APPENDIX A

HYDROGEOLOGIC DATA

Contents

Utah Division of Water Rights Records

Utah Division of Water Rights Records

The following are copies of UDWR records of the water diversions within a five-mile radius of SWMU's 13 and 17. The number appearing under the column heading "Map Char" corresponds to the location plotted in Figure 3-7, which only includes water diversion points for domestic use.

UTAH DIVISION OF WATER RIGHTS
NWPLAT POINT OF DIVERSION LOCATION PROGRAM

MAP CHAR	WATER RIGHT	QUANTITY CFS	AND/OR	AC-FT	SOURCE DESCRIPTION or WELL INFO DIAMETER	DEPTH	YEAR LOG	NORTH		EAST		POINT OF DIVERSION DESCRIPTION CNR	SEC	TWN	RNG	B&M	U N	A P	T E	S U	U G	P T	R E	
1	15 1717	.0110		.00	UGW-WELL			S	1990	E	410	NW	21	5S	5W	SL		X		X				
	WATER USE(S): DOMESTIC STOCKWATERING												PRIORITY DATE: / /1901											
	Penny, Warren & Gertrude												Stockton				UT 84071							
	15 2125	24.9200		.00	Ophir Creek			S	390	W	1730	E4	28	5S	4W	SL		X		X				
	WATER USE(S): STOCKWATERING												PRIORITY DATE: / /1854											
	USA Bureau of Land Management				324 South State Street, Suite #301								Salt Lake City				UT 84111-2303							
	15 2509	.0110		.00	15	20		N	2046	W	462	SE	30	5S	5W	SL		X		X				
	WATER USE(S): STOCKWATERING												PRIORITY DATE: 12/28/1977											
	Arthur, Cecil R. and Hazel G.												St. John				UT 84074							
2	15 2273	11.0000		.00	Ophir Creek			N	1650	E	2000	SW	28	5S	4W	SL		X						X
	WATER USE(S): IRRIGATION,DOMESTIC STOCKWATERING												PRIORITY DATE: / /1875											
	Ophir Creek Water Co. C/O E.W. Hanks, Vi 300 South 200 West												Tooele,				UT 84074							
3	15 2330	.5420		.00	12	86 - 90		N	1140	E	1860	SW	28	5S	4W	SL		X		X				
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING												PRIORITY DATE: 11/12/1977											
	Mann Enterprises Inc.				218 East 500 South								Bountiful				UT 84010							
	Russell, Georgia				P. O. Box 8								Ophir				UT 84071							
4	15 2330	.5420		.00	12	86 - 90		N	1005	E	1782	SW	28	5S	4W	SL		X		X				
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING												PRIORITY DATE: 11/12/1977											
	Mann Enterprises Inc.				218 East 500 South								Bountiful				UT 84010							
	Russell, Georgia				P. O. Box 8								Ophir				UT 84071							
	15 626	1.0000		.00	Spring Areas			N	210	E	200	S4	29	5S	5W	SL		X		X				
	WATER USE(S): IRRIGATION STOCKWATERING												PRIORITY DATE: / /1875											
	Bankhead, S. Clair				2400 North Fairfield								Layton				UT 84041							
	Hansen, Kenneth G.				2400 North Fairfield								Layton				UT 84041							
	15 626	1.0000		.00	Spring Areas			N	100	E	450	S4	29	5S	5W	SL		X		X				
	WATER USE(S): IRRIGATION STOCKWATERING												PRIORITY DATE: / /1875											
	Bankhead, S. Clair				2400 North Fairfield								Layton				UT 84041							
	Hansen, Kenneth G.				2400 North Fairfield								Layton				UT 84041							
5	15 2273	11.0000		.00	Ophir Creek			N	100	E	1520	SW	28	5S	4W	SL		X						X
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING												PRIORITY DATE: / /1875											
	Ophir Creek Water Co. C/O E.W. Hanks, Vi 300 South 200 West												Tooele,				UT 84074							
6	a14267	11.0000	OR	2065.98	Ophir Creek													X						X
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING OTHER												PRIORITY DATE: 03/18/1987											
	Ophir Creek Water Co.				Tooele Army Depot								Tooele,				UT 84074							
7	15 1896	.0300		.00	6	102	1975 Y	N	1000	W	1005	E4	31	5S	5W	SL		X		X				
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING												PRIORITY DATE: 05/23/1974											
	Garrard, Robert C.				Box 349 - 370 North Main								Rush Valley				UT 84069							
8	15 1895	.0300		.00	6	116	1977 Y	N	190	W	1000	E4	31	5S	5W	SL		X		X				
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING												PRIORITY DATE: 05/23/1974											
	Nichols, Leslie Ray & Kay C.				P.O. Box 327								Rush Valley				UT 84069							
9	15 2627	.0150		.00	6	105	1978 Y	N	1980	W	1155	SE	31	5S	5W	SL		X		X				
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING												PRIORITY DATE: 02/06/1978											
	Mugleston, William & Patricia				RT. 1 Box 49 - 98 North Main								Rush Valley				UT 84069							
10	15 2630	.0150		.00	6	115	1978 Y	N	1800	W	1075	SE	31	5S	5W	SL		X		X				
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING												PRIORITY DATE: 02/17/1978											
	White, Jimmy L. & Brenda F.				76 North Main								Rush Valley				UT 84069							
11	15 2651	.0150		.00	6	110	1978 Y	N	1520	W	830	SE	31	5S	5W	SL		X		X				
	WATER USE(S): IRRIGATION DOMESTIC												PRIORITY DATE: 06/05/1978											
	Herrera, Nick & Theresa				79 East Highway 199								Rush Valley				UT 84069							

UTAH DIVISION OF WATER RIGHTS
NWPLAT POINT OF DIVERSION LOCATION PROGRAM

MAP CHAR	WATER RIGHT	QUANTITY CFS	AND/OR AC-FT	SOURCE DESCRIPTION or WELL INFO DIAMETER	DEPTH	YEAR LOG	POINT OF DIVERSION DESCRIPTION NORTH	EAST	CNR SEC	TWN	RNG B&M	U N	A P	T E	S U	U G	P R	R E D
12	15 3224	.0150	.00	6	100 - 300	S	1120 W	1280	E4 31	5S	5W SL		X			X		
	WATER USE(S): OTHER								PRIORITY DATE: 07/28/1988									
	Erickson, Lyle Van			Route 1 Box 15					Rush Valley		UT 84069							
13	15 2679	.0150	.00	6	N	N	1510 W	880	SE 31	5S	5W SL		X			X		
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING								PRIORITY DATE: 01/29/1979									
	Thorsted, Lawrence K. & Rose M.			Rt. 1 Box 55 - 71 East Hwy. 199					Rush Valley		UT 84069							
14	15 256	.0220	.00	6	60 1973	Y	N 1260 W	1110	SE 31	5S	5W SL		X			X		
	WATER USE(S): DOMESTIC								PRIORITY DATE: 00/00/1900									
	Orr, R. H.								St. John		UT 84069							
15	15 255	.0220	.00	6	73		N 1660 W	1590	SE 31	5S	5W SL		X			X		
	WATER USE(S): DOMESTIC								PRIORITY DATE: 00/00/1910									
	Steele, Hugh F. & Betty J.			910 Oquirrh Avenue					Tooele		UT 84074							
16	15 2273	11.0000	.00	Ophir Creek			S 2160 E	885	NW 33	5S	4W SL		X					X
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING								PRIORITY DATE: / /1875									
	Ophir Creek Water Co. C/O E.W. Hanks, Vi			300 South 200 West					Tooele,		UT 84074							
17	15 1964	.1000	.00	12	215 1977	Y	N 400 W	2590	E4 31	5S	5W SL		X			X		
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING								PRIORITY DATE: 02/13/1976									
	Schlosser, James M.			Box #33					Rush Valley		UT 84069							
18	15 2403	.0150	.00	6	100		N 150 E	2240	W4 31	5S	5W SL		X			X		
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING								PRIORITY DATE: 08/20/1976									
	Pierce, Myron L.			P. O. Box #61					Clover		UT 84069							
19	15 2431	.0150	.00	6	111 1977	Y	S 300 W	1790	E4 31	5S	5W SL		X			X		
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING								PRIORITY DATE: 02/15/1977									
	Long, Victor W. (Jr)								Rush Valley		UT 84069							
20	15 3249	.0450	.00	6	100 - 400		S 450 W	1900	E4 31	5S	5W SL		X			X		
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING								PRIORITY DATE: 05/01/1989									
	Anderson, James B.			P.O. Box 918					Tooele		UT 84074							
21	15 2454	.0150	.00	6	110 1980	Y	N 1590 E	65	S4 31	5S	5W SL		X			X		
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING								PRIORITY DATE: 04/27/1977									
	Harris, Gary E. & Adele M.			136 West Hwy. 199					Rush Valley		UT 84069							
22	15 2456	.0150	.00	6	125 1977	Y	N 1725 W	200	S4 31	5S	5W SL		X			X		
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING								PRIORITY DATE: 05/03/1977									
	Derricott, Keith J. and Susan S.			2089 East 7000 South					Salt Lake City		UT 84121							
	Anderton, Harold & Phyllis			250 West Hwy. 199					Rush Valley		UT 84069							
	15 159	4.0000	.00	20	70 1972	Y	S 60 W	2180	E4 32	5S	5W SL		X			X		
	WATER USE(S): IRRIGATION STOCKWATERING								PRIORITY DATE: 09/30/1960									
	Russell, Dan H.			Box 12					St. John		UT 84069							
23	15 2959	.1000	.00	6	106		N 2400 W	430	SE 31	5S	5W SL		X			X		
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING								PRIORITY DATE: 09/10/1982									
	Hawkins, Adrian M. & Barbara C.			3757 N. Campbell Road					Erda		UT 84074							
24	15 2666	.0150	.00	6	100 - 300		N 2310 W	620	SE 31	5S	5W SL		X			X		
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING								PRIORITY DATE: 09/06/1978									
	Zabriskie, Robert and Nina			8691 Florence Dr.					Magna,		UT 84044							
	15 2433	.0150	.00	6	101 1977	Y	S 1130 W	165	E4 31	5S	5W SL		X			X		
	WATER USE(S): IRRIGATION STOCKWATERING								PRIORITY DATE: 02/16/1977									
	Kruletz, Tony M.			776 west Vine Street					Tooele		UT 84074							
	15 2921	.1000	.00	6	140 1986	Y	N 1373 W	350	SE 31	5S	5W SL		X			X		
	WATER USE(S): IRRIGATION STOCKWATERING								PRIORITY DATE: 11/03/1981									
	Gamez, Jose T. & Virginia E.			Box 1172					Tooele		UT 84074							

UTAH DIVISION OF WATER RIGHTS
NWPLAT POINT OF DIVERSION LOCATION PROGRAM

MAP CHAR	WATER RIGHT	QUANTITY CFS	QUANTITY AND/OR AC-FT	SOURCE DESCRIPTION or WELL INFO DIAMETER	DEPTH	YEAR LOG	NORTH	EAST	POINT OF DIVERSION DESCRIPTION CNR SEC TWN RNG B&M	U N	A P	T E R	S U R	U G W	R T P	E E D
25	15 2668	.0150	.00	6	100 - 500	N	1373 W	350	SE 31 5S 5W SL		X					X
		WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING							PRIORITY DATE: 09/11/1978							
		Gamez, Jose T.		Box 1172					Tooele UT 84074							
26	15 1450	.0150	.00	Underground Water Well		S	445 E	2370	W4 36 5S 5W SL		X					X
		WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING							PRIORITY DATE: 03/03/1953							
		Clark, Morgan and Bernice		P.O. Box #7					Clover UT 84074							
	15 2501	.0150	.00	12	21	N N	1895 E	365	SW 32 5S 5W SL		X					X
		WATER USE(S): STOCKWATERING							PRIORITY DATE: 11/07/1977							
		Davis, Gary L. & Jodean H.		283 East Hwy.199 HC Box 71					Rush Valley UT 84069							
	15 257	.0330	.00	48	20	N	1440 E	55	SW 32 5S 5W SL		X					X
		WATER USE(S): STOCKWATERING							PRIORITY DATE: 00/00/1920							
		Maxwell, Floyd N. & Gayle							St. John UT 84069							
27	15 170	.0150	.00	6	55	N	1429 W	10	SE 31 5S 5W SL		X					X
		WATER USE(S): IRRIGATION DOMESTIC							PRIORITY DATE: 01/10/1962							
		Maxwell, Floyd N. & Gayle							Clover UT 84069							
28	15 3047	.0780	.00	6	130 1985	Y N	1435 E	390	SW 32 5S 5W SL		X					X
		WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING							PRIORITY DATE: 03/29/1984							
		Davis, Gary L. & Jodean H.		283 East Hwy 199 HC Box 71					Rush Valley UT 84069							
29	15 2408	.0150	.00	6	110 1977	Y N	1550 E	820	SW 32 5S 5W SL		X					X
		WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING							PRIORITY DATE: 08/30/1976							
		Johnson, Verdon I. & Shirley		153 North 3RD. Street					Tooele UT 84074							
30	15 2902	.0150	.00	6	100 - 300	N	1475 E	1150	SW 32 5S 5W SL		X					X
		WATER USE(S): IRRIGATION DOMESTIC							PRIORITY DATE: 07/01/1981							
		Garneri, Alberto & Angelia		H. C. Box 13					Rush Valley UT 84069							
31	15 254	.0111	.00	8	145 1962	Y N	1435 E	1620	SW 32 5S 5W SL		X					X
		WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING							PRIORITY DATE: 00/00/1910							
		Russell, Daniel H.							Clover UT 84069							
32	15 260	.0150	.00	Underground Water Well		N	1520 E	1265	SW 31 5S 5W SL		X					X
		WATER USE(S): DOMESTIC STOCKWATERING							PRIORITY DATE: 00/00/1910							
		Green, Walter E.							Clover UT 84069							
33	15 1822	.0150	.00	Underground Water Well		N	930 E	1510	SW 31 5S 5W SL		X					X
		WATER USE(S): DOMESTIC							PRIORITY DATE: / /1934							
		Carson, A. D.							St. John UT 84069							
	15 13	.0220	.00	48	27	N	550 W	1175	S4 32 5S 5W SL		X					X
		WATER USE(S): STOCKWATERING							PRIORITY DATE: / /1916							
		Stookey, Paul & Gwenevere							Clover UT 84069							
34	15 14	.0110	.00	48	27	N	425 W	1190	S4 32 5S 5W SL		X					X
		WATER USE(S): DOMESTIC STOCKWATERING							PRIORITY DATE: / /1927							
		Stookey, Paul & Gwenevere							Clover UT 84069							
35	15 2700	.0150	.00	6	75 1980	Y N	192 E	1495	SW 32 5S 5W SL		X					X
		WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING							PRIORITY DATE: 05/31/1979							
		Stookey, Jonathan P.		185 South Russell Lane					Rush Valley UT 84069							
36	15 2674	.0150	.00	6	70 1979	Y S	90 E	1390	NW 5 6S 5W SL		X					X
		WATER USE(S): IRRIGATION DOMESTIC							PRIORITY DATE: 10/19/1978							
		Neil, Jeffery W.		Box 48 Russell Lane					Rush Valley UT 84069							
37	15 16	.0450	.00	48	33	S	875 W	1220	N4 5 6S 5W SL		X					X
		WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING							PRIORITY DATE: 05/10/1923							
		Russell, Joseph W., and Maxine A.		Box 13					St. John UT 84069							

MAP CHAR	WATER RIGHT	QUANTITY CFS	AND/OR AC-FT	SOURCE DESCRIPTION or WELL INFO DIAMETER	DEPTH	YEAR LOG	NORTH	EAST	POINT OF DIVERSION DESCRIPTION CNR SEC TWN RNG B&M	U N P	A P R	T E R	S U R	U G W	P T P	R E D
38	15 3204	.0150	.00	6	100 - 300		S 1300	E 1470	NW 5 6S 5W SL				X			X
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING								PRIORITY DATE: 01/25/1988							
	Garneri, Alberto and Angelia F.			H C Box 13					Rush Valley UT 84069							
39	15 2385	.0450	.00	6	126	1975 Y	S 60	E 910	NW 5 6S 5W SL				X			X
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING								PRIORITY DATE: 05/09/1974							
	Erickson, Lyle Van & Jill			Box 15 Russell Lane					Rush Valley UT 84069							
	15 1925	.4500	.00	10	160	1977 Y	S 385	E 1070	NW 5 6S 5W SL				X			X
	WATER USE(S): IRRIGATION								PRIORITY DATE: 02/14/1975							
	Erickson, Lyle Van & Jill			Box 15 Russell Lane					Rush Valley UT 84069							
	15 2705	.3000	.00	8	80	1983 Y	N 240	W 1110	SE 31 5S 5W SL				X			X
	WATER USE(S): IRRIGATION								PRIORITY DATE: 07/02/1979							
	Davis, David J.			P.O. Box 47 Davis Lane					Clover UT 84069							
40	15 2217	.0100	.00	Underground Water Well			N 200	W 1000	SE 31 5S 5W SL				X			X
	WATER USE(S): IRRIGATION DOMESTIC								PRIORITY DATE: / /1935							
	Davis, A. N. and Hazel								St. John, UT 84069							
	15 2218	6.4900	.00	Clover Creek			S 50	W 1230	NE 6 6S 5W SL				X	X		
	WATER USE(S): IRRIGATION STOCKWATERING								PRIORITY DATE: / /1856							
	Orr, R. H.								St. John, UT 84069							
	15 2248	6.4900	.00	Clover Creek			S 50	W 1230	NE 6 6S 5W SL				X	X		
	WATER USE(S): IRRIGATION STOCKWATERING								PRIORITY DATE: / /1856							
	Russell, Joseph W. & Maxine								UT							
	15 2222	6.4900	.00	Clover Creek			S 50	W 1230	NE 6 6S 5W SL				X	X		
	WATER USE(S): IRRIGATION STOCKWATERING								PRIORITY DATE: / /1856							
	Stookey, Paul W. & Gwenevere A.								St. John, UT 84069							
41	15 3295	.0150	.00	6	100 - 300		N 950	W 940	S4 31 5S 5W SL X							X
	WATER USE(S): DOMESTIC STOCKWATERING								PRIORITY DATE: 02/04/1991							
	Soffel, Charles			P.O. Box 585					Vanderhoof, B.C.(CAN V0J3A0							
	Soffel, Dale Lynn			P.O. Box 585					Vanderhoof, B.C. (CA V0J3A0							
	15 2114	.0000	.00	Stream			N 800	W 160	S4 33 5S 5W SL				X	X		
	WATER USE(S): STOCKWATERING								PRIORITY DATE: 00/00/1854							
	USA Bureau of Land Management			324 South State Street, Suite #301					Salt Lake City UT 84111-2303							
42	15 2410	.0150	.00	6	344		N 600	W 245	SE 32 5S 4W SL				X			X
	WATER USE(S): DOMESTIC STOCKWATERING								PRIORITY DATE: 09/28/1976							
	Russell, Georgia J.								Ophir, UT 84056							
	15 2119	.0000	.00	CLOVER CREEK									X	X	X	
	WATER USE(S): STOCKWATERING								PRIORITY DATE: / /1854							
	Walters, Lewis H. and Candice								UT							
	15 2293	6.4900	.00	Lower Clover Creek			N 300	E 700	S4 31 5S 5W SL				X			X
	WATER USE(S): IRRIGATION STOCKWATERING								PRIORITY DATE: / /1856							
	Carson, A. D.								UT							
	15 2228	12.6500	.00	Clover Creek			N 110	W 40	SE 35 5S 5W SL				X	X		
	WATER USE(S): IRRIGATION STOCKWATERING								PRIORITY DATE: / /1856							
	Board of Water Resources			1636 W. North Temple					Salt Lake City, UT 84116							
	15 165	5.0000	.00	20	105	1977 Y	S 600	W 1275	NE 5 6S 5W SL				X			X
	WATER USE(S): IRRIGATION STOCKWATERING								PRIORITY DATE: 10/31/1975							
	Russell, Daniel H.			Box 12					St. John UT 84069							
43	15 2373	.0150	.00	UGW WELL			S 1080	E 1996	NW 5 6S 5W SL				X			X
	WATER USE(S): IRRIGATION DOMESTIC								PRIORITY DATE: 10/27/1970							
	Mitchell, Delwynn B.			485 West Vine Street					Tooele, UT 84074							

MAP CHAR	WATER RIGHT	QUANTITY CFS	AND/OR AC-FT	SOURCE DESCRIPTION or WELL INFO DIAMETER	DEPTH	YEAR LOG	POINT OF DIVERSION DESCRIPTION NORTH	EAST	CNR SEC TWN RNG B&M	U N	A P	T E	S U	U G	P R	R E D
44	15 79	1.5000	.00	20	100	1980 Y	S 1756	W 3320	NE 5 6S 5W SL		X			X		
	WATER USE(S): IRRIGATION DOMESTIC								PRIORITY DATE: 11/01/1978							
	Russell, Daniel H.			Box 12					St. John UT 84069							
45	15 73	1.6300	.00	12	404	1942 Y	S 1534	E 1957	NW 5 6S 4W SL		X			X		
	WATER USE(S): DOMESTIC OTHER								PRIORITY DATE: 03/02/1943							
	USA Army - Tooele Army Depot								Tooele UT 84074							
46	15 73	1.6300	.00	12	428	1942 Y	S 1981	E 2214	NW 5 6S 4W SL		X			X		
	WATER USE(S): DOMESTIC OTHER								PRIORITY DATE: 03/02/1943							
	USA Army - Tooele Army Depot								Tooele UT 84074							
47	15 2273	11.0000	.00	Ophir Creek			S 1580	E 175	NW 5 6S 4W SL		X					X
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING								PRIORITY DATE: / /1875							
	Ophir Creek Water Co. C/O E.W. Hanks, Vi			300 South 200 West					Tooele, UT 84074							
	15 86	.2500	.00	Ophir Creek			S 1585	E 2820	NW 5 6S 4W SL		X		X			
	WATER USE(S): STOCKWATERING								PRIORITY DATE: 08/16/1948							
	Gillmor, Charles F.			962 South 5th East					Salt Lake City UT							
	Gillmor, Edward Leslie			962 South 5th East					Salt Lake City UT							
	Gillmor, Edward Lincoln			962 South 5th East					Salt Lake City UT							
	15 8	.9500	.00	Ophir Creek			S 1585	E 2820	NW 5 6S 4W SL		X		X			
	WATER USE(S): STOCKWATERING								PRIORITY DATE: / /1900							
	Gillmor, Edward Leslie			962 South 5th East					Salt Lake City UT							
	Gillmor, Charles F. Jr.								UT							
	Gillmor, Edward Lincoln								UT							
48	15 2273	11.0000	.00	Ophir Creek			S 1780	E 20	NW 5 6S 4W SL		X					X
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING								PRIORITY DATE: / /1875							
	Ophir Creek Water Co. C/O E.W. Hanks, Vi			300 South 200 West					Tooele, UT 84074							
49	15 2406	.0150	.00	8	200	1976 Y	S 1610	W 405	NE 6 6S 5W SL		X			X		
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING								PRIORITY DATE: 08/23/1976							
	Jones, Herman H. and Merdies B.			P.O. Box 351					Rush Valley UT 84069							
50	15 2922	1.0000	.00	20	1000 - 1500		S 1800	E 2000	NW 4 6S 4W SL		X			X		
	WATER USE(S): DOMESTIC,MINING								PRIORITY DATE: 11/25/1981							
	Barrick Resources (USA) Inc.			P. O. Box 838					Tooele UT 84074							
	15 1977	.5570	.00	8	240	N	S 1890	W 1120	NE 6 6S 5W SL		X			X		
	WATER USE(S): IRRIGATION STOCKWATERING								PRIORITY DATE: 05/14/1976							
	Jones, Herman H. and Merdies B.			P.O. Box 351					Rush Valley UT 84069							
51	15 2922	1.0000	.00	12	1000	1986 Y	S 2600	W 2250	NE 4 6S 4W SL		X			X		
	WATER USE(S): DOMESTIC MINING								PRIORITY DATE: 11/25/1981							
	Barrick Resources (USA) Inc.			P. O. Box 838					Tooele UT 84074							
52	15 2922	1.0000	.00	20	1000 - 1500		N 2431	W 1851	SE 4 6S 4W SL		X			X		
	WATER USE(S): DOMESTIC MINING								PRIORITY DATE: 11/25/1981							
	Barrick Resources (USA) Inc.			P. O. Box 838					Tooele UT 84074							
53	15 2922	1.0000	.00	20	1000 - 1500		N 2431	W 1551	SE 4 6S 4W SL		X			X		
	WATER USE(S): DOMESTIC MINING								PRIORITY DATE: 11/25/1981							
	Barrick Resources (USA) Inc.			P. O. Box 838					Tooele UT 84074							
54	a14267	11.0000 OR	2065.98	Ophir Creek							X					X
	WATER USE(S): IRRIGATION DOMESTIC STOCKWATERING OTHER								PRIORITY DATE: 03/18/1987							
	Ophir Creek Water Co.			Tooele Army Depot					Tooele, UT 84074							
55	15 2922	1.0000	.00	20	1000 - 1500		S 3033	W 4892	NE 10 6S 4W SL		X			X		
	WATER USE(S): DOMESTIC MINING								PRIORITY DATE: 11/25/1981							
	Barrick Resources (USA) Inc.			P. O. Box 838					Tooele UT 84074							

UTAH DIVISION OF WATER RIGHTS
NWPLAT POINT OF DIVERSION LOCATION PROGRAM

MAP CHAR	WATER RIGHT	QUANTITY CFS	AND/OR AC-FT	SOURCE DESCRIPTION or WELL INFO DIAMETER	DEPTH	YEAR LOG	POINT OF DIVERSION DESCRIPTION NORTH	EAST	CNR SEC	TWN	RNG B&M	U N	A P	T E	S U	U G	P R	R E
56	15 2922	1.0000	.00	20	1000 - 1500		S 3387	W 5246	NE 10	6S	4W SL		X			X		
	WATER USE(S): DOMESTIC MINING								PRIORITY DATE: 11/25/1981									
	Barrick Resources (USA) Inc.			P. O. Box 838					Tooele		UT 84074							
57	a8486	.3340	.00	Underground Water Well			N 5201	E 4561	SE 23	6S	5W SL		X			X		
	WATER USE(S): OTHER								PRIORITY DATE: 06/07/1975									
	Tooele Army Depot								Tooele		UT 84074							
58	15 3199	.0000	166.00	12	600 - 1200		N 1300	E 1400	SW 30	6S	4W SL		X			X		
	WATER USE(S): DOMESTIC MINING								PRIORITY DATE: 11/06/1987									
	Priority Minerals Limited and WCC Inc.			127 Cheney St.					Reno		NV 89501							
59	15 3199	.0000	166.00	12	600 - 1200		S 700	E 600	NW 31	6S	4W SL		X			X		
	WATER USE(S): DOMESTIC MINING								PRIORITY DATE: 11/06/1987									
	Priority Minerals Limited and WCC Inc.			127 Cheney St.					Reno		NV 89501							
	15 178	.0150	.00	6	50	1963 Y	S 1120	E 785	NW 31	6S	4W SL		X			X		
	WATER USE(S): STOCKWATERING								PRIORITY DATE: 04/08/1963									
	Lincoln A. Stookey Estate C/O Mrs. Russe			1780 Harrison Ave					Salt Lake City		UT 84108							
	15 179	.0150	.00	5	50	1963 Y	S 554	E 1536	W4 34	6S	5W SL		X			X		
	WATER USE(S): STOCKWATERING								PRIORITY DATE: 04/29/1963									
	Lincoln A. Stookey Estate C/O Corinne Do			1780 Harrison Avenue					Salt Lake City		UT 84108							
	15 78	.0000	1.80	WASH			S 1401	W 998	E4 31	6S	4W SL		X			X		
	WATER USE(S): STOCKWATERING								PRIORITY DATE: 10/08/1946									
	Lincoln A. Stookey Estate C/O Mrs. Russe			1780 Harrison Avenue					Salt Lake City		UT 84108							
60	15 164	.0150	.00	6	66	1961 Y	S 142	E 2625	W4 30	6S	5W SL		X			X		
	WATER USE(S): IRRIGATION DOMESTIC								PRIORITY DATE: 04/25/1961									
	Caldwell, Gerald Laverne								St. John		UT 84069							
	15 183	.0000	.00	Wash			N 1046	W 371	SE 6	7S	4W SL		X			X		
	WATER USE(S): STOCKWATERING								PRIORITY DATE: 00/00/1902									
	USA Bureau of Land Management			324 South State Street, Suite #301					Salt Lake City		UT 84111-2303							
	15 301	2.1000	.00	Faust Creek			N 2060	E 750	SW 10	7S	5W SL		X			X		
	WATER USE(S): IRRIGATION								PRIORITY DATE: / /1880									
	Lincoln A. Stookey Estate (Enos Stookey			C/O Corinne Dods 1780 Harrison Aveune					Salt Lake City		UT 84108							
	15 301	2.1000	.00	Faust Creek			N 1390	E 1000	SW 10	7S	5W SL		X			X		
	WATER USE(S): IRRIGATION								PRIORITY DATE: / /1880									
	Lincoln A. Stookey Estate (Enos Stookey			C/O Corinne Dods 1780 Harrison Aveune					Salt Lake City		UT 84108							

TEAD-S Groundwater Elevation Data

Historical Water Levels

The following table is a compilation of reported groundwater monitoring well data collected during previous investigations beginning in 1982. In addition, water levels measured by Rust E&I are also included.

TEAD-S Historical Groundwater Elevation Data

Well	Date When Groundwater Elevation Data Collected												
	5-82[a]	4-86[b]	2-87[b]	12-87[c]	5-88[c]	10-88[c]	4-90[d]	7/8-90[d]	10/11-90[d]	2-91[d]	7/91[e]	12/92[e]	10/93[e]
S-1	5030	5034.51	5033.33	NA	NA	5032	5033.85	5032.11	5031.36	5031.62	NA	NA	5032.14
S-2	5088	5088.92	5089.02	5088.92	5089.41	5089.62	NA	5089.49	5089.64	5089.53	NA	NA	
S-3	5025	5029.99	5028.70	NA	NA	NA	5028.08	5027.80	5027.01	5027.01	NA	NA	
S-4	5006	5006.64	5006.84	5008.91	5008.58	5008.83	5008.03	5008.03	5008.25	5008.14	NA	NA	
S-5	5011	5014.09	5024.38	5015.96	5015.71	5015.77	5017.67	5016.03	5017.12	5016.00	NA	NA	
S-6	5020	NA	5021.55	NA	5021.43	5020.24	NA	5021.57	5021.07	5029.55	NA	NA	
S-7	5019	NA	5023.25	5022.43	5021.42	5020.18	NA	5019.48	5019.65	5019.20	NA	NA	
S-8	5114	5112.71	5116.52	NA	5112.47	5110.95	NA	5110.98	5111.14	5111.85	NA	NA	
S-10	5055	5056.10	5056.23	5057.37	5057.37	5057.71	NA	5057.95	5058.36	5058.23	NA	NA	
S-12	5020	5047.81	5043.99	5044.38	5047.66	5042.62	5040.73	5041.57	5038.50	5037.61	NA	NA	
S-14	5025	5027.62	5028.01	5028.33	5029.34	5027.40	5027.92	5027.21	5026.53	5026.65	NA	NA	
S-CAM-1	-	-	5030.04	NA	NA	NA	NA	5028.08	NA	5026.30	NA	NA	5028.42
S-CAM-2	-	-	5030.44	NA	NA	NA	NA	5028.68	NA	NA	NA	NA	5027.08
S-SBR-1	-	-	5107.41	5107.05	5106.34	5106.04	NA	5103.46	5103.53	5102.94	NA	NA	
S-16-88	-	-	-	-	NA	5002.86	5002.31	5002.40	5002.42	5002.38	NA	NA	
S-17-88	-	-	-	-	5005.70	5005.98	5005.75	5005.08	5006.00	5005.86	NA	NA	
S-18-88	-	-	-	-	5017.42	5017.10	5000.28	5016.74	5016.56	5016.58	NA	NA	
S-19-88	-	-	-	-	5023.67	5023.59	5022.40	5022.41	5022.49	5022.37	NA	NA	
S-20-88	-	-	-	-	NA	5017.46	5017.08	5017.04	5017.13	5017.00	NA	NA	
S-21-88	-	-	-	-	5017.94	5015.87	5015.27	5014.74	5014.14	5014.38	NA	NA	
S-22-88	-	-	-	-	5043.97	5039.53	5040.00	5038.71	5037.02	5036.47	NA	NA	
S-23-88	-	-	-	-	5036.22	5031.50	5034.61	5034.84	5034.53	5034.01	NA	NA	
S-24-88	-	-	-	-	5030.04	5028.90	5028.57	5028.64	5028.06	5027.75	NA	NA	

TEAD-S Historical Groundwater Elevation Data (continued)

Well	Date When Groundwater Elevation Data Collected												
	5-82[a]	4-86[b]	2-87[b]	12-87[c]	5-88[c]	10-88[c]	4-90[d]	7/8-90[d]	10/11-90[d]	2-91[d]	7/91[e]	12/92[e]	10/93[e]
S-25-88	-	-	-	-	NA	NA	NA	5028.57	NA	NA	5029.19	5028.09	5029.18
S-26-88	-	-	-	-	NA	NA	NA	5029.50	5024.89	NA	5029.77	NA	5029.79
S-27-88	-	-	-	-	NA	NA	NA	5029.54	NA	5012.66	5029.88	5028.40	5029.56
S-28-88	-	-	-	-	NA	NA	5030.00	5027.74	NA	5017.97	NA	NA	5028.49
S-29-88	-	-	-	-	NA	NA	5030.13	5028.59	5027.72	5027.77	5029.32	5027.76	5028.58
S-30-88	-	-	-	-	NA	NA	5029.77	5028.42	NA	5027.61	5028.91	5027.64	5028.20
S-31-88	-	-	-	-	5028.75	5024.58	5024.97	5032.62	5022.86	5022.30	NA	NA	
S-32-88	-	-	-	-	-	-	-	5105.43	5106.16	5105.21	NA	NA	
S-33-88	-	-	-	-	-	-	-	5105.49	5105.39	5104.59	NA	NA	
S-34-88	-	-	-	-	-	-	-	5105.45	5107.94	5105.12	NA	NA	
S-35-88	-	-	-	-	-	-	-	5098.53	5098.31	5097.53	NA	NA	
S-36-88	-	-	-	-	-	-	-	5105.46	5103.47	5105.09	NA	NA	
S-37-88	-	-	-	-	-	-	-	5103.53	5102.42	5101.42	NA	NA	
S-38-88	-	-	-	-	-	-	-	5099.21	5098.83	5097.97	NA	NA	
S-39-88	-	-	-	-	-	-	-	5098.93	5098.43	5097.67	NA	NA	
S-40-88	-	-	-	-	-	-	-	5097.02	5096.58	5096.01	NA	NA	
S-41-88	-	-	-	-	-	-	-	5089.81	5089.76	5089.26	NA	NA	
S-42-88	-	-	-	-	-	-	-	5111.99	5112.68	5114.80	NA	NA	
S-43-88	-	-	-	-	-	-	-	5111.24	5112.09	5114.72	NA	NA	
S-44-88	-	-	-	-	-	-	-	5108.87	5109.69	5111.63	NA	NA	
S-45-88	-	-	-	-	-	-	-	5025.56	5025.11	5025.26	NA	NA	
S-46-88	-	-	-	-	-	-	-	5027.43	5026.60	5026.69	NA	NA	
S-47-88	-	-	-	-	-	-	-	5046.92	5046.87	5046.74	NA	NA	

TEAD-S Historical Groundwater Elevation Data (continued)

Well	Date When Groundwater Elevation Data Collected												
	5-82[a]	4-86[b]	2-87[b]	12-87[c]	5-88[c]	10-88[c]	4-90[d]	7/8-90[d]	10/11-90[d]	2-91[d]	7/91[e]	12/92[e]	10/93[e]
S-48-88	-	-	-	-	-	-	-	5042.20	5042.19	5042.12	NA	NA	
S-49-88	-	-	-	-	-	-	-	5042.70	5042.64	5042.61	NA	NA	
S-50-88	-	-	-	-	-	-	-	5089.14	5089.38	5089.25	NA	NA	
S-51-88	-	-	-	-	-	-	-	5092.01	5089.20	5089.12	NA	NA	
S-53-88	-	-	-	-	-	-	-	5087.27	5087.46	5087.36	NA	NA	
S-54-88	-	-	-	-	-	-	-	5033.88	5032.55	5031.22	5031.63	5030.51	
S-55-88	-	-	-	-	-	-	-	5034.33	5032.02	5030.94	5032.34	5030.30	
S-56-88	-	-	-	-	-	-	-	5033.88	NA	5030.94	5032.08	5030.20	
S-57-88	-	-	-	-	-	-	-	5027.41	5026.20	5026.99	5027.82	5026.81	
S-58-88	-	-	-	-	-	-	-	5028.88	5027.80	5028.43	5029.39	5028.49	
S-59-88	-	-	-	-	-	-	-	5028.73	5027.77	5028.43	5029.30	5028.50	
S-60-88	-	-	-	-	-	--	-	5028.45	5027.60	5028.30	5029.07	5028.34	
S-61-88	-	-	-	-	-	-	-	5031.84	5032.15	5032.08	NA	NA	
S-62-88	-	-	-	-	-	-	-	5027.45	5027.98	5028.75	NA	NA	
S-63-88	-	-	-	-	-	-	-	5028.07	5028.38	5028.25	NA	NA	
S-64-88	-	-	-	-	-	-	-	5022.49	5020.85	5022.27	NA	NA	
S-65-88	-	-	-	-	-	-	-	5019.68	5019.43	5019.76	NA	NA	
S-66-88	-	-	-	-	-	-	-	5020.76	5021.60	5020.85	NA	NA	
S-67-88	-	-	-	-	-	-	-	5018.89	5018.62	5018.74	NA	NA	
S-68-88	-	-	-	-	-	-	-	5018.70	5019.26	5018.62	NA	NA	
S-69-88	-	-	-	-	-	-	-	5001.19	5001.43	5001.33	NA	NA	
S-70-88	-	-	-	-	-	-	-	5015.39	5015.55	5015.39	NA	NA	
S-71-88	-	-	-	-	-	-	-	5013.68	5014.30	5014.21	NA	NA	

TEAD-S Historical Groundwater Elevation Data (continued)

Well	Date When Groundwater Elevation Data Collected												
	5-82[a]	4-86[b]	2-87[b]	12-87[c]	5-88[c]	10-88[c]	4-90[d]	7/8-90[d]	10/11-90[d]	2-91[d]	7/91[e]	12/92[e]	10/93[e]
S-74-88	-	-	-	-	-	-	-	5026.99	5026.23	5026.47	NA	NA	
S-75-88	-	-	-	-	-	-	-	5027.31	5026.50	5026.73	NA	NA	
S-83-90	-	-	-	-	-	-	-	5030.08	NA	5030.15	NA	NA	
S-84-90	-	-	-	-	-	-	-	5026.91	5025.70	5025.85	NA	NA	
S-85-90	-	-	-	-	-	-	-	5026.16	5025.55	5025.77	NA	NA	
S-76-91	-	-	-	-	-	-	-	-	-	-	5028.78	5027.76	5028.52
S-77-91	-	-	-	-	-	-	-	-	-	-	5027.99	5027.17	5027.57
S-78-91	-	-	-	-	-	-	-	-	-	-	5028.77	5027.62	5028.24
S-79-91	-	-	-	-	-	-	-	-	-	-	5029.25	5028.91	5029.14
S-80-91	-	-	-	-	-	-	-	-	-	-	5028.62	5027.92	5028.92
S-81-91	-	-	-	-	-	-	-	-	-	-	5028.76	5027.89	5028.88
S-82-91	-	-	-	-	-	-	-	-	-	-	5029.00	5027.80	5028.70
S-83-91	-	-	-	-	-	-	-	-	-	-	5029.06	5027.67	5028.40
S-84-91	-	-	-	-	-	-	-	-	-	-	5028.73	5027.70	5028.11
S-85-91	-	-	-	-	-	-	-	-	-	-	5028.42	5027.72	5028.07
S-86-91	-	-	-	-	-	-	-	-	-	-	5029.47	5028.56	5030.47
S-87-91	-	-	-	-	-	-	-	-	-	-	NA	NA	5029.96
S-91-91	-	-	-	-	-	-	-	-	-	-	5029.09	5027.67	5028.20
S-92-91	-	-	-	-	-	-	-	-	-	-	5028.26	5027.65	5028.57
S-103-93	-	-	-	-	-	-	-	-	-	-	-	-	5020.82
S-104-93	-	-	-	-	-	-	-	-	-	-	-	-	5027.93
S-105-93	-	-	-	-	-	-	-	-	-	-	-	-	5028.12
S-105-93	-	-	-	-	-	-	-	-	-	-	-	-	5028.22

TEAD-S Historical Groundwater Elevation Data (continued)

Well	Date When Groundwater Elevation Data Collected												
	5-82[a]	4-86[b]	2-87[b]	12-87[c]	5-88[c]	10-88[c]	4-90[d]	7/8-90[d]	10/11-90[d]	2-91[d]	7/91[e]	12/92[e]	10/93[e]
S-107-93	-	-	-	-	-	-	-	-	-	-	-	-	5029.04

[a]Groundwater elevations measured by ERTEC.
[b]Groundwater elevations measured by EA.
[c]Groundwater elevations measured by WESTON.
[d]Groundwater elevations measured by EBASCO.
[e]Groundwater elevations measured by Rust E&I.

