
10:25	5.00	26.68	22.67	0.87	100	
	6.00	26.68	22.65	.		
	8.00	26.66	22.65	0.87	100	
10:30	10.00	26.64	22.63	.		
	12.00	26.62	22.62	.		
	14.00	26.62	22.62	.		
	16.00	26.62	22.61	0.87	100	
10:40	20.00	26.63	22.61	.		
	25.00	26.62	22.60	.		
	29.00	26.61	22.60	.		
10:50	30.00	26.62	.	.		Increased rate
	1.00	.	23.52	.		Step 3
	2.00	29.39	23.58	.		
	3.00	.	23.62	3.41	200	Missed
	4.00	29.42	23.63	.		
10:55	5.00	29.42	23.64	.		
	6.00	29.44	23.65	.		
	8.00	29.44	23.67	3.41	200	
11:00	10.00	29.44	23.68	.		
	12.00	29.45	23.69	.		
	14.00	29.53	23.69	.		
	16.00	29.49	23.70	.		
	18.00	29.47	.	.		
11:10	20.00	29.47	23.71	.		
	23.00	29.47	.	3.40	200	
	25.00	29.49	23.72	.		
	29.00	.	23.73	.		Missed--dropline hung up
11:20	30.00	.	23.73	.		Missed--Increase rate
	1.00	.	24.60	7.38	300	Step 4
	2.00	.	24.66	.		Dropline # 4464
	3.00	.	24.69	.		
	4.00	.	24.71	.		
	4.50	32.07	.	.		
	5.00	.	24.72	.		
	6.00	32.08	24.72	7.36	300	
	8.00	32.10	24.74	.		
11:30	10.00	32.10	24.75	.		
	12.00	32.10	24.76	.		
	14.00	32.10	24.77	.		
	16.00	32.11	24.78	7.36	300	

WATER LEVEL MEASUREMENTS
Venice W1

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
11:40	20.00	32.12	24.79	.		
	25.00	32.12	24.81	7.34		
	29.00	32.13	24.81	.		Changed plate
11:50	30.00	.	24.83	.		Missed--Increase rate
	1.00	35.52	25.84	.	400	Step 5
	2.00	35.59	25.95	.		Adjusted rate; p,error?
	3.00	35.17	25.82	.		
	4.00	35.17	25.85	1.41		
	5.00	35.17	25.86	.		
	6.00	35.17	25.88	1.39		
	8.00	35.17	25.89	.		
12:00	10.00	35.18	25.90	.		
	12.00	35.20	25.91	1.39		
	14.00	35.20	25.92	.		
	16.00	35.20	25.93	.		
12:10	20.00	35.22	25.94	.		
	25.00	35.22	25.96	.		
	29.00	35.23		.		P, missed reading
12:20	30.00	35.23	25.97	.		Increase rate
	1.00	38.48	25.93	2.27	500	Step 6
	2.00	38.57	27.03	.		
	3.00	38.57	27.06	.		
	4.00	38.57	27.09	2.25		
	5.00	38.56	27.10	.		
	6.00	38.58	27.11	.		
	8.00	38.58	27.11	.		
12:30	10.00	38.56	27.12	.		EWS measurement
	12.00	38.55	27.16	2.25		
	14.00	38.57	27.16	.		
	16.00	38.55	27.17	2.24		
12:40	20.00	38.57	27.18	.		
	25.00	38.58	27.20	.		
	29.00	38.57	27.21	.		
12:50	30.00	38.57	27.20	.		Increase rate
	.	38.59		.		Step 7, breaking suction
	.	.		.		Water sample collected
	.	.		.		Temp = 59° F
	.	.		.		End of test

DEWATERING WELL DATA

	Well No. Venice W2	Piezometer No. Venice P2
Date Drilled:	1982	1982
Casing		
Top elevation:	405.3	410.30
Diameter:	16-in. SS	2-in. PVC
Length:	28.9 ft	na
Screen		
Bottom elevation:	325.5	na
Diameter:	16-in. SS	2-in. PVC
Length:	50.9 ft	3 ft
Slot size:		na
Measuring Point Elevation:	405.55	410.30
Date of Step Test:	11/17/83	-
Nonpumping Water Level		
Depth below MP:	16.36 ft	21.15 ft
Elevation:	389.19	389.15
Water Sample		
Time:	2:00 p.m.	-
Temperature:	58.5° F	-
Laboratory No.:	219213	-

(na: data not available)

WATER LEVEL MEASUREMENTS
Venice W2

Hour	Time (min)	Adjusted depth to water in well* (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks**
9:39	.	24.29		.		Steel tape
9:43	.	24.79	21.52	.		Dropline #4464; P, dropline
9:45			21.15			P, steel tape
10:20			21.53			P, dropline measurement
10:22	.	24.79	21.53	.		
10:24			21.53			

* Measurements from temporary pipe extension

** P: remarks refer to piezometer readings

WATER LEVEL MEASUREMENTS
Venice W2

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
10:25	0.00	24.79	22.43	.		Start pump
	1:00	26.19	22.45	.		Step 1
	2:00	26.18	22.49	.		Leaky pipe elbow 2-5 gpm
	3:00	26.20	22.53	3.45	200	
	4:00	26.23	22.53	.		
10:30	5:00	26.24		.		P, missed
	6:00	26.26	22.56	3.44	200	
	8:00	26.28	22.57	.		
10:35	10:00	26.29	22.61	3.44	200	
	12:00	26.31	22.62	3.44	200	
	14:00	26.32	22.65	.		
	16:00	26.34	22.65	3.43	200	
10:45	20:00	26.36	22.66	.		
	25:00	26.38	22.65	3.42	200	
	29:00	26.39	22.68	.		
10:55	30:00	26.39	22.68	3.41	200	Increase rate
	1:00	26.94	23.05	7.33		Step 2
	2:00	26.98	23.10	.		Adjust rate
	3:00	27.01	23.15	7.37	300	
	4:00	27.04	23.18	.		
11:00	5:00	27.06	23.19	.		
	6:00	27.08	23.20	7.40	300	
	8:00	27.09	23.22	.		
11:05	10:00	27.11	23.22	.		
	12:00	27.13	23.25	7.40	300	
	14:00	27.13	23.24	.		
	16:00	27.14	23.26	7.40	300	
11:15	20:00	27.16	23.29	.		
	25:00	27.17	23.30	7.42	300	
	29:00	27.19	23.33	.		
11:25	30:00	27.19	23.32	.		Increase rate
	1:00	27.83	23.72	.		Step 3
	2:00	27.89	23.77	1.43	400	P, 4.95' between
	3:00	27.92	23.81	.		P, 20+25' beads
	4:00	27.95	23.83	.		
11:30	5:00	27.97	23.83	.		
	6:00	27.98	23.87	.		
	8:00	28.00	23.88	.		
11:35	10:00	28.03	23.90	.		
	12:00	28.04	23.90	1.43	400	
	14:00	28.04	23.92	.		
	16:00	28.05	23.92	.		

