APPENDIX T



Miner Flat Dam Left Abutment Ridge Seepage Analysis, April 1997

GOLDER ASSOCIATES, VOLUMES 1 THRU II OF II

FEBRUARY 2007

Golder Associates Inc.

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MINER FLAT DAM LEFT ABUTMENT RIDGE SEEPAGE ANALYSIS

VOLUME II OF II

Prepared for:

Morrison-Maierle/CSSA 910 Helena Avenue Helena, Montana

Prepared by:

Golder Associates Inc. 200 Union Blvd., Suite 500 Lakewood, Colorado 80228

Distribution:

Copy - Morrison-Maierle/CSSA
 Copy - Golder Associates Inc.



April 1997

943-2769

APPENDIX F

PACKER TESTS

APPENDIX	F
-1-	

April 1997

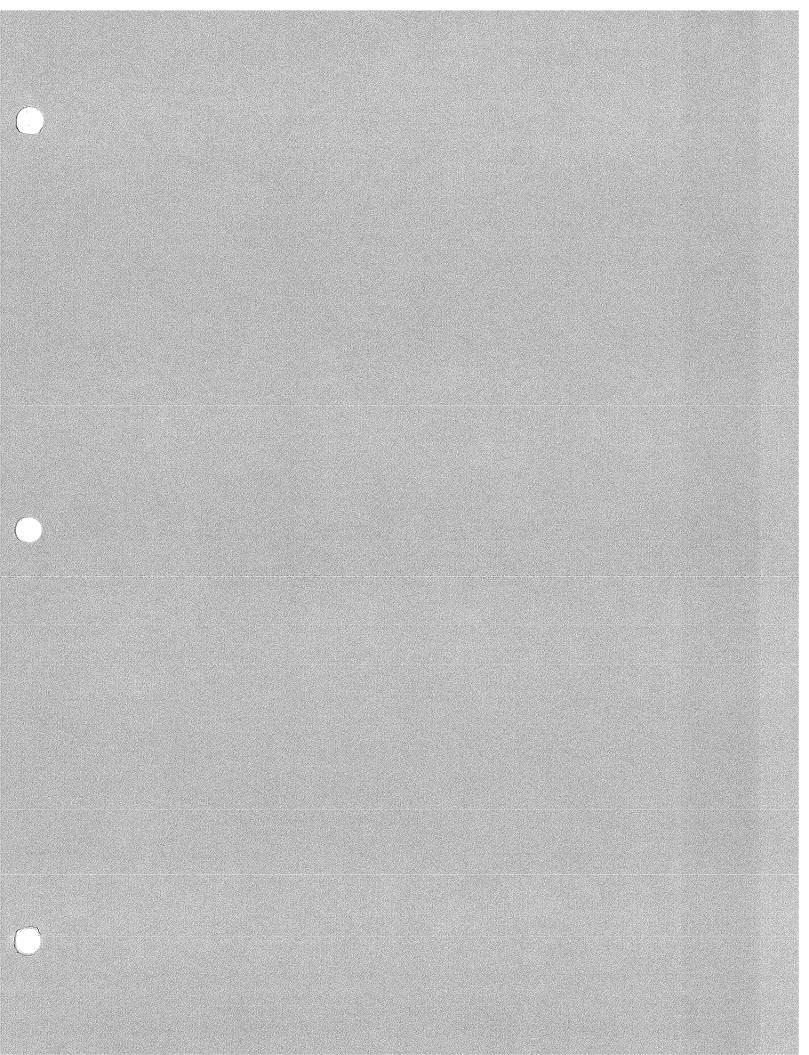
Summaries of packer test analytical results are presented in Appendix F. Results are presented by borehole and hydraulic conductivity values are given by depth of test interval. When available three values are given; a low, a high, and a regression value calculated from the slope of the line defined by at least two constant-head steps. The low and high values were calculated from the slope of the lowest and highest constant-head steps and the plot origin (0,0). In the cases when only one step of a constant head test was conducted, the calculated hydraulic conductivity was presented as a "low" value.

The full set of analyses is located in Appendix F. The constant head analyses consist of three pages: a data input page, a graph of the raw data, and a calculation page. The data input page contains the individual test parameters such as depth of the interval and static water level, as well as the raw data. Only a small portion of the raw data is shown at the bottom of the data input page due to space limitations. The times, flow rates and pressure head data were used for the data plot and for picking appropriate corresponding pressures and flow rates. Three- and five-point moving averages were calculated to aid in picking appropriate values in the case of unstable or fluctuating data. The moving-average data were used only for the purpose of data assessment and smoothing particularly variable data, and were not applied to the plots or analyses.

The second page contains a graph of the raw data and a list of the values chosen for input into the steady-state (Thiem) equation. The number of data points corresponds to the number of steps conducted for that particular test interval.

Page three of the analysis contains a graph of the pressure head and flow rate picks from the data. Up to three lines, representing the low, high, and a linear regression, were used for the slope calculation. Below the graph is shown the steady-state equation and the values used for the analysis. The resulting hydraulic conductivity (K) values are shown at the bottom of the sheet.

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Packer Testing Results Borehole MF 218A

Interval #		Interval Depth	l Depth		Lithology			Hydraulic Conductivity	onductiv	ity	
	L	Top	Bot	ttom			feet/min			cm/sec	
	(fbtc) ¹	(elevation) ²	(fbtc)	(elevation)		Low	High	High Stregression ³	Low ⁴	High	Regression
15	4.75	6102.77	29.62	6077.90	Sandstone	2.28E-03			1.16E-03		
14	29.25	6078.27	54.12	6053.40	Sandstone	2.98E-04	3.15E-04	4.11E-04	1.52E-04	1.60E-04	2.09E-04
13	53.75	6053.77	78.62	6028.90	Sandstone	5.54E-05			2.81E-05		
10	77.58	6029.94	102.94	6004.58	Sandstone	8.37E-04	1.08E-03	4.68E-04	4.25E-04	5.49E-04	2.38E-04
6	102.41	6005.11	127.77	5979.75	Sandstone	3.12E-04	5.43E-04	6.89E-04	1.59E-04	2.76E-04	3.50E-04
~	127.85	5979.67	152.72	5954.80	Sandstone	9.63E-04			4.89E-04		
7	152.55	5954.97	177.42	5930.10	Sandstone	2.35E-04	4.93E-04	7.01E-04	1.19E-04	2.50E-04	3.561:-04
6	177.25	5930.27	202.12	5905.40	Sandstone	1.31E-04			6.65E-05		and the second s
5	202.05	5905.47	226.75	5880.77	Sandstone	2.84E-05			1.44E-05		
4	225.58	5881.94	250.94	5856.58	Sandstone	3.76E-05	8.09E-05	1.28E-04	1.91E-05	4.11E-05	6.48E-05
3	251.95	5855.57	276.75	5830.77	Sandstone	3.44E-04	8.21E-04	9.06E-04	1.75E-04	4.17E-04	4.60E-04
2	276.75	5830.77	301.12	5806.40	Sandstone	7.13E-08	2.99E-07		3.62E-08	1.52E-07	
-	301.22	5806.30	326.09	5781.43	Sandstone	5.20E-03	5.15E-03		2.64E-03	2.62E-03	
12	326.09	5781.43	341.09	5766.43	Sandstone	1.85E-03			9.40E-04		
Ξ	334.45	5773.07	351.70	5755.82	Sandstone	2.23E-06			1.14E-06		

¹ Feet below top of casing. ² Feet above mean sea level

³ Regression analysis does not include origin as a point. ⁴ Single point tests are presented in the "low" value column, however, they do not necessarily represent the low value for that interval.

218A

061.1972-614

96/00/1

0.02 1.06 0.02 1.06 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0
003 2.04 0.03 0.04 2.10 0.00 0.04 2.22 0.03 0.04 2.23 0.02 0.04 2.34 0.04

Average Q (gal/min)

Applied Head Δ time (fect of water (minutes)

Average Q (gal/min)

5 Point Moving Averages

Moving Averages

19.74 19.74

Above Below

320.00

Vertical Depth (ft)

Bottom of interval

325.83

ertical depth of bottom of interval (ft)

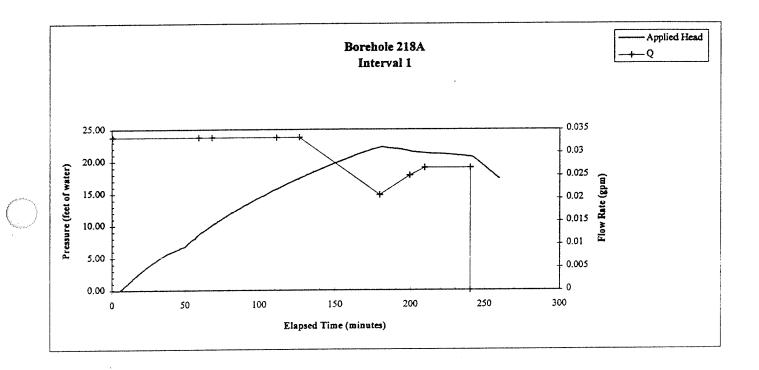
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218A01.CHA, hiput Data

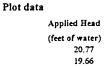
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
20.769	0.0267
19.659	0.0276



Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole Interval Number

.

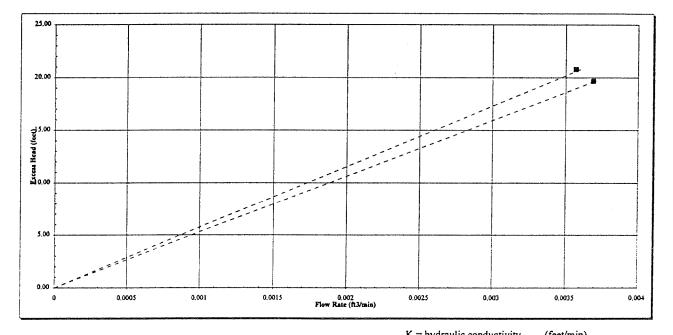


218A

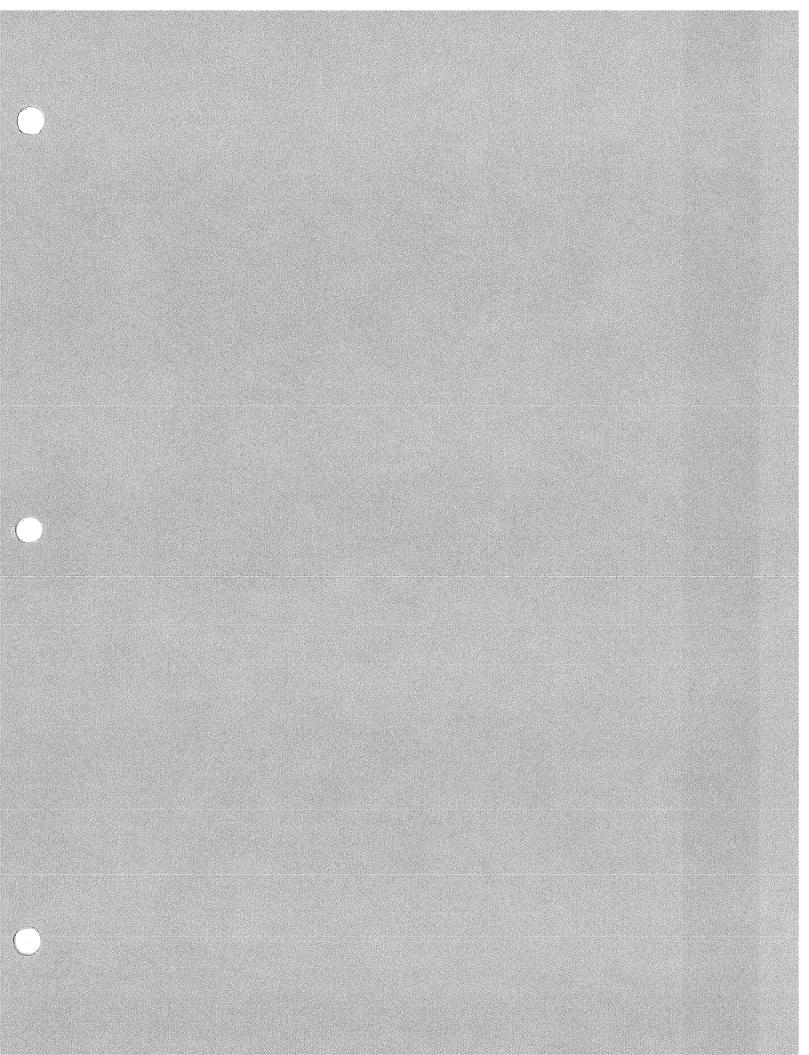
1

Flow Rate (Q) (gal/min) 0.027 0.028





K = 1/(2πL) x (Q/h _e) x ln (L/r)	Q = Flow he = App	lied head h of interva		(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of l	bydraulic conductivity				
K =	2.6E-03 cm/s 5.2E-03 feet/min	Q = h _e =	0.0043 0.0267	ft ³ /min feet	
K =	2.6E-03 cm/s 5.2E-03 feet/min	Q = h _e =	0.0044 0.0276	ft ³ /min feet	

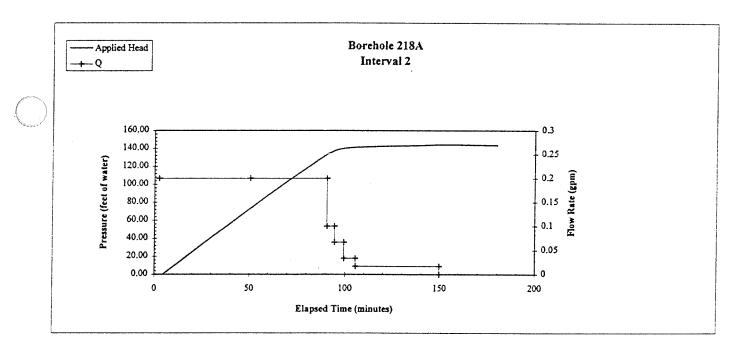


VIJONO											χ	0111665-686
Cllent Site Project No.	Morrison-Maleric/CSSA Miner Flat 943-27691	lerte/CSSA										
Borehole Test Number Test Date	218A 2 30-Oct-95				Test Type: Constant head, Straddle packer Gauge located downhole	le packer le						
Borehole diameter Borehole radius Test section location			inches feet feet below top of casing	20	vertical depth lepth (ft)	calculation: Top of interval Vertical	n: erval Vertical Depth (ft)	liole depth (A)	Bottom of interval Vert	rval Verticat Deoth (ft)		
Length of test interval Gauge Depth Static Water Level	Bette	301.22 24.47 205.75 206.28	feet below top of casing feet feet below top of casing feet below top of casing	30 <u>9</u> 0 90	Abuve 270.00 Abuve Below 280.00 Below Vertical depth of top of Interval (f)	270.00 Above 280.00 Below f interval (ft)		Above Bolow Vertical depth of t	Above 300,00 Above Balow 310,00 Below Vertical depth of bottom of interval (ft)	Above 299.76 Below 309.75 11 (ft) 300.98		
General Lithology Sandstone												
Start Time	14.07:36						3 Poli	3 Point Moving Averages	803	5 Point	5 Point Moving Averages	28 H
Clock Time	Elapsed time Elapsed time (hours) (minutes)	Elapsed time (minutes)	Measured Head (feet of water)	Applied Head (feet of water)	Q (gal/min)		Applied Head (feet of water)	∆ time (mins)	Average Q (gal/min)	Applied Head (feet of water)	∆ time (minutes)	Average Q (gal/min)
14.07.36	000	0.00	E0.0	£0.0	- Andreas					,		
14.07.40	000	0.06 0.12	0.02	0.02 -0.03			100					
14.07.47	00.0	0.18	£0'0	0.03			0.0	0000 9000	0.0	0.02	000	50 0
14:07:54 14:07:58	10.0	0.30		0.04	3. - 3.		0.03	0.0	00.0	0.01	0.00	000
14:08:01	10.0	0.42	-0.02				0.02	8.8	0.0	10.0	E0:0-	0.00
14.08.08	10.0	0.54		0.00			000	60.77 100.00	00.0 00.0	10.0	10.0	000
14.08:12 14.08:19	10.0	0.60 0.72	0.03	0.03 00.0			10:0	0.00	0.00	000	0.03	00.0
14.08.23	0.01	0.71	10'0	10.0			0.00	-0-02 0-00	00.0	0.0	0.00	000
14:08:26	10.0	0.84	0.00	0.00			10.0-	10	8.0	00.0	-0.06 0.02	00.0
14:08.37	0.02	6.79 1 07	0.03	-0.03			10.0-	0.01	00:0	00'0	0.00	0.00
14.08.44	0.02	H	10.0	10.0			000	0.04	0.0	8.0	10.0	0.00
14.08:48 14.04:43	0.02	1.20	10.0	10.0			0.01	0.00	00.0	0.01	000	00.0
14.01.59	0.02	97.1	10'0	10:0			10.0	0.00	00.00	0.01	0.00	00.0
14:09:02	0.02	Ŧ	10.0	10.0			0.01	000	0.00	0.01	0.00	00.0
14:09:10	0.03	1.56	0.01	0.01			10:0	0000	00.0	10:0	00.00	00.0
14:09:13 14:09:17	0.03	1.62	10'0	0.01	Provide Control of the Control of th		00.00	9 0.0	00.0	00.0	00:0	00.0
14:09:24	E0 0	01.1	100	10 0 10 0			0.00	0.00	0.00	10:0-	1 0:07	00.0
14:09.28	£0:0	1.86	E0.0-	0.03			70.04	8.6	0 00	0.0	0.00	00'0
2E.00.91	0.03	1.98	10:0				0.0	0.0	00.0	00.0	1 0	0.0
14:09:38	0.03	2.04	10.0				10.0	0.0	0.0	000	00'0 10'0	00.0
14:09:42	8.0	2.10	0.01				0.01	0.00	00.0	0.01	00.0	0.0
14.09.51	100	2.28	100	10:0			10.0	0.00	0.00	0.01	0.00	00.0
14.09.56	0.04	2.34	10'0	10:0			10.0	0.00	0.00	10:0	00.0	10.0
								A	10.0	10.0	00.0	100

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218A02.CHA, Input Data

•
Flow Rate (Q)
(gal/min)
0.0010
0.0042



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Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

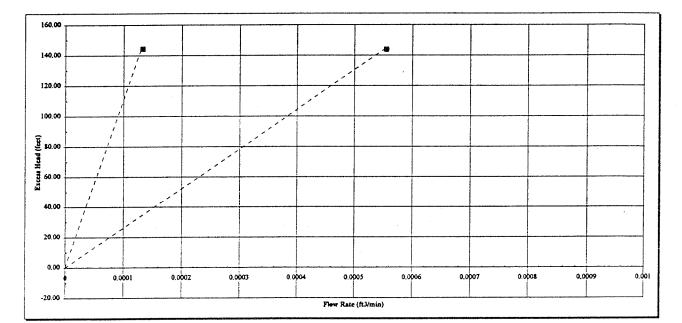
2

Borehole 218A Interval Number

Plot data



Flow Rate (Q) (ft³/min) 0.00013 0.00055



 $K = 1/(2\pi L) \times (Q/h_e) \times \ln (L/r)$

Range of hydraulic conductivity

K =	1.8E-08 cm/s	Q =	0.0002	ft ³ /min
	3.6E-08 feet/min	h _e =	144.1600	feet
K =	7.7E-08 cm/s	Q =	0.0007	ft ³ /min
	1.5E-07 feet/min	h _e =	143.6700	feet

(feet/min)

(ft³/min)

(feet)

(feet)

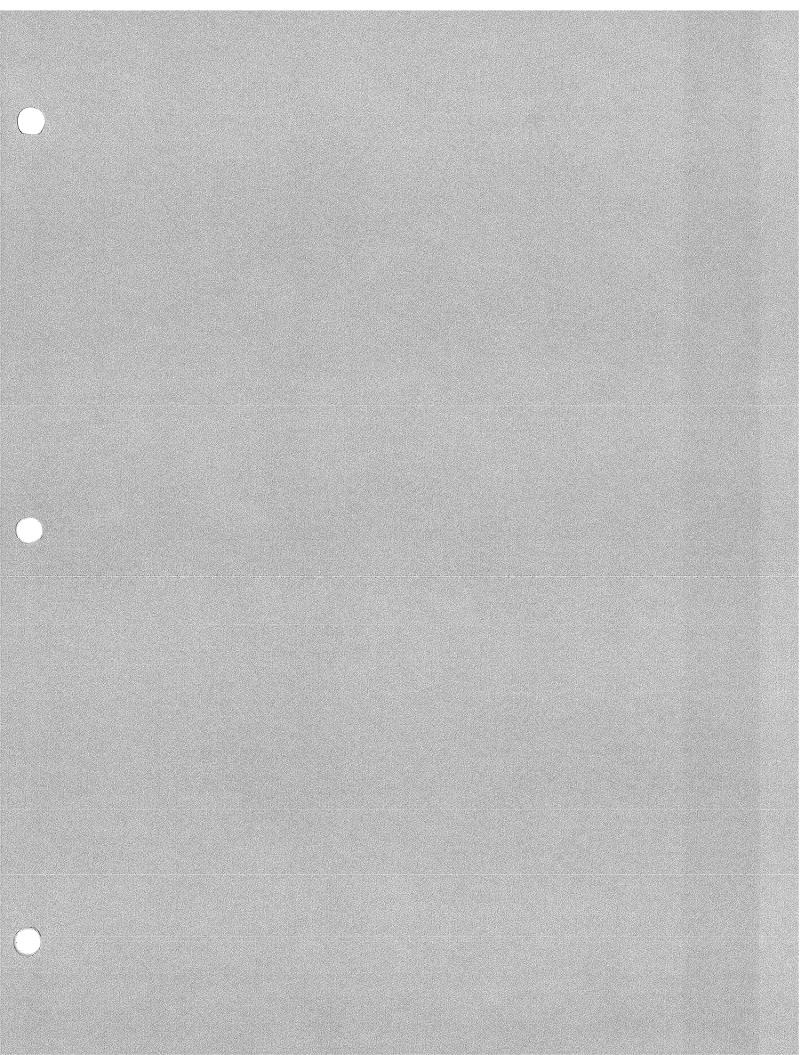
(feet)

K = hydraulic conductivity

L = length of interval tested

Q = Flow ratehe = Applied head

r = borehole radius



Clicat Site Project No.	Morrison-Maierle/CSSA Miner Flat 943-27691	ierle/CSSA											
Borcholc Test Number Test Date	218A 3 retest 17-Nov-95				Test Type: Constant head, Straddle packer Gauge located downhole	ddie packer bole							
Borchole diameter Borchole radius Test section location Length of test Interval Gauge Depth Static Water Level	Top Bottom	3.78 0.16 250.58 275.94 25.36 214.20 206.28	inches fect fect below top of casing fect below top of casing fect fect below top of casing fect below top of casing		True vertical depth calculation: Top of interval Hole depth (ft) 250.00 Above Above 260.00 Below Below Vertical depth of top of interval (ft)	calculation: Top of Interval Vertical Depth (f) 250.00 Above 249.81 260.00 Below 259.8 pof Interval (ft) 250.39		Hole depth (ft) Above Bolow Vertical depth of I	Hole depth (ft) Bottom of interval Above 270.00 Abov Babove 280.00 Belov Vertical depth of bottom of interval (ft)	rval Vertical Depth (ft) Above 269.79 Below 279.74	○ 8 8 6		
General Lithology Sandstone Start Time	16.20.57					2	Polic	3 Polint Moving Averages	IJ	Í.	5 Point Me	5 Point Moving Averages	5
Clock Time	Elapsed time (hours)	Elapsed time Elapsed time (hours) (minutes)	ie Measured Head (feet of water)	Applied Head (feet of water)	i Q (gal/min)	Al Al	Applied Head (feet of water)	∆ time (mins)	Average Q (gal/min)	Applied Head (feet of water)	Head (n	∆ time (minutes)	Average Q (gal/min)
16:20:57	00:0	00.0	0.03	0.03									1
16:21.04	00.0	0.0 0.12	10.0-	10:0- 20:0			10.0	000	0.00				
16:21:0 8 14:21:14	00'0	0.18	10'0-	10:0-			0.02	-0.02	00:0	0.02	2	0.04	0.00
16:21:19	10.0	90.36	0.03	50 O			0.02	10.0	0.00	0.03	~	0.00	00'0
16:21:22	0.01	0.42		0.05		-1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	0.04	70.0	000	0.0		0.04	0.0
16.21.29 16.21.21	10.0	0.54	0.03	0.03			0.04	8.0	0.00	60 G	• •	0.29	8 00 00 00 00
16.21.40	10.0	0.0	0.05 0.12	0.05			0.13	0.29	0.00	0.22	~	0.60	0.00
16.21.44	10:0	0.78	0.0	0.65			0.64	99 G	00.0	0.40	-	0.93	0.0
16.21.47	10'0	0.84	0.96	96.0			0.88	86.0	0.00	190		0.76	00.0 00.0
16.21.53	0.02	8.0	1.02	1.02			1.02	0.12	00:0	1.07		16.0	0.0
16:22:05	0.02	20.1	1.04	10.1			1.24	0.60	0.00	1.41	_	1.42	0.00
16.22.09	0.02	2	2.38	70'I			1.70	9	0.00	1.71	-	1.74	0.00
16.22.13	0.02	1.26	2.81	2.81			2.13	1.10	0000	2.24		121	0.00
16.22.20	0.02	1.34	3.29	3.29			1.23	0.77	0.00	3.20		9 5	8.0
16 22 21	0.02	1.44	3.56	3,51			3.60	0.64	0.00	3.5		Ē	000
16.22.34	0.03	1 62		*			3.86	0.54	0.00	3,84	_	6.0	0.00
16:22:38	0.03	1.68	428	17		7. j.	4.11	1	0.00	4.07	_	0.88	0.00
16.22:41	0.03	1.74	4.46	4.46		1	11	50 M	0.0	4.28		0.68 0.63	00.0 00.0
45-00-91	0.03	1.86	4.62	4.62			4.61	0.27	0.00	4.59		0.57	8 8
16.22.59	600	100	4.4 2.4	4.74			4.74	0.23	0.00	4.72		0.49	00.0
16.23.03	0.0	2.10					6.15	0.22	0.00	4.82		SE.0	0.00
16:23:10	0.04	1.11	4.97	4.97			76 P	0.12	0.0	16.9		0.32	0.00
16.23.14	0.0	2.28	5.05	5.05			5.03	0.11	8.0	105		CT 0	8.6
10.23.17	0.04	2.34	5.08	5.08			5.09	0.07	0.00	\$.08		0.20	0.0

Oolder Associates

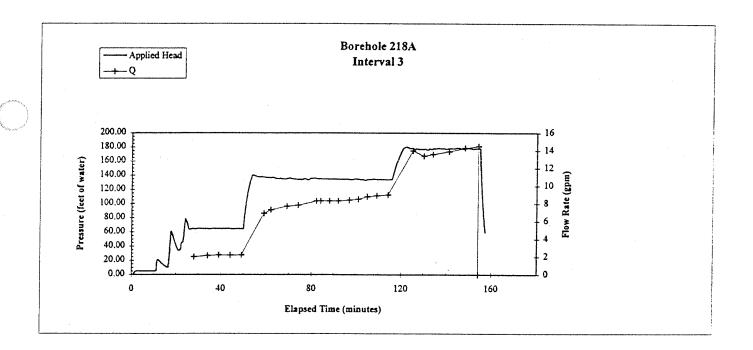
218A03.CHA, Input Data

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130%

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
64.46	2.2000
133.90 177.94	9,0000 14.5000

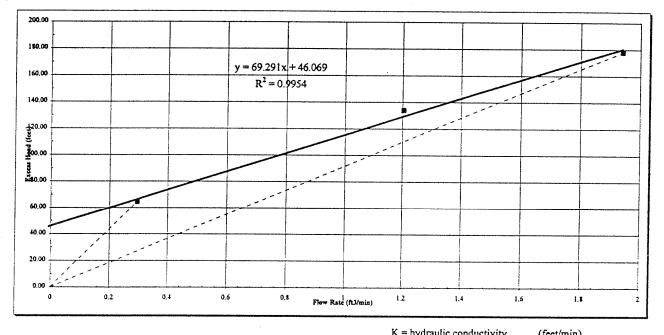


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

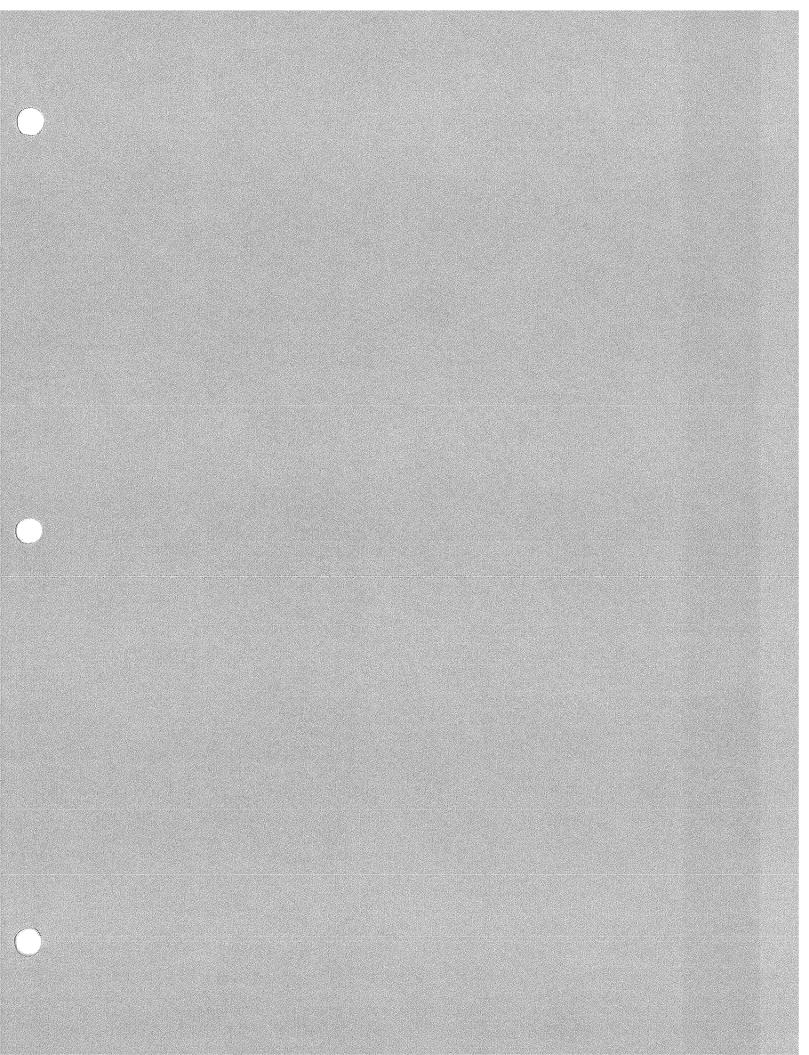
Borehole 218A Interval Number 3 retest

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
64.46	2.2000	0.2941
133.90	9.0000	1.2033
177.94	14.5000	1.9387



K = 1/	/(2πL) x (Q/h _e) x ln (L/r)	Q = Flow he = App	lied head h of interval t		(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of	bydraulic conductivity				
K =	8.9E-05 cm/s 1.7E-04 feet/min	Q = h _e =	0.3532 64.4600	ft ³ /min feet	
K =	2.1E-04 cm/s 4.2E-04 feet/min	Q = h _e =	2.3279 177.9400	ft ³ /min feet	
K =	2.33E-04 cm/s 4.60E-04 feet/min	Trendlin	69.29)	



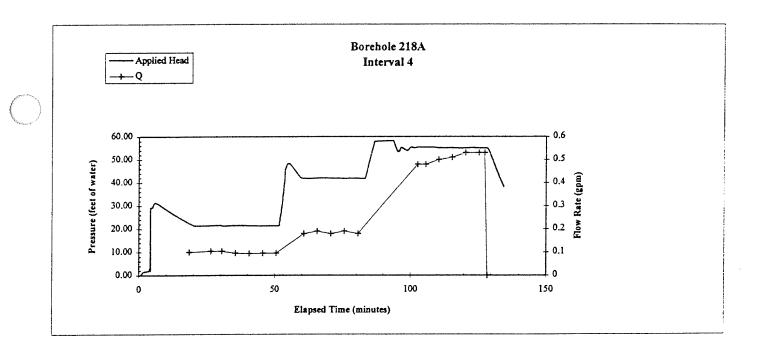
0[1]1672-EPP					S Point Maving Assessed	Δ time Average Q (minutes) (gal/mln)			0.00 0.00			0.00 0.00			000 000			0.00 0.00			0.40 0.00						0.10 0.00		
			a of interval Vertical Depth (ft)	249.41 259.8 250.75	C Point	Applied Head (feet of water)			0.0	6.03	0.03	0.0- 0.0-	£0.0 -	10.0	0.17	0.36	0.55	0.93	1.06	1.15	271	5 1	1.44	1.47	<u> </u>	1.52	*C1	1.59	191 1.65
			tton	250.00 Above 260.00 Below ttom of interval (ft)	Ĕ	Average Q (gal/min)		500	0.00	0.00	00'0	000	00.0	80	0.00	00.0	0.0	0.0	0.00	0.00	00.0	0000	0.00	0.00	0.00	00.0	0.0	0.00	00.0
			Hole deptk (ft)	Above 250.00 Above Below 260.00 Below Vertical depth of bottom of Interval (ft)	3 Point Moving Averaged	∆ time (mins)		80	8.0	8.5	8.9	8.0	10.0-	0.00	620	95.0	0.59 7 C	0.12	0.29	229	0.12	0.10	30.0	0.07	8	8 2	10:0	0.16	0.04 0.03
			il Depth (ft)	219.82 229.82 225.40	3 Poh	Applied Head (feet of water)		100-	60.03	60 Q	6.67	60.0-	-0.03	-0.03 -0.01	0.10	15.0	4C.0	H (0	1.05	1.16	171	1.40	1.44	4	151 151	6 T	57	1.58	1.63 1.65
		Test Type: Constant head, Straddle packer Gauge located downhole	certical depth calculatio certical depth calculatio (cpth (ft)	Above 220,00 Above Below 230,00 Below Vertical depth of top of interval (ft)		Q (gal/min)																	Р						
				lect below top of casing feet feet below top of casing feet below top of casing		i Hca Applied Head vater) (feet of water)			- 1	0.03 0.01 0.02 0.01						0.30	0.89	66:0	101	171	¥E I		I :						1.64
			inches feet feet below t	feet below f feet feet below f feet below f		: Measured Hea (feet of water)	60.0-	10 0 10 0 10 0				0.0	0.0			0.30	680	0.93	5	1.26	F	1.40	*	151	1.51	1.57	1.41	1911	1.65
	rle/CSSA		3.78 0.16 225.58	25054 25.36 214.20 206.28		Elapsed time (minutes)	0.00	0.06	0.18	05.0 81.0	0.42	0.54	09.0	0.7%	0.84	96:0 80 t	1	1.20	1.26	Ŧ	1.36	1.62	191	1.16	1.98	2.04	2.10	2.22	877 FEZ
	Morrison-Malerle/CSSA Miner Flat 943-27691	218A 4 reicst 18-Nov-95	Tep		II.09.29	Elapsed time (hours)	00.0	00.0	0.00	10.0	0.01	10.0	10.0	0.0	10:0	0.02	0.02	0.02	0.02 0.03	0.02	0.03	[0:0]	0.03	60.0	6.03	0.03	0.04	10 0	300
73006	Client Site Project No.	Borehole Test Number Test Date	Borchole diameter Borchole radius Test section location	Length of test interval Gauge Depth Static Water Level	General Lithology Sandstone Start Time	Clock Time	8.09.29	66:20.4 86:00:8	B.09.40	10001	B:09.54	8:10:01 ** 10.04	8:10:12	B:10:16	810:19 510:3	\$:10.34 \$:10.34	10.37	8,10.41	8-10-45 8-10-52	8:10.55	B:11:03	90 TL 00	8.11.17	8.11.21	B(11:28	101131	SE:11:3	B.11:42 B.11:46	2 Y II

Oulder Associates

218A04 CHA, Input Data

 $\left(\right)$

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
21.39	0.0958
41.87	0.1800
55.01	0.5300

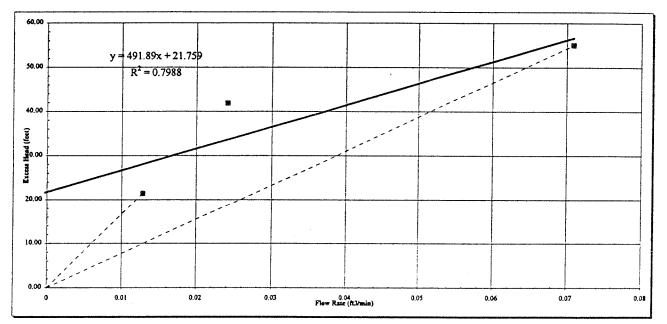


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

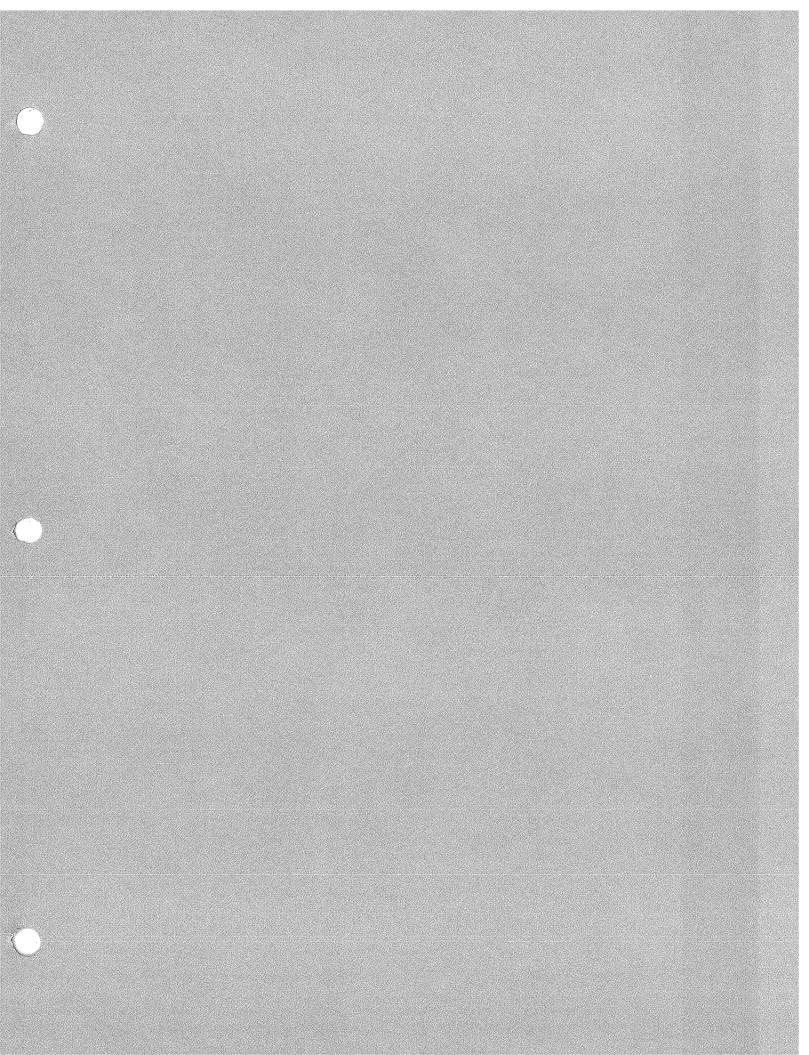
Borehole 218A Interval Number 4 retest

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
21.39	0.0958	0.0128
41.87	0.1800	0.0241
55.01	0.5300	0,0709



K = 1/	(2πL) x (Q/h _c) x ln (L/r)	Q = Flow he = App L = lengt			(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of	hydraulic conductivity				
K =	9.7E-06 cm/s 1.9E-05 feet/min	Q = h _e =	0.0128 21.3900	ft ³ /min f ee t	
K =	2.1E-05 cm/s 4.1E-05 feet/min	Q = h _o =	0.0709 55.0100	ft ³ /min feet	
K =	3.28E-05 cm/s 6.48E-05 feet/min	Trendline Slope	491.8	9	