Note.—NA=data not available, (-)=Wells not in existence at time of measurement.

SWMU 13 Slug Test Data

Slug Test Procedures

Equipment used to complete these test included a pressure transducer, laptop computer, and a Hermit 1000 data logger. The transducer was lowered into the well to a predetermined depth, which varied for each well according to the depth to water and total depth of the well. Once the transducer cable was fastened to the outside of the well casing, the data logger was connected and the water level recorded. The data logger was programmed to convert the pressure difference directly into a water level difference.

After the water level was stabilized, a slug block was lowered into the well until it was at least one foot below the water level. Simultaneous with the addition of the slug into the well, the data logger was turned on, and data reflecting the changing water level was recorded. Data was collected until the water level stabilized, which took on average less than five minutes for these fast recovering wells. The data logger was reset, and more data was collected as the slug was removed from the well. Data was again collected until the water level stabilized.

The following pages are data from the data logger for each test completed. The first two columns represent the time and corresponding water level after the slug was added to the well, the two columns to the right are time and water-level data after the slug was removed. Even though both sets of data were collected (slug in and slug out), the data associated with the slug removal provides a more accurate estimation of the hydraulic conductivity, and was used for the analysis.

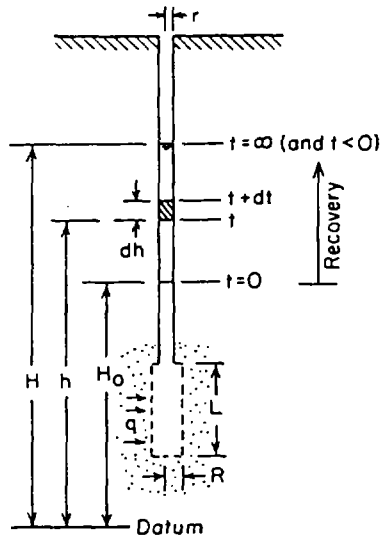
SLUG TEST DATA ANALYSIS

HVORSLEV METHOD

The Hvorslev Method (1951) is used for analyzing data collected from a well screened over an unconfined aquifer. Assumptions include a homogeneous, isotropic, infinite medium, where both soil and water are incompressible. The basis of this method is the rate of inflow at the intake of the well, at any time, is proportional to the hydraulic conductivity of the soil and to the unrecovered head difference.

Hvorslev's equation for defining the hydraulic conductivity (K) is:

$$K = r^2 \ln(L/R) / 2LT_0$$



where:

K=hydraulic conductivity,
r=casing radius,
L=piezometer intake length,
R=drill hole radius, and
T_0=basic time lag where $T_0 = \pi r^2/FK$:
where F is the shape factor

Source: Freeze and Cherry (1979)

T_0 is determined graphically by plotting the time vs. head recovery data on a semi-logarithmic scale. A line of best fit is drawn through the graphed data points using computer software, which automatically calculates the basic time lag. A more detailed description of the theory and mathematical framework of the Hvorslev Method is provided by Freeze and Cherry (1979).

The field data were edited to correct for influence from the sand pack zone by omitting data from the beginning of the test. These initial data represent recovery from groundwater draining into the well from the artificial sand pack installed in the well annulus. Since USAEC guidelines require the installation of a 4-inch well, the effect of the artificial permeability results in the calculation of a higher hydraulic conductivity (K) than is actually present in the aquifer. These K (cm/sec) values are considered to be "order of magnitude" estimates of the actual in-situ hydraulic conductivity.

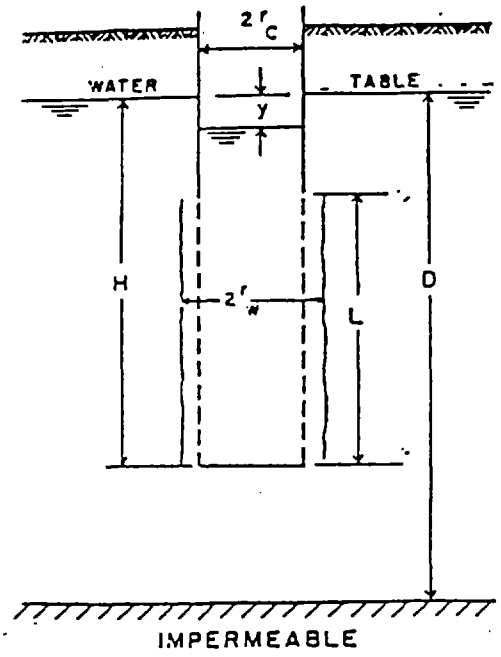
BOUWER AND RICE METHOD

The Bouwer and Rice Method (1976) was originally developed to measure the hydraulic conductivity from data collected from a single partially penetrating well in an unconfined aquifer. However, this method can also be used for confined aquifers if the top of the screen is below the upper confining unit.

The equation used to calculate the hydraulic conductivity is as follows:

$$K = r_c^2 \ln (R_e/r_w) / 2L \; 1/t (\ln y_o/y_t)$$

where:



Source: Bouwer and Rice, (1976)

- K = hydraulic conductivity
- L = length of screen
- r_w = radial distance of undisturbed portion of aquifer from centerline
- R_e = effective radius over which y is dissipated
- y_o = the vertical distance between the water level in the well and static water level at time 0
- y_t = the vertical distance between the water level in the well and static water level at time t

A more complete description of this method and the mathematical derivation of this equation is discussed in the article "A Slug Test for Determining Hydraulic Conductivity of Unconfined Aquifers With Completely or Partially Penetrating Wells" by Bouwer and Rice (1976).

Head recovery data is plotted on a logarithmic scale vs. time, with the line of best fit through the plotted data used in the analysis. The computer program uses the slope of this line and inputted well construction data for calculating the hydraulic conductivity.

RESULTS

In the field, data was collected for both slug in (falling head) and slug out (rising head) tests. However, only the slug out data was used for determining the hydraulic conductivity. Slug in data typically produces hydraulic conductivity estimates which are generally an order of magnitude lower than the actual conductivity. This is the result of wetting previously unsaturated portions of the formation through artificially raising the water level when the slug is set inside the well. The velocity at which groundwater moves through unsaturated soil is slower compared to movement through saturated material due to soil pore pressure differences. In slug out tests, the water level fluctuates over a zone of previously saturated soil, in turn providing a more valid hydraulic conductivity estimate.

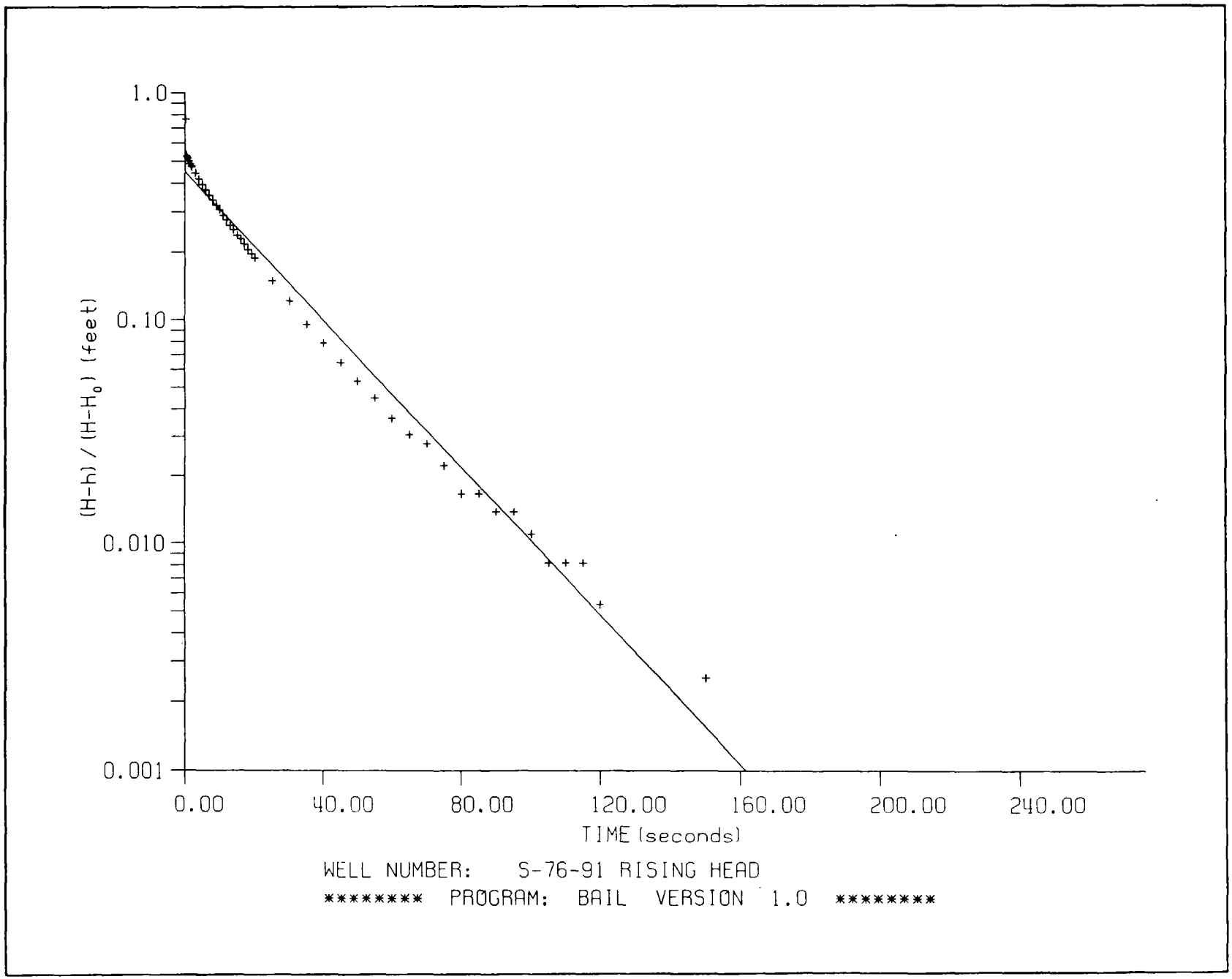
Data collected from wells screened in unconfined aquifers was analyzed using both methods, while data collected from wells screened in confined or semi-confined aquifers was analyzed using only the Bouwer and Rice Method. The following pages include the data collected from each well after the elapsed time has been calculated for each water level measurement. Data in this form is used as input into the program, which provides the plots which are also included in this appendix.

WELL S-76-91
RISING HEAD

SE1000B
Environmental Logger
06/22 05:45

Unit# 79091 Test# 1

Elapsed Time (minutes)	Value (feet)
0.0000	2.71
0.0033	1.79
0.0066	1.88
0.0099	1.85
0.0133	1.82
0.0166	1.78
0.0200	1.77
0.0233	1.73
0.0266	1.72
0.0300	1.69
0.0333	1.67
0.0500	1.57
0.0666	1.48
0.0833	1.40
0.1000	1.33
0.1166	1.26
0.1333	1.20
0.1500	1.14
0.1666	1.09
0.1833	1.03
0.2000	0.98
0.2166	0.93
0.2333	0.89
0.2500	0.84
0.2666	0.81
0.2833	0.77
0.3000	0.73
0.3166	0.70
0.3333	0.67
0.4167	0.53
0.5000	0.43
0.5833	0.34
0.6667	0.28
0.7500	0.23
0.8333	0.19
0.9167	0.16
1.0000	0.13
1.0833	0.11
1.1667	0.10
1.2500	0.08
1.3333	0.06
1.4166	0.06
1.5000	0.05
1.5833	0.05
1.6667	0.04
1.7500	0.03
1.8333	0.03
1.9167	0.03
2.0000	0.02
2.5000	0.01
3.0000	0.01
3.5000	0.01
4.0000	0.01
4.5000	0.01
5.0000	0.01

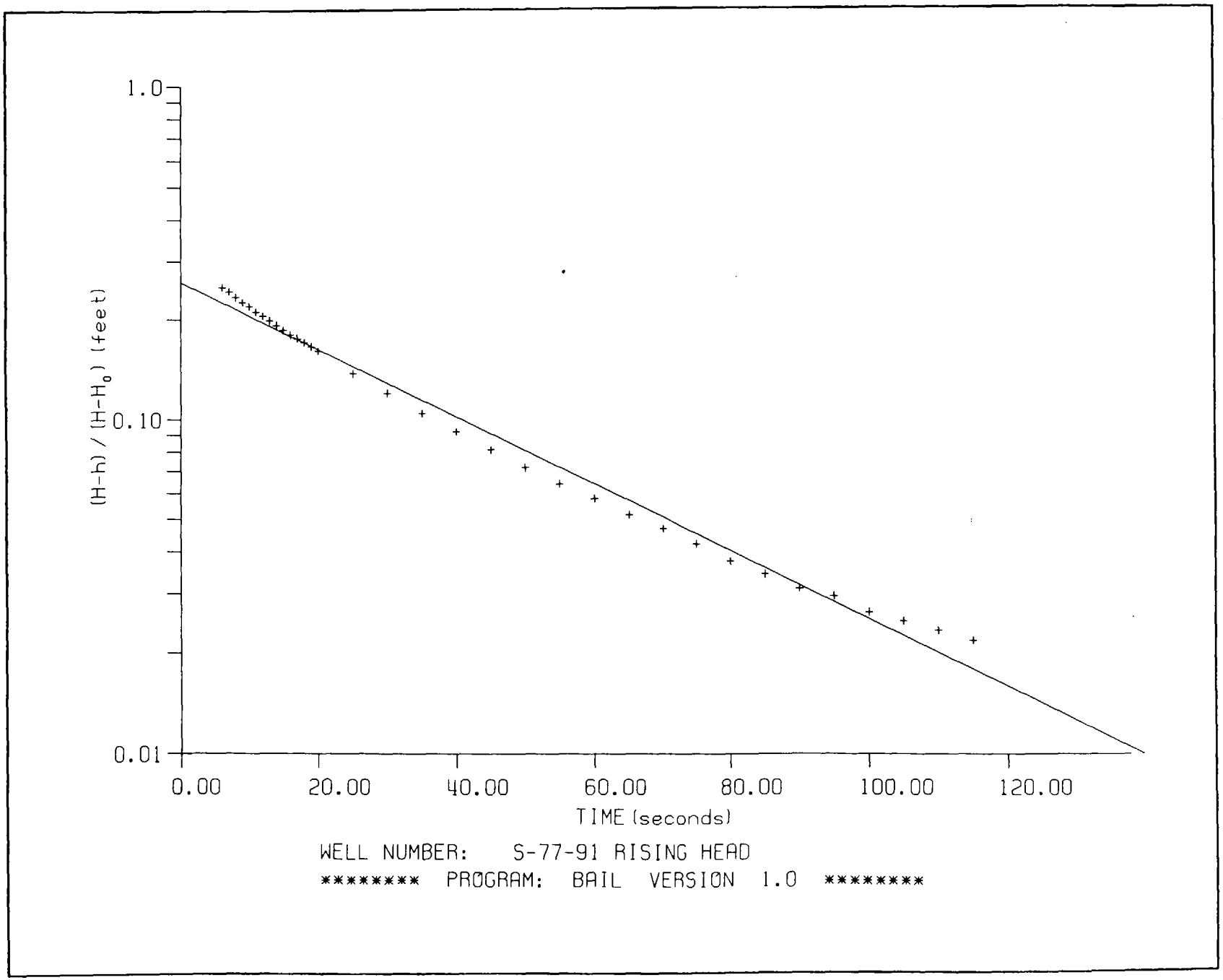

1.0
0.10
0.010
0.001
(H-h) / (H-H$_0$) (feet)
0.00
40.00
80.00
120.00
160.00
200.00
240.00
TIME (seconds)
WELL NUMBER: S-76-91 RISING HEAD
******** PROGRAM: BAIL VERSION 1.0 ********

WELL S-77-91
RISING HEAD

SE1000B
Environmental Logger
06/22 05:45

Unit# 79091 Test# 1

Elapsed Time (minutes)	Value (feet)
0.0000	6.38
0.0067	4.74
0.0100	3.1
0.0200	2.52
0.0233	1.92
0.0267	1.93
0.0300	1.92
0.0333	1.9
0.0500	1.8
0.0667	1.73
0.0833	1.67
0.1000	1.6
0.1167	1.55
0.1333	1.49
0.1500	1.44
0.1667	1.4
0.1833	1.35
0.2000	1.31
0.2167	1.27
0.2333	1.23
0.2500	1.19
0.2667	1.15
0.2833	1.12
0.3000	1.09
0.3167	1.06
0.3333	1.03
0.4167	0.88
0.5000	0.77
0.5833	0.67
0.6667	0.59
0.7500	0.52
0.8333	0.46
0.9167	0.41
1.0000	0.37
1.0833	0.33
1.1667	0.3
1.2500	0.27
1.3333	0.24
1.4167	0.22
1.5000	0.2
1.5833	0.19
1.6667	0.17
1.7500	0.16
1.8333	0.15
1.9167	0.14
2.0000	0.13
2.5000	0.1
3.0000	0.09
3.5000	0.08
4.0000	0.08
4.5000	0.07
5.0000	0.07
5.5000	0.06
6.0000	0.07

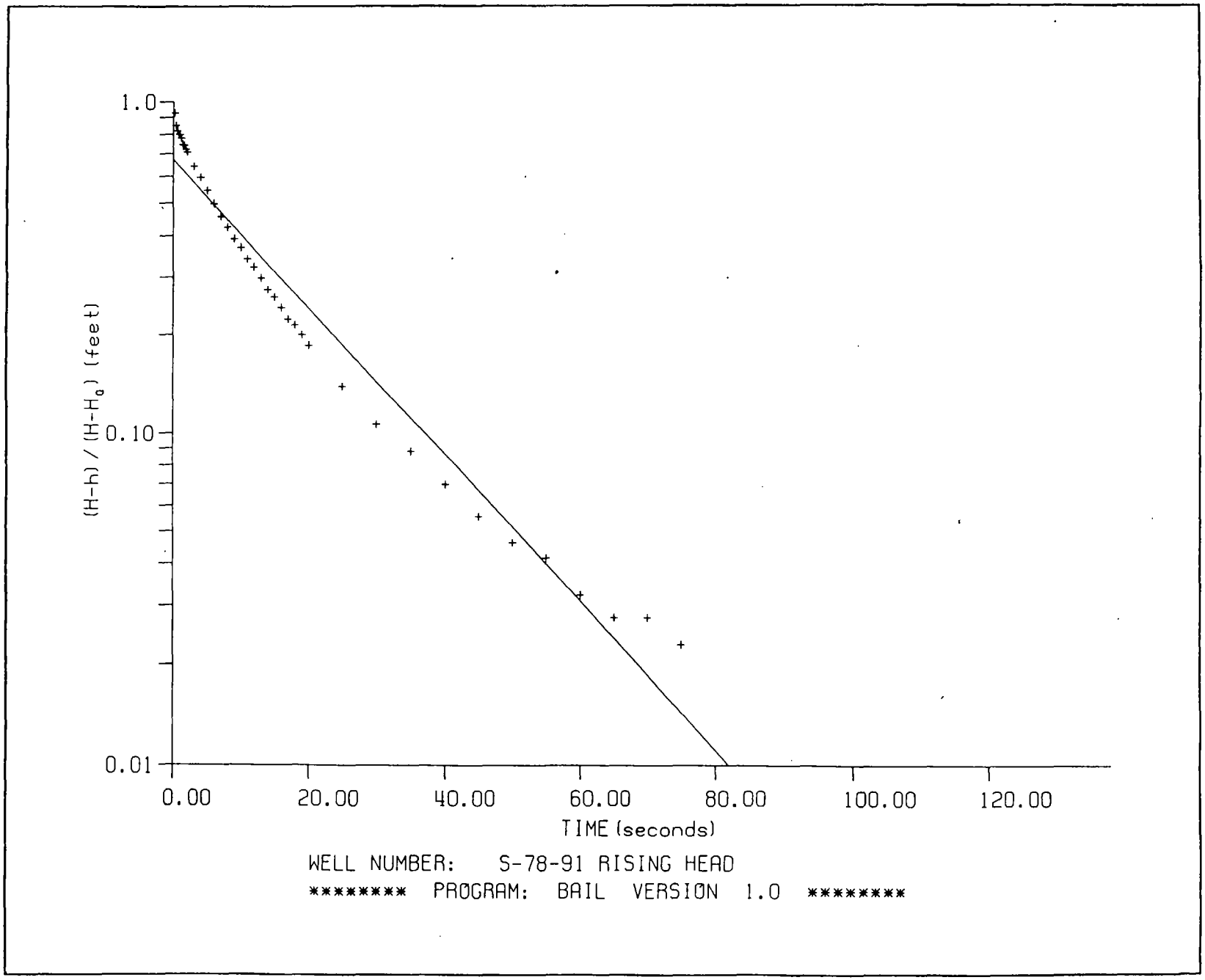

1.0
0.10
0.01
(H-h) / (H-H0) (feet)
0.00
20.00
40.00
60.00
80.00
100.00
120.00
TIME (seconds)
WELL NUMBER: S-77-91 RISING HEAD
******** PROGRAM: BAIL VERSION 1.0 ********

WELL S-78-91
RISING HEAD

SE1000B
Environmental Logger
06/19 20:56

Unit# 85091 Test# 3

Elapsed Time (minutes)	Value (feet)
0.0000	1.29
0.0033	1.98
0.0066	1.82
0.0099	1.76
0.0133	1.71
0.0166	1.71
0.0200	1.67
0.0233	1.60
0.0266	1.59
0.0300	1.55
0.0333	1.52
0.0500	1.38
0.0666	1.28
0.0833	1.17
0.1000	1.07
0.1166	0.98
0.1333	0.91
0.1500	0.84
0.1666	0.79
0.1833	0.73
0.2000	0.69
0.2166	0.64
0.2333	0.59
0.2500	0.56
0.2666	0.52
0.2833	0.48
0.3000	0.46
0.3166	0.43
0.3333	0.40
0.4167	0.30
0.5000	0.23
0.5833	0.19
0.6667	0.15
0.7500	0.12
0.8333	0.10
0.9167	0.09
1.0000	0.07
1.0833	0.06
1.1667	0.06
1.2500	0.05
1.3333	0.05
1.4166	0.04
1.5000	0.03
1.5833	0.03
1.6667	0.03
1.7500	0.03
1.8333	0.03
1.9167	0.03
2.0000	0.03
2.5000	0.03
3.0000	0.03
3.5000	0.03
4.0000	0.03
4.5000	0.03
5.0000	0.01

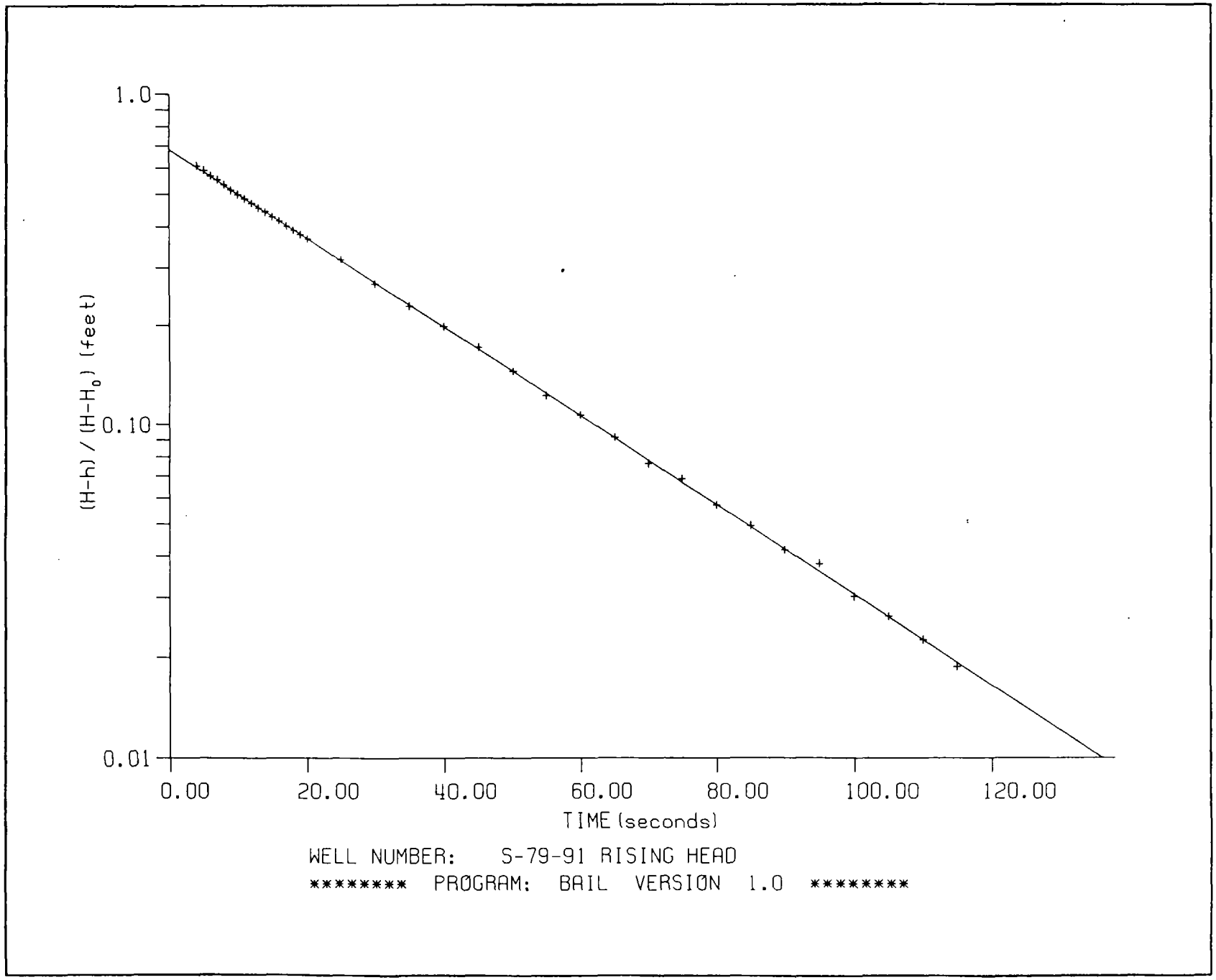

1.0
0.10
0.01
(H-h) / (H-H$_0$) (feet)
0.00
20.00
40.00
60.00
80.00
100.00
120.00
TIME (seconds)
WELL NUMBER: S-78-91 RISING HEAD
******** PROGRAM: BAIL VERSION 1.0 ********

WELL S-79-91
RISING HEAD

SE1000B
Environmental Logger
06/22 05:49

Unit# 79091 Test# 5

Elapsed Time (minutes)	Value (feet)
0.0000	0.80
0.0033	-0.32
0.0066	2.31
0.0099	2.00
0.0133	1.80
0.0166	1.86
0.0200	1.81
0.0233	1.80
0.0266	1.78
0.0300	1.75
0.0333	1.74
0.0500	1.66
0.0666	1.60
0.0833	1.55
0.1000	1.49
0.1166	1.45
0.1333	1.40
0.1500	1.35
0.1666	1.31
0.1833	1.27
0.2000	1.23
0.2166	1.19
0.2333	1.16
0.2500	1.12
0.2666	1.09
0.2833	1.05
0.3000	1.02
0.3166	0.99
0.3333	0.96
0.4167	0.83
0.5000	0.70
0.5833	0.60
0.6667	0.52
0.7500	0.45
0.8333	0.38
0.9167	0.32
1.0000	0.28
1.0833	0.24
1.1667	0.20
1.2500	0.18
1.3333	0.15
1.4166	0.13
1.5000	0.11
1.5833	0.10
1.6667	0.08
1.7500	0.07
1.8333	0.06
1.9167	0.05
2.0000	0.05
2.5000	0.02
3.0000	0.01
3.5000	0.01
4.0000	0.00
4.5000	0.00
5.0000	0.00
5.5000	0.00

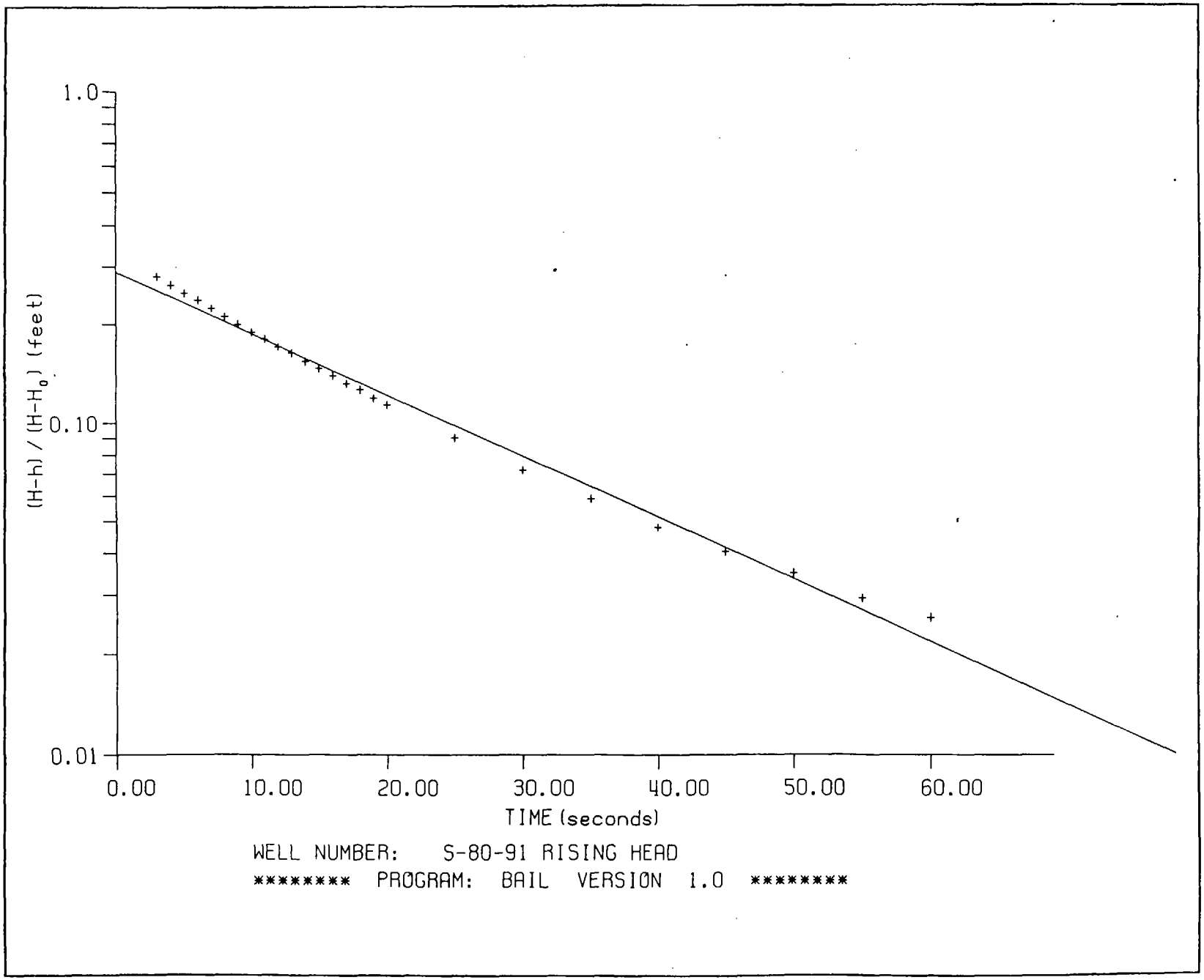

1.0
0.10
0.01
(H-h) / (H-H0) (feet)
0.00
20.00
40.00
60.00
80.00
100.00
120.00
TIME (seconds)
WELL NUMBER: S-79-91 RISING HEAD
******** PROGRAM: BAIL VERSION 1.0 ********

WELL S-80-91
RISING HEAD

SE1000B
Environmental Logger
06/20 20:02

Unit# 80091 Test# 5

Elapsed Time (minutes)	Value (feet)
0.0000	-1.87
0.0033	3.35
0.0066	1.26
0.0099	1.97
0.0133	1.71
0.0166	1.74
0.0200	1.71
0.0233	1.68
0.0266	1.67
0.0300	1.64
0.0333	1.62
0.0500	1.52
0.0666	1.43
0.0833	1.35
0.1000	1.29
0.1166	1.22
0.1333	1.15
0.1500	1.09
0.1666	1.03
0.1833	0.98
0.2000	0.93
0.2166	0.89
0.2333	0.84
0.2500	0.80
0.2666	0.76
0.2833	0.72
0.3000	0.69
0.3166	0.65
0.3333	0.62
0.4167	0.49
0.5000	0.39
0.5833	0.32
0.6667	0.26
0.7500	0.22
0.8333	0.19
0.9167	0.16
1.0000	0.14
1.0833	0.12
1.1667	0.11
1.2500	0.10
1.3333	0.09
1.4166	0.08
1.5000	0.07
1.5833	0.06
1.6667	0.06
1.7500	0.05
1.8333	0.05
1.9167	0.04
2.0000	0.04
2.5000	0.03
3.0000	0.02
3.5000	0.02
4.0000	0.01
4.5000	0.02
5.0000	0.01
5.5000	0.01
6.0000	0.02
6.5000	0.02

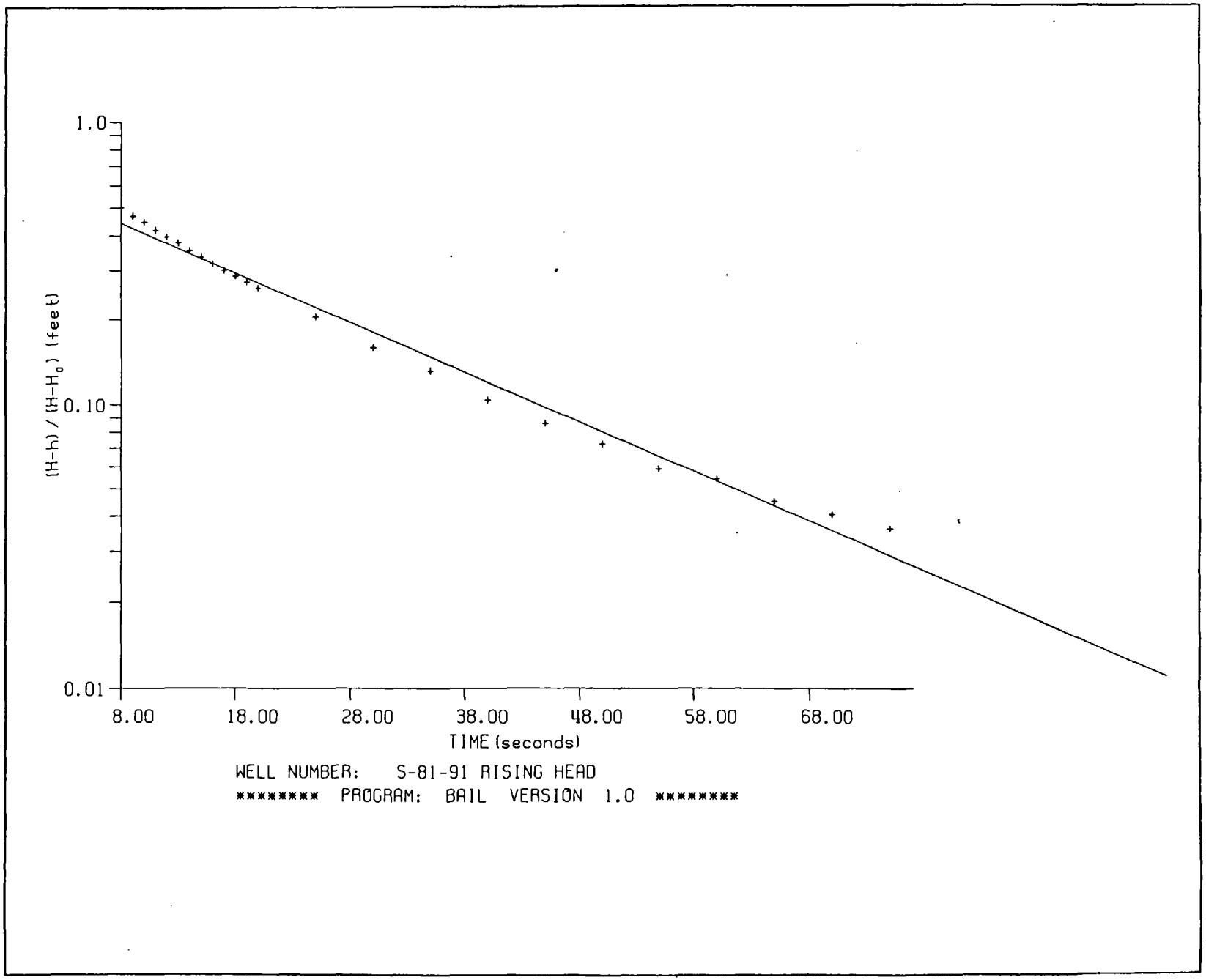

1.0
0.10
0.01
(H-h) / (H-H$_o$) (feet)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
TIME (seconds)
WELL NUMBER: S-80-91 RISING HEAD
******** PROGRAM: BAIL VERSION 1.0 ********

WELL S-81-91
RISING HEAD

SE1000B
Environmental Logger
06/20 19:59

Unit# 80091 Test# 3

Elapsed Time (minutes)	Value (feet)
0.0000	-1.03
0.0033	1.99
0.0066	1.79
0.0099	1.88
0.0133	1.78
0.0166	1.76
0.0200	1.73
0.0233	1.70
0.0266	1.66
0.0300	1.64
0.0333	1.62
0.0500	1.50
0.0666	1.41
0.0833	1.32
0.1000	1.24
0.1166	1.17
0.1333	1.10
0.1500	1.03
0.1666	0.98
0.1833	0.92
0.2000	0.87
0.2166	0.83
0.2333	0.78
0.2500	0.74
0.2666	0.70
0.2833	0.66
0.3000	0.63
0.3166	0.60
0.3333	0.57
0.4167	0.45
0.5000	0.35
0.5833	0.29
0.6667	0.23
0.7500	0.19
0.8333	0.16
0.9167	0.13
1.0000	0.12
1.0833	0.10
1.1667	0.09
1.2500	0.08
1.3333	0.07
1.4166	0.06
1.5000	0.06
1.5833	0.06
1.6667	0.05
1.7500	0.05
1.8333	0.05
1.9167	0.04
2.0000	0.04
2.5000	0.02
3.0000	0.03
3.5000	0.01
4.0000	0.02
4.5000	0.01
5.0000	0.01
5.5000	0.01
6.0000	0.01