WATER. LEVEL MEASUREMENTS
Venice W2

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
11:45	20.00	28.08	23.95	1.43	400	
	25.00	28.09	23.96	.		
	29.00	28.10	23.98	1.43	400	
11:55	30.00	28.10	23.97	.		Increase rate
	1.00	28.51	24.25	.		Step 4
	2.00	28.77	24.41	2.26	500	
	3.00	28.78	24.43	.		
	4.00	28.83	24.45	2.26	500	25-30 = 4.91 ft
12:00	5.00	28.84	24.48	.		
	6.00	28.84	24.49	.		
	8.00	28.86	24.51	2.26	500	
12:05	10.00	28.91	24.53	.		
	12.00	28.92	24.53	.		
	14.00	28.94	24.55	2.26	500	
	16.00		24.55			
12:14	19.00	28.95		.		Apparent bubble
	20.00		24.57			
	23.00	28.95		2.17	495	In line-valve not
	25.00	28.90	24.55	2.17	495	changed
	29.00	28.91	24.54	.		
12:25	30.00	28.91	24.56	.		Increase rate
	1.00	29.56	24.90	3.20	600	Step 5
	2.00	29.59	24.95	.		
	3.00		25.02			
	4.00		25.03			
12:30	5.00		25.04			Missed--dropline trouble
	6.00		25.05			
	8.00		25.07			
12:35	10.00		25.09			Missed--dropline trouble
	12.00		25.10			
	14.00		25.12			
	16.00		25.12			
12:45	20.00		25.13	3.20	600	
	25.00		25.16			
	29.00	29.78	25.18			Steel tape in use
12:55	30.00		25.18			Increase rate
	1.00		25.57			Step 6
	2.00		25.60			
	3.00		25.65			
	4.00		25.66			
1:00	5.00	30.48	25.67	4.40	700	
	6.00		25.70			
	8.00		25.71			

WATER LEVEL MEASUREMENTS
Venice W2

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
1:05	10.00	31.04	25.74	4.40	700	
	12.00		25.75			
	14.00		25.76			
1:10	15.00	30.55				
	16.00		25.76			
1:15	20.00		25.79			
	22.00			4.40	700	Measurement error
	24.00	30.57				
	25.00		25.81			
	26.00	30.53				
	29.00		25.82			
1:25	30.00	30.59	25.83			Increase rate
	1.00		26.16	5.65	800	Step 7
	2.00	31.19	26.22			
	3.00		26.25			
	4.00	31.26	26.25	5.64	800	
1:30	5.00		26.26			
	6.00		26.29			
	7.00	31.30				
	8.00		26.31			
	9.00	31.32				
1:35	10.00		26.32			
	11.00	31.33		5.63	800	
	12.00		26.32			
	14.00	31.34	26.34	.		
	16.00		26.35			
	18.00	31.34		5.62	800	
1:45	20.00	31.31	26.36	.		
	22.00	31.37		.		
	24.00	31.38		.		
	25.00		26.38			
	26.00	31.34		5.62	800	
	28.00	31.37		.		
	29.00		26.40			
1:55	30.00	31.37	26.46	.		End, water sample temp = 58.5° F

DEWATERING WELL DATA

	Well No. Venice W3	Piezometer No. Venice P3
Date Drilled:	1982	1982
Casing		
Top elevation:	402.3	408.36
Diameter:	16-in. SS	2-in. PVC
Length:	26.7 ft	na
Screen		
Bottom elevation:	324.7	na
Diameter:	16-in. SS	2-in. PVC
Length:	50.9 ft	3 ft
Slot size:		na
Measuring Point Elevation:	402.55	408.36
Date of Step Test:	11/28/83	-
Nonpumping Water Level		
Depth below MP:	11.13 ft	16.75 ft
Elevation:	391.42	391.61
Water Sample		
Time:	3:20 p.m.	-
Temperature:	58.5° F	-
Laboratory No.:	219237	-

(na: data not available)

WATER LEVEL MEASUREMENTS
Venice W3

Hour	Time (min)	Adjusted depth to water in well* (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks**
10:40	.	19.07		.		Steel tape
10:44	.	19.46		.		Elec. dropline #4464
10:45			16.75			Steel tape
10:48			17.22			Electric dropline
11:14	.	19.27		.		
11:25			17.16			

* Measurements from temporary pipe extension

** P: remarks refer to piezometer readings

WATER LEVEL MEASUREMENTS
Venice W3

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
11:27	.	19.38		.		
11:30			17.16			
11:33	.	19.36	17.15	.		Fixed pole for m.p.
11:35	.	19.34	.			
11:36			17.13			
11:37	.	19.34		.		
11:38			17.12			
11:39			17.12			
11:40	0.00	19.34	.	.		Pump on, Step 1
	1:00	21.34	17.56	0.88	101	Started, high Q
	2:00	20.92	17.85	.		
	3:00	20.89	17.86	.		
	4:00	20.90	17.88	.		
11:45	5:00	20.90	17.90	.		
	6:00	20.90	17.90	.		
	8:00	20.90	17.90	.		
11:50	10:00	20.90	17.91	.		
	12:00	20.90	17.91	0.87	101	
	14:00	20.90	17.92	.		
	16:00	20.90	17.92	.		
12:00	20:00	20.89	17.92	.		
	25:00	20.90	17.93	.		
	29:00	20.90	17.92	0.87	101	
12:10	30:00	20.90	17.92	.		Increase rate
12:11	1:00	22.30	18.05	.		Step 2
	2:00	22.35	18.24	.		
	3:00	22.36	18.35	3.41	200	
	4:00	22.37	18.45	.		
12:15	5:00	22.39	18.52	.		
	6:00	22.40	18.56	3.40	200	
	8:00	22.41	18.66	.		P, EWS measurement
12:20	10:00	22.42	18.68	3.40	200	
	12:00	22.42	18.68	.		
	14:00	22.42	18.69	.		
	16:00	22.42	18.69	.		
12:30	20:00	22.41	18.70	3.40	200	
	25:00	22.41	18.70	3.40	200	
	29:00	22.41	18.70	.		
12:40	30:00	22.41	18.70	.		Increase rate
	1:00	23.77	18.85	7.40	300	Step 3
	2:00	23.78	19.02	.		
	3:00	23.80	19.14	.		
	4:00	23.81	19.21	7.40	300	

WATER LEVEL MEASUREMENTS
Venice W3

Hour	Time (min)	Adjusted depth to water in well (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks
12:45	5.00	23.82	19.28	.		
	6.00	23.83	19.33	.		
	8.00	23.84	19.37	.		
12:50	10.00	23.85	19.39	7.40	300	
	12.00	23.86	19.40	.		
	14.00	23.86	19.40	.		
	16.00	23.86	19.41	7.40	300	
1:00	20.00	23.86	19.40	.		
	25.00	23.86	19.40	.		
	29.00	23.85	19.40	.		
1:10	30.00	23.85	19.40	.		Increase rate Step 4
	1.00	25.17	19.48	.		
	2.00	25.46	19.69	.		
	3.00	25.49	19.83	1.43	400	Orifice plate 4
1:15	4.00	25.49	19.94	.		
	5.00	25.50	20.05	.		
	6.00	25.52	20.11	1.43	400	
1:20	8.00	25.54	20.18	.		
	10.00	25.54	20.22	.		
	12.00	25.55	20.23	.		
	14.00	25.55	20.24	1.43	400	
1:30	16.00	25.52	20.26	.		New measurer
	20.00	25.52	20.26	1.43	400	
	25.00	25.53	20.25	.		
	29.00	25.53	20.26	.		
1:40	30.00	25.53	20.26	1.43	400	Increase rate Step 5
	1.00	27.07	20.43	.		P, EWS measurer
	2.00	27.10	20.62	.		
	3.00	27.10	20.73	.		
	4.00	27.12	20.83	.		
1:45	5.00	27.13	20.88	.		
	6.00	27.13	20.93	.		
	8.00	27.14	20.98	2.26	500	
1:50	10.00	27.15	21.02	.		
	12.00	27.15	21.03	2.25	500	
	14.00	27.16	21.04	.		
	16.00	27.17	21.06	.		
2:00	20.00	27.17	21.06	2.24	500	
	25.00	27.19	21.07	.		
	29.00	27.20	21.07	.		
2:10	30.00	27.20	21.07	.		Increase rate Step 6
	1.00	28.54	21.20	3.19	600	
	2.00	28.56	21.38	.		