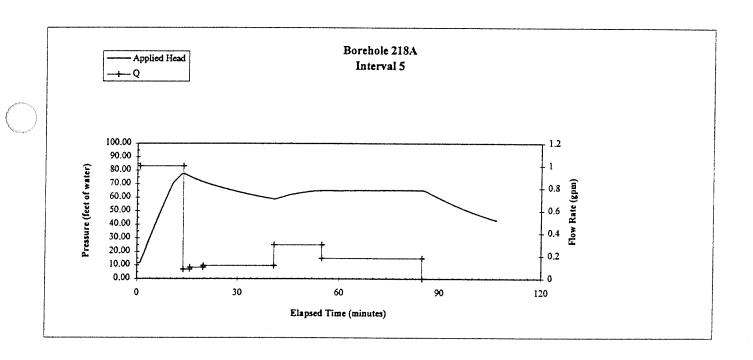


J30%					Server of	(marine)						M3-2791.130
Client Site Project No.	Morrison-Maierle/CSSA Miner Flat 943-27691	erle/CSSA										
Boreholc Test Number Test Date	218A 5 31-Oct-95				Tast Type: Constant head, Straddle packer Gauge located downhole	ddie packer Ibole						
Borchole diameter Borchole radius Test section location Length of test interval Gauge Depth Stater Water Level	Top Bottom	3.78 0.16 202.05 24.70 194.75	inches feet feet below top of casing feet below top of casing feet below top of casing feet below top of casing		True vertical depth calculation: Top of interval Hole depth (ft) 200.00 Above Below 210.00 Below	calculation: Top of interval 200.00 Above 210.00. Below	t: rral Verical Depit (f) Above 199.8 Below 209.8		Bottom of interval Vertica 220.00 Above 230.00 Below	d Dept		
General Lithology Sandstone Start Time	16.05.10					(II) 1	3 Poi	verucal adplue of bottom 3 Point Moving Averages	vertical appla of bottom of interval (ft) it Moving Averages	226.57 5 Point	57 5 Point Moving Averages	Tages
Clock Time	Elapsed time Elapsed tim (hours) (minutes)	Elapsed tim (minutes)	Measured Head (feet of water)	Applied Head (feet of water)	Q (gaVmin)		Applied Head (feet of water)	Δ time (mins)	Average Q (gaVmin)	Applied Head (feet of water	∆ time (minutes)	Average Q (galmin)
16:05:10 16:05:14	0.0 0.0	00.0 90.0	0.04	11.57		en el						, ,
16.05.17 16.05.21	0.0	0.12	80.0	11.59		·. *	11.59	10'0	00'0			
16.05:28		0.30	90.0	95.11 92.11		1	05 II 11 59	0.00	0.00	11.59	0.01	00:0
16:05:32 16:05:35	10.0	0.36	0.06 202	11.59			11.59	0.00	0.00	11.59	0.0	00.0
16.05.42	10'0	1.0	0.0	90,11 92,11		e n Value	11.59	8.0	0.0	11.59	0.00	0.0
16.05.53	0.0	0.72	90.0	11.59		11	95.11 92.11	0.00	000	11.59	0.0 0.0	0.00 0.20
16:05:37	10.0	0.78	90.00	95.11	-		11.59	00.0	0.33	11.59	-0.02	0.20
16:06:00	10.0	110	8.0	72.11	3		11.58	0.02	0.33 11 0	11.65	16.0	0.20
16.06.08	0.02	96.0		06/11			11.97	1 10	00.0	11.42	0.86	0.20
16:06:15 16:06:11	0.02	8 0 1	0.02	12,45			12.43	1.06	0.00	12.42	1.64	00.0
16.06:26	0.02	1.16	161	8 71			12.07	0.76	0.0	12.89	2.06	000
16.06:26	0.02	1.26	14	8.1			16.0	00:1	8 8	96.E1	26.1 2.25	0.00
16:06:33	0.02	1.38	2.87	14.40			14.50	97	0.0	1941	2.11	0.00
16:06:36	0.02	1.44	3.63	15.16			14.96	0.92	0.00	14.93	=	0.0
16:06:47	0.03	9 <u>51</u>	9.15	15.32			15.44	0.68	0.00	15.39	1.1	0.00
16:06:31	60.0	168	69.4	16.22			15.79	16.0	0.0	15.88 15.20	1.1	0.00
16.06:58	0.03	1.80	£E.2	16.86			16.91	051	0.0	45.01 E0.71	79. 19	00.0
16.07.02	0.03	98 - C		17.71			17.69	1.64	0.00	17.65	171	00.0
16:07:16	500	2.04 2.10	0.97 7.40	18.50			18.38	121	00.00	18.30	2.63	0.00
16.07.23	100	2.22	96 L	14.11 07.01			18.97 10.40	00.1	0:00	11.94	2.33	00.00
16:07:27	0.04	2.28	8.52	20.05			20.04	1.12	00.0	19.51 20.02	2.08	0.0
16:07:30	90.04	2.34	9.05	20.58			20.58	1.06	0.00	20.05	2.13	000
16.07;38	10.0	2.46	9.58	21.11			21.10	1.05	0.00	21.07	61	0.0

Golder Associatos

211A05 CHA, Input Data

	-
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
65.24	0.1800
	u /



Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

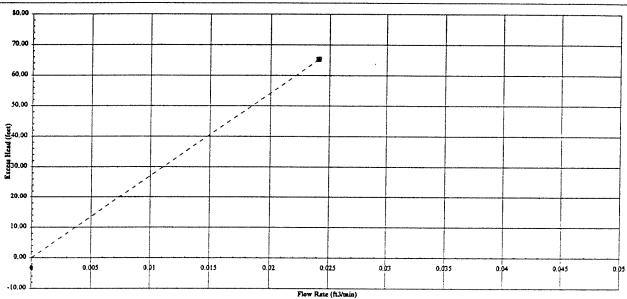
Borehole 218A Interval Number 5

Plot data

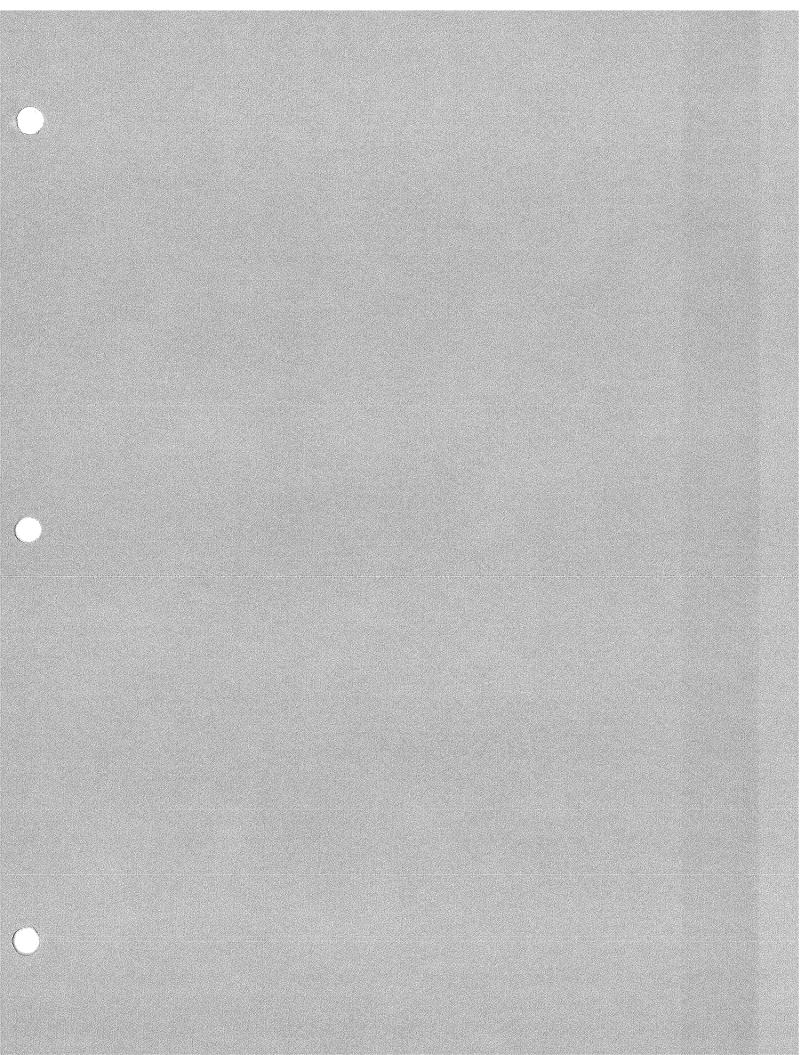
Applied Head
(feet of water)
65.24

Flow Rate (Q) Flow Rate (Q) (gal/min) 0.1800

(ft³/min) 0.0241



K = .1/(2	2πL) x (Q/h _e) x ln (L/r)	Q = Flow i he = Appli	ed head of interval te		(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of h	ydraulic conductivity				
K =	7.3E-06 cm/s 1.4E-05 feet/min	Q = h _e =	0.0289 65.2400	ft ³ /min feet	

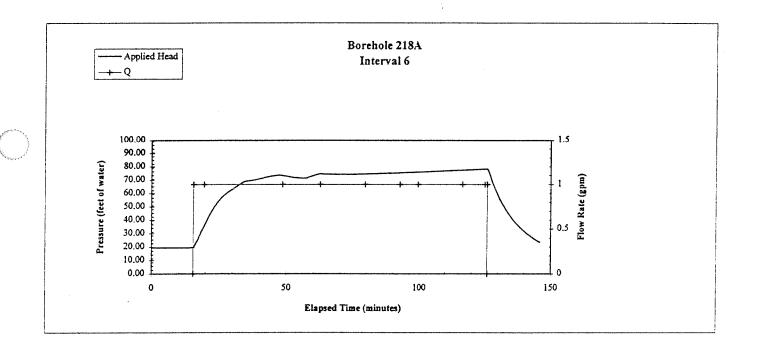


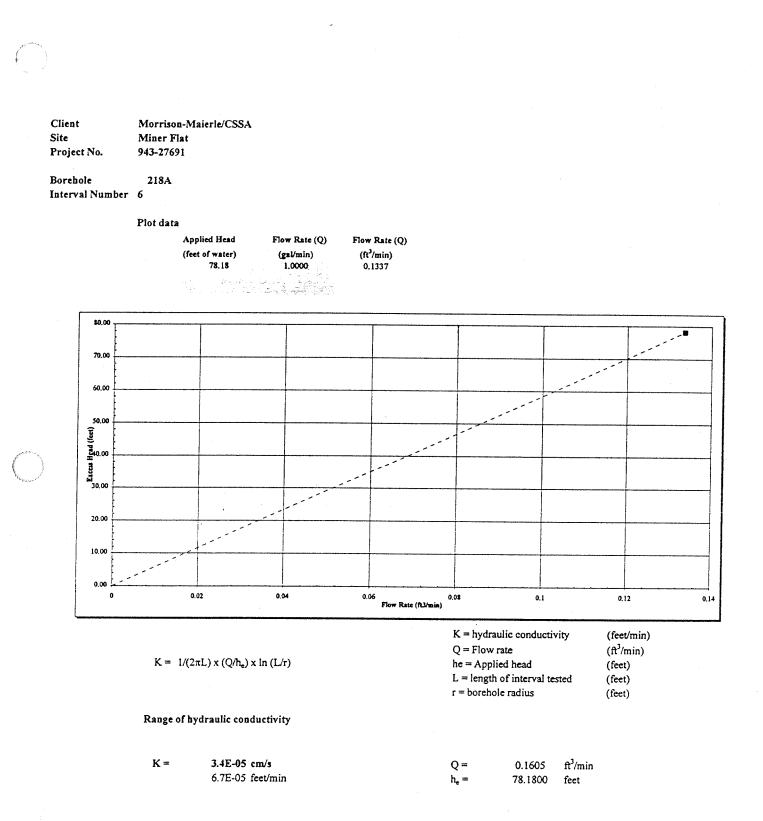
943-2791,130				2	Average Q (gal/min)				00.0	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0:00	0.00	0.00	00.0	00.0	00.0	0.00	0.00	0.00	0.00	0.00	0.00	00.0
				5 Point Moving Averages	∆ time / (minutes)			50	80	0.00	0.00	00.0	0.00	0.00	0.0	000	0.00	0.00	0.00	0.00	00.0	8.0	8.9	10.0	0.00	0.00	0.00	00.0	00.0	10.0
			rval Vertical Deptia (ft) Abvo 199,13 Below 209,13		Applied Head (feet of water)			17 61	19.42	19.42	19.42	19.42	19.42	19.42	19.42	19.42	19.42	19.42	19.42	19.61	19.61	19.42	19.61	19.42	19.42	19.42	19.42	19.42 18.42	19,42 19,42	19.42
			Bottom of interval Hola depth (ft) Bottom of interval Above 200,00 Above Bebow 210,00 Bebow Vertical denth of interval (ft)	Ĵ	Average Q (gal/min)			00.00 00.00	0.00	00.0	000	8 0 0	0.00	00.0	0.9	00.0	0.00	0.00	00.0	00.0	000	00.0	0.00	00'0	0.00	0.00	0.00	00.0	0000	000
			Hola depth (ft) Above Bebow Vertical depth of b	3 Point Moving Averages	Δ time (mins)		:	8.8	0.00	0.00	8.8	00.0	0.00	8.8	3	8.0	0.00	0.00	0.00	000	0.0	10.0	0.01	-0.01	00.0	8.0	8.0	90 00 00	80	00.0
			a: rrval Vertical Depth (ft) H Abovo 169,15 Below 179,14) Poit	Applied Head (feet of water)			14.61	19.41	19.42	19.42	19.42	19.42	19.41	19.42	19.42	19.42	19.42	19.42	19.41	19.41	19.41	19.42	19.42	19.42	19.42	29.41	19.42	19.42	19.42
		idie packer bole	calculation: Top of interval Vertical 179.00 Abovo 180.00 Below		~ 0																									i a
\bigcirc		Test Type: Constant head, Straddle packer Gauge located downhole	True vertical depth calculation: Top of laterval Hole depth (ft) Top of laterval Above 179,00 Above Edow 180,00 Bolow Vertical depth of top of laterval (ft)		Q (gal/mia)																							-		
		004	~ # * # ~		Applied Head (feet of water)	19.41	19.41		19.42	19.41	19.41	19.42 10.00	19.42	19.61	19.42	19.41	19.42 19.42	14.61	19.42	19.42	19.41	19.41		19.42	CP 61	19.42	19.42	19.41	19.42	19.42
			inchea feet feet below top of casing feet below top of casing feet below top of casing feet below top of casing		Measured Head (feet of water)	· · č 0.0-	-0.02 -0.02	20.0-		20.0-	20.02	-6.02	-0.02	10.0-	-0.02	-0.02	20.0-	0.02	-0.02	-0.02		-0.02	80	70 07	0.0	-0,02	10.0-	20.0-	-0.02	
	Ie/CSSA		3.78 0.16 177.25 202.12 24.87 170.25 170.25		Elapsed time (minutes)	0.00	0.12	0.18	0.30	0.42	0.54	0.60	0.78	0.84	96.0	1.02	1.14	1.26	101	141	1.36	1.62	101	1.86	16.1	2.04	2.10	2.22	2.28	2.34
	Morrison-Maierle/CSSA Miner Flat 943-27691	218A 6 1-Nov-95	Top Builean	10.36.9	Elapsed time (hours)	90 0	000 000	0.00	10.0	10.0	0.01	10'0	0.01	10.0	0.02	0.02	0.02	0.02	0.02	0.02	0.03	00	000	00	0.03	0.03	M 0.0	M0.0	9.0	0.0
sevect	Client Site Project No.	Borcholc Test Number Test Date	Borchole diameter Borchole radius Test section location Leagth of test interval Gauge Depth Static Water Level	General Lithology Sandstone Start Time	Clock Time	10.9E.0	80'90'6	9:36:12	1.00.7 10-31-9	92.96.9	(C.aC.9	9.36.37 9.36.44	9:36:48	12:96.4	9.36.59	9.37.02	11:16:4	11.76.9	42:26:6	12.12.6	9.37.35 • c.rr. o	1676.Y	93745	6276.9	9:34.00	EU, 8E.9	9:38.07	9.38/14	9.38.18	4798-57

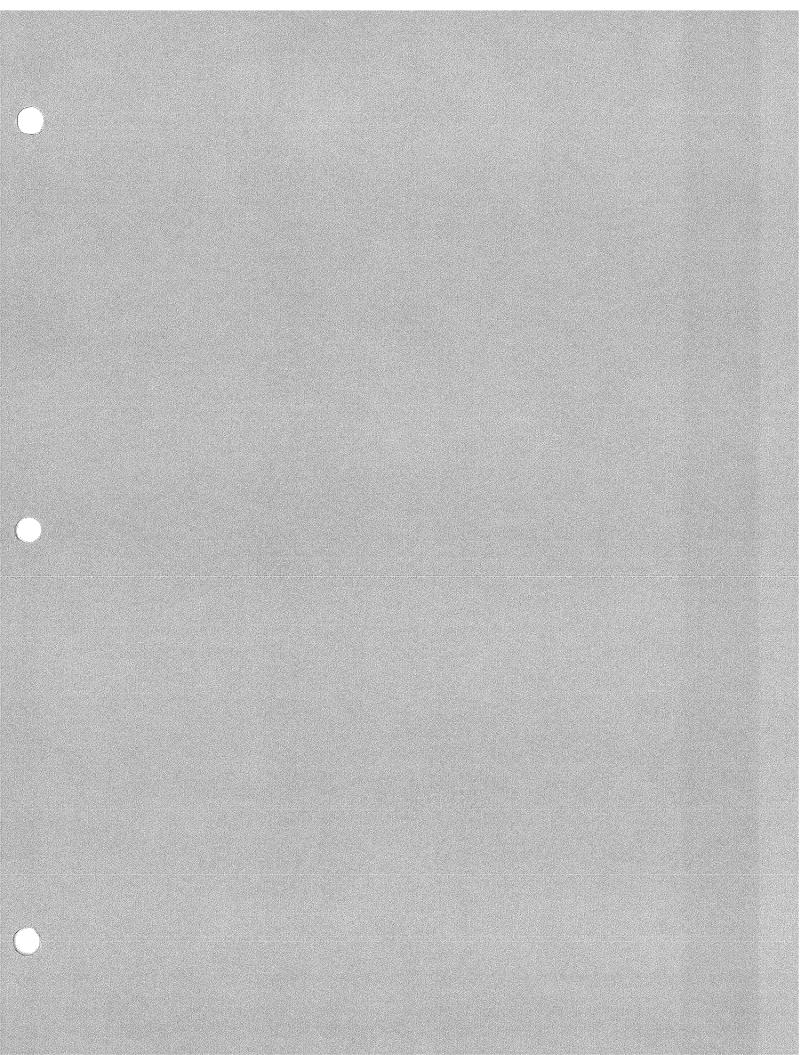
Golder Associates

218A06 CHA, Input Data

	•
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
78.18	1.0000





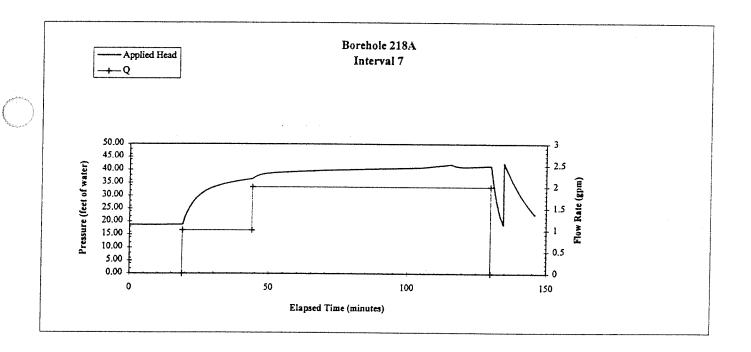


061.1672-696		20	Average Q (sal/min)	!		00.0	0.00	00.0	000	00.0	0.00	0.00	0.00	0.00	00.0	0 0.0	000	0.00	0.00	00.0	0.00	0.00	0.00	0.00	0.00	0:00	0.00	0.00	00.0
C		25 5 Point Moving Averages	∆ time (minutes)			0.00	0.00	00.0	0.0	00.0	0.00	0.00	0.00	10.0	00.0	000	0,00	0.00	0.01	0.00	0 00	0.00	10.0-	10.0-	0.0	000	10.0	10.0	10.0
	rval Vertical Depth (ft) Abve 149.46 Bolow 139.55	177.25 5 Point J	Applied Head (feet of water)			11.73	18.74	16 J.1	E H	18.74	11.73	18.73	11.7	11.73 11.73		11.72	11.73	18.74	18,74	18.74	11.74	K.H		11.73			18.74	18.74	18.74
	Bottom of laterval Vertical 130,00 Above 160,00 Bolow	om of laterval (A)	verage Q gal/min)		00.0	0,00	00.0	0.00	0.00	0.00	0.00	0.00	000	00.0	0.00	0.00	0.00	0.00	0.00	0.00	000	00.0	0.00	0.00	000	0 .0	00.0	20 10	0.00
	Hole depth (f) Abore Bedow	. Vertical depth of bottom of laterval (f) 3 Polat Moving Averages	Δ time A (mins)		00.0	0.00	0.0	0.0	0.00	0.00	0.0	00.0	10.77		0.0	0.00	0.01	00.00	0.00	0.00					0.0	100	10.0	2 00	8.9
	er Frad Vertical Depth (ft) Above 1199.15 (regeneration Bolow 1199.15 (regeneration)	3 Point	Applied Head (feet of water)		11.75	11.73	18.74 18.74	18.74	11.74	11.7	11.74			11.73	18.73	11.73	11.73	18.74	18.74	11.74	18.74	11		11.7	11.73	12 74	19.74	11.74	11.74
	addie packer nbolo :: t calculatioa: Top of laterval : 130.00 Above : 160.00 Boow					۰. ۲.							0.27 34																
	Test Type: Coastaat head, Straddle packer Gauge located dowahole True vertical depth calculation: True vertical depth calculation: V Above (1) Above (1) Below		Q (gal/min)																	A Patro La Contra Co									
			Applied Head (feet of water)	11.73 11.73	11.73		11.11	18.74	18.74		11.74	11.73	11.73	11.73	H.73				11.72	16.74				11.73		11.74	11.74	18.74	11.74
	inches feet feet feet below top of casing feet below top of casing feet below top of casing		Mcasured Head (feet of water)	0 .00			000	0000	80	000			0.00	000	0.00				000		0.00	0000	0.00	0.0		0.00	0.00	0.00	0.00
	, N - N - N		Elapsed time (minutes)	000 900	0.12	0.24	0.36	0.42	6.9 08/0	0.72	0.78	0.64	96.0	1.02		07-1		14	1.56	1 62	1.68	1.80	1.86	36.1	2.0	2.10	2.28	104	2.40
	Morrison-Malerle/CSSA Miner Flat 943-27691 218A 7 1-Nov-95 3-78 3-78 0-16 0-16 1925 Bettam 11724 1462 1462	12:10.31	Elapsed time (hours)	000	0.00	00.00	0.01	10:0	10.0	10.0	0.01	10'0	0.02	0.02	70:0	70.0 100	0.02	0.02	0.03	0.03	0.03	0.01	0.03	0.03	0.0	100	0.04	10.0	10:0
1/30%	Client Site Project No. Borehole Test Number Test Date Borehole diameter Borehole radiua Test section location Length of test laterval State Water Level	General Lithology Sandstone Start Time	Clock Time	1641 21 2641:51	12:18.38 12:18:42	12:18:45	12:11:53	0C 91 71	12.19.07	12:19:14	12:19:18	12.19.21	12:19:29	12.19.32 ar ai cl	11-10-12	12, 19, 47	12:19:34	12:19:57	12.20.05	12.20.08	12.20.12	61:07:71	12.00.21	12:20:30	CC.07.71	15.02.21	12:20:48	12.20.51	12.20.35

Goldar Associatos

214A07.CHA, Input Date

	•
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
41.56	2.0000
31.49	0.9000
22.65	0.5200

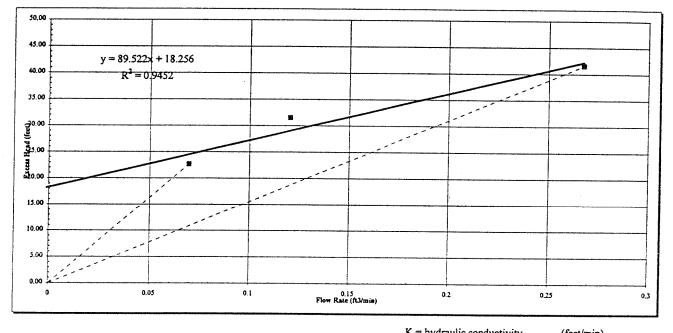


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

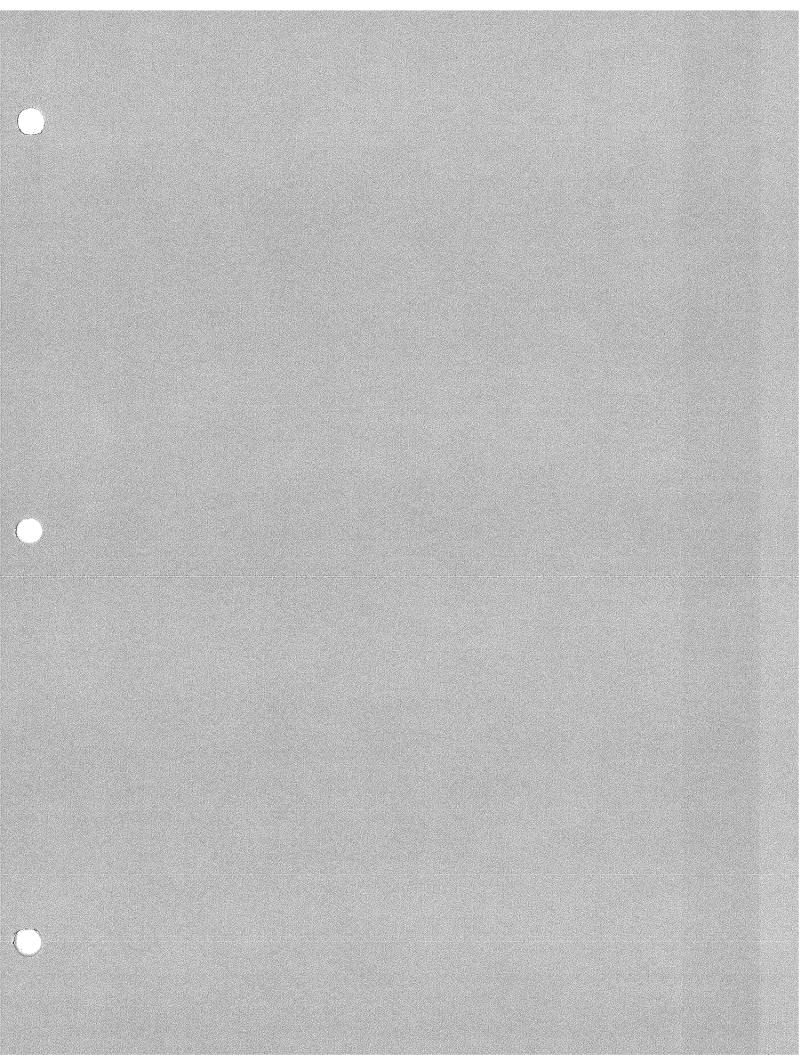
Borehole 218A Interval Number 7

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
41.56	2.0000	0.2674
31.49	0.9000	0,1203
22.65	0.5200	0.0695



K = 1/	(2πL) x (Q/h _e) x ln (L/r)	Q = Flow he = App	lied head h of interval te		(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of	bydraulic conductivity				
K =	1.3E-04 cm/s 2.5E-04 feet/min	Q = h _e =	0.3211 41.5620	ft ³ /min feet	
K =	6.1E-05 cm/s 1.2E-04 feet/min	Q = h _e =	0.0835 22.6500	ft ³ /min feet	
K =	1.80E-04 cm/s 3.56E-04 feet/min	Trendline Slope	89.522	2	

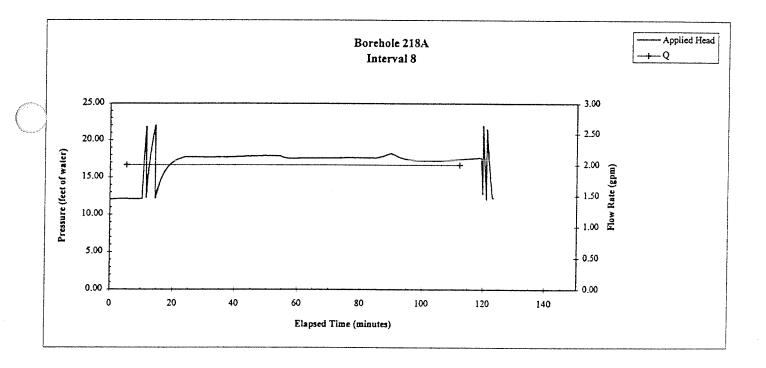


				\supset						943-2791.130
Morrison-Mi Miner Flat 43-27691	Morrison-Maierle/CSSA Miner Plat 943-27691									
218A 8 1-Nov-95				Test Type: Constant head, Straddle packer Gauge located dowuhole						
Tep	3.78 0.16 127.60	inches feet feet below top of casing		True vertical depth calculation: Top of interval Hole denth (h)		True vertical depth calculation: Bottom of it	ş	_		
Bollom	152.47 24.87 128.00 204.44	feet below top of casing feet feet below top of casing feet below top of casing		120.00 130.00 of ten of interv	Above 119.49 Above 119.49 Below 129.46 177.44	Rioue depth (II) Above Bolow	Ver 150.00 Ab	cul Dep		
							v a ucai ac pta of bollom of laterval (II)	EE 251 (1		
14:53:47					3 Poir	3 Point Moving Averages	1gcs	5 Point	5 Point Moving Averages	ងខ្លួន
Elapsed time (hours)	e Elapsed time (minutes)	e Mcasured Head (feet of water)	Applied Head (feet of water)	Q (gal/min)	Applied Head (feet of water)	Δ time (mins)	Average Q (val/min)	Applied Head	Δ time	Average Q
00.0	0.00	0.02	12.05			Ì	(mm m.9)			(gaumin)
0.0	0.06 0.17	10:0								
0.00	0.11	10:0	12.05		12.05	0.00	0.0			
10'0	0:30	10.0			12.05	800	0.00	12.05	0.00	0.00
10.0	0.36	10:0			12.05	0.0	0.0	12.03	00 00 00	0.0
10.0	0.54	10.0	12.05		12.05	0.00	00.00	12.05	10.0	8 8
10.0	0.60	0.02			12.05	0.0	0000	12.05	00.0	0.00
10:0	0.7	10.0			12.05	0.00	000	50 CI	90 i 0	0.0
10.0	110	0.02			12.05	0.00	00.0	12.05	1010	0.0
0.02	96.0	0.02	5071 70 Cl		12.05	0.01	00'0	12.05	0.01	00.0
0.02	1.02	0.03			12.06	0.0	0.00	12.06	10.0	0.00
0.02	1	0.03			12.06	0.0	8.0	90.21	10.0	0.0
70'0	07 7	0.03			12.06	0.0	00.0	12.07	10.0	8 8
0.02					12.07	0.01	0.00	12.07	10.0	8 0
0.02	Ŧ	5	10.21		12.07	0.01	00.00	12.07	0.02	00.0
0.03	1.56	0.03			1071	10.0	0.00	12.08	0.02	00.0
60.03	1.62	0.05			12.04		0.00	12.08	0.01	0.00
0.03	1,61	0.05			12.09	10.0	8.9	10.21	100	000
50.0	1.1	0.06			12.09	0.01	00.0		10.0	00.0
נטיט	1.16	0.06			12.09	0.0	80	12.09	10.0	8.8
50'D	161	0.06			12.09	90.0	80	12.09	100	8.8
200	907	0.06			12.09	0.0	0.00	12.09		8.8
	9177	0.06			12.09	0.0	00.0	12.08	8.0	8.0
5.0		0.06			12.09	0.00	00.00	12.10	10.0	00.0
500	177 177	0.06	12.09		12.10	10:0	0.00	12.10	000	8.0
	5.4	0.07	12.10						12.2	3

Golder Associates

215A05A.CHA, Input Data

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
17.70	2.000

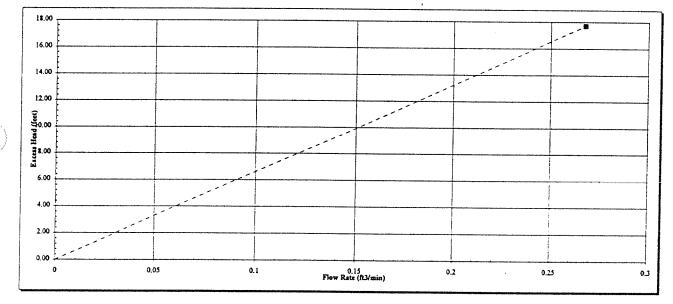


Client Morrison-Maierle/CSSA Site **Miner Flat** Project No. 943-27691 Borehole 218A

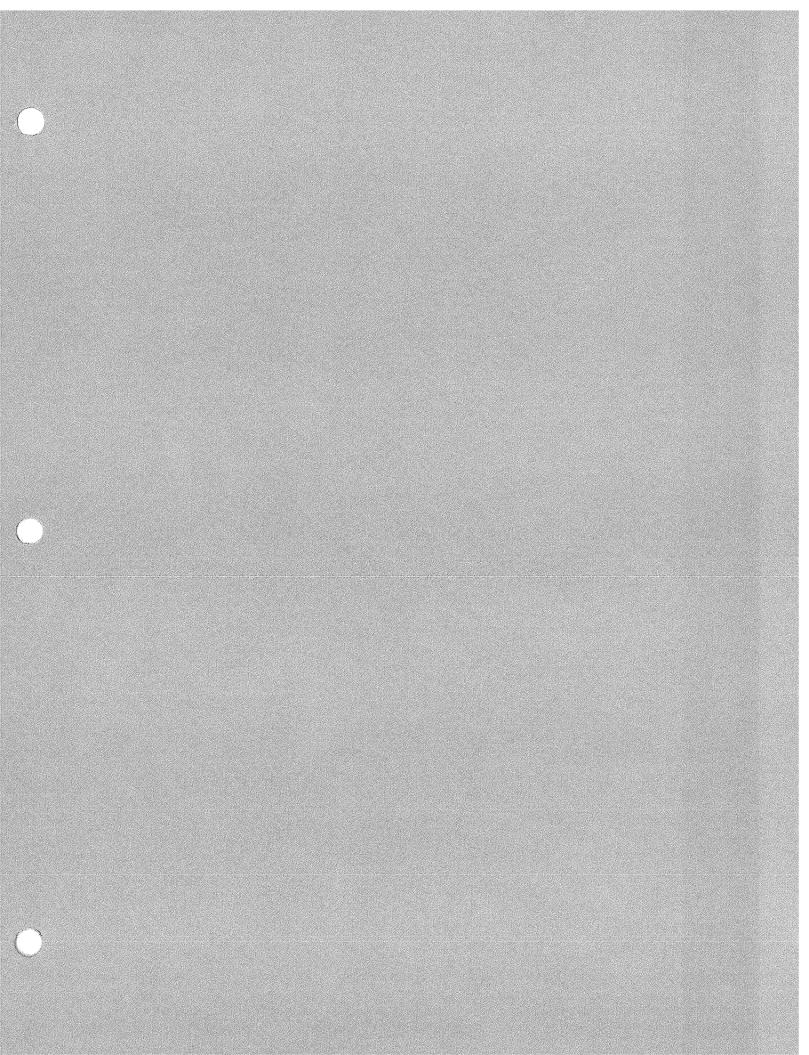
Interval Number 8

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
17.70	2.000	0.2674



K = 1/((2πL) x (Q/h _e) x ln (L/r)	K = hydraulic conductivity Q = Flow rate he = Applied head L = length of interval tested r = borehole radius	(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of	hydraulic conductivity		
K =	2.5E-04 cm/s	$Q = 0.267 \text{ ft}^3/\text{min}$	
	4.9E-04 feet/min	$h_{r} = 17.70$ feet	

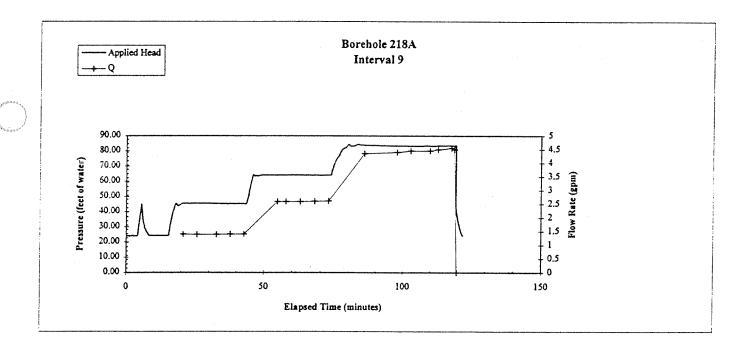


0EL 1672-EH4					agea Average Q	(gal/min)			00.00	0.00	000	0.00	0.00	8.9	000	0.00	0.00	00.0	000	00.0	0.00	0.00	0.00	00.0	000	0.00	00.0	0.00	0.00	00.0
					,er	(minutes)			0.00	0.00	90 G	9.0 9.0	0.04	0.05 0.05	0.07	0.00	-0.02	Ca.17	0.03	0.01	0.64	0.01	10.0-	10.0	10.0-	0.0	10.0-	-0.01	10.0-	00'0
			cal Dep	127,	5 Point 1 Applied Head	(feet of water)			24.06	24.06	24.06	24.06	24.07	24.07 24.09	24.10	24.11	24.11	10 EL	16,02	16,02	66,02	24.12	24.12	1.12	24.11	24.11	24.11	24.11	24.10	24.10 24.10
			Bottom of interval Ver 120.00 Abo 130.00 Bok	Vertical depta of bollom of laterval (f),	ges Average Q	(gal/min)		0.00	0,00	000	000	0.00	00.0	0.0	00.0	0.00	00.0	0.00	0.00	0.00	00.0	0.00	0.0	800	0.00	00.00	0.00	00.00	0.00	0.0
			Hole depth (f) Above Below	Verucal depth of bollo 3 Doint Moning A	A time	(10100)		0.0	0.00	8 0 0	0.0	0.00	0.00	0.05	0.03	0.02	3 2	-0.62	0.02	0.65	10:0-		70'D	10'0	0.00	0.00	0.00	-0.01	0.0	00.0-
			i: srval Vertical Depth (ft) Hd Above 99.91 Below 109.9 Adrin 109.9		Applied Head	ICCI NI MAICE)		24.06	24.06	24.06	24.06	24.06	24.06	24.09	24.11	24.12	24.10	13.01	23.89	06.62	1.62	1.12	24.12	24.12	24.11	24.11	24.11	24.11	24.10	24.10
		ldle packer aole	calculation: Top of laterval Vertical 10.00 Above 110.00 Below		~ :	-		44.						• .																
()		Test Type: Coustant keed, Straddle packer Gauge located downhole .	True vertical depth calculation: Top of laterval Hule depth (ft) Top 0 of laterval Above 110.00 Above Below 110.00 Below		Q (osl/min)	(11111111111111111111111111111111111111																								
		ĔŬŎ	Т. Н. А. В.		Applied Head (feet of water)		24.06	24.06	24.06 24.06	24.06	24.06	24.06 24.06	24.06	24.09	24.11	24.13	24.09	24.09	17:02	24 []	24.10	24.12	21.12	24.11	112	24.11	14.11	11.12	24.10	24.10
			linchea fea feat below top of caaing feat below top of caaing feat below top of caaing feat below top of caaing		Mcasured Head (fect of water)	990	88	0.0	0.00	0.00	800	0.00	0.00	0.0	2010 2010		C (0)	0.03	4C.U-	0.07	0.04	0.06	0.06	0.05	0.05	500	004 100	100	0.04	90.0
	ie/CSSA		3.78 0.16 0.16 102.41 127.77 25.36 91.03 6.28		Elapsed time (minutes)	0.0	0.06	0.12 0.18	0.30	0.36	0.42	09.0	0.72	12 O	96.0	1.01	1.14	1.20		1.4	1.56	1.62	1.68	01.1		2.04	5.10	111	2.28	2.34
	Morrison-Maierle/CSSA Miaer Flat 943-27691	218A 9 (r) 18-Nov-95	Top Bottem	10:52.15	Elapsed time (hours)	0.00	0.00	00.0 00.0	10.0	10.0	100	10.0	10.0	10.0	0.02	0.02	0 .02	20.0 0 03	0.02	0.02	0.03	0.03	<u>60.0</u>	10.0	(0))	0.0	0.04	0.04	0.04	10.0
7394	Client Site Project No.	Borehole Test Number Test Date	Borehole diameter Borehole radius Tat section location Length of tat laterval Gauge Depth Static Water Level	General Lithology Sandstone Start Time	Clock Time	10:52:15	10.52:19	10.52.26	EE:55:01	10:52:37 10:52:40	10:52:47	10.52.51	10.52:58	10.53.02	EL.53.13	10:33:20	10.53.23	16.65.01	10.53.38	10:33:41	10:53:49	10.53.52	10:53:56	10.54.01	10.34.14	10:54:17	10:34:21	30:54:28	10:54:32	30.54.35

Golder Associates

218A09.CHA, Input Data

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
45.19	1.4000
64.06 83.51	2.6100 4.5000