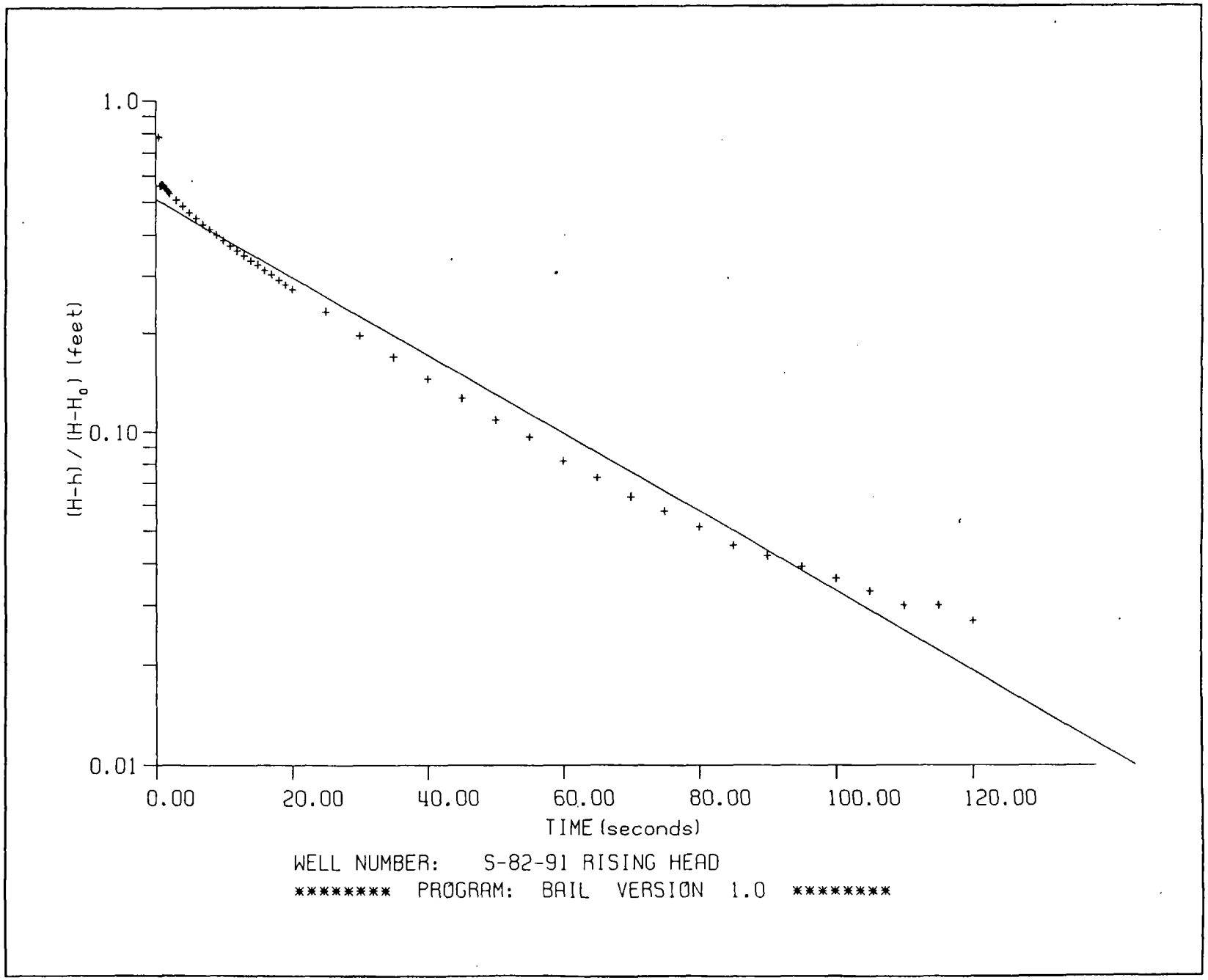

1.0
0.10
0.01
(H-h) / (H-H0) (feet)
8.00
18.00
28.00
38.00
48.00
58.00
68.00
TIME (seconds)
WELL NUMBER: S-81-91 RISING HEAD
******** PROGRAM: BAIL VERSION 1.0 ********

WELL S-82-91
RISING HEAD

SE1000B
Environmental Logger
06/22 14:41

Unit# 79091 Test# 5

Elapsed Time (minutes)	Value (feet)
0.0000	1.22
0.0033	0.75
0.0066	2.58
0.0099	1.85
0.0133	1.86
0.0166	1.87
0.0200	1.85
0.0233	1.82
0.0266	1.80
0.0300	1.78
0.0333	1.76
0.0500	1.68
0.0666	1.61
0.0833	1.54
0.1000	1.48
0.1166	1.42
0.1333	1.37
0.1500	1.32
0.1666	1.27
0.1833	1.22
0.2000	1.18
0.2166	1.14
0.2333	1.10
0.2500	1.07
0.2666	1.03
0.2833	1.00
0.3000	0.96
0.3166	0.93
0.3333	0.90
0.4167	0.77
0.5000	0.65
0.5833	0.56
0.6667	0.48
0.7500	0.42
0.8333	0.36
0.9167	0.32
1.0000	0.27
1.0833	0.24
1.1667	0.21
1.2500	0.19
1.3333	0.17
1.4166	0.15
1.5000	0.14
1.5833	0.13
1.6667	0.12
1.7500	0.11
1.8333	0.10
1.9167	0.10
2.0000	0.09
2.5000	0.06
3.0000	0.05
3.5000	0.02
4.0000	0.02
4.5000	0.03
5.0000	0.03
5.5000	0.03

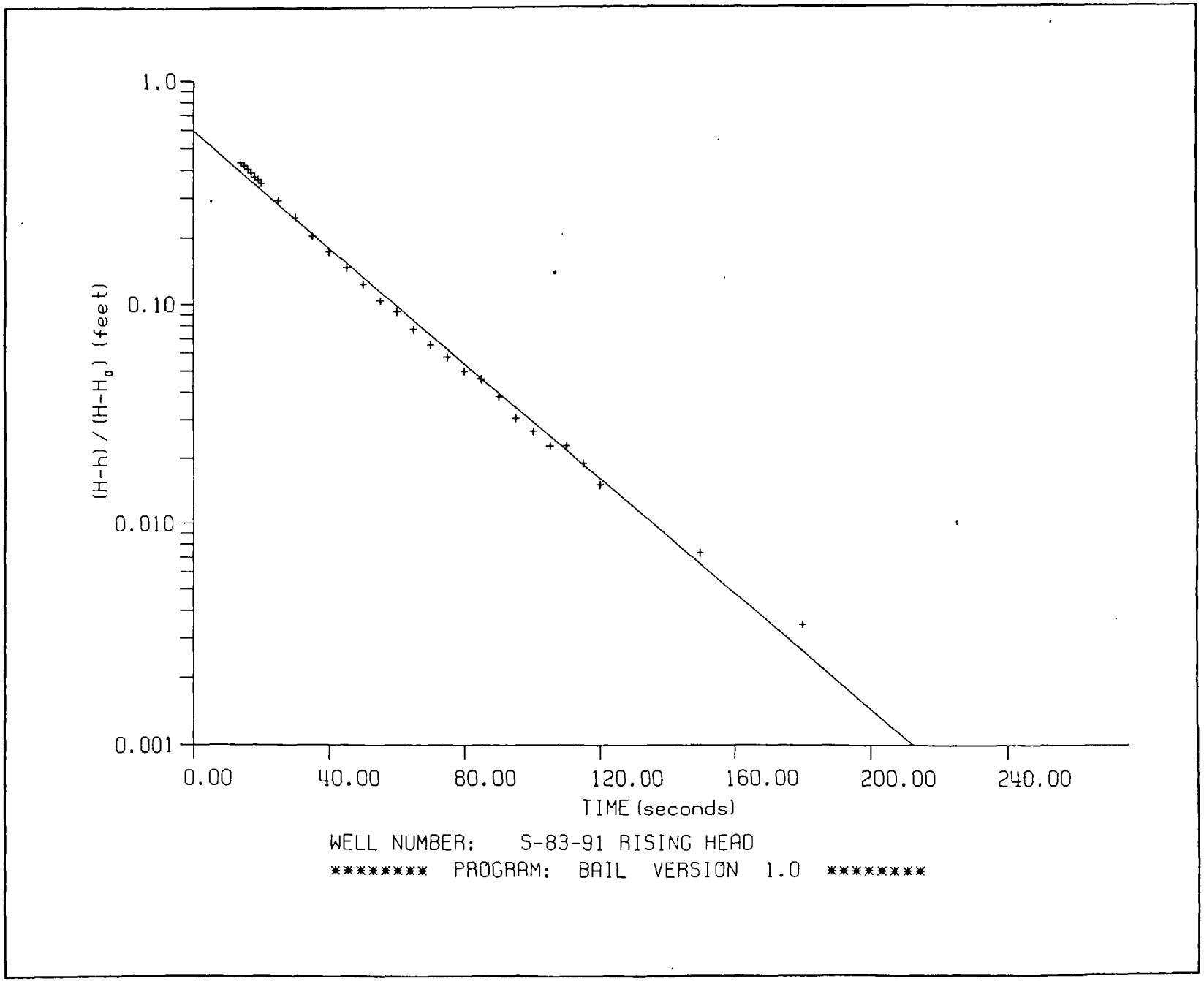

1.0
0.10
0.01
(H-h) / (H-H$_0$) (feet)
0.00
20.00
40.00
60.00
80.00
100.00
120.00
TIME (seconds)
WELL NUMBER: S-82-91 RISING HEAD
******** PROGRAM: BAIL VERSION 1.0 ********

WELL S-83-91
RISING HEAD

SE1000B
Environmental Logger
06/22 14:37

Unit# 79091 Test# 1

Elapsed Time (minutes)	Value (feet)
0.0000	1.29
0.0033	0.67
0.0066	2.29
0.0099	1.99
0.0133	1.96
0.0166	1.94
0.0200	1.92
0.0233	1.88
0.0266	1.87
0.0300	1.85
0.0333	1.82
0.0500	1.74
0.0666	1.65
0.0833	1.59
0.1000	1.53
0.1166	1.47
0.1333	1.41
0.1500	1.36
0.1666	1.31
0.1833	1.26
0.2000	1.21
0.2166	1.17
0.2333	1.12
0.2500	1.09
0.2666	1.05
0.2833	1.01
0.3000	0.97
0.3166	0.94
0.3333	0.91
0.4167	0.76
0.5000	0.64
0.5833	0.53
0.6667	0.45
0.7500	0.38
0.8333	0.32
0.9167	0.27
1.0000	0.24
1.0833	0.20
1.1667	0.17
1.2500	0.15
1.3333	0.13
1.4166	0.12
1.5000	0.10
1.5833	0.08
1.6667	0.07
1.7500	0.06
1.8333	0.06
1.9167	0.05
2.0000	0.04
2.5000	0.02
3.0000	0.01
3.5000	0.01
4.0000	0.01
4.5000	0.00
5.0000	0.00
5.5000	0.00

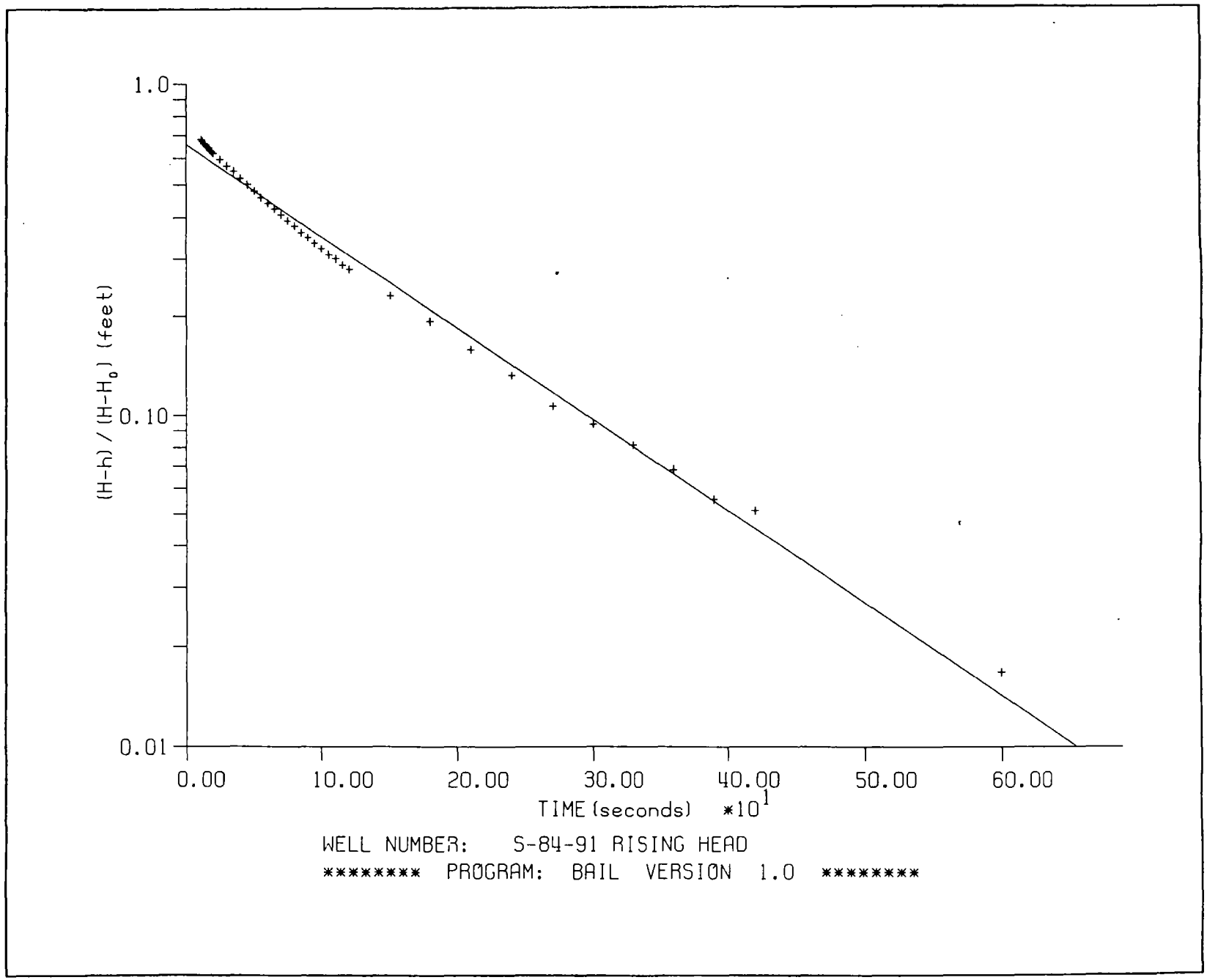

1.0
0.10
0.010
0.001
(H-h) / (H-H0) (feet)
0.00
40.00
80.00
120.00
160.00
200.00
240.00
TIME (seconds)
WELL NUMBER: S-83-91 RISING HEAD
******** PROGRAM: BAIL VERSION 1.0 ********

WELL S-84-91
RISING HEAD

SE1000B
Environmental Logger
06/22 14:39

Unit# 79091 Test# 3

Elapsed Time (minutes)	Value (feet)
0.0000	0.47
0.0033	1.96
0.0066	2.31
0.0099	1.48
0.0133	2.29
0.0166	1.52
0.0200	2.09
0.0233	1.65
0.0266	1.96
0.0300	1.70
0.0333	1.88
0.0500	1.74
0.0666	1.73
0.0833	1.70
0.1000	1.67
0.1166	1.66
0.1333	1.64
0.1500	1.62
0.1666	1.60
0.1833	1.59
0.2000	1.57
0.2166	1.55
0.2333	1.54
0.2500	1.52
0.2666	1.51
0.2833	1.50
0.3000	1.48
0.3166	1.47
0.3333	1.45
0.4167	1.39
0.5000	1.33
0.5833	1.28
0.6667	1.22
0.7500	1.17
0.8333	1.12
0.9167	1.07
1.0000	1.03
1.0833	0.99
1.1667	0.95
1.2500	0.91
1.3333	0.88
1.4166	0.84
1.5000	0.81
1.5833	0.78
1.6667	0.75
1.7500	0.72
1.8333	0.70
1.9167	0.67
2.0000	0.65
2.5000	0.54
3.0000	0.45
3.5000	0.37
4.0000	0.31
4.5000	0.25
5.0000	0.22
5.5000	0.19
6.0000	0.16
6.5000	0.13
7.0000	0.12
7.5000	0.10
8.0000	0.08
8.5000	0.06
9.0000	0.06
9.5000	0.05
10.0000	0.04

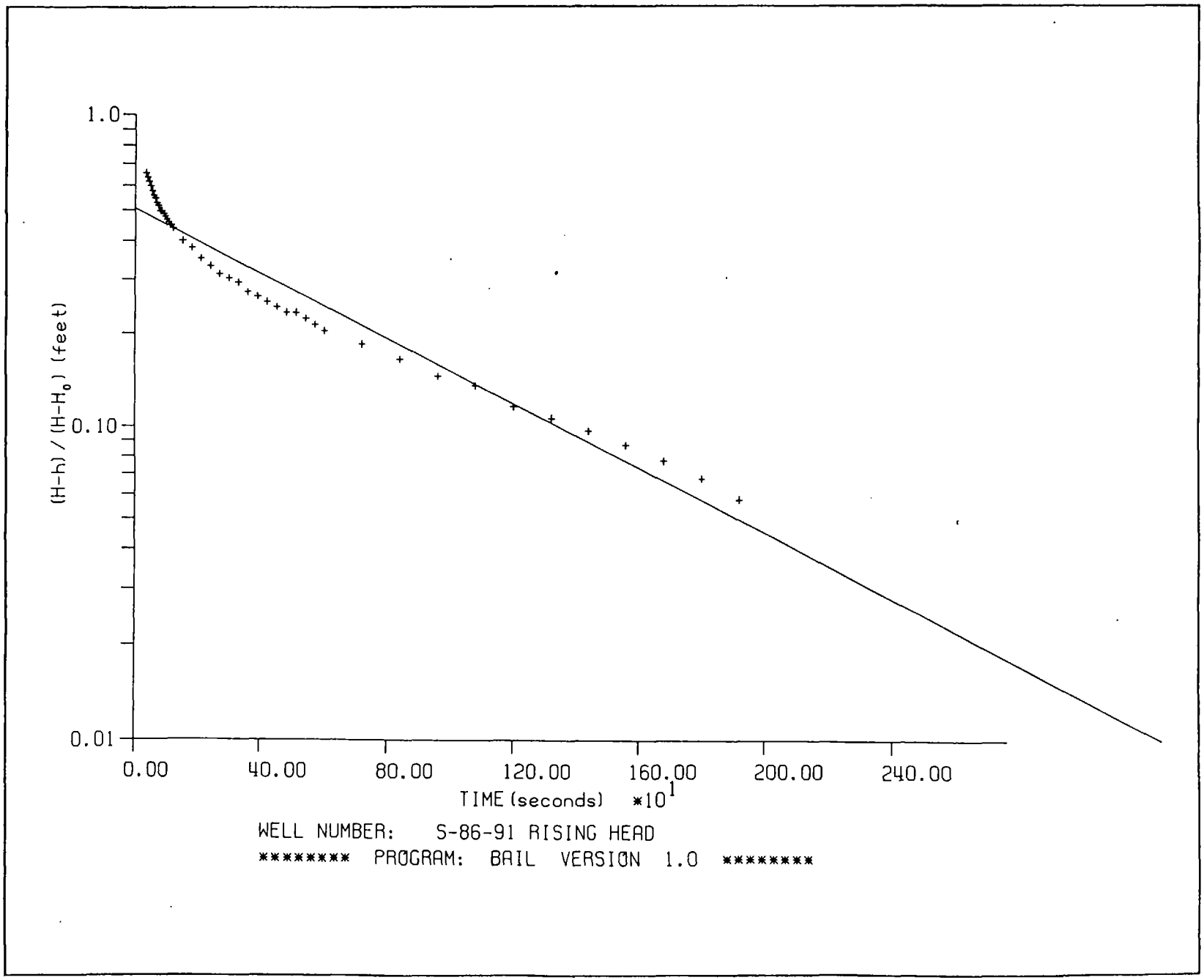

1.0
0.10
0.01
(H-h) / (H-H$_0$) (feet)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
TIME (seconds) *10^1
WELL NUMBER: S-84-91 RISING HEAD
******** PROGRAM: BAIL VERSION 1.0 ********

WELL S-86-91
RISING HEAD 1

SE1000B
Environmental Logger
06/24 18:33

Unit# 79091 Test# 0

Elapsed Time (minutes)	Value (feet)	Elapsed Time (minutes)	Value (feet)	Elapsed Time (minutes)	Value (feet)
0.0000	0.99	1.0833	0.56	30.0000	0.07
0.0033	0.98	1.1667	0.54	32.0000	0.06
0.0066	0.96	1.2500	0.53	34.0000	0.06
0.0099	0.98	1.3333	0.51	36.0000	0.06
0.0133	0.96	1.4166	0.51	38.0000	0.05
0.0166	0.96	1.5000	0.50	40.0000	0.05
0.0200	0.98	1.5833	0.49	42.0000	0.04
0.0233	0.96	1.6667	0.48	44.0000	0.04
0.0266	0.95	1.7500	0.47	46.0000	0.04
0.0300	0.95	1.8333	0.46	48.0000	0.03
0.0333	0.95	1.9167	0.46	50.0000	0.03
0.0500	0.93	2.0000	0.45	52.0000	0.03
0.0666	0.93	2.5000	0.41	54.0000	0.03
0.0833	0.91	3.0000	0.39	56.0000	0.02
0.1000	0.90	3.5000	0.36	58.0000	0.03
0.1166	0.88	4.0000	0.34	60.0000	0.02
0.1333	0.88	4.5000	0.32	62.0000	0.02
0.1500	0.86	5.0000	0.31	64.0000	0.01
0.1666	0.84	5.5000	0.30	66.0000	0.01
0.1833	0.84	6.0000	0.28	68.0000	0.01
0.2000	0.83	6.5000	0.27	70.0000	0.01
0.2166	0.82	7.0000	0.26	72.0000	0.01
0.2333	0.81	7.5000	0.25	74.0000	0.01
0.2500	0.80	8.0000	0.24	76.0000	0.01
0.2666	0.79	8.5000	0.24	78.0000	0.01
0.2833	0.79	9.0000	0.23	80.0000	0.01
0.3000	0.78	9.5000	0.22	82.0000	0.01
0.3166	0.77	10.0000	0.21	84.0000	0.01
0.3333	0.76	12.0000	0.19	86.0000	0.01
0.4167	0.73	14.0000	0.17	88.0000	0.00
0.5000	0.70	16.0000	0.15	90.0000	0.00
0.5833	0.67	18.0000	0.14	92.0000	0.00
0.6667	0.65	20.0000	0.12	94.0000	0.01
0.7500	0.63	22.0000	0.11	96.0000	0.00
0.8333	0.61	24.0000	0.10	98.0000	0.00
0.9167	0.59	26.0000	0.09	100.000	0.01
1.0000	0.57	28.0000	0.08	110.000	0.00

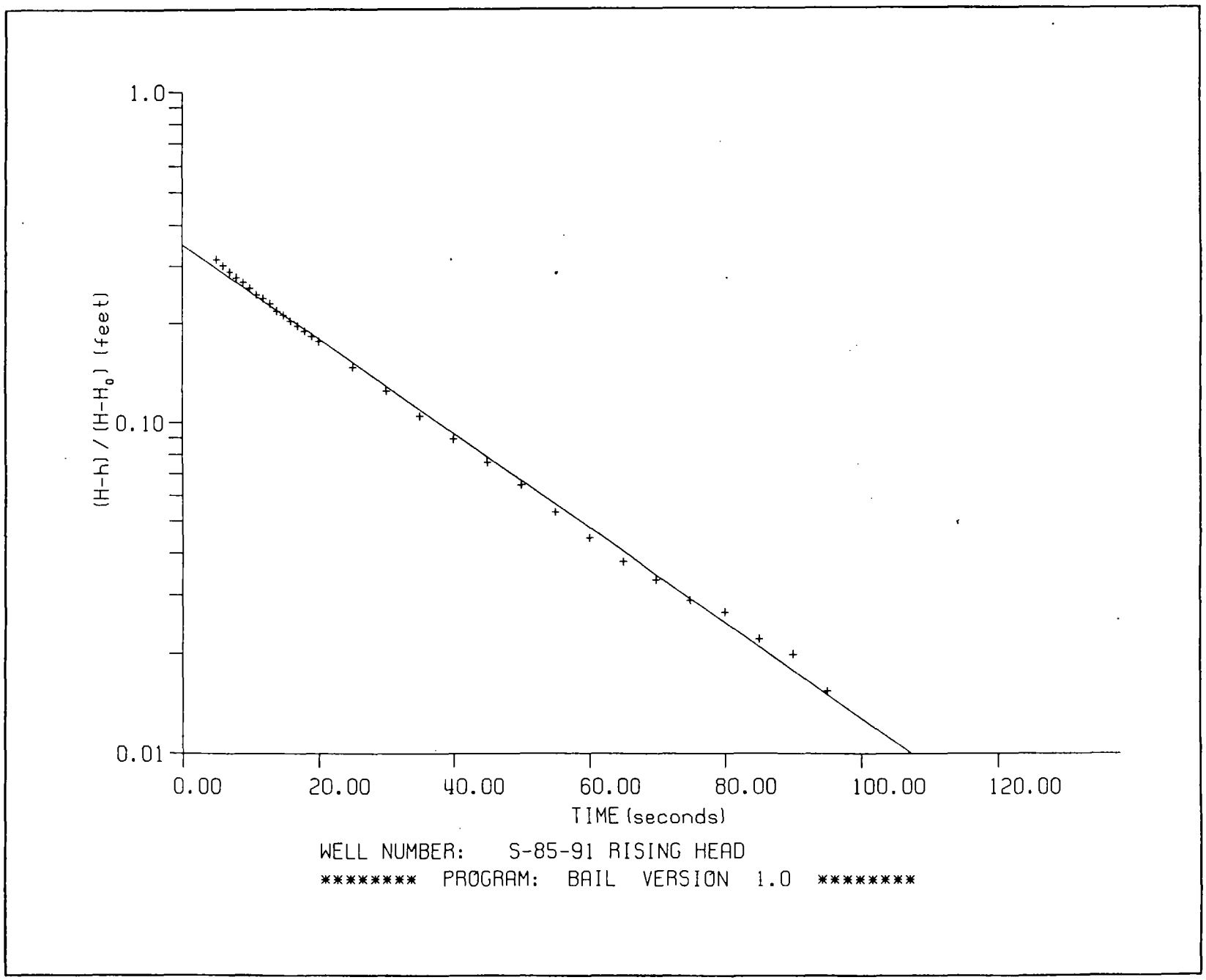

1.0
0.10
0.01
(H-h) / (H-H0) (feet)
0.00
40.00
80.00
120.00
160.00
200.00
240.00
TIME (seconds) *10^1
WELL NUMBER: S-86-91 RISING HEAD
******** PROGRAM: BAIL VERSION 1.0 ********

WELL S-85-91
RISING HEAD

SE1000B
Environmental Logger
06/19 20:53

Unit# 85091 Test# 1

Elapsed Time (minutes)	Value (feet)
0.0000	1.68
0.0033	0.02
0.0066	3.27
0.0099	1.22
0.0133	2.06
0.0166	1.61
0.0200	1.78
0.0233	1.67
0.0266	1.69
0.0300	1.64
0.0333	1.65
0.0500	1.55
0.0666	1.48
0.0833	1.41
0.1000	1.35
0.1166	1.29
0.1333	1.24
0.1500	1.20
0.1666	1.15
0.1833	1.10
0.2000	1.07
0.2166	1.03
0.2333	0.98
0.2500	0.95
0.2666	0.91
0.2833	0.88
0.3000	0.85
0.3166	0.82
0.3333	0.79
0.4167	0.66
0.5000	0.56
0.5833	0.47
0.6667	0.40
0.7500	0.34
0.8333	0.29
0.9167	0.24
1.0000	0.20
1.0833	0.17
1.1667	0.15
1.2500	0.13
1.3333	0.12
1.4166	0.10
1.5000	0.09
1.5833	0.07
1.6667	0.06
1.7500	0.07
1.8333	0.06
1.9167	0.04
2.0000	0.04
2.5000	0.02
3.0000	0.01
3.5000	0.01
4.0000	0.02
4.5000	0.01
5.0000	0.02

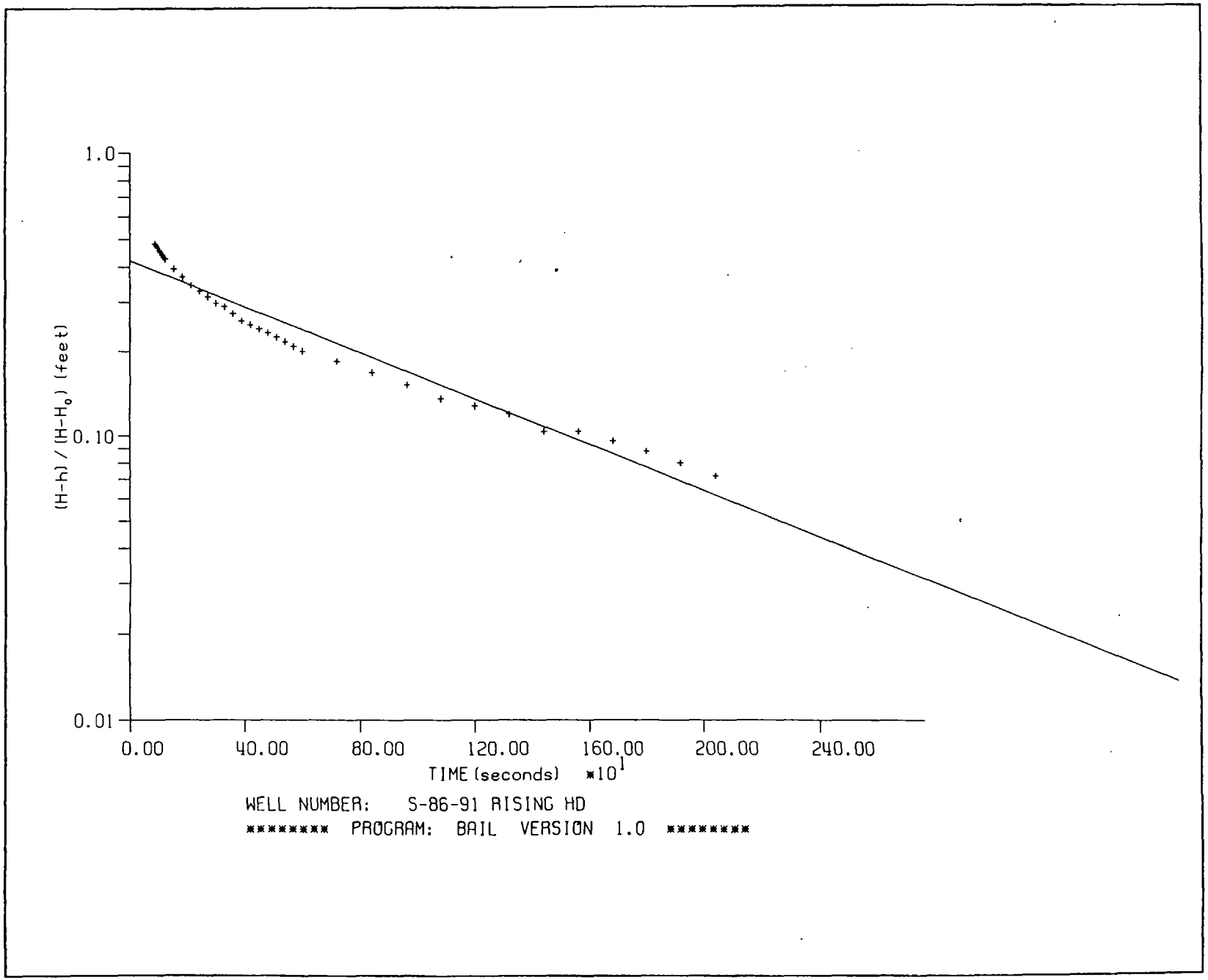

1.0
0.10
0.01
(H-h) / (H-H0) (feet)
0.00
20.00
40.00
60.00
80.00
100.00
120.00
TIME (seconds)
WELL NUMBER: S-85-91 RISING HEAD
******** PROGRAM: BAIL VERSION 1.0 ********

WELL S-86-91
RISING HEAD 2

SE1000B
Environmental Logger
06/25 18:39

Unit# 79091 Test# 0

Elapsed Time (minutes)	Value (feet)	Elapsed Time (minutes)	Value (feet)	Elapsed Time (minutes)	Value (feet)
0.0000	1.17	1.0833	0.67	30.0000	0.11
0.0033	1.09	1.1667	0.65	32.0000	0.10
0.0066	1.10	1.2500	0.63	34.0000	0.09
0.0099	1.10	1.3333	0.62	36.0000	0.09
0.0133	1.10	1.4166	0.60	38.0000	0.08
0.0166	1.08	1.5000	0.59	40.0000	0.08
0.0200	1.08	1.5833	0.58	42.0000	0.08
0.0233	1.08	1.6667	0.57	44.0000	0.08
0.0266	1.08	1.7500	0.56	46.0000	0.07
0.0300	1.07	1.8333	0.55	48.0000	0.07
0.0333	1.08	1.9167	0.54	50.0000	0.06
0.0500	1.05	2.0000	0.53	52.0000	0.06
0.0666	1.05	2.5000	0.49	54.0000	0.06
0.0833	1.03	3.0000	0.46	56.0000	0.06
0.1000	1.02	3.5000	0.43	58.0000	0.05
0.1166	1.02	4.0000	0.41	60.0000	0.05
0.1333	1.00	4.5000	0.39	62.0000	0.05
0.1500	0.99	5.0000	0.37	64.0000	0.05
0.1666	0.98	5.5000	0.36	66.0000	0.05
0.1833	0.97	6.0000	0.34	68.0000	0.05
0.2000	0.96	6.5000	0.32	70.0000	0.05
0.2166	0.95	7.0000	0.31	72.0000	0.05
0.2333	0.95	7.5000	0.30	74.0000	0.05
0.2500	0.94	8.0000	0.29	76.0000	0.04
0.2666	0.93	8.5000	0.28	78.0000	0.04
0.2833	0.92	9.0000	0.27	80.0000	0.04
0.3000	0.91	9.5000	0.26	82.0000	0.04
0.3166	0.91	10.0000	0.25	84.0000	0.04
0.3333	0.90	12.0000	0.23	86.0000	0.03
0.4167	0.86	14.0000	0.21	88.0000	0.04
0.5000	0.83	16.0000	0.19	90.0000	0.04
0.5833	0.80	18.0000	0.17	92.0000	0.04
0.6667	0.77	20.0000	0.16	94.0000	0.03
0.7500	0.75	22.0000	0.15	96.0000	0.03
0.8333	0.72	24.0000	0.13	98.0000	0.03
0.9167	0.70	26.0000	0.13	100.000	0.03
1.0000	0.68	28.0000	0.12	110.000	0.03

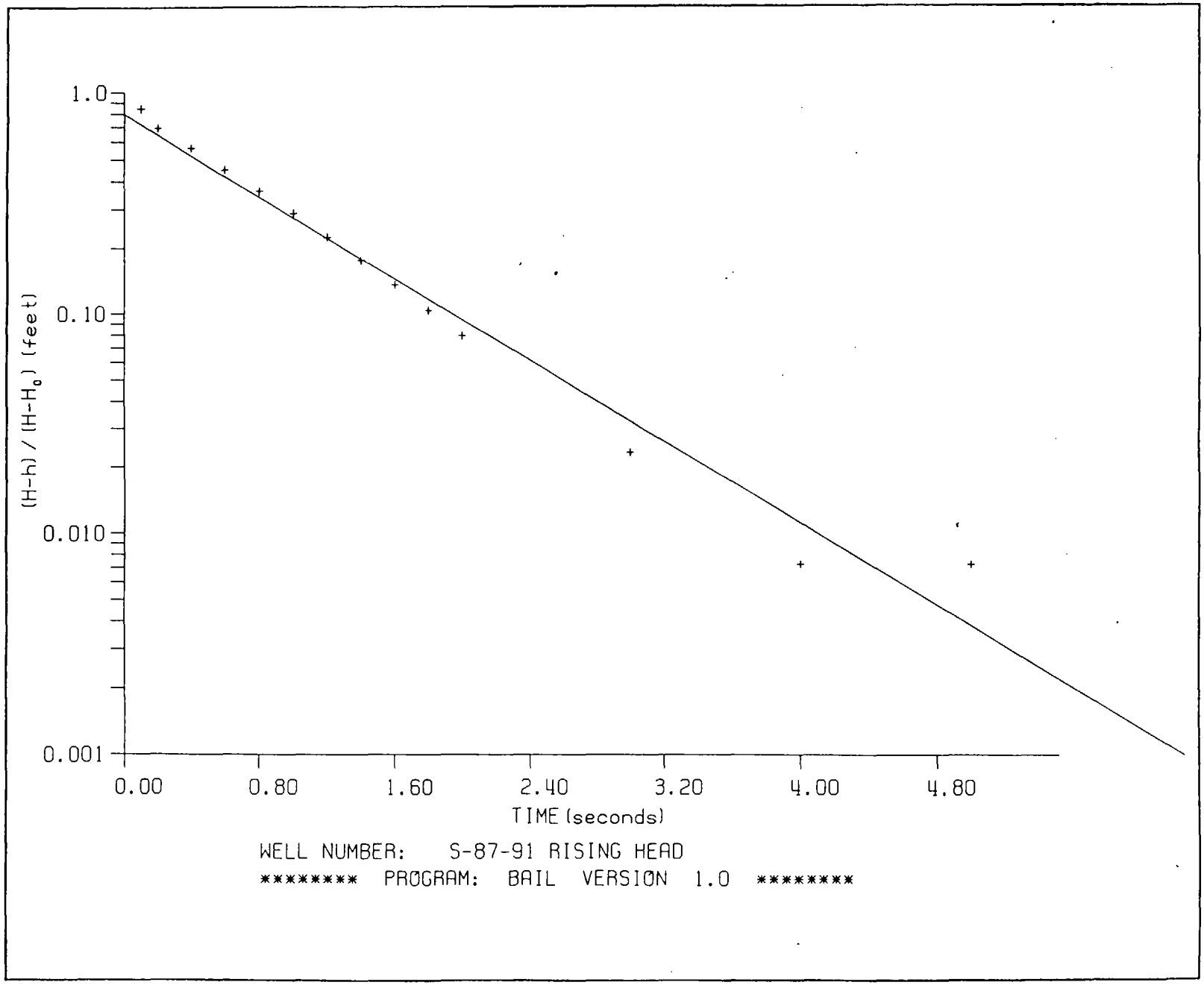

1.0
0.10
0.01
(H-h) / (H-H$_o$) (feet)
0.00
40.00
80.00
120.00
160.00
200.00
240.00
TIME (seconds) *10^1
WELL NUMBER: S-86-91 RISING HD
******** PROGRAM: BAIL VERSION 1.0 ********

WELL S-87-91
RISING HEAD 1

SE1000B
Environmental Logger
06/20 19:56

Unit# 80091 Test# 0

Elapsed Time (minutes)	Value (feet)
0.0000	1.05
0.0033	0.86
0.0066	0.70
0.0099	0.56
0.0133	0.45
0.0166	0.36
0.0200	0.28
0.0233	0.22
0.0266	0.17
0.0300	0.13
0.0333	0.10
0.0500	0.03
0.0666	0.01
0.0833	0.01
0.1000	0.00
0.1166	0.00
0.1333	0.00
0.1500	0.00
0.1666	0.00
0.1833	0.00
0.2000	0.00
0.2166	0.00
0.2333	0.00
0.2500	0.00
0.2666	0.00
0.2833	0.00
0.3000	0.00
0.3166	0.00
0.3333	0.00
0.4167	0.00
0.5000	0.00
0.5833	0.00
0.6667	0.00
0.7500	0.00
0.8333	0.00
0.9167	0.00
1.0000	0.00