WATER LEVEL MEASUREMENTS
Venice W3

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
	3:00	28.57	21.48	.		
	4:00	28.58	21.56	.		
2:15	5:00	28.58	21.62	.		
	6:00	28.59	21.66	.		
	8:00	28.59	21.72	.		
2:20	10:00	28.59	21.76	3.18	600	
	12:00	28.61	21.77	.		
	14:00	28.60	21.77	.		
	16:00	28.61	21.79	3.19	600	
2:30	20:00	28.62	21.82	.		
	25:00	28.61	21.81	3.17	600	
	29:00	28.62	21.81	.		
2:40	30:00	28.61	21.81	.		Increase rate
	1:00	30.40	21.98	.		Step 7
	2:00	.	22.13	.		
	3:00	30.16	22.25	.		
	4:00	30.17	22.37	.		
2:45	5:00	30.15	22.42	.		
	6:00	30.15	22.47	.		
	8:00	30.14	22.53	4.39	700	
2:50	10:00	30.13	22.56	.		
	12:00	.	22.57	.		
	14:00	30.11	22.58	4.39	700	
	16:00	30.11	22.59	.		
	20:00		22.59			
3:01	21:00	30.09		4.40	700	
	25:00	30.07	22.60	.		
	29:00	30.06	22.60	.		
3:10	30:00	30.06	22.60	.		Increase rate
	1:00	31.36	22.75	5.65	800	Step 8
	2:00	31.37	22.89	.		
	3:00	31.36	23.04	.		
	4:00	31.40	23.12	.		
3:15	5:00	31.34	23.17	.		
	6:00	31.32	23.22	.		
	8:00	31.29	23.26	5.64	800	Temp 58.5° F
3:20	10:00	31.28	23.28	.		
	12:00	31.27	23.28	.		
	14:00	31.25	23.30	.		
	16:00	31.24	23.30	.		
3:30	20:00	31.23	23.31	.		
	25:00	31.20	23.31	5.65	800	
	29:00	31.18	23.33	.		Top rate = 6.60
3:40	30:00	31.18	23.32	.		

DEWATERING WELL DATA

	Well No. Venice W4	Piezometer No. Venice P4
Date Drilled:	1982	1982
Casing		
Top elevation:	402.8	407.93
Diameter:	16-in. SS	2-in. PVC
Length:	24.4 ft	na
Screen		
Bottom elevation:	327.5	na
Diameter:	16-in. SS	2-in. PVC
Length:	50.9 ft	3 ft
Slot size:		
Measuring Point Elevation:	403.05	407.93
Date of Step Test:	12/1/83	-
Nonpumping Water Level		
Depth below MP:	10.93 ft	16.04 ft
Elevation:	392.12	391.89
Water Sample		
Time:	2:50 p.m.	-
Temperature:	60.0° F	-
Laboratory No.:	219241	-

(na: data not available)

WATER LEVEL MEASUREMENTS
Venice W4

Hour	Time (min)	Adjusted depth to water in well* (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks**
9:25			16.04			Steel tape
9:29			16.77			Electric dropline
9:45			16.69			
9:57			16.69			
10:07			16.68			
10:14		18.87				Steel tape
10:18			16.67			

* Measurements from temporary pipe extension

** P: remarks refer to piezometer readings

WATER LEVEL MEASUREMENTS
Venice W4

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
10:20	.	19.21				Dropline #6909
10:21	.	19.19				
10:22	.	19.19				
10:25	.	19.19	16.66			
10:29	.	19.18	16.64			
10:30	0.00	.				Pump on
	1.00	20.86	17.64			Step 1 - rate high
	2.00	20.82	17.60			
	3.00	20.83	17.62	3.43	201	
	4.25	20.84				
10:35	5.00	20.85	17.64			
	6.00	20.86	17.64			
	8.00	20.87	17.65			
10:40	10.00	20.88	17.65			
	12.00	20.88	17.66			
	14.00	20.88	17.67			
	16.00	20.88	17.67			
10:50	20.00	20.88	17.65	3.47	202	P, train passing
	25.00	20.88	17.65	.		
	29.00	20.87	17.65	3.47	202	
11:00	30.00	.	17.66	.		Missed reading - decreased rate
	1.00	20.10	17.22	0.88	101	Step 2
	2.00	20.06	17.19	.		
	3.00	20.05	17.16	.		
	4.00	20.03	17.16	.		
11:05	5.00	20.02	17.15	0.86	100	
	6.00	20.01	17.14	.		
	8.00	20.01	17.15	0.86	100	
11:10	10.00	20.00	17.12	.		
	12.00	19.99	17.12	.		
	14.00	19.98	17.12	0.86	100	
	16.00	19.98	17.11	.		
11:20	20.00	19.97	17.10	.		
	25.00	19.96	17.09	0.86	100	
	29.00	19.96	17.08	.		
11:30	30.00	19.96	17.08	.		Increase rate
	1.00	20.73	17.51	3.40	200	Step 3
	2.00	20.85	17.54	.		
	3.00	20.75	17.55	.		
	4.00	20.76	17.55	3.41	200	
11:35	5.00	20.78	17.56	.		
	6.00	20.78	17.55	.		
	8.00	20.78	17.55	.		

WATER LEVEL MEASUREMENTS
Venice W4

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
11:40	10.00	20.79	17.58	3.41	200	
	12.00	20.79	17.57	.		
	14.00	20.78	17.57	3.41	200	
	16.00	20.79	17.58	.		
11:50	20.00	20.79	17.57	.		
	25.00	20.79	17.58	.		
	29.00	20.80	17.55	.		
12:00	30.00	20.80	17.53	.		Increase rate
	1.00	21.51	17.97	.		Step 4
	2.00	21.56	18.00	.		
	3.00	21.56	18.02	7.41	300	
	4.00	21.57	18.03	.		
12:05	5.00	21.58	18.04	7.41	300	
	6.00	21.58	18.05	.		
	8.00	21.59	18.07	.		
12:10	10.00	21.58	18.06	.		
	12.00	21.58	18.05	.		
	14.00	21.57	18.07	.		
	16.00	21.58	18.05	7.42	300	
12:20	20.00	21.59	18.06	.		
	25.00	21.59	18.07	7.42	300	
	29.00	21.59	18.07	.		
12:30	30.00	21.59	18.07	.		Increase rate
	1.00	2.48	18.46	.		Step 5
	2.00	22.49	18.55	.		Adjust rate
	3.00	22.45	18.53	.		
	4.00	22.45	18.54	.		
12:35	5.00	22.46	18.54	.		
	6.00	22.47	18.56	1.43	400	
	8.00	22.47	18.56	.		
12:40	10.00	22.48	18.57	.		
	12.00	22.50	18.58	.		
	14.00	22.50	18.58	.		
	16.00	22.51	18.58	1.42	400	
12:50	20.00	22.51	18.59	.		
	25.00	22.52	18.58	.		
	29.00	22.52	18.58	1.42	400	
1:00	30.00	22.51	.	.		Increase rate; P, missed
	1.00	23.34	19.04	.		Step 6
	2.00	23.38	19.06	.		
	3.00	23.39	19.07	.		
	4.00	23.42	19.08	.		

WATER LEVEL MEASUREMENTS
Venice W4

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
1:05	5.00	23.43	19.08	.		
	6.00	23.42	19.10	.		
	8.00	23.44	19.12	.		
1:10	10.00	23.44	19.12	.		
	12.00	23.44	19.13	.		
	14.00	23.44	19.13	2.27	500	
	16.00	23.44	19.13	.		
1:20	20.00	23.45	19.15	2.26	500	
	25.00	23.47	19.15	.		
	29.00	23.46	19.13	2.27	500	
1:30	30.00	23.46	19.14	.		Increase rate
	1.00	24.26	19.57	3.20	600	Step 7
	2.00	24.29	19.60	.		
	3.00	24.29	19.60	3.20	600	
	4.00	24.30	19.61	.		
1:35	5.00	24.32	19.62	.		
	6.00	24.31	19.62	.		
	8.00	24.32	19.64	.		
1:40	10.00	24.33	19.66	.		
	12.00	24.34	19.66	.		
	14.00	24.34	19.66	3.20	600	
	16.00	24.34	19.67	.		
1:50	20.00	24.35	19.67	3.20	600	
	25.00	24.36	19.68	.		
	29.00	24.37	19.68	3.21	600	
2:00	30.00	24.38	19.69	.		Increase rate
	1.00	25.22	20.09	4.40	700	Step 8
	2.00	25.25	20.16	.		
	3.00	25.26	20.17	.		
	4.00	25.26	20.19	4.40	700	
2:05	5.00	25.27	20.20	.		
	6.00	25.26	20.19	.		
	8.00	25.28	20.21	.		
2:10	10.00	25.29	20.22	4.40	700	
	12.00	25.30	20.22	.		
	14.00	25.30	20.23	.		
	16.00	25.30	20.24	4.40	700	
2:20	20.00	25.32	20.25	4.40	700	
	25.00	25.32	20.26	4.39	700	
	29.00	25.33	20.26	.		
2:30	30.00	25.33	20.26	.		Increase rate
	1.00	26.12	20.68	5.65	800	Step 9
	2.00	26.13	20.70	.		