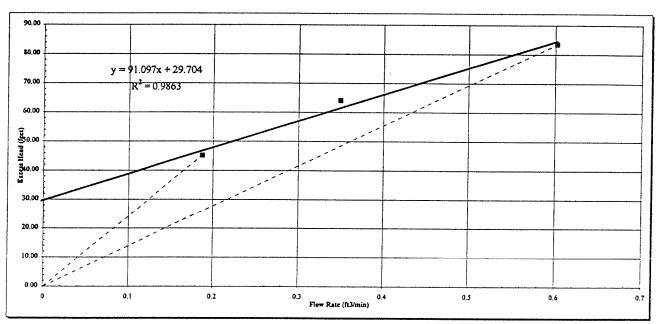


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

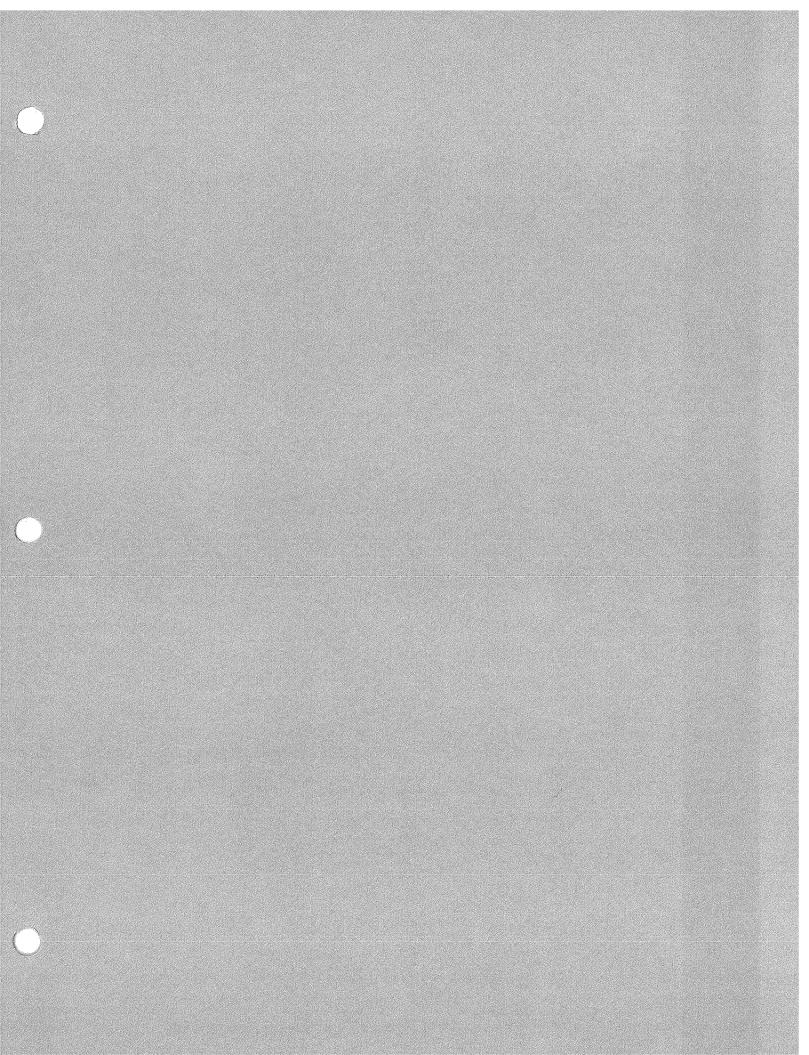
Borehole	218A
Interval Number	9 (r)

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q								
(feet of water)	(gal/min)	(ft ³ /min)								
45.19	1.4000	0.1872								
64.06	2.6100	0.3490								
83.51	4.5000	0.6017								



K = 1/	(2πL) x (Q/h _e) x ln (L/r)	Q = Flor he = Ap L = leng	K = hydraulic conductivity Q = Flow rate he = Applied head L = length of interval tested r = borehole radius							
Range of	hydraulic conductivity									
K =	8.0E-05 cm/s 1.6E-04 feet/min	Q = h _e =	0.2248 45.1900	ft ³ /min feet						
K =	1.4E-04 cm/s 2.8E-04 feet/min	Q = h _e =	0.7225 83.5100	ft ³ /min feet						
K =	1.77E-04 cm/s 3.50E-04 feet/min	Trendline Slope	91.09	7						



0[] 16(2-616						rages	Average Q (val/min)				800	0 00	00.0 00.0	00.0	000	000	0 00	0.00	00.0	00.0	0.00	0.00	000	0.00	0.00	0.00	00.0	00.0	0.0	0.00	0.00
						5 Point Moving Averages	∆ time (minutes)			0.00	0.00	0.00	000	0.00	0.00	000	0.00	0.00	0.00	00.00	0.00	00.0	00:0	0.01	10.0	000	10.0	800	10.0-	10.0-	(0) 0 -
					C#701	5 Point	Applied Head (feet of water)			24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.10	24.10	24.10	24.10	24.10	24.09	24.09	24.09
			Bottom of laterval	Above 110,00 Above 200,00 Above 100,00 Above 100,00 Above 200,00 Above 200,000 Above 200,00 Abov		Ũ	Average Q (gal/min)			0.0	0.00	00.0	90.0	00.0	00 0 00 0	0.00	0.00	00.0	800	0.00	00.00	00.0	0.00	00.00	00.0	00.0	0.00	0.00	0.00	00.0	0 .0
			(a) Ameta (a)	Above Above Bolow		3 Point Moving Averages	∆ time (mins)		20	0.0	0.00	80.00	0.0	0.0	8 8 8 8	0.00	0.00	8	00'0	0.00	8.8	000	0.00	10.0	0.00	1019	00.0	0.01	0.00	10 G 10 G	*n:h-
			a: srval Vartical Dente (A) - F	888		3 Point	Applied Head (feet of water)		24.00	24.09	24.09	6 6 72	24.09	21.09	6 6 Z	24.09	24.09	24 09	24.09	24.09	24.09	24.09	24.09	24.10	24.10	24.10	24.09	24.10	24.10	24.09 24.09	
()		Test Type: Constant head, Straddle packer Gauge located dowshole		70,00 80,00 6 top of latery			Q (gal/min)																								
		Test Type: Constant h Gauge loca	True vertical d Hole depth (A)	Above Below Vertical de								-																			- 1977
							Applied Ilead (feet of water)	24.09	24.09 24.08	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.10	24.10	24.10	24.09	24.10	24.10	24.08	
			inchea feet feet below top of casing	feet below top of casing feet feet below top of casing feet below top of casing			Measured Head (feet of water)	0.03	0.03	10.0	60 0	0.03	0.0	0.03	0.03	0.0			00	30			0.03		3	19	0.03	80	500	0.02	
	rle/CSSA			102,94 6 25.36 6 66.20 6 206.28 6			Elapsed time (minutes)	000	0.12	0.18 0.10	0.06	0.42	0.54	96.0	1.02		H	1.14	1.20	15	1.44	1.56	161	01.1	1.16	1 94	2.04	272	17	2.34	
	Morrison-Maierle/CSSA Miner Flat 943-27691	218A 10 retest 18-Nov-95	Top	Beccen		13:16:13	Elapsed time (hours)	000	000	0.00	10.0	10.0	10.0	0.02	0.02	0.02	0.02	0.02	0.07 0.02	0.02	0.02	0.0 20 0	0.0	0.03	0.03		0.0	1 00	0.04	1 0:0	
10006	Client Site Project No.	Borchole Test Number Test Date	Borchole diameter Borchole radius Test section location	Length of test laterval Gauge Depth Static Water Level	General Lithology Sandstone	Start Time	Clock Time	13:16:13 13:16:17	13:16:20	13:16:24	13:16:35	13:16:38	61:91:01	13:17.11	13:17:14 11:17-18	13:17:14	13:17:21	13:17:21	11/29	90:71:01	6E.71.EI	13.17.47	13.17.54	10:31:61	13.11.05	13:18:12 13:14:14	61-81-81	13.11.26	13.14.30	13:11:33	

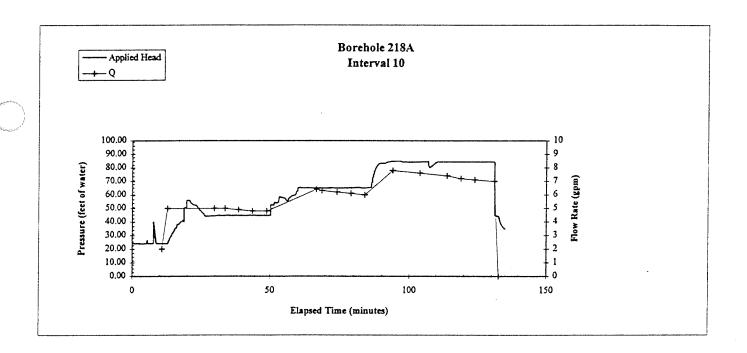
Golder Associatos

Plot data used in analysisApplied HeadFlow Rate (Q)(feet of water)(gal/min)

ſ

4.4	
(feet of water)	(gal/min)
44.76	4.8000
64.95	6.0000
84.31	7.0000

i

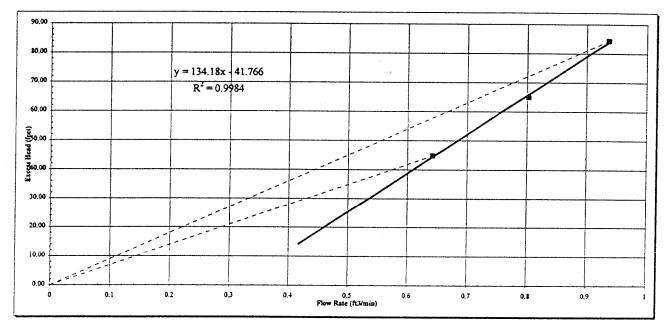


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

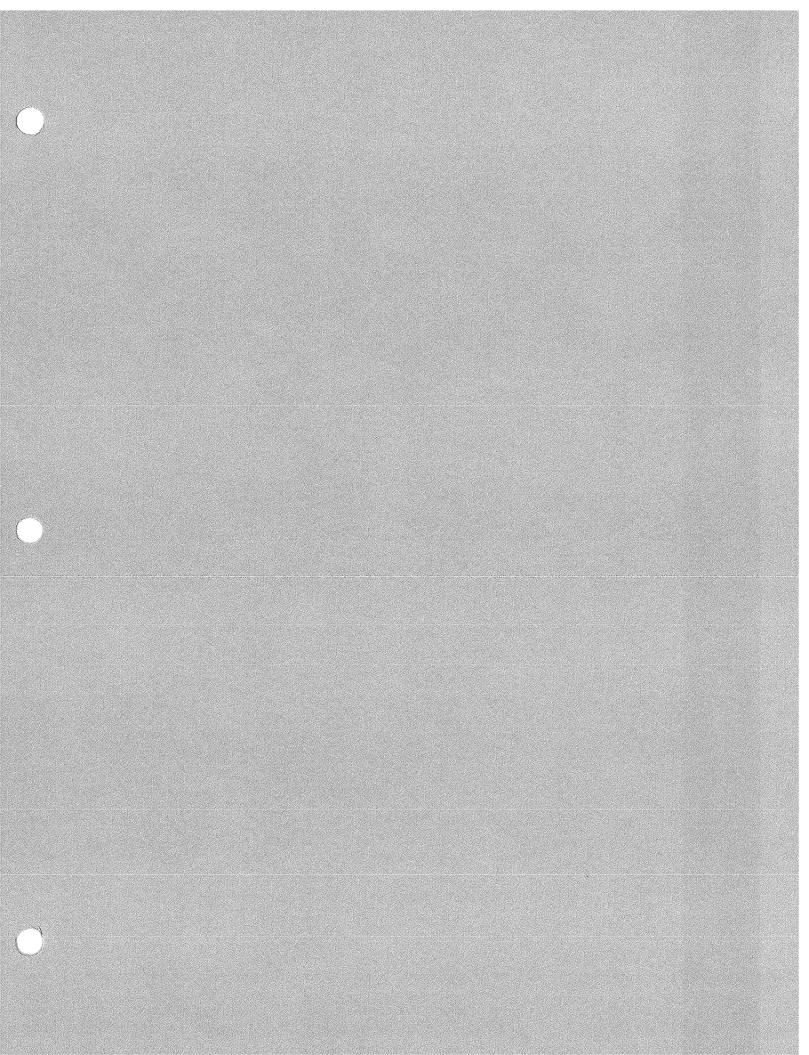
Borehole	218A
Interval Number	10 retest

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
44.76	4.8000	0.6418
64.95	6.0000	0.8022
84.31	7.0000	0,9359
	(feet of water) 44.76 64.95	(feet of water) (gal/min) 44.76 4.8000 64.95 6.0000

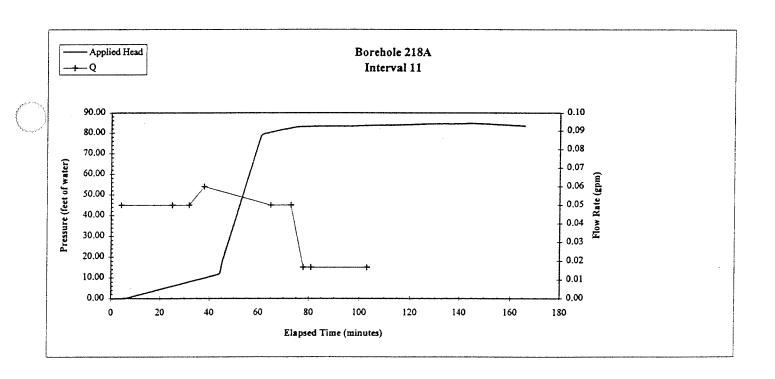


K = 1/	(2πL) x (Q/h _e) x ln (L/r)	Q = Flow he = App L = lengt			(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of	hydraulic conductivity				
K =	2.8E-04 cm/s 5.5E-04 feet/min	Q = h _e =	0.7706 44.7600	ft ³ /min feet	
K =	2.2E-04 cm/s 4.3E-04 feet/min	Q = h _e =	1.1238 84.3100	ft ³ /min feet	
K =	1.20E-04 cm/s 2.38E-04 feet/min	Trendline Slope	134.18	3	



061.197.2.14								ges	Average Q (gal/min)				0.00	00.0	00 .0	0.00	0.00	000	000	000	00:0	0.00	00.0	0.0	80 G	000	00.0	0.00	0.00	0.0	00.0	80	000	000	0.00
								5 Point Moving Averages	Δ time (minutes)				P0.0-	10.0-	101	0.00	10.0	0.05	000	000	0.00	90.0	0.00	10.0-	90.0-	100	00.0	00.0	0.00	10.0	10.0	0.00	10.0-	-0.05	0.00
				bepth (R)	349.73	351.43		5 Point 1	Applied Head (feet of water)				60.01	60 Q	9 9	010	0.10	9 9	2 2	01.0-	60.0-	60.07	6 9	10.0 7	8.9	60.0	60.0	60.0-	60 .9	60.07 90.07	0.10	010-	010	01.0	-0.11
			ulation:	Bottom of interval Vertical Depth (ft)	350,00 Above 359.90 Bolow	1 of interval (A)			Average Q A (gal/min) (1			0.00	0.00	0.00	0.00	0.00	00.0	00.0	0.00	00.0	0.00	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			True vertical deptà calculation:	Bott Hole depth (ft)	Above Below	Vartical depth of bottom of interval (ft)		3 Point Moving Averages	Δ time Av (mins) (g			10 10-	20.05	0.00	0.00	-0.03	0.00	10.0	0.00	-0.05	0.00	0.05	104	20.0-	10.0-	10 .0	0.04	0.04	5 5	0.0	0.05	10.0-	-0.05	0.00	0.00
			Ta		329.74 53.92.73	334.19 Ver		3 Point N	Applied Head (feet of water)			10.01	0.0	010	60.07	(0) (0-	01.14	80	60.0	60.0-	1.0	66 .0	10.0-	10 .0	-0.10	-0.10	-0.10	10 .0	10 T Q	110	60.0	60.07	60.0-	11.0-	11.0-
		uddie packer skole	calculation:	Top of interval Vertical	330.00 Abave 340.00 Below	p of interval (N)	and the second																	j.			1.								
$\left(\begin{array}{c} \\ \end{array}\right)$		Test Type: Constant head, Straddle packer Gauge located downhole	True vertical depth calculation:	iepth (fl)	Above Below	Vertical depth of top of interval (f)			Q (gal/min)																										
			F-1		~, 62	-			Applied Head (fect of water)	-0.07	-0.07	-0.0 0	11.0-	11.0-	-0.07	11 07 9	11.0-	-0.11	-0.06	11.0	1 i	-0.0¢	90.CP	-0.11	-0.07	11.0-	11.0	10.0-	11.0	11.0-	-0.11	90°9	11.0-	-0.11	11.0-
			inch es	foct fect below top of casing	feet below top of casing	feet below top of casing			Measured Head (feet of water)	-0.07	-0.07	90 (Q		11 97	-0.07	010-	11.0-	11.0-	-0.06	1.9		90.0	90.0-	11.0-	-0.07	0.11	11.0-	10.07	-0.11	11.0-	11.0-	90.0	11.0-	11.0-	11.0-
	+e/CSSA				a 0/100 3 52.71 3 65 800				Elapsed time (minutes)	0.00	0.06	0.12	050	0.36	0.42	5 09 0 00	0.66	0.78	0.34	96:0 C 0 1	11	1.20	1.26	1.12	¥ :	08.7	9 80	26.1	161	1.98	2.16	111		12.2	807
	Morrison-Maierle/CSSA Miner Flat 943-27691	218A 11 J-Nov-95		d F			000 01 01		Elapsed time (hours)	0:00	00.0	0.00	0.0	10.0	10:0	100	10:0	to:0	10:0	0 07 0 02	0.02	0.02	0.02	0.02	0.02	(0.0	(0) 0	£0.0	0.03	0.03	1 0.0	100			5
Severi	Client Site Project No.	Borcholc Test Number Test Date	Borehole diameter Borehole dim	Derenue racius Test section location	Length of test interval Gauge Deoth	Static Water Level	General Lithology Sandstone Start Time		Clock Time	10,49,09	E1:69:01	10.49.16	10:49:27	10.49.31	10.49.34	10.49.45	10.49.49	10.49.56	10.49.59	10.00 N	10.30.17	10.50.21	10:50.25	10.50.28	55-05-01	10.00.01	10.12.01	10:51:04	10.51:05	10.12.01	10:51,19 55:11:01	77:16:01	77:10:01	11.12.01	11.11.11.11.1

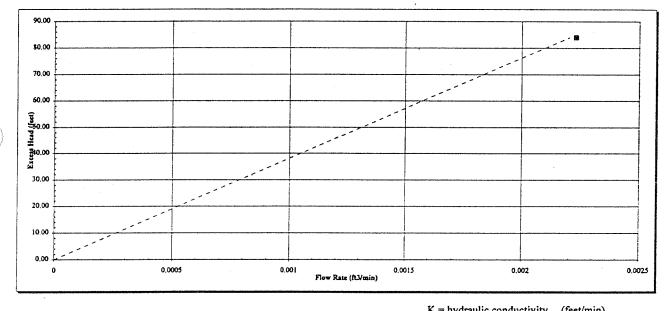
Plot data used in analysisApplied HeadFlow Rate (Q)(feet of water)(gal/min)83.960.017



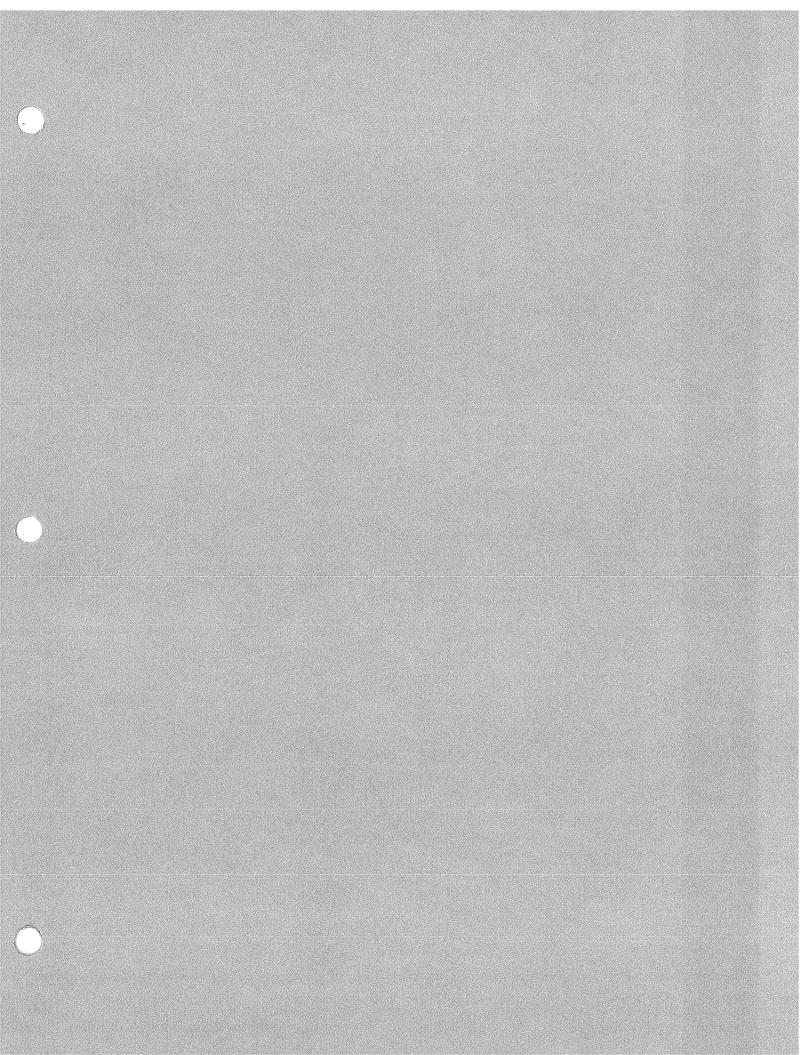
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691
Borehole	218A
Interval Number	11

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
83.96	0.017	0.0022



K = 1/($2\pi L$) x (Q/h _e) x ln (L/r)	K = nydraulic conc Q = Flow rate he = Applied head L = length of interv r = borehole radius	val tested	(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of hydraulic conductivity				
K =	5.8E-07 cm/s	Q = 0.002	ft³/min	
	1.1E-06 feet/min	h. = 83.96	feet	



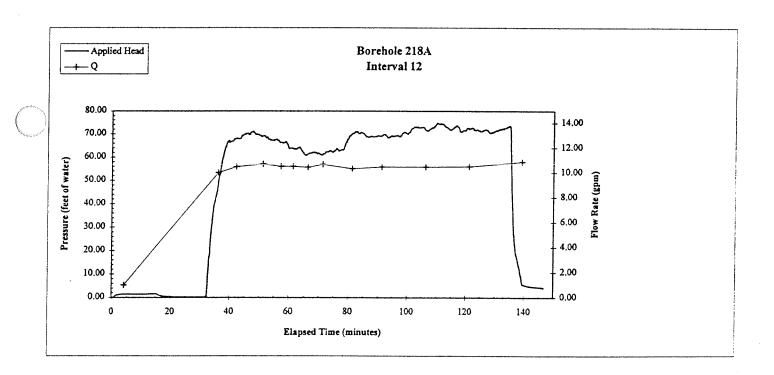
06116425166				5 Point Moving Averages	Δ time Average Q (minutes) (gal/min)					0.00			00'0 00'0			0.00	0.15 0.00											0.00 0.00		0.00
			rai Vertical Depth (ft) Above 339.73 Below 349.73 J (ft) 340.82	5 Point Mc	Applied Head ((feet of water) (n			0.00	0.0	00.0	0.01	10.0	10.0	0.07	673	0.40	75.0	0.87	0.90	6.0	0.97	1.00	1.03	1.07					1 -	17.1
			Z ate	53	Average Q (gal/min)		0.00	0.00	00.0	0.00	0.00	00.0	0.00	0.00	0:00	0 00	8.9	00.0	0.00	0.00	0.00	0.00	00.0	0.0	0.00		00.0	80		3
			True vertical depth calculation: Bottom of in Hole depth (ft) 340.00 Above 340.00 Balow 330.00 Vertical depth of bottom of inte	3 Point Moving Averages	Δ time (mins)		0.00	0.0	8 8 8 8 8	0.00	0.00	10.0	10.0-	0.0	(<u>,</u>)	6.0 5	70'0 900	0.0	0.10	0.07	6 .0	90.0	0.07	0.12	3	8 2		0.02	100	5
			a: Tr erval Vertical Depth (ft) Ho Above 319.74 Below 329.74 al (ft) 323.83 Ve	3 Point	Applied Head (feet of water)		0.00	000	000	0.00	000	0.01	10.0	0.00	11.0	8C.0	619	0.87	06.0	\$ 5:0	0.97	0.99	1.02	/0/1		1	9	6	1.71	
		addle packer rabole	True vertical depth calculation: Top of laterval Hole depth (ft) Vertical Above 330.00 Above 330.00 Below Below 330.00 Below Vertical depth of top of laterval (ft)				li julija	,						24 10													1.45		•	411.14
()		Test Type: Constant head, Straddle packer Gauge located downhole	True vertical depth calculation: Top of later Hole depth (ft) 70 p of later Above 330.00 A Below 330.00 B		Q (gal/min)																									
		r 0 0	~ 8 ~ 8		Applied Head (feet of water)	0.03					000 0000		0.00		10.0	010				0.95		001		8					1 20	
			inches feet feet below top of casing feet below top of casing feet below top of casing feet below top of casing		Measured Head (feet of water)	0.03 0.00	00.0	00:0	00.00	00.0	00:0	0.02	0.00	00.0	EC.0	010	0.85	0.15	0.0	26.0	/60	0 .1	101	1 3	1.14	1.16	1,18	1.20	1.20	
	rle/CSSA		3.78 0.16 341.09 15.00 208.69 208.57		Elapsed time (minutes)	0.00 0.06	0.12	0.24	0.36	0.42	0910	0.72	0.78	0.96	1.02	101	1.44	1.44	951	9C 1	97 I	164	01	1.86	1.98	2.04	2.10	111	2.28	
	Morrison-Maierle/CSSA Miner Flat 943-27691	218A 12 3-Nov-95	Tep Belless	14:13:49	Elapsed time (hours)	0.00	000	00'0	0.01	10.0	10.0	10.0	10:0	0.02	0.02	0.02	0.02	0.02	50'D	100	00	600	£0.0	0.03	0.03	CD.0	6.04	1 0.0	50	
wmc/t	Client Site Project No.	Borchole Test Number Test Date	Borebole diameter Borebole radiua Test section location Length of test laterval Gauge Depth Static Water Level General Lithology	Sandstone Start Time	Clock Time	14:13:49	14.13.56	14.14.03	14:14:11	14.14.21	14:14:25	14:14:32	14:14:36 14:14:30	14:14:47	14:14:50	14:15:12	14:15:15	14:15:15	11-11-11	14-15-23	14.15.26	06,21.51	14:15:37	14:15:41	14:15:41	14:15:51	14:15:55	14:16:02	14:16:06	14-16-00

Ooklar Associates

218A12A CHA, Input Data

www.t/

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
72.00	10.470

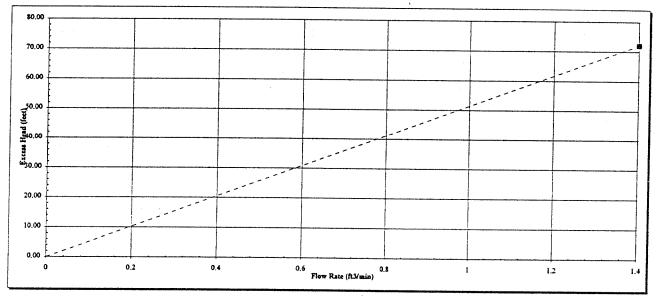


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole218AInterval Number12

Plot data

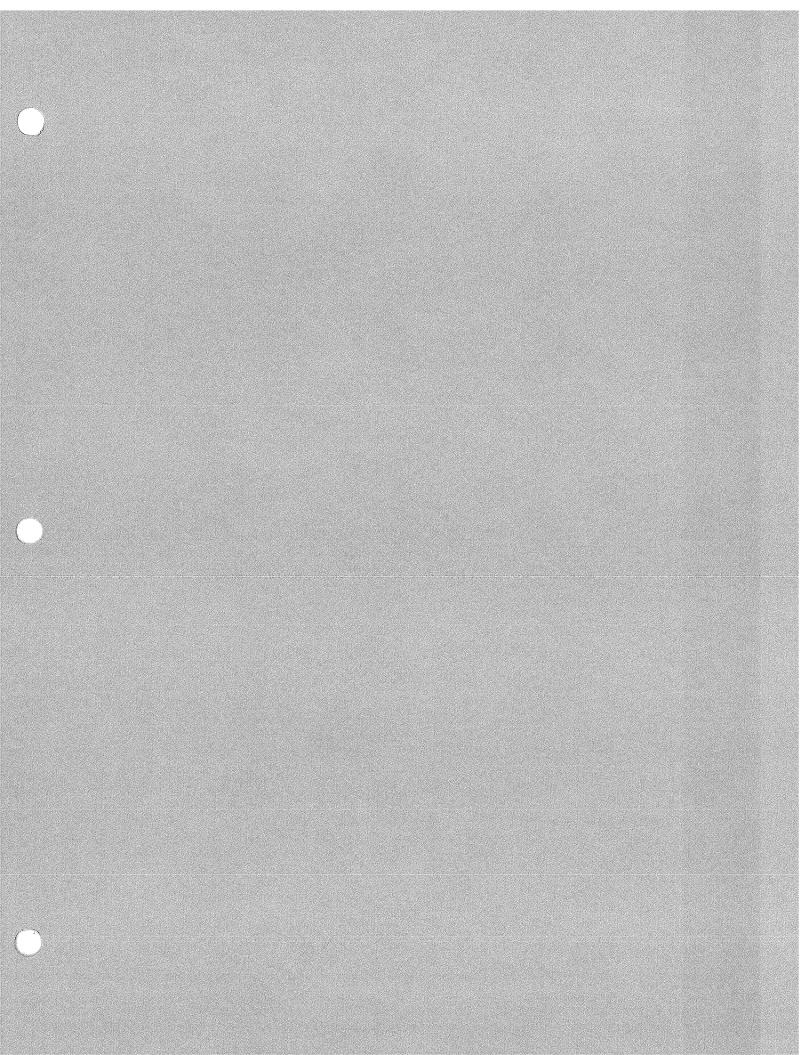
Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)



K = 1/($2\pi L$) x (Q/h _e) x in (L/r)	Q = Flow rate he = Applied head L = length of interval tested r = borehole radius	(ft ³ /min) (feet) (feet) (feet)
Range of l	nydraulic conductivity		
K =	4.8E-04 cm/s	$Q = 1.400 \text{ ft}^3/\text{min}$	

K = hydraulic conductivity (feet/min)

L = 4.8E-0	4 cm/s	Q =	1.400	ft'/min
9.4E-0	4 feet/min	h _e =	72.00	feet



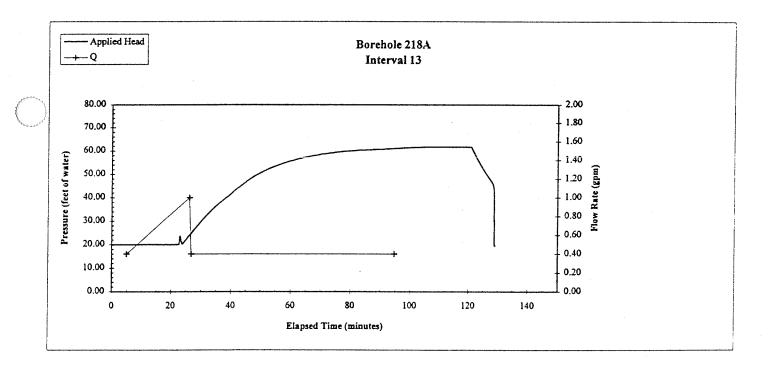
inches feet feet feet feet below top of casing feet of water) (feet 0.01 0.02 0.02 0.02 0.02 0.02 0.02 0.02	Test Type: Constant head, Straddle packer Gange located downhole True vertical depth calculation: Top of laterval Hiole depth (n) Vertical Above 60,00 Blow Bolow 60,00 Blow	al ertical Depth (f) bove 9396 elow 3334 (f) 33.70 (fcet of w		ulation: toom of inte 70.00 to 00 to 00 to 1ntervy verage Q gaVmin)	al Depth (f 9.9 71.5 71.5 71.5 71.5 71.5 71.5 71.5 71.5) 1 1 5 5 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	sges Average Q (gal/min)
218A 13 13.78 inchea 0.16 foet Trp 3.75 foet below top of casing 2.487 foet below top of casing 2.45.25 foet below top of casing 4.5.25 foet below top of casing 2.68.57 foet below top of casing 2.69.00 000 0.00 000 0.00 000 0.00 000 0.01 0	Test Type: Coastast basd, Straddle p Gasge located downhole True vertical depth calcul Hole depth (ft) Above Above Below Vertical depth of top of lat	al eritcal Depth (f) bove 99.96 elow 33.70 (f) 33.70 (fcet of w		ulation: 100m of late 70.00 10	cal Depth (f) * 90.9 71.3 Applied (fect of	Moving Avera A time /	çes Lverage Q (gal/min)
3.78 inclusion 0.16 feet 0.15 feet 0.16 feet 24.87 feet	True vertical depth calcul Tep of Ilote depth (ft) 30 Abvo 50 Bolow 60 Vertical depth of top of In	cal Depth (f) 93.94 33.70 33.70 33.70 33.70 (feet of w		ulation: tom of inte 20.00 m of intervi m of intervi verage Q gaVmin)	cal Depth (f) * 79.9 71.3 Applied (feet of (Moving Avera d time /	gca vvcrage Q (gal/min)
Return 78.62 24.87 feet below top of casing 4.6.25 feet below top of casing 2.8.87 feet below top of casing feet 11:30:14 11:30:14 Measured Head (hours) Measured Head (fours) Measured Head (fours) 0.00 0.00 0.00 0.01 0.01 0.00 0.00 0.01 0.01 0.01 0.00 0.01 0.02 0.01 0.01 0.00 0.02 0.01 0.01 0.01 0.01 0.12 0.01 0.01 0.01 0.01 0.13 0.02 0.01 0.02 0.01 0.14 0.02 0.01 0.02 0.01 0.12 0.02 0.02 0.01 0.01 0.24 0.02 0.02 0.02 0.01 0.24 0.02 0.02 0.02 0.01 0.24 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02	Above 50 Balow 60 Vertical depth of top of lat	49.56 33.70 33.70 Applied 1 (feet of w		70.00 140.00 mofiatervi vcrage Q gal/min)	Applied (feet of	Moving Avera d time / (minutes)	çci veraçe Q (gal/min)
Elapsed time Measured Head (minutes) (feet of water) 010 0.00 013 0.01 014 0.02 013 0.01 014 0.02 015 0.01 016 0.02 017 0.02 018 0.02 019 0.02 010 0.02 024 0.02 035 0.02 036 0.01 037 0.02 038 0.02 039 0.02 031 0.02 032 0.02 034 0.02 035 0.02 036 0.02 037 0.02 038 0.02 039 0.02 114 0.02 126 0.02 127 0.02 128 0.02 129 0.02 120 0.02 121 0.02 126		Applied (feet of w		ses Average Q (g∎Vmin)	Applied (feet of	Moving Avera	çei Lverage Q (gal/min)
Elapsed time Measured Head (minutes) (feet of water) 0.00 -0.01 0.00 -0.01 0.00 -0.01 0.12 -0.01 0.13 -0.01 0.14 -0.01 0.15 -0.01 0.16 -0.01 0.17 0.02 0.18 -0.01 0.19 -0.01 0.11 -0.02 0.12 -0.01 0.13 -0.02 0.14 -0.02 0.15 -0.02 0.16 -0.02 0.17 -0.02 0.18 -0.02 0.19 -0.02 1.14 -0.02 1.15 -0.02 1.14 -0.02 1.15 -0.01 1.16 -0.01 1.18 -0.01 1.18 -0.01 1.18 -0.01		J FOI Applied Head (feet of water)	at Moviag Aver d time (mins)	iges Average Q (gal/min)	5 Point Applied Head (feet of water)	Moving Avera A time / (minutes)	çes Lverage Q (gal/min)
(minutes) (feet of water) 000 000 001 000 000 000 000 000 000 00		(feet of water)		(gaVmin)	(feet of water)		(gal/min)
0.00 0.05 0.11 0.11 0.11 0.12 0.36 0.36 0.34 0.34 0.36 0.37 0.37 0.37 0.37 0.37 0.37 0.37 0.37 0.37 0.37 0.37 0.32 0.02	water) (gal/min)						
0.12 0.13 0.36 0.36 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34	2						
0.14 0.00 0.35 0.02 0.35 0.02 0.34 0.02 0.59 0.02 0.78 0.02 0.78 0.02 0.96 0.02 1.14 0.02 1.14 0.02 1.16 0.02 0.02 1.16 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0		16.61	10 01	000			
0.02 0.42 0.42 0.42 0.42 0.77 0.78 0.01 0.78 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.0		M 61	0.03	00.0	19.91	10.0-	0.00
0.42 0.54 0.50 0.77 0.78 0.78 0.78 0.96 0.92 0.92 0.92 1.14 0.92 1.14 1.20 0.92 1.20 0.92 1.20 0.92 1.20 0.92 1.20 0.92 1.26 0.02 1.26 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0		19.91	0.00	0.00	19.94	0.03	0.00
0.54 0.02 0.77 0.02 0.78 0.02 0.78 0.02 0.78 0.02 0.96 0.02 1.14 0.02 1.14 0.02 1.26 0.02 1.14 0.02 1.26 0.02 1.16 0.02 1.16 0.02 1.16 0.02		66.61 56.61	00.0	000	19.95 19.91	10:0	00 .0
0.02 0.77 0.78 0.78 0.96 0.96 0.96 0.02 1.14 1.10 1.20 1.20 1.20 1.20 1.20 1.20 1.20		56.61	0.00	00.0	26.61	000	000
0.02 0.94 0.96 0.96 0.96 0.02 1.10 1.10 1.20 1.20 1.20 1.20 1.20		56.61	0.00	0.00	56.61	0.00	000
0.00 0.96 0.96 1.10 1.11 1.20 1.20 1.20 1.20 1.20 0.02 1.26 0.02 1.61 1.62 0.01 1.60 0.01 1.60 0.01 0.01 0.00		26.61 20.01	0.0	0.00	19.95	0.00	0.00
0.96 1.02 1.14 1.14 1.20 1.26 1.26 1.26 0.02 1.38 0.02 1.61 1.62 0.02 1.64 0.02 1.64 0.02 1.64 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.0		19.93	8.9	8	19.95 19.91	0.00	0.00
1.02 1.14 1.26 1.26 1.26 1.26 1.28 1.26 1.24 1.44 1.44 1.62 1.64 1		K /61	3	000	F 2	() () ()	8.0
1.14 0.02 1.26 0.02 1.38 0.02 1.44 0.01 1.56 0.02 1.56 0.02 1.60 0.02 1.60 0.02		16 '61	0.00	0.00	16.61	0.00	80.0
1.26 0.02 1.31 0.02 1.44 0.01 1.62 0.02 1.64 0.02 1.64 0.02 1.64 0.02		1 6.61	0.04	0.00	19.94	0.00	0.00
138 0.02 144 0.01 156 0.02 1.62 0.02 160 0.02 100 0.02		(6.61 10 01	88	0.0	19.91	9.04	0.00
1.44 0.01 1.56 0.02 1.62 0.02 1.68 0.02 1.60 0.00		56.61	109	80 G	CC.VI	-0.01	0.00
1.56 0.02 1.62 0.02 1.68 -0.01 1.80 -0.00		5661	0.0	00.0	26.61	8.0	0.0
1.62 0.02 1.68 -0.01 1.80 0.00		56'61	0.01	0.00	16.61	0.03	000
		19:91	-0.03	00.00	19.94	0.00	0.00
		19.91	-0.01	0.00	19.91	-0.01	0.0
		E6 .61	0.02	0.00	19.94	10.0-	0.00
16 10 10 10 10 10 10 10 10 10 10 10 10 10		16.61	0.00	0,00	19.93	0.02	00.0
2.04 0.00		19.91	0.0	0.00	16.61	00.00	0.00
2.10 0.00		4 .61	8.5	00.00	19.94	0.00	0.00
2.22 0.00		M.61	0.00	9. i 2	19.91	000	0.00
		1	88	00.0	19.94 10.04	00.0	0.00
00.0		16.61	8	00.0	19.94 10.04	0 0.0	0.00

Golder Associates

218A13A CHA, Input Data

011.101.200

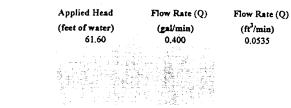
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
61.60	0.400