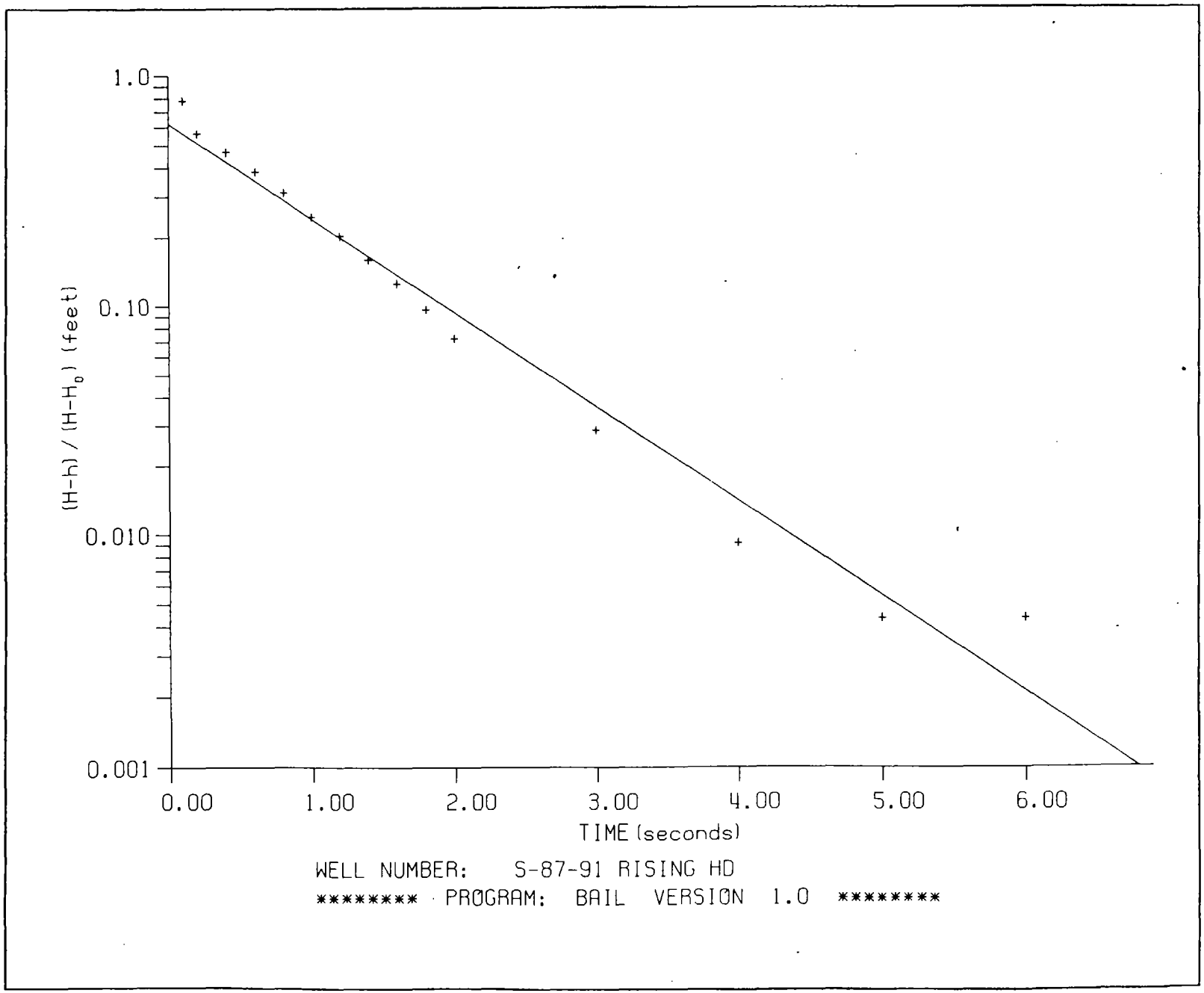

1.0
0.10
0.010
0.001
(H-h) / (H-H0) (feet)
0.00
0.80
1.60
2.40
3.20
4.00
4.80
TIME (seconds)
WELL NUMBER: S-87-91 RISING HEAD
******** PROGRAM: BAIL VERSION 1.0 ********

WELL S-87-91
RISING HEAD 2

SE1000B
Environmental Logger
06/20 19:57

Unit# 80091 Test# 1

Elapsed Time (minutes)	Value (feet)
0.0000	1.62
0.0033	1.17
0.0066	0.97
0.0099	0.80
0.0133	0.65
0.0166	0.51
0.0200	0.42
0.0233	0.33
0.0266	0.26
0.0300	0.20
0.0333	0.15
0.0500	0.06
0.0666	0.02
0.0833	0.01
0.1000	0.01
0.1166	0.00
0.1333	0.00
0.1500	0.00
0.1666	0.00
0.1833	0.00
0.2000	0.00
0.2166	0.00
0.2333	0.00
0.2500	0.00
0.2666	0.00
0.2833	0.00
0.3000	0.00
0.3166	0.00
0.3333	0.00
0.4167	0.00
0.5000	0.00
0.5833	0.00
0.6667	0.00
0.7500	0.00
0.8333	0.00
0.9167	0.00
1.0000	0.00

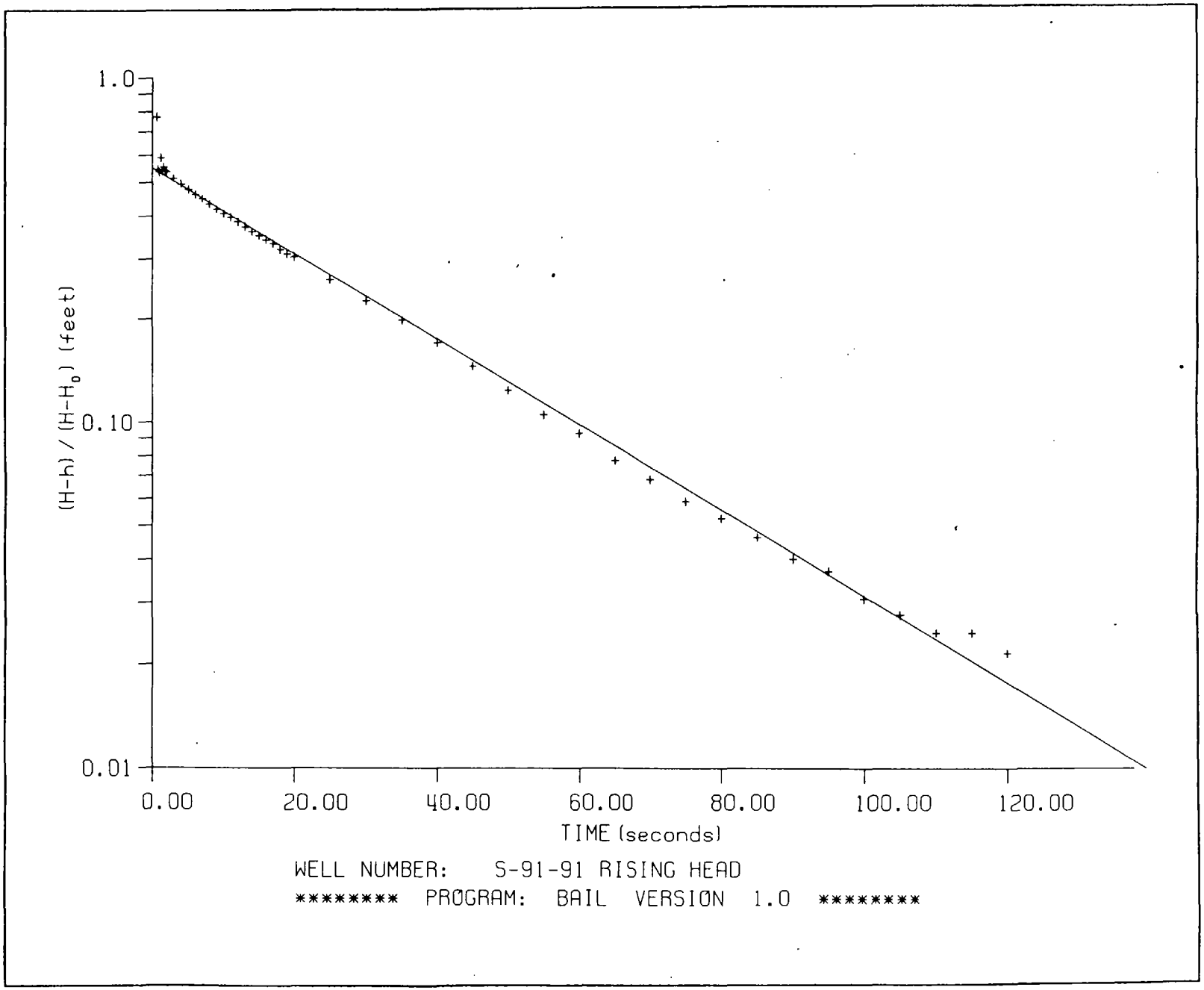

1.0
0.10
0.010
0.001
(H-h) / (H-H0) (feet)
0.00
1.00
2.00
3.00
4.00
5.00
6.00
TIME (seconds)
WELL NUMBER: S-87-91 RISING HD
******** PROGRAM: BAIL VERSION 1.0 ********

WELL S-91-91
RISING HEAD

SE1000B
Environmental Logger
06/22 05:47

Unit# 79091 Test# 3

Elapsed Time (minutes)	Value (feet)
0.0000	0.86
0.0033	1.22
0.0066	0.71
0.0099	2.49
0.0133	1.76
0.0166	1.73
0.0200	1.90
0.0233	1.74
0.0266	1.79
0.0300	1.75
0.0333	1.73
0.0500	1.66
0.0666	1.60
0.0833	1.54
0.1000	1.49
0.1166	1.45
0.1333	1.40
0.1500	1.35
0.1666	1.31
0.1833	1.28
0.2000	1.24
0.2166	1.20
0.2333	1.16
0.2500	1.13
0.2666	1.10
0.2833	1.07
0.3000	1.03
0.3166	1.00
0.3333	0.98
0.4167	0.84
0.5000	0.73
0.5833	0.64
0.6667	0.55
0.7500	0.47
0.8333	0.40
0.9167	0.34
1.0000	0.30
1.0833	0.25
1.1667	0.22
1.2500	0.19
1.3333	0.17
1.4166	0.15
1.5000	0.13
1.5833	0.12
1.6667	0.10
1.7500	0.09
1.8333	0.08
1.9167	0.08
2.0000	0.07
2.5000	0.05
3.0000	0.03
3.5000	0.02
4.0000	0.02
4.5000	0.01
5.0000	0.01
5.5000	0.01

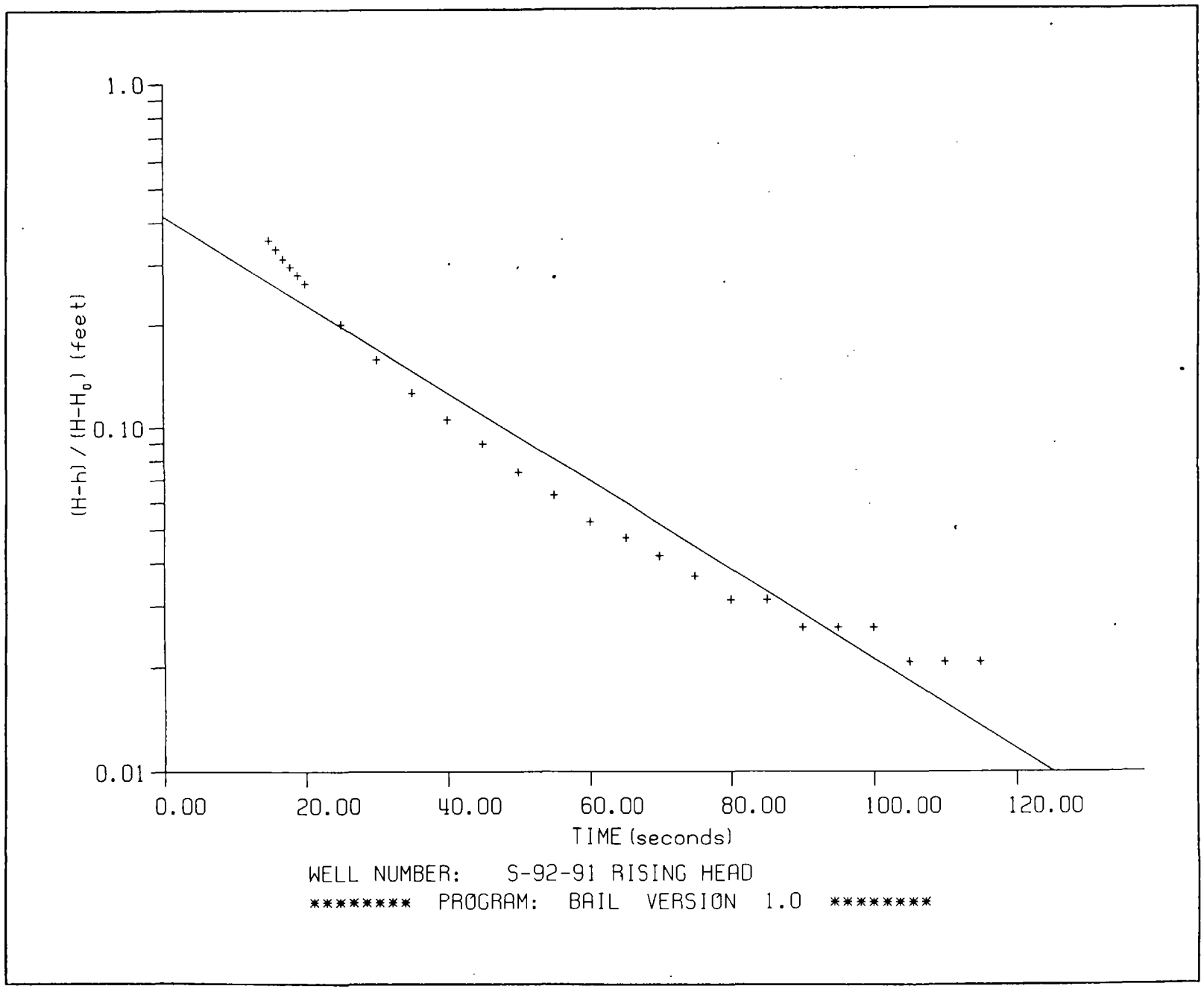

1.0
0.10
0.01
(H-h) / (H-H$_0$) (feet)
0.00
20.00
40.00
60.00
80.00
100.00
120.00
TIME (seconds)
WELL NUMBER: S-91-91 RISING HEAD
******** PROGRAM: BAIL VERSION 1.0 ********

WELL S-92-91
RISING HEAD

SE1000B
Environmental Logger
06/23 16:53

Unit# 79091 Test# 1

Elapsed Time (minutes)	Value (feet)
0.0000	1.23
0.0033	0.10
0.0066	1.32
0.0099	1.86
0.0133	1.83
0.0166	1.79
0.0200	1.75
0.0233	1.71
0.0266	1.68
0.0300	1.66
0.0333	1.62
0.0500	1.51
0.0666	1.40
0.0833	1.28
0.1000	1.21
0.1166	1.12
0.1333	1.05
0.1500	0.98
0.1666	0.92
0.1833	0.86
0.2000	0.81
0.2166	0.76
0.2333	0.70
0.2500	0.67
0.2666	0.63
0.2833	0.59
0.3000	0.56
0.3166	0.53
0.3333	0.50
0.4167	0.38
0.5000	0.30
0.5833	0.24
0.6667	0.20
0.7500	0.17
0.8333	0.14
0.9167	0.12
1.0000	0.10
1.0833	0.09
1.1667	0.08
1.2500	0.07
1.3333	0.06
1.4166	0.06
1.5000	0.05
1.5833	0.05
1.6667	0.05
1.7500	0.04
1.8333	0.04
1.9167	0.04
2.0000	0.03
2.5000	0.03
3.0000	0.03
3.5000	0.02
4.0000	0.01
4.5000	0.01
5.0000	0.01
5.5000	0.01
6.0000	0.01
6.5000	0.01


1.0
0.10
0.01
(H-h) / (H-H$_0$) (feet)
0.00
20.00
40.00
60.00
80.00
100.00
120.00
TIME (seconds)
WELL NUMBER: S-92-91 RISING HEAD
******** PROGRAM: BAIL VERSION 1.0 ********

WELL S-103-93
RISING HEAD

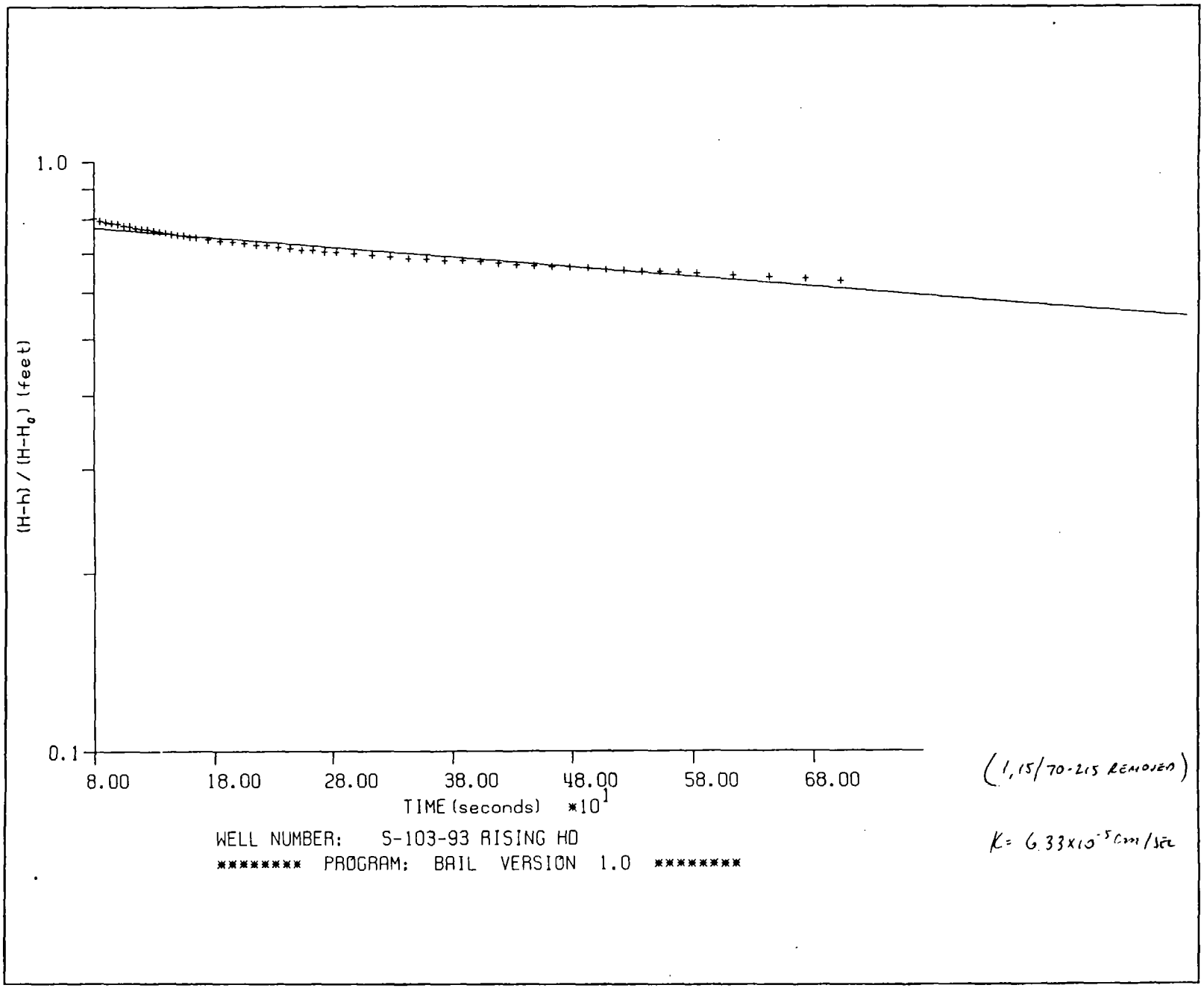
" Terra8 Data Collection Report"

"Firmware Version 4.2/91"
"Number of Bytes in Data Dump 2302"
"User Supplied Comment s-103-93 "
"Time Header Block Loaded 1993/10/27 16:10:33.20 "
"Time Data File Dumped 1993/10/28 08:20:25.40 "
"Remaining Memory 63234"
"Number of Logs 218"
"Type of Data Memory Memory Board"
"Logs/Timestamp 1"
"Power was OK During Data Collection Period"

TIME (sec)	VALUE (feet)	TIME (sec)	VALUE (feet)	TIME (sec)	VALUE (feet)	TIME (sec)	VALUE (feet)
0	7.0094	160	5.627	569	5.8111	4774	6.3922
5	5.2228	165	5.6306	584	5.8147	5074	6.4103
10	5.2877	175	5.6415	614	5.8255	5373	6.4319
15	5.3419	185	5.6487	644	5.8328	5672	6.45
20	5.3671	195	5.6559	674	5.84	5972	6.468
25	5.3888	205	5.6631	703	5.8508	6271	6.486
30	5.4068	215	5.6703	733	5.8544	6570	6.5005
35	5.4249	224	5.6739	763	5.8652	6870	6.5113
40	5.4393	234	5.6848	793	5.8725	7169	6.5258
45	5.4538	244	5.6884	823	5.8761	7468	6.5366
50	5.4682	254	5.6992	853	5.8833	7768	6.551
55	5.479	264	5.6992	883	5.8905	8067	6.5655
60	5.4863	274	5.7064	943	5.9013	8366	6.5763
65	5.5007	284	5.71	1003	5.9194	8666	6.5871
70	5.5079	299	5.7173	1063	5.9302	8965	6.5943
75	5.5187	314	5.7245	1122	5.9446	9264	6.6052
80	5.5223	329	5.7317	1182	5.9591	9564	6.6124
85	5.5368	344	5.7425	1242	5.9663	9863	6.6232
90	5.544	359	5.7461	1302	5.9771	10162	6.6304
95	5.5512	374	5.7533	1362	5.988	10462	6.6376
100	5.5548	389	5.7533	1422	6.0024	10761	6.6449
105	5.5657	404	5.757	1482	6.0132	11060	6.6485
110	5.5693	419	5.7678	1781	6.0601	11360	6.6593
115	5.5801	434	5.775	2080	6.1071	11659	6.6665
120	5.5837	449	5.7786	2380	6.1504	11958	6.6737
125	5.5873	464	5.7822	2679	6.1901	12258	6.681
130	5.5945	479	5.7858	2978	6.2262	12557	6.6846
135	5.5981	494	5.7894	3278	6.2587	12856	6.6882
140	5.6054	509	5.7967	3577	6.2911	13156	6.6918
145	5.6126	524	5.8003	3876	6.32	13455	6.699
150	5.6162	539	5.8075	4176	6.3453	13754	6.699
155	5.6198	554	5.8075	4475	6.3669	14054	6.7098

WELL S-103-93, CONT

TIME (sec)	VALUE (feet)	TIME (sec)	VALUE (feet)
14353	6.7098	28123	6.8217
14652	6.717	28423	6.8253
14952	6.717	28723	6.8325
15251	6.7243	29023	6.8289
15550	6.7243	29323	6.8325
15849	6.7279	29623	6.8325
16149	6.7315	29923	6.8362
16448	6.7351	30223	6.8362
16747	6.7423	30523	6.8398
17047	6.7423	30823	6.8362
17346	6.7459	31123	6.8398
17646	6.7495	31423	6.8434
17945	6.7495	32321	6.847
18244	6.7531	33219	6.8578
18543	6.764	34117	6.8542
18843	6.764	35015	6.865
19142	6.764	35913	6.865
19441	6.764	36811	6.865
19741	6.7712	37709	6.8723
20040	6.7712	38607	6.8795
20339	6.7712	39505	6.8831
20639	6.7748	40403	6.8795
20938	6.7856	41301	6.8867
21237	6.782	42199	6.8867
21537	6.782	43097	6.8939
21836	6.7892	43995	6.8975
22135	6.7892	44893	6.9047
22435	6.7892	45791	6.9083
22734	6.7892	46689	6.9083
23033	6.7892	47587	6.912
23333	6.7928	48485	6.9156
23632	6.7965	49383	6.9156
23931	6.8109	50281	6.9228
24231	6.7965	51179	6.9228
24530	6.8037	52077	6.93
24829	6.8037	52975	6.93
25129	6.8001	53873	6.93
25428	6.8073	54771	6.93
25727	6.8073	55669	6.9372
26027	6.8145	56567	6.9372
26326	6.8073	57465	6.9408

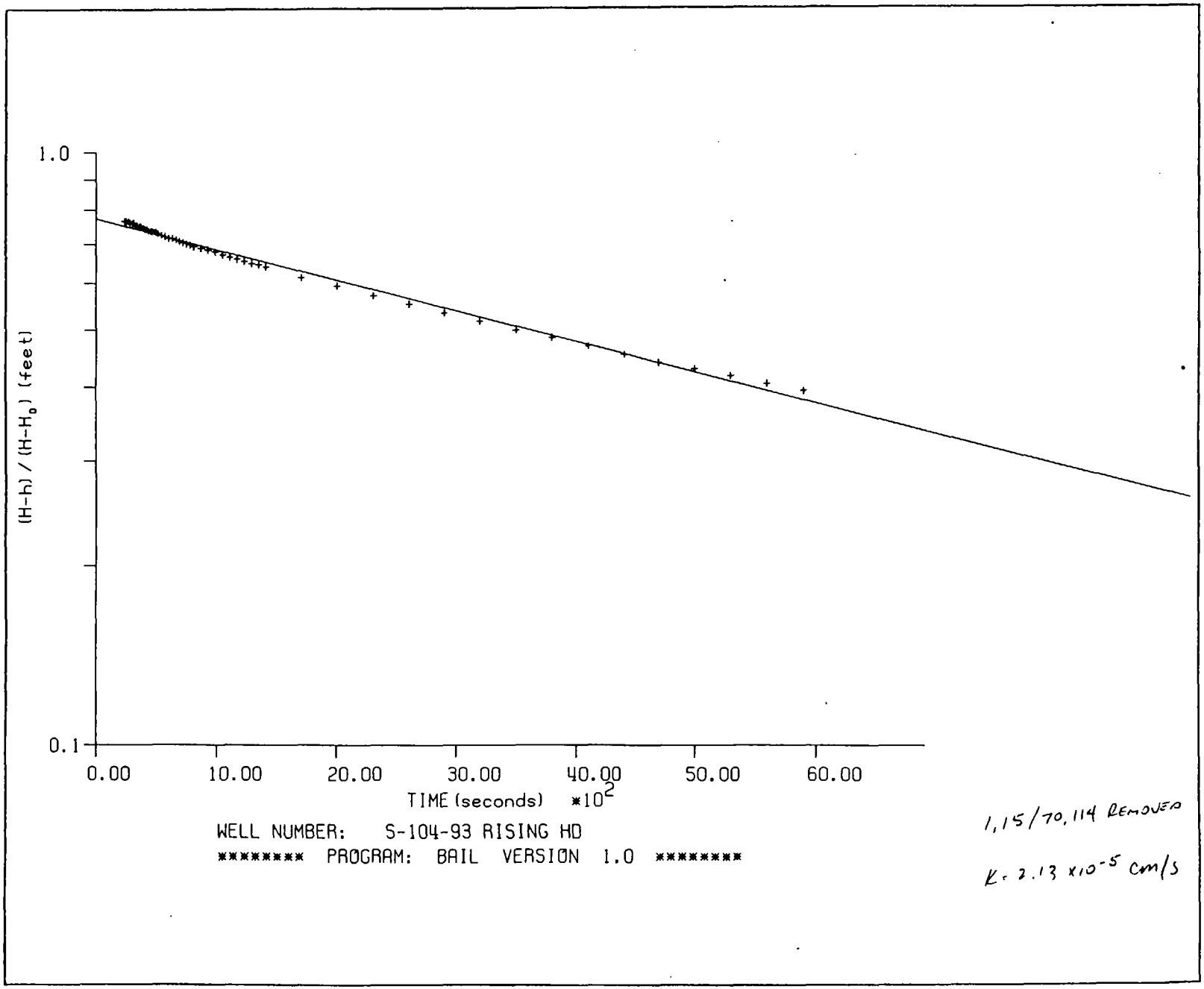

1.0
0.1
(H-h) / (H-H0) (feet)
8.00
18.00
28.00
38.00
48.00
58.00
68.00
TIME (seconds) *10^1
WELL NUMBER: S-103-93 RISING HD
******** PROGRAM: BAIL VERSION 1.0 ********
(1,15/70-215 REMOVED)
K= 6.33x10^-5 cm/sec

WELL S-104-93
RISING HEAD

" Terra8 Data Collection Report"

"Firmware Version 4.2/91"
"Number of Bytes in Data Dump 1602"
"User Supplied Comment s-104-93 "
"Time Header Block Loaded 1993/10/29 09:04:59.60 "
"Time Data File Dumped 1993/10/29 14:28:44.50 "
"Remaining Memory 63934"
"Number of Logs 148"
"Type of Data Memory Memory Board"
"Logs/Timestamp 1"
"Power was OK During Data Collection Period"

TIME (sec)	VALUE (feet)	TIME (sec)	VALUE (feet)	TIME (sec)	VALUE (feet)	TIME (sec)	VALUE (feet)
0	6.0096	479	4.3132	4400	4.9593	13979	5.5368
5	3.9992	494	4.3168	4699	4.9918	14278	5.544
10	3.8512	509	4.324	4999	5.017	14577	5.5548
100	4.1111	539	4.3349	5298	5.0423	14877	5.562
110	4.1508	569	4.3421	5597	5.0712	15176	5.5729
120	4.158	599	4.3529	5897	5.0964	15475	5.5801
130	4.176	629	4.3565	6196	5.1217	15775	5.5873
140	4.1652	659	4.3637	6495	5.147	16074	5.5981
150	4.1869	688	4.371	6795	5.1686	16373	5.6054
160	4.1941	718	4.3818	7094	5.1903	16673	5.6126
170	4.1941	748	4.389	7393	5.2155	16972	5.6234
180	4.2013	778	4.3962	7693	5.2336	17271	5.6306
190	4.2158	808	4.407	7992	5.2553	17571	5.6342
200	4.2158	868	4.4179	8291	5.2697	17870	5.6415
210	4.223	928	4.4287	8591	5.2913	18169	5.6523
224	4.2338	988	4.4395	8890	5.3094	18469	5.6559
239	4.241	1048	4.4576	9189	5.3238	18768	5.6595
254	4.2446	1107	4.472	9489	5.3419	19067	5.6703
269	4.2446	1167	4.4828	9788	5.3563		
284	4.2518	1227	4.4973	10087	5.3744		
299	4.2555	1287	4.5081	10387	5.3924		
314	4.2555	1347	4.5153	10686	5.4032		
329	4.2699	1407	4.5298	10985	5.4177		
344	4.2735	1706	4.5911	11285	5.4321		
359	4.2771	2006	4.638	11584	5.4429		
374	4.2807	2305	4.6886	11883	5.4574		
389	4.2879	2604	4.7319	12183	5.4682		
404	4.2952	2903	4.7752	12482	5.479		
419	4.2952	3203	4.8149	12781	5.4935		
434	4.306	3502	4.8546	13081	5.5007		
449	4.306	3801	4.8871	13380	5.5151		
464	4.3096	4101	4.9232	13679	5.526		

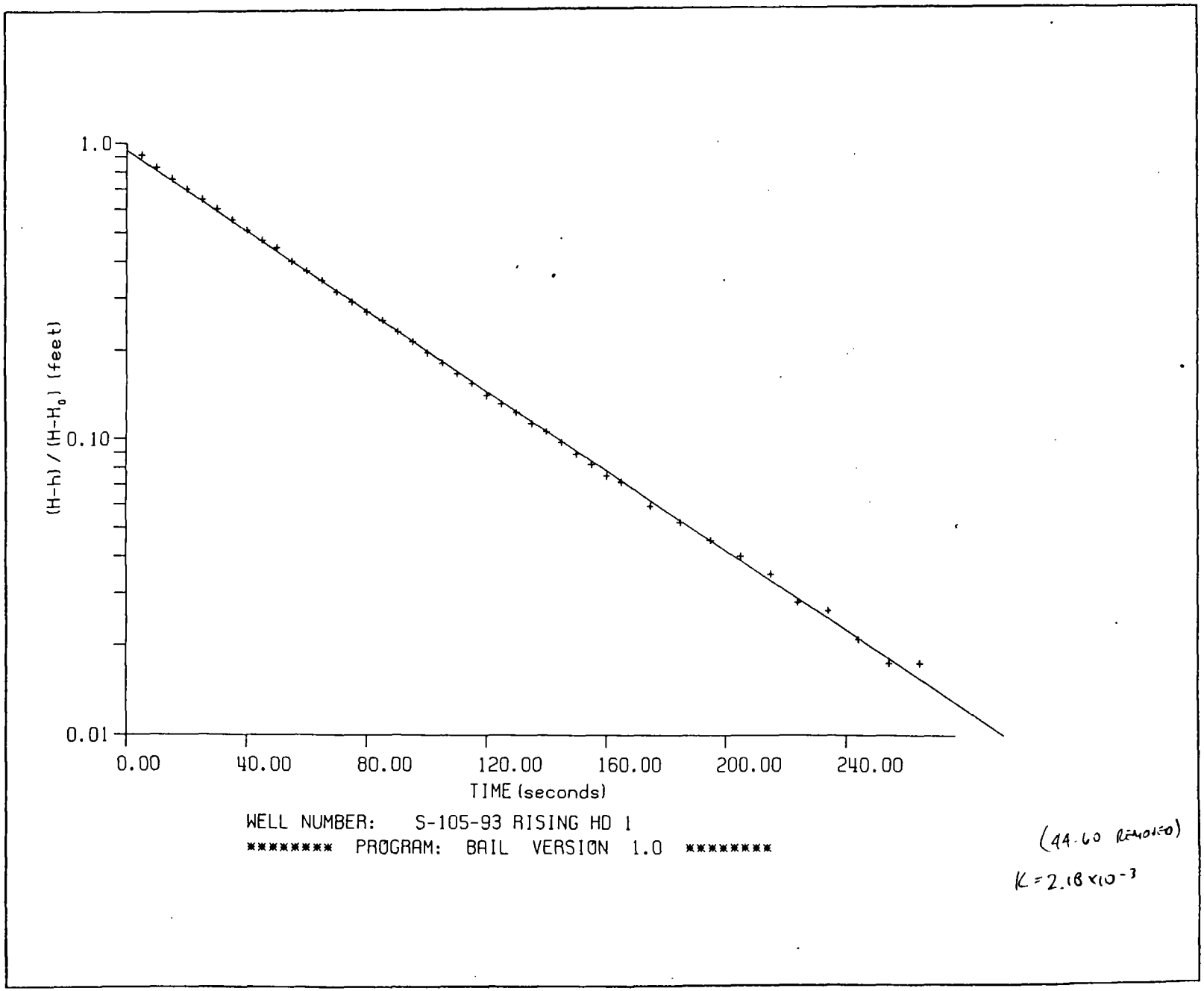

1.0
0.1
(H-h) / (H-H$_0$) (feet)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
TIME (seconds) *10^2
WELL NUMBER: S-104-93 RISING HD
******** PROGRAM: BAIL VERSION 1.0 ********
1,15/70,114 REMOVED
K = 2.13 x10^{-5} cm/s

WELL S-105-93
RISING HEAD 1

" Terra8 Data Collection Report"

"Firmware Version 4.2/91"
"Number of Bytes in Data Dump 1462"
"User Supplied Comment S-105-93 "
"Time Header Block Loaded 1993/10/27 10:10:28.70 "
"Time Data File Dumped 1993/10/27 10:35:36.50 "
"Remaining Memory 64074"
"Number of Logs 134"
"Type of Data Memory Memory Board"
"Logs/Timestamp 1"
"Power was OK During Data Collection Period"

TIME (sec)	VALUE (feet)	TIME (sec)	VALUE (feet)
0	5.9194	160	5.7642
5	4.0281	165	5.7714
10	4.2049	175	5.7967
15	4.3457	185	5.8111
20	4.4648	195	5.8255
25	4.5803	205	5.8364
30	4.6705	215	5.8472
35	4.7716	224	5.8616
40	4.8618	234	5.8652
45	4.9412	244	5.8761
50	4.9954	254	5.8833
55	5.0892	264	5.8833
60	5.1506	274	5.8869
65	5.2047	284	5.8905
70	5.2661	299	5.8941
75	5.3166	314	5.9013
80	5.3599	329	5.9013
85	5.396	344	5.9049
90	5.4393	359	5.9049
95	5.4754	374	5.9085
100	5.5115	389	5.9122
105	5.544	404	5.9122
110	5.5729	419	5.9194
115	5.5981	434	5.9122
120	5.627	449	5.9158
125	5.6451	464	5.9158
130	5.6631	479	5.9158
135	5.6848	494	5.9158
140	5.6992		
145	5.7173		
150	5.7353		
155	5.7497		

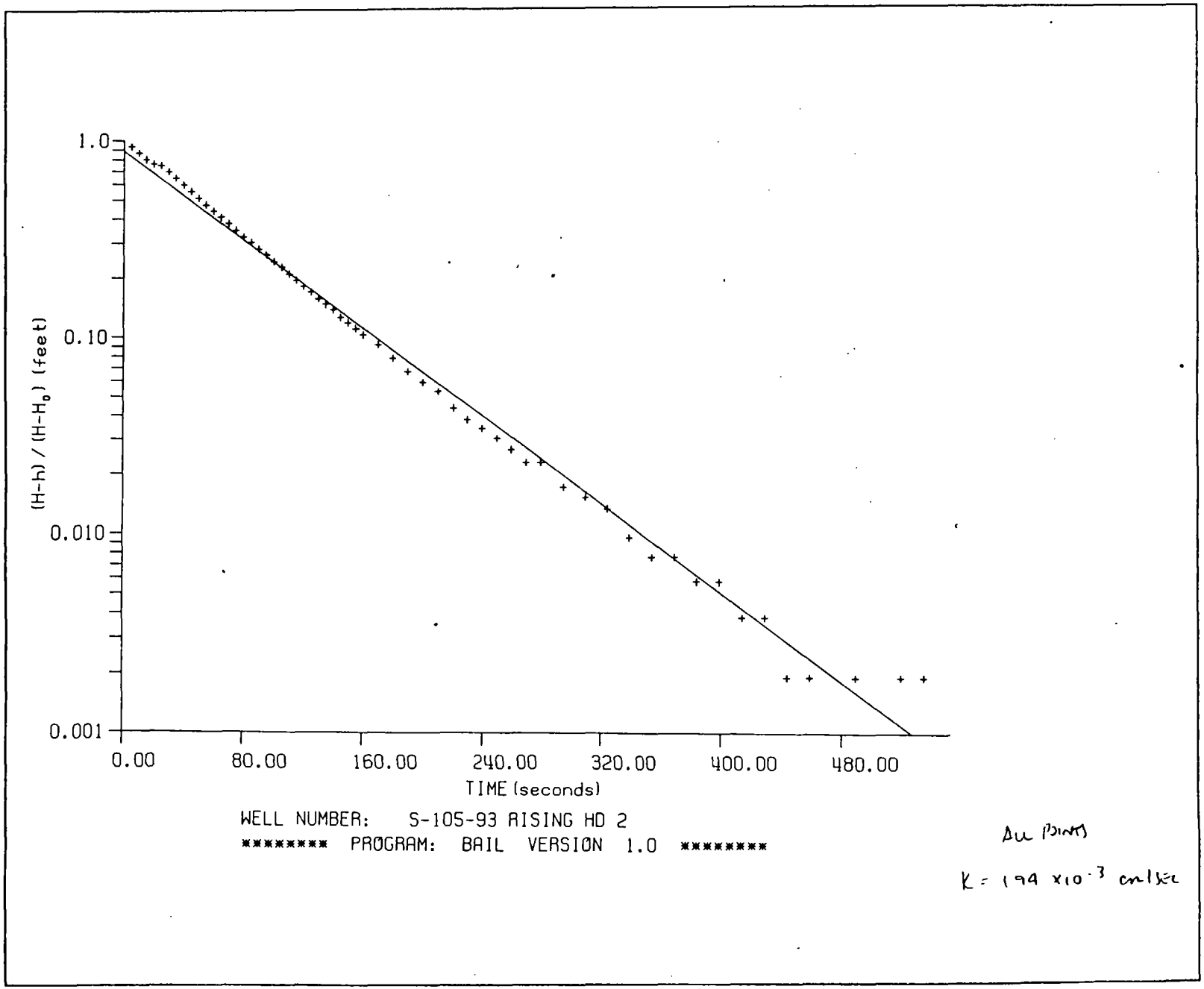

1.0
0.10
0.01
(H-h) / (H-H$_0$) (feet)
0.00
40.00
80.00
120.00
160.00
200.00
240.00
TIME (seconds)
WELL NUMBER: S-105-93 RISING HD 1
******** PROGRAM: BAIL VERSION 1.0 ********
(44.60 REQUIRED)
K = 2.18 x 10^{-3}

WELL S-105-93
RISING HEAD 2

" Terra8 Data Collection Report"

"Firmware Version 4.2/91"
"Number of Bytes in Data Dump 1572"
"User Supplied Comment S-105-93 "
"Time Header Block Loaded 1993/10/27 10:44:16.20 "
"Time Data File Dumped 1993/10/27 11:11:45.20 "
"Remaining Memory 63964"
"Number of Logs 145"
"Type of Data Memory Memory Board"
"Logs/Timestamp 1"
"Power was OK During Data Collection Period"