WATER LEVEL MEASUREMENTS
Venice W4

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
	3.00	26.16	20.71	.		
	4.00	26.17	20.71	5.63	800	
2:35	5.00	.	20.72	.		Missed reading
	6.00	26.18	20.74	.		
	8.00	26.18	20.74	.		
2:40	10.00	26.19	20.76	.		
	12.00	26.19	20.76	5.62	800	
	14.00	26.19	20.77	.		
	16.00	26.20	20.77	.		
2:50	20.00	26.20	20.79	5.62	800	Water temp 60.0° F
	25.00	26.21	20.79	.		
	29.00	26.21	20.80	.		
3:00	30.00	26.21	20.80	5.62	800	
	.	.	.	6.65	860	Max rate

DEWATERING WELL DATA

	Well No. Venice W5	Piezometer No. Venice P5
Date Drilled:	1982	1982
Casing		
Top elevation:	400.8	407.21
Diameter:	16-in. SS	2-in. PVC
Length:	21.3 ft	na
Screen		
Bottom elevation:	328.6	na
Diameter:	16-in. SS	2-in. PVC
Length:	50.9 ft	3 ft
Slot size:		na
Measuring Point Elevation:	401.05	407.21
Date of Step Test:	11/15/83	-
Nonpumping Water Level		
Depth below MP:	13.14 ft	19.43 ft
Elevation:	387.91	387.78
Water Sample		
Time:	3:50 p.m.	-
Temperature:	60.0° F	-
Laboratory No.:	219212	-

(na: data not available)

WATER LEVEL MEASUREMENTS
Venice W5

Hour	Time (min)	Adjusted depth to water in well* (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks**
10:57	.	19.54		.		Steel tape meas. MP = cover edge
11:02			19.42			Steel tape
11:05			19.43			Steel tape
11:07	.	21.55		.		1.6 ft below test MP
11:15			19.82			Dropline

* Measurements from temporary pipe extension

** P: remarks refer to piezometer readings

WATER LEVEL MEASUREMENTS
Venice W5

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
11:16	.	21.65		.		
11:20			19.82			
11:22	.	21.65		.		
11:24			19.82			
11:35	0:00	21.65		.		Start pump, Step 1
11:36	1:00	22.44	20.37	.	200	Way high then low;
	2:00	23.26	20.94	.		then high, then low
	3:00	23.16	20.86	3.39	200	
	4:00	23.12	20.85	.		
11:40	5:00	23.17	20.87	.		
	6:00	23.19	20.87	3.40	200	
	8:00	23.21	20.91	3.40	200	
11:45	10:00	23.21	20.90	.		
	12:00	23.21	20.90	3.40	200	
	14:00	23.23	20.91	.		
	16:00	23.22	20.92	.		
11:55	20:00	23.23	20.95	.		
	25:00	23.24	20.95	.		
	29:00	23.24	20.95	.		
12:05	30:00	23.25	20.95	3.40	200	Decrease rate
12:06	1:00	22.55	20.50	0.87	101	Step 2
	2:00	22.54	20.50	.		
	3:00	22.52	20.46	0.87	101	
	4:00	22.52	20.46	.		
12:10	5:00	22.52	20.46	0.88	101	
	6:00	22.51	20.46	.		
	8:00	22.50	20.47	0.88	101	EWS measure
12:15	10:00	22.50	20.45	.		
	12:00	22.49	20.46	0.87	101	
	14:00	22.50	20.46	.		
	16:00	22.49	20.47	.		
12:25	20:00	22.49	20.47	0.87	101	
	25:00	22.49	20.49	.		
	29:00	22.50	20.48	.		
12:35	30:00	22.50	20.48	.		Increase rate
12:36	1:00	.	.	.	200	Step 3 - missed reading
	2:00	23.24	20.91	3.41	200	
	3:00	23.24	20.92	.		
	4:00	23.26	20.93	.		
12:40	5:00	23.27	20.91	.		
	6:00	23.27	20.91	.		
	8:00	23.29	20.92	.		
12:45	10:00	23.30	20.92	3.40	200	
	12:00	23.30	20.93	.		

WATER LEVEL MEASUREMENTS
Venice W5

Hour	Time (min)	Adjusted depth to water in well (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks
	14.00	23.30	20.93	.		
	16.00	23.31	20.93	3.40	200	
12:55	20.00	23.32	20.94	.		
	25.00	23.32	20.94	.		
	29.00	23.33	20.96	.		
1:05	30.00	23.32	20.96	.		Increase rate
1:06	1.00	23.98	21.37	.		Step 4
	2.00	24.03	21.41	7.32	296	
	3.00	24.04	21.42	.		
	4.00	24.05	21.56	.		
1:10	5.00	24.05	21.47	7.30	296	
	6.00	24.06	21.47	7.29	295	
	8.00	24.07	21.49	.		
1:15	10.00	24.07	21.50	7.29	295	
	12.00	24.07	21.50	.		
	14.00	24.08	21.50	7.28	295	
	16.00	24.08	21.50	.		
1:25	20.00	24.08	21.52	.		
	25.00	24.10	21.52	7.28	295	
	29.00	24.11	21.53	.		
1:35	30.00	24.11	21.53	.		Increase rate
1:36	1.00	25.00	22.03	.		Step 5
	2.00	25.01	22.10	.		Rate high
	3.00	24.97	22.15	1.45	400	
	4.00	24.93	22.11	.		
1:40	5.00	24.94	22.10	.		
	6.00	24.94	22.10	1.45	400	20 - 25 = 4.90 ft
	8.00	24.95	22.10	.		
1:45	10.00	24.95	22.10	.		
	12.00	24.95	22.11	.		
	14.00	24.98	22.12	1.45	400	
	16.00	24.98	22.11	.		
1:55	20.00	25.00	22.13	.		
	25.00	25.01	22.15	1.45	400	
	29.00	25.01	22.14	.		
2:05	30.00	25.01	22.15	1.45	400	Increase rate
	1.00	25.75	22.54	2.25	500	Step 6
	2.00	25.79	22.60	.		
	3.00	25.79	22.65	.		
	4.00	25.80	22.65	.		
2:10	5.00	25.83	22.67	.		
	6.00	25.83	22.70	2.27	500	
	8.00	25.84	22.70	.		P, 4.94' between 20-25