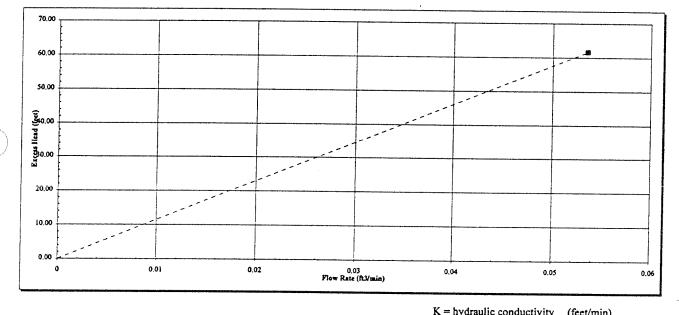


ClientMorrison-Maierle/CSSASiteMiner FlatProject No.943-27691

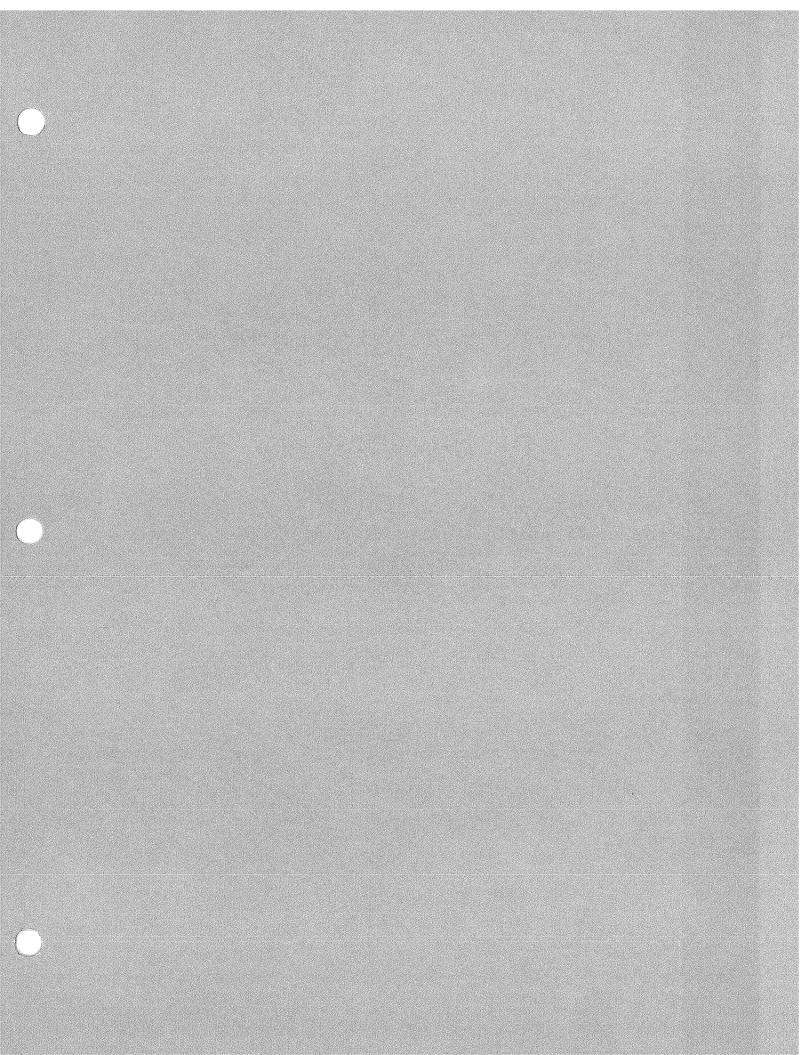
Borehole218AInterval Number13

Plot data





K = 1/(2πL) x (Q/h _e) x ln (L/r)	Q = Flow rate he = Applied head L = length of interval tested r = borehole radius	(ft ³ /min) (feet) (feet) (feet)
Range of	hydraulic conductivity		
K =	1.4E-05 cm/s 2.8E-05 feet/min	$Q = 0.054 \text{ ft}^3/\text{min}$ h. = 61.60 feet	



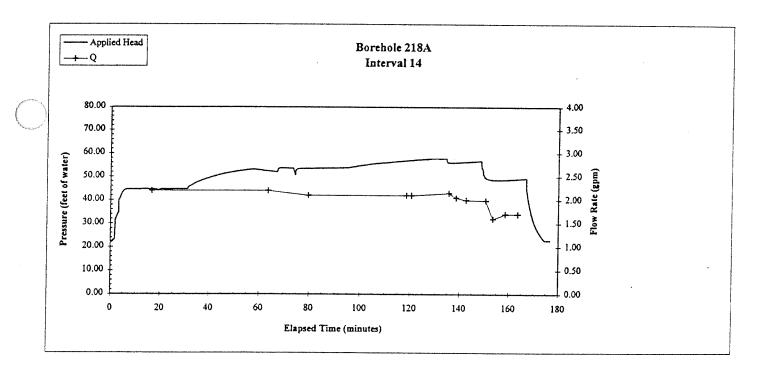
0(1)162-EFG								Average Q	(gal/min)			00.0	0.00	00'0 00 0	000	0,00	0.00	00.0	01.00	8.8	8	0.00	0.00	0.00	80	0.00	0.00	900	000	000	0.00	00.0
							5 Point Moving Averaged	∆ time	(minutes)			20.05	(0.0-	0.02	0.12	0.10	60 0 0	0.11	0.15	040	0.48	0.52	61.0	2.15	1.42	61.11	11.29	¥1.6	5.70	6.01	6.07	6.10 0.95
				rval Vertical Depth (ft)	Above 49.96 Below 59.94	1) 54.07	5 Point	Applied Head				22.42	174 174	4 1 1 1	12.44	22.46	222	22.55	22.58	62.22	22.88	00.62	23.10	95.EZ	25.26	27.49	29.74	00.75 28.16	15.55	36.75	19.76	39.20 40.50
			th calculation:	÷.	80,00 80,00 80,00	Vertical depth of bottom of interval (ft)	1205	Average Q (gal/min)			00.00	0.00	0.00	00.0	0.00	00 D	0.00	0.00	0 0	00.0	0.00	00.00	0.00	00.0	00.00	00.00	8.0	000	0.00	0.00	0.00	0.00
			True vertical depth calculation:	Hole depth (ft)	Above Bolow	rtical depth of l	3 Point Moving Averages	Δ time (mins)	Ì		0.02	0.00	-0.0-	0.10	0.05	10 D	0.07	0.10	0.03	0.42	0.43	90.0	0.0	-0.0ž	2.12	8.47	906 Ca C	90.0	60.0	5.64	5.92	0.43
			T	Jepth (R)	19.99 20.98	8A	3 Point l	Applied Head (feet of water)			22.43	22.43	12.45	22.41	22.44	174	22.52	22.55	1977	22.75	122.91	20,05	11.42	13.14	11.62	26.66	J0.40	16,46	34.43	16.96	26.86	40.31 40.50
\bigcirc		ad, Straddle packer tød downhole	ä	Top of late	Above 20,00 Above - Below 30,00 Below	(11) IN A MINING IN ACT IN SIGNAL		Q (gal/min)																								
""Elianticus""		Test Type: Constant h Gange loca	True vert	Hole depth (ft)	Above Below Varrical d											' iŝ '						•										
								Applied Head (feet of water)	22.42	22.43	22.40	1977 1977	16.15	22.40	2.45	22.49	22.49	95.22	22.60	22.64	20.62 00.62	23.01	11.62	23.15	71-67 74.54	65 TE	10.10	34.41	34.40	14.50 40.04	40.42	84.04
			inches	foct foct below top of casing foet below top of casing	ree octow top of casing foet foet below top of casing foet below top of casing			Measured Head (feet of water)	10.0-	10'0-	-0.01 0.01	00.0	\$ 3.07	10.07 10.0	10:0	0.06	90.0 L	0.16	0.16	0.21	40 D	0.65	67.9	0.71	2.43	176	16.11	16.11	7611	12.61	86.71	18.04
	rte/CSSA			0.16 29.25 54 17				Elapsed time (minutes)	0.00	0.06	0.12	0 30	90.0	0.54	0.60	0.72	0.78	0.96	1.02	+1.1 0.1	1.26	171	1.44	1.62	1.68	1.92	2.9	3.06	3.12	324	3.60	3.66
	Morrison-Maierle/CSSA Miner Flat 943-27691	218A 14 4-Nev-95		Tep Bettem			15:02:32	Elapsed time (hours)	0.00	0.00	90 0	10.0	100	10:0	10.0	10.0	0 02	0.02	0.02	0.02	0.02	0.02	0.02	(0.0	0.03	0.03	0.05	0.03	0.05	0.05	90.0	90.0
okmell.	Client Site Project No.	Borcholc Test Number Test Date	Borehole diameter Borehole - diam	Test section location	Length of test interval Gauge Depth Static Water Level	General Lithology	Start Time	Clock Time	15.02.32	15.02:36	15.02.43	15.02.50	15.02.54 15.02.57	15.03.04	10.50.51	61.60.61 01-61-81	15.03.26	00.00.01	EC:E0;E1	19.E0.E1	15.03.48	13.03.55	15:03:51	15,04,09	115.04.13	15:04:27	15:05:28	95.00.01 95.00.21	15.05.43	15:05:46	15:06:01	15,06,12

Golder Associates

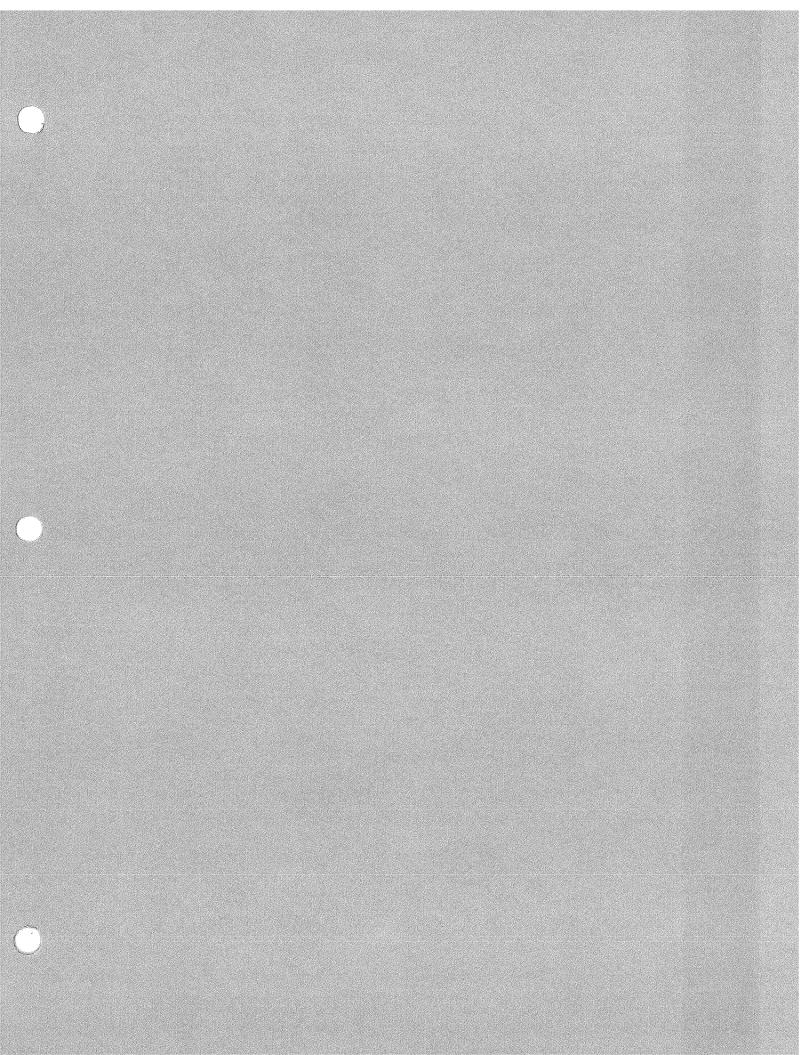
218A14A.CHA, Input Data

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
48.60	1.700
56.90	2.100

7



Constant of the second se	Client Site Project N Borehole		Miner Fl 943-2769 218A								
	Interval I	Number	14								
			Plot data								
				Applied Head (feet of water) 48.60 56.90	Flow Rate (Q) (gal/min) 1.700 2.100	Flow Rate (Q) (ft ³ /min) 0.2273 0.2808					
	60.00				T		1		1		
	50.00		у	= 155.2x + 13	3.325		č.				
				$R^2 = 1$							
	40.00									······	
	l (fact)										
	Excess Head (feet) 8		·····			<u> </u>					
	20.00										
()								•			
and the second second	10.00										
	0.00			.05	0.1	0.15 Flow Rate (ft3/min)	0.2		0.25		 دە
									·····		
			K = 1	/(2πL) x (Q/h _e) x l	n (L/r)	·	Q = Flow $he = Ap$ $L = leng$	plied head	l val tested	(feet/min) (ft ³ /min) (feet) (feet) (feet)	
			Range o	f hydraulic condu	ctivity						
			K =	7.7E-05 cm	n/s		Q =	0 227	ft³/min		
				1.5E-04 fee			h _e =	48.60			
			K =	8.1E-05 cm 1.6E-04 fee			Q = h _e =	0.281 56.90			
			K =	1.1E-04 cm 2.1E-04 fee			Trendline Slope	155.20			



061.1075-694								rages	Average Q	(gaVmin)			00.0	0.00	00.0	00.0	00.0	0.00	0.00	000	0.00	0.00	93 G	000	0.00	0.00	0.00	0.00	0 0.0	000	08.0	000	0.00	00.0
()								5 Point Moving Averages	Δ time	(minutes)			0.00	0.00	0.00	00.0	0.00	00.0	000	10.0	10.0-	0.03	5 7	10.0	-0.15	01.0-	10.0-	8.0	0.10	0.05	60.0	0.08	0 02	0.04 0.19
				rval Vertical Depth (A)	19.99 29.95	29.60		5 Point	Applied Head	(ICCI OI WALEL)			15,44	17.11	11.44	11	11.44	11.44	11.11	18.61	18.44	24.61 24.45	11.0	18.42	18.40	76.81	18.36	97.11	1	18.40	18.42	18.44	14 14	18.46 18.51
			alculation:	iate	20.00 Above 30.00 Below	tom of interval (ft)		71	Average Q	(R40 mm)		00'0	0.00	0.00	00.0	0.00	0.00	0.00	0.00	0.00	00.0	00.0	0.00	0.00	0.00	0.00	00.0	00.0	0.00	0.00	00.00	0.00	000	00.0
			True vertical depth calculation :	-	Above Balow	Vertical depth of bottom of interval (ft)		J Point Moving Averages	Δ time (mina)			0.00	0.00	000	0.00	0.00	8.0	00.0 00.0	0.00	0.00	10'n	0.02	0.01	10.0-	0.02	10.0	6 9 8	0.05	0.00	0.03	0.05	1 0.0	10 U	0.02
			-	Depth (f)	01	4.75		J Point	Applied Head (feet of water)			18.44	1 : 1 :	11	18.44	11.44	11	11.44	18.44	11 11 11	111	18.45	11.44	18.43	18.40	(C11	51	16.31	101	18.40	18.42	11.45 11.45	18.46	18.46
		itraddie packer wahole	ith calculation:	Vertical	10.00 Below	Vertical depth of top of laterval (A)												9																
Com		Test Type: Constant head, Straddie packer Gauge located downhole	True vertical depta calculation:	Hole depth (A) Above	Bclow	Vertical depth of			Q (gal/min)																									
									Applied Head (feet of water)	16.44	11.44	;; ; ;	11	11.44	11	11.44	18.44	18.44		1145	18.45	91	144	6011	65.81	2011	16.81			14.41	18.43	11.41		18.46
			inches foot	feet below top of casing feet below top of casing	feet feet below top of casing free below top of casing			-	Measured Head (feet of water)	10:0	0.00	000	10:0	000	10:0	0,00	0.00	00.00	000	10.0	10.0	10.0-	00.0	1 0,0-	2010-	-0.12	- 0.10	97 F	33	0.00	0,00	0.04	0.02	0.03
	rle/CSSA		3.78 ii 0.16 f		24.87 6 				cimpsca time (minutes)	0.00	90.0	91.0	05.0	0.36	15.0	0.60	0.72	0.75	0.96	1.02	- 1 - 1	126	1.31	1.44	1.56	1.62		1.86	1.91	2.04	2.10	222	877	4 0.7
	Morrison-Maierle/CSSA Miner Flat 943-27691	218A 15 5-Nov-95		Tep Bottom	_		8:02:28	Flansed time	(hours)	0.00	0000	0.00	10.0	10:0	10.0	0.01	10:0	10.0	0.02	0.02	0.02	0.02	0.02	0.02	0.03	6. O	60.0 E0.0	0.03	0.03	0.03	0.04		100	5 A A A A A A A A A A A A A A A A A A A
1000	Client Site Project No.	Borcholc Test Number Test Date	Borehole diameter Borehole radius	lest section location	Leagen of test interval Gauge Depth Static Water Level	General Lithology Sandstone	Start Time	Clock	Time	E:02:28	8:02:32 8:02:35	8.02.39	8 02:46 • 43:50	1.02.53	8:03:00	10:00:0	11.00	81 EO.8	8:03.26	601E018	1:03.40	1.03.44	1:03:51	45:E0:B	20-M-8	10.00°	8:04:16	8:04:20	1:04.27	1.04.30	10434	1.04,45	8.04.48	

211A15A CHA, Input Data

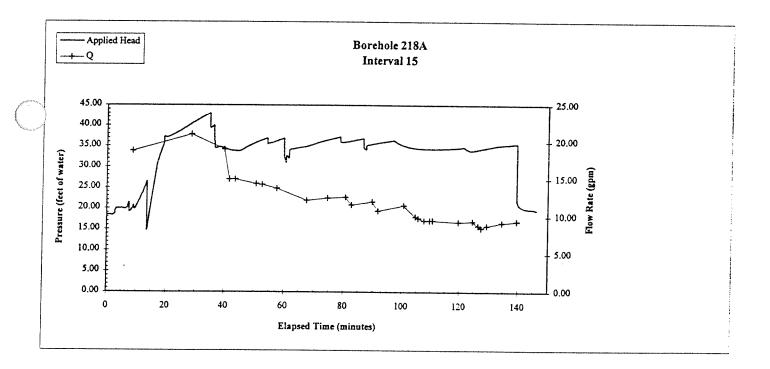
OC1.1842-EHQ			Average Q	(gal/min)	0.00	00.0	90 .0	80	0.00	0.00	00'00	0.00	0.00	0.0		00.0	00.0	0.00	0.00	0.00	0.00	0000	0.0	000	000	000	0.00	0.00	000	0.0	00.0	0.00	0.00	0.00	0.00	00.0		0.00	00.0	0.00	0.00	0.00	00'0	0.00
$\langle \cdot \rangle$			Δ time	(minutes)	1.05	16.0	76.0	170	02.0	0.48	0.49	1 0.0	61.0	19	61.0	E0.0-	0.05	0 02	£0.0-	10.0	0.00	10:0-	0.02	10.0-	0.02	0.03	0.05	10 .0	0.03	to:0-	E0:0-	£0'0-	-0.07	\$0.0-	-0.01	5 7	5 7	[0]0-	£0,0-	0.01	M) ()+	00.0	0.03	H) ()
	5 Point Moving Averages		Gauge Hea	(feet of wate	14.75	10.21	61.61	19.61	19.72	18.61	19.92	19.91	20.00 00.00	19.91	19.96	19.99	19.91	66.61	19.99	19.99	19.99	00.01	00 01	66.61	66,61	20.00	20.01	20.02	10.02	20.03	20.02	20.02	20.00	66.61	19.91	19.93	16.91	19.90	06:61	19.90	19.89	19.89	19.90	19.90
	5 Point Mov	Average	verage Q	(gat/min)	000	0.0	0.00	0.00	0'00	00.00	00.0	0.00	00.0	00.0	0.00	00.0	0.00	0.00	0.00	000	00.0	0.00	0.0	0.00	0.00	0.00	0000	000	0.00	0.00	0.00	0.00	00.0	10 00	0.0	0.00	0.00	0:00	0.00	0.00	0.00	0.00	0 070	20 .0
				-0.02	0.45	0.93	0.04	0.04	86.9	0.26	11.0	81.0	60 .0-	0.09	-0.05	0.05	0.02	8.0	10'0	0.0	0.02	10.0-	10.0	10:0	0.00	10:0	0.02	20.0	-0.02	0.00	10.0-	8	70.7	5 6 9	-0.05	-0.02	-0.03	1 0.07	0.0	10.0-	10:0	3		8.2
	erages	Course Mand	Cauge stead	12.65	16.11	52.61	19.56	19.59	12.61	19.01	20.01	20.01	20.00	26.61	19.91	19.97	66.61	00'07	66.61 66 61	66.61	66.61	66.61	66'61	66.61	19.99	20.00	20 02	20.03	20.04	20.03	20.03	10.02	10.07	19.97	19.94	19.93	16.61	16.91	06.61	06.6I	19.89	9191	01.01	
	3 Point Moving Averages	Average																																										
* terror		0	gal/min)																																									
		Applied Head	(feet of water)	18.642	11.647	19.526	19.579	690.61	519:61	19.879	20.05	20.108	19.86	770.07	279.91	666.61	19.987	20.003	166.61	19.974	966.61	166.61	18/61	10,000	C64741	20.002	20.015	20.048	20.037	20.02	20.017	20,003	20.002	19.966	10.01	616.61	19.91	10 005	19 220	19.895	19.9	19.866	19.492	
		Measured Head	(feet of water)	0.213	0.212	1601		1111 111	151	1.444	1.615	[19]	1.433	111	102.1	1.564	1.552	1.568	1.558	962.1	1361	(0C.)	1.549	8251	1221	1.567	1.51	[19]	1.602	765.1 192	1.582	1.568	1.567	165.1	1.502	1 444	1456	191	1.454	1.46	1.465	10/1	1.457	
	8.02.28	Elapsed time	(minutes)	2.64	N. 7	7.10 11.10	2.94	30.6	3.12	3.18	0.10	90.2 98 c	1.54	3.60	<i>u</i> .c	3.74	3.14	3.96	4.02	¥1.4	4.20		11	4.56	4.62	4.68	4.80	4.86	105	5.10	5.22	5.28	5.34	9 6	20°C	5.70	3.76	5.88	5.94	6.06	6.12	6.18	6.30	
en المجري مع	Start Time	me	(hours)	0.044	2000	190.0	0.049	0.051	0.052	0.053	0.035	200 200	0.059	0.06	0.062	0.063	0.064	0.066	0.067	690.0	0.071	0.072	0.074	0.076	0.077	0,078	80.0	140.0	0.084	0.045	0.087	0.088	610.0	(A) 0	M(4)(0	0.095	9(4) ()	860.0	640.0	101.0	0.102	CO 1 0	C01'0	
Locemb		Clock	lime	00:00.5	8.05.14	1.05.21	8:05:24	\$:05:32	8:05:35	96:50:8 7 - 24	1:05:50	8:05:57	00'90:8	8:06:04	11:90:1	8.06.15	1.00.1	8.06.26	87:00:8	1.06.40	8.06:44	8:06:47	1:06:54	E.07.02	8.07.05	8:07:09	1.07.20	1:07:27	8:07:30	8:07:34	8.07.41	8:07:45 F-07:45	M 07-56	1.07.59	8:01.06	01:20.2	\$10R014	12.80.8	8:08:24	B:01:32	00101	1.01.46		

Gulder Associates

Page 2 of 2

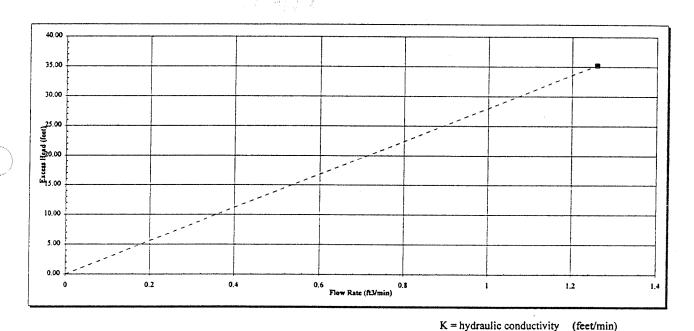
213A15A C1IA, Input Data

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
- 35.21	9.400



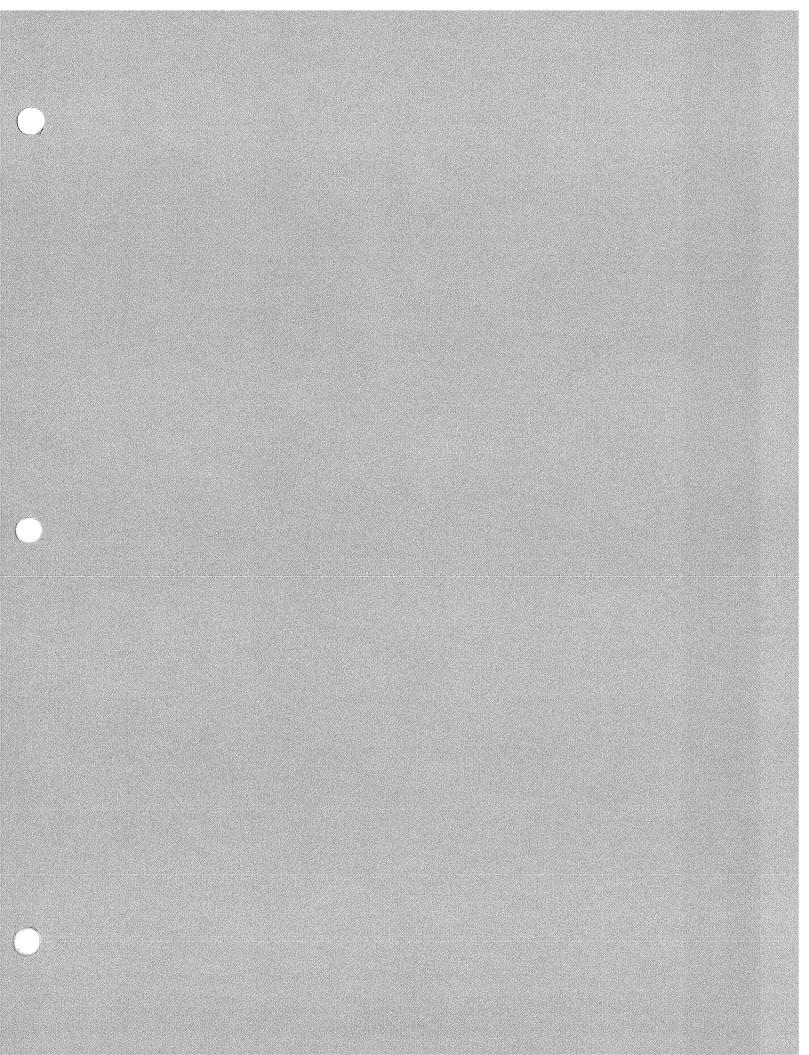
Client Morrison-Maierle/CSSA Site Miner Flat Project No. 943-27691 Borehole 218A Interval Number 15 Plot data

Applied Head (feet of water) 35.21 Flow Rate (Q) (gal/min) 9.400 Flow Rate (Q) (ft³/min) 1.2568



		(
	Q = Flow rate	(ft ³ /min)	
$K = 1/(2\pi L) \times (Q/h_e) \times \ln (L/r)$	he = Applied head	(feet)	
	L = length of interval tested	(feet)	
	r = borehole radius	(feet)	
Range of hydraulic conductivity			

K =	5.9E-04 cm/s	Q =	1.257	ft³/min
	1.2E-03 feet/min	h _e =	35.21	feet



Packer Testing Results Borehole MF 250

Interval #		Interva	Interval Depth		Lithology			Hvdraulic Conductivity	onductiv	itv	
	Ľ				8					£ • 1	
)	- top	bott	lom			feetmin			cm/sec	
	(fbtc) ¹	(elevation) ²	(fbtc)	(elevation)		Low ⁴	Hich	High Regression	Low ⁴	Hioh	Rourossinn
								0		0	TANET CONTOUR
7	134.08	5945.08	159.44	5919.72	Sandstone	2.87E-03	2.35E-03	1 48F-03	1 466-03	1 206-03	1 505 04
6	161.08	5918.08	186.44	5892.72	Sandstone	3.33E-03	3.97E-03	2.19E-03	1 695-03	2 07E-03	1 116-04
5	186.08	5893.08	211.44	5867.72	Sandstone	5.11E-03	5.11E-03	1.06E-02	2 59F-03	2 50E-03	5 40E 03
4	211.08	5868.08	236.44	5842.72	Sandstone	2 46F-03	2 69F-03	2 5 1E-02	1 755 02	CO-71/017	CO-304-C
3	239.08	5840.08	264.44	5814 72	Sandstone	7 975-04	1 176 02	CO-710-7	C0-7671	1.3/E-U3	1.2/E-UJ
2	264.08	5815.08	289.44	5789.72	Sandstone	1 376-03	1 086-02	1.045.03	4.U2E-U4	5./1E-04	6.39E-04
-	289.08	5790.08	314.44	5764.72	Sandstone	1 32E-03	1 98F-03	1.24E-03	0.72E-04	1.01E-03	9.86E-04
									N.141-04	CU-310.1	PU-364.4
											••••

¹ Feet below top of casing. ² Feet above mean sea level

³ Regression analysis does not include origin as a point. ⁴ Single point tests are presented in the "low" value column, however, they do not necessarily represent the low value for that interval.

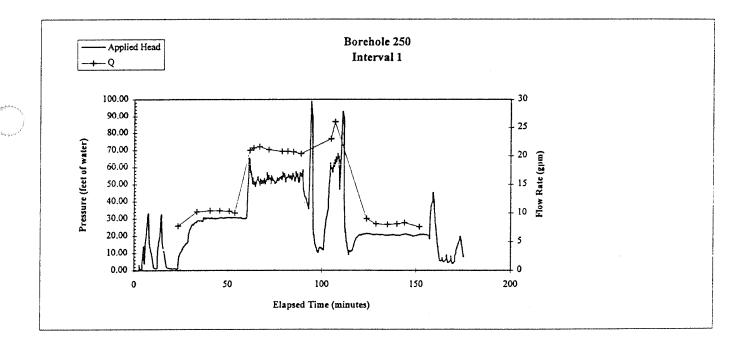
250

91-120-130			ges Averand	Average Q (gal/min)			00.00 00.00	0.0	0.00	8.0	0.00	0.00	0.00	00.0 00.0	0.00	00.00	0.00	0.0	000	0.00	0.00	0.00	8.0	0 00	00.0	0.00	00.0	
			5 Point Moving Averages Head A time Av	d time (minutes)			00.0	0.00	00.0	10.0-	0.00	0.00	-0.02	10.0	10.0-	0.00	1 0'0-	0.0	10.0	CU 0	0 .04	0.02	000	10.0-	10.0	0.00	M0.0-	
		terval Vertical Depth (N) Above 309.91 Balow 316.51 d (N) 314.35	5 Point A Applied Head	(feet of water)			899	-0.03	10 P	10.0	£0.0 .	-0.03	8 8 9 9	5 70 P	-0.05	-0.05	-0.0X	9 2 7 7	8.9	-0.05	1 2.0	9 .0		3	-0.03	-0.03	3 .9 3 .9	
		ottom of in 310.00 316.60 a of interva	ges Average ()	(gal/min)		0.00	0000	00'0	00.0 00.0	0.00	0.00	0.00	0,00	0.00	0.00	0.00	000	000	00.0	0.00	0.00	0.0	00.0	0.00	0.00	0.00	01.0	
		Hole depth (n) Abone Below Vertical depth of b	3 Point Moving Averages Head A time A	(mins)		80.0	0.0	0.00	0 0 0	10.01	10.0-	0.01	3 9	0.0	-0.01	-0.04	10.0	10.0-	10:0	10:0	0.02	8.0	8	10.0	-0.0 3	0.00	0.0 10.0	
		i: Erral Vertical Depta (ft) Hove 2393 Below 249,92 Below 219,00 Ve	3 Point] Applied Head	(feet of water)		-0.0- 20.0-	6.03	-0.03	-0.0 10.0	-0.03	-0.04 	8 2	3	-0.04	20.05	-0.02 20.02	8 8	90.0	-0.0 6	-0.05	1 0.0		10.0-	-0.03	1 0.0-	1 0.0	3 . 9	
	Test Type: Coastant head, Straddie packer Gauge loeated downhole		ð																								si,	
	Terl' Gaug	True v Hok d Above Below Vertici	Applied Head	(feet of water)		60.0-		[0]0-			(0) 20				(0) 910 910					2 6.6						5	(0.0-	
		inches feat feat below up of cuaing feat below up of cuaing feat below up of cuaing feat below up of cuaing	Measured Head	(feet of water)	-0.03 -0.13 -0.13	10'D-	60.07 50.07	6 G G	£0.0-	CO-0-		0.03	£0.0 .	20.0		-0.06	90) () -	-0.07	-0.0 <u>7</u>	90.0- 10.0-	10.0-	£0.0 -	£0'0-	-0.03 	50'0- 51'0	8 9	(0.q-	
	rle/CSSA	3.78 0.16 2.89,08 314,44 314,44 25,36 1.158,24 1.158,24	Elapsed time	(minutes)	0.00 0.00 0.00	0.16	0C.0 AC 0	0.42	0.66	0.72	0.84	0.84	0.96	1.02	1.86	1.92	161	161	2.04	5 10	2.16	222	122	2.28	477 72	2.40	2.46	
	Morrison-Malerle/CSSA Milaer Flat 943-27691 250 1 1 1-Nov-95	Tep Bottom	e	(hours)	800 900 900	0.00	10:0	0.01	10.0	10.0	10.0	0.01	0.02	0.02	60.0	0.03	0.03	0.03	0.0	10.0	0.04	1 0'0	0.04 2.02	40 D	100	0.04	6.04	
Jourse	Client Site Project No. Borehole Teat Number Teat Date	Borchole diameter Borchole radius Test section location Length of test interval Gauge Depth Static Water Level General Lithology Stard theo Start Theo	Clock	Time	15.06:24	15,06,31	15.06.31 15.06.42	15.06.45	15.07.00	13.07.07	15.07.10	15.07:10	15:07:13	15.0.cl 15.07.0.cl	15:04:12	15:08:15	13.01.19	13:08:19	15.06.22	15.08.26	15.08.30	15.08.33	15.08.33 14 AP-37	15.00-00	15.01.40	13.08.44	15.00.41	

Golder Associates

25001A CHA, Input Data

Plot data used	in analysis								
Applied Head	Flow Rate (Q)								
(feet of water)	(gal/min)								
39.74	10.300								
53.65 20.54	20.800 7.600								



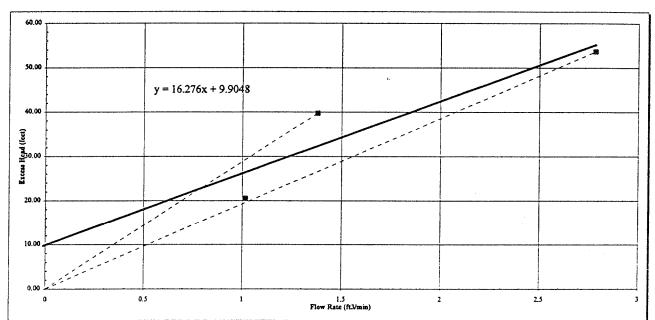
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

250 Borehole Interval Number

Plot data

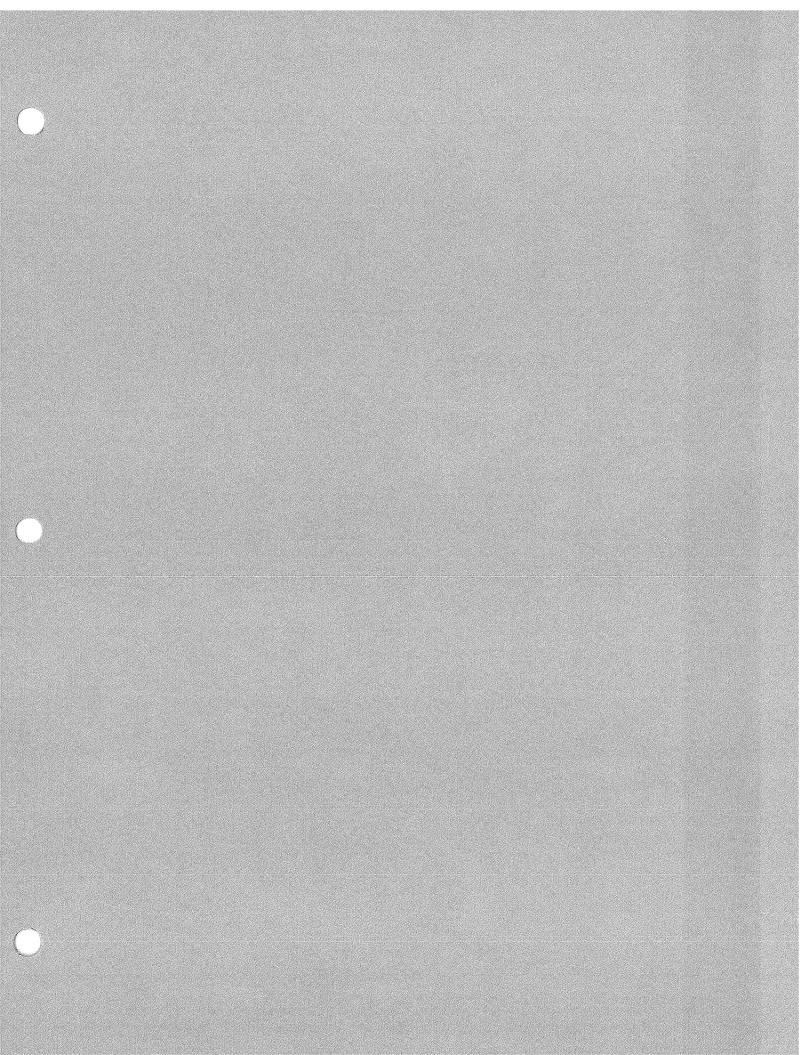
1

Applied Head	Flow Rate (Q)	Flow Rate (Q)					
(feet of water)	(gal/min)	(ft ³ /min)					
39.74	10.300	1.3771					
53.65	20.800	2.7810					
20.54	7.600	1.0161					



K = 1/(.	2πL) x (Q/h _e) x in (L/r)	K = hydra $Q = Flow$ $he = Appl$ $L = length$ $r = boreho$	(feet/min) (ft ³ /min) (feet) (feet) (feet)		
Range of l	hydraulic conductivity				
K =	6.7E-04 cm/s 1.3E-03 feet/min	Q = h _e =	1.654 39.74	ft ³ /min feet	
K =	1.0E-03 cm/s 2.0E-03 feet/min	Q = h _e =	3.339 53.65	ft ³ /min feet	
K =	9.9E-04 cm/s 2.0E-03 feet/min	Trendline Slope	16.28		

.



	v top of casing v top of casing	inchea feet feet feet feet feet below top of caning feet of water) 001 001 001 001 001 001 001 001 001 00	inchea feet feet below top of casing feet of water) (feet of water) 001 001 001 001 001 001 001 001 001 00			Test Type: Constant band, Straddle packer Gauge located dewrhole	True vertical depth calculation: Bottom of interval Top of interval Bottom of interval Hole depth (ft) Vertical Depth (ft) Above 230.00 Above 230.00 Above 270.00 Balow 249.91 Balow 249.92 Balow 249.92 Balow 240.00 Balow 249.92 Balow 240.01 Vertical depth of top of interval (ft) 264.01		Q Applied Head A time Average Q Applied (gal/min) (feet of (mina)) (feet of				0.01 0.00 0.01 0.00 0.01 0.00 0.01 0.00						0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0			·····································	「「「「「「「」」」) - 1 0 0 0 013 0.1 0.0 013 0.2 0.1 0.0 0.1 0.0 0.1 0.0 0.1 0.0 0.1 0.0 0.1 0.0 0.1 0.0 0.1 0.0 0.0					014 010 000 014 - 001			
--	---	---	--	--	--	--	---	--	---	--	--	--	--	--	--	--	--	--	--	--	--	---------------------------------------	--	--	--	--	--	-----------------------	--	--	--

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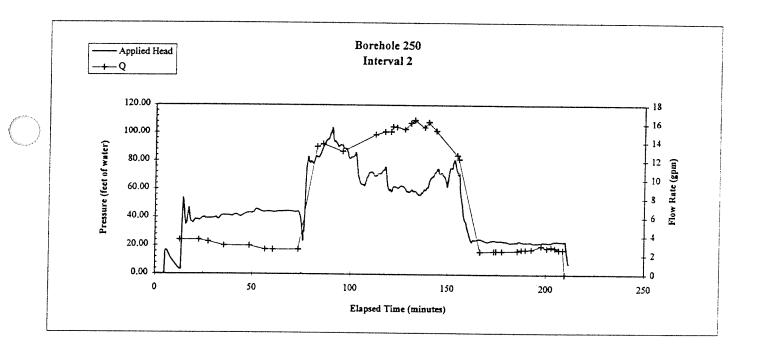
(

Goldor Associator

25002A CHA, Input Data

Plot data used in analysis

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
44.03	2.600
61.68 22.91	15.470 2.600