TIME (sec)	VALUE (feet)	TIME (sec)	VALUE (feet)
0	5.9194	160	5.7245
5	4.4973	170	5.7461
10	4.176	180	5.7714
15	4.3024	190	5.793
20	4.4179	200	5.8075
25	4.5225	210	5.8183
30	4.6164	220	5.8364
35	4.7102	229	5.8472
40	4.8005	239	5.8544
45	4.8835	249	5.8616
50	4.9593	259	5.8688
55	5.0315	269	5.8761
60	5.0928	279	5.8761
65	5.1506	294	5.8869
70	5.2047	309	5.8905
75	5.2589	324	5.8941
80	5.3094	339	5.9013
85	5.3455	354	5.9049
90	5.3888	369	5.9049
95	5.4213	384	5.9085
100	5.461	399	5.9085
105	5.4899	414	5.9122
110	5.5223	429	5.9122
115	5.5512	444	5.9158
120	5.5765	459	5.9158
125	5.5981	474	5.9194
130	5.6234	489	5.9158
135	5.6415	504	5.9194
140	5.6595	519	5.9158
145	5.6812	534	5.9158
150	5.6956		
155	5.71		



All points

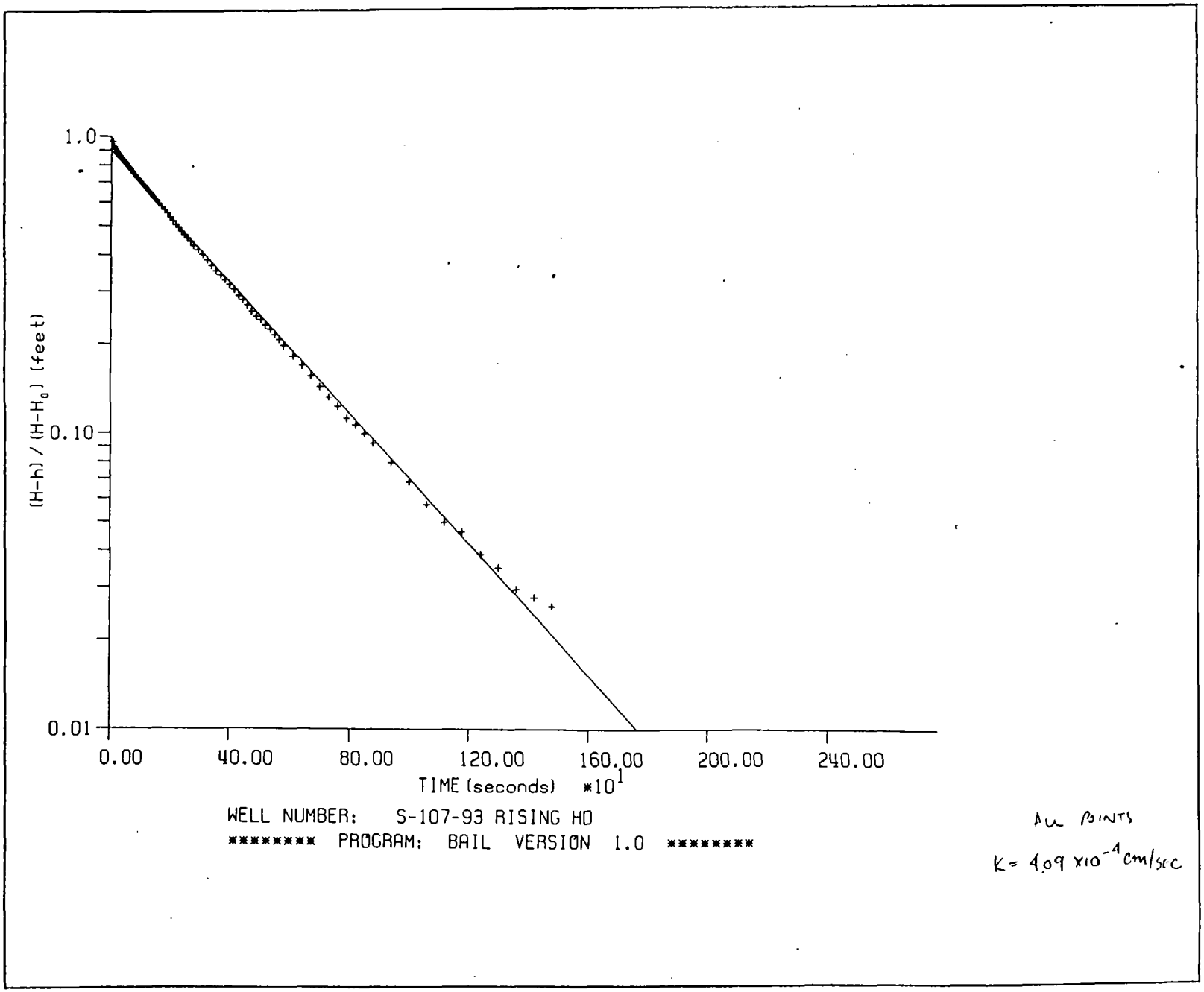
$K = 1.94 \times 10^{-3}$ cm/sec

WELL S-107-93
RISING HEAD

" Terra8 Data Collection Report"

"Number of Bytes in Data Dump 1012"
"User Supplied Comment s-107-93 "
"Time Header Block Loaded 1993/10/28 09:34:34.60 "
"Time Data File Dumped 1993/10/28 10:01:15.90 "
"Remaining Memory 64524"
"Number of Logs 89"
"Type of Data Memory Memory Board"
"Logs/Timestamp 1"
"Power was OK During Data Collection Period"

TIME (sec)	VALUE (feet)	TIME (sec)	VALUE (feet)	TIME (sec)	VALUE (feet)
0	5.7858	160	4.62	579	5.3996
5	3.909	170	4.6489	609	5.4285
10	3.9848	180	4.6778	639	5.4538
15	4.0172	190	4.7066	668	5.479
20	4.0533	200	4.7391	698	5.5043
25	4.0786	209	4.7644	728	5.526
30	4.1075	219	4.7969	758	5.544
35	4.1327	229	4.8185	788	5.5657
40	4.1616	239	4.8438	818	5.5765
45	4.176	249	4.8727	848	5.5909
50	4.2013	259	4.8943	878	5.6054
55	4.2266	269	4.916	938	5.6306
60	4.2446	279	4.9448	998	5.6523
65	4.2663	294	4.9737	1058	5.6739
70	4.2915	309	5.0026	1117	5.6884
75	4.3168	324	5.0351	1177	5.6956
80	4.3313	339	5.0676	1237	5.71
85	4.3565	354	5.0964	1297	5.7173
90	4.371	369	5.1181	1357	5.7281
95	4.3926	384	5.1434	1417	5.7317
100	4.4107	399	5.1686	1477	5.7353
105	4.4287	414	5.1903		
110	4.4468	429	5.2192		
115	4.4648	444	5.2372		
120	4.4865	459	5.2589		
125	4.5045	474	5.2841		
130	4.5189	489	5.3022		
135	4.537	504	5.3166		
140	4.555	519	5.3347		
145	4.5731	534	5.3491		
150	4.5875	549	5.3671		
155	4.602	564	5.3816		

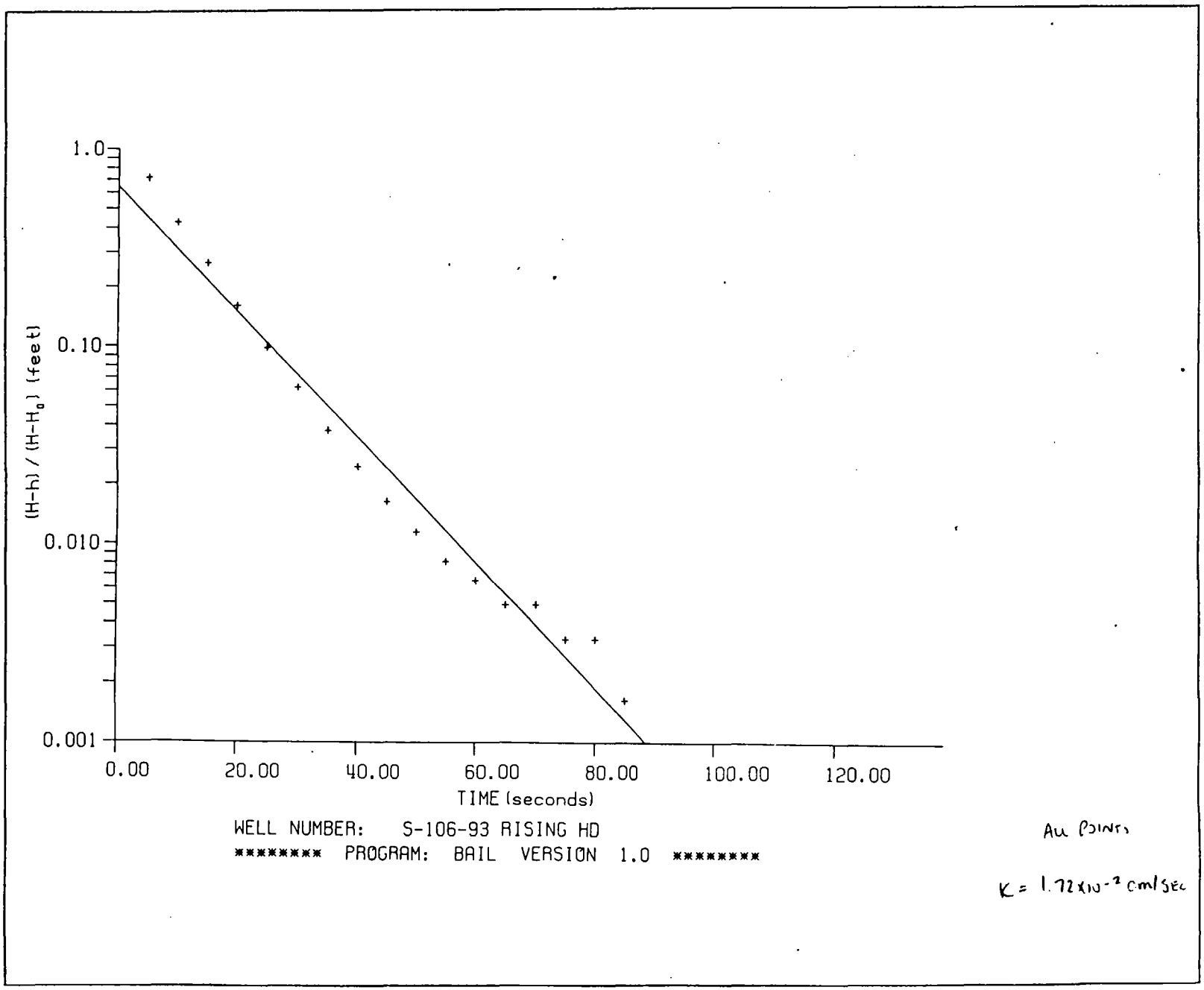

1.0
0.10
0.01
(H-h) / (H-H0) (feet)
0.00
40.00
80.00
120.00
160.00
200.00
240.00
TIME (seconds) *10^1
WELL NUMBER: S-107-93 RISING HD
******** PROGRAM: BAIL VERSION 1.0 ********
All POINTS
K= 4.09 x10^-4 cm/sec

WELL S-106-93
RISING HEAD

" Terra8 Data Collection Report"

"Firmware Version 4.2/91"
"Number of Bytes in Data Dump 822"
"User Supplied Comment s-106-93 "
"Time Header Block Loaded 1993/10/27 11:55:15.90 "
"Time Data File Dumped 1993/10/27 12:07:33.30 "
"Remaining Memory 64714"
"Number of Logs 70"
"Type of Data Memory Memory Board"
"Logs/Timestamp 1"
"Power was OK During Data Collection Period"

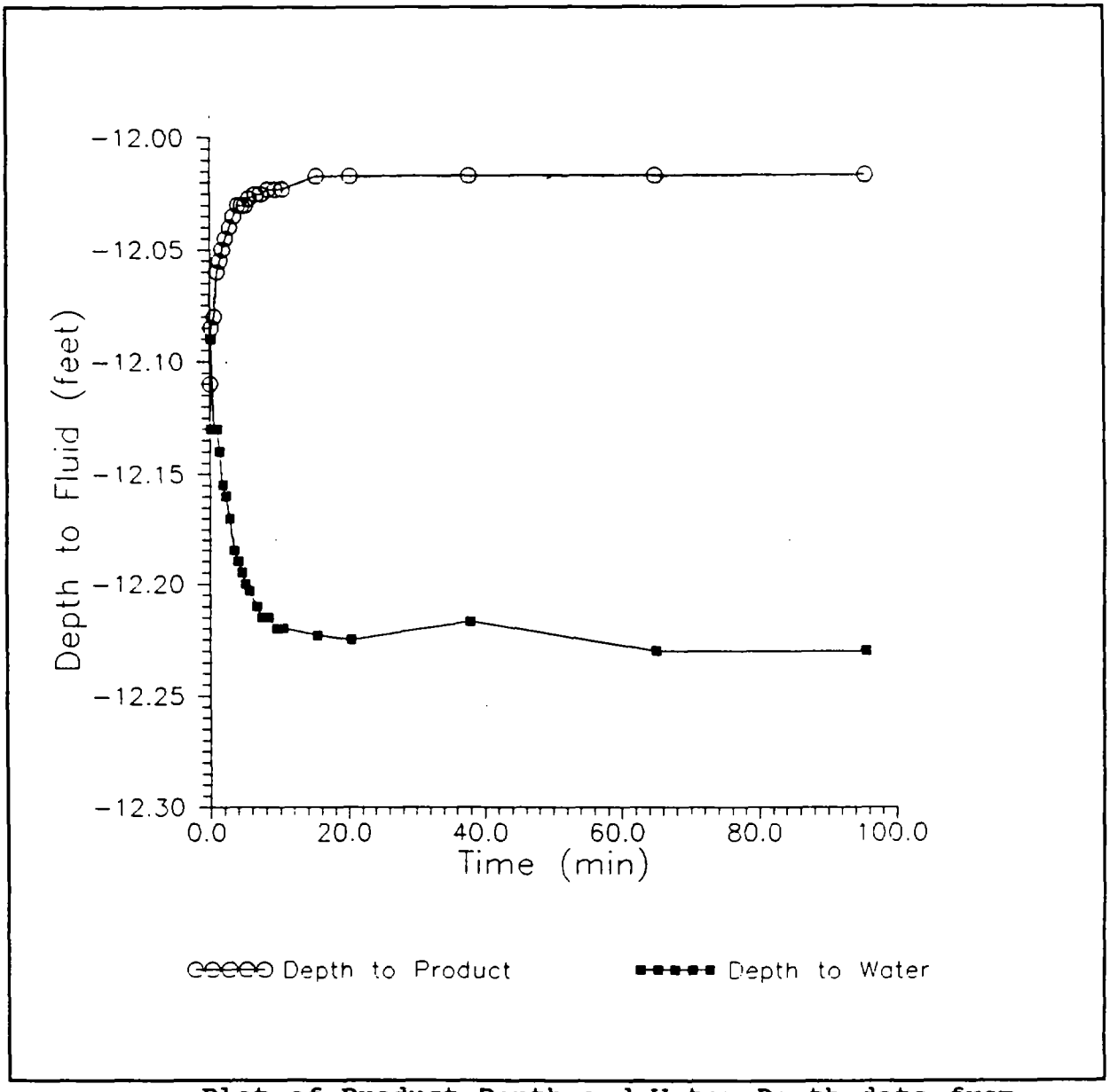
TIME (sec)	VALUE (feet)	TIME (sec)	VALUE (feet)
0	5.7209	165	5.7209
5	4.1508	175	5.7245
10	4.7788	185	5.7209
15	5.1398	195	5.7209
20	5.3671	205	5.7245
25	5.5043	214	5.7245
30	5.5837	224	5.7245
35	5.6378	234	5.7209
40	5.6667	244	5.7209
45	5.6848	254	5.7245
50	5.6956	264	5.7245
55	5.7028	274	5.7209
60	5.7064	289	5.7245
65	5.71	304	5.7245
70	5.71	319	5.7209
75	5.7136	334	5.7245
80	5.7136	349	5.7209
85	5.7173	364	5.7245
90	5.7173	379	5.7245
95	5.7173	394	5.7245
100	5.7136	409	5.7209
105	5.7173	424	5.7281
110	5.7173	439	5.7245
115	5.7209	454	5.7209
120	5.7173	469	5.7245
125	5.7173	484	5.7209
130	5.7173	499	5.7245
135	5.7173	514	5.7245
140	5.7173	529	5.7245
145	5.7173	544	5.7245
150	5.7173	559	5.7281
155	5.7209	574	5.7281


1.0
0.10
0.010
0.001
(H-h) / (H-H0) (feet)
0.00
20.00
40.00
60.00
80.00
100.00
120.00
TIME (seconds)
WELL NUMBER: S-106-93 RISING HD
******** PROGRAM: BAIL VERSION 1.0 ********
All Points
K = 1.72x10-2 cm/sec

USATHAMA

Water and Product Recovery Test From Well S-28-88.
Test conducted of 8 JULY, 1991.

Time	Time (min)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)
10:51:53	0.00		13.070	
10:51:59	0.10		13.020	
10:52:07	0.23		12.950	
10:52:11	0.30		12.920	
10:52:15	0.37		12.880	
10:52:21	0.47		12.770	
10:52:27	0.57		12.700	
10:52:35	0.70		12.650	
10:52:41	0.80		12.600	
10:52:47	0.90		12.550	
10:52:55	1.03		12.500	
10:53:05	1.20		12.450	
10:53:17	1.40		12.400	
10:53:31	1.63		12.350	
10:53:40	1.78		12.330	
10:53:47	1.90		12.310	
10:53:55	2.03		12.295	
10:54:04	2.18		12.280	
10:54:36	2.72		12.220	
10:54:45	2.87		12.210	
10:54:55	3.03		12.200	
10:55:03	3.17		12.190	
10:55:12	3.32		12.180	
10:55:33	3.67	12.160	12.150	-0.010
10:56:10	4.28	12.140	12.150	0.010
10:56:28	4.58	12.130	12.140	0.010
10:56:42	4.82	12.125	12.140	0.015
10:57:02	5.15	12.115	12.130	0.015
10:57:21	5.47	12.110	12.130	0.020
10:57:41	5.80	12.100	12.130	0.030
10:58:13	6.33	12.095	12.130	0.035
10:58:45	6.87	12.087	12.130	0.043
10:59:08	7.25	12.080	12.130	0.050
10:59:32	7.65	12.080	12.135	0.055
11:00:30	8.62	12.070	12.140	0.070
11:01:18	9.42	12.065	12.150	0.085
11:01:55	10.03	12.060	12.155	0.095
11:11:00	19.12	12.045	12.160	0.115
11:21:00	29.12	12.035	12.170	0.135
11:31:00	39.12	12.030	12.190	0.160
11:41:00	49.12	12.030	12.195	0.165
11:51:00	59.12	12.028	12.197	0.169
12:31:00	99.12	12.021	12.198	0.177
13:30:00	158.12	12.020	12.197	0.177

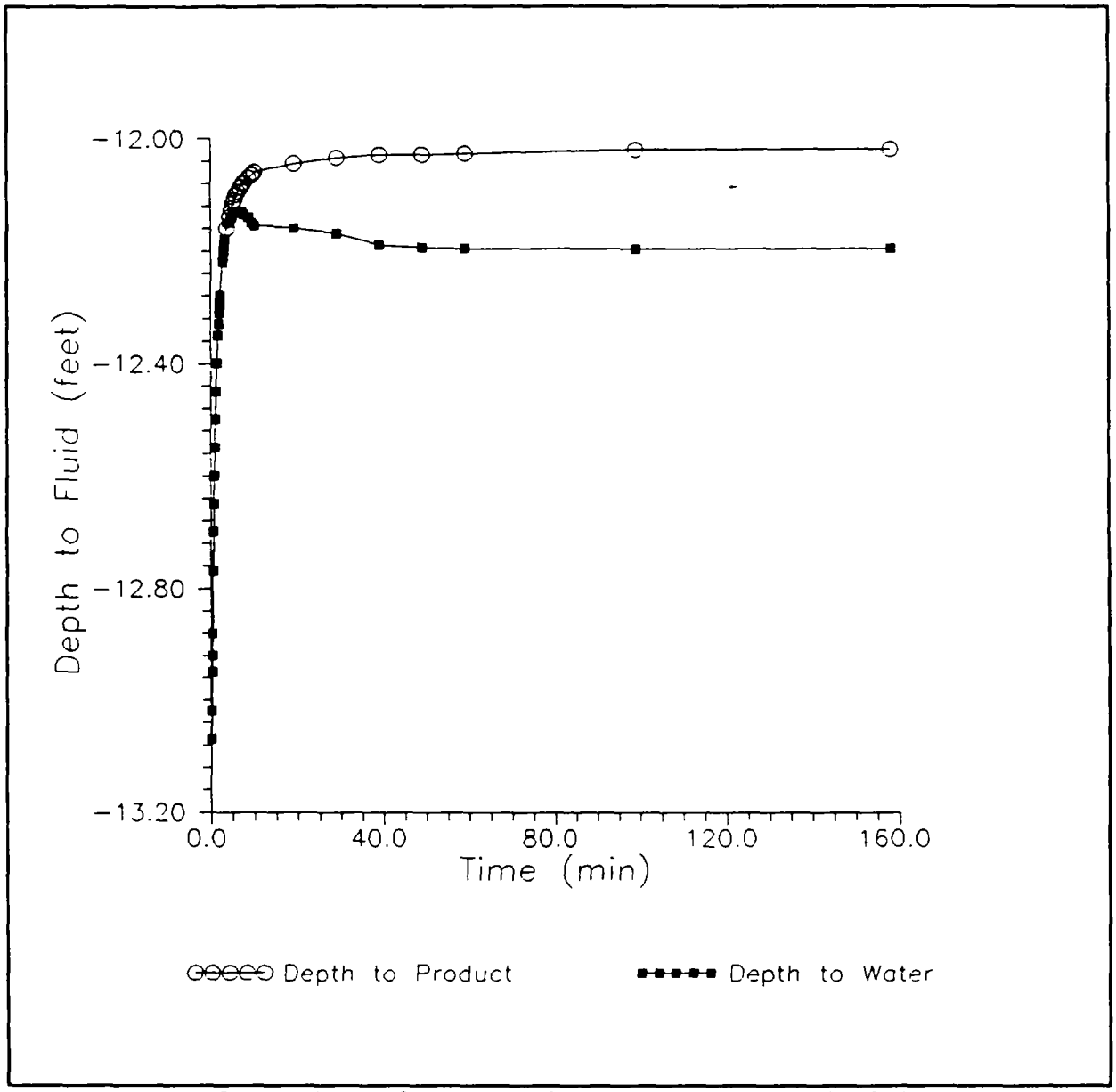


Plot of Product Depth and Water Depth data from Product Recovery Test from Well S-28-88, conducted on 8 July, 1991.

Free Product Recovery Test

A free product and water recovery test was performed on Well S-28-88 on July 8, 1991. The information that follows was collected during this test.

SWMU 13 Product Recovery Test Data



Plot of Product Depth and Water Depth data from Water and Product Recovery Test from Well S-28-88, conducted on 8 July, 1991.

SWMU 13 Water Quality Field Data Sheets

WATER QUALITY FIELD DATA SHEET

PROJECT: South Tooele Army Depot

SAMPLERS: J.L. Tripi, J.C. Brown

DATE: **TIME:**
START: 5/18/91 1340
FINISH: 5/18/91 1530

WELL ID: CAm-1

WELL INFORMATION

DEPTH TO WATER: 10.20 Ft.
WELL DEPTH: 22.67 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 2 In.
CASING VOL.: 2 Gal.

STICKUP: Flush Ft.
SCREENED INTERVAL:
5.6 TO 21.6 Ft.

FIELD EQUIPMENT

pH Meter Orion Serial No. 3744 Water Level Meter Solinst Serial No. 6-01747
E.C.Meter YSI-33 Serial No. 91B022210 D.O. Meter YSI-58 Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter _____ Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45 μ
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 1.5" in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond μ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
1405	0.36	.18	12	3100	6.74	1.6	
1415	2	1	12.5	5000	6.35	1.3	
1417	84	2	12	4500	6.81	1.4	
1421	6	3	13	6000	7.5	1.8	
1425	8	4	13	12000	7.0	1.0	
1429	10	5	13	7000	7.54	1.5	
1433	12	6	13	7000	7.27	1.2	
1445	BEGIN	SAMPLING					

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: SOUTH TOOELE ARMY DEPOT

SAMPLERS: V.L. TRIPI, J.C. BROWN

DATE: **TIME:**

START: 5/18/91 1040

FINISH: 5/18/91 1140

WELL ID: CAM-2

WELL INFORMATION

DEPTH TO WATER: 9.62 Ft.
WELL DEPTH: 18.95 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 2 In.
CASING VOL.: 1.52 Gal.

STICKUP: 2.08 Ft.
SCREENED INTERVAL:
5.5 TO 18.5 KP 12/23/91 Ft.

FIELD EQUIPMENT

pH Meter Orion Serial No. 3244 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI 33 Serial No. 91B0227470 D.O. Meter YSI 5A Serial No. 1215
Pump _____ Serial No. _____ Temperature Meter _____ Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45 u
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 2 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
1006	.36	.18	12.8	2800	7.30	1.5	PRODUCT ON WATER
1015	2.3	1	13	3100	7.32	1.4	
1020	4.6	2	13.5	4600	7.34	1.5	
1025	6.9	3	13.0	4200	7.15	1.3	
1028	9.2	4	13.5	4900	7.23	1.2	
1034	11.5	5	13.5	4900	7.21	1.2	
1139	BEGIN	SAMPLING.					

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1

CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South TEAD

SAMPLERS: U.L. TRIPI, J.C. Brown

DATE: **TIME:**

START: 6/21/91 1205

FINISH: 6/21/91 1340

WELL ID: S-1

WELL INFORMATION

DEPTH TO WATER: 6.77 Ft.
WELL DEPTH: 22.50 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4" In.
CASING VOL.: 10.4 Gal.

STICKUP: 1.5 Ft.
SCREENED INTERVAL:
10.3 TO 20.3 (12/23/9) Ft.

FIELD EQUIPMENT

pH Meter ORION Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI-33 Serial No. 91B027220 D.O. Meter YSI-5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI-33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45 μ
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond μ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
12:15	1	.1	12.9	1250	8.28	2.2	No free Product
12:20	10	1.0	10.9	1600	8.10	1.8	
12:24	20	2.0	10.4	2170	7.95	1.8	
12:29	30	3.0	11.0	2120	7.86	2.3	
12:33	40	4.0	10.9	2180	7.89	2.1	
12:37	50	5.0	10.9	2150	7.86	2.3	
12:50	Sampled						
1310	Begin Sampling						

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South Tooele Army Depot

SAMPLERS: U. L. Tripi, J. C. Brown

DATE: **TIME:**

START: 5/18/91 0830

FINISH: 5/18/91 1026

WELL ID: S-25-88

WELL INFORMATION

DEPTH TO WATER: 9.62 Ft.
WELL DEPTH: 18.95 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 6.16 Gal.

STICKUP: Flush Ft.
SCREENED INTERVAL:
9.5 TO 18.5 (12/23/92) Ft.

FIELD EQUIPMENT

pH Meter Orion Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI-33 Serial No. 91B027270 D.O. Meter YSI-57 Serial No. 1248
Pump _____ Serial No. _____ Temperature Meter _____ Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters _____
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
0900	1	.17	11	5000	7.19	1.9	
0907	6	1	11	5500	7.42	2.2	Bailed Dry @ 8 Gal
0921	12	2	11	6000	7.75	5.7	Bailed Dry
0932	15	2.5	11	6000	7.86	6.6	Bailed Dry
0942	18	3	11	6000	7.86	6.4	Bailed Dry
1002	Begin	Sampling					

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1

CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South Tooele Army Depot

SAMPLERS: V. L. Tripi, J. C. Brown

DATE: **TIME:**

START: 5/17/91 0830

FINISH: 5/17/91 0950

WELL ID: S-26-88

WELL INFORMATION

DEPTH TO WATER: 9.87 Ft.
WELL DEPTH: 19.65 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 6.6 Gal.

STICKUP: Flush Ft.
SCREENED INTERVAL:
9.4 TO 19.4 (KS 12/23/91) Ft.

FIELD EQUIPMENT

pH Meter Orion Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI-33 Serial No. 91B0 27370 D.O. Meter YSI 5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI-33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45 µ
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
0845	~~0.66~~	1.5	11.2	345	7.25	3.2	Product on water
0849	7	1	11.2	1220	7.83	2.5	
0854	14	2	11.2	1430	7.77	3.2	
0858	21	3	11.2	1500	7.73	3.5	
0904	28	4	11.5	1750	7.80	3.1	
0909	35	5	11.5	1850	7.84	3.5	
0913	42	6	11.5	1880	7.81	3.4	
0920	Begin Sampling						

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South Tooele Army Depot

SAMPLERS: V.L. Tripi, J.C. Brown

	DATE:	TIME:
START:	5/17/91	1030
FINISH:	5/17/91	1150

WELL ID: S-27-88

WELL INFORMATION

DEPTH TO WATER: 9.34 Ft.
WELL DEPTH: 20.30 Ft.
SAMPLE DEPTH: 17 Ft.

CASING DIA.: 4 In.
CASING VOL.: 7.3 Gal.

STICKUP: Flush Ft.
SCREENED INTERVAL:
10.1 TO 20.1 ~~15/23~~ Ft.

FIELD EQUIPMENT

pH Meter OAKTON Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI-33 Serial No. 91B027270 D.O. Meter YSI-5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter _____ Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45 u
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
1045	1	0.14	13.5°C	6500	6.5	1.5	PRODUCTION WATER
1055	8	1	13.0	9000	7.09	1.6	
~~1056~~ 1101	16	2	14.0	9500	6.95	1.6	
1107	24	3	13.5	19000	6.86	1.9	
1112	32	4	14.0	18000	6.83	4.3	
1121	40	5	14.5	15500	6.92	4.9	
1129	48	6	15.0	15500	7.05	5.2	
1130	BEGIN	SAMPLING					

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1

CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: TEAD South

SAMPLERS: Vince Tria, Denise Dunham

DATE: **TIME:**

START: 5-30-91 1045

FINISH: 5-30-91 1220

WELL ID: 13S-28-88

WELL INFORMATION

DEPTH TO WATER: 12.14 11.75 DD Ft.
WELL DEPTH: 20.45 Ft.
SAMPLE DEPTH: 27.5 Ft.

CASING DIA.: 4 In.
CASING VOL.: 5.49 Gal.

STICKUP: 1.68 Ft.
SCREENED INTERVAL: 7.5 TO 17.5 12/22/94 Ft.

11.75' to top of product

FIELD EQUIPMENT

3/4" sediment

pH Meter Orion Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI 33 Serial No. 91130272?0 D.O. Meter YSI 5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI 33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45 µ
Tubing _____ Size _____ in (x) _____ in Bailer _____ Size _____ in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
1053	1	.18	11.9	7900	7.41	.7	
1058	6	1	11.4	7900	7.46	1.2	
1102	12	2	11.3	7900	7.47	1.3	
1106	18	3	11.3	8000	7.48	.9	
1110	24	4	11.3	8100	7.49	1.2	
1114	30	5	11.3	8100	7.54	1.3	
1130	sampled						

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South Tooele Army Depot

SAMPLERS: Vince Tripi, Denise Dunham

DATE: **TIME:**

START: ~~1500 DD~~ 5-19-91 1500

FINISH: 5-19-91 1610

WELL ID: 135-29-88

WELL INFORMATION

DEPTH TO WATER: 9.56 Ft.
WELL DEPTH: 20.52 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 7.2 Gal.

STICKUP: 1.78 Ft.
SCREENED INTERVAL:
8.3 TO 18.3 ~~12/13/95~~ KP Ft.

FIELD EQUIPMENT

pH Meter Orion Serial No. 3744 Water Level Meter ORI Serial No. 6-01747
E.C.Meter YSI 33 Serial No. 91B027270 D.O. Meter YSI 5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter _____ Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45 u
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 4" in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
1504	1	.15	12.5	5500	8.06	2.6	0.0 on HNu
1506	7	1	11.5	7100	7.88	2.5	
1510	14	2	11.5	8900	7.72	2.7	
1515	21	3	~~19.0 DD~~ 12.5	10500	7.73	2.2	
1520	28	4	12.0	13000	7.68	2.4	
1524	.35	5	11.5	9800	7.77	2.8	
1528	42	6	11.0	9000	7.77	2.6	
1532	45	7	11.2	11000	7.76	3.1	
	Began	Sampling					

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: TEAD SOUTH

SAMPLERS: V.L. TRIPI, J.C. BROWN, D.D. DUNHAM

DATE: **TIME:**

START: 6/18/91 1000

FINISH: 6/18/91 1130

WELL ID: S-30-88

WELL INFORMATION

DEPTH TO WATER: 8.30 Ft.
WELL DEPTH: 20.15 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.

CASING VOL.: ~~6~~ 7.8 Gal.

STICKUP: 1.65 Ft.
SCREENED INTERVAL:
7.7 TO 17.7 Ft.

FIELD EQUIPMENT

pH Meter ORION Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI 33 Serial No. 91B07270 D.O. Meter YSI 54 Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter _____ Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters _____
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
1020	1		8.5	14,000	7.45	2.03	No Free
1030	8	1	11.0	15,000	7.35	2.14	Product
1035	16	2	11.0	15,000	7.55	2.59	
1038	24	3	11.0	16,000	7.33	2.55	
1041	32	4	11.0	15,000	7.40	2.09	
1045	40	5	11.0	15,000	7.39	2.11	
1055		SAMPLED		WELL			

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1

CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South Tooele Army Depot

SAMPLERS: U. Tripi, J. Brown

DATE: **TIME:**

START: 5/16/91 0845

FINISH: 5/16/91 1301

WELL ID: S-54-90

WELL INFORMATION

DEPTH TO WATER: 19.26 Ft.
WELL DEPTH: 30.32 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 7.31 Gal.

STICKUP: 1.9 Ft.
SCREENED INTERVAL:
17.5 TO 27.5 (10/14/91) Ft.

FIELD EQUIPMENT

pH Meter Orion Serial No. SA30-3744 Water Level Meter Solinst Serial No. 05291
E.C.Meter YSI-33 Serial No. 91B027070 D.O. Meter YSI-~~5A~~5-A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI-33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus Vacuum Filters 0.45 u
Tubing _____ Size _____ in (x) _____ in Bailer PVC-Dedicated Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
924	0.66	.09	11	21,000	7.44	7.3	
929	7.00	1	11	21,000	7.25	4.8	
0932	14.00	2	11	21,000	7.39	~~5~~ 4.9	BAILED DRY
0953	15.00	2.1	11.5	21,000	7.58	7.0	BAILED DRY
1085	16.00	2.2	11	21,000	7.60	6.8	BAILED DRY
1128	BEGIN	SAMPLING.					
1227	END	SAMPLING.					

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: SOUTH TOOELE ARMY DEPOT

SAMPLERS: V. L. TRIPI, J.C. BROWN

	DATE:	TIME:
START:	5/16/91	1430
FINISH:	5/16/91	1615

WELL ID: S-55-90

WELL INFORMATION

DEPTH TO WATER: 10.265 Ft.
WELL DEPTH: 20.75 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 6.6 Gal.

STICKUP: 1.7 Ft.
SCREENED INTERVAL:
8 TO 18 ~~15~~ 18 Ft.

FIELD EQUIPMENT

pH Meter OAKTON 5A Serial No. 3744 Water Level Meter SOLINST Serial No. 05251
E.C.Meter YSI-33 Serial No. 91B077270 D.O. Meter YSI-58 Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI 33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45 μ
Tubing _____ Size _____ in (x) _____ in Bailer ALL-DAY Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond μ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
1440	0.66	.1	15	35,000	7.38	7.7	NO HNU READING
1445	7	1	12.8	34,000	7.27	5.6	
1450	14	2	11.5	36,000	7.22	6.1	
1453	21	3	11.5	36,000	7.26	6.3	
1456	28	4	11.5	37,000	7.25	6.3	
1500	35	5	11.5	34,000	7.32	6.8	
1515	BEGIN	SAMPLING					

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1

CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: TEAD South

SAMPLERS: Vince Trigi, D.D. Metcalf

DATE: **TIME:**

START: 5-29-91 8:55

FINISH: 10:32

WELL ID: S-56-90

WELL INFORMATION

DEPTH TO WATER: 20.67 Ft.
WELL DEPTH: 50.91 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 20 Gal.

STICKUP: 1.71 Ft.
SCREENED INTERVAL:
39 TO 49 (KF 11/22/92) Ft.

FIELD EQUIPMENT

pH Meter Orion Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI 33 Serial No. 91B0a7270 D.O. Meter YSI 5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI 33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45 u
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
0855	1	0.05	11.5	32900	7.43	4.7	Clear
0906	20	1.0	11.8	33000	7.28	2.4	white Murky
0915	34	1.5					Purged Dry
0930	35	1.6	12.0	33,700	7.28	3.1	Gray, Murky
0940	46	2.0					Purged Dry
0955	47	2.25	12.4	34,100	7.14	3.5	Gray Murky
10:22	57	3.6	11.8	33,200	7.26	3.4	Gray Murky
10:24	58	3.8					Purged Dry
10:32							Sampled

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: TEAD SOUTH

SAMPLERS: V.L. TRIPI, J.C. BROWN, D.D. DUNHAM

	DATE:	TIME:
START:	6/18/91	845
FINISH:	6/18/9	0930

WELL ID: S-51-90

WELL INFORMATION

DEPTH TO WATER: 9.55 Ft.
WELL DEPTH: 19.80 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4" In.
CASING VOL.: 6.6 Gal.

STICKUP: 2.1 Ft.
SCREENED INTERVAL:
7 TO 17 ~~Ft~~ Ft.

FIELD EQUIPMENT

pH Meter ORION Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI 33 Serial No. 91B027270 D.O. Meter YSI-5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter _____ Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters _____
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
0830	1		10	20,000	7.47	9.1	NO FREE PRODUCT
0841	7	1	9	20,000	7.57	8.1	
0847	14	2	8.8	20,000	7.57	8.07	MILKY BUT
0850	21	3	9.0	20,000	7.57	8.40	CLEARS RAPIDLY
0853	28	4	9.0	20,000	7.57	8.69	
0859	35	5	9.0	20,000	7.58	8.81	
0905		Sample	Collected	@ 0905			

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South Tooele Army Depot

SAMPLERS: Vince Tripi, Denise Dunham

DATE: **TIME:**
START: 5-20-91 1055
FINISH: 5-20-91 1240

WELL ID: 135-58-90

WELL INFORMATION

DEPTH TO WATER: 6.55 Ft.
WELL DEPTH: 14.14 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 5 Gal.

STICKUP: 1.83 Ft.
SCREENED INTERVAL:
4 TO 14 ~~ft~~ KO 6/23/92 Ft.

7.6 ft of Saturation

FIELD EQUIPMENT

1/4" sediment beginning

pH Meter ORION Serial No. 3744 Water Level Meter ~~Solinst~~ ORS Serial No. 6-01747 ~~05297~~
E.C.Meter ysi 33 Serial No. 91B027270 D.O. Meter ysi 5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter ysi 33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45 u
Tubing _____ Size _____ in (x) _____ in Bailer pvc Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
1105	1	.2	10.0	11300	7.47	2.7	Ø Hue
1108	~~1/2~~ 5	1	9.8	11300	7.46	2.1	No free product
1111	10	2	9.5	11200	7.43	3.0	
1115	~~7.5~~ 15	3	10.0	11500	7.39	2.9	
1121	20	4	11.5	11600	7.34	2.1	
1125	~~12.5~~ 25	5	10.0	11600	7.37	2.3	
	Bail	Sampling					

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

SAMPLERS: Vince Tripi

DATE: **TIME:**
START: 5-21-91 0825
FINISH: 5-21-91

PROJECT: South Tooele Army Depot

WELL ID: 13-59-90

WELL INFORMATION

DEPTH TO WATER: 5.63 Ft.
WELL DEPTH: 16.36 Ft.
SAMPLE DEPTH: ______ Ft.

CASING DIA.: 4 In.
CASING VOL.: 7 Gal.

STICKUP: 1.86 Ft.
SCREENED INTERVAL: 5 TO 15 Ft.