WATER LEVEL MEASUREMENTS
Venice W5

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
2:15	10:00	25.85	22.73	.		
	12:00	25.85	22.73	.		
	14:00	25.86	22.76	2.27	500	
	16:00	25.87	22.77	.		
2:25	20:00	25.88	22.77	2.27	500	
	25:00	25.88	22.78	2.27	500	
	29:00	25.90	22.77	.		
2:35	30:00	25.90	22.78	.		Increase rate
	1:00	26.60	23.17	3.21	600	Step 7
	2:00	26.65	23.20	.		
	3:00	26.65	23.20	3.18	600	P, EWS measure
2:40	4:00	26.66	23.19	.		
	5:00	26.68	23.19	.		
	6:00	26.68	23.21	.		
2:45	8:00	26.68	23.20	3.18	600	
	10:00	26.68	23.20	.		
	12:00	26.70	23.21	.		
2:55	14:00	26.71	23.23	.		
	16:00	26.72	23.22	.		
	20:00	26.74	23.24	3.18	600	
	25:00	26.75	23.26	.		
3:05	29:00	26.76	23.27	.		
	30:00	26.77	23.27	.		Increase rate
3:06	1:00	27.56	23.74	4.42	700	Step 8
	2:00	27.60	23.79	.		
	3:00	27.59	23.79	.		
	4:00	27.62	23.81	.		
3:10	5:00	27.61	23.81	4.42	700	
	6:00	27.65	23.83	.		
	8:00	27.66	23.84	.		
3:15	10:00	27.68	23.85	4.42	700	
	12:00	27.68	23.86	.		
	14:00	27.69	23.86	4.42	700	
	16:00	27.68	23.87	.		Train passing
3:25	20:00	27.72	23.88	4.42	700	
	25:00	27.74	23.90	.		
	29:00	27.77	23.91	.		
3:35	30:00	27.74	23.91	.		Increase rate
3:36	1:00	28.44	24.35	5.65	800	Step 9
	2:00	28.47	24.36	.		
	3:00	28.48	24.39	5.65	800	
	4:00	28.47	24.39	.		

WATER LEVEL MEASUREMENTS

Venice W5

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
3:40	5.00	28.49	24.39	.		
	6.00	28.51	24.40	.		4.91 ft between
	8.00	28.52	24.41	.		25 & 30
3:45	10.00	28.51	24.42	.		
	12.00	28.51	24.42	5.64	800	
	14.00	28.54	24.43	.		Sample T = 60° F
	16.00	28.55	24.43	.		
3:55	20.00	28.55	24.45	5.64	800	
	25.00	28.54	24.45	5.64	800	
	29.00	28.57	24.47	.		
4:05	30.00	28.57	24.47	.		End of test

DEWATERING WELL DATA

	Well No. Venice W6	Piezometer No. Venice P6
Date Drilled:	1982	1982
Casing		
Top elevation:	401.8	407.86
Diameter:	16-in. SS	2-in. PVC
Length:	25.7 ft	na
Screen		
Bottom elevation:	325.2	na
Diameter:	16-in. SS	2-in. PVC
Length:	50.9 ft	3 ft
Slot size:		na
Measuring Point Elevation:	402.05	407.86
Date of Step Test:	11/29/83	-
Nonpumping Water Level		
Depth below MP:	12.84 ft	18.35 ft
Elevation:	389.21	389.51
Water Sample		
Time:	1:40 p.m.	-
Temperature:	59.3° F	-
Laboratory No.:	219238	-

(na: data not available)

WATER LEVEL MEASUREMENTS
Venice W6

Hour	Time (min)	Adjusted depth to water in well* (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks**
	8:48		18.35			P, steel tape
	8:55		18.69			P, electric dropline
	9:06		18.69			
	9:15		18.69			
	9:21	20.79				Steel tape
	9:23	21.18				Elec. dropline #4464

* Measurements from temporary pipe extension

** P: remarks refer to piezometer readings

WATER LEVEL MEASUREMENTS
Venice W6

Hour	Time (min)	Adjusted depth to water in well (ft)	Adjusted depth to water in piezometer (ft)	Orifice tube piez. (ft)	Pumping rate (gpm)	Remarks
9:25			18.69			
9:29	.	21.16		.		
9:30			18.69			
9:35	0.00	.		.		Pump on
9:36	1.00	23.60	19.17	.		Step 1
	2.00	23.57	19.12	.		
	3.00	23.62	19.13	.		
	4.00	23.66	19.14	.		
9:40	5.00	23.67	19.16	3.41	200	
	6.00	23.67	19.16	.		
	8.00	23.68	19.18	.		
9:45	10.00	23.70	19.19	.		
	12.00	23.72	19.17	.		
	14.00	23.73	19.19	3.40	200	
	16.00	23.75	19.19	.		
9:55	20.00	23.75	19.21	3.40	200	
	25.00	23.75	19.22	.		
	29.00	.		.		P, missed reading
10:05	30.00	23.77	19.23	.		Decrease rate
	1.00	22.72	19.08	0.88	102	Step 2
	2.00	22.69	19.04	.		
	3.00	22.68	19.06	0.88	102	P, EWS measure
	4.00	22.67	19.04	.		
10:10	5.00	22.65	19.03	.		
	6.00	22.62	19.02	.		
	8.00	22.62	19.02	.		
10:15	10.00	22.63	19.02	0.88	102	
	12.00	22.62	19.01	.		
	14.00	22.62	19.01	.		
	16.00	22.62	19.00	0.87	101	
10:25	20.00	22.61	19.00	.		
	25.00	22.62	18.99	0.88	102	
	29.00	22.62	19.00	.		
10:35	30.00	22.62	19.00	.		Increase rate
	1.00	23.70	19.18	.		Step 3
	2.00	23.71	19.20	3.41	200	
	3.00	23.73	19.22	.		
	4.00	23.75	19.21	.		
10:40	5.00	23.75	19.22	.		
	6.00	23.76	19.22	.		
	8.00	23.78	19.23	.		
10:45	10.00	23.78	19.23	3.41	200	
	12.00	23.78	19.25	.		

WATER LEVEL MEASUREMENTS
Venice W6

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
	14.00	23.78	19.24	.		
	16.00	23.79	19.24	.		
10:55	20.00	23.80	19.25	.		
	25.00	23.80	19.20	3.41	200	Train passing
	29.00	23.81	19.25	.		
11:05	30.00	23.82	19.25	.		Increase rate
	1.00	24.84	19.40	7.40	298	Step 4
	2.00	24.90	19.45	.		
	3.00	24.93	19.45	.		
	4.00	24.95	19.47	7.40	298	
11:10	5.00	24.96	19.48	.		
	6.00	24.98	19.49	.		
	8.00	24.98	19.48	.		
11:15	10.00	24.99	19.49	7.38	297	
	12.00	25.00	19.50	.		
	14.00	25.00	19.51	.		
	16.00	25.01	19.51	.		
11:25	20.00	25.01	19.52	7.38	297	
	25.00	25.03	19.53	7.38	297	
	29.00	25.04	19.53	.		
11:35	30.00	25.04	19.54	.		Increase rate
	1.00	26.25	19.62	.		Step 5
	2.00	26.25	19.74	.		
	3.00	26.27	19.76	1.42	400	
	4.00	26.28	19.77	.		
11:40	5.00	26.30	19.77	.		
	6.00	26.30	19.78	1.41	400	
	8.00	26.31	19.79	.		
11:45	10.00	26.32	19.80	.		
	12.00	26.33	19.80	.		
	14.00	26.35	19.81	1.41	400	
	16.00	26.35	19.82	.		
11:55	20.00	26.37	19.84	.		
	25.00		19.84	.		
	26.00	26.40		.		
	29.00	26.40	19.85	1.41	400	Train passing
12:05	30.00	26.39	19.83	.		Increase rate
	1.00	27.65	19.99	.		Step 6
	2.00	27.72	20.08	.		Train gone
	3.00	27.74	20.09	.		
	4.00	27.74	20.09	.		
12:10	5.00	27.76	20.09	.		
	6.00	27.78	20.10	2.27	500	
	8.00	27.78	20.11	.		