Ì	Client	Morrison-Maierle/CSSA
the second	Site	Miner Flat
	Project No.	943-27691

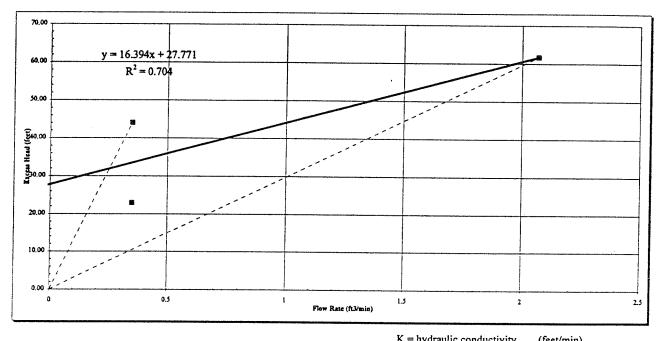
Borehole 250 Interval Number

Plot data

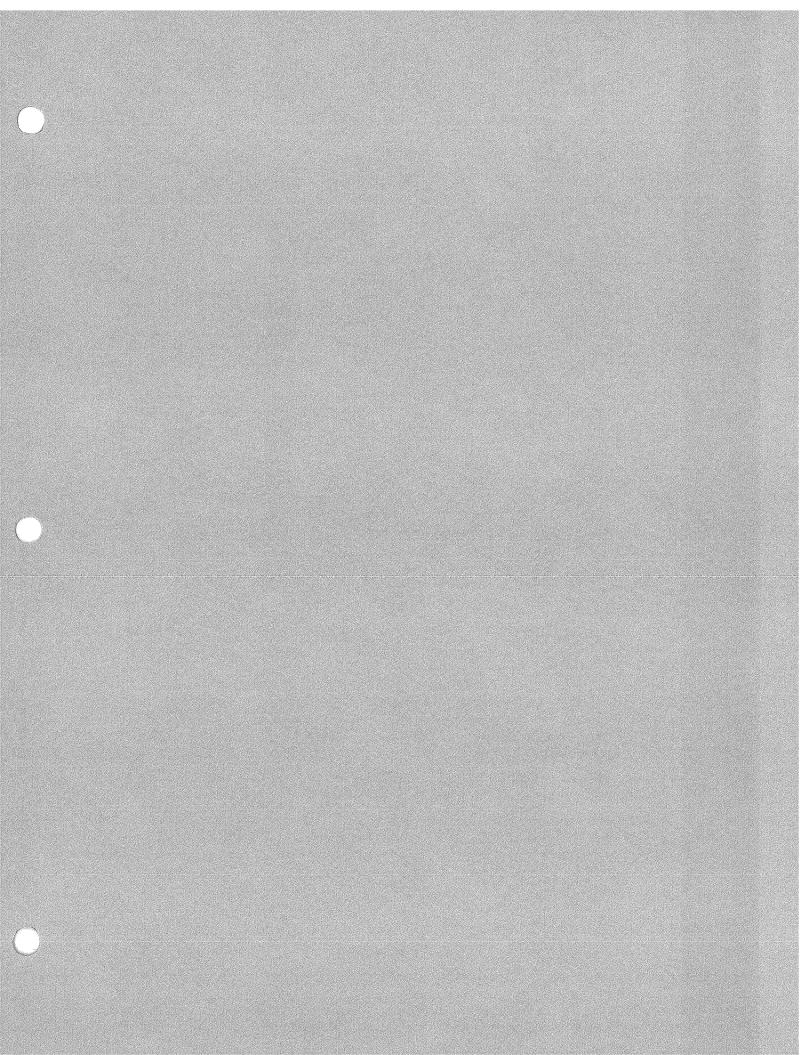
2

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
44.03	2,600
61.68	15.470
22.91	2,600

Flow Rate (Q) (ft³/min) 0.3476 2.0683 0.3476



K = 1/(/2πL) x (Q/h _e) x ln (L/r)	K = hydra $Q = Flow$ $he = Appl$ $L = lengtt$ $r = boreho$	rate lied head 1 of interv		(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of	hydraulic conductivity				
K =	6.7E-04 cm/s 1.3E-03 feet/min	Q = h _e =	1.654 39.74	ft ³ /min feet	
K =	1.0E-03 cm/s 2.0E-03 feet/min	Q = h _e =	3.339 53.65	ft ³ /min f ce t	
K =	9.9E-04 cm/s 1.9E-03 feet/min	Trendline Slope	16.39		



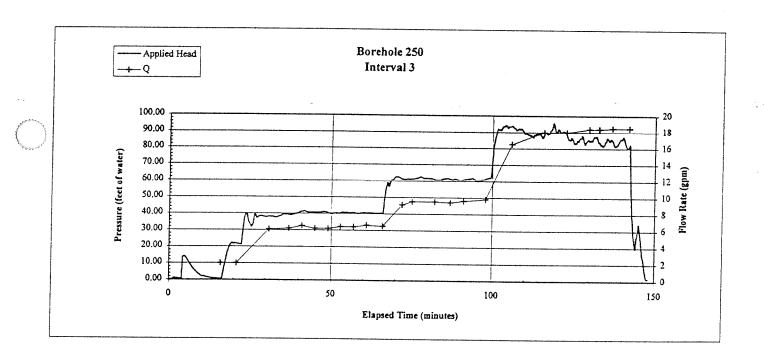
941-2791,130					8	Average Q	(gaVmin)			00.0	0.0	0.00	0.00	0.00	0.0	0.0	0.00	00.0	0.0	0.00	0.00	000	0.00	0.00	0.00	0.00	000	0010	8 .0	00.0
					5 Point Moving Averages	Δ time ,	(minutes)			00) 100	11.0	0.17	91.0 67.0	0.15	0.07	-0.06	10.0	0.17	0.76	0.89	0.65	0.07	-0.0-	11.0-	-0.12	0.12	-0.12	8 C	1 25	20
			terval Vertical Depth (h) Above 239.93 Below 269.92	76.191	5 Point M	Applied Head (feet of water)				10'0	0.03	0.07	0.15	0.20	0.24	0.24	П	870	0.52	0.70	0.88	1.04	1.05	1.03	1.01	16:0	56 D	06.0	0.01	0.87
			Bottom of Interval Vertica 260.00 Above 270.00 Bolow	Vertical depth of bottom of laterval (f)	gcı	Average () (gal/min)			0.00	00.0	0.00	0000	0.00	00.00	0.0	0.00	00.0	0.00	0.00	0000	0.00	0.00	0.00	00.0	00.0	0.0	000	0.00	0.00	0.00
			Hole depth (ft) Abova Balow	ertical depth of b	3 Point Moving Averages	Δ tíme (mins)	,		00.0 00.0	0.03	10.0	015	0.08	0.04 0.04	0.00	0.0	8 9	0.23	69.0	X 2	0.12	0.02	10 .0	83	10 YE	50 0	-0.04	10.0-	90.0-	3 3.0
			a: erval Vertical Depth ((t) H Above 2299 Bolow 21999	V 10.952	3 Point	Applied Head (feet of water)			00.0	10.0	0.02	0.10	0.15	0.23	0.25	0.25	0.21	0.27	0.49	0.96	1.03	1.07	90 T	5.9	0.98	2.0	0.92	0.90	0.85	0.86
		addle packer abole :	calculation: Top of laterval Vertica 230.00 Above 240.00 Bolow	p of interval (fi)								14									1.18				-				,2	e
		Test Type: Constant head, Straddle packer Gauge located downhole	True vertical depth calculation: Top ef inter Nove 240th (ft) 240,00 A Above 240,00 B	Verlical depth of top of interval (ft)		Q (gal/min)	 P. P. Manual P. Man																							
			F	2		Applied Head (feet of water)		00.0 00.0	00.0	10.0			810		0.26			0.17				10.1			0.96	96.0	160	R		}
			inchea feat feat below top of casing feat below top of casing feat eat below top of casing	red below top of caring		Mcasured Head (feet of water)	-0.03	0.00	0.00	0.02	0.00	010	0.18	0.26	470 270	0.26	0.20		0.36	0.96	901	1.08	1.03		980	0.96	14.0	8.0	0.05	
	erle/CSSA		3.78 0.16 239.08 264.44 151.36 161.00			Elapsed time (minutes)			0.18		0.42			0.78		1.02	1.20	1.26	1 51	¥.	1.62	1.68	1.80	1.86	1.98	5 ID	1 11	2.34	2.40	
	Morrlson-Maleric/CSSA Miner Flat 943-27691	250 3 12-Nov-95	Tep		11:24,09	Elapsed time (hours)	0000	00'0	0.0	10.0	0.01		0.01	100	0.02	0.02	0.02	0.02	0.02	0.02	0.0	£0.0	0.0	60.0	0.03	10.0	10.0	0.04	0.0	
Tisur	Clicat Site Project No.	Borebole Test Number Test Date	Borchole diameter Borchole radiua Test section location Length of test interval Gauge Depth Static Water Level	General Lithology Sandstone	Stari Time	Clock Time	11:24:09	11:24:16	11.24.27	11.24.31	11:24:34 11:24:41	11:24:45	11:24:52	11.24.59	11.25.07	11:25:10	11:23:21	11:23:25	11:25:32	11:25:40	11:25:46	11:25:50	11.25:57	10:07:11	11.26.11	11:26:15	11:26.22	11:26.29	11:26:33	

Goldor Associatos

25003A CILA, Input Data

Plot data used in analysis

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
40.37	6.500
61.27 84.00	9.500



Ż	Client	Morrison-Maierle/CSSA
	Site	Miner Flat
	Project No.	943-27691

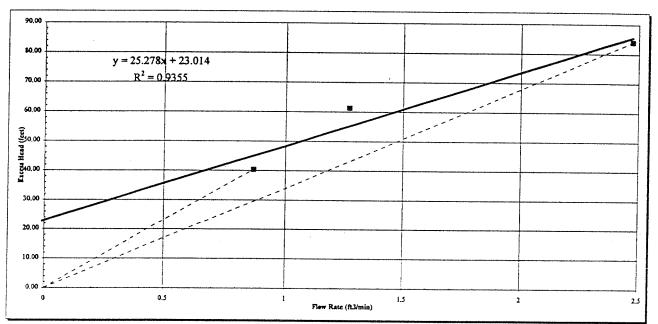
Borehole Interval Number

Plot data

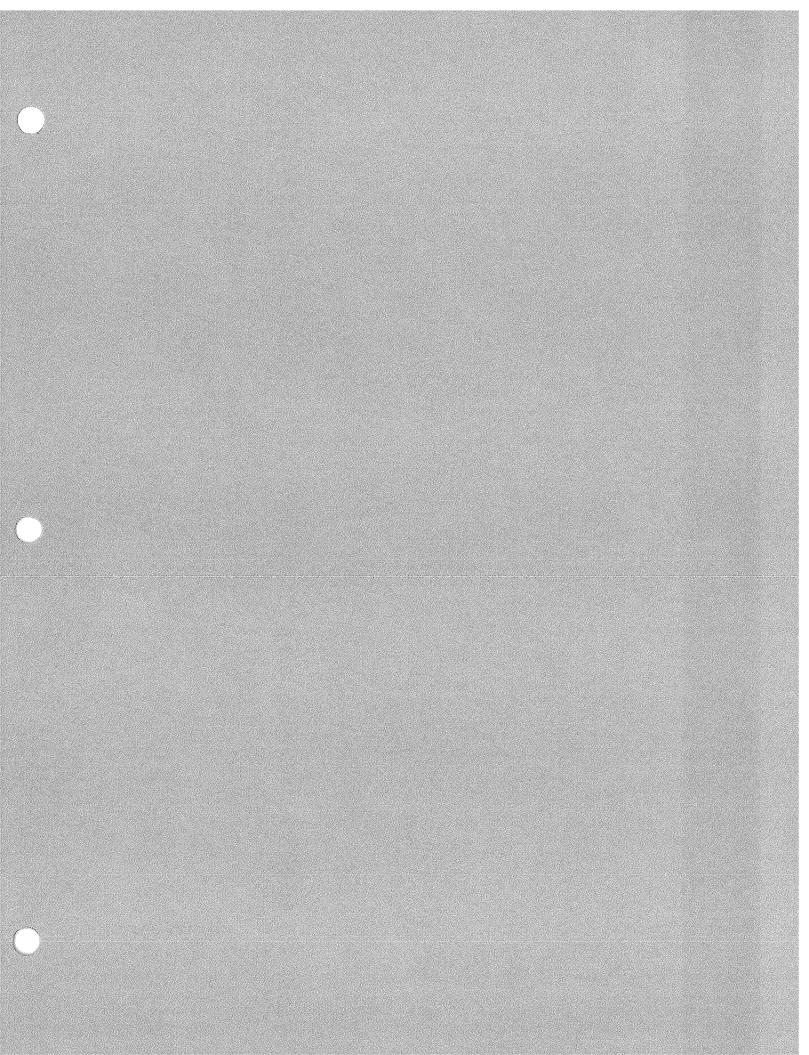
250

3

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
40.37	6.500	0.36905
61.27	9.500	1.27015
84,00	18.500	2,47345



K = 1/(2πL) x (Q/h _e) x ln (L/r)	Q = Flow he = App L = lengt	aulic cond v rate lied head h of interv ole radius	•	(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of	hydraulic conductivity				
K =	4.0E-04 cm/s 7.9E-04 feet/min	Q = h _e =	1.525 61.27	ft ³ /min feet	
K =	5.7E-04 cm/s 1.1E-03 feet/min	Q = h _e =	2.970 84.00	ft ³ /min feet	
K =	6.4E-04 cm/s 1.3E-03 feet/min	Trendline Slope	25.28		



961.1672-616				ŋ	Average Q (gal/min)	Ì		0.00	00 00 00 00 00 00 00 00 00 00 00 00 00	00.0	00.00	0000	0.0	0.00	0.00	000	0.00	0.00		0.00	00.00	0.00	00.0	0.0	0.00	0.00	00.00
() () () () () () () () () () () () () (5 Point Moving Averages	Δ time (minutcs)			0.02	0.03	20.0- 10.0-	0.00	0.19 0.10	0.34	0.33	0.16 -0.04	0.13	0.12	0.12	-0 07	-0.05	-0.06	0.10	/0.0- 90.0-	90.0- 90.0-	10.0-	N . 0	0.00
			terval Vertical Depth (ft) Above 229.94 Below 239.93 I (ft) 236.37	5 Point P	Applied Head (feet of water)			0.03	10 0	0.03 0.03	0.03	0.06 0.15	0.23	0.30	0.4 14.0	0.41	0.43	0.46	0.49	0.48	0.46	1 -0	190	6.0	0.38	16.0	76.0 76.0
			Bottom of laterval Vertical 230.00 Above 240.00 Bebw	T	Average Q (gal/min)		0.00	000 000	00.0	0.00	00.0	0000 0000	0.00	00.0	0.00	0.00	0.00	00.0	0.00	00.00	00'0	0.0	000	0.00	0.00	0.00	0.0
			Boltom of laterva Hole depth (ft) Verti Abova 230.00 Abo Below 240.00 Belo Vertical depth of bottom of laterval (ft)	3 Point Moving Averages	Δ time (mins)		-0.02	90 10 10	0.00	10.0-	0.00	61.0 0.19	0.45	0.16 51.0	000	0.06	61.0	-0.02	0.0	0.00	0.02	6 F	0.02	10:0-	10.0	0.0	8.0 8.0
			t: Frval Above 2003.95 Below 213.94 Below 213.94 Alor 211.03 Ve	Poir	Applied Head (feet of water)		0.02	0.03	90.0	0.02	0.02	0.09	52.0	0.36	76,0	66.0	0.43	0.49	0.49	0.49	0.47	0.42	0.41	60.0	9C.0 TE 0	75.0	7E.0
		addie packer mhole	calculatioa: Top of laterval Vertical 210.00 Above 220.00 Below p of laterval (ft)																			е ^н 1.		-1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	lar Mir		
$\left(\begin{array}{c} \\ \end{array}\right)$		Teil Type: Constant head, Straddio pairker Gauge localed downholo	True vertical depth calculation: Top of laterval Hoke depth (ft) 210.00 Abuv Bow 220.00 Bulow Bow 7100 Datow		Q (gal/min)		- 1 2																				
					Applied Head (fect of water)	0.04	10.0	0.0	10.0 10.0	0.03	10.0-	N0.0	0.21	6.0	76.0	0.07 51.0	0.0	0.49		0.49					0.37		16.0
			inches feet feet below top of casing feet below top of casing feet below top of casing feet below top of casing		Measured Head (feet of water)	N) ()	2.5	10.0	10.0 10.0	0.0	10.0	0.0	0.21		0.37	0.37			610	0.49	1 0	0.43	0.38	0.41	0.37	037	0.37
	ie/CSSA		3.76 inch 0.16 feet 211.08 feet 23.644 feet 25.36 feet 153.00 feet 138.29 feet		Elapsed time (minutes)	00.0 90.0	0.12	0.30	0.36 0.42	0.54	0.72	0.78	0.95	1.02	11	1.26			1.36	1.68	1.80	1.16	161	2.16			46.5
	Morrison-Malerle/CSSA Miner Flat 943-27691	250 4 12-Nov-95	Bottem	14:12,24	Elapsed time (hours)	0.00	00.0	10.0	100	10.0	10'0	10.0	0,02	0.02	0.02	0.02		0.02	0.03		0.0		0.03		10.0		M) ()
130%	Client Site Project No.	Borehole Test Number Test Date	Borchole diameter Borchole radius Test acction location Length of test interval Gauge Depth Static Water Level	Geaeral Lithology Sandstone Stari Time	Clock Time	14:12:24 14:12:28	16.1231	14-12-42 11-11-11	14:12:40 14:12:49	14:12:56 14:13:00	14.13.07	14:13:11 14:13:14	H-13.22	14:13:25	14,13:32	14:13:40	14:13:47	14:13:50	14.14.01	14:14:05	14:14:12	14:14:16	14:14:22	14:14:30	14:14:37	14:14:41	14.14.44

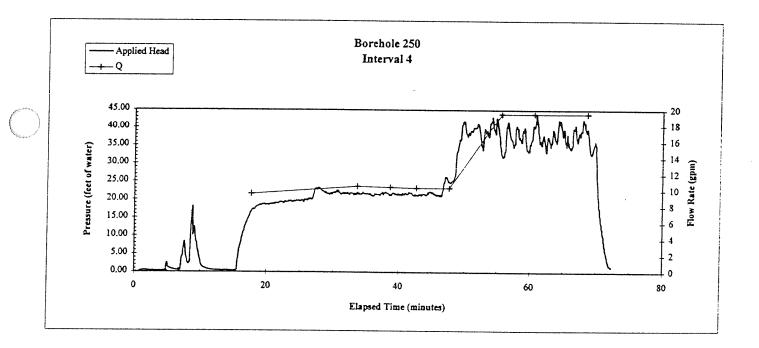
Goldor Associates

23004A CHA, Input Data

061.190-040

Plot data	used	in	an	alys	is
Applied Head		F	low	Date	(0)

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
21.39	10.300
37.00	19.500



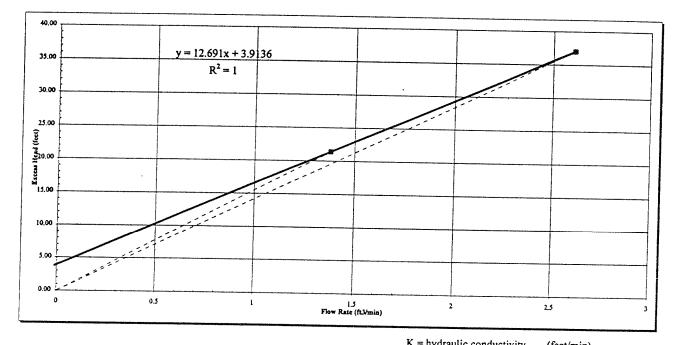
l.	Client	Morrison-Maierle/CSSA
Ż	Site	Miner Flat
	Project No.	943-27691

Borehole 250 Interval Number

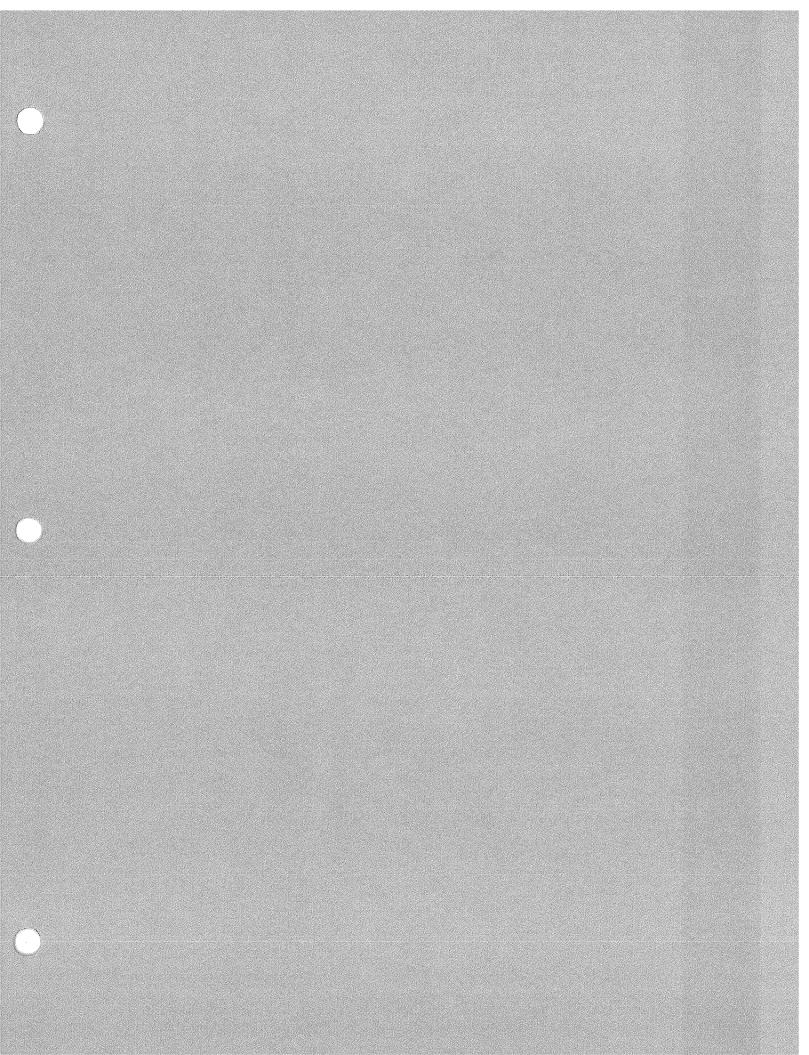
Plot data

4

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
21.39	10.300	1.3771
37.00	19.500	2.6072



K = 1/($(2\pi L) \ge (Q/h_e) \ge \ln (L/r)$	Q = Flow he = App L = lengt		-	(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of	hydraulic conductivity				
K =	1.2E-03 cm/s 2.5E-03 feet/min	Q = h _e =	1.654 21.39	ft ³ /min feet	
K =	1.4E-03 cm/s 2.7E-03 feet/min	Q = h _e =	3.131 37.00	ft ³ /min feet	
K =	1.3E-03 cm/s 2.5E-03 feet/min	Trendline Slope	12.69		



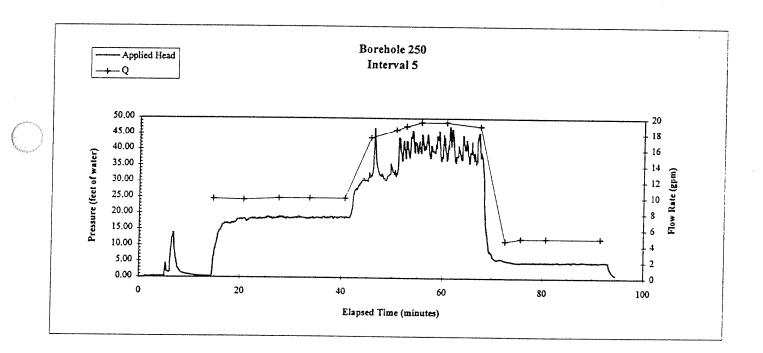
0E1.187.EM									Average Q	(gaumin)			0.00	01.00	0.00	00.0	000	00.0	0.00	00.0 200	0.00	0,00	0.00	00.0	0.00	00.0	0.00	0.00	0.00	0.00	0.00	00.0	00.0		93
							5 Point Moving Averages	mga mur gan	Δ time Av				0 00	0.00	-0.02	-0.02	0.04	-0.03	0.00	0.05	0.36	CC 0				00.17 01.07					10.0				
				lerval Verical Denth (0)	209.95 219.94	96,112	5 Point Mo		Applied Head				60.07	-0.03	0.0	3 3 9	-0.03	-0.04	0.04	-0.02 0.02	0.06	0,15	0.22	0.17	87'n	0.25	17.0	0.21	0.20	0.19	07.0	0.23	110	0.27	0.28
				Bottom of interval Vertical I	210.00 Above 220.00 Below	Vertical depth of bottom of interval (ft)	5		Average Q (eal/min)			0.00	0.00	8.0	8.0	0.00	0'00	0.00	0.0	0.00	0.00	0.00	00.0	00.0	000	00.0	0.00	0.00	0.00	00.0	000	0.00	0.00	0.00	0:00
				Hole depth (ft)	Above Balow	rtical depta of bo	3 Point Moving Averages		∆ time (mins)			0.02	0.02	10.0		0.0	0.01	10.0	3 2	0.09	0.24	0.27	60 00	000	90.9	9.9	¥0.0-	10.0	8	00.0	10.0	0.06	0.06	0.04	00.0
				erval Vertical Depth (ft) He		116.04 Ve	3 Point]		Appued Head (feet of water)			-0.03	9.9	3 9	30	40.0	0.0	0.02	8 8	-0.03	0.06	0.17	9 2	670	0.27	0.25	0.22	0.21	91.0	0.19	0.21	0.22	0.26	0.28	0.29
		ddle packer Ibak	calculation:	Top of laterval Vertical	190.00 Above 190.00 Below	p of interval (ft)		-	< =				1	し用																				· .	
		Test Type: Constant head, Straddle packer Gauge located downhole	True vertical depth calculation:	Hole depth (ft)	Abuve Boluw	Vertical depth of top of interval ((t)		c	(gal/min)															-				•				a	- 		1. 2.4
		FOG	T	-	< 3	*		Annlied Head	(feet of water)	10 .0-			-0.02			10.0-				PO 0-	0.02	0.29	0.29	0.29	0.29	0.23	0.23	0.19	0.19	0.19	0.19	0.23	0.25	0.29	67 h
			inchea	feet foet below top of caring	loot below top of casing foot foot below top of casing	red below top of casing		Mcasured Head	(feet of water)	-0.04	10.0-	1 0,04	0.0	No.0 -	6.0	9.0	39	0.00	-0.07		0.02			0.29		0.2 2	61.0	0.19	0.19	0.19	0.19	20	0.2	0.29	}
	laierle/CSSA				25.36 162.70 162.70			Elapsed time	(minutes)			0.12				0.54		0.84	0.90	0.96 20.1	11	1.20	1.26		1	9C 1	1.68	1.50	1.86	16.1	1.04	VI-2	2.1	• • •	- - -
	Morrison-Malerle/CSSA Miner Flat 943-27691	250 5 12-Nov-95		Top			15,44,26	Elapsed time	(hours)	0.00	0,00	00.0	0.01			10.0		0.01	0.02	0.02	0.02	0.02	0.02	0.02	20.0	60.0	0.0	0.03	0.03	0.03		100	10 0	10.0	
1/3 w/s	Client I Site I Project No. 5	Borchole Test Number Test Date	Borchole diameter	Feet section location	Length of teat interval Gauge Depth Static Water Level	General Lithology	Start Time	Clock	Time	15:44:26	15:44:30	15:44:37	15,44,44	15:44:4	10.44.01	15(45,02	15:45:13	15.45.16	15.45.20	15.45.27	15:45:34	15,45,31	15:45:42	15-45-51	13:46.00	15.46.03	15.46.07	13:46:14	15.46.18	11 46-25	15:46:32	15:46:39	15,46,43	15.46.46	

Ooldor Associates

25003A.CHA, Input Data

Plot data used in analysis

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
9.90	18.790
19.25 4.90	41.000 4.940



].	Client	Morrison-Maierle/CSSA
	Site	Miner Flat
	Project No.	943-27691

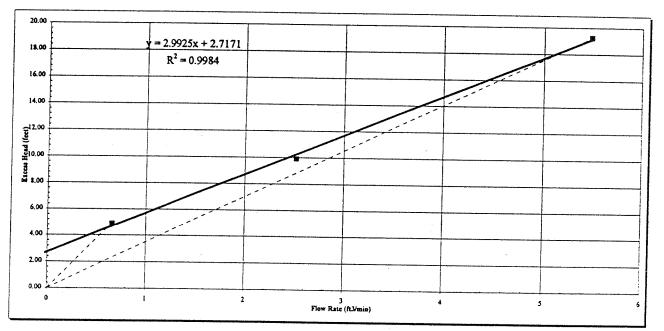
Borehole Interval Number

Plot data

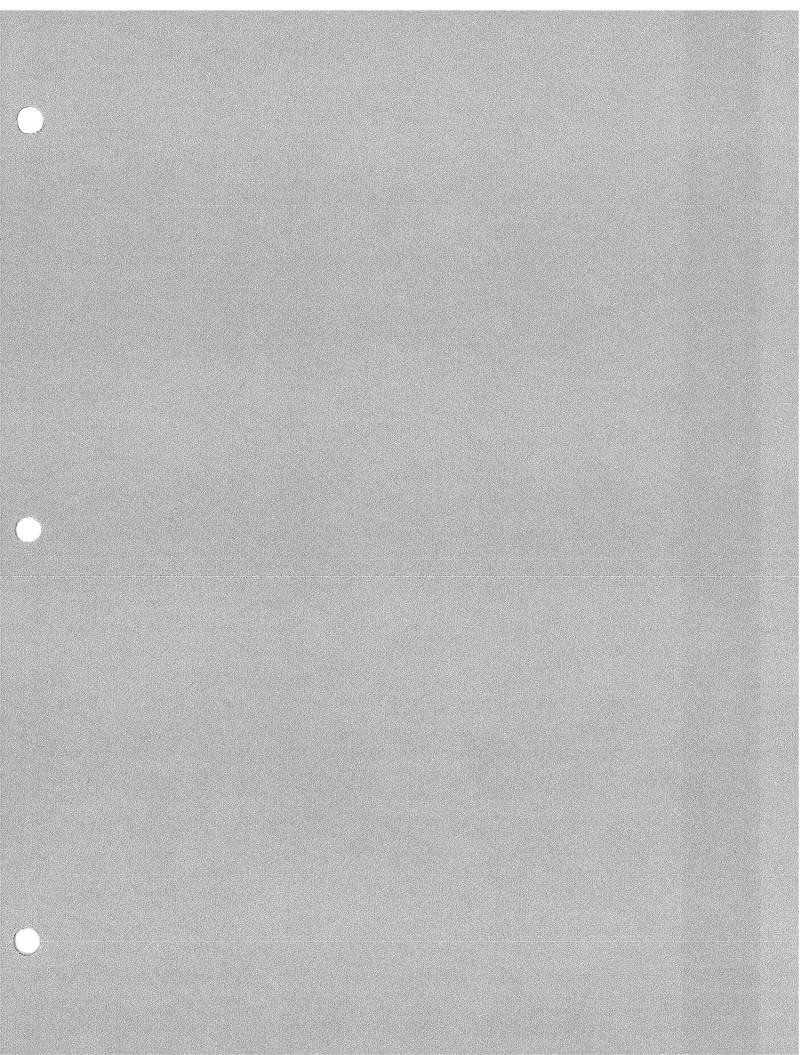
250

5

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
9.90	18.790	2.5122
19.25	41.000	5,4817
4.90	4.940	0.6605



K = 1/($(2\pi L) \ge (Q/h_e) \ge \ln (L/r)$	Q = Flow he = Appl L = length	K = hydraulic conductivity Q = Flow rate he = Applied head L = length of interval tested r = borehole radius							
Range of	hydraulic conductivity									
K =	2.6E-03 cm/s 5.1E-03 feet/min	Q = h _e =	0.793 4.94	ft ³ /min feet						
K =	2.6E-03 cm/s 5.1E-03 feet/min	Q = h _o =	6.582 41.00	ft ³ /min feet						
K =	5.4E-03 cm/s 1.1E-02 feet/min	Trendline Slope	2.99							

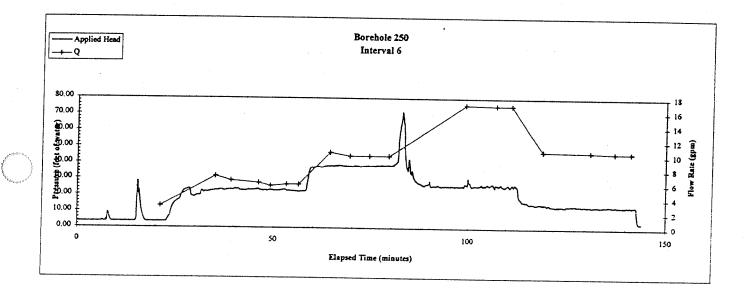


943-2791.130						180	Average Q	(gal/min)			0,00	0.00	00.0	00.0	0000	00.0	00.0	0.00	0000	0.00	00.0	800	00:0	0.00	00:00	0.0	0.0	000	00,0	0.00	0.00	0.00
						5 Point Moving Averages	Δ time	(minutes)			10.0-	0.00	1 0 0	0.00	0.05	0.02	10'0	10.0	5 5	£070-	-0.02	00.0	0.00	0.00	-0.05	30	510 100	0.05	10.0-	10.0	0.00	1 0.0
			terval Vertical Depth (ft)	96 64 1 96 64 1	186.40	5 Point N	Applied Head	(Ject of water)			3.58	3.57	13.5 15,5	75.6	156	9.5	95.6	95.6	3.56	73.E	90°C	1.57	75.6	3.57	3.36	9CT	85.6	3.59	3.60	09 .E	0916	9.5
			Bottom of laterval Vertical	Below 2000 Above Below 2001 190.00 Bolow Verticeal death of bottom of interval (n)		5	Average Q	(B=0 mm)		0.00	0.00	000	0.00	000	000	0.00	0.00	0.00	00.00	00.0	00.0	0.00	0.00	80.0	000	0.0	0.00	0.00	0.00	0.00	000	A0.0
			Hole depth (f) Abrea	Bolow Tical dents of bot		3 Point Moving Averages	Δ time (mina)	Ì		0.00	0.03	50.0-	-0.02	1 0.0	0.0	10:0	000	-0.02	5.0-	3.9	0.00	101	10:00		10.0-	90.0	0.04	0.00	10.0	5.7	100	
		1	a: trval Vertical Deptis (ft) Ho Abore 139.96	1. N.		3 Point N	Applied Head (feet of water)			3.58	95.E	3.58	3.56	901 151	3.39	3.59	8 (S) (E	9.59	3.55	3.56	3.56	151	1.57	3.56	3.56	3.57	3.36	3.60	18 .5	976	3.60	
		idle packer sole	calculation: Top of interval Vertical 1 160.00 Above	170.00 Below of interval (ft)			¥ 9								. 7																	
		Test Type: Coastant kend, Straddle packer Gauge localed downhole	True vertical depth calculation: Top of later Hole depth (ft) 16000 A Abovo	Below 170.00 Belov Vertical depth of top of laterval (ft)			Q (gal/min)																									
		ĔŬĞ	T H	C Ba			Applied Head (feet of water)	3.56		09'E					3.59			09T			3.36		3.56	3.56		3.55					3.60	
			inches Foot foot below top of casing foot below top of casing	rea feet below top of casing feet below top of casing			Measured Head (feet of water)	0.0	0.01	10.0	10.0	00	0.01	10.0-	10.0	10.0	10:0	10.0	£0.0-	() () () () () () () () () () () () () (3 9	0.01	9.6	-0.03	3.4	6 O			10.0		10.0	
	rle/CSSA		3.78 3.78 0.16 161.08 6.44 186.44 75 75 36				Elapsed time (minutes)	0.00	0.06	0.18	0:00 AF 0			0.60			96 D			97 1			1.62	1 74	1.86	16.1	2.04	2.10	111	177	1	
	Morrison-Maleric/CSSA Miner Flat 943-27691	250 6 13-Nøv-95	Tep Botion				Elapsed time (hours)	0.00	0.00	0.00	10.0	10.0	0.01	10.0	0.01	10.0	0.02	0.02	0.02	0.02	0.02	[0]0	600 100	E0 0	0.03	0.03	EO.0	0.04	1010 1010			
1/Julyo	Client Site Project No.	Borehole Test Number Test Date	Borcholc diameter Borchole radius Test section location Length of test interval	Gauge Depth Static Water Level	General Lithology Sandstone		Time	7:30.49	7.30:56	7.31.00	UTIC2	+F167	7.31.21	2616.7	90101	2016.7	7:31:50	72:16:1	7-32-01	11:161	21:26:7	91.56.7 85.56.7	06.56.7	£6:26:7	7.32.41	19267	16,26,7	25:22:7 20:02:1	20:001/	60.EE.T		

Golder Associates

25006A.CHA, Input Data

	Plot data use	ed in analysis	
Steps	1 and 2	Steps 3 ar	nd 4
Applied Head (feet of water) 22.33	Flow Rate (Q) (gal/min) 6.00	Applied Head (feet of water)	Flow Rate (Q) (gal/min)
38.73	10.00	26.10 13.50	17.00 10.50



Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

250
6

	Plot data Steps 1 and 2 Applied Head (feet of water) 22.33 38.73	Flow Rate (Q) (gal/min) 6.000 10.000	Flow Rate (Q) (ft ³ /min) 0.8022 1.3370	Steps 3 and 4 Applied Head (feet of water) 26,10 13.50	Flow Rate (Q) (gal/min) 17 10.5	Flow Rate (Q) (ft ² /min) 2.2729 1.4039	
*0.00				······································			
35.00				2			
30,00	y = 30.666x -	2.27					
25.00			/				
j							
15.00		//					
10.00						y = 14.499x - 6.8538	****
5.00		·····					
0.00							
0.0000	9_5000		1.0000 Flow Ra	1.5000		2.0000	

$K = 1/(2\pi L) \times (Q/h_{\bullet}) \times \ln (L/r)$

Range of hydraulic conductivity

Steps 1 and 2	K =	7.0E-04 cm/s 1.4E-03 feet/min	Q = h, =		0.963 22.33	Sær ft ³ /min feet	si3 aad 4 K∷≕	1.7E-03 cm/s 3.3E-03 feet/min	Q ≠ h. =	2.729 26.10	ft ³ /min feet
	K =	6.7E-04 cm/s 1.3E-03 feet/min	Q = h _* =		1.606 38.73	ft ³ /min feet	K =	2.0E-03 cm/s 4.0E-03 feet/min	Q = h, =	1.686 13.50	ft ³ /min feet
	K =	5.3E-04 cm/s 1.0E-03 feet/min		Slope =	30.66		K =	1.1E-03 cm/s 2.2E-03 feet/min	Slope =	14.50	

K = hydraulic conductivity

he = Applied headL = length of interval tested

Q = Flow rate

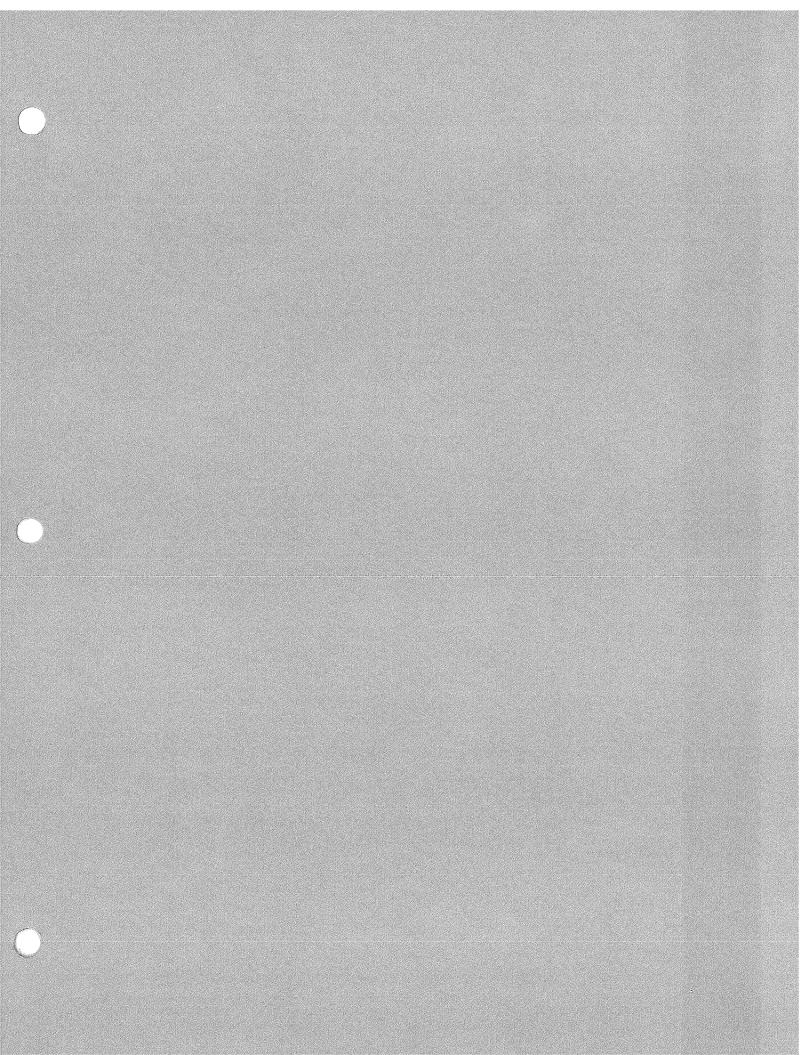
r = borehole radius

Golder Associates

(feet/min)