FIELD EQUIPMENT

7 gal./vol — 35 gal. removal

pH Meter Orion Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI 33 Serial No. 91B022276 D.O. Meter YSI 5A Serial No. 1218
~~Pump~~ ~~Serial No.~~ Temperature Meter ______ Serial No. ______
~~Pumping Rate~~ ~~gal/min~~ ~~Filter Apparatus~~ Filters 0.45u
~~Tubing~~ ~~Size~~ ~~in(x)~~ in Bailer PVC Size 3" in.

ANALYSIS

Time	Volume Removed: Gals	Volume Removed: Csng Vols	Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
0836	1	.16	9.0	5200	7.61	2.5	
0841	7	1	9.0	5000	7.6	2.4	
0845	14	2	8.3	5000	7.61	3.4	getting some sand
0851	21	3	8.6	5000	7.66	5.9	slow well recharge
0903	28	4	10.0	5000	7.57	5.7	
0914	35	5	10.0	5000	7.62	6.2	
0936	started sampling						
							took a dup. of this well

ARE THERE ADDITIONAL PAGES YES ~~NO~~ (NO circled) TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: TEAD South

SAMPLERS: U.L. Tripi, J.C. Brown, D. Dunham

DATE: **TIME:**

START: 6/18/91 1230

FINISH: 6/18/91 1430

WELL ID: S-60-90

WELL INFORMATION

DEPTH TO WATER: 5.29 Ft.
WELL DEPTH: 19.80 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 9.7 Gal.

STICKUP: 1.75 Ft.
SCREENED INTERVAL:
7 TO 17 KO 11/22/91 Ft.

FIELD EQUIPMENT

pH Meter ORION Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI 33 Serial No. 91802770 D.O. Meter YSI 54A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter _____ Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters _____
Tubing _____ Size _____ in (x) _____ in Bailer 3 PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
~~1235~~	.7						
1235	TR 1	1	14.0	7000	7.75	3.42	
12:37	8.5 ~~10~~	1	10.	6000	7.76	7.04	Dry
1311	11	1	10.0	6000	7.71	6.57	BAILED DRY
1340	16	1.5	10.0	6000	7.71	6.88	BAILED DRY
~~1350~~							
1415		BEGIN	SAMPLING				

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South TEAD

SAMPLERS: J.C. Brown, U.L. Tripi

	DATE:	TIME:
START:	7/9/91	1420
FINISH:	7/9/91	1515

WELL ID: S-76-91

WELL INFORMATION

DEPTH TO WATER: 10.09 Ft.
WELL DEPTH: 23.34 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 8.7 Gal.

STICKUP: 2.0 Ft.
SCREENED INTERVAL: 8 TO 23 12/23/92 Ft.

FIELD EQUIPMENT

pH Meter ORION Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI-33 Serial No. 91B02270 D.O. Meter YSI-5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI-33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45u
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
1438	1		13.5	11,000	7.37	3.0	
1441	9	1	11.0	12,000	7.10	1.5	
1444	18	2	10.5	11,200	7.35	3.4	
1447	27	3	10.5	11,100	7.36	3.7	
1449	36	4	10.5	11,200	7.30	3.0	
1453	45	5	10.5	11,500	7.35	3.2	
sampled at			15:05				

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1

CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South TEAD

SAMPLERS: V. L. TRAPI
J. C. Brown

DATE: TIME:
START: 7/9/91 0910
FINISH: 7/9/91 1020

WELL ID: S-77-91

WELL INFORMATION

DEPTH TO WATER: 6.08 Ft.
WELL DEPTH: 20.41 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 9.5 Gal.

STICKUP: 1.85 Ft.
SCREENED INTERVAL:
8 TO 18 12/23/92 Ft.

FIELD EQUIPMENT

pH Meter ORION Serial No. 3744 Water Level Meter ORS Serial No. 601747
E.C.Meter YSI-33 Serial No. 91B027210 D.O. Meter YSI-5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI-33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45u
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
9:29	1		10.3	6000	7.43	1.0	No free product vr
9:31	10	1	9.8	2,580	8.03	1.03	
9:34	20	2	9.5	4,400	7.77	1.3	
9:38	30	3	9.6	4600	7.72	1.4	
9:42	40	4	9.9	3700	7.80	2.2	
9:46	50	5	9.9	3900	7.70	2.0	
		Sampled. 9:58					

ARE THERE ADDITIONAL PAGES YES NO TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South Tead

SAMPLERS: U. L. Tripi, J. C. Brown

DATE: **TIME:**

START: 6/19/91 1430

FINISH: 6/19/91

WELL ID: S-78-91

WELL INFORMATION

DEPTH TO WATER: 9.14 Ft.
WELL DEPTH: 24.90 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 10.6 Gal.

STICKUP: 1.8 Ft.
SCREENED INTERVAL:
7.1 TO 22.7 Ft. K 6/21/91

FIELD EQUIPMENT

pH Meter Orion Serial No. 3144 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI-33 Serial No. 91B0272 D.O. Meter YSI-5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI-33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45u
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
1510	1		15	19000	7.30	4.85	
1520	10	1	11.5	21000	7.19	2.17	
1526	20	2	11.0	21,000	7.30	2.78	
1536	30	3	11.0	21,000	7.28	2.38	
1545	40	4	12.0	20,000	7.21	2.17	
1553	50	5	11.5	18,200	7.30	2.33	
1604	Begin	Sampl	NL.				

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South TEAD

SAMPLERS: V.L. TRIPI, J.C. BROWN

DATE: **TIME:**

START: 7/9/91 0730

FINISH: 7/9/91 0905

WELL ID: S-79-91

WELL INFORMATION

DEPTH TO WATER: 5.79 Ft.
WELL DEPTH: 18.95 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 8.7 Gal.

STICKUP: 0.93 Ft.
SCREENED INTERVAL:
7 TO 17 (14.7/92) Ft.

FIELD EQUIPMENT

pH Meter ORION Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI-33 Serial No. 91B0270220 D.O. Meter YSI-5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI-33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45µ
Tubing _____ Size _____ in (x) _____ In Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
7:49	1		10.1	7,000	7.24	3.3	No fire product
7:52	9	1	10.2	7,000	7.31	3.6	
7:55	18	2	10.0	7,000	7.33	3.5	
7:58	27	3	9.9	7,000	7.33	3.4	
8:03	36	4	10.0	7,000	7.28	3.2	
8:08	45	5	10.0	7,000	7.38	4.5	
0920	BEGIN SAMPLING						

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South TEAD

SAMPLERS: U.C. TRIPI, J.C. BROWN

DATE: **TIME:**

START: 6/20/91 13:27

FINISH: 6/20/91 14:50

WELL ID: S-80-91

WELL INFORMATION

DEPTH TO WATER: 12.51 Ft.
WELL DEPTH: 25.41 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 8.5 Gal.

STICKUP: 1.82 Ft.
SCREENED INTERVAL:
7.65 TO 22.65 Ft (12.23 Ft)

FIELD EQUIPMENT

pH Meter ORION Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI-33 Serial No. 91B0227 D.O. Meter YSI-57 Serial No. 1218
Pump 1 Serial No. _____ Temperature Meter YSI-33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45u
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
1339	1		13.0	3100	7.63	6.46	
1343	9	1	11.2	2950	7.70	7.06	
1346	18	2	11.5	3200	7.64	5.59	
1350	27	3	11.5	~~3120~~ 3200	7.65	5.33	
1353	36	4	11.5	3200	7.66	5.32	
1400	45	5	11.5	3250	7.66	3.56	
1410	BEGIN	SAMPLING					

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1

CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South Tead

SAMPLERS: U.L. Tripi, J.C. Brown, D. Dunham

DATE: START: 6/20/91 FINISH: 6/20/91

TIME: 1000

WELL ID: 3-81-91

WELL INFORMATION

DEPTH TO WATER: 11.72 Ft.
WELL DEPTH: 25.28 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 8.9 Gal.

STICKUP: 1.55' Ft.
SCREENED INTERVAL: 7.65 TO 22.65 Ft.

FIELD EQUIPMENT

pH Meter ORION Serial No. 3744 Water Level Meter ORS Serial No. C-81747
E.C.Meter YSI-33 Serial No. 91B02720 D.O. Meter YSI-50 Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI-33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45u
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
1040	1		12.0	1500	8.15	2.27	No Free Product
1045	9	1	11.0	1500	8.15	1.75	
1048	18	2	11.0	1600	8.20	3.02	
1052	27	3	10.5	1700	8.22	2.56	
1055	36	4	11.0	1700	8.22	1.91	
1059	45	5	11.0	1700	8.22	2.12	
1110	BEGIN SAMPLING						

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET		PROJECT: 49702 CNES - TOOELE SOUTH
SAMPLERS: J.C. BROWN, D. DUNHAM	DATE: / TIME: START: 6/24/91 0840 FINISH: 6/24/91 0955	WELL ID: S-82-91

WELL INFORMATION

DEPTH TO WATER: 11.02 Ft.
WELL DEPTH: 25.62 Ft.
SAMPLE DEPTH: ______ Ft.

CASING DIA.: 4 In.
CASING VOL.: 10 Gal.

STICKUP: 1.69 Ft.
SCREENED INTERVAL: 13 TO 23 Ft.

~~90 gal/vol~~ 14.6 **FIELD EQUIPMENT**

pH Meter Orion Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI-33 Serial No. 91B021270 D.O. Meter YSI-54 Serial No. 1218
Pump ______ Serial No. ______ Temperature Meter YSI-33 Serial No. ______
Pumping Rate ______ gal/min Filter Apparatus ______ Filters 0.454
Tubing ______ Size ______ in (x) ______ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
0859	1	.1	14.0	13000	7.44	1.4	
0904	10	1	13.0	10000	7.52	2.4	
0909	20	2	13.0	12800	7.46	1.5	
0914	30	3	13.4	11000	7.57	2.3	
0918	40	4	13.0	11400	7.49	2.2	
0924	50	5	14.0	11900	7.60	1.5	
	BEGAN	SAMPLING					

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1

CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South TEAD

SAMPLERS: V.L. TRIPI, J.C. BROWN, D. DUNHAM

DATE: **TIME:**

START: 6/21/91 1330

FINISH: 6/21/91 1445

WELL ID: S-83-91

WELL INFORMATION

DEPTH TO WATER: 8.54 Ft.
WELL DEPTH: 25.43 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 11 Gal.

STICKUP: 1.3 Ft.
SCREENED INTERVAL:
13.5 TO 23.5 ~~14.89~~ 16.89 Ft.

FIELD EQUIPMENT

pH Meter ORION Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI-33 Serial No. 91B0227210 D.O. Meter YSI-5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI-33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45u
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
13:34	1	0.09	12.3	21000	8.10	2.3	No free product
13:39	11	1.0	12.0	23500	7.03	1.6	
13:43	22	2.0	11.9	24500	7.07	2.0	
13:47	33	3.0	12.0	24,400	6.94	3.2	
13:52	44	4.0	12.1	24,250	6.93	3.4	
13:57	55	5.0	12.4	24,550	6.95	1.7	
		sampled					

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South Texas

SAMPLERS: V. L. Trip, J. C. Brown

DATE: **TIME:**
START: 6/19/91 0830
FINISH: 6/19/91 1000

WELL ID: S-84-91

WELL INFORMATION

DEPTH TO WATER: 7.29' Ft.
WELL DEPTH: 28.15 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 7.2 Gal.

STICKUP: 1.6 Ft.
SCREENED INTERVAL:
5.35 TO 25.35 ~~MP~~ Ft

FIELD EQUIPMENT

pH Meter ORION Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI-33 Serial No. 91302270 D.O. Meter YSI 5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI 33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45 u
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
0840	1		11.5	12,000	7.16	2.38	
0845	7	1	11.0	12,000	7.35	3.86	
0849	14	2	11.0	12,000	7.34	3.17	
0853	21	3	11.0	12,000	7.36	4.15	
0904	28	4	11.0	12,000	7.36	5.25	
0917	35	5	11.0	12,000	7.36	6.03	
0930	Begin Sampling						

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1 CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: TEAD South

SAMPLERS: V.L. Tripi, J.C. Brown

DATE: **TIME:**

START: 6/18/91 1500

FINISH: 6/18/91 1700

WELL ID: 13-S-85-91

WELL INFORMATION

DEPTH TO WATER: 4.88 Ft.
WELL DEPTH: 24.02 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 12.8 Gal.

STICKUP: 2.01 Ft.
SCREENED INTERVAL:
6.65 TO 21.65 Ft.

FIELD EQUIPMENT

pH Meter ORION Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI-33 Serial No. 91B07200 D.O. Meter YSI 5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter _____ Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters _____
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
1505	1		11	5000	7.35	2.90	No Free Product
1515	12	1	10	5000	7.36	2.66	
1525	24	2	9	5000	7.45	2.93	
1537	36	3	9	5000	7.47	2.47	
1537	48	4	9	5000	7.46	2.19	
1540	60	5	9	5000	7.50	3.45	
1550	BEGIN WELL		SAMP	LING			

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1

CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South TEAD

SAMPLERS: J.C. Brown, U.L. Tripi

DATE: **TIME:**

START: 7/9/91 1630

FINISH: 7/9/91 1815

WELL ID: S-86-91

WELL INFORMATION

DEPTH TO WATER: 16.42 Ft.
WELL DEPTH: 18.68 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 1.5 Gal.

STICKUP: 2.1 Ft.
SCREENED INTERVAL:
11.65 TO 16.65 (KLD 12/23) Ft.

FIELD EQUIPMENT

pH Meter ORION Serial No. 3744 Water Level Meter ORS Serial No. 6-0747
E.C.Meter YSI-33 Serial No. 91B027270 D.O. Meter YSI-5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI-33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45u
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
1640	1	0.75	13.5	10,000	7.60	8.4	Bailed Dry
1700	1.75	1.25	12.5	10,000	7.63	8.4	Bailed Dry
1715	2.25	1.75	12.5	8500	7.73	8.3	Bailed Dry
1735	2.75	2.00	12.0	8500	7.75	8.3	Bailed Dry
1745		BEGIN	SAMPLING				

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1

CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South Tead

SAMPLERS: V. L. Trapp, J. L. Brown

DATE: **TIME:**

START: 6/20/91 0830

FINISH: 6/20/91 0950

WELL ID: S-87-91

WELL INFORMATION

DEPTH TO WATER: 11.47 Ft.
WELL DEPTH: 15.42 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4" In.
CASING VOL.: 2.64 Gal.

STICKUP: 0.0 Ft.
SCREENED INTERVAL:
7 TO 17 ~~12/13/91~~ Ft.

FIELD EQUIPMENT

pH Meter Orion Serial No. 3744 Water Level Meter ORS Serial No. 6-01747
E.C.Meter YSI-33 Serial No. 91B02270 D.O. Meter YSI-5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI-33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45u
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size ~~0.75~~ 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
	1						
0838	3	1	15	1580	7.25	3.32	
0842	6	2	14.8	1500	7.32	3.87	
0845	9	3	14.5	1500	7.35	4.05	
0848	12	4	14.5	1500	7.36	4.35	
0850	15	5	14.5	1500	7.35	4.04	
0900	Begin Sampling						

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1

CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South TEAD

SAMPLERS: V.L. TRIPI, J.C. BROWN

DATE: **TIME:**

START: 6/21/91 0915

FINISH: 6/21/91 1045

WELL ID: S-91-91

WELL INFORMATION

DEPTH TO WATER: 7.19 Ft.
WELL DEPTH: 25.85 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 12.3 Gal.

STICKUP: 1.45 Ft.
SCREENED INTERVAL:
3.7 TO 23.7 ~~Ft~~ M/23/Ft

FIELD EQUIPMENT

pH Meter ORION Serial No. 3744 Water Level Meter ORS Serial No. L-01747
E.C.Meter YSI-33 Serial No. 91B07270 D.O. Meter YSI-54A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI-33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45u
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 ~~0.45u~~ in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
0925	1		11.0	2300	8.43	1.2	
0928	12	1	10.0	10,000	7.44	2.0	
0933	24	2	10.5	13,200	7.22	5.6	
0937	36	3	10.2	13,800	7.23	4.5	
0945	48	4	10.5	10,000	7.38	3.8	
0951	60	5	10.5	11,000	7.36	4.6	
1005	BEGIN SAMPLING.						

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1

CNES FORM WTRQAL-291

WATER QUALITY FIELD DATA SHEET

PROJECT: South TEAD

SAMPLERS: V.L. TRIPI, J.C. Brown

DATE: START: 7/9/91 FINISH: 7/9/91

TIME: START: 1045 FINISH: 1150

WELL ID: S-92-91

WELL INFORMATION

DEPTH TO WATER: 13.11 Ft.
WELL DEPTH: 28.47 Ft.
SAMPLE DEPTH: _____ Ft.

CASING DIA.: 4 In.
CASING VOL.: 10L Gal.

STICKUP: 1.88 Ft.
SCREENED INTERVAL:
10.65 TO 25.65 Ft. KD 12/23

FIELD EQUIPMENT 50 gal

pH Meter ORION Serial No. 3744 Water Level Meter ORS Serial No. 26-01747
E.C.Meter YSI-33 Serial No. 91B027270 D.O. Meter YSI-5A Serial No. 1218
Pump _____ Serial No. _____ Temperature Meter YSI-33 Serial No. _____
Pumping Rate _____ gal/min Filter Apparatus _____ Filters 0.45 u
Tubing _____ Size _____ in (x) _____ in Bailer PVC Size 3 in.

ANALYSIS

Time	Volume Removed		Temp °C	Elec Cond µ mhos/cm	pH	D.O. mg/l	Safety Procedures/ Readings
	Gals	Csng Vols					
1110	1	0.1	13	6500	7.16	1.9	
1115	10	1	11.5	4400	7.40	1.8	
1119	20	2	11.0	4600	7.38	1.5	
1121	30	3	11.0	4400	7.37	2.6	
1125	40	4	11.0	4600	7.43	2.9	
1129	50	5	11.0	5000	7.44	3.0	

ARE THERE ADDITIONAL PAGES YES (NO) TOTAL PAGES = 1 CNES FORM WTRQAL-291

MONITORING WELL PURGE LOG

		Well Number: S-1
Installation date: 5·27·82	Development date:	Project Site: TEAD-S / TASK ORDER 0001
Contractor: EA Engineering		Project Number: 82468.030
Purge Start: (date) 8-30-93 (time)		Purge End: (date) 8 30 93 (time)
Purged By: J. Gillespie		

Depth Measurement Ref. Point *: TOC Well Csg. Hgt. Above Ground Level: 2' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 0.6 ppm / _____ Well Boring Diameter: _____

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI Model 3500 Water Level Meter: QED Sample Probe

Cond. Meter: _____ D.O. Meter: N/A

Temp. Meter: _____ Pump: N/A

Bailer: SS ☐ TEF ☐ PVC ☒ lgth. 3' dia. 3" Filter Type/Pore Size: N/A

Well Screen Interval: Top of Screen ~10' BGS Bottom of Screen ~20' BGS Length of Well Screen 10'

Original Depth to Water: 8.18

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: N/A / N/A

Bottom of Well Csg ~20' – Measured Well Depth _____ = Sediment Thickness _____

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	____ ft	X { (	____ ft²)	– 0.7 [(	____ ft²)	– (	____ ft²)] }	=	72 gal

Actual Purge Volume: 75 gal

Was purge equipment decontaminated? Y / N

Was purge water containerized? Y / N Average Purge Rate: ±1 gal/min Recharge Rate: ~1 gpm

Weather Conditions: Sunny, warm, windy Temperature: 85 (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1331	0	1-2	8.18	8-20'	12.1	8.22	1.85	N/A	Start purging w/ bailer
1345	14	18	|	|	11.1	7.88	3.00	|	
1357	26	30	|	|	11.5	7.96	2.84	|	
1405	34	45	|	|	11.0	7.82	3.25	|	
1412	41	55	|	|	10.9	7.86	2.98	|	
1416	45	62	|	|	10.9	7.84	3.02	|	
1420	49	70	|	|	10.8	7.88	3.06	|	
1424	53	75	↓*	|	10.9	7.85	3.10	—	End Purging.

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

* fairly consistant throughout purging by bailer - actual values not recorded.

MONITORING WELL PURGE LOG

		Well Number: S-CAM-1
Installation date: 7 10 86	Development date: 7.15.86	Project Site: TEAD-S, Task Order 0001
Contractor: EA Engineering		Project Number: 82468.030
Purge Start: (date) 9.13.93 (time) 16:40		Purge End: (date) 9.13.93 (time) 18:05
Purged By: Joey Gillespie, Holly Hodson		

Depth Measurement Ref. Point *: TOC Well Csg. Hgt. Above Ground Level: flush mounted Well Csg. ID: 2"

Well Headspace: Ionizable VOCs / Odor: 18 ppm / yes (gasoline diesel fuel) Well Boring Diameter: ~~8"~~ 6"

Field Monitoring Equipment (Make, Model, Serial #, etc.): U1A-A-2562-42

pH Meter YSI 3500 Water Level Meter (w/ Interface Probe, mmc International

Cond. Meter D.O. Meter N/A

Temp. Meter Pump Peristaltic Cole & Palmer

Bailer SS / TEF / PVC (X) lgth. 3' dia. 3" Filter Type/Pore Size Metals - 0.45µ pore size QED In line

Well Screen Interval: Top of Screen 5.6 BGS Bottom of Screen 21.6 Length of Well Screen 16'

Original Depth to Water: 11' (10'3" to top of product)

LNAPL Check (Y) / N DNAPL Check Y / (N) LNAPL / DNAPL Thickness: 10'3" / 11"

Bottom of Well Csg 21.6' − Measured Well Depth = Sediment Thickness

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
____	X	7.48 gal/ft³	X	____ ft	X { (	____ ft²) − 0.7 [(	____ ft²) − (	____ ft²)] }	=	68	gal	

Actual Purge Volume: 70 - 75 gal

Was purge equipment decontaminated? Y / (N) Rope thrown out, Bailer Dedicated.

Was purge water containerized? Y / N Average Purge Rate: 1 - 1.5 gpm Recharge Rate: same gpm

Weather Conditions: Cool, Windy, Sunny Temperature: 45 - 60 (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O., Conc. mg/L	Comments
1700	0	10	11'	11 - 21'	15.2	6.21	11.4		Most of free product gone
1709	9	20			15.0	6.65	8.1		
1720	20	25			15.0	7.00	7.8		
1735	35	38			15.3	7.08	8.2		
1745	45	50-55			15.1	7.13	7.9		Changed Barrel
1755	55	62			15.1	7.19	7.3		
1805	65	68-70	↓	↓	15.0	7.17	7.8		Stopped Purging.
									Ready to Sample.

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

		Well Number: S-CAM-2
Installation date: 7.14.86	Development date: 7.15.86	Project Site: TEAD-5 Task Order 0004
Contractor: EA Engineering		Project Number: 82468.030
Purge Start: (date) 9.13.93 (time) 1405		Purge End: (date) 9.13.93 (time)
Purged By: Joey Gillespie, Hobby Hodson.		

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: ~2' Well Csg. ID: 2"

Well Headspace: Ionizable VOCs / Odor: 14.8 ppm / Yes Well Boring Diameter: 8"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter YSI Model 3500 #1 Water Level Meter QED Sample Pro

Cond. Meter Cole/Palmer Peristaltic D.O. Meter N/A

Temp. Meter Pump (H&H) ~~N/A~~ Cole/Palmer Peristaltic

Bailer SS / TEF / PVC (X) lgth. ~1 dia. 2" Filter Type/Pore Size ~~N/A~~ metals: 0.45 micron In Line QED

Well Screen Interval: Top of Screen 5.5' BGS Bottom of Screen 23.5' BGS Length of Well Screen 18'

Original Depth to Water: 12'9.5"

LNAPL Check (Y) / N DNAPL Check Y / (N) LNAPL / DNAPL Thickness: 12'3.5" / 12'9.5"

Bottom of Well Csg 23.5' BGS – Measured Well Depth _____ = Sediment Thickness _____

Purge Volume Calculation:

BOREHOLE VOLUMES	CONVRSN FACTOR	WTR COL HEIGHT	BOREHOLE AREA	BOREHOLE AREA	CASING O.D. AREA	TOTAL PURGE VOLUME
_____	X 7.48 gal/ft³ X	_____ ft X { (_____ ft²) – 0.7 [(_____ ft²) – (_____ ft²)] }				= 76 gal

Actual Purge Volume: _____ gal Calc. On Reverse

Was purge equipment decontaminated? Y / (N) Rope thrownaway, Bailer Dedicated

Was purge water containerized? (Y) N Average Purge Rate: +/- gpm Recharge Rate: ~1 gpm

Weather Conditions: Sunny, Cool, Windy Temperature: 45-60 (°F)

Actual Time	Elapsed Time min	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump / Bailer Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1420	0	~1	12'9.5"	12-23	16.3	6.45	4.4	N/A	Start Purging
1430	10	18			15.2	6.94	6.1		
1439	19	25			14.4	6.26	6.5		
1446	~~36~~	36			14.4	7.00	7.2		
1500	~~40~~ 30	50			14.8	7.02	7.0		
1510	~~54~~ 40	60			14.8	6.91	6.4		
9	~~59~~ 44	70			14.9	7.08	6.1		
1527	67	75-80		—	14.9	7.01	6.0	—	Finished Purging, Ready to Sample!

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

3-22-88 (HSH)

Installation date: ~~3-18-88~~	Development date: 4.11.88
Contractor: Weston	
Purge Start (date) 9.14.93 (time) 0953	
Purged By: Joey Gillespie, Holly Hodson.	

Well Number: 5-25-88

Project Site: TEAD-5 Task Order 0001

Project Number: 82468.030

Purge End: (date) 9.14.93 (time) 1455

Depth Measurement Ref. Point *: TOC Well Csg. Hgt. Above Ground Level: flush. Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: N/A ppm / — Well Boring Diameter: 10"

Field Monitoring Equipment (Make, Model, Serial #, etc.): U1-A-2562-42

pH Meter: YSI 3500 Water Level Meter: MMC Int'l. 100' Interface Probe

Cond. Meter: D.O. Meter:

Temp. Meter: Pump: Penstaltic Cole/Palmer

Bailer: SS ☐ TEF ☐ PVC ☒ lgth. 3' dia. 3" Filter Type/Pore Size: QED In Line 0.45 micron Filter - Metal

Well Screen Interval: Top of Screen 9.5 BGS Bottom of Screen 19.5 BGS Length of Well Screen 10'

Original Depth to Water: 9.96' TOC

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: ____ / ____

Bottom of Well Csg 19.5 – Measured Well Depth ____ = Sediment Thickness ____

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
____	X	7.48 gal/ft³	X	____ ft	X { (____ ft²) – 0.7 [(____ ft²) – (____ ft²)] }							= ~~66.5~~ (HSH) 66.7 gal

Actual Purge Volume: 55-60 gal

Was purge equipment decontaminated? (Y) / N dedicated bailer

Was purge water containerized? (Y) / N Average Purge Rate: ____ gpm Recharge Rate: ____ gpm

Weather Conditions: 50° F Partly Cloudy Breezy Temperature: 58°F (°F)

Actual Time	Elapsed Time Min.	Vol. Purged (gal)	Depth to Water (feet)	Depth of ~~Pump~~ Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
0953	0	1gal	9.6	9.5-18.5	12.7	7.56	9.01		
1009	16	2gal	19.	"	13.8	7.76	9.01		Bailed Dry (1)
1025	32	10	9.96	"	13.4	7.69	8.96		
1040	47	18	18.4	"	13.5	7.91	8.99		Bailed Dry (Twice) (2,3)
1310	197	35	9.98	"	14.3	8.05	8.95		
1340	227	36-40	18.1	"	14.0	7.99	9.01		Bailed Dry (4)
1425	272	45-50	18.54	"	13.9	8.16	9.19		Bailed Dry (5+)
1455	302	55-60	10.9	"	~~14.3~~ (HSH) 14.3	7.90	9.12		

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

Well Number: S-26-88	
Installation date: 3.23.88 / Development date: 4.11.88	Project Site: TEAD-5 Task Order 0001
Contractor: Weston	Project Number: 82468.030
Purge Start: (date) 9.9.93 (time) 14:55	Purge End: (date) 9.9.93 (time) 1537
Purged By: Joey.Gillespie, Holly Hodson.	

Depth Measurement Ref. Point *: TOC (Flush) Well Csg. Hgt. Above Ground Level: 0 Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 20 ppm / yes Well Boring Diameter: 8.25"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 — Water Level Meter: mmc International U/I-A-2562-42 100' Interface Probe (B-2056)

Cond. Meter: — D.O. Meter: —

Temp. Meter: — Pump: Cole-Palmer Peristaltic Pump

Bailer: SS / TEF / PVC (PVC) lgth. 3' dia. 3" — Filter Type/Pore Size: Metals: .45 poresize QED In-line.

Well Screen Interval: Top of Screen 9.4 Bottom of Screen 19.4 Length of Well Screen 10'

Original Depth to Water: 9'10"

LNAPL Check (Y) / N DNAPL Check Y / (N) (LNAPL) / DNAPL Thickness: 9'7 3/4" / 9'10"

Bottom of Well Csg 19.4 – Measured Well Depth ____ = Sediment Thickness ____

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
____	X	7.48 gal/ft³	X	____ ft	X { (	____ ft²) – 0.7 [(	____ ft²) –	(	____ ft²)] }	=	66.5 gal

Actual Purge Volume: ~70 gal

Was purge equipment decontaminated? (Y) / N Dedicated Bailer

Was purge water containerized? (Y) / N Average Purge Rate: ~1.5-2 gpm Recharge Rate: estimated. about same gpm

Weather Conditions: Sunny Warm Temperature: ~90° (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
									* Free product on top.
1455	0	0	10-15	10-15				N/A	1455 Started Purging
1505	10	~18			15.7	6.73	4.08		First Sample Pulled
1515	20	30			15.3	6.85	4.30		* Free product not recharging quickly into well after 18 gal. purged.
1520	25	36			15.0	7.04	4.36		
1523	28	50			14.8	7.04	4.43		
1526	31	66			14.9	7.04	4.40		
1535	40	70			14.9	7.03	4.42		End Purging; Ready to Sample

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

↑ not taken because of free product present in H_2O.

MONITORING WELL PURGE LOG

		Well Number: S-27-88
Installation date: 3·22·88	Development date: 4·11·88	Project Site: TEAD-S, Task Order 0001
Contractor: Weston		Project Number: 82468.030
Purge Start: (date) 9·13·93 (time) 11:15		Purge End: (date) 9·13·93 (time) 12·30
Purged By: Joey Gillespie, Holly Hudson		

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: flush mounted Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: N/A ppm / _____ Well Boring Diameter: _____

Field Monitoring Equipment (Make, Model, Serial #, etc.): cracked top of casing.

pH Meter	YSI 3500	Water Level Meter	GEO Sample Pro
Cond. Meter		D.O. Meter	—
Temp. Meter		Pump	—
Bailer SS ☐ TEF ☐ PVC ☒	lgth. 3' dia. 3"	Filter Type/Pore Size	—

Well Screen Interval: Top of Screen 10.10' Bottom of Screen 20.10' Length of Well Screen 10'

Original Depth to Water: 9'4"

LNAPL Check (Y) / N DNAPL Check Y / (N) LNAPL / DNAPL Thickness: None / None

Bottom of Well Csg 20.10' – Measured Well Depth _____ = Sediment Thickness ~~?~~ (AM)

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
_____	X	7.48 gal/ft³	X	_____ ft	X	{ (_____ ft²)	– 0.7 [(_____ ft²)	–	(_____ ft²)] }	=	~70	gal

Actual Purge Volume: ~70 gal

Was purge equipment decontaminated? Y / (N) Dedicated Bailer

Was purge water containerized? (Y) / N Average Purge Rate: / gpm Recharge Rate: Slow gpm

Weather Conditions: Sunny, Cool, Windy Temperature: 45-60° (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. (µmhos/cm)	D.O. Conc. mg/L	Comments
11:22	0	0	9.4"	9-20'	16.3	6.58	14.59	N/A	Start Purging. Product Mixed in with H_2O.
11:30	8	15			16.7	6.75	13.59		
11:36 (ASH)	14	25			15.6	6.88	21.7		
11:43	20	30			16.1	6.85	20.7		
11:53	30	40			16.3	6.96	20.9		
12:02	39	55			16.1	6.97	21.2		
12	49	65	10'4"		16.1	7.01	21.4		End Purging. Ready to Sample

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

Δ in ATC here.

MONITORING WELL PURGE LOG

Installation date: 2-31-88	Development date:	Well Number: S-28-93
Contractor: Walton		Project Site: TEAD-S TASK order 0001
		Project Number: 82468.030
Purge Start: (date) 9-9-93	(time) 1505	Purge End: (date) 9-9-93 (time) 1525
Purged By: RUST E&I Paul Habitz & Cyrus Cardner		

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: 1.68 Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 56.5 ppm / slight hydrocarbon odor Well Boring Diameter: 8"
Backgnd = 2.7

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3560 90K02107 Water Level Meter: QED Sample Pro

Cond. Meter: " D.O. Meter:

Temp. Meter: " Pump: Cole-Palmer Peristaltic Pump to filter ~~Reel Flow~~

Bailer SS [ ] TEF [ ] PVC [X] lgth. 3' dia. 3" (ID) Filter Type/Pore Size: 0.45 Micron In-line QED filter

Well Screen Interval: Top of Screen 7.5 Bottom of Screen 17.5 Length of Well Screen 10

Original Depth to Water: 12.63

LNAPL Check (Y) / N DNAPL Check Y / (N) LNAPL / DNAPL Thickness: — / —

Bottom of Well Csg ______ − Measured Well Depth 17.5 = Sediment Thickness ______

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	___ ft	X	{ (___ ft²)	− 0.7	[(___ ft²)	−	(___ ft²)] }	=	30 gal

See back

= 1 Bore Vol

Actual Purge Volume: 150 gal (3 drums) 150 gal = 5 Bor Vol

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: ______ gpm Recharge Rate: ______ gpm

Weather Conditions: Sunny Temperature: 70° (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments

Not recorded due to free product in water

* All Depths in Feet Below Reference Point on Wellhead — Generally Top of Casing (TOC)

Not recorded due to free product in water
LNAPL

MONITORING WELL PURGE LOG

		Well Number:	S-29-88
Installation date: 4.1.88	Development date: 5.6.88	Project Site:	TEAD-S
Contractor: Weston		Project Number:	T.O. 0001
Purge Start: (date) 9/3/93	(time) 0950	Purge End: (date) 9/3/93	(time) 0937
Purged By: K. Pill			

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: ~2.3' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: Bkg ppm / None Well Boring Diameter: 8.00"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 REI UNIT #1 Water Level Meter: QED Sample Pro

Cond. Meter: D.O. Meter: N/A

Temp. Meter: Pump: Grundfos A.9243.5035

Bailer SS ☐ TEF ☐ PVC ☐ lgth. N/A dia. Filter Type/Pore Size: Metals - QED Inline / 0.45 micron Cole & Palmer

Well Screen Interval: Top of Screen 8.30' Bottom of Screen 18.30' Length of Well Screen 10'

Original Depth to Water: 10.15

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: ____ / ____

Bottom of Well Csg 18.30 – Measured Well Depth 20.21 TOC = Sediment Thickness ____

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	____ ft	X { (	____ ft²) – 0.7 [(	____ ft²) – (	____ ft²)] }	=	79.6	gal	

Actual Purge Volume: ~80 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: ~3 gpm Recharge Rate: ~3 gpm

Weather Conditions: CLEAR Temperature: ~70° (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
0910	0	~1	11.44	~19	12.7	7.35	19700	NA	START PUMP
0915	5	~15	11.69	"	13.4	7.34	12200	"	
0920	10	~30	11.74	"	13.8	7.30	12890	"	
0925	15	~45	11.77	"	14.0	7.34	12820	"	
0930	20	~60	11.83	"	14.0	7.39	13060	"	
0935	25	~75	11.85	"	14.1	7.35	13120	"	
0937	27	~80	11.85	"	14.4	7.39	13090	"	PUMP OFF, TURB = 2.65

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

		Well Number:	S-30-88
Installation date: 4.7.88	Development date: 5.7.88	Project Site:	TEAD-S
Contractor: Weston		Project Number:	T.O. 0001
Purge Start: (date) 8/30/93	(time) 1720	Purge End: (date) 8/30/93	(time) ~~1758~~ 1759
Purged By: K. Pill			

Depth Measurement Ref. Point *: TOC Well Csg. Hgt. Above Ground Level: ~2.3 Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: BKd ppm / None Well Boring Diameter: 8"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 Water Level Meter: QED Sample Pro

Cond. Meter: D.O. Meter: N/A

Temp. Meter: Pump: Grundfos Pump A.9243.5085

Bailer SS / TEF / PVC lgth. N/A dia. Filter Type/Pore Size: Metals - In Line / 0.45 micron, Cole-Palmer Peristaltic Pump

Well Screen Interval: Top of Screen 7.7' Bottom of Screen 17.7' Length of Well Screen 10'

Original Depth to Water: 9.49

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: NA / NA

Bottom of Well Csg 17.7' – Measured Well Depth 20.01 = Sediment Thickness

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X	{ (ft²) – 0.7 [(ft²) – (ft²)] }	=	81.2	gal			

Actual Purge Volume: ~80 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: ~3 gpm Recharge Rate: ~3 gpm

Weather Conditions: CLEAR Temperature: 85 (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1731	0	~1	10.28	~19	19.2	6.99	19800	NA	START TO PUMPING
1736	5	~15	10.46	"	13.9	7.06	19100	"	
1742	11	~25	10.51	"	13.4	7.05	19500	"	
1745	14	~35	–	"	13.7	7.04	19200	"	
1751	20	~50	10.55	"	13.3	7.05	19500		
1759	28	~80	10.58	"	13.5	7.01	19400	"	PUMP OFF TURB = 5.9

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

Well Number: S-5-1-93	
Installation date: 6.16.95 / Development date:	Project Site: TEAD-S Task order 0001
Contractor: ~~SEC Donohue~~ EBASCO (HSI)	Project Number: 82468.030
Purge Start: (date) 9-9-93 (9-10-93) 0847 (time) ~~1500~~ (1617)	Purge End: (date) 9.9.93 (time) 1615
Purged By: RUST E&I Paul Hubickey & Cyrus Gardner	

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: 1.9 Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 1.5 ppm / none Well Boring Diameter: 8"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter YSI 3500 Water Level Meter QED Sample Pro

Cond. Meter — D.O. Meter N/A

Temp. Meter — Pump Grundfos A 9243.5035

Bailer SS / TEF / PVC lgth. N/A dia. — Filter Type/Pore Size metals - 0.45micron pore size QED In-line

Well Screen Interval: Top of Screen 17.50' Bottom of Screen 27.50' Length of Well Screen 10'

Original Depth to Water: 17.60

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: — / —

Bottom of Well Csg 29.00' – Measured Well Depth 30.50 = Sediment Thickness —

Purge Volume Calculation: see back

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	— ft	X { (— ft²) – 0.7 [(— ft²) – (— ft²)] }							= 80 gal

Actual Purge Volume: 51 gal Pumped dry.

Was purge equipment decontaminated? (Y) / N 5 min/gal. slow - v. poor producer

Was purge water containerized? (Y) / N Average Purge Rate: — gpm Recharge Rate: — gpm

Weather Conditions: Sunny Temperature: — (°F)

Actual Time	min Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1517	17	10		29	17.9	6.97	24.3	—	1500 Started Purging. Turbidity 2.75 NTU
1557	57	20			15.0	6.86	25.5	—	2.45
0852	1072	35			11.5	7.19	25.6	—	31.5
0857	1077	51							Pumped dry after approx 10 gal.