WATER LEVEL MEASUREMENTS
Venice W6

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
12:15	10.00	27.78	20.11	.		
	12.00	27.80	20.12	2.26	500	
	14.00	27.81	20.13	.		
	16.00	27.83	20.14	2.27	500	
12:25	20.00	27.86	20.15	.		
	25.00	27.88	20.16	.		
	29.00	27.88	20.17	2.27	500	
12:35	30.00	27.88	20.17	.		Increase rate
	1.00	29.11	20.33	3.20	600	Step 7
	2.00	29.44	20.36	.		
	3.00	29.00	20.38	.		
	4.00	29.15	20.39	.		
12:40	5.00	29.53	20.39	.		
	6.00	29.04	20.40	.		
	8.00	29.05	20.41	.		
12:45	10.00	29.06	20.42	3.18	600	
	12.00	29.07	20.42	.		
	14.00	29.07	20.43	.		
	16.00	29.09	20.44	.		
12:55	20.00	29.10	20.44	3.19	600	Train passing
	25.00	29.12	20.45	.		
	29.00	29.13	20.47	3.19	600	
1:05	30.00	29.14	20.47	.		Increase rate
	1.00	30.26	20.63	.		Step 8
	2.00	30.31	20.67	.		
	3.00	.	20.68	.		Missed
	4.00	30.38	20.70	.		
1:10	5.00	30.38	20.71	.		
	6.00	30.40	20.71	.		
	8.00	30.40	20.71	.		
1:15	10.00	30.41	20.72	.		
	12.00	30.44	20.73	4.40	700	
	14.00	30.45	20.74	.		
	16.00	30.44	20.74	.		
1:25	20.00	30.47	20.76	.		
	25.00	30.47	20.77	.		
	29.00	30.49	20.78	.		
1:35	30.00	30.49	20.78	.		Increase rate
	1.00	31.53	20.93	5.64	790	Step 9
	2.00	31.58	20.98	.		
	3.00	31.61	20.98	.		
	4.00	31.61	21.00	.		

WATER LEVEL MEASUREMENTS
Venice W6

<u>Hour</u>	<u>Time (min)</u>	<u>Adjusted depth to water in well (ft)</u>	<u>Adjusted depth to water in piezometer (ft)</u>	<u>Orifice tube piez. (ft)</u>	<u>Pumping rate (gpm)</u>	<u>Remarks</u>
1:40	5.00	31.62	21.01	.		
	6.00	31.61	21.02	5.65	790	T = 59.3° F
	8.00	31.62	21.03	.		
1:45	10.00	31.63	21.03	.		
	12.00	31.63	21.04	.		
	14.00	31.63	21.05	.		
	16.00	31.65	21.06	.		
1:55	20.00	31.66	21.06	.		
	25.00	31.67	21.08	.		
	29.00	31.69	21.08	.		
2:05	30.00	31.69	21.09	.		

Appendix B

Chemical Analyses

Appendix B. Chemical Quality of Groundwater at IDOT Dewatering Sites at I-70

Site	I-70	I-70	I-70	I-70
Well No.	2	3	7	12
Section Location T.2N., R.9W., St. Clair Co.	7.7b	7.7b	7.7b	7.6b
Date Collected	7/19/83	6/28/83	6/30/83	6/16/83
Laboratory No.	218825	218685	218687	218640
Iron (Fe), mg/l	11.9	14.4	12.1	13.8
Calcium (Ca), mg/l	180.	224.	189.	167.
Magnesium (Mg), mg/l	40.0	52.2	41.8	46.6
Sodium (Na), mg/l	127.	112.	51.7	49.4
Strontium (Sr), mg/l	-	-	-	0.4
Potassium (K), mg/l	-	-	-	7.3
Silica (SiO ₂), mg/l	31.4	32.8	31.1	30.7
Nitrate (NO ₃), mg/l	<0.6	<0.6	<0.6	<0.6
Chloride (Cl), mg/l	131.	198.	77.	67.
Sulfate (SO ₄), mg/l	290.	307.	285.	350.
Alkalinity (as CaCO ₃), mg/l	464.	440.	367.	352.
Hardness (as CaCO ₃), mg/l	614.	774.	643.	608.
Total dissolved minerals, mg/l	1105.	1238.	936.	971.
Turbidity (lab)	100	82	68	98
Color	<1	<1	<1	<1
Odor	H ₂ S	H ₂ S	H ₂ S	None
pH (in lab)	7.3	7.1	7.2	6.9
Temperature, °F	60.5	56.	-	58.

Appendix B. Chemical Quality of Groundwater at IDOT Dewatering Sites
at 1-64 and 25th Street

Site	I-64	I-64	I-64	25th	25th
Well No.	6	9	15	2	8
Section Location T.2N., R.9W., St. Clair Co.	18.5h	18.3f	18.6h	17.6d	17.6d
Date Collected	7/21/83	10/5/83	6/29/83	7/20/83	6/15/83
Laboratory No.	218827	219087	218686	218826	218639
Iron (Fe), mg/l	17.6	12.9	20.0	14.4	9.08
Calcium (Ca), mg/l	225.	202.	260.	181.	124.
Magnesium (Mg), mg/l	60.3	53.8	60.8	53.8	38.7
Sodium (Na), mg/l	85.4	29.8	75.2	166.	16.6
Strontium (Sr), mg/l	-	-	-	-	0.3
Potassium (K), mg/l	-	-	-	-	5.2
Silica (SiO ₂), mg/l	33.8	32.9	35.4	32.2	33.4
Nitrate (NO ₃), mg/l	<0.6	0.3	<0.6	<0.6	<0.6
Chloride (Cl), mg/l	45.	41.	57.	30.	21.
Sulfate (SO ₄), mg/l	580.	350.	585.	640.	185.
Alkalinity (as CaCO ₃), mg/l	424.	412.	416.	396.	356.
Hardness (as CaCO ₃), mg/l	809.	725.	899.	673.	469.
Total dissolved minerals, mg/l	1323.	974.	1388.	1368.	659.
Turbidity (lab)	150	70	100	110	74
Color	<1	5	<1	5	<1
Odor	None	None	H ₂ S	None	None
pH (in lab)	7.2	7.0	7.0	7.2	7.0
Temperature, °F	62.	60.	61.5	60.	58.

Appendix B. Chemical Quality of Groundwater at IDOT Dewatering Sites
at Venice

Site	Venice	Venice	Venice	Venice
Well No.	1	1	2	3
Section Location T.3N., R.10W., Madison Co.	35.4g	35.4g	35.4g	35.3g
Date Collected	11/30/83	11/30/83	11/17/83	11/28/83
Laboratory No.	219240	219239	219213	219237
Iron (Fe), mg/l	*109.	25.7	21.6	20.1
Calcium (Ca), mg/l	238.	256.	261.	216.
Magnesium (Mg), mg/l	59.2	61.2	54.2	51.7
Sodium (Na), mg/l	36.9	38.3	30.1	65.1
Strontium (Sr), mg/l	-	-	-	-
Potassium (K), mg/l	8.1	8.5	7.9	7.9
Silica (SiO ₂), mg/l	22.9	26.7	31.8	26.6
Nitrate (NO ₃), mg/l	<0.3	<0.3	0.8	0.3
Chloride (Cl), mg/l	46.	66.	42.	79.
Sulfate (SO ₄), mg/l	435.	465.	440.	325.
Alkalinity (as CaCO ₃), mg/l	432.	444.	476.	472.
Hardness (as CaCO ₃), mg/l	837.	890.	874.	752.
Total dissolved minerals, mg/l	1160.	1241.	1195.	1097.
Turbidity (lab)	200	100	120	100
Color	<1	<1	<1	<1
Odor	Musty	None	None	None
pH (in lab)	7.0	7.1	7.0	7.2
Temperature, °F	-	59.0	58.5	58.5

* Sample collected after pumping 5 minutes.