(ft³/min)

(feet) (feet) (feet)



943-2791.130			ţc.	Average () (oal/min)	2		00.0	000	0.0	0.00	00.0	0.00	0.00	00.0	0.00	0.00	0.00	0.00	0.00	00 00	000	0.00	0.00	0.00	0,00	0.00	0.00	0.00 00.00
\bigcirc		i. A	5 Point Moving Averages	Δ time (minutes)			0.01	0.0	-0.02	0.00	20.0	10.0-	10.0	10.0	0.00	0.00	0.00	6 03	000	000	-0.02	0.00	10.0-	0.00	10.0-	0.00	-0.03	00.0
		terval Vertical Depth (1) Above 149.97 Balow 159.96 1 (1) 159.40	5 Point N	Applied Head (feet of water)			19.06	19.06 19.07	19.07	19.06 19.06	19.07	90.61	90.61 20 00	97.61 19.06	20.61	19.05	19.05	19.06	19,06 19,06	906	19.06	19.06	£0.61	19.05	19.05	19.05	19.04	19.04
		Bottom of interval Hole depth (r) Vertica Abova 150.00 Above Bebow 160.00 Bolow Vertical depth of bottom of interval (r)	5	Average Q (gal/min)		00.0	0.00	0.00	00.0	000	0.00	00.0	000	00.0	00.00	00.00	0.00	0.00	000	0.00	00.0	00.00	0.00	0.0	000	8.0	80	0.00
		Hole depth (f) Abore Below Verticel depth of be	3 Point Moving Averages	Δ time (mins)		0.0	0.01	000	0.00	0.02	0.00	0.02	10.0-	0.0	0.00	0.0	0.00	8.0	0.0	-0.02	0.00	0.00	0.0	10.0-	80	000	204	90.0
		t: Erval Above 12997 Babow 12997 Babow 139405	3 Point	Applied Head (feet of water)		20.61	30.91 20.01	10.61	19.07	10.01 19.06	19.06	19.07	19.06	19.05	19.05	19.05	20.41	90.61	19.06	19.07	19.06	90.61	20.61 20.01	50.61	20.61	19.05	10.61	19.01
	traddle packer wabole	True vertical depth calculation: Top of interval Hole depth (It) Vertical Above 130.00 Bolow Bolow 140.00 Bolow Vertical depth of top of interval (It)					97 L							e di						1.4								
\bigcirc	Tei Type: Contant kend, Stradde packer Gavge located dewahole	True vertical depth calculation: Top of later Hole depth (1) Above 1130.00 Bolow 140.00 Vertical depth of top of laterval		Q (gal/min)																					•			
	100			Applied Head (feet of water)	19.01 19.05				19.05	90.61	90.61 19.06	19.01	20.41	20.91 20.02	20.61	20,61	19.05	19.05	19.01	19.05	19.06	90.61	19.05	19.05	19.05		19.05	19.00
		inchea feoi feot below up of casing feoi feoi feot below up of casing feot below up of casing		Measured Head (feet of water)	20°0	· •••	0.02	9.0	0.00	0.00	0.00	0.02	10.0-	10.01	10.0-	10.0-	10'0'	19		10.0	0 01	000	10.0-	- 10.0-	10.0-	10 0-	10.0-	200 0
	rle/CSSA	3.78 0.16 139.44 139.44 25.36 132.770 138.29		Elapsed time (minutes)	0.00 90.0	0.12 0.18	0.24	0.36 0.42	0.54	09:0 11	1.75	0.84	8.0	1.14	1.20	1.26			1.56	168	1.80	1.86	1.92	2.04	2.10	2.16	2.28	¥77
	Morrison-Malerle/CSSA Miner Flat 943-27691 250 7 13-Nov-95	Top Boilean	81:7E:01	Elapsed time (hours)	0000	0.00	0.0	10,0	0.01	10.0	10.0	10.0	0.02	0.02	0.02	0.02	0.02	0.02	[0:0	0.03		0.03	0.03	E0:0		10 0		5
100	Client Site Project No. Borchole Test Number Test Date	Borchole diameter Borchole radiua Test acction location Leagth of test interval Gauge Depth Static Water Level General Litubolegy	Start Time		10:37:1 8 10:37:22	10.37.25 10:37.29	10:37:32	10.37.43	10.37.50	10.37.54 10.38.01	10:31:05	10.31.01 10.31.15	01.0C.01	10.31.26	10:36:30	10:36:34	19:36:01	10.35.44	20.90.01	10:31:59	10.39.06	01:00:01	C1:90:01	10:39:20	47%C'01	17.4C.01	10.001	1 2 2 4 2 2

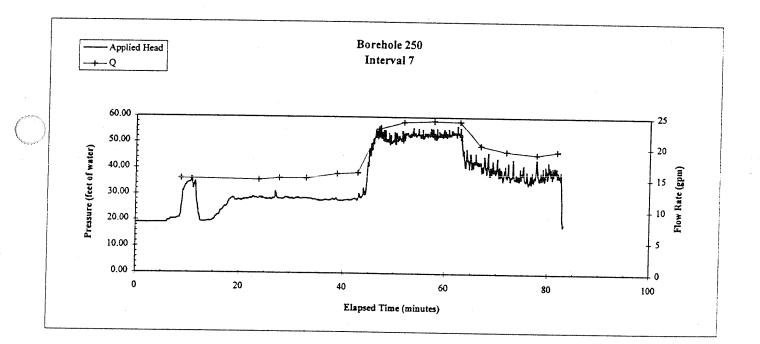
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Golder Associates

23007A.CHA, Input Data

Plot data used in analysis

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
28.15	15.800
52.96	24.400
37.65	19.000



Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

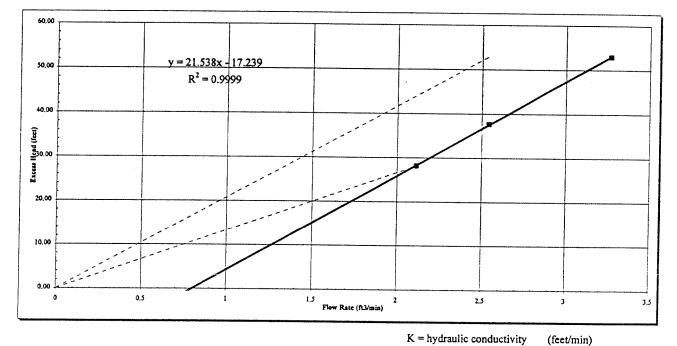
Borehole Interval Number

Plot data

250

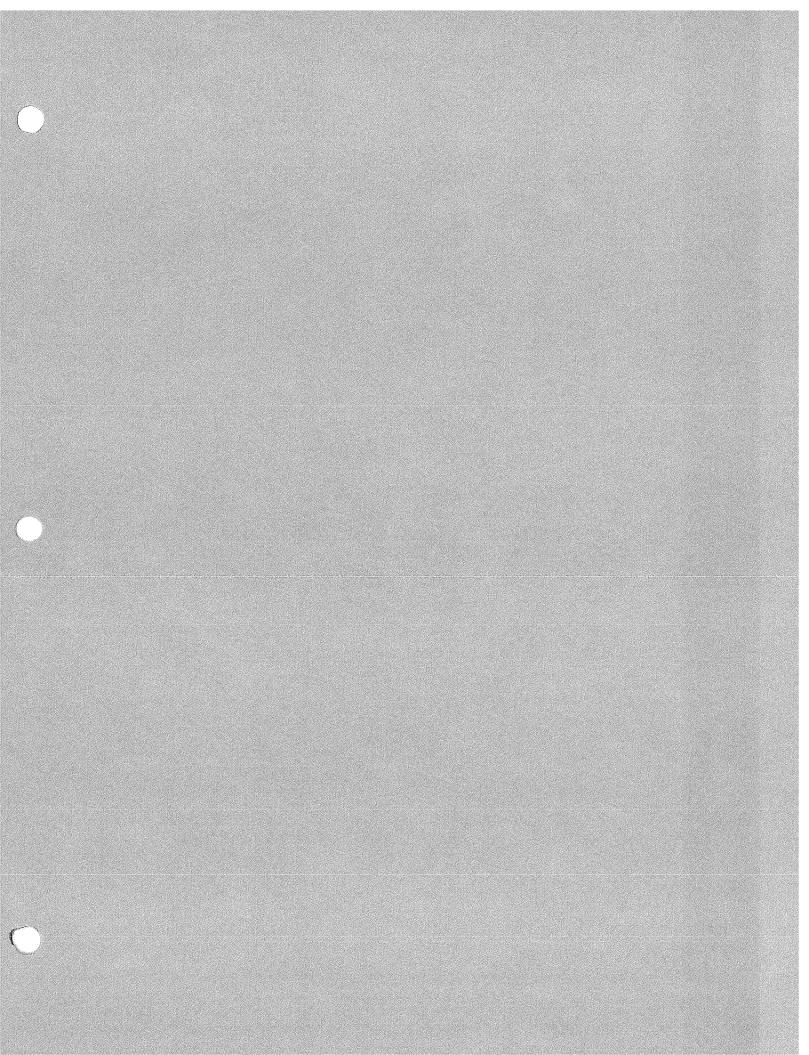
7

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
28.15	15.800	2.1125
52.96	24.400	3.2623
37.65	19.000	2.5403



K = 1/(2πL) x (Q/h _e) x ln (L/r)	Q = Flow he = App	lied head h of interv	•	(ft ³ /min) (feet) (feet) (feet)
Range of	hydraulic conductivity				
K =	1.5E-03 cm/s 2.9E-03 feet/min	Q = h _e =	2.537 28.15	ft ³ /min feet	
K =	1.2E-03 cm/s 2.4E-03 feet/min	Q = h _e =	3.917 52.96	ft ³ /min feet	
K =	7.5E-04 cm/s 1.5E-03 feet/min	Trendline Slope	21.54		

C



Packer Testing Results Borehole MF 250A

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Iop Iop Botton Botton Low feet/min cm/sec (b) (elevation) ³ (btc) (elevation) Low High Regression ³ Low High Feet/min cm/sec 75 6073.41 15.75 6063.41 Basalt 4.25E+01 3.21E-02 3.21	Interval #		Interva	Interval Depth		Lithology			Hydraulic Conductivity	Conductiv	itv	
(c)1(elevation)2(fb(c)(elevation)(elevation)Low4High75 6073.41 15.75 6063.41 $Basalt$ $6.32E.02$ $2.216.02$ $3.21E.02$ 75 6073.41 15.75 6063.41 $Basalt$ $4.25E+01$ $2.16E+01$ (91 gpm w/no) 75 6063.41 30.85 6048.31 $Basalt$ $1.99E-01$ $2.16E+01$ (91 gpm w/no) 75 6063.41 $2.5.75$ 6043.41 $Basalt$ $1.99E-01$ $1.01E-01$ $1.01E-01$ 75 6043.41 35.75 6043.41 $Basalt$ $2.08E-01$ $1.01E-04$ $1.06E-01$ 75 6043.41 55.85 6023.31 $Basalt$ $2.06E-02$ $81E-04$ $5.09E-06$ $2.949E-05$ 75 6033.41 55.75 6023.31 $Basalt$ $1.00E-05$ $5.81E-04$ $5.09E-06$ $2.949E-05$ 75 6033.41 55.75 6023.41 $Basalt$ $1.00E-05$ $5.81E-04$ $5.09E-06$ $2.949E-05$ 75 6023.53 80.73 598.43 $Basalt$ $2.18E-04$ $5.57E-04$ $1.11E-04$ $1.84E-04$ 6 6023.53 80.73 5998.43 $Basalt$ $2.18E-04$ $5.57E-04$ $1.11E-04$ $1.84E-04$ 6 6023.53 80.73 5998.43 $Basalt$ $2.18E-04$ $5.57E-04$ $1.11E-04$ $1.84E-04$ 6 6023.53 80.73 5998.43 $Basalt$ $2.18E-04$ $5.57E-04$ $1.11E-04$ $1.84E-04$ 6 <th></th> <th>T(</th> <th></th> <th>Bott</th> <th></th> <th></th> <th></th> <th>feet/min</th> <th></th> <th></th> <th></th> <th></th>		T (Bott				feet/min				
V)(LOVALIOL)(LOVALIOL)(LOVALIOL)(LOVALIOL)(LOVHigh75 6073.41 15.75 6063.41 Basalt $6.32E-02$ $3.21E-02$ $3.21E-02$ 00 6071.16 30.85 6048.31 Basalt $4.25E+01$ $2.16E+01$ (91 gpm w/ no) 75 6063.41 25.75 6043.41 Basalt $1.99E-01$ $2.16E+01$ (91 gpm w/ no) 75 6063.41 35.75 6043.41 Basalt $2.08E-01$ $1.01E-01$ $1.01E-01$ 75 6043.41 35.75 6043.41 Basalt $2.06E-02$ $1.43E-04$ $5.09E-06$ $2.949E-05$ 75 6043.41 55.75 6023.41 Basalt $1.00E-05$ $5.81E-05$ $1.43E-04$ $5.09E-06$ $2.949E-05$ 75 6033.41 55.75 6023.41 Basalt $6016-02$ $5.81E-05$ $1.43E-04$ $5.09E-06$ $2.949E-05$ 75 6033.41 55.75 6023.41 Basalt $6018-04$ $5.57E-04$ $5.09E-06$ $2.949E-05$ 75 6033.41 55.75 6023.41 Basalt 6023.41 $3.63E-04$ $5.77E-04$ $1.11E-04$ $1.84E-04$ 63 6023.53 80.73 5998.43 Basalt $2.18E-04$ $3.63E-04$ $5.77E-04$ $1.11E-04$ $1.84E-04$ 63 6023.53 80.73 5998.43 Basalt $2.18E-04$ $5.57E-04$ $1.11E-04$ $1.84E-04$		(Phic)	(alawation) ²						L			
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00.23.23 00.73 00.73 D98.43 Basalt 2.18E-04 3.63E-04 5.57E-04 1.11E-04 1.84E-04	-	22 23	C3 CUVY	CF 00	11.0400		I TATITIN TICAUL	laua only				
		cn.cr	66.6200	60.73	5998.43	Basalt	2.18E-04	3.63E-04	5.57E-04	1.11E-04	1.84E-04	2 83F-04

rectorion top of casing. ² Fect above mean sea level ³ Regression analysis does not include origin as a point. ⁴ Single point tests are presented in the "low" value column, however, they do not necessarily represent the low value for that interval.

250A

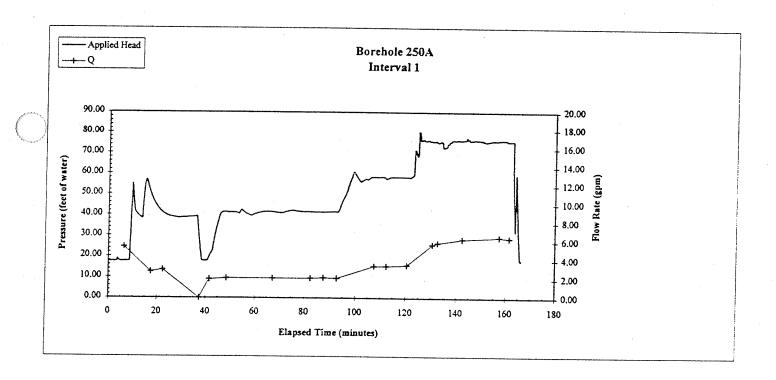
0(1,1672-614									Average Q	(gal/min)				80.0	0.0	0.00	00:0	00.0	0.00	0.00	0.0	0.0	0.00	0.00	0.00	8.0	0.00	0.00	0.0	8.0	0.0	0.00	0.00	90.0 90.0
(*								5 Point Moving Averages	Δ time	(minutes)				50.0	10.0	0.10	0.05	0.02	-0.02	-0.0 1	10.0- N 0-	90.0-	0.00	10.0	10.0	0.02	-0.07	0.02	10°9	800	90.0	0.02	00'0	90.07 10.09
				cpth (fi)	20.28	17.04		5 Point M	Applied Head	(feet of water)			9	571	55.71	12.51	17.54	17.61	17.61	17.60	17.58	17.57	17.56	12.57	27.1 17.5	17.57	17.57	35.71	87 L	55.71	12.71	17.57	12.51	15.11 82.71
			alculation:	Bottom of interval Vertical Depth (ft)	B0.00 Above B4bov	Vertical dopth of bottom of laterval (ft)	, ,	8	Average Q	(gal/min)			0.00	0.0	0.00	0.0	00.0 00.0	0.00	0.00	0.0	0.00	0.00	0.00	0.0	000	0,00	0.00	0.00	00'0	0.00	0.00	0.00	000	00.0
			True vertical depta calculation:	Hole depth (ft)	Abova Below	utical dopta of bot		3 Point Moving Averages		(mins)		:	000 100	0.03	10.0	0.05 200	0.0			2 X	10.0	-0.02	-0.07		1 0.0	10.0	0.00		10.0	-0.02	90.06	90.0		600
			Tr	erval Vertical Depth (A) Be	57 S	53.62 Ve		3 Point	Applied Head	(feet of water)			16.71	17.53	17.54	12.71 B2 T1	0971		- 1971	92.71	17.58	12.11	97 EL	14.11	12.51	17.59	17.56	128	17.54	17.54	17.56	95.71	15 LI	12.51
		Straddle packer ewakole	pth calculation:	Top of interval Vertical	55.00 Above 60.00 Balow	Vertical depth of top of Interval (ft)																												
		Test Type: Constant head, Straddlo packer Gauge located downhole	True vertical deptà calculation:	Hole depth (ft)	Above Below	Vertical depth of																												
									Applied Head	(ICCI OI MEICL)	17.56	17.52	17.52	17.52	17.55	17.39	17.62	17.60	17.62	17.60	17.56	17.60	151 1	17.35	17.61	671 551	12.54	17.54	17.56	12.1	12 10	17.62	35.71	•5.71
			inches	feet below top of casing	feet below top of caring	feet below top of casing feet below top of casing			Measured Head	(1018 44 10 1001)	0.01	10.0-	£0.0-	£0'0 -	000	0.04	0.07	0.05 0.06	0.0	0.05	10:0	5010 10 0-	-0.02	0.00	0.06	10.07 10.02	-0.02	10.0-	10.0	50 Q	10.05	0.07	10'0	-0.02
	le/CSSA		3.78 1			1 00.00 1 02.70			Elapsed time (minutes)		0 2	0.12	0.18	C.0	0.42	0.54	0.6	0.7k	0.84	0.96	1.02	1	1.1	30.1	#1	<u>8</u> 3	1.64	1.8	2 I. IK	5 F	5 7	1.11	121	134
	Morrison-Malerle/CSSA Miner Flat 943-27691	250A 1 (r) 11-Dec-95		Tep				14:37:37	Elapsed time] (hours)		00.0 01.0	00.0	00:0	10.0	0.01	0.01	10.0	10.0	10.0	0.02	0.02	0.02	20.0	0.02	2010	0.0 1	0.03	0.03	600	(0.0	10.0	0.04	90.0	1 0.0
	Client Site Project No.	Borchole Test Number Test Date	Borchole diameter Borchole radiue	Test section location	Length of test interval Gause Benth	Static Water Level	General Lithology Basali	Start Time	Clock Time		14.37.41	14:37:44	14/37,48 14/37,48	0070191 83-21-71	14:38:02	14:38:09	14:04:13 14:04:00	14:38:24	14:38:27	14.38:35	14:38:38	14:38:49	14.38.56	14:39:00	[4:39.03	14:39:14	14:39:18	14(39):25	14:39:29	60.40.41	(1.96.41	14:39:50	14:39:54	14:39.57

230A01A CHA, hụư Data

Golder Associates

Plot data used in analysisApplied HeadFlow Rate (Q)(feet of water)(gal/min)41.322.10058.243.50075.706.400

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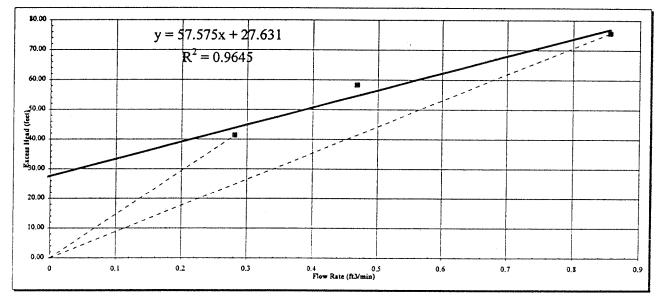
{

Ì.	Client	Morrison-Maierle/CSSA
	Site	Miner Flat
	Project No.	943-27691

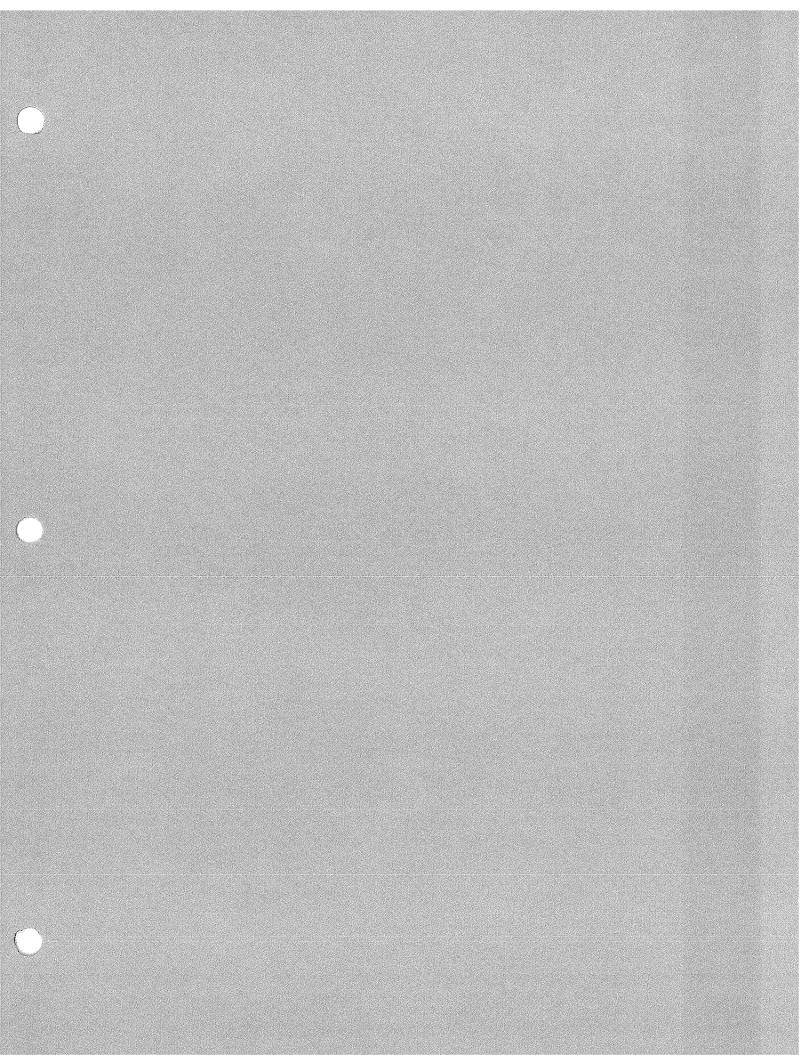
Borehole	250A
Interval Number	1 (r)

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
41.32	2.100	0.2808
58.24	3.500	0.4680
75.70	6.400	0.8557



K = 1/(2πL) x (Q/h _e) x ln (L/r)	Q = Flow he = App L = lengt	K = hydraulic conductivity Q = Flow rate he = Applied head L = length of interval tested r = borehole radius							
Range of l	hydraulic conductivity									
K =	1.1E-04 cm/s 2.2E-04 feet/min	Q = h _e =	0.281 41.32	ft ³ /min feet						
K =	1.8E-04 cm/s 3.6E-04 feet/min	Q = h _e =	0.856 75.70	ft ³ /min feet						
K =	2.8E-04 cm/s 5.6E-04 feet/min	Trendline Slope	57.58							

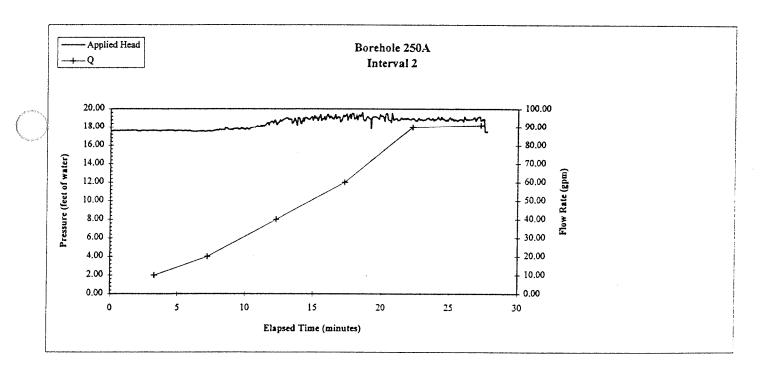


0(1.1675-614				ñ	Average Q (gal/min)			0.00	80.0	8.9	000	0.00	00:00	000	00.0	0.00	0.0	000	000	000	0.00	0000	000	900 000	00.0	0.00	00'0	00.0	
				5 Point Moving Averages	∆ time (minutes)			00.00	00'0	10.0 000	00.0	0.00	30	(0 0	0.03	10.0	000	00.0	0.00	00.00	0.00	00.0	5.9	10.0	10.0-	10.0	0.05	1 0:0	
			Septh (11) 54,99 55,84	5 Point N	Applied Head (feet of water)			17.60 17.60	17.61	17.60	17.60	17.60	13.60	17.62	17.62	17.63	1741	17.64	17.64	17.64	17.64	19761	17.61	17.60	17.58	17.58	17.54	17.39	
			True vertical depth calculation: Bottom of laterval Hole depth (1) Vertical Depth (1) Above 53.00 Above 5 Below 53.00 Below 5 Vertical depth of bottom of interval (1)	B.	Average Q (gal/min)		0.00	00.0	00.0	00.0	00:00	00.0	00.0	0.00	0.00	8.0	000	00.00	0.00	0.00	8 .0	00.0	00.0	0.00	0,00	00.00	0.00	0.00	
			True vertical depth calculation: Bottom Hole depth (ft) 53.00 Above 53.00 Below 50.00 Vertical depth of bottom of inc	3 Point Moving Averages	Δ time (mins)		0.00	9.0 0.0	0.00	8 8 9 9	0.00	10.0	8	0.01	0.03	8 8	8	0.0	0.00	0.00	90.0 2	80	6.67	-0.0 4	10 .0-	10.0	9.0	10.0	
			t: Tr ryal Vertical Depta (ft) Ho Above 29.99 (ft) Bdow (ft) 30.94 Ve	3 Point 1	Applied Head (feet of water)		65.71	19.71	17.60	17.59	17.39	95.11 	17.61	17.62	17.63	17.64	17.64	17.64	17.64	17.64	1 971	17,64	17.62	17.60	17.57	17,56	17.58	17.59	
		addie packer skole	calculation: Top of interval 20.00 Above 33.00 Below p of laterval (f)												1						. to	1 1 1		1					
		Test Type: Coustant head, Straddle packer Gauge located dewnhole	True vertical depth calculation: Top of laterval Hole depth (ft) 2000 Above Above 3300 Below Below 3100 Bulow		Q. (gal/min)													- Sh			N.C. (P. 4								
		609	÷ ≌₹ă >		Applied Head (feet of water)	17.55 17.60	32.11	17.61	17.60	19/1	17.57	17.61	17 61	17.61	17.64	1971	17.64	17.64	17.64	17.64	5	17.64	17.64	17.60	17.35	17.56	17.57	17.61	
			inches feet feet below top of casing feet below top of casing feet below top of casing feet below top of casing		Measured Head (feet of water)	0.00	10.0	90.0	80.0 80.0	0.06	0.02	90 0 90 0	90.0	90.0	6.0	60°0	60:0	0.09	0.09	0.09	60.0	60.0	0,09	0.03	0.00	10:0	0.02	40.0 90.0	
	elCSSA		3.78 0.16 70.75 55.85 65.585 75 25.10 76 25.75 62.70 62.70		Elapsed time (minutes)	0 90:0	0.12	0.24	0.36	15.0	9.0 77 C	0.78	0.84	8.0			1.44	ก	8	8 3	1.64	•	1.16	1.98	2.04	7		17	
	Morrison-Maierle/CSSA Miner Flat 943-27691	250A 2 (r) 11-Dec-95	Top	7:42:44	Elapsed time I (hours)	00'0 00'0	0.00	000	10.0	10.0	10.0	10.0	10.0	0.02	10.0 20.0	0.02	0.02	0.03	0.03	£0,0	0.03	0.03	CO.O	0.03	0.03	10.0		40.0	
Sumeri	Client N Site No. 9 Project No. 9	Borchole 2 Test Number 2 Test Date 1	Borehole diameter Borehole radius Test section location Length of test laterval Gauge Depth Static Water Level	General Lithology Basalt Start Time	Clock Time	7:42:44 7:42:48	7.42.51 7.42.55	7,42.58	90.E4.7 90.E4.7	7:43:16	143:20	ICD/2	7:43:34	7,43,42	7.44.07	7.44.07	7,44:10	7:44:34	7:44:35	7.44.21	7.44.25	7,44:32	7:44:36	7.44:43	7.44:46	7.44:50	10141	7.45.04	

Goldor Associatos

250A02A.CHA, higut Data

Plot data	used in analysis
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
18.90	91.000

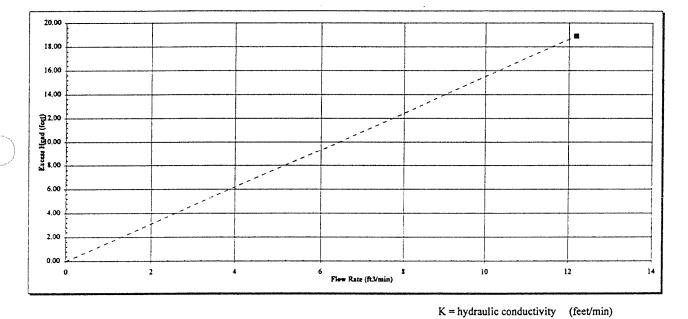


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691
Borehole	250A

Interval Number 2 (r)

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
18.90	91.000	12.1667



 $K = 1/(2\pi L) \times (Q/h_e) \times \ln (L/r)$

Range of hydraulic conductivity

K =	1.0E-02 cm/s	Q =	12.167	ft³/min
	2.1E-02 feet/min	h _e =	18.90	feet

Q = Flow rate

he = Applied head

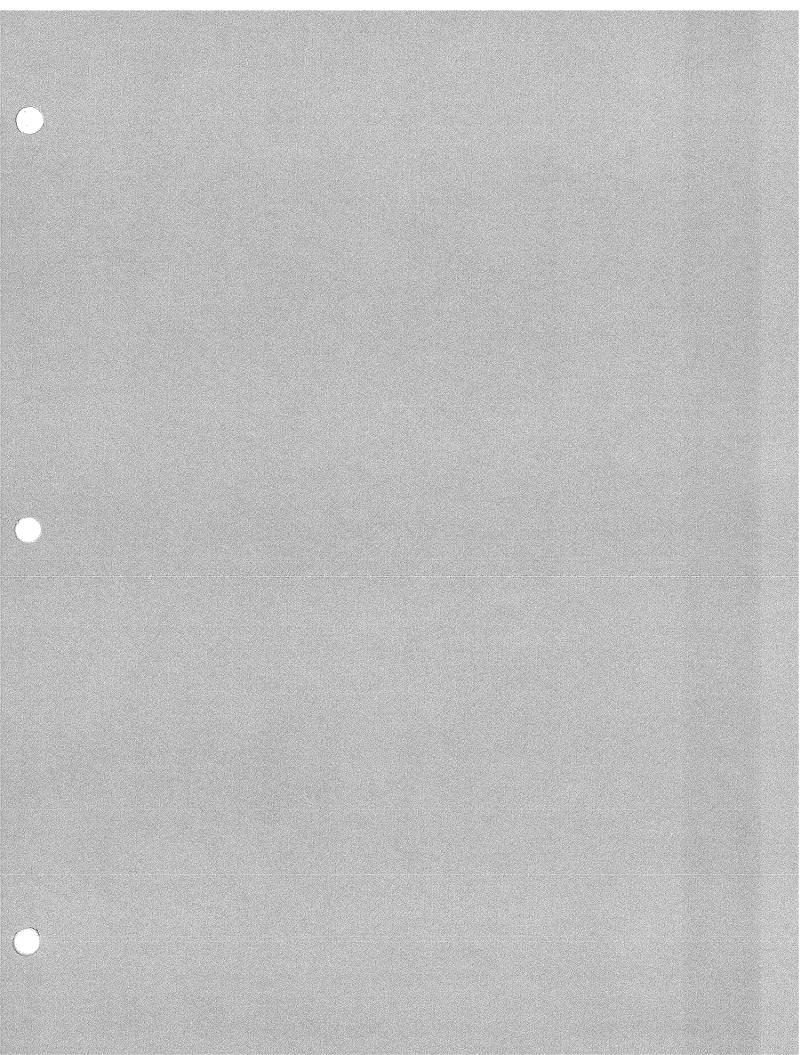
r = borehole radius

L = length of interval tested (feet)

(ft³/min)

(feet)

(feet)

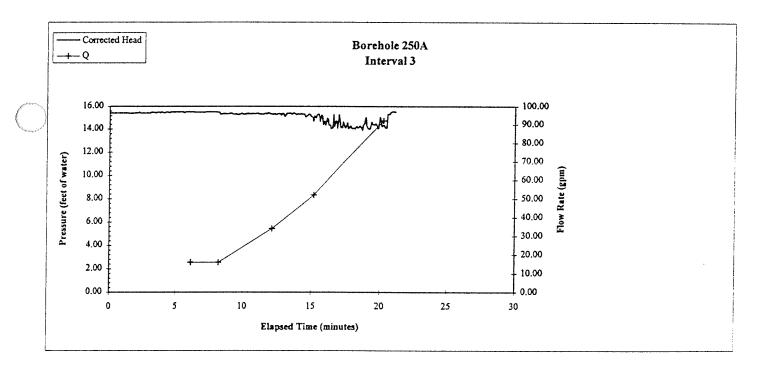


061.1972-649									Average Q (cal/min)	ĺ			0.00	000		0.00	0.00	800		0:00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	00.0	800	000	00.00	8	8	0.00
z								20 20 20					0	0	ð e	ā	ö	8	55	0	0	0		0.0	0.0	0	5	5 6	ä	0	0	0.0	000	; ;
								5 Point Moving Averages	Δ time (minutes)				0.00	00.00	8 8	0.00	0.00	0.0	000	0.00	000	0.0	6.0.0	E0:0-	10.0-	-0 03	0.03	0.0	0.0	000	90.0	000	8	90.0F
				interval Vertical Depth (ft)	29.99 34.95	30,84		5 Point M	Corrected Head (feet of water)				15.44	15.44	13.44	15.44	13.44	13.44	13.44	15.44	13.44	1344	15,43	15.43	15.42	15.42	19,42 14,13	15.43	15.43	13.44	15.45	13.45	9 9 9 9 9	15.65
			b calculation:	Bottom of interval Vertical	30.00 Above 35.00 Below	Vertical depth of bottom of interval (ft)		ığcı	Average Q (galmin)			0.00	0.00	90 00 00	0.00	0.00	00 00	00.0	00.0	0,00	000	00.0	0.00	00.00	0.00	0.0	000	0.00	00.0	0.00	0.00	00.0	800	000
			True vertical depth calculation:	Hale depth (ft)	Above Below	rtical depta of l		3 Point Moving Averages	∆ time (mim)			0.00	0.00	8.8	0.0	0.0	8 8	8 8	0.00	80	88	8 8	0.00	6.03	10'0-	0.0	10.0	80	0.0	0.0	0.0	9 9 9	20	0.0
			ų.	erval Vertical Depth (ft) – Ro	7, % 10.00	1.10 V.		3 Point	Corrected Hea (feet of water)			15.44	13.44	15.4	13.44	13.44	1 74	13.44	15.44	15.44	19 44	15.44	15.44	15.43	13.42	18.61	15.42	15.43	15.44	15.44	15.44	64-51 54-51	15.46	15.44
(Tet Type: Comtant head, Straddle packer Gauge located dewahele	True vertical depth calculation:	Top of lat	7.50 Above 10.00 Below	Vertical depth of top of interval (ft)			J																									
New York		Teat Type: Constant he Gauge locat	True vertica	Hole depth (N)	Above Below	Vertical dep			n Q (gal/min)																-									
									orrected Hea (feet of water)	15.44	15.44	15.44	1	15.44	1544	15.44	15,44	15.44	15.44	17 T	15.44	15.44	15.44	15.44	1541	15.43	15.41	15.44	15.44	15.44		15.30	15.44	15.44
			inch es	foot foot below top of caring	foct below top of curing foct foct below top of curing	feet below top of casing			Measured Head (feet of water)	0.06	0.06	90.00 20	900	0.06	90.06	90 00 90 00	0.06	90.0	0.06	0.06	0.06	0.06	0.0		0'0	0.05	0.03	0.06	0.06	0.06	0.06	6.12	0.06	90.0
	He/CSSA				30.85 22.85 4.05	82.70			Elapsed time (minutes)	0	90.0	0.12	5	0.72	0.78	100	6.0	0.9	8 .0	10	1.14	71	1.26	1 3	1.56	1.62	1.68	=	1.86 1.00	2.04	5	111	2.2K	H 2
	Morrison-Malerle/CSSA Miner Flat 943-27691	250A 3 (r) 12-Dec-95		Tep	Kottam			8:31:49	Elapsed time (hours)	0:00	0.00	0000	10.0	10'0	10.0	10.0	0.02	0.02	0.02	0.02	0.02	0.02	20.0 20.0	0.02	0.03	0.03	0.03	0.03	(0,0	0.0	10.0	0.04	0.04	10.0
Ibuow	Client Site Project No.	Borchole Test Number Test Date	Borchole diameter	Borchole radius Test section location	Length of test interval Gauge Depth	Static Water Level	Ceneral LAINOLOGY Basalt	Start Time	Clock Time	8:31:49	13153	8.32.00	8:32.07	26:26:8	6.12.30 8.11.14	60203	8:32.43	6.32.43 1.11 - 41	192250 192250	102054	15:20:8	10/10/8	50150°	1111	87:82 8	8.33.26	001651	13337 13334		ISEE I	10135	134,02	8.34.06	4.0 4

Golder Associates

250A03A.CHA, Input Data

Plot data used in analysisApplied HeadFlow Rate (Q)(feet of water)(gal/min)0.0092.000

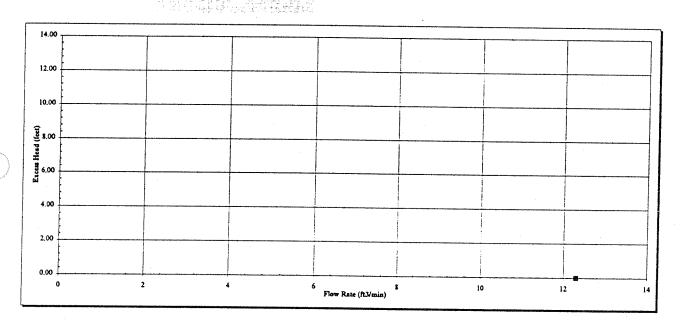


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole250AInterval Number3 (r)

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ff ³ /min)
0.00	92.000	12.3004