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

9-9-93 1600 Pumped dry ≈ 24 gallons

9-10-93 0857 Pumped dry ≈ 10 gallons

MONITORING WELL PURGE LOG

		Well Number: S-55-90
Installation date: 6-16-90	Development date:	Project Site: TEAD-S, Task Order [illegible]
Contractor: EBASCO		Project Number: 82468.030
Purge Start: (date) 9/8/93 (time) 14:03		Purge End: (date) 9/8/93 (time) 14:31
Purged By: Joey Gillespie, Holly Hodson		

Depth Measurement Ref. Point *: TOC Well Csg. Hgt. Above Ground Level: N2.3' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 4.7 (Bkg) ppm / _____ Well Boring Diameter: 8"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 Water Level Meter: QED Sample Pro

Cond. Meter: _____ D.O. Meter: N/A

Temp. Meter: _____ Pump: N/A

Bailer: SS ☐ TEF ☐ PVC ☐ lgth. 9' dia. 3" Filter Type/Pore Size: N/A

Well Screen Interval: Top of Screen 8.0' BGS Bottom of Screen 18.0' BGS Length of Well Screen 10'

Original Depth to Water: 9.68'

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: — / —

Bottom of Well Csg 18' − Measured Well Depth _____ = Sediment Thickness _____

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
_____	X	7.48 gal/ft³	X	_____ ft	X { (	_____ ft²) − 0.7 [(	_____ ft²) − (	_____ ft²)] }	=			_____ gal

Actual Purge Volume: 55 gal

Was purge equipment decontaminated? Y (N) Dedicated Bailer

Was purge water containerized? (Y) / N Average Purge Rate: N2 gpm Recharge Rate: same gpm

Weather Conditions: Sunny, Warm Temperature: 85+ (°F)

Actual Time	Elapsed Time (min.)	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	100 Atc Elect. Cond. (µmhos/cm)	D.O. Conc. (mg/L)	Comments
1405	0	0	9.68	N/A	14.3	4.17	29.5	N/A	Started Purging.
1411	6	15	10.4		12.7	7.23	31.1		
1414	9	18	10.46		12.7	7.21	30.9		
1418	13	25	10.76		12.8	7.21	30.8		
1421	16	34	10.92		12.8	7.28	31.0		
1424	19	38	10.76		12.9	7.25	30.9		
1427	22	45	11.00		12.7	6.88	30.8		
1431	26	55+	10.90'	—	13.0	6.82	28.7	—	Finished Purging.

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

	Well Number: [illegible]
Installation date: 6-20-95 / Development date:	Project Site: [illegible] Task order 0001
Contractor: EBASCO	Project Number: [illegible]
Purge Start (date) [illegible] (time) 1056	Purge End: (date) 9-10-15 (time) 1552
Purged By: RUST E&I Paul Hubinsky & Cyrus Gardner	

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: 2.3' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: .3 ppm / none Well Boring Diameter: 8"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter YSI 3500 Water Level Meter QED Sample Pro

Cond. Meter D.O. Meter N/A

Temp. Meter Pump Grundfos A.9243.5035

Bailer SS ☐ TEF ☐ PVC ☐ lgth. N/A dia. Filter Type/Pore Size QED Inline 0.45 micron pore size filter

Well Screen Interval: Top of Screen 39' Bottom of Screen 49.0' Length of Well Screen 10'

Original Depth to Water: 23.26

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: — / —

Bottom of Well Csg ______ – Measured Well Depth 51.0 = Sediment Thickness ______

Purge Volume Calculation:

BOREHOLE VOLUMES 5 X CONVRSN FACTOR 7.48 gal/ft³ X WTR COL HEIGHT ____ ft X { (BOREHOLE AREA ____ ft²) – 0.7 [(BOREHOLE AREA ____ ft²) – (CASING O.D. AREA ____ ft²)] } = TOTAL PURGE VOLUME 190 gal

See back

Actual Purge Volume: 165-170 gal

Was purge equipment decontaminated? (Y) / N 12-15 gal/30 min.

Was purge water containerized? (Y) / N Average Purge Rate: ______ gpm Recharge Rate: ______ gpm

Weather Conditions: Sunny slight breeze from S Temperature: ______ (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments Turbidity
1117	0	30		50	14.9	6.76	34.9	–	>200
1146	29	55			14.4	6.90	35.1	–	103.2
1252	35	82			15.0	6.97	35.6	–	20.3
1349	28	110			14.5	6.94	36.3	–	~~15~~ 12.64
1455	162	139			14.3	7.00	36.6	–	21.6
1552	221	165			13.4	6.94	37.5	–	15.75

* All Depths in Feet Below Reference Point on Wellhead — Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

		Well Number: S-57-90
Installation date: 6.28.90	Development date:	Project Site: TEAD-3
Contractor: EBASCO		Project Number: T.O. 0001
Purge Start: (date) 8/22/93 (time) 1651		Purge End: (date) 8/22/93 (time) 1743
Purged By: K. Pine		

Depth Measurement Ref. Point *: TOC Well Csg. Hgt. Above Ground Level: ~2.3' Well Csg. ID: 4.0"

Well Headspace: Ionizable VOCs / Odor: Bkd ppm / None Well Boring Diameter: 8.0"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 Water Level Meter: QED Sample Pro

Cond. Meter: | D.O. Meter: N/A

Temp. Meter: | Pump: Grundfos Pump A.9243.5035

Bailer: SS / TEF / PVC lgth. N/A dia. Filter Type/Pore Size: Metals - QED In Line / 0.45 micron

Cole+Palmer - Peristaltic Pump

Well Screen Interval: Top of Screen 7.0' BGS Bottom of Screen 17.0' BGS Length of Well Screen 10'

Original Depth to Water: 10.60

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: NA / NA

Bottom of Well Csg 17.0' – Measured Well Depth 19.80 = Sediment Thickness

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X	{ (ft²)	– 0.7 [(ft²)	–	(ft²)] }	=		gal

Actual Purge Volume: ~55 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: ~1.5 gpm Recharge Rate: gpm

Weather Conditions: CLEAR Temperature: ~90 (°F)

Actual Time	Elapsed Time (MM)	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1652	1	1	–	~19	28.6	6.89	695	–	START PURGING
1702	11	~15	–	"	13.0	7.05	1475	–	
1710	19	~20	–	"	12.1	7.13	7050	–	
1715	24	~30	18.89	"	11.6	7.22	7160	–	
1725	34	~35	–	"	12.0	7.25	8070	–	
1731	40	~45	–	"	11.8	7.28	7140	–	
1743	52	~55	–	"	12.2	7.32	8800	–	NTU - 27.5 END PURGING

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

		Well Number: S-58-90
Installation date: 6-03-90	Development date:	Project Site: TEAD-5, TASK ORDER 0001
Contractor: EBASCO		Project Number: 82468.030
Purge Start: (date) 8-25-93 (time) 1455		Purge End: (date) 8-25-93 (time) 1513
Purged By: JOEY GILLESPIE, Holly Hodson		

Depth Measurement Ref. Point *: TOC Well Csg. Hgt. Above Ground Level: 2.3' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 0.0 ppm / — Well Boring Diameter: 8"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 Water Level Meter: GED Sample Probe

Cond. Meter: — D.O. Meter: —

Temp. Meter: — Pump: Grundfos Pump A.9243.5035

Bailer: SS ☐ TEF ☐ PVC ☐ lgth. — dia. — Filter Type/Pore Size: —

Well Screen Interval: Top of Screen 4.0 BGS Bottom of Screen 14.0 BGS Length of Well Screen 10'

Original Depth to Water: 7.92 14.14 Total Depth

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: — / —

Bottom of Well Csg _____ − Measured Well Depth _____ = Sediment Thickness _____

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	___ ft	X { (___ ft²) − 0.7 [(___ ft²) − (___ ft²)] }							= 51.8 gal

Actual Purge Volume: 52 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: 3 gpm Recharge Rate: same gpm

Weather Conditions: Sunny, hot, no wind Temperature: 90 (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1455	0	2	8.64	14'	17.8	5.58	15.37	N/A	
1500	5	18	9.20		15.0	5.59	16.00		
1505	10	22	9.08		14.1	5.41	16.53		
1507	12	27	9.07		14.0	4.93	16.38		
1508	13	36	9.15		14.2	4.80	16.76		3gpm. bad odor
1511	16	45	9.10		13.8	4.73	16.24		
1513	18	52	8.18	✓	14.2	4.82	16.01	—	↓

* All Depths in Feet Below Reference Point on Wellhead — Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

Installation date: 6·06·98	Development date: ~~13.40~~ (HSH)
Well Number: S-59-90	
Project Site: TEAD-S Task Order 0001	
Contractor: EBASCO	Project Number: 82468.030
Purge Start: (date) 8·25·93 (time) 12:25	Purge End: (date) 8·25·93 (time) 13:40
Purged By: Joey Gillespie	

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: 2.31' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 0.0 ppm / — Well Boring Diameter: 8"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 Water Level Meter: QED Sample Probe

Cond. Meter: | D.O. Meter: —

Temp. Meter: — Pump: —

Bailer SS ☐ TEF ☐ PVC ☒ lgth. 3' dia. 3" Filter Type/Pore Size: — METALS - 0.45 micron pore size QED Inline w/Peristaltic Pump Cole-Palme

Well Screen Interval: Top of Screen 5.0'BGS Bottom of Screen 15.0'BGS Length of Well Screen 10'

Original Depth to Water: 7.24

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: — / —

Bottom of Well Csg 15.0'BGS – Measured Well Depth _____ = Sediment Thickness _____

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X	{ (ft²)	– 0.7 [(ft²)	– (ft²)] }	=	59	gal	

Actual Purge Volume: 60 gal

Was purge equipment decontaminated? Y / (N) Dedicated Bailer was RINSED w/ DI H_2O

Was purge water containerized? (Y) / N Average Purge Rate: 1 gpm Recharge Rate: ~~<1 less than 1~~ gpm (HSH 8259)

Weather Conditions: Sunny, DRY Temperature: 90 (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1255	30	18	15.9	~17'	14.5	6.65	7.47	N/A	Start bailing 12:25
1300	55	30	17.5	|	13.2	7.38	7.55	|	
1305	60	35	14.56	|	13.7	7.~~38~~ 34	7.48	|	
1310	70	36	12.46	|	14.2	7.10	7.44	|	
1315	75	45	16.5	|	13.5	7.17	7.58	|	
1320	80	48	14.88	|	13.2	5.76	7.46	|	
1325	85	53	16.49	|	13.9	5.69	7.58	|	
1340	90	60	7.56	—	13.9	6.03	7.61	—	End bailing

.25 art

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

Well Number: S-60-90

Installation date: 6·13·98 | Development date: | Project Site: TEAD-S Task Order 0001

Contractor: ~~USA Tetra Tech~~ EBASCO | Project Number: 82468.030

Purge Start (date) 8·24·93 (time) 1040 | Purge End: (date) 8·24·93 (time) 1708

Purged By: Ken Pill, Joey Gillespie, Holly Hodson

Depth Measurement Ref. Point *: TOC | Well Csg. Hgt. Above Ground Level: 2.3' | Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: — ppm / — | Well Boring Diameter: 8"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 | Water Level Meter: QED Sample Probe

Cond. Meter: | D.O. Meter: N/A | Pump: Grundfos Pump / Marschalk Bladder Pump 5900

Temp. Meter: | Pump:

Bailer: SS / TEF / PVC | lgth. NA | dia. N/A | Filter Type/Pore Size: N/A

Well Screen Interval: Top of Screen 7.0' BGS | Bottom of Screen 17.0' BGS | Length of Well Screen 10.0'

Original Depth to Water: 6.71

LNAPL Check Y / (N) | DNAPL Check Y / (N) | LNAPL / DNAPL Thickness: — / —

Bottom of Well Csg 17.0' BGS. – Measured Well Depth _____ = Sediment Thickness _____

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
_____	X	7.48 gal/ft³	X	_____ ft	X { (	_____ ft²) – 0.7 [(	_____ ft²) – (	_____ ft²)] }	=	13.6 gal		

Actual Purge Volume: 62 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N | Average Purge Rate: Varied gpm | Recharge Rate: _____ gpm

Weather Conditions: Sunny, Windy | Temperature: 90° (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1132	0	0	6.71	19	—	—	—	—	Started Pumping
1135	3	8	10.12		15.5	7.34	7.36		Bladder Pump
1215	43	15	8.38		15.5	7.35	7.47		
1335	113	27	10.50		18.1	7.37	7.62		
1430	168	35	15.56		16.7	7.5	7.77		Grundfos Pump
549	247	45	12.48		16.0	7.62	7.87		
1700	318	58	12.01		14.0	7.57	7.63		
1705	323	62	16.74	⊥	15.7	7.39	7.89	⊥	End Pumping.

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

		Well Number: S-76-91
Installation date: 6·18·91	Development date:	Project Site: TEAD - S
Contractor: SEC Donahue		Project Number: T.O. 0001
Purge Start: (date) 9/2/93 (time) 1410		Purge End: (date) 9/2/93 (time) 1456
Purged By: K. Piw		

Depth Measurement Ref. Point *: TOC Well Csg. Hgt. Above Ground Level: ~2.3' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 0.8 (0.0 Bkd) ppm / None Well Boring Diameter: 9.6"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 REI #1 Water Level Meter: QED Sample Pro

Cond. Meter: | D.O. Meter: N/A

Temp. Meter: | Pump: Grundfos Pump A.9243.5035

Bailer SS / TEF / PVC: lgth. N/A dia. Filter Type/Pore Size: Metals - In-line QED / 0.45 Micron Cole + Palmer

Well Screen Interval: Top of Screen 8.0 BGS Bottom of Screen 23.0 BGS Length of Well Screen 15'

Original Depth to Water: 10.31

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: NA / NA

Bottom of Well Csg 23.0' − Measured Well Depth 25.42 = Sediment Thickness

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X { (	ft²)	− 0.7 [(	ft²)	− (	ft²)] }	=	119 gal

Actual Purge Volume: ~125 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: ~3 gpm Recharge Rate: ~3 gpm

Weather Conditions: CLEAR Temperature: ~85 (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1414	0	~1	11.28	~24	23.7	7.40	3960	NA	START PUMP
1424	10	~25	11.74	"	12.3	7.09	16330	"	
1431	17	~50	11.78	"	13.4	7.07	16040	"	
1436	22	~65	11.79	"	13.0	7.05	16130	"	
1442	28	~80	11.80	"	12.6	7.08	16150	"	
1448	34	~100	11.80	"	12.2	7.05	16390	"	
1451	37	~110	11.85	"	11.9	7.07	16460	"	
1455	41	~125	11.87	"	12.0	7.07	16330	"	PUMP OFF, TURB = 1.18

* All Depths in Feet Below Reference Point on Wellhead — Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

	Well Number: S-77-91
Installation date: 6-23-91 / Development date:	Project Site: TEAD-S
Contractor: SEC DONAHUE	Project Number: TASK ORDER 0001
Purge Start: (date) 8-22-93 (time) 10:40	Purge End: (date) 8-22-93 (time) 14:05
Purged By: JOEY GILLESPIE, HALY HODSON	

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: 2' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: N/A ppm / None Well Boring Diameter: ~~8"~~ 9.625" (HSA 8-22)

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter YSI 3500 Water Level Meter QED Sample Probe

Cond. Meter " D.O. Meter N/A

Temp. Meter " Pump Marschalk Bladder Pump

Bailer SS ☐ TEF ☐ PVC ☐ lgth. N/A dia. N/A Filter Type/Pore Size N/A

Well Screen Interval: Top of Screen 8.0' BGS Bottom of Screen 18.0' BGS Length of Well Screen 10'

Original Depth to Water: 6.87

LNAPL Check Y (N) DNAPL Check Y (N) LNAPL / DNAPL Thickness: N/A / N/A

Bottom of Well Csg 18.0' BGS – Measured Well Depth _____ = Sediment Thickness _____

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X { (	ft²) – 0.7 [(	ft²) – (	ft²)] }	=	86.6	gal	

Actual Purge Volume: 88 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: 0.5 gpm Recharge Rate: Same gpm

Weather Conditions: Sunny, Dry Temperature: 90 (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	X 1000 Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1040	0	0	6.87	16'				N/A	Start Purging
1042	2	N/A	7.08	"	11.7	7.17	14.25	"	
1101	21	10	7.02	"	11.9	7.19	12.55	"	12 min gas stop here.
1200	68	30	6.98	"	12.25	~~12.25~~ 1.23	12.75	"	
1245	113	48	7.12	"	11.7	7.24	12.55	"	
1350	178	80	7.12	"	11.9	7.29	12.75	"	
1405	193	88	7.08	"	10.9	7.28	12.67	"	End Pursing

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

		Well Number: S-78-91
Installation date: 5.29.91	Development date:	Project Site: 7610-S
Contractor: SEC Donahue		Project Number: T.O. 0001
Purge Start: (date) 9/2/93 (time) 1545		Purge End: (date) 9/2/93 (time) 1637
Purged By: K. Dill		

Depth Measurement Ref. Point *: TOC Well Csg. Hgt. Above Ground Level: ~2.3' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 1.1 ppm / None Well Boring Diameter: 9.6"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 REI #1 Water Level Meter: QED Sample Pro

Cond. Meter: | D.O. Meter: N/A

Temp. Meter: | Pump: Grundfos Pump A.9243.5035

Bailer SS / TEF / PVC: | lgth. | dia. Filter Type/Pore Size: QED in Line / 0.45 micron.

Cole+Palmer Peristaltic

Well Screen Interval: Top of Screen 7.7 BGS Bottom of Screen 22.7 BGS Length of Well Screen 15

Original Depth to Water: 10.07

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: /

Bottom of Well Csg 22.7 – Measured Well Depth 24.86 = Sediment Thickness

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X	{ (ft²) – 0.7 [(ft²) – (ft²)] }	=	114	gal			

Actual Purge Volume: ~125 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: ~3 gpm Recharge Rate: ~3 gpm

Weather Conditions: CLEAR, WINDY Temperature: ~85 (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1555	0	~1	–	~23	14.7	6.91	24300	NA	START PUMP
1605	10	~30	11.07	"	14.0	7.13	21900	"	
1610	15	~45	11.08	"	13.4	7.07	21900	"	
1615	20	~60	11.10	"	13.7	7.13	22000	"	
1620	25	~75	11.06	"	13.7	7.09	21800	"	
1625	30	~90	11.06	"	13.4	7.05	22000	"	
1630	35	~105	–	"	13.8	7.06	21800	"	
1637	42	~120	11.14	"	13.8	7.07	21700	"	PUMP OFF, TVD = 1.03

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

		Well Number: KP ~~S-57-90~~ S-79-91
Installation date: 6.17.91	Development date:	Project Site: TEAD-S
Contractor: SEC Donahue		Project Number: T.O. 0001
Purge Start: (date) 8/23/93 (time) 1545		Purge End: (date) 8/23/93 (time) 1642
Purged By: K. Pill		

Depth Measurement Ref. Point *: TOC Well Csg. Hgt. Above Ground Level: ~2.3' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: Background ppm / None Well Boring Diameter: 9.625"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter YSI 3500 REI #1 Water Level Meter QED Sample Pro

Cond. Meter — D.O. Meter N/A

Temp. Meter — Pump Grundfos Pump A.9243.5035

Bailer SS ☐ TEF ☐ PVC ☐ lgth. N/A dia. — Filter Type/Pore Size Metals In Line / 0.45 micron

Peristaltic Pump - Cole+Palmer.

Well Screen Interval: Top of Screen 7.0' BGS Bottom of Screen 17.0' BGS Length of Well Screen 10'

Original Depth to Water: 7.10

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: NA / NA

Bottom of Well Csg NA – Measured Well Depth ~~NA~~ 18.90 (KP) = Sediment Thickness NA

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X { (	ft²) – 0.7 [(	ft²) – (	ft²)] }	=	100	gal	

Actual Purge Volume: ~100 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: ~1.5 gpm Recharge Rate: — gpm

Weather Conditions: CLEAR Temperature: ~90 (°F)

Actual Time	Elapsed Time (Min)	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1557	3	0	-	~17	21.8	5.97	12590	—	START PURGING
1600	6	~10	8.12	"	14.7	6.73	12480	—	
1609	15	~30	8.17	"	13.7	7.01	12370	—	
1613	19	~35	-	"	14.1	7.05	12250	—	
1620	26	~50	—	"	14.0	7.00	12270	—	
1631	37	~70	8.35	"	13.7	7.11	12280	—	NTU = 2.4
1641	47	~100	-	"	13.9	7.04	12210	—	END PURGING, READY TO SAMPLE

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

		Well Number:	S-80-91
Installation date: 5·28·91	Development date:	Project Site:	TEAD-S
Contractor: SEC Donahue		Project Number:	T.O. 0001
Purge Start: (date) 9/1/93	(time) 1035	Purge End: (date) 9/1/93	(time) 1137
Purged By: K. Pine			

Depth Measurement Ref. Point *: TOC Well Csg. Hgt. Above Ground Level: ~2.3' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: Bkd ppm / None Well Boring Diameter: 9.6"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 RET #1 Water Level Meter: QED Sample Pro

Cond. Meter: D.O. Meter: N/A

Temp. Meter: Pump: Grundfos Pump A.9243.5035

Bailer: SS ☐ TEF ☐ PVC ☐ lgth. N/A dia. Filter Type/Pore Size: QED In Line / 0.45 Micron

Cole+Palmer Peristaltic Pump

Well Screen Interval: Top of Screen 7.65' BGS Bottom of Screen 22.65' BGS Length of Well Screen 15'

Original Depth to Water: 12.59

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: NA / NA

Bottom of Well Csg 22.65' – Measured Well Depth 25.36 = Sediment Thickness

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X { (ft²) – 0.7 [(ft²) – (ft²)] }							= 112 gal

Actual Purge Volume: ~120 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: ~3 gpm Recharge Rate: ~3 gpm

Weather Conditions: CLEAR Temperature: ~75 (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1052	0	~1	13.26	~24	19.1	7.93	716	NA	START PUMPING
1101	9	~15	13.81	"	12.5	7.85	3000	"	
1106	14	~25	13.91	"	12.2	7.79	3270	"	
1114	22	~50	13.96	"	12.8	7.81	3260	"	
1119	27	~65	13.99	"	12.4	7.79	3280	"	
1124	32	~75	14.01	"	12.6	7.80	3230	"	
1131	39	~100	14.02	"	12.7	7.79	3280	"	
1137	45	~120	14.04	"	12.4	7.80	3320	"	PUMP OFF, TURB = 0.62

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

		Well Number: S-B1-91
Installation date: 5.28 91	Development date:	Project Site: TEAD-S
Contractor: SEC Donahue		Project Number: T.O. 0001
Purge Start: (date) 8/31/93 (time) 1425		Purge End: (date) 8/31/93 (time) 1513
Purged By: K. Pill		

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: ~2.3' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 0.0 Bkgd ppm / NONE Well Boring Diameter: 9.6"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 REI #1 Water Level Meter: QED Sample Pro

Cond. Meter: D.O. Meter: N/A

Temp. Meter: Pump: Grundfos Pump A.9243.5035

Bailer SS / TEF / PVC lgth. N/A dia. Filter Type/Pore Size: QED In Line .10.45 micron

Pole & Palmer Peristaltic Pump

Well Screen Interval: Top of Screen 7.65'BGS Bottom of Screen 22.65'BGS Length of Well Screen 15'

Original Depth to Water: 11.92

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: NA / NA

Bottom of Well Csg 22.65' BGS – Measured Well Depth 25.27 = Sediment Thickness

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X { (ft²) – 0.7 [(ft²) – (ft²)] }							= 109 gal

Actual Purge Volume: ~115 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: ~3 gpm Recharge Rate: ~3 gpm

Weather Conditions: CLEAR Temperature: ~85 (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1432	0	0	13.04	~24	17.8	7.49	5280	NA	START PUMPING
1439	7	~15	13.18	"	14.5	7.53	3980	"	
1443	11	~25	13.32	"	13.6	7.89	4010	"	
1451	19	~50	13.35	"	13.8	7.66	4070	"	
1455	23	~65	13.38	"	13.9	7.63	4050	"	
1500	28	~75	13.39	"	14.0	7.83	4020	"	
1508	36	~100	13.41	"	14.1	7.72	4060	"	
1512	40	~115	13.44	"	13.9	7.67	4050	"	PUMP SHUT OFF. TURB = 0.49

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

		Well Number: S-82-91
stallation date: 5-16-91	Development date:	Project Site: TEAD-S TASK order 0001
Contractor: SEC Donahue		Project Number: 82463.030
Purge Start: (date) 9-8-93 (time) 1317		Purge End: (date) 9-8-93 (time) 1355
Purged By: RUST Paul Hubbley & Chris Gardner		

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: 1.69 Well Csg. ID: 4

Well Headspace: Ionizable VOCs / Odor: 14.7 ppm / none Well Boring Diameter: 9.6

Background = 4.1

Field Monitoring Equipment (Make, Model, Serial #, etc):

pH Meter YSI 3500 90K02107 Water Level Meter QED sample Pro

Cond. Meter " D.O. Meter —

Temp. Meter " Pump (HSH) ~~Peristaltic Pump~~ A.9243 5032 Grundfos Pump

Bailer SS ☐ TEF ☐ PVC ☐ lgth. N/A dia. Filter Type/Pore Size GEOFLOW / 0.45 MICRONS Peristaltic Pump

Well Screen Interval: Top of Screen 13 Bottom of Screen 23 BGS Length of Well Screen 10'

Original Depth to Water: 11.66 BGS

LNAPL Check (Y) / N DNAPL Check (Y) / (N) LNAPL / DNAPL Thickness: 0 / —

Bottom of Well Csg 23' – Measured Well Depth 23 = Sediment Thickness

rge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X	{ (ft²) – 0.7 [(ft²) – (ft²)] }						= ~~116.67~~ gal 90.05

see back

Actual Purge Volume: 91 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: ~~11~~ 24 gpm Recharge Rate: gpm

Weather Conditions: Sunny Temperature: (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments Turbidity
1323	0	10			16.5	6.9	16.1	-	2.60 NTU
1327	4	20			15.1	6.99	15.92	-	1.37
1330	7	30			15.3	6.95	15.81	-	0.72
1334	11	40			15.6	6.94	15.87	-	0.60
1338	15	50			15.5	6.92	15.82	-	0.55
1342	19	60			14.9	6.96	16.45	-	0.45
1346	23	70			15.3	6.95	15.99	-	0.38
1350	27	80			15.1	6.92	16.17	-	0.42
1353	30	90			14.7	6.96	15.1	-	0.36

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

		Well Number:	S-83-91
Installation date: 5.17.93	Development date:	Project Site:	TEAD-3
Contractor: SEC Donahue		Project Number:	T.O. 0001
Purge Start: (date) 9/3/93	(time) 1015	Purge End: (date) 9/3/93	(time) 1135
Purged By: K. Dill			

Depth Measurement Ref. Point *: TOC Well Csg. Hgt. Above Ground Level: ~2.3' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 1.4 ppm / None Well Boring Diameter: 9.6"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 REI #1 Water Level Meter: QED Sample Pro

Cond. Meter: D.O. Meter: N/A

Temp. Meter: Pump: Grundfos Pump A.9243.503

Bailer: SS ☐ TEF ☐ PVC ☐ lgth. N/A dia. Filter Type/Pore Size: QED inLine 10.45 micron - Meta Cole + Palmer Only

Well Screen Interval: Top of Screen 13.5 BGS Bottom of Screen 23.5 BGS Length of Well Screen 10'

Original Depth to Water: 9.55'

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: NA / NA

Bottom of Well Csg 23.5 'BGS – Measured Well Depth 25.37 = Sediment Thickness

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X { (ft²) – 0.7 [(ft²) – (ft²)] }							= 117 gal

Actual Purge Volume: ~120 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: KP ~~2~~ ~1 gpm Recharge Rate: KP ~~2~~ ~1 gpm

Weather Conditions: CLEAR Temperature: (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1030	0	~1	10.32	~24	14.3	7.03	26400	NA	START PUMPING
1046	16	~35	10.10	"	12.8	7.45	24400	"	
1100	30	~50	10.75	"	12.5	7.27	24100	"	
1112	42	~65	10.80	"	12.7	7.12	24000	"	
1125	55	~100	10.93	"	12.5	7.15	24100	"	
1135	65	~120	10.96	"	13.1	7.18	23700	"	PUMP OFF, TURB = 1.46

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

		Well Number: S-84-91
Installation date: 5.18.93	Development date:	Project Site: TEAD-S
Contractor: SEC Donahue		Project Number: T.O. 0001
Purge Start: (date) 8/31/93 (time) 0900		Purge End: (date) 8/31/93 (time) 1235
Purged By: K. Pick		

Depth Measurement Ref. Point *: TOC Well Csg. Hgt. Above Ground Level: _____ Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 0.0 ppm / None Well Boring Diameter: 9.6"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 REI #1 Water Level Meter: QED Sample Pro

Cond. Meter: _____ D.O. Meter: N/A

Temp. Meter: _____ Pump: Grundfos Pump A.9243.5035

Bailer: SS ☐ TEF ☐ PVC ☐ lgth. N/A dia. _____ Filter Type/Pore Size: Metals - QED In-Flowline / 0.45 micro

Cole + Palmer Peristaltic Pump

Well Screen Interval: Top of Screen 5.35 BGS Bottom of Screen 25.35' BGS Length of Well Screen 20'

Original Depth to Water: 8.34

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: NA / NA

Bottom of Well Csg _____ − Measured Well Depth 28.14 = Sediment Thickness _____

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	____ ft	X { (	____ ft²) − 0.7 [(	____ ft²) − (	____ ft²)] }	=	135	gal	

Actual Purge Volume: ~135 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: ~0.75 gpm Recharge Rate: _____ gpm

Weather Conditions: CLEAR Temperature: ~95 (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
0922	0	~1	13.56	~27	12.4	8.63	15160	NA	START PUMPING
0927	5	~15	26.54	"	13.5	8.10	15310	"	
1003	41	~35	22.21	"	13.5	7.44	15590	"	
1022	60	~50	22.90	"	14.6	7.31	15510	"	
1123	121	~75	15.97	"	13.7	6.11	15430	"	
1144	142	~100	25.02	"	14.3	6.52	15440	"	
1221	189	~120	23.68	"	15.5	6.87	15460	"	
1234	192	~135	26.13	"	15.3	7.26	14910	"	PUMP OFF, TIB = 0.49

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

Well Number: S-85-91	
Installation date: 5·20·91	Development date:
Project Site: TEAD-S	
Contractor: SEC DONAHUE	Project Number: T.O. 0001
Purge Start: (date) 8/22/93 (time) 1202	Purge End: (date) 8/22/93 (time) 1257
Purged By: K. Pill	

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: ~2.3 Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: Bkd ppm / None Well Boring Diameter: 9.625

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3800 Water Level Meter: QED SamPle Pro

Cond. Meter: D.O. Meter: N/A

Temp. Meter: Pump: Grundfos Pump A.9243.5035

Bailer SS / TEF / PVC lgth. N/A dia. Filter Type/Pore Size: QED In Line / 0.45 Micron

Cole+Palmer Peristaltic Pump

Well Screen Interval: Top of Screen 6.65' BGS Bottom of Screen 21.65' BGS Length of Well Screen 15'

Original Depth to Water: 6.57

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: NA / NA

Bottom of Well Csg 21.65' BGS – Measured Well Depth 23.91 = Sediment Thickness

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X { (ft²) – 0.7 [(ft²) – (ft²)] }						=	90 gal

Actual Purge Volume: ~120 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: 1.5 gpm Recharge Rate: gpm

Weather Conditions: CLEAR Temperature: ~95 (°F)

Actual Time	Elapsed Time (MIN)	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1205	3	~3	–	~22	11.8	6.91	9670	–	START PURGING
1223	21	~55	7.26	"	12.7	7.19	10070	–	
1235	33	~70	8.11	"	12.9	7.38	9660	–	
1243	46	~90	–	"	12.6	7.24	10100	–	
1254	52	~120	–	"	12.7	7.12	9940	–	END PURGING

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

Installation date: 6·21·91	Development date:
Well Number: S-86-91	
Project Site: TEAD-S, Task Order 0001	
Contractor: SELDonahue	
Project Number: 82468.030	
Purge Start: (date) 9·1·93 (time) 09:30	Purge End: (date) 9·1·93 (time)
Purged By: Joey Gillespie	

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: 1.5' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 0.0 ppm / NONE Well Boring Diameter: 9.625

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter YSI 3500 #2 Water Level Meter QED Sample Pro

Cond. Meter — D.O. Meter —

Temp. Meter — Pump —

Bailer SS ☐ TEF ☐ PVC ☒ lgth. 3' dia. 3" Filter Type/Pore Size —

Well Screen Interval: Top of Screen ~11.7 BGS Bottom of Screen 16.7 BGS Length of Well Screen 5'

Original Depth to Water: 15.5'

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: — / —

Bottom of Well Csg 16.65' BGS – Measured Well Depth ____ = Sediment Thickness 0

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	____ ft	X { (	____ ft²) – 0.7 [(	____ ft²) – (	____ ft²)] }	=	22	gal	

Actual Purge Volume: ____ gal

Was purge equipment decontaminated? Y / N

Was purge water containerized? Y / N Average Purge Rate: ____ gpm Recharge Rate: ____ gpm

Weather Conditions: Sunny, Warm Temperature: 85-90 (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
0930	~~7.25~~	0	15.5	15-18	12.3	7.25	12.93		Start Purging
0950	~~7.41~~	5	16.4		11.5	7.41	13.61		
1010	~~7.39~~	9	16.73		11.6	7.39	14.81		
1043	~~7.42~~	12	16.74		11.8	7.42	14.96		
1107	~~7.47~~	16	16.70		11.8	7.47	14.86		
1125	~~7.48~~	18	16.63		11.7	7.48	15.25		
1145	7.47	19	16.58		11.8	7.47	14.64		
	1545	9·93							End Purging

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

		Well Number:	S-87-91
Installation date: 5.14.91	Development date: -	Project Site:	TEAD-S, Task Order 0001
Contractor: SEC Donahue		Project Number:	82468.030
Purge Start: (date) 9.9.93 (time) 10:20		Purge End: (date) 9.9.93 (time) 11:00	
Purged By: Joey Gillespie, Holly Hodson			

Depth Measurement Ref. Point *: TOC Well Csg. Hgt. Above Ground Level: 0 Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 2.2 ppm / None Well Boring Diameter: 9.625"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 — Water Level Meter: QED Sample Pro

Cond. Meter: — — D.O. Meter: —

Temp. Meter: — — Pump: —

Bailer: SS ☐ TEF ☐ PVC ☒ lgth. 3' dia. 3" — Filter Type/Pore Size: —

Well Screen Interval: Top of Screen 7.0' BGS Bottom of Screen 17.0' BGS Length of Well Screen —

Original Depth to Water: 11.62

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: — / —

Bottom of Well Csg 17.0' BGS – Measured Well Depth — = Sediment Thickness —

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X { (ft²) – 0.7 [(ft²) – (ft²)] }							= 77 gal

Actual Purge Volume: ~80 gal 2 drums

Was purge equipment decontaminated? Y (N) Dedicated Bailer.

Was purge water containerized? (Y) / N Average Purge Rate: 2 gpm Recharge Rate: Same gpm

Weather Conditions: Sunny, Warm Temperature: ~90 (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of ~~Pump~~ Bailer Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1022	0	0	11.62	11-17'	15.6	6.94	4.16	N/A	Start Purging
1028	6	10	11.6		15.8	6.98	3.84		
1031	9	20	11.62		15.7	7.01	3.98		
1034	12	28	11.62		15.5	7.02	3.99		
1037	15	36	11.62		15.4	7.05	4.10		
1041	19	50	11.6		15.5	7.06	3.98		
1048	26	62	11.64		15.6	7.07	4.06		
1055	33	80	11.62		15.6	7.01	4.04		Purging Ended Sampling Ready

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

		Well Number: 5-91-91
Installation date: 5·19·91	Development date:	Project Site: TEAD-5
Contractor: SEC Donahue		Project Number: T.O. 0001
Purge Start: (date) 8/30/93 (time) 1525		Purge End: (date) 8/30/93 (time) 1625
Purged By: K. Pill		

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: ~2.3' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 0.0 ppm / None Well Boring Diameter: 9.6"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 Water Level Meter: QED SamPle Pro

Cond. Meter: D.O. Meter: N/A

Temp. Meter: Pump: Grundfos Pump A.9243.5035

Bailer SS / TEF / PVC lgth. N/A dia. Filter Type/Pore Size: Metals- QED Inline / 0.45 Micron Peristaltic Pump - Cole & Palmer

Well Screen Interval: Top of Screen 3.7 BGS Bottom of Screen 23.7 BGS Length of Well Screen 20'

Original Depth to Water: 8.55

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: NA / NA

Bottom of Well Csg 23.7 BGS – Measured Well Depth 25.83 = Sediment Thickness

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X { (ft²) – 0.7 [(ft²) – (ft²)] }						=	126.8 gal

Actual Purge Volume: ~125 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: ~3 gpm Recharge Rate: ~3 gpm

Weather Conditions: CLEAR Temperature: ~85 (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1540	0	~1	–	~24	13.6	7.03	16460	NA	START PUMP
1554	14	~35	11.39	"	13.0	7.39	9350	"	
1559	19	~50	–	"	12.8	7.40	9320	"	
1608	28	~75	11.78	"	12.6	7.40	9310	"	
1614	34	~100	11.86	"	12.6	7.39	9410	"	
1623	43	~125	11.93	"	12.6	7.38	9320	"	PUMP OFF, TNTB = 0.30

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

		Well Number: S-92-91
Installation date: 6·30·93	Development date:	Project Site: TEAD-3 TASK ORDER 0001
Contractor: SEC Donahue		Project Number: 82468.030
Purge Start: (date) 8·20 93 (time) 13·31		Purge End: (date) 8·20·93 (time) 16:20
Purged By: Ken Pill, Steve Cumella		

Depth Measurement Ref. Point *: TOC Well Csg. Hgt. Above Ground Level: 1.5' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 0.9 (Bkg) ppm / _____ Well Boring Diameter: 8.625

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 Water Level Meter: QED Sample Probe

Cond. Meter: " D.O. Meter: N/A

Temp. Meter: " Pump: Marschalk Bladder Pump

Bailer: SS ☐ TEF ☐ PVC ☐ lgth. N/A dia. _____ Filter Type/Pore Size: N/A

Well Screen Interval: Top of Screen 10.65' Bottom of Screen 25.65' Length of Well Screen 10'

Original Depth to Water: 12.50'

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: _____ / _____

Bottom of Well Csg ~~26.0'~~ HSH 8·26·93 – Measured Well Depth _____ = Sediment Thickness N/A

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA	CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X	{ (ft²)	– 0.7 [(ft²)	– (ft²)] }		=	88.6 gal

Actual Purge Volume: 90 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: ~0.7 gpm Recharge Rate: ~0.7 gpm

Weather Conditions: Windy, Partly Cloudy Temperature: 90 (°F)

Actual Time	Elapsed Time min	Vol. Purged (gal)	TOC Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
13:31	0	0	12.5	25'				N/A	Pump Start
13:39	8	N/A	12.72		13.0	6.84	10.09		
14:14	40	28	12.81		12.6	7.39	7.95		~0.7 gpm Purge Rate
~~17:52~~	81	38	12.72		12.4	7.39	7.89		
15:51 ~~16~~ 8·93	140	75	12.76		12.3	7.69	7.85		
16:10	159	85	12.72		12.7	7.59	7.85		~1 min 50 sec / gal = 0.54 gal/min
16:18	167	90	12.83		12.3	7.62	7.84		Finish Purging

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

Installation date: 3.19.93	Development date: 9.1.93	Well Number: S-103-93
Contractor: RUST E&I		Project Site: TEAD-S Task Order 0001
Purge Start: (date) 9/15/93 (time) 1415		Project Number: 82468.030
Purged By: Holly Hudson, Joey Gillespie		Purge End: (date) 9/16/93 (time) 1280 2.21 (HH)

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: ~~2.5'~~ Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 0.0 ppm / none Well Boring Diameter: 8.25"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter YSI 3500 Water Level Meter QED Sample Pro

Cond. Meter — D.O. Meter N/A ~~Serial #~~

Temp. Meter — Pump Grundfos A. 9243.5035

Bailer SS / TEF / PVC lgth. N/A dia. N/A Filter Type/Pore Size N/A

Well Screen Interval: Top of Screen 40.1' BGS Bottom of Screen 49.4' BGS Length of Well Screen 19.3'

Original Depth to Water: 35.46'

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: N/A / N/A

Bottom of Well Csg 49.4 BGS – Measured Well Depth _____ = Sediment Thickness _____

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X { (	ft²) – 0.7 [(	ft²) – (	ft²)] }	=	179	gal	

Actual Purge Volume: ≈48 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: ≈3 gpm Recharge Rate: _____ gpm

Weather Conditions: Rainy, Windy Cold Temperature: 50-60 (°F)

	Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
9/15	1415	0	0	35.46'	≈51'	23.4	6.55	4.23	N/A	Starting to Purge
	1418	3	10	42.57		13.9	6.91	18.81		
	1419	4	13	45.70		13.1	6.95	18.71		
	1422	7	15	49.42		13.1	6.99	18.61		Purged Dry here, waited
	1453		20	44.70		23.3	7.15	18.45		Starting to Purge
	1454		25	47.30		14.6	7.08	18.80		Purged Dry
9/16	11:08		30	35.84		13.8	6.65	18.05		Starting to Purge
	11:12		~~48~~44	48.60		12.5	6.77	18.93		Purged Dry