Appendix B. Chemical Quality of Groundwater at IDOT Dewatering Sites at Venice

Site	Venice	Venice	Venice
Well No.	4	5	6
Section Location T.3N., R.10W., Madison Co.	35.3g	35.3g	35.3g
Date Collected	12/1/83	11/15/83	11/29/83
Laboratory No.	219241	219212	219238
Iron (Fe), mg/l	20.7	20.3	22.7
Calcium (Ca), mg/l	208.	224.	226.
Magnesium (Mg), mg/l	52.8	55.8	56.0
Sodium (Na), mg/l	50.0	38.5	38.1
Strontium (Sr), mg/l	-	-	-
Potassium (K), mg/l	7.7	7.6	8.1
Silica (SiO ₂), mg/l	25.3	31.8	24.4
Nitrate (NO ₃), mg/l	0.6	<0.3	<0.3
Chloride (Cl), mg/l	86.	65.	62.
Sulfate (SO ₄), mg/l	330.	380.	410.
Alkalinity (as CaCO ₃), mg/l	424.	428.	402.
Hardness (as CaCO ₃), mg/l	735.	788.	794.
Total dissolved minerals, mg/l	1054.	1104.	1138.
Turbidity (lab)	100	120	100
Color	<1	<1	<1
Odor	None	None	None
pH (in lab)	7.2	7.0	7.1
Temperature, °F	60.0	60.0	59.3

Appendix C
Selected Model Simulations

Model Results: Actual Pumping Configuration

August 28, 1978

These are the model results for an approximation to the actual pumping configuration for the period ending August 28, 1978. There were 10 wells used during this period.

Data Summary

Transmissivity = 220000 gpd/ft
Specific Yield = 0.10000

Reference Head = 398. ft msl at 2507
Gradient = 3.2 ft/mi WNW

Mean Error is 7.97 ft
Median Error is 7.9712 ft
Standard Deviation is 5.0875 ft

Minimum Error is 0.105 ft at 7003
Maximum Error is 16.507 ft at 6401

Water Level Data

Well ID.	Calc. Elev. (ft msl)	Target Elev. (ft msl)	Diff. (ft)
7001	379.91	382.00	2.09
7007	379.28	382.50	3.22
7002 P*	379.08	380.50	1.42
7008 P	378.51	380.00	1.49
7009	378.86	379.00	0.14
7003	378.90	379.00	0.10
7010	378.76	379.50	0.74
7004	378.68	379.50	0.82
7005 P	378.34	380.50	2.16
7006	378.74	383.00	4.26
7011	378.70	381.00	2.30
7012 P	379.25	383.00	3.75
6401	380.19	396.70	16.51
6411	380.83	396.50	15.67
6402	380.98	395.40	14.42
6412	381.09	395.10	14.01
6403	381.32	393.50	12.18
6413	381.34	393.20	11.86
6404	381.25	393.80	12.55
6414	381.16	394.50	13.34
6405	381.00	395.10	14.10
6415 P	380.92	394.70	13.78
6406 P	381.45	394.00	12.55
6416	381.75	393.20	11.45
6407	382.06	392.50	10.44
6408	382.36	390.70	8.34
6417	382.39	391.50	9.11
6418	382.32	390.20	7.88
6409 P	382.27	390.10	7.83
6419	382.31	391.20	8.89
6410	382.95	394.60	11.65
6420 P	383.45	399.40	15.95
2501 P	388.84	401.20	12.36
2510	388.83	400.10	11.27
2502	388.98	393.10	4.12
2509	388.99	392.80	3.81
2503	388.93	392.40	3.47
2508	388.87	392.70	3.83
2504	388.74	394.40	5.66
2507	388.63	395.00	6.37
2505 P	388.47	397.60	9.13
2506	388.52	398.30	9.78

* "P" denotes a pumping well.

Model Results: Functional Well Group Configuration

August 28, 1978

These are the results of the model using the functional well groups for the pumping period ending August 28, 1978. A total of only 8 wells was required, as opposed to a total of 10 for the actual pumping configuration. Additionally, the average error is 5.86 ft for the functional well group configuration, as opposed to 7.97 ft for the actual pumping configuration, a savings of 2.11 ft.

Data Summary

Transmissivity = 220000 gpd/ft
Specific Yield = 0.10000

Reference Head = 398. ft msl at 2507
Gradient = 3.2 ft/mi WNW

Mean Error is 5.86 ft
Median Error is 5.7902 ft
Standard Deviation is 4.5536 ft

Minimum Error is -0.765 ft at 7009
Maximum Error is 15.152 ft at 6401

Water Level Data

Well ID.	Calc. Elev. (ft msl)	Target Elev. (ft msl)	Diff. (ft)
7001 P	381.20	382.00	0.80
7007	380.73	382.50	1.77
7002	380.50	380.50	0.00
7008 P	379.69	380.00	0.31
7009	379.76	379.00	-0.76
7003	379.61	379.00	-0.61
7010	379.21	379.50	0.29
7004 P	379.06	379.50	0.14
7005 P	379.28	380.50	1.22
7006	380.20	383.00	2.80
7011	380.15	381.00	0.85
7012	381.31	383.00	1.69
6401	381.55	396.70	15.15
6411	382.08	396.50	14.42
6402 P	382.08	395.40	13.32
6412	382.48	395.10	12.62
6403	383.57	393.50	9.93
6413	383.87	393.20	9.33
6404	384.49	393.80	9.31
6414	384.69	394.50	9.81
6405	384.90	395.10	10.20
6415	385.11	394.70	9.59
6406	386.16	394.00	7.84
6416	386.32	393.20	6.88
6407	386.45	392.50	6.05
6408	386.62	390.70	4.08
6417	386.67	391.50	4.83
6418	386.78	390.20	3.42
6409	386.82	390.10	3.28
6419	386.83	391.20	4.37
6410	386.85	394.60	7.75
6420 P	386.94	399.40	12.46
2501 P	389.85	401.20	11.35
2510	389.84	400.10	10.26
2502	389.99	393.10	3.11
2509	390.00	392.80	2.80
2503	389.93	392.40	2.47
2508	389.87	392.70	2.83
2504	389.74	394.40	4.66
2507	389.63	395.00	5.37
2505 P	389.47	397.60	8.13
2506	389.53	398.30	8.77

Model Results: Actual Pumping Configurations

November 5, 1979

These are the model results for an approximation to the actual pumping configuration for the period ending November 5, 1979. There were 16 wells used during this period.

Data Summary

Transmissivity = 220000 gpd/ft
Specific Yield = 0.10000

Reference Head = 405 ft msl at 2507
Gradient = 2.1 ft/mi WNW

Mean Error is 8.95 ft
Median Error is 8.9462 ft
Standard Deviation is 4.7948 ft

Minimum Error is 1.990 ft at 7009
Maximum Error is 18.525 ft at 6401

Water Level Data

Well ID.		Calc. Elev. (ft msl)	Target Elev. (ft msl)	Diff. (ft)
7001	P	378.66	382.00	3.34
7007		378.04	382.50	4.46
7002	P	377.88	380.50	2.62
7008		377.57	380.00	2.43
7009		377.01	379.00	1.99
7003	P	376.65	379.00	2.35
7010	P	376.20	379.50	3.30
7004	P	376.08	379.50	3.42
7005		376.37	380.50	4.13
7006	P	376.62	383.00	6.38
7011		376.66	381.00	4.34
7012		378.33	383.00	4.67
6401		378.17	396.70	18.53
6411		378.67	396.50	17.83
6402		378.71	395.40	16.69
6412	P	378.67	395.10	16.43
6403	P	378.89	393.50	14.61
6413		379.19	393.20	14.01
6404		379.79	393.80	14.01
6414	P	380.01	394.50	14.49
6405		380.37	395.10	14.73
6415		380.81	394.70	13.89
6406	P	381.86	394.00	12.14
6416		382.17	393.20	11.03
6407		382.44	392.50	10.06
6408		382.56	390.70	8.14
6417	P	382.62	391.50	8.88
6418		383.14	390.20	7.06
6409	P	383.49	390.10	6.61
6419		383.60	391.20	7.60
6410		384.83	394.60	9.77
6420		385.67	399.40	13.73
2501		388.93	401.20	12.27
2510		388.82	400.10	11.28
2502	P	387.65	393.10	5.45
2509	P	387.55	392.80	5.25
2503		387.13	392.40	5.27
2508		387.01	392.70	5.69
2504	P	386.89	394.40	7.51
2507		386.94	395.00	8.06
2505		387.24	397.60	10.36
2506	P	387.35	398.30	10.95

Model Results: Functional Well Group Configurations

November 5, 1979

These are the results of the model using the functional well groups for the pumping period ending November 5, 1979. A total of only 13 wells was required, as opposed to a total of 16 for the actual pumping configuration. Additionally, the average error was 5.74 ft for the functional well group configuration, as opposed to 8.95 ft for the actual pumping configuration, a savings of 3.21 ft.