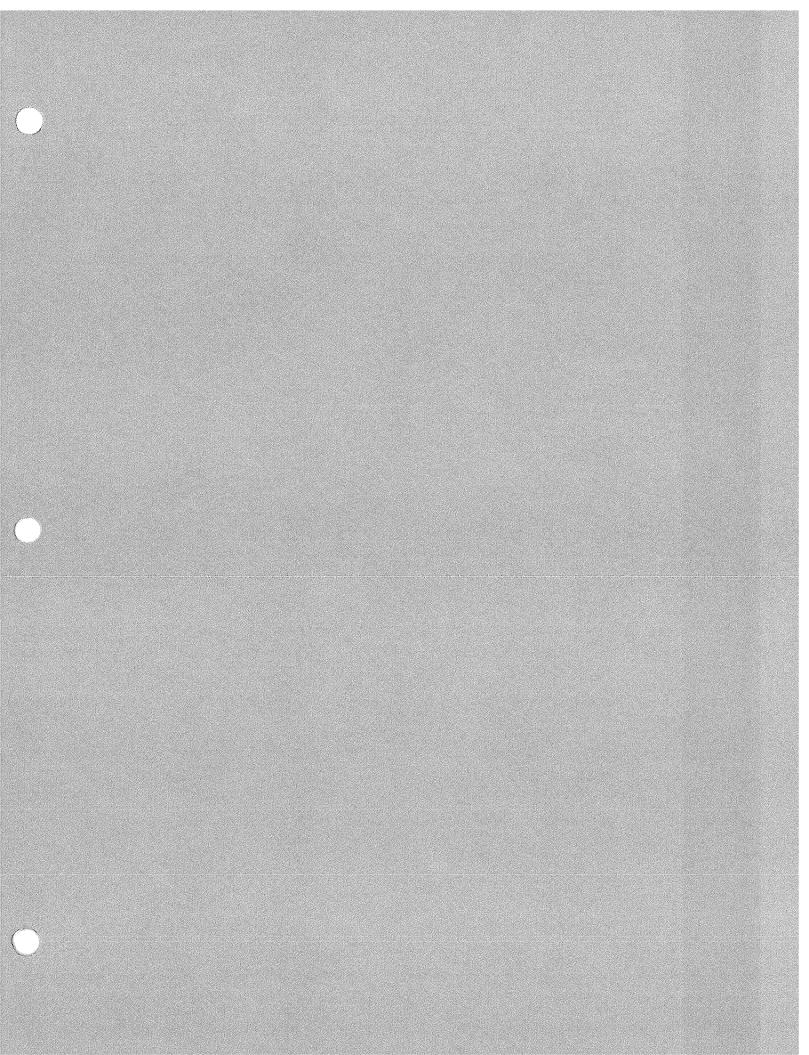


 $K = 1/(2\pi L) \times (Q/h_e) \times \ln (L/r)$

Range of hydraulic conductivity

K = 2.2E+01 cm/s 4.3E+01 feet/min K = hydraulic conductivity(feet/min)Q = Flow rate (ft^3/min) he = Applied head(feet)L = length of interval tested(feet)r = borehole radius(feet)

Q =	12.300	ft³/min
h _e =	0.01	feet

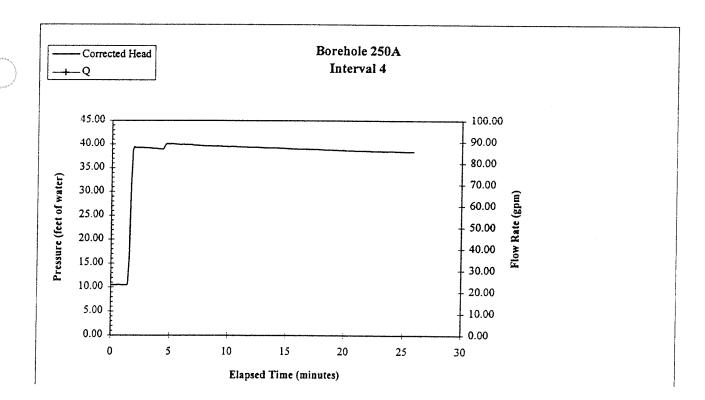


81192766					5 Point Moving Averages	cad A time Average () er) (minutes) (gal/min)			0.03		0.05 0.00			00.0 00.0		0.00 0.00				20.30 0.00			22.95 0.00 # 40 0.00	0.47 0.00					0.00 0.00
		terval Vertical Depth (ft) Above 54.99	w 59.99		5 Po	Corrected Head (feet of water)			10.50	10.50	10.51	10.01	10.51	10.01 02.01	10.50	10.50	10.50	10.50	10.53	13.73	96,12	27.20	12.26	22.90	16.96	39.26	97.60	92.9E	82.9E 82.9E
			Below 60.00 Bolow Vertical depth of bottom of interval (f)		5	Average () (gal/min)			0000	0.00	0.00	0.00	00.0	0.00	0.00	0.0	00.0	0.00	80 G	00.0	00.0	0,00	00.0	00.0	0.00	0.00	0.0	000	00.0
		v -s	Vertical depth of be		3 Point Moving Averages	Δ time (mins)		ł	0.0 0.0	0,00	8.0	00.00	19.19 19.19	0.00	0.00	00.0	6.00	0.0	90 G	5.71	30.19	22.63 1 77	1C0	11.0-	0.14	-0.02 55	5	9	93 93 79 79
			49.99		3 Poin	Corrected Hea (feet of water)		97 VI	10.50	10.50	10.52	10.52	- 05.01	10.30	10.50	10.50	10.50	10.30	10.54	12.44	15.21	28.62 36 39	39.17	26.96	39.25	39.29 20.20	67.65 07.01	67.61 62.61	67.6E
	raddie packer vahole	h calculation: Top of interval Vertice 45.00 - Above	Bolow 50.00 Bolow Vertical depth of top of interval (ft)			•											. 4.							10 J.	- 				je.
	Teit Type: Contant bead, Straddie packer Gauge located dowahole	True vertical depth calculation: Top of later Hole depth (ft) 45.00 - 1 Abovo 45.00 - 1	Bolow Vertical depth of 1			Q (gal/min)																							1. 1 1
						orrected Ilea (feet of water)		10.47		10.50 10.10		10.55			10.50			10.50			16.21				39.29				72.96
		inches foet foet below top of casing foet below top of casing	rock foct below top of casing foct below top of casing			Measured Head (feet of water)	-0.03 	00.0- 00.0	00'0	00.0 00.0	0.00	0.03 00.00	00.0	0.0	000	10.0	0:00	00.0 00.0	0.00	0.12	1/.C 0F.0C	28.34	29.02	24.67	26.79 26.61	28.77	21.71	28,83	28.77
rle/CSSA		3.78 0.16 5.75 5.75 5.75				Elapsed time (minutes)	0	0,12	0.18	0.0 8.0	0.42	0.72 0.78	0.78	918-0 19 0	1.02	1.01	1	1.26	1.11	4	97'I	1	1.92	16 1	2.04	17	11	2.28	234
Morrison-Malerle/CSSA Miner Flat 943-27691	250A 4 12-Dec-95	Tep Bottom			8:31:49	Elapsed time (hours)	00.00	00.0	0.00	10:0	10:0	0.01 0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	CO'0	0.03	0.03	0.03	E0.0	0.04	0.04	0.04	H0.0
Client Site Project No.		Borchole diameter Borchole radius Test section location Leneth of test interval	Gauge Depth Static Water Level	General Lithology Basali	Start Time	Clock Time	69/10/8 13-11-8	95161	8:32:00 8:33:07	1122.1	11251	8.32.36 8.32.36	8:32:36	8.32,39 8.32,43	8:32:50	132.54	10201	\$0°EC:1	1:33:12	81363 17-11-1	05.55.8	1,33:37	+F-CC3		15161	1:33.55	8:34:02	8.34.06	8:34.09

Goldor Associatos

250A04A CHA, Input Data

M3-2791.130

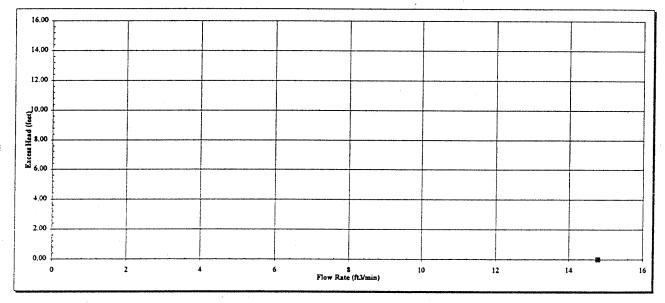


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Client Morrison-Maierle/CSSA Site Miner Flat Project No. 943-27691 Borehole 250A Test Number 4

Plot data

Gauge Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
0.00	92.000	14.7703



 $K = 1/(2\Pi L) \times (Q/h_e) \times \ln (L/r)$

- K = hydraulic conductivity
- Q = Flow rate
- $h_e = Excess head$

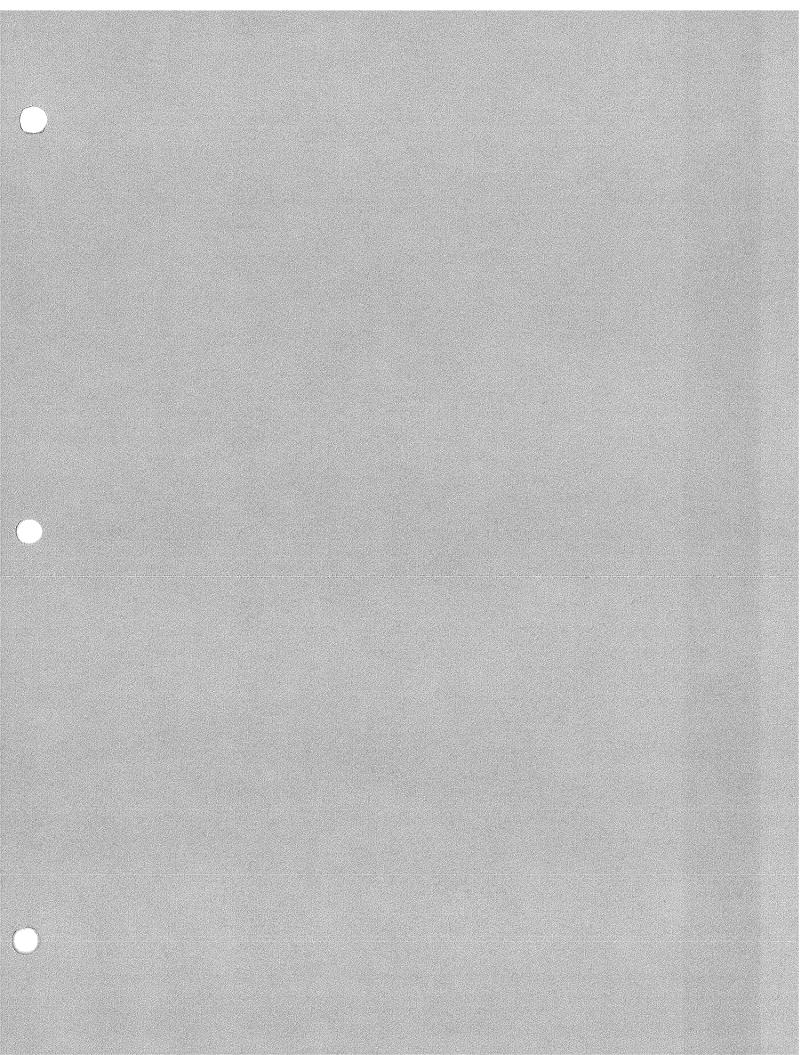
L = length of interval tested

r = borehole radius

Range of hydraulic conductivity

K =

9.8E+01 feet/min 4.9E+01 cm/s $Q = 14.770 \text{ ft}^3/\text{min}$ $h_e = 0.01 \text{ feet}$

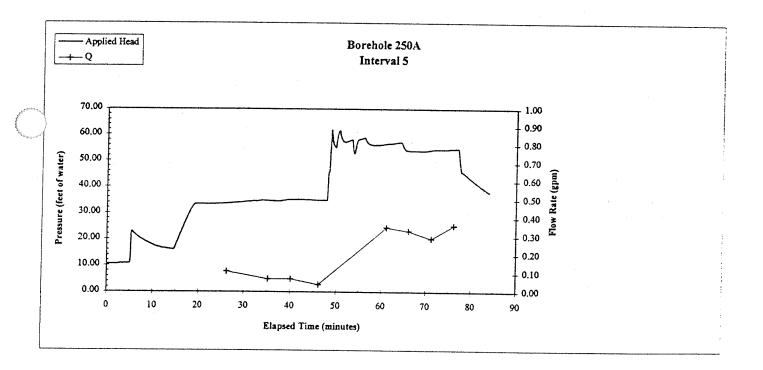


0(1.1672-646									Average Q (sal/min)				0.00	8.0	0.0	0.00	00.0	0.00	0.00	8.0	0.00	0.00	0.00	000	0.00	0.00	0.0	0.0	000	0.00	0.00	000	0.00
								5 Point Moving Averages	∆ time (minutes)				90.0	600 9000	0.06	90.0	000	0.00	10.0	0000	10.01	10:0-	000	3.9	00.00	0.00	8.9	0000 0000	0.00	90.0	0.00	0.0	00'0 10'0
				epth (ft)	£ 3 7 9	12.24		5 Point M	Applied Head (feet of water)				10.42	10.45	10.47	10.48 10.48	0.01	10.50	05.01	05.01	10.52	10.52	10.32	10.51	10.52	10.52	10.52	05.01	10.50	10.52	10.52	10.52	10.52
			calculation:	Bottom of interval Vertical Depth (ft)	.45.00 Above 50.00 Balow	le V		3	Average Q (gal/min)			0.00	0.00	00.0	0.00	0.0	0,00	0.00	000	8 8	0.00	0 .0	000	0.00	0.00	0.0	0000	80	0.00	0.00	0.0	0.00 0.00	0.0
			Trwe vertical depits calculation:	Hole depth (R)	Above Belove	rtical depth of be		3 Point Moving Averages	Δ time (mins)			0.05	0.05	0.0	0.05	90.0 20			0.0	0.0	10.0-	90.0 20.0	30 Q	0.05	0.00	8	3 3	8	00.0	0.0	98.0 98.0	2	0.00
			Ţ		66'9E			3 Point	Applied Head (feet of water)			10.41	10.45 10 44	10.45	10.46	10.48 10.50		10.50	0 11	10.51	10.51	10.01	10.01 12.01	10.52	10.52	10.01	05.01	10.30	10.50	10.50	10 52 10 52	10 ES	10.50
		idle packer tole	alculatios:	Top of interval Vertical Depth (ft)	35.00 Above 40.00 Bolow	of interval (ft)		1. Salat 1.										1. "L	15.														
()		Test Type: Constant bend, Straddle packer Gauge locatød døwabole	True vertical depth calculation:	lepth (A)	Abave Beiow	Vertical depth of top of interval (ft)		1	Q (gal/min)														-1 -1 -1 -1										
		Ë Č Ō	Ţ	He	45	ž			Applied Head (feet of water)	95.01		10.40	10.45	10.45	10.45	00.01 00.01		10.50 10.50			97 OT	10.51	10.50		20.05 04.01	3 91	10.50	10.51	10.50	10.51	2.01 97.01		
			inch es	foct foct bolow top of casing	foct below top of casing	feet below top of casing feet below top of casing			Measured Head (fect of water)	11.0-	11:0-	01.74 90.07	50.0 .	-0.0 3	-0.05	90.0 10	0.00	00.00 00.00	10.0	0.01	00:0 90:0	10.0	00.0	0.00	0.06 0.02	00.0	00.0	0.01	0.00	10.0	90 G	0.00	0.00
	le/CSSA					30.25			Elapsed time (minutes)	٥	80.0 51 c	0.15	0.3	90.0	0.42	9.0	17.0	0.84	96.0	1.02	2	14	1.44	ב	8 3	1.68	1.8	1.86	1.92	M 7	1 11	1.28	2.34
	Morrison-Malerle/CSSA Miner Flat 943-27691	250A 5 12-Dec-95		Tep				10:53:53	Elapsed time (hours)	00'0	000	0.00	0.01	10:0	10.0	10.0	10.0	10.0	0.02	0.02	0.02	0.02	0.02	£0:0	0.0	0.03	0.03	0.03	(0.0 (0.0	60'D	10.0	0.04	1 0.04
South	Client N Site No. 9	Borcholc 2 Test Number 5 Test Date 1	Borchole diameter	Borcasic radius Test section location	Length of test interval	Gauge Depth Static Water Level	General Lithology Basalt	Start Thee	Clock Time	10:53	10:53:57 10:54 00	10.54.04	10:54:11	10:54:15 10:55:10	10.54.25	10.54.29	10.54.36 10.54-20	10:54:43	10:54:51	10.54.54	10:55:01	10.55.19	10.33.19	10:55:23	00:55:01	10.55:34	10:55;41	10:55:45	10.55.48	96.85.01	10.36.06	10:56:10	0.36.13

Golder Associates

250A05A CHA, Input Data

Plot data used in analysisApplied HeadFlow Rate (Q)(feet of water)(gal/min)34.840.04054.590.360



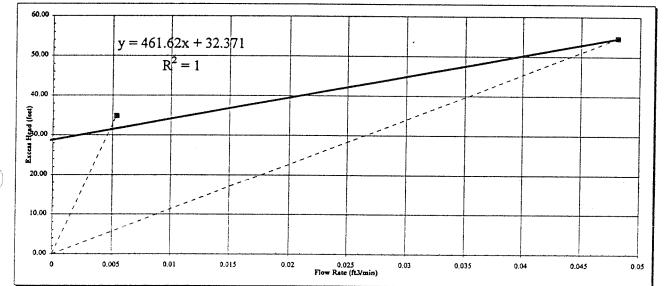
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole 250A Interval Number

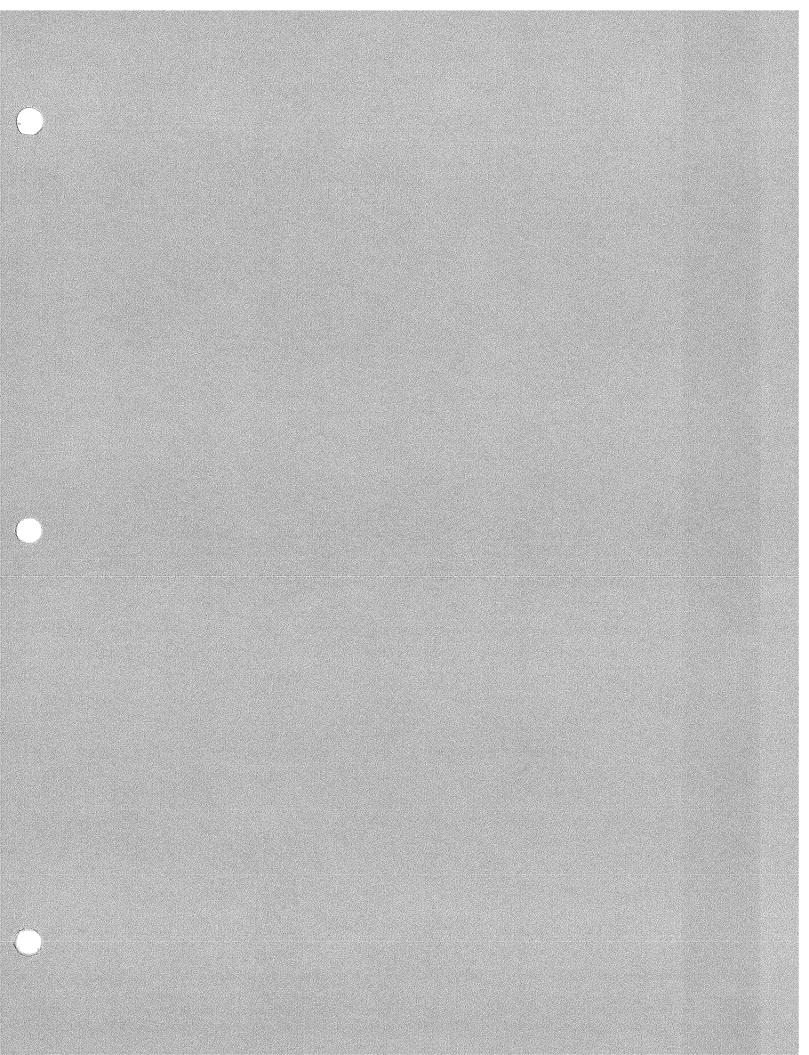
Plot data

5

Applied Head (feet of water) 34.84 54.59	Flow Rate (Q) (gal/min) 0.040 0.360	Flow Rate (Q) (ft ³ /min) 0.0053 0.0481
	s a maga a a an	
	n na serie de la serie de l La serie de la s La serie de la s	



K = 1/(2πL) x (Q/h _c) x in (L/r)	K = hydraulic conducti Q = Flow rate he = Applied head L = length of interval te r = borehole radius	(ft ³ /min) (feet)
Range of l	hydraulic conductivity		
K =	5.1E-06 cm/s 1.0E-05 feet/min	$Q = 0.005 \text{ ft}^{3/3}$ $h_e = 34.84 \text{ feet}$	
K =	2.9E-05 cm/s 5.8E-05 feet/min	$Q = 0.048 \text{ ft}^3/\text{n}$ $h_e = 54.59 \text{ fect}$	
K =	7.3E-05 cm/s 1.4E-04 feet/min	Trendline Slope 461.62	



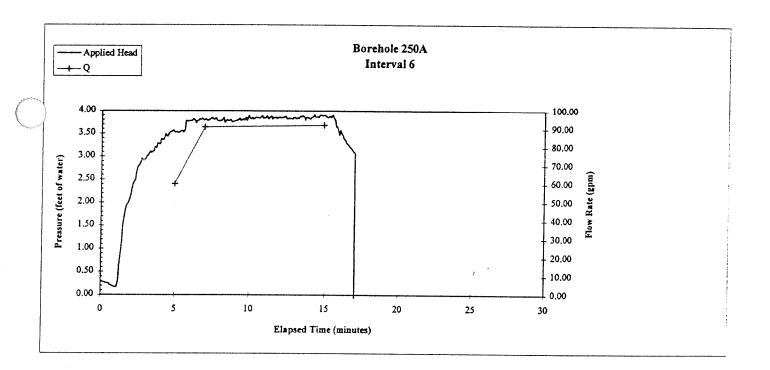
0(1,1975-014								2	Average Q	(gal/min)				0.00	00.0	0.00	0.00	00.0 00.0	00.0	0.00	0.00	0.00	0.00	0.00	000	00:0	000	00.0	0,00	0.00	0.0	000	800	0.00	0.00
$\langle \dots \rangle$								5 Point Moving Averages	Δ time	(minutes)				10.0	6.6	90.04	90.07 90.07	10.0- 0.0-	1 0.0-	1 0.0	0.11	0.14	1.01	1.20	1.07	- 0 To	05.0	tc.o	PC:0	60	0.40	0.12	76.0	0,40	20.32
				interval Verifical Dariek (23)	34.99	6.6	47.86	5 Point M	Applied Head	(feet of water)			:	0.28 7.7.0	0.26	0.25	0.24	0.21	0.19	0.18	62.0	0.46	0.66	£6 0	1	1.66	1.80	16.1	2.00	2.09	2.18	15	2.46	2.56	2.64
			i calculation:	Bottom of interval Vertical 1	35.00 Above	Vertical dents of hostons of internet (2)	11) IEICLAN (11)	2	Average Q	(gal/min)			00.00	8.9	0,00	0.00	00.0	00:0	0.0	000	00.00	00.0	0.00		0.0	0.00	0.00	00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			True vertical depth calculation:	Hole denth (ft)	Above	utical dants of h		3 Point Moving Averages	A time	(mins)		1		10.0	10.0-	10.0	8.9		10.0- 10.0-	1 10	0.13	0,49	110	649	6.9	85.0	0.21	0.15	0 10 0	52.0	0.21	0.19	0.11	0.15	0.0
								3 Point	Applied Head	(leet of water)		9L 0	87.0	0.27	0.26	0.26	11.0		610 810	0.17	0.21	0.37	56.0	11	1.47	1.69	1	6	2.07	2.17	2.29	16.2	246	14	Co.7
		raddle packer wakola	ih calculation:	Top of laterval Vertical Depth (ft)	23.00 Above 30.00 Below	Vertical depth of top of interval (1)			× s				· ·																						
(second		Test Type: Courtant head, Straddle packer Gives located dawnhola	True vertical depth calculation:	Hale depth (R)	Above Bciow	'ertical depth of I		1	Q (nim)n)																										
		- 0 0	F	-	< 1	-			Applied Head (feet of water)		10.0	0.29	0 28	0.27	0.16	52.0	0.21	07.0	91.0	0.17	0.17 0.10	0,66	1.01	1.18	8		4	2.00	2.04	2.18	2.28	45.2 74.5	87	2.65	
			inches	feet below top of casing	reet below top of casing	feet below top of casing feet below top of casing			Measured Head (feet of water)	-	61'n-	12.0-	-0.22	[7:0-	10.0	-0.25	67. 0	16.0-	26.0-	[[.]]	02.0	0.16	0.51	89.0	001	1	141	05.1	1.54	1.64	1. /1 1. 110	1.97	2.00	2.15	
	1e/CSSA		3.78			10.23 12.70			Elapsed time (minutes)	a	90.0	0.12	0.18	6.96	0.42	0.54	0.6	0.75	0.54	9. G	E	1.2	<u> </u>	17.1	<u>.</u> 3	1.62	1.68	1.1	3	161 101	51		2.28	2.34	
	Morrison-Malerle/CSSA Miner Flat 943-27691	250A 6 12-Dec-95		Tep				13:12:07	Elapsed time (hours)	0010	0.00	0.00	000	10.0	10.0	10.0	10.0	0.01	10.0	0.02	0.02	0.02	70'a	0.02	[0.0	0.03	0.03	0.0	(0.0 10.0	(0.0)	10.0	0.04	M 00	H 0:0	
ere ere	Client Site Project No.	Borchole Test Number Test Date	Borehole diameter Borehole radius	Test section location	Length of test interval Gauss Dents	Static Water Level	General Lithology Basalt	Start Time	Clock Time	13:12:07	13:12:11	13:12:14	0.12:25	13:12:29	11.11.21	13:12:39	1011.50	13.12.54	13:12:37	10.61.61	13:03:05	13:13:19 13:11:12	13:13:20	a a a	13-13-41	13:13.44	19:61:61	2011	40:01:01 90:01:01	13:14:09	11.11.11	13,14,20	13.14.24	13:14:27	

Golder Associates

250A06A.CHA, Input Data

Plot data	used in analysis
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
3.90	92.000

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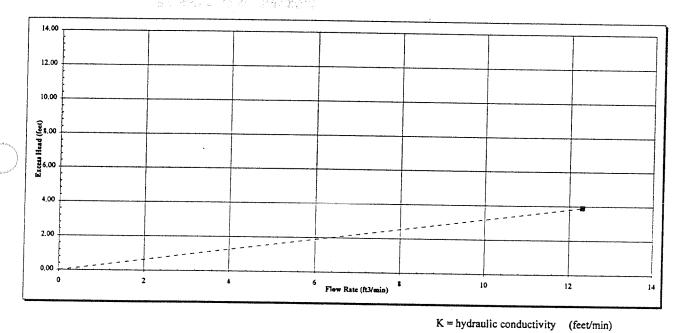


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole 250A Interval Number 6

Plot data

Applied Head (feet of water)	Flow Rate (Q) (gal/min)	Flow Rate (Q) (ft ³ /min)
3.90	92.000	12.3004



Range of hydraulic conductivity

K =	1.1E-01 cm/s	Q =	12.300	ft ³ /min
	2.1E-01 feet/min	h. =		

Q = Flow rate

he = Applied head

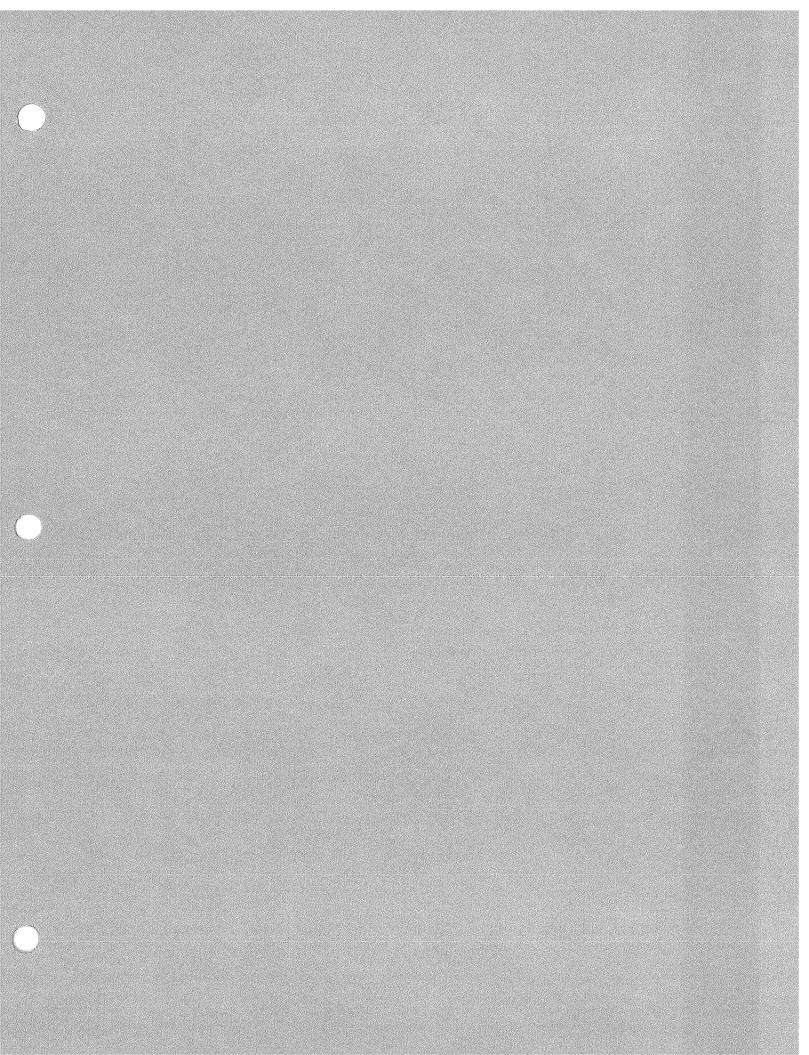
r = borehole radius

L = length of interval tested (feet)

(ft³/min)

(feet)

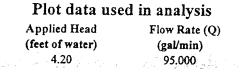
(feet)



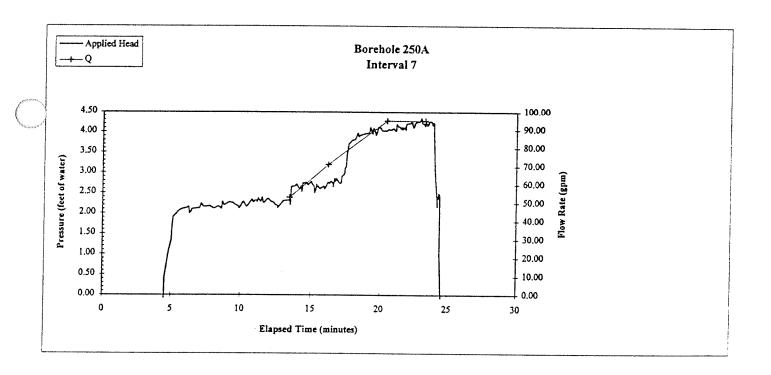
1											
No. Lie Lie Linber	Morriuon-Malerle/CSSA Miner Flat 943-27691 250A 7 13-Dec-95	erle/CSSA		F 0 9	Tei Type: Conian head, Straddie packer Gauge locatod døwahøie						
Borehole diameter Borehole radiya Test action location Length of test interval Gauge Depth Static Water Level	Top Bollom	87.6 0.16 77.81 27.81 00.01 22.62 22.62	inches foet foet below top of caaing foet below top of caaing foet below top of caaing foet below top of caaing	L IS .	Truc vertical depth calculation: Top of laterval Hole depth (ft) Vertic Above 13.00 Above Bdow 20.00 Bdow	al srtiteal Depth (r) bore 15.00 dow 20.00 cm	True vertical depth calculation: Bottom Hole depth (ft) Abore 21.00 Below 20.00	calculation: Bottom of Interval Vertical 1 21.00 Above 30.00 Below	listerval Vertical Depth (f) Above 25.00 Below 29.99		
General Lithology Basalt Start Time	13:41:48						Vertical depth of botto 3 Point Moving Averages	Vertical depth of bottom of interval (ft) at Moving Averages	25.75 5 Point M	15 5 Point Moving Averages	_
Clock Time	Elapsed time (hours)	Elapsed time (minutes)	Measured Head (feet of water)	Applied Head (feet of water)	Q (gal/min)	Applied Head (feet of water)	Δ time (mins)	Average Q (gal/min)	Applied Head (feet of water)	Δ time	Average Q
124124 124152 124155	00.0 00.0 00.0	0 90.0	-0.02 -0.02	27 27 27 27 27 27 27 27 27 27 27 27 27 2			•	, 9		((mm/r=2)
11.41.59 11.41.59	00.0	81 O	-0.02 -0.02	-23		1.1. 1.1.	0.0	00.0 00.0	81	000	8
13:42:10	10.0	9(.0	10 [.] 0	-251		87 197	0.0 0.0	0.00	5 5 5	90 0	00.0
13:42:20	10:0	57 F	-0.01 20.02	-2.51		-1.51	10.0-	8.0	177 177	00.0	00.0 00.0
13:42:24 11:42:41	to:0	9.0	10.0-	12		4 4 7	00.0 00.0	0.0 00.0	-252 -252	0.00	000
13.42.35	10.0	0.72 87.0	-0.02 -0.02	2.52			10.0-	0.00	1 7	10.0-	00.0
13:42:56 11:43:40	0.02	M	60.0-	1.1		151- 121-	10:0- 09:0	0.00	2.5	10:0-	0.00
HOLEFEL	0.02	21 97 1	-0.02 -0.02	-2.52		-1.52	0.0	000	រុះ	90°0	0.00
13:43.04	0.02	1.26	£0:0-	ដ		1.12 1.12	8 8 8 8	08.0	-15	0.60	0.00
10:00:01 13:43:07	0.02 6.02	1.12	(0.0) (0.0)	-2.53		-2.52	8.9	00.0	1 1 1	00.0 00.0	000
13:43:11	0.02	#C1	(0 [.] 0	17 17		-2.52	0.00	0.00	-2.51	0.00	0.0
11:69:01	0.02	1.44	£0.0-	, tj		167- 167-	8 8	8.0	-1.51	0.00	0.00
13.0.22	(0)0	36.1	- (0'D	-2.51		15.5-	8.9	000	167	8 3	0.00
13:43.29	(0)D	1.62	(0.0)	-1.5		-2.53	0.0	0.0	11	90°0	800
96.64.61	0.03		(0)7-	15.5		-2.53	0.00	00'0	.2.53	00:00	0.0
13:43.40	CO 0	91.1	(0.0			-2.53	00.0	00.0	-2.53	0.00	0.00
0.43.47	0.03	1.98	-0.UJ			67- 7	90-00 00-00	0.00	5.5	0.00	0.00
13:43:50	0.03	2.04	£0.0 3			3	90°0	00 0 00 0	5.5	00.0	0.00
13:43:34	10.0	77	£0.0-			Ş	80.0	0.0	157- 15 C	000	80
10.44.01	10.0	2.22	E0.0-		-	۲. ۲	900	000		0.0	000
10.44.01	0.04	2.26	-0.03			61-	0.00	0.0	16.2-	00.0	0.00
	5	ţ	E0.0-	-2.53		-2.53	0.00			20.2	

Golder Associated

250A07A CHA, hput Data



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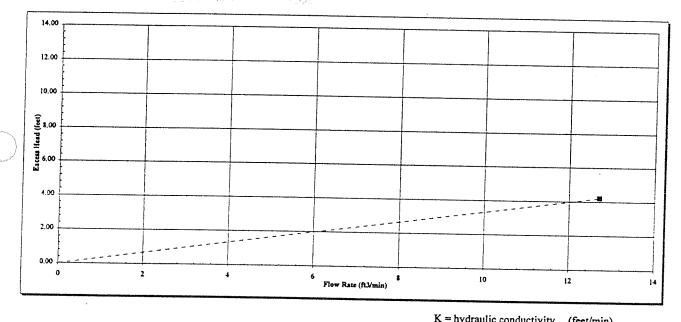


ClientMorrison-Maierle/CSSASiteMiner FlatProject No.943-27691

Borehole 250A Interval Number 7

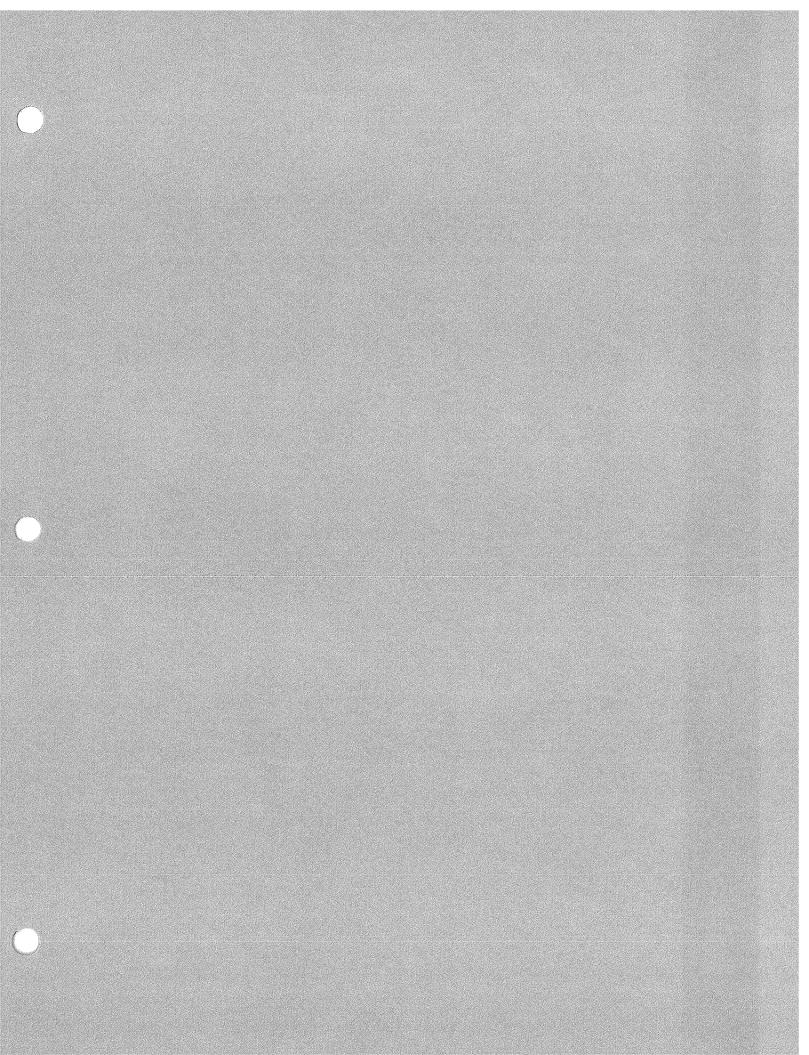
Plot data

Applied Head (feet of water)	Flow Rate (Q) (gal/min)	Flow Rate (Q) (ft ³ /min)
4.20	95.000	12.7015



K = 1/0	$(2\pi L) \times (Q/h_e) \times \ln (L/r)$	K = hydraulic conductivity Q = Flow rate he = Applied head L = length of interval tested r = borehole radius	(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of	hydraulic conductivity		
K =	1.0E-01 cm/s 2.0E-01 feet/min	$Q = 12.702 \text{ ft}^3/\text{min}$ $h_e = 4.20 \text{ feet}$	