* All Depths in Feet ~~Below~~ Reference Point on Wellhead – Generally Top of Casing (TOC)

HH

MONITORING WELL PURGE LOG

Installation date: 8 7 93	Development date: 8-22-93	Well Number: S-104-93
Contractor: RUST E&I		Project Site: TEAD-3 TASK order 0001
Purged By: RUST E&I Paul Hubachek & Cyrus Gardner	Purge Start: (date) 9-9-93 / 9-10-93 (time) 15 / 0902	Project Number: 32465035
		Purge End: (date) (time)

Depth Measurement Ref. Point *: TOC Well Csg. Hgt. Above Ground Level: 2.3 Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 1.4 ppm / none Well Boring Diameter: 8.25"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter: YSI 3500 Water Level Meter: QED Sample Pro

Cond. Meter: | D.O. Meter: N/A

Temp. Meter: | Pump: Grundfos Pump A.9243.5035

Bailer SS / TEF / PVC lgth. N/A dia. Filter Type/Pore Size: QED Inline, Peristaltic Pump / 0.45 microns

Well Screen Interval: Top of Screen 62.1' BGS Bottom of Screen 71.4' BGS Cole+Palmer Length of Well Screen ~~9.6~~ 9.3'

Original Depth to Water: 40.39'

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: — / —

Bottom of Well Csg 71.4' – Measured Well Depth 74.90 = Sediment Thickness

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X	{ (ft²) – 0.7 [(ft²) –		(ft²)] }	=	187	gal	

Actual Purge Volume: gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: Purged dry aft ~25 gal. gpm Recharge Rate: V. Slowed gpm

Weather Conditions: Sunny Temperature: (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. umhos/cm	D.O. Conc. mg/L	Comments
1346		5		72.5	15.8	6.26	19.34	—	Turbidity 25.8 NTU
1352 1403		18			14.1	6.70	19.71	—	3.1
0939		35			12.5	6.81	19.56	—	2.9
0945		45			12.3	6.97	19.56	—	2.3

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

9-9-93 1403 Purged dry aft approx 25 gal

9-10-93 0951 Purged dry aft approx 27 gal

MONITORING WELL PURGE LOG

		Well Number: S-105-93
Installation date: 8.5.93	Development date: 8.10.93	Project Site: TEAM-3
Contractor: RUST E&I		Project Number: T.O. 0001
Purge Start: (date) 9/3/93 (time) 1220		Purge End: (date) 9/3/93 (time) 1424
Purged By: K. Pill		

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: ~2.3' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 0.0 BKG ppm / None Well Boring Diameter: 10.5"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter YSI 3500 Water Level Meter QED Sample Pro

Cond. Meter D.O. Meter N/A

Temp. Meter Pump Grundfos Pump A.9243.503

Bailer SS / TEF / PVC lgth. dia. Filter Type/Pore Size Metals · QED Inline / 0.45 micron

Well Screen Interval: Top of Screen 8.1' BGS Bottom of Screen 17.4' BGS Length of Well Screen 9.3'

Original Depth to Water: 10.16

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: NA / NA

Bottom of Well Csg 17.4' BGS – Measured Well Depth 20.27 = Sediment Thickness

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	ft	X { (ft²) – 0.7 [(ft²) – (ft²)] }							= 90.7 gal

Actual Purge Volume: ~100 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: ~ 0.8 gpm Recharge Rate: ~ 0.8 gpm

Weather Conditions: CLEAR / PARTLY CLOUDY Temperature: ~80° (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1235	0	~1	14.30	~19	20.6	7.81	16800	NA	PUMP ON
1249	14	~10	14.69	"	14.6	7.34	14300	"	
1312	37	~30	16.06	"	14.9	7.33	14460	"	
1326	51	~50	15.59	"	14.6	7.25	14650	"	
1350	75	~65	16.46	"	14.5	7.34	14710	"	
1404	89	~75	16.42	"	14.7	7.35	14760	"	
1422	107	~100	16.45	"	14.7	7.35	14620	"	PUMP OFF TURB = 0.91

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

		Well Number: S-104-93
Installation date: 8.17.93	Development date: 8 23 93	Project Site: TEAD-S TASK ORD 0001
Contractor: RUST E&I		Project Number: 924S.030
Purge Start: (date) 9-9-93 (time) 911		Purge End: (date) 9-9-93 (time) 1023
Purged By: RUST E&I Paul Kalisky & Myrus Gartner		

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: 2.3' Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: ~~1.5~~ 1.8 ppm / none Well Boring Diameter: 8.25"

H&H

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter YSI 3500 90K0210? Water Level Meter QED Sample Pro

Cond. Meter " D.C. Meter –

Temp. Meter " Pump (H&H) ~~Rel. Flow~~ Grundfos Pump A.9243.503

Bailer SS ☐ TEF ☐ PVC ☐ lgth. N/A dia. ____ Filter Type/Pore Size QED Inflow / 0.45 microns (Metals Only)

Peristaltic Pump - Cole + Palmer

Well Screen Interval: Top of Screen ~~38.75~~ (H&H) 45' BGS Bottom of Screen (H&H) ~~48.75~~ 55' BGS Length of Well Screen 10'

Original Depth to Water: 12.28

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: – / –

Bottom of Well Csg ____ – Measured Well Depth 52.26 = Sediment Thickness ____

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	____ ft	X { (____ ft²)	– 0.7 [(____ ft²)	–	(____ ft²)] }	=	225.5 gal		

Actual Purge Volume: ____ gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: 1-1.5 gpm Recharge Rate: ____ gpm

Weather Conditions: Sunny Temperature: ____ (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments Turbidity
0927	0	27	12.86	50	11	5.84	9.34	–	40.01 NTU
0934	7	55			11	6.89	9.28	–	9.20
0943	16	83			11.1	6.91	9.23	–	2.85
0951	24	110			11.1	6.96	9.25	–	2.33
1000	33	137			11.1	6.97	9.23	–	1.65
1009	41	166			11.2	6.97	9.23	–	2.36
1016	49	196			11.2	6.97	9.20	–	1.39
1022	55	226			11.4	7.02	9.17	–	1.07

* All Depths in Feet Below Reference Point on Wellhead – Generally Top of Casing (TOC)

MONITORING WELL PURGE LOG

Installation date: 8.21.93	Development date: ~~8.23.93~~ 9.2.93 (HSH)
Well Number: S-107-93	Project Site: TEAD-5 Task Order 8801
Contractor: RUST EdI	Project Number: 82468.030
Purge Start: (date) 9/16/93 (time) 1520	Purge End: (date) 9/17/93 (time) 10:13
Purged By: Joey Gillespie, Holly Hodson	

Depth Measurement Ref. Point * : TOC Well Csg. Hgt. Above Ground Level: 2½ Well Csg. ID: 4"

Well Headspace: Ionizable VOCs / Odor: 0.0 ppm / None Well Boring Diameter: 8¼"

Field Monitoring Equipment (Make, Model, Serial #, etc.):

pH Meter YSI 3500 Water Level Meter QED Sample Pro

Cond. Meter — D.O. Meter —

Temp. Meter — Pump Grundfos Pump Serial # A.9243.5035

Bailer SS / TEP / PVC lgth. — dia. — Filter Type/Pore Size —

Well Screen Interval: Top of Screen 38.75' BGS Bottom of Screen 48.7' BGS. Length of Well Screen 10'

Original Depth to Water: 6.78

LNAPL Check Y / (N) DNAPL Check Y / (N) LNAPL / DNAPL Thickness: — / —

Bottom of Well Csg _____ − Measured Well Depth _____ = Sediment Thickness _____

Purge Volume Calculation:

BOREHOLE VOLUMES		CONVRSN FACTOR		WTR COL HEIGHT		BOREHOLE AREA		BOREHOLE AREA		CASING O.D. AREA		TOTAL PURGE VOLUME
5	X	7.48 gal/ft³	X	____ ft	X { (	____ ft²) − 0.7 [(	____ ft²) − (	45.8 ft²)] }	=	229	gal	

Actual Purge Volume: 120 gal

Was purge equipment decontaminated? (Y) / N

Was purge water containerized? (Y) / N Average Purge Rate: ~2 gpm Recharge Rate: _____ gpm

Weather Conditions: Cloudy, Rainy → Sunny Temperature: 70 (°F)

Actual Time	Elapsed Time	Vol. Purged (gal)	Depth to Water (feet)	Depth of Pump Intake (feet)	Temp (°C)	pH	Elect. Cond. µmhos/cm	D.O. Conc. mg/L	Comments
1520	0	0	6.78	~52	11.0	7.07	5.51	N/A	Start Purging 9/16/93
1525	5	10	19.5		10.5	7.14	5.29		
1535 (HSH 16-93)	~~10~~ 15	25	31.44		10.8	7.26	5.24		
1545	25	35	40.04		11.1	7.28	5.20		
1553	33	~50	50.22		11.9	7.32	5.17		Purged Dry 9/16/93
0936		65	19.32		10.6	7.24	5.28		Start purging 9/17/93
0947		90	44.72		12.4	7.35	5.14		slowed purge volume
000		110	49.64		11.2	7.42	5.23		
1011		120	51.7	~52	11.3	7.46	5.26		End Purging. 9/17/93

* All Depths in Feet Below Reference Point on Wellhead — Generally Top of Casing (TOC)

Well Development Data Sheets

Well Development Record

Project: TEAD - South Area
Geologist: J. Brown
Well No.: S-76-91
Date of Installation: 6/19/91

Well Information

Total Depth: 25.29
Casing Stickup: (PVC)
Screen Length: 15 KP (12/92)
Amt. of fluid in well (Prior to development) In well casing: 10.33 KP (12/92)
Amt. of mud/water lost During drilling: -
In sat. annulus:
During fluid purging: -
(30% porosity)

Development

Date/time started: 6-20-91 1500
Completed: 6/20/91 1730

Water level
Before development: 9.63
24 hrs. after: 10.09 (KP 12/92)

Depth to sediment
Before development: .5" of Sediment
After development: 0 (KP 12/92)

Measurement	pH	Temp	Specific Conduct.	Date	Time	Vol. Wtr. Removed
Before Development	DO 7.2					
1	7.22	14.0	2550	6-20	15:36	1 gal
2	5.55 7.36	11.0	8500	6-20	1600	25
3	4.74 7.24	11.0	11,000	6-20	1615	50
4	5.63 7.38	11.0	11,600	6-20	1632	75
5	6.43 7.46	11.0	11,500	6-20	1650	100
After development	5.40 7.45	11.0	11,750	6-20	1705	125

Surge technique: BAILER (KP, 12/92)
Type, size and capacity of bailer or pump: 3"x3', PVC (KP 12/92)
Physical character of water removed (clarity, color, odor, particulates, etc.)

Quantity of fluid removed: 125 GAL (KP 12/92) Time for removal: 169 MIN (12/92 KP)

Note: all depths measured from top of casing

Well Development Record

Project: TEAD - South Area
Geologist: J. BROWN
Well No.: S-77-91
Date of Installation: 6/23/91

Well Information

Total Depth: 20.22 ft
Casing Stickup (PVC):
Screen Length: 10 (KP 12/23/92)
Amt. of fluid in well (Prior to development)
Amt. of mud/water lost
- In well casing:
- During drilling:
- In sat. annulus:
- During fluid purging:
- (30% porosity) TOTAL VOLUME = 29 GAL

Development

Date/time started: 6/25/91 0900
Completed: 6/25/91 1130

Water level
- Before development: 5.69'
- 24 hrs. after: 6.08 (KP 12/92)

Depth to sediment
- Before development:
- After development:

Measurement	°C Temp	pH	Specific Conduct.	Dissolved O_2	Date	Time	Vol. Wtr. Removed
Before Development	14	8.06	6000	1.0		0918	2 GAL
1	14	8.03	5500	1.7		0945	25
2	10	8.01	4000	3.0		1015	55
3	10	7.76	6000	3.1		1030	85
4	10	7.85	7000	2.5		1100	115
5	10	7.78	6500	3.2		1120	150
After development							

Surge technique: BAILER (KP 12/23/92)
Type, size and capacity of bailer or pump: PVC 3" X 3' (KP 12/23/92)
Physical character of water removed (clarity, color, odor, particulates, etc.): LIGHT MILKY COLOR - NO ODOR
Quantity of fluid removed: 150 GAL (KP 12/23/92) Time for removal: 120 MIN (KP 12/23/92)

Note: all depths measured from top of casing

Well Development Record

Project: TEAD - South Area
Geologist: VINCE TRIPI
Well No.: 135-78 91
Date of Installation: 5/29/91

Well Information

Total Depth: 24.40
Casing Stickup: (PVC)
Screen Length: 15 (KP 12/23/92)
Amt. of fluid in well (Prior to development)
In well casing: 9.96 Gal (KP 12/23/92)
Amt. of mud/water lost
During drilling:
In sat. annulus:
During fluid purging:
(30% porosity)
TOTAL PURGE 122

Development

Date/time started: 1040 5-31-91
Completed:

Water level
Before development: 9.30 FT
24 hrs. after: 9.14 (KP 12/23/92)

Depth to sediment
Before development: 2.5"
After development: 0

Measurement		pH	Specific Conduct.		Date	Time	Vol. Wtr. Removed
Before Development							
1	DO	7.68	10500	TH 10	5-31-91	11.87	1
2	5.0 3.6	7.47	16100	9.5	5-31-91	1127	24
3	3.2	7.62	17500	9	5-31-91	1138	48
4	3.6	7.67	18000	9	5-31-91	1150	72
5	3.3	7.56	19000	9	5-31-91	1205	96
After development	3.0	7.59	19000	9	5-31-91	1211	120

Surge technique: BAILER (KP 12/23/92)
Type, size and capacity of bailer or pump: 3"X3' PVC BAILER
Physical character of water removed (clarity, color, odor, particulates, etc.)
1ST BAILE CLEAR w/PVC CLIPS on surface

Quantity of fluid removed: 120 GAL (KP 12/23/92) Time for removal: 64 MIN (KP 12/23/92)

Note: all depths measured from top of casing

Well Development Record

Project: TEAD - South Area
Geologist: J. Brown
Well No.: S-79-91
Date of Installation: 6/17/91

Well Information

Total Depth: 18.09
Screen Length: 10 (KP 12/23/92)
Casing Stickup: (PVC)
Amt. of fluid in well (Prior to development)
In well casing: } 21 gal.
In sat. annulus: }
(30% porosity)
Amt. of mud/water lost
During drilling:
During fluid purging:

Development

Date/time started: 6/19/91 1045
Completed: 6/19/91 14:00 (KP 12/23/92)

Water level
Before development: 5.03
24 hrs. after: 5.79 (KP, 12/23/92)
105 Gals TOTAL to Be Removed.

Depth to sediment
Before development:
After development:

Measurement	pH	Specific Conduct.		Date	Time	Vol. Wtr. Removed
Before Development	Temp		DO			
1	15 7.82	900	7.25	6/19/91	1104	1 gal
2	11.5 7.65	3600	7.33		1126	21 gal
3	12.2 7.42	6500	5.03		1156	42
4	12.0 7.46	7000	5.10		12:50	63 gal
5	11.7 7.50	7150	5.36		13:17	84 gal
After development	12.5 7.46	7152	6.07		13:46	105

Surge technique: BAILER (KP 12/23/92)
Type, size and capacity of bailer or pump: PVC, 3" x 3' (KP 12/23/92)
Physical character of water removed (clarity, color, odor, particulates, etc.): NO Free Product - SEDIMENT IN BOTTOM 1-20 dark tan ≈ 1 gal of fine sand in 21 gal H2O, 21-42 light tan/clear sand
Quantity of fluid removed: 105 GAL (KP 12/23/92) Time for removal: 152 MIN (KP 12/23/92)

Note: all depths measured from top of casing

Well Development Record

Well Development Record

Project: TEAD - South Area
Geologist: Vince Tripi
Well No.: 13S80 9:
Date of Installation: 5/20/91

Well Information

Total Depth: 2538
Screen Length: 15 (KP 12/23/92)
Casing Stickup: (PVC)
Amt. of fluid in well (Prior to development)
In well casing: 8.53 gal
In sat. annulus:
(30% porosity)
Amt. of mud/water lost
During drilling:
During fluid purging:
Total purge 105 gal

Development

Date/time started: 8:30 5-31-90
Completed: 10:55 5-31-90

Water level
Before development: 12.47
24 hrs. after: 12.51 (KP 12/23/92)

Depth to sediment
Before development: Ø
After development: Ø

Measurement	pH	Specific Conduct.	Temp	Date	Time	Vol. Wtr. Removed
Before Development DO 5.6	7.14	3000	9.0	5-31	8:[illegible]	1ga
1 4.3	7.21	3000	10	5-31	8.50	21
2 BATT DEAD	7.28	3050	10	5-31	902	42
3 4.1	7.34	3050	10	5-31	915	63
4 3.9	7.34	3050	10	5-31	934	84
5 3.8	7.37	3050	10	5-31	955	105
After development						

Surge technique: bailer
Type, size and capacity of bailer or pump: 3" X 3' pvc bailer
Physical character of water removed (clarity, color, odor, particulates, etc.)

Quantity of fluid removed: 105 GAL Time for removal: 140 MIN

Note: all depths measured from top of casing

Well Development Record

Project: TEAD - South Area

Geologist: Vince Tribi

Well No.: 135-81-91

Date of Installation: 5-28-91

Well Information

Total Depth: 25.27'

Screen Length: 15' 3/4" sediment KA (12/23/92)

Casing Stickup (PVC):

Amt. of fluid in well (Prior to development)
- In well casing: 8.92 gal.
- In sat. annulus: 13 gal. (30% porosity)

Amt. of mud/water lost
- During drilling: 0
- During fluid purging: 0

110 gallons purged. 22 gallons / vol.

Development

Date/time started: 5-30-91 0840 Completed: 5-30-91 1010

Water level
- Before development: 11.76'
- ~~24 hrs. after~~ After Devel.: 11.88' at 1021

Depth to sediment
- Before development: 3/4"
- After development: Ø

Measurement	pH	Specific Conduct.	Date	Time	Vol. Wtr. Removed
Before Development					
1	7.58	1830	5-30-91	0858	1
2	7.75	1750	5-30-91	0920	22
3	7.98	1540	5-30-91	0933	44
4	8.06	1510	5-30-91	0944	66
5	8.07	16000	5-30-91	0951	88
After development	8.08	16000	5-30-91	1004	110

Surge technique: Bailer

Type, size and capacity of bailer or pump: 3' x 3' PVC Bailer

Physical character of water removed (clarity, color, odor, particulates, etc.)

1- Clear

66 tan color - no odor - fine sediment. 66-88 light tan less sediment

88-100 clearing up very well

Quantity of fluid removed: 110 gallons Time for removal: 160 min.

Note: all depths measured from top of casing

Well Development Record

Well Development Record

Project: TEAD - South Area

Geologist: V. Tripi

Well No.: 135-82-91

Date of Installation: 5-16-91

Date Developed: 5-19-91

Well Information

Total Depth: ~~25.48~~ DD 25.55

Casing Stickup (PVC): 2.01 ft

Screen Length: 10 (KP 12/23/92)

Amt. of fluid in well (Prior to development)
In well casing: 9.41 gal in casing

Amt. of mud/water lost
During drilling: _____
During fluid purging: _____

In sat. annulus: _____
(30% porosity) 23 gal/Vol

Development

Date/time started: 5-19-91 0940

Completed: 5/19/91

Water level
Before development: 11.30'
24 hrs. after: _____
After Dev. 11.50'

Depth to sediment
Before development: Ø
After development: Ø

Measurement	pH	Specific Conduct.	Date	Time	Vol. Wtr. Removed
Before Development					
1	7.45	9500	5-19-91	0946	1 gal
2	7.55	9500	5-19-91	1002	20 gal
3	7.58	10500	5-19-91	1017	40 gal
4	7.62	10000	5-19-91	1032	60 gal
5	7.56	11500	5-19-91	1042	80 gal
~~After development~~	7.65	11000	5-19-91	1100	105 gal

Surge technique: BAILER

Type, size and capacity of bailer or pump: 3" x 3' PVC Bailer

Physical character of water removed (clarity, color, odor, particulates, etc.)

Tan color, No odor, Fine-grained sediment clearing w Vol

Quantity of fluid removed: 105 gal total Time for removal: 74 min

Note: all depths measured from top of casing

Well Development Record

Project: TEAD - South Area

Geologist: V Tripi

Well No.: 135-83-91

Date of Installation: 5-17-91

Date Developed: 5-19-91

Well Information

Total Depth: 25.32'

Casing Stickup (PVC): 1.70 ft

Screen Length: 10 (KP 12/23/92)

Amt. of fluid in well (Prior to development)

In well casing: 10.8 (KP 12/23/92) Note: 133 gal. to remove

In sat. annulus: _____

(30% porosity)

Amt. of mud/water lost

During drilling: _____

During fluid purging: _____

Development

Date/time started: 5-19-91 1232

Completed: 5-19-91

Water level

Before development: 8.94'

~~24 hrs. after~~ after develop.: 9.03'

Depth to sediment

Before development: ≈1"

After development: 0

Measurement	pH	Specific Conduct.	Date	Time	Vol. Wtr. Removed
Before Development					
1	7.38	20000	5-19-91	1233	1 gal
2	7.26	21500	5-19-91	1243	20 gal
3	7.25	22500	5-19-91	1255	45 gal
4	7.21	23000	5-19-91	1305	68 gal
5	7.28	22900	5-19-91	1318	93 gal
~~After development~~	7.28	23100	5-19-91	1333	116 gal.

Surge technique: Bailer

Type, size and capacity of bailer or pump: 3" X 3'

Physical character of water removed (clarity, color, odor, particulates, etc.)

Tan color - No Odor - fine sediment

Quantity of fluid removed: 116 gal total

Time for removal: 60 min

Note: all depths measured from top of casing

Well Development Record

Well Development Record

Project: TEAD - South Area

Geologist: V Tripi

Well No.: S ~~88~~ 91 / 84

Date of Installation: 5-18-91

Well Information

Total Depth: 28.00

Screen Length: 20 (KP 12/23/92)

Casing Stickup (PVC): 1.91'

Amt. of fluid in well (Prior to development)
In well casing: 13.58 GAL
In sat. annulus:
(30% porosity)

Amt. of mud/water lost
During drilling:
During fluid purging:

Development

Date/time started: 5-20-91 1400

Completed: 5-20-91 17:43

Water level
Before development: 6.99
24 hrs. after: 7.29 (KP 12/23/92)

Depth to sediment
Before development: .20'
After development: Ø

Measurement	Temp	pH	Specific Conduct.	DO	Date	Time	Vol. Wtr. Removed
Before Development	12.8	7.62	920.	7.6	5-20	14:28	1 gal
1	14.0	7.33	10,000	7.3		15:27	30 gal
2	13.0	7.32	11,500	7.2		16:26	60 gal
3	13.7	7.32	11,900	7.1		17:05	80 gal
4	13.3	7.30	11,900	6.4	↓	17:43	100 gal
5							
After development							

Surge technique: Bailer

Type, size and capacity of bailer or pump: 3" X 3' PVC

Physical character of water removed (clarity, color, odor, particulates, etc.)
1 clear some pvc chips 2-20 gal lots of sediment some fine sand slow recharge 20-40 less sediment still slow recharge 40-60 gal light tan color no fine sand anymore ≈ ½ gal/min recharge

Quantity of fluid removed: 60-80 same as above 80-100 clearing

Time for removal:

Note: all depths measured from top of casing

Well Development Record

Project: TEAD - South Area
Geologist: V. L. Tripi
Well No.: 135 - 85 - 91
Date of ~~installation~~: 5-29-91

Well Information

Total Depth: 23.98
Screen Length: 15 (KP 12/23/92)
Casing Stickup (PVC): 1.84 ft
Amt. of fluid in well (Prior to development)
In well casing: 12.7 gals.
In sat. annulus: 18.4 gals.
(30% porosity)
Amt. of mud/water lost
During drilling: _____
During fluid purging: _____

Development

Date/time started: 5-29-91 / 1315
Completed: 5-29-91 / 15:20
Water level
Before development: 4.77 ft.
24 hrs. after: 4.88 (KP 12/23/92)
Depth to sediment: ≈ ½ inch
Before development: _____
After development: Ø

Measurement	Temp	pH	Specific Conduct.	DO	Date	Time	Vol. Wtr. Removed
Before Development							
1	11.9	7.91	520 µ mohs	8.1	5-29-91	1400	1 gal
2	11.0°C	7.37	4900	2.2	5-29-91	14:20	30 gal
3	11.2°C	7.48	4700	2.9		1440	60 gal
4	10.0	7.46	5000	4.9		14:50	90 gal
5	10.2	7.44	4400	4.4		15:00	120 gal
After development	10.2	7.43	5000	6.1		15:13	150 gal
	10.0	7.56	4930	5.9		15:20	160 gal

Surge technique: BAILER (KP 12/23/92)
Type, size and capacity of bailer or pump: 3"x3', PVC (KP 12/23/92) 15:40 Done w Decon
Physical character of water removed (clarity, color, odor, particulates, etc.)
1 clear 2-30 brown some sediment no odor. 30-60 clearing tan color w some sand & fine's still 60-90 - tan less sediment 90-120 Tan clearing 120-150 Drilling well down, tan color NO odor 150-160 Clearing Very well
Quantity of fluid removed: 160 gal
Time for removal: _____

Note: all depths measured from top of casing

Well Development Record

Project: TEAD - South Area
Geologist: J. Brown
Well No.: S-86-91
Date of Installation: 6/21/91

Well Information

Total Depth: 18.7
Screen Length: 5 (KP 12/23/92)
Casing Stickup (PVC):
Amt. of fluid in well (Prior to development) In well casing: 1.7 (KP 12/23/92)
In sat. annulus:
(30% porosity)
Amt. of mud/water lost During drilling:
During fluid purging:

Development

Date/time started:
Completed:
Water level Before development: 16.06
24 hrs. after: 16.42 (KP 12/23/92)
Depth to sediment Before development:
After development:

Measurement	Temp	pH	Specific Conduct.	DO	Date	Time	Vol. Wtr. Removed
Before Development							
1	12	7.53	9000	9.3	6/23/91	0753	1 gal
2	12	7.62	8000	9.3	6/23/91	0847	4 gal
3	12.	7.69	8500	9.5	6/23/91	0945	8 gal
4	12.	7.75	8500	9.1	6/23/91	1028	12 gal
5	12	7.80	8500	9.2	6/23/91	1105	16 gal
After development	12	7.78	9000		6/23/91	1145	20 gal

Surge technique: Bailer Purge + Surge
Type, size and capacity of bailer or pump: 3" x 3', PVC (KP 12/23/92)
Physical character of water removed (clarity, color, odor, particulates, etc.)

Quantity of fluid removed: Time for removal:

Note: all depths measured from top of casing

Well Development Record

Project: TEAD - South Area
Geologist: V Trippi
Well No.: S-91-91
Date of Installation: 5-19-91

Well Information

0.5 ppm on HNu

Total Depth: 25.12
Screen Length: 20 (KD 12/23/92)
Casing Stickup (PVC):
Amt. of fluid in well (Prior to development)
In well casing: 11.77 gal
In sat. annulus:
(30% porosity)
144 gal purge vol.

Amt. of mud/water lost
During drilling:
During fluid purging:

Development

Date/time started: 5-21-90 12:52
Completed: 5-21-90 15:10

Water level
Before development: 7.31
~~24 hrs. after~~: 8.25 and rising
1517 after devel.

Depth to sediment
Before development: ≈ 1/2"
After development: Ø

Measurement	pH	Specific Conduct.	Date	Time	Vol. Wtr. Removed
Before Development					
1	8.19	2100	5-21-19	~~12~~.52	~~13~~ 1 gal
2	7.49 30"	6400	5-21-91	1326	30
3	7.46	8200	5-21-91	1400	60
4	7.15	12500	5-21-91	1420	90
5	7.59	6200	5-21-91	1440	120
After development	7.75	4000	5-21-91	1500	150 water is clear
	7.71	4350	5-21-91	1505	155
Surge technique	7.65	6000	5-21-91	1510	160

Type, size and capacity of bailer or pump: 3" x 3' pvc Bailer

Physical character of water removed (clarity, color, odor, particulates, etc.)
1-20 gal - heavy sediment, tan color, 20-40 - light sediment, light tan color
40-160 same as 20-40 Clear + foamy ~ 150gal - viscus looking, no more sand, clear

Quantity of fluid removed: 160 gal
Time for removal:

Note: all depths measured from top of casing

Well Development Record

Well Development Record

Project: TEAD - South Area
Geologist: J. Brown
Well No.: S-77-91
Date of Installation: 6/23/91

Well Information

Total Depth: 20.22 ft
Screen Length: 10 (KP 12/23/92)
Amt. of mud/water lost
During drilling: ____
During fluid purging: ____
Casing Stickup (PVC): ____
Amt. of fluid in well (Prior to development)
In well casing: ____
In sat. annulus: ____
(30% porosity) Total Volume = 29 Gal

Development

Date/time started: 6/25/91 0900
Completed: 6/25/91 1130

Water level
Before development: 5.69'
24 hrs. after: 6.08 (KP 12/92)
Depth to sediment
Before development: ____
After development: ____

Measurement	Temp °C	pH	Specific Conduct.	Dissolved O_2	Date	Time	Vol. Wtr. Removed
Before Development	14	8.06	6000	1.0		0918	25AL
1	14	8.03	5500	1.7		0945	25
2	10	8.01	4000	3.0		1015	55
3	10	7.96	6000	3.1		1030	85
4	10	7.85	7000	2.5		1100	115
5	10	7.78	6500	3.2		1120	150
After development							

Surge technique: Bailer (KP 12/23/92)
Type, size and capacity of bailer or pump: PVC 3" x 3' (KP 12/23/92)
Physical character of water removed (clarity, color, odor, particulates, etc.)
Light milky color - no odor
Quantity of fluid removed: 150 Gal (KP 12/23/92) Time for removal: 120 min (KP 12/23/92)
Note: all depths measured from top of casing

Well Development Record

Project: TEAD-S /TO 0001 | Geologist: K. Dill

Well No.: S-103-93 | Date of Installation: 8/19/93

Well Information

Total Depth: 52.03 | Casing Stickup: 2.2

Screen Length: 10'

Gallons of Fluid in Well (Prior to Development)

In Well Casing: 16.34 FT of H_2O AT .65 GAL/FT = 10.6 GAL

In Saturated Annulus (30% Porosity): AREA SANDPACK = $(0.70 FT^2) \times (16 FT) \times (.3 POROSITY) (7.48 GAL/FT^3) = 25.1$ GAL

Development

Date/Time Started: 8/22/93 / 1315 | Completed: 9/1/93 / 1445

	Water Level	Depth to Sediment
Before Development	35.69	51.97
After Development(24 hrs)	35.70	52.03

Test Number	Date	Time	Temp	Cond (umhos)	pH	Turb (NTU)	Gal. Wtr Removed
Before Devel.	8/22	1350	15.9	18350	6.73	>200	—
During Devel.							
1	8/23	0957	14.2	18770	6.99	7200	~45
2	8/30	1532	—	18060	7.32	7200	~95
3	8/31	1747	13.3	19510	7.16	7200	~140
After Devel.	9/1	1445	14.2	18680	6.71	87.1	~165

Surge Technique: SURGE BLOCK ALONG SCREENED INTERVAL

Type, Size, and Capacity of Bailer or Pump: PVC BAILER / 3" X 3' / ~1.5 GAL
GRUNFOS / 2" / ~3 GAL

Physical Character of Water Removed (Clarity, Color, Odor, Particulates, etc.): INITIALLY MED BROWN, V. TURBID, H_2O NEVER DID COMPLETELY CLEAR UP AFTER ~165 GAL, V. SLOW RECHARGING WELL

Gallons of Fluid Removed: ~165 | Time for Removal: ~120 MIN

Note: All length measurements in feet. All depths from top of casing.

Well Development Record

Project: TEAD-S/TO 0001 | Geologist: K. Pill

Well No.: S-104-93 | Date of Installation: 8/8/93

Well Information

Total Depth: ~~72.06~~ 74.90 | Casing Stickup: 2.3

Screen Length: ~10'

Gallons of Mud / Water Lost		Gallons of Fluid in Well (Prior to Development)	
During Drilling	NA	In Well Casing	20.6
During Fluid Purging	NA	In Saturated Annulus (30% Porosity)	16.8

Development

Date/Time Started: 8/16/93 1520 | Completed: 8/22/93 1 0953

	Water Level	Depth to Sediment
Before Development	40.28	~~NA~~ 72.06
After Development(24 hrs)	40.39	~~NA~~ 74.90

Test Number	Date	Time	pH	Cond (µmhos)	Turb (NTU)	Gal. Wtr Removed	TEMP
Before Devel.	8/16	1615	6.25	15200	>200	0	13.7
During Devel.							
1	8/17	1612	6.38	19600	7200	~70	14.6
2	8/19	1625	6.60	19750	NA	~145	14.4
After Devel.	8/22	0943	6.98	19980	4.8	~200	14.3
Other	8/21	1211	7.17	19580	6.83	~170	14.4

Surge Technique: SURGE BLOCK ALONG SCREENED INTERVAL

Type, Size, and Capacity of Bailer or Pump: PVC BAILER / 3" X 3' / ~1.5 GAL; GRUNFOS / 2" / ~1.5 GPM

Physical Character of Water Removed (Clarity, Color, Odor, Particulates, etc.): INITIALLY GREY BROWN, V. TURBID ABUNDANT SILT/CLAY, STARTED CLEARING AFTER ~70 GAL, ONLY SLTLY TURBID AFTER ~170 GAL

Gallons of Fluid Removed: ~200 GAL | Time for Removal: ~200 MIN

Note: All length measurements in feet. All depths from top of casing.

Well Development Record

Project: TEAD-S / TASK ORDER 0001 Geologist: K. PILL

Well No.: S-105-93 Date of Installation: 8/5/93

Well Information

Total Depth: 20.28 Casing Stickup: 2.2'

Screen Length: ~10'

Gallons of Mud / Water Lost		Gallons of Fluid in Well (Prior to Development)	
During Drilling	NA	In Well Casing	6.8
During Fluid Purging	NA	In Saturated Annulus (30% Porosity)	14.3

Development

Date/Time Started: 8/10/93 / 1006 Completed: 8/10/93 / 1342

Water Level		Depth to Sediment	
Before Development	9.71	Before Development	~~NA~~ 17.13
After Development(24 hrs)	9.86	After Development(24 hrs)	~~NA~~ 20.23

Test Number	Date	Time	pH	Cond (µmhos)	Turb (NTU)	Gal. Wtr Removed	TEMP
Before Devel.	8/10	1034	6.93	1352	7200	0	16.5
During Devel.							
1	8/10	1213	6.74	1414	7200	~50	13.7
2	8/10	1239	6.73	1406	157.0	~75	16.8
After Devel.	8/10	1342	6.89	1407	37.2	~110	
Other							

Surge Technique: SURGE BLOCK ALONG SCREENED INTERVAL

Type, Size, and Capacity of Bailer or Pump: PVC / 3.5" X 10' / ~5

Physical Character of Water Removed (Clarity, Color, Odor, Particulates, etc.): INITIALLY H2O MED BROWN, V. TURBID, ABUNDANT SAND/SILT, STARTED TO CLEAR AFTER ~75 GAL REMOVED. LOT OF MATERIAL AT BOTTOM INITIALLY, MOST WAS REMOVED

Gallons of Fluid Removed: ~110 GAL Time for Removal: ~120 MIN

Note: All length measurements in feet. All depths from top of casing.

Well Development Record

Project: TEAD-5/T.O. 0001 Geologist: K. PILL

Well No.: S-106-93 Date of Installation: 8/21/93

Well Information

Total Depth: 52.47 Casing Stickup: 2.2'

Screen Length: 10'

Gallons of Mud / Water Lost		Gallons of Fluid in Well (Prior to Development)	
During Drilling	NA	In Well Casing	26.3
During Fluid Purging	NA	In Saturated Annulus (30% Porosity)	18.8

Development

Date/Time Started: 8/23/93 / 1115 Completed: 8/23/93 / 1419

Water Level		Depth to Sediment	
Before Development	11.97	Before Development	NA
After Development(24 hrs)	12.28	After Development(24 hrs)	NA

Test Number	Date	Time	pH	Cond (µmhos)	Turb (NTU)	Gal. Wtr Removed	TEMP
Before Devel.	8/23	1115	7.10	5270	27.6	0	20.5
During Devel.							
1	8/23	1219	6.91	8340	>200	~100	13.4
2	8/23	1255	7.06	8900	>200	~200	13.2
After Devel.	8/23	1419	7.09	9240	>200	~350	11.5
Other	8/23	1406	7.12	9230	>200	~300	12.5

Surge Technique: SURGE BLOCK ALONG SCREENED INTERVAL

Type, Size, and Capacity of Bailer or Pump: PVC 1 3.5" X 9' 1 ~3 GAL

Physical Character of Water Removed (Clarity, Color, Odor, Particulates, etc.): INITIALLY V. TURBID, NEVER CLEARED BELOW 200 NTU, LESS TURBID AFTER ~150 GAL

Gallons of Fluid Removed: ~350 GAL Time for Removal: ~150 MIN

Note: All length measurements in feet. All depths from top of casing.

Well Development Record

Project: TEAD-S/T.O. 0001 | Geologist: K. Dill

Well No.: S-107-93 | Date of Installation: 8/21/93

Well Information

Total Depth: 52.64 | Casing Stickup: 2.3'

Screen Length: ~10'

Gallons of Fluid in Well (Prior to Development)

In Well Casing: (44.18 Ft oc H_2O)(.65 GAL/FT) = 28.7 GAL

In Saturated Annulus (30% Porosity): (.51 FT^2)(15 FT)(.3)(7.48 GAL/FT^3) = 17.1 GAL

Development

Date/Time Started: 8/24/93 / 1430 | Completed: 9/2/93 / 1130

Water Level		Depth to Sediment	
Before Development	6.60	Before Development	50.78
After Development(24 hrs)	6.78	After Development(24 hrs)	52.64

Test Number	Date	Time	Temp	Cond (µmhos)	pH	Turb (NTU)	Gal. Wtr Removed
Before Devel.	8/24	1438	22.3	2710	9.18	33.7	0
During Devel.							
1	8/24	1608	13.5	5090	7.47	>200	~65
2	8/30	1302	16.3	4910	7.41	33.9	~150
3	9/1	1519	13.7	5160	7.51	9.72	~280
After Devel.	9/2	1130	15.2	5030	7.32	8.71	~360

Surge Technique: SURGE BLOCK ALONG SCREENED INTERVAL

Type, Size, and Capacity of Bailer or Pump: PVC / 3" X 9' / 3 GAL; GRUNFOS / 2" / 5 GPM

Physical Character of Water Removed (Clarity, Color, Odor, Particulates, etc.): DID NOT SURGE IMMEDIATELY, H_2O SLTLY TURBID, AFTER SURGING, H_2O V. TURBID, MED BROWN, ABUNDANT SILT/CLAY, BECAME CLEAR AFTER ~140 GAL, CONSISTENTLY CLEAR AFTER ~200 GAL

Gallons of Fluid Removed: ~360 | Time for Removal: ~150 MIN

Note: All length measurements in feet. All depths from top of casing.

Glossary of Abbreviations and Acronyms

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AC-FT	Acre feet
APP	Approved
B&M	Base and Meridian
CFS	Cubic feet per second
CNR	Corner of section
Csng Vols	Casing volumes
E	East
E.C. Meter	Electrical conductivity
(F)	Feet
Ft.	Feet
gal/min	Gallons per minute
Gals	Gallons
Hwy.	Highway
ID	Identification
in.	Inches
INFO	Information
MAP CHAR	Location marker on map
mg/l	milligrams per litre
mhos/cm	milliohms per centimeter
N	North
NA	Data not available
NE	Northeast
No.	Number
NW	Northwest
P.O.	Post Office
PER	Perfected
pH	The measure of acidity and basicity of a solution.
PTP	Point to point
RED	Point rediverted
RNG	Range
S	South
SE	Southeast
SEC	Section
SL	Salt Lake (meridian)
SUR	Surface water
SW	Southwest
TER	Terminated
TOC	Top of casing
TWN	Township
UGW	Underground water
UNN	Unapproved
UT	Utah
Vol.	Volume
W	West
Y	Yes