Data Summary

Transmissivity = 220000 gpd/ft
Specific Yield = 0.10000

Reference Head = 405. ft msl at 2507
Gradient = 2.1 ft/mi WNW

Mean Error is 5.74 ft
Median Error is 5.7362 ft
Standard Deviation is 4.7637 ft

Minimum Error is -0.062 ft at 7002
Maximum Error is 16.836 ft at 6401

Water Level Data

Well ID.	Calc. Elev. (ft msl)	Target Elev. (ft msl)	Diff. (ft)
7001	381.59	382.00	0.41
7007	380.81	382.50	1.69
7002 P	380.56	380.50	-0.06
7008	379.90	380.00	0.10
7009	379.01	379.00	-0.01
7003 P	378.51	379.00	0.49
7010 P	377.84	379.50	1.66
7004 P	377.69	379.50	1.81
7005	377.76	380.50	2.74
7006 P	377.91	383.00	5.09
7011 P	377.92	381.00	3.08
7012	379.69	383.00	3.31
6401	379.86	396.70	16.84
6411	380.54	396.50	15.96
6402 P	380.55	395.40	14.85
6412 P	380.90	395.10	14.20
6403	382.37	393.50	11.13
6413	382.75	393.20	10.45
6404	383.37	393.80	10.43
6414 P	383.64	394.50	10.86
6405	384.07	395.10	11.03
6415	384.60	394.70	10.10
6406	386.99	394.00	7.01
6416	387.31	393.20	5.89
6407	387.59	392.50	4.91
6408	387.96	390.70	2.74
6417	388.08	391.50	3.42
6418	388.35	390.20	1.85
6409	388.47	390.10	1.63
6419	388.49	391.20	2.71
6410	388.67	394.60	5.93
6420 P	388.87	399.40	10.53
2501	391.77	401.20	9.43
2510 P	391.69	400.10	8.41
2502	391.35	393.10	1.75
2509	391.32	392.80	1.48
2503	390.81	392.40	1.59
2508	390.62	392.70	2.08
2504 P	390.40	394.40	4.00
2507	390.38	395.00	4.62
2505	390.52	397.60	7.08
2506 P	390.60	398.30	7.70

Model Results: Actual Pumping Configurations

January 28, 1980

These are the model results for an approximation to the actual pumping configuration for the period ending January 28, 1980. There were 14 wells used during this period. It should be noted that the model predicted that water levels were above the target elevations, but were below pavement crown elevations (target elevations plus 4 ft) at 1-70.

Data Summary

Transmissivity = 220000 gpd/ft
Specific Yield = 0.10000

Reference Head = 404. ft msl at 2507
Gradient = 1.4 ft/mi WNW

Mean Error is 6.80 ft
Median Error is 6.1807 ft
Standard Deviation is 5.5850 ft

Minimum Error is -2.235 ft at 7009
Maximum Error is 15.938 ft at 6401

Water Level Data

Well ID.	Calc. Elev. (ft msl)	Target Elev. (ft msl)	Diff. (ft)
7001	383.87	382.00	-1.87
7007	383.07	382.50	-0.57
7002	382.70	380.50	-2.20
7008 P	381.43	380.00	-1.43
7009	381.24	379.00	-2.24
7003 P	381.11	379.00	-2.11
7010	380.86	379.50	-1.36
7004	380.78	379.50	-1.28
7005 P	380.48	380.50	0.02
7006	381.05	383.00	1.95
7011 P	380.97	381.00	0.03
7012	382.02	383.00	0.98
6401 P	380.76	396.70	15.94
6411	382.39	396.50	14.11
6402	382.60	395.40	12.80
6412	382.74	395.10	12.36
6403	382.79	393.50	10.71
6413	382.66	393.20	10.54
6404 P	382.20	393.80	11.60
6414	382.18	394.50	12.32
6405	382.23	395.10	12.87
6415 P	382.30	394.70	12.40
6406	382.96	394.00	11.04
6416 P	382.77	393.20	10.43
6407	382.63	392.50	9.87
6408 P	382.18	390.70	8.52
6417 P	382.26	391.50	9.24
6418 P	383.38	390.20	6.82
6409	384.23	390.10	5.87
6419	384.39	391.20	6.81
6410	385.74	394.60	8.86
6420	386.61	399.40	12.79
2501 P	389.96	401.20	11.24
2510 P	389.91	400.10	10.19
2502	390.30	393.10	2.80
2509	390.37	392.80	2.43
2503	390.63	392.40	1.77
2508	390.62	392.70	2.08
2504	390.57	394.40	3.83
2507	390.51	395.00	4.49
2505 P	390.45	397.60	7.15
2506	390.52	398.30	7.78

Model Results: Functional Well Group Configurations

January 28, 1980

These are the results of the model using the functional well groups for the pumping period ending January 28, 1980. A total of 13 wells was required, as opposed to a total of 14 for the actual pumping configuration. The functional well group configuration satisfied all target elevations, which was not the case with the actual configuration. Additionally, the average error was 5.02 ft for the functional well group configuration, as opposed to 6.80 ft for the actual pumping configuration, a savings of 1.78 ft.

Data Summary

Transmissivity = 220000 gpd/ft

Specific Yield = 0.10000

Reference Head = 404. ft msl at 2507

Gradient = 1.4 ft/mi WNW

Mean Error is 5.02 ft

Median Error is 5.0207 ft

Standard Deviation is 4.3608 ft

Minimum Error is -0.067 ft at 7002

Maximum Error is 16.220 ft at 6401

Water Level Data

Well ID.		Calc. Elev. (ft msl)	Target Elev. (ft msl)	Diff. (ft)
7001	P	381.83	382.00	0.17
7007		380.97	382.50	1.53
7002		380.57	380.50	-0.07
7008	P	379.20	380.00	0.80
7009		378.79	379.00	0.21
7003	P	378.47	379.00	0.53
7010	P	377.98	379.50	1.52
7001	P	377.86	379.50	1.64
7005		378.07	380.50	2.43
7006	P	378.32	383.00	4.68
7011	P	378.33	381.00	2.67
7012		380.22	383.00	2.78
6401		380.48	396.70	16.22
6411		381.50	396.50	15.00
6402	P	381.67	395.40	13.73
6412	P	382.09	395.10	13.01
6403		383.96	393.50	9.54
6413		384.50	393.20	8.70
6404		385.59	393.80	8.21
6414		385.93	394.50	8.57
6405		386.29	395.10	8.81
6415		386.63	394.70	8.07
6406		388.38	394.00	5.62
6416		388.63	393.20	4.57
6407		388.85	392.50	3.65
6408		389.15	390.70	1.55
6417		389.24	391.50	2.26
6418		389.45	390.20	0.75
6409		389.55	390.10	0.55
6419		389.56	391.20	1.64
6410		389.69	394.60	4.91
6420	P	389.84	399.40	9.56
2501		392.43	401.20	8.77
2510		392.36	400.10	7.74
2502		391.50	393.10	1.60
2509	P	391.40	392.80	1.40
2503		390.72	392.40	1.68
2508		390.53	392.70	2.17
2504	P	390.32	394.40	4.08
2507		390.30	395.00	4.70
2505		390.45	397.60	7.15
2506	P	390.53	398.30	7.77