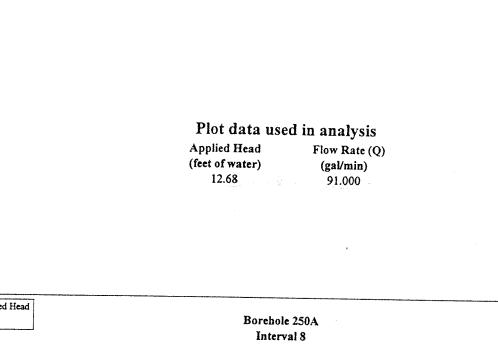
Page 1 of 1

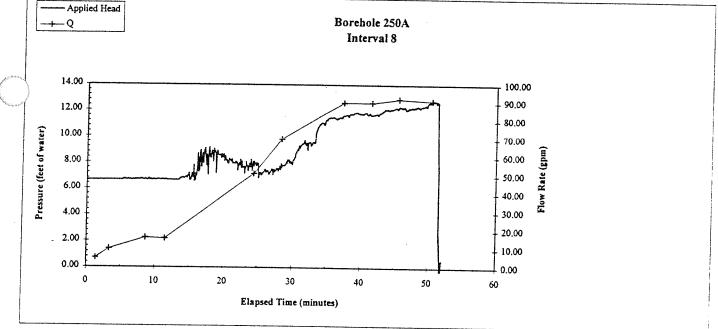


0E1.1675-EM									Average Q	(gal/min)			0.00	00 .0	00.0	0.00	0.00	8.0	0.00	0.00	0.00	001	1.00	90 ⁻¹	8	8.0	80.0	00.0	0.00	0.00	000	0.00	00.0
$\left(\begin{array}{c} \\ \end{array} \right)$								5 Point Moving Averages	Δ time	(minutes)			9-0 1	10 0 90	10.0	0000	10.0	10.0	0.02	0:00	10 .0	10.0	00.0	6.04	00.0	00 00	00.0	0.04	000	000	00.0	0.0	10:0- 00:0
				Tuterval Vertical Death (6)	89.02 80.02	13.73		5 Point Me	Applied Head	(ICCI OF MARCE)			6.62	6.62 6.63	6 .64	3 .9	40.0 8.6.4	59' 9	6.64	6.64	9 (9)	6,63	6.63	(79) 777	2.3	6,65	6.65	6.65	6.65 6.65	665	6.65	6.65	6.64 5.62
			b calculation:		15.00 Above 20.00 Below	Vertical depth of bottom of laterval (ft)		la.	Average Q (sal/min)			0.00	00.0	000	0.00	00.0	000	0.00	0.00	0.00	000	0.00	1.67	1.67	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.0 0.0
			True vertical depth calculation:	Hole denth (ft)	Above Below	ertical depth of b		3 Point Moving Averages	Δ time (mins)			10.0	90.0 10	10.0	10.0	8.0	10.0	10:0	0.00	2 7 7	0.0	10.0	10 .0	1 8	10.0	00.0	10:0	8 8	0.0	0.00	0.00	0.00	10.0-
			, ,	erval Vertical Depth (ft) H		s.75 V		3 Point	Applied Head (feet of water)	•		99.9	0.01 (63	19:9	6.64 2	2.0 23	6.65	6.65	6.65	50 S	6.62	6.62	6.62 6.62	6.63	6.64	6.64	1 0.8	0.03 0.65	6,65	6.65	6.65	6.65 A 4.4	23.9
		Test Type: Coastaat head, Straddie packer Gauge located dewahole	True vertical depth calculation:	Top of int	10.00 Below	Vertical depth of top of interval (ft)			Q (gal/min) (1														5.0										
		Test Type: Constant h Gauge loca	True ve	Hole depth (N)	Above Below	Vertical			Applied Ilead (fect of water) (g	6.64		6.60 6.61	6.64	6.64 2.52	6,63			6.65 c			6.65	10.0				10.0					0 0 0		
			inch es	foct fect below top of casing	rea below top of caning feet feet below top of casing	feet below top of caring			Mcasured Head (fect of water)	0.04	00.00	10:0	0.04	10.0 10.0	0.05	6.04	0.04	0.0 20.0	0.05	10.0	0.05	10.0	0.05	0.05	0.05	0.05	0.05	0.05	0.05	20.0 20.0	0.05	0.05	0.01
	rle/CSSA		3.78		10.00	82.70			Elapsed time (minutes)	0	0.06	81.0	C.0	0.42	0.54	9.0	0.72 0.78	10	0.96	1.02		1.26	10.1	1.4	162	161		98 -	1.92	222	462	1.34	2.4
	Morrison-Malerle/CSSA Miner Flat 943-27691	250A 8 12-Dec-95		Tap			14:19:39		Elapsed time (hours)	0.00	00.0 000	0,00	10.0	10.0	10.0	10.0	10.0	10.0	0.02	0.02	0.02	0.02	0.02	0.02	1010	£0:0	0.03	0.03 20.0	60 O	10.0	0.04	10.01	9.0
ACTIVITY OF THE OF	Client Site Project No.	Borchole Test Number Test Date	Borehole diameter Borehole radius	Test section location	Length of test interval Gauge Depth	Static Water Level General Lithology	Basalt Start Time		Clock Time	14:19:39	14:19:46	14,19:50	14.19.57 14.20.01	14.20.04	14:20:11	14:20:15	14.20.26	14:20:29	14.20.37	14:20:40	14-20:51	14:20:55	N-21:02	14:21:09	14:21:16	14:21:20	14:21:27	14.21:31 14:21:34	14:21:41	14:21:36	14:21:59	14:21:59	14:22:03

Goldor Associates

250A0#A.CHA, liqui Data





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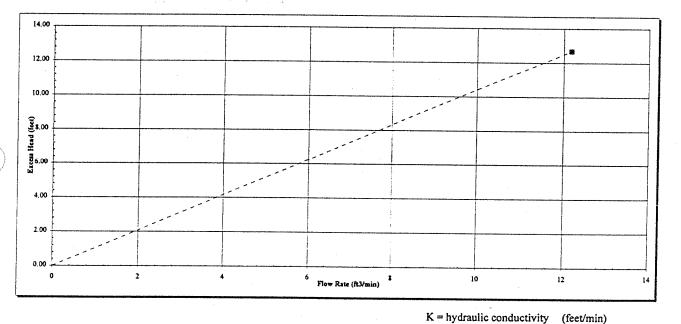
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole250AInterval Number8

Plot data

Applied Head
(feet of water)
12.68

Flow Rate (Q) (gal/min) 91.000



Flow Rate (Q)

(ft³/min)

12.1667

 $K = 1/(2\pi L) x (Q/h_e) x \ln (L/r)$

Range of hydraulic conductivity

K = 3.2E-02 cm/s Q = 6.3E-02 feet/min $h_e =$

he = Applied head(feet)L = length of interval tested(feet)r = borehole radius(feet)

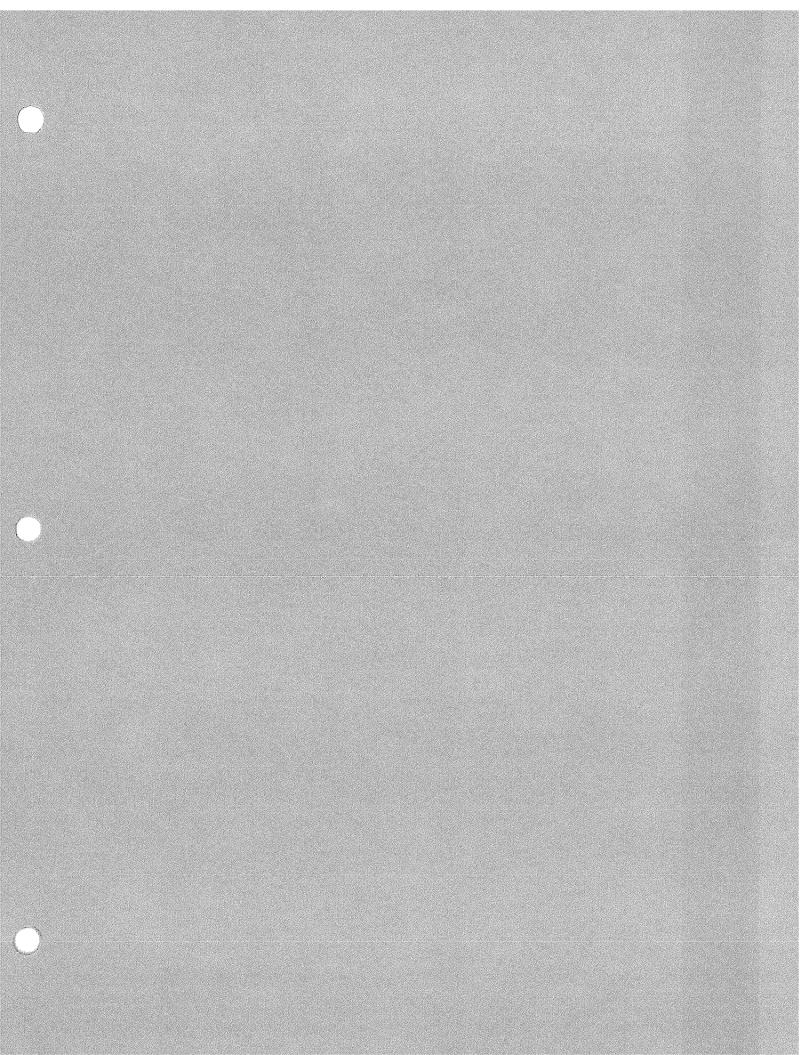
12.167 ft³/min

12.68 feet

(ft³/min)

Q = Flow rate

250A08A.CHA,	ĸ	calculation
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Packer Testing Results Borehole MF 251

Bottom Bottom Bottom (elevation) 6027.52 6027.52 4 5977.52 4 5977.52 4 5972.52 4 5927.52 4 5877.52 4 5877.52 4 5877.52 4 5877.52 4 5877.52 4 5877.52 4 5877.52 4 5833.02 4 5788.02 4 5788.02	Interval #		Interva	Interval Denth		l itholom						de des sessentes etc. de se apartes de la ses se actuarde de la ses se actuarde de la ses se actuarde de la se
		F	1.						riyaraunc (onductiv	'Ity	
					HOM			feet/min			cm/sec	
36.08 6052.88 61.44 6027.52 Basalt $2.26E-06$ $3.01E-06$ $1.15E-06$ $2.05E-06$ 61.08 6027.88 $8.6.44$ 602.52 $8adstone$ $2.45E-05$ $9.25E-06$ $5.91E-05$ $1.72E-05$ $4.70E-06$ 86.08 6002.88 111.44 5977.52 $8adstone$ $2.45E-05$ $5.91E-05$ $1.24E-05$ $4.70E-06$ 86.08 6002.88 111.44 5977.52 $8adstone$ $8.1E-05$ $8.0E-05$ $7.23E-05$ $4.37E-05$ $3.06E-05$ 110.08 5977.88 161.44 5977.52 $8adstone$ $4.08E-05$ $6.16E-05$ $2.07E-05$ $3.06E-05$ 116.08 5972.88 161.44 5977.52 $8adstone$ $1.02E-05$ $1.05E-05$ $4.70E-06$ $6.98E-05$ 160.08 5927.88 161.44 5927.52 $8adstone$ $1.12E-03$ $1.05E-05$ $5.17E-06$ $6.98E-05$ 161.08 5927.88 186.44 5902.52 $8adstone$ $1.12E-03$ $1.30E-03$ $1.94E-04$ $5.92E-04$ 161.08 5992.88 211.44 5902.52 $8adstone$ $1.12E-03$ $1.37E-03$ $1.94E-05$ $5.92E-04$ 211.16 5877.80 2355.44 $5adstone$ $2.15E-06$ $1.99E-03$ $5.92E-04$ $5.92E-04$ 2305.88 588.38 255.94 5833.32 5833.32 583.04 $5.92E-04$ $5.92E-04$ 2305.88 5803.88 3303.94 588.38 3305.94 588.38 $5.928-04$ $5.$		(fbtc)	(elevation) ⁴	111 111 111 111	(elevation)		Low	High	Regression ³	Low ⁴	High	Regression
50.08 6032.88 61.44 6027.52 Basalt 2.26E-06 4.03E-06 5.01E-06 1.15E-06 2.05E-06 3.01E-06 1.15E-06 2.05E-06 3.01E-06 1.15E-05 3.077-05 4.70E-06 5.01E-06 5.01E-05 1.12E-05 3.05E-05 3.05E	-										>	0
61.08 6027.88 86.44 6002.52 Sandstone 2.45E-05 9.25E-06 5.91E-05 1.700	71	30.08	6052.88	61.44	6027.52	Basalt	2.26E-06	4.03E-06	5.01F-06	1158-06	2 0 4E 07	7 6 5 1 1
86.08 6002.88 111.44 5977.52 Sandstone 8.51E-05 8.00E-05 7.23E-05 4.37E-05 5.17E-05 5.17E-05 5.07E-05 3.06E-05 3.06E-05 3.06E-05 3.07E-05 3.07E-05 3.07E-05 3.07E-05 3.07E-05 5.17E-05 6.08E-06 5.07E-05 3.06E-05 3.06E-05 3.06E-05 3.06E-05 3.06E-05 3.06E-05 3.06E-05 3.07E-05 5.07E-05 5.07E-05 5.07E-06 1.99E-05 5.07E-06 1.99E-05 5.07E-06 1.99E-05 5.07E-06 1.99E-05 5.07E-06 5.04E-06 5.08E-04 5.05E-04 5.92E-04 5.92E-04 5.92E-04 5.92E-04 5	1	61.08	6027.88	86.44	6002.52	Sandstone	2.45E-05	9.25E-06	5 01E-05	30 3701	2.010-101	2.235-00
5977.88 136.44 5952.52 Sandstone 4.08E-05 6.01E-05 6.16E-05 2.07E-05 4.51E-05 4.51E-05 5952.88 161.44 5927.52 Sandstone 1.02E-05 1.05E-05 5.17E-06 6.08E-06 5952.88 161.44 5927.52 Sandstone 1.02E-05 1.05E-05 5.17E-06 6.08E-06 5902.88 186.44 5902.52 Sandstone 1.03E-05 3.02E-05 5.17E-06 6.08E-06 5902.88 211.44 5877.52 Sandstone 1.13E-05 2.93E-05 1.30E-03 1.94E-04 5.68E-04 5877.80 236.52 58andstone 6.0E-03 1.17E-03 1.30E-03 3.25E-04 5.68E-04 5833.38 236.94 5833.02 Sandstone 2.15E-03 1.17E-03 1.37E-03 3.55E-04 5.92E-04 0 5833.38 255.94 5833.02 Sandstone 2.15E-03 1.27E-03 1.37E-03 1.47E-03 8.58E-04 0 5808.38 305.94 5783.02	10	86.08	6002.88	111.44	5977.52	Sandstone	8.51E-05	8 60F-05	7 725 05	1 225 05	4./0E-00	3.00E-05
5952.88 161.44 5927.52 Sandstone $1.02E-05$ $1.20E-05$ $0.10E-05$ $3.06E-05$ $3.06E-05$ 5927.88 186.44 5927.52 Sandstone $1.02E-05$ $1.05E-05$ $1.05E-05$ $5.17E-06$ $6.08E-06$ 5927.88 186.44 5902.52 Sandstone $1.11E-03$ $1.05E-05$ $5.72E-06$ $1.49E-05$ 5902.88 211.44 5877.52 Sandstone $1.11E-03$ $1.30E-03$ $1.94E-04$ $5.68E-04$ 5877.80 236.52 5852.44 Sandstone $6.40E-04$ $1.17E-03$ $1.30E-03$ $1.94E-04$ $5.68E-04$ 583.38 236.52 5833.02 Sandstone $2.15E-03$ $1.72E-03$ $1.37E-03$ $1.94E-04$ $5.68E-04$ 583.38 236.52 5833.02 Sandstone $2.15E-03$ $1.17E-03$ $1.37E-03$ $1.94E-04$ $5.68E-04$ 583.38 230.94 5833.02 Sandstone $2.15E-03$ $1.77E-03$ $1.27E-03$ $1.47E-03$ $8.58E-04$ 583.38 305.94 5783.02 Sandstone $2.36E-04$ $3.74E-04$ $3.74E-04$ $3.66E-06$ $3.66E-06$ 5783.38 330.94 5783.02 Sandstone $2.36E-04$ $3.24E-04$ $3.66E-06$ $1.97E-06$ $3.66E-06$ 5783.38 330.94 5783.02 Sandstone $2.36E-04$ $3.74E-04$ $3.74E-04$ $1.71E-06$ $1.97E-06$ $3.66E-06$ 5783.38 330.94 5788.02 Sandstone $3.36E-04$ $3.74E-04$ $1.71E-06$ <td< td=""><th>6</th><td>111.08</td><td>5977.88</td><td>136.44</td><td>5952.52</td><td>Sandstone</td><td>4 086-05</td><td>20 2000</td><td>CO-7777</td><td>4.32E-U3</td><td>4.3/E-05</td><td>3.67E-05</td></td<>	6	111.08	5977.88	136.44	5952.52	Sandstone	4 086-05	20 2000	CO-7777	4.32E-U3	4.3/E-05	3.67E-05
5927.88 186.44 5902.52 Sandstone $1.02E-03$ $1.02E-05$ $5.17E-06$ $6.08E-06$ 5902.88 211.44 5877.52 Sandstone $1.13E-05$ $2.93E-05$ $5.72E-06$ $1.49E-05$ 5877.80 236.52 5877.52 Sandstone $3.82E-04$ $1.12E-03$ $1.30E-03$ $1.94E-04$ $5.68E-04$ 5877.80 236.52 5852.44 Sandstone $6.40E-04$ $1.17E-03$ $1.37E-03$ $1.94E-04$ $5.68E-04$ 583.38 255.94 5833.02 Sandstone $2.15E-03$ $1.79E-03$ $1.37E-03$ $1.94E-04$ $5.68E-04$ 583.38 255.94 5833.02 Sandstone $2.15E-03$ $1.77E-03$ $1.37E-03$ $1.94F-04$ $5.92E-04$ 583.38 235.94 5833.02 Sandstone $2.15E-03$ $1.79E-03$ $1.37E-03$ $1.47E-03$ $8.58E-04$ 583.38 305.94 5783.02 Sandstone $2.89E-03$ $1.69E-03$ $1.27E-06$ $3.56E-06$ $3.56E-04$ 5783.38 330.94 5783.02 Sandstone $3.36E-04$ $3.74E-04$ $3.24E-04$ $1.77E-03$ $8.58E-04$ 5783.38 330.94 5758.02 Sandstone $3.36E-04$ $3.74E-04$ $3.24E-04$ $1.77E-06$ $3.66E-06$ 5783.38 330.94 5758.02 Sandstone $3.36E-04$ $3.74E-04$ $3.24E-04$ $1.90E-04$ 578.33 $1.778.02$ Sandstone $3.36E-04$ $3.74E-04$ $3.24E-04$ $1.90E-06$ 578.38 $3.30.94$ </td <th>8</th> <td>136.08</td> <td>5952.88</td> <td>161.44</td> <td>\$ 17 52</td> <td>Sandstone</td> <td>1 0/1 0/2 VE</td> <td>CO-31001</td> <td>0.10E-U2</td> <td>2.07E-05</td> <td>3.06E-05</td> <td>3.13E-05</td>	8	136.08	5952.88	161.44	\$ 17 52	Sandstone	1 0/1 0/2 VE	CO-31001	0.10E-U2	2.07E-05	3.06E-05	3.13E-05
5902.88 1.144 5877.52 Sandstone $1.13E-05$ $2.93E-05$ $5.72E-06$ $1.49E-05$ $5.68E-04$ 0 5877.80 236.52 5877.52 $5andstone$ $3.82E-04$ $1.12E-03$ $1.30E-03$ $1.94E-04$ $5.68E-04$ 0 5877.80 236.52 5852.44 $5andstone$ $6.40E-04$ $1.17E-03$ $1.30E-03$ $3.25E-04$ 0 5858.38 225.94 5833.02 $5andstone$ $2.15E-03$ $1.79E-03$ $1.37E-03$ $1.09E-03$ $9.08E-04$ 0 5833.38 225.94 5833.02 $5andstone$ $2.15E-03$ $1.77E-03$ $1.37E-03$ $1.09E-03$ $9.08E-04$ 0 5833.38 230.94 5833.02 $5andstone$ $2.89E-03$ $1.69E-03$ $1.27E-06$ $3.66E-06$ $3.66E-06$ $3.66E-06$ 5783.38 330.94 5783.02 $5andstone$ $3.36E-04$ $3.74E-04$ $1.71E-04$ $1.90E-04$ 0 5783.38 330.94 5783.02 $5andstone$ $3.36E-04$ $3.74E-04$ $1.71E-04$ $1.90E-06$ $3.66E-06$ 5783.38 330.94 5783.02 $5andstone$ $3.36E-04$ $3.74E-04$ $1.71E-04$ $1.90E-04$ 0 5783.38 330.94 5783.02 $5andstone$ $3.36E-04$ $3.74E-04$ $1.71E-04$ $1.90E-04$ 0 5783.38 330.94 5788.02 $5andstone$ $3.36E-04$ $3.74E-04$ $1.71E-04$ $1.90E-04$ 0 5783.38 330.94 5788.02	7	161.08	5077 88	106 44	201202		CU-320.1	1.20E-05	1.05E-05	5.17E-06	6.08E-06	5.36E-06
3702.88 211.44 5877.52 Sandstone 3.82E-04 1.12E-03 1.30E-03 1.94E-04 5.68E-04 6 5877.80 236.52 5852.44 Sandstone 6.40E-04 1.17E-03 1.33E-03 3.25E-04 5.68E-04 6 5833.38 235.94 5833.02 Sandstone 2.15E-03 1.77E-03 1.37E-03 1.09E-03 908E-04 6 5833.38 255.94 5833.02 Sandstone 2.15E-03 1.77E-03 1.37E-03 1.09E-03 908E-04 6 5833.38 280.94 5833.02 Sandstone 2.15E-06 7.21E-06 1.47E-03 8.58E-04 6 5808.38 305.94 5783.02 Sandstone 2.35E-06 7.21E-06 3.56E-06 3.66E-06 3.66E-06 3.66E-06 3.66E-06 6 7.21E-06 2.92E-06 3.66E-06 6 6 7.21E-06 2.92E-06 3.66E-06 6 6 6 6 6 6 6 6 6 6 6 6		00 701	00.12/2	100.44	70.70%0	Sandstone	1.13E-05	2.93E-05	3.02E-05	5.72E-06	1.49E-05	1.536-05
5877.80 236.52 5852.44 Sandstone 6.40E-04 1.17E-03 1.33E-03 3.25E-04 5.92E-04 5858.38 255.94 5833.02 Sandstone 2.15E-03 1.79E-03 1.37E-03 1.09E-03 9.08E-04 5833.38 280.94 5808.02 Sandstone 2.15E-03 1.79E-03 1.09E-03 9.08E-04 5833.38 280.94 5808.02 Sandstone 2.15E-06 7.21E-06 5.92E-06 3.58E-04 5808.38 305.94 5783.02 Sandstone 2.75E-06 7.21E-06 5.75E-06 3.66E-06 5783.38 330.94 5788.02 Sandstone 3.36E-04 3.74E-04 1.71E-04 1.90E-04 5783.38 330.94 5758.02 Sandstone 3.36E-04 3.24E-04 1.90E-04 1.90E-04		00.001	07/02.000	211.44	5877.52	Sandstone	3.82E-04	1.12E-03	1.30E-03	1.94E-04	5 68P-04	KA7E MA
5858.38 255.94 5833.02 Sandstone 2.15E-03 1.75E-03 5.25E-04 5.92E-04 5.92E-04 5833.38 280.94 5833.02 Sandstone 2.15E-03 1.79E-03 1.09E-03 9.08E-04 5.92E-04 5833.38 280.94 5808.02 Sandstone 2.15E-03 1.69E-03 1.09E-03 9.08E-04 5808.38 305.94 5783.02 Sandstone 2.75E-06 7.21E-06 6.72E-06 3.66E-06 5783.38 330.94 5783.02 Sandstone 3.36E-04 3.74E-04 3.24E-04 1.90E-03 8.58E-04 783.38 330.94 57758.02 Sandstone 3.36E-04 3.74E-04 3.24E-04 1.90E-06 3.66E-06 778.05 Sandstone 3.36E-04 3.74E-04 3.24E-04 1.90E-04 1.90E-04	c	211.16	5877.80	236.52	5852.44	Sandstone	6 40F-04	1 175 03	1 175 01			+0-770'D
5833.38 280.94 5808.02 Sandstone 2.13E-03 1.79E-03 1.09E-03 9.08E-04 5883.38 280.94 5808.02 Sandstone 2.89E-03 1.69E-03 1.09E-03 9.08E-04 5883.38 305.94 5783.02 Sandstone 2.89E-03 1.69E-03 1.47E-03 8.58E-04 5783.38 330.94 5783.02 Sandstone 5.75E-06 7.21E-06 6.72E-06 3.66E-06 5783.38 330.94 5758.02 Sandstone 3.36E-04 3.74E-04 1.71E-04 1.90E-04	4	230.58	5858.38	255 94	5832 07	Condeter	F0-701-0	0-7/1-1	1.335-03	3.25E-04	5.92E-04	6.78E-04
2003.34 3808.02 Sandstone 2.89E-03 1.69E-03 1.23E-03 1.47E-03 8.58E-04 5808.38 305.94 5783.02 Sandstone 5.75E-06 7.21E-06 6.72E-06 3.66E-06 3.66E-06 5783.38 330.94 5778.02 Sandstone 3.36E-04 3.74E-04 1.71E-04 1.90E-04 6778.02 Sandstone 3.36E-04 3.74E-04 3.24E-04 1.90E-04	3	255 58	5813 20	NO VOL	20.0002		2.13E-U3	1.79E-03	1.37E-03	1.09E-03	9.08E-04	6.98E-04
Joue.36 JOJ.94 5783.02 Sandstone 5.75E-06 7.21E-06 6.72E-06 3.66E-06 3.66E-06 5783.38 330.94 5758.02 Sandstone 3.36E-04 3.74E-04 1.71E-04 1.90E-04	····· ,	05.020	00.0002	201.94	20.8080	Sandstone	2.89E-03	1.69E-03	1.23E-03	1.47E-03	8.58E-04	6.27E-04
5783.38 330.94 5758.02 Sandstone 3.36E-04 3.74E-04 1.71E-04 1.90E-04	1 -	205.20	00.000	96.005	5783.02	Sandstone	5.75E-06	7.21E-06	6.72E-06	2.92E-06	3.66E-06	3 415-06
		86.002	5783.38	330.94	5758.02	Sandstone	3.36E-04	3.74E-04	3 246-04	1715.04	1 005 04	00-311-00
									10-71-7-0	1.111.04	1.906-04	1.00E-U4

¹ Feet below top of casing.
 ² Feet above mean sea level
 ³ Regression analysis does not include origin as a point.
 ⁴ Single point tests are presented in the "low" value column, however, they do not necessarily represent the low value for that interval.

7/30/96

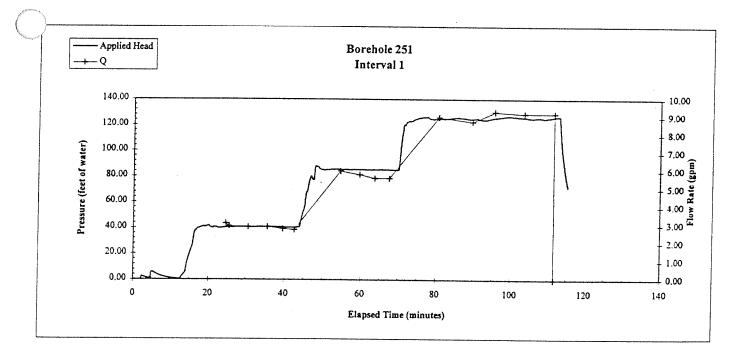
061.1975-6149						I	Average Q	(gaVmin)			0.00	00.0	0.0	00.0	00.0	00.0	00.0	0.00	0.0	8 8	0.00	0.00	000	0.00	0.00	000	000	0.0	0.00	0.00
$\langle \rangle$						5 Point Moving Averages	Δ time	(minutes)			0.02	10:0	0010	0.02	0.03	10:0-	0.06	0.00	-0.05	13.9	0.03	0.0	300	0.04	10:0	00.0	41.0 CH 0	1.28	1.96	2.41 1.60
			_	Vertical Depth (f) Above 339.86 Below 311.66	330.80	5 Point M	Applied Head	(101 M M 101 1)			0.00	10.0	0.02	10.0	10.0	0.01	0.02	0.03	0.02	0.02	10.0	000	00.0	00'0	10:0	10.0	0.22	0.47	0.86	1.39
			Bottom of interval	nove ocputa (11) Vertical Above 330.00 Above Bedow 331.80 Below	MINE OF BICKAR (II)	1226	Average Q (sal/min)			0.00	0.0	00.00	00.00 00.00	0.00	00.0	0.0	0.0	0.00	0.0	00.00	0.00	0000	00.0	0.00	00.00	00.0	0.00	00.00	0,00	00.0 00.0
				rtees acpta (11) Above Below Vertical dareth of		3 Point Moving Averages	Δ time (mins)	Ì		8 8	10'0	90 .0-	99 7 3 7	0.00	90.0- 10 0	0.05	8.0	10.0	9.0	00.0	0.02	0.0	10.0-	10.0	0.0	0.05	0.16	0.87	<u>1</u>	6 1
			a: trai Vertical Dank (n)	299.9		3 Point	Applied Head (fect of water)			10:0-	10.0	0.02	0.02	0.02	100	0.02	0.02	0.02	0.02	0.02	10.0	0.00	10.0-	10.0-	0.02	0.02	0.07	0.35	0.79 Tr 1	ñ 8
		itraddie packer wabole	stà calculation: Top of laterval Vertici	Above 300.00 Above Balow 310.00 Balow Vertical depth of top of Interval (f)				-					W.,								····									
()		Test Type: Constant head, Straddle packer Gauge located downhole	True vertical depth calculation: Top of latery Hole denth (f)	Above Below Vertical deptà of			Q (gal/min)									j. C				-										
		100		< . *			Applied Head (feet of water)	0.04	10.0-	10.0-	100	00.0	00.00	0.04	10.0	0.03 20.0	10.0-	0.04	0.03	10:0-	0.00	0.00	10 9	00.0	0.04	0.03	10.0	0.16	1 1	1.95
			inches feet feet below top of casing	fect below top of casing feet feet below top of casing feet below top of casing			Measured Head (feet of water)	0.04	10:0-	10.0-	1 0 0	0.00	0.00	3 00	10.0-	(0.0 100	10.0-	10.0	0.03	600	0.00	00.0	10.07	0.00	0.04	0.03	10.77	0.86	п	26.1
	rle/CSSA		3.78 0.16 305.58	330,94 25,36 194,20 169,60			Elapsed time (minutes)	0.00	0.06	0.18	0.00 81.0	0.42	0.54 0.60	1.12	0.78	1 20	1.02	1.14	1.26	86.1	1.44	8 2	101	1.80	91	961 70 C	2.10	11	121	2.40
	Morrison-Maierle/CSSA Miner Flat 943-27691	251 1 14-Nov-95	⁴			7:34:27	Elapsed time (hours)	0000	0.00	0:00	10:0	10.0	10.0	10.0	10.0	0.02	0.02	0.02	0.02	0.02	0.02	60.0 E0.0	0.03	0.03	(0)0	0.0	6.04	0.04	10	* 0.0
	Client Site Project No.	Borcholc Test Number Test Date	Borebole diameter Borebole radius Test section location	Length of test interval Gauge Depth Static Water Level	General Lithology Sandstone	Start Time	Clock Time	73427	HCHEL	73438	7:34:49	7:34:52	92.HET 10.8ET	01:55.7	11.86.7 71.81.7	52.5E.T	7.35.28	2012017 01-21-7	135.43	05,51.7	7.35.51 111-24-7	10.00.7	7.36.08	7:36:15	7:36:26	7:36:29	EC:0C:7	7:36:40	7:36:44	16.01.7

25101A CMA, Input Data

Colider Associates

Plot data used in analysis

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
40.38	2.750
85.13	5.600
125.59	9.200



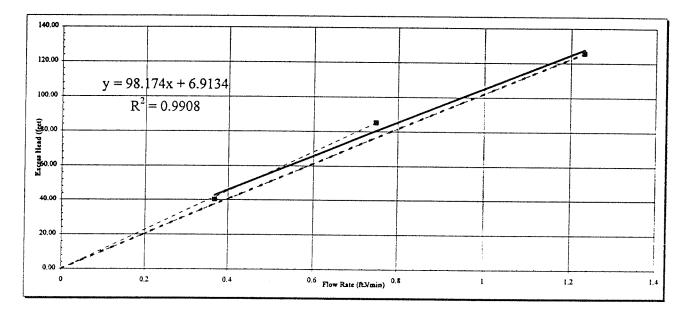
1	Client	Morrison-Maierle/CSSA
	Site	Miner Flat
	Project No.	943-27691
	Borehole	251

Interval Number

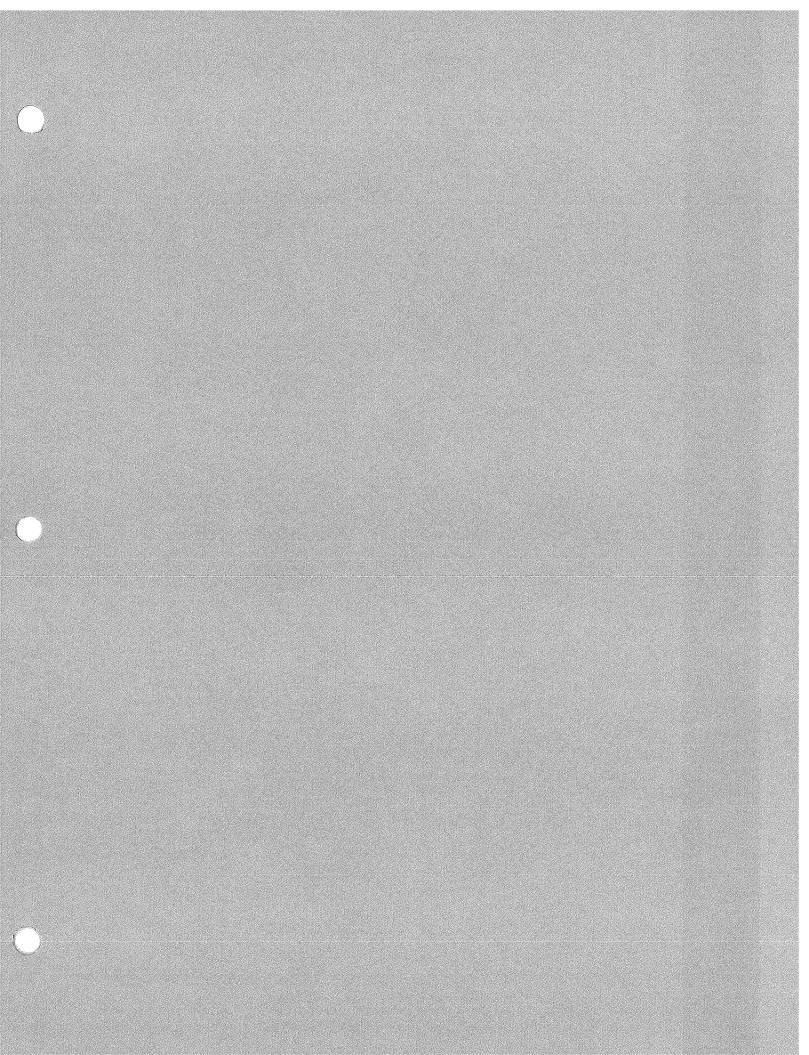
Plot data

1

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
40.38	2.750	0.3677
85.13	5,600	0.7487
125.59	9.200	1.2300



K = 1/($2\pi L$) x (Q/h _e) x ln (L/r)	$Q = Flow \\ he = Ap \\ L = leng$	K = hydraulic conductivity Q = Flow rate he = Applied head L = length of interval tested r = borehole radius						
Range of I	nydraulic conductivity								
K =	1.7E-04 cm/s 3.4E-04 feet/min	Q = h _e =	0.899 ft ³ /mir 85.13 feet	I					
K =	1.9E-04 cm/s 3.8E-04 feet/min	Q = h _e =	1.477 ft ³ /min 125.59 feet	1					
K =	1.6E-04 cm/s 3.2E-04 feet/min	Trendline Slope	98.17						

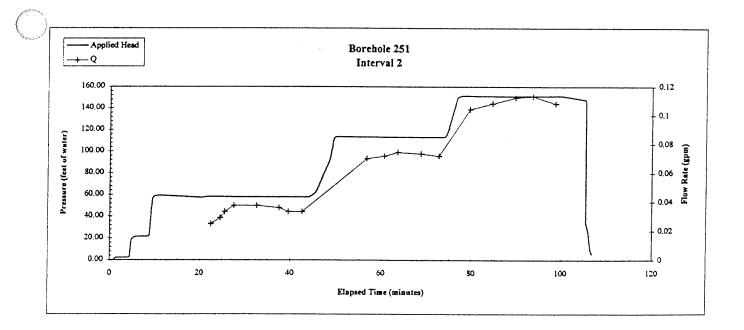


943-2791,130					Average Q (gal/min)			0.00	00.00	0.00	0.00	0.0	0.00	00.0	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	00.0	000	0.00	00.0	00.0
\bigcirc				S Point Moving Averages	∆ time A (minutes) (1010	0.02	50:0-	0.00	70'0	090	0.89	1.76	1.65	8 1	6.0	0.10	8.0	00.0	0.00	0.00	000	000	000	0 0
		×	(1) di (1, 1942 - 342 (005 - 342 (005	5 Point Mc	Applied Head (feet of water)		i	1 0.0	-0.07 20.0	0.02	-0.03 -0.03	1 0.0	0.14	0.32	96.0	151	2.00	2.20	111	6 9 T	2.30	2.30	2.30	9 F 7	2	0.2	06.2
			Bottom of interval Vertical Depth (ft) 300.00 Above 2 310.00 Below 3 Xttom of interval (ft) X		Average Q (gal/min)		0.0	0.00	00.0	00.0	00.0	0.00	0.00	0.00	00.00	0.00	00.00	0.00	0.00	0.0	00.00	0.00	80.0 00.0	0.00	0.00	0.00	00.0
			Bottom of inter- Bottom of inter- Vertic Bolow 300.00 Abov Bolow 310.00 Bolow Vertical depth of bottom of interval (rt)	3 Point Moving Averages	A time A (mins) (8.8	100	0.0 10 0-	0.01	10 0		6.2	0.67	0.76	1.09 1.00	0.27	0.10	20.0 20.0	0.0	0.00	9.0	8.8	0.0	0.00	00'0	0.0
			n: erval Vertical Depth (ft) Hiol Above 239.87 Below 239.87 al (ft) 230.43 Ver	3 Point A	Applied Head (feet of water)		10 .0-	60.0	-0.02 10.0-	10.0-	-0.07 10.07	10.0-	0.06 2.5	6.5	16.0	1.34	2.14	2.25	2.28	2	2.30	2.30	2.8	2.30	2.30	1.30	2.30
()		raddle packer wahele	Truc vertical depth calculation: Top of interval Hole depth (ft) Vertical Above 200,00 Below Below 200,00 Below Vertical depth of lop of interval (ft)	- - -																·				t Afor		-	
		Test Type: Coastant head, Straddle packer Gauge located dewnhole	Truc vertical depth calculation: Top of latery V V Above 240,00 A Bdow 280,00 B Vertical depth of lop of laterval		Q (gal/min)																						
					Applied Head (feet of water)	00.0 10.0	-0.05 -0.04		10:0-	-0.02 0.00			0.21		0°88		2.20						2.30				00.2
			inchea feat feat below top of casing feat below top of casing feat below top of casing feat below top of casing		Mcasured Head (feet of water)	0.0 19.0	20.02 20.02	-0.05	10.0-	-0.02 0.00	9 0'0'	10:0- 10:0-	0.21	0.55	88 .0	61	2.20	7	1.10	2.30	2.30	973	2.30	2.30	2.30	2.30	nc.7
	te/CSSA		3.78 0.16 280.58 305.94 134.20 194.20 194.20 199.60		Elapsed time (minutes)	0.00 \$0.0	0.12	0.30	0.42	0.54 09.0	0.72	0.78 0.84	8.0	1.02	1.14	1.26	16.1	1 8	1.62	1.64	2 9	1.94	2.04	2.10	n i	2.24	5
	Morrison-Maleric/CSSA Miner Flat 943-27691	251 2 14-Nov-95	Tep	10,04,26	Elapsed time (hours)	00.0	000	10:0	10.0	10.0	10.0	10.0	20.0	0.02	0.02	0.02	0.02	E0:0	0.03	0.03	60.0	60.0	0.03	0.04	0.0	5 5	\$ \$
TIJUW	Client Site Project No.	Borchole Test Number Test Date	Borehole diameter Borehole radius Test aection location Length of test interval Gauge Depth Static Water Level	General Lithology Sandstone Start Time	Clock Time	10.04:26 10:04:30	10.04.37 10.04.37	10.04.44 10.04.45	10.04.51	10.04.58 10.05.02	10.05.09	10.05.13 10.05.16	10.05.24	10,05,27	#C:50:01	10:05:42	10.05.49	10.06.00	10.06.03	10.06.07 10.04414	10.06.11	10.06.25	10.06.28	10.06.32	10.00.39	10,005,46	- - - -

Golder Associatos

25102A.CHA, liqui Date

Plot data use	d in analysis
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
57.85	0.033
113.21	0.072
151.43	0.108

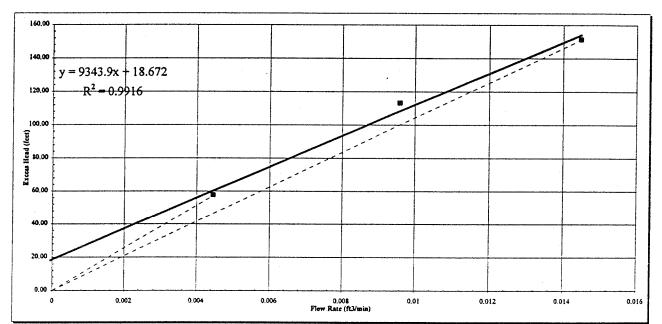


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole251Interval Number2

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
57.85	0.033	0.0045
113.21	0.072	0.0096
151.43	0.108	0.0145



K = hydraulic conductivity

L = length of interval tested

Q = Flow rate

he = Applied head

r = borehole radius

(feet/min)

(ft³/min)

(feet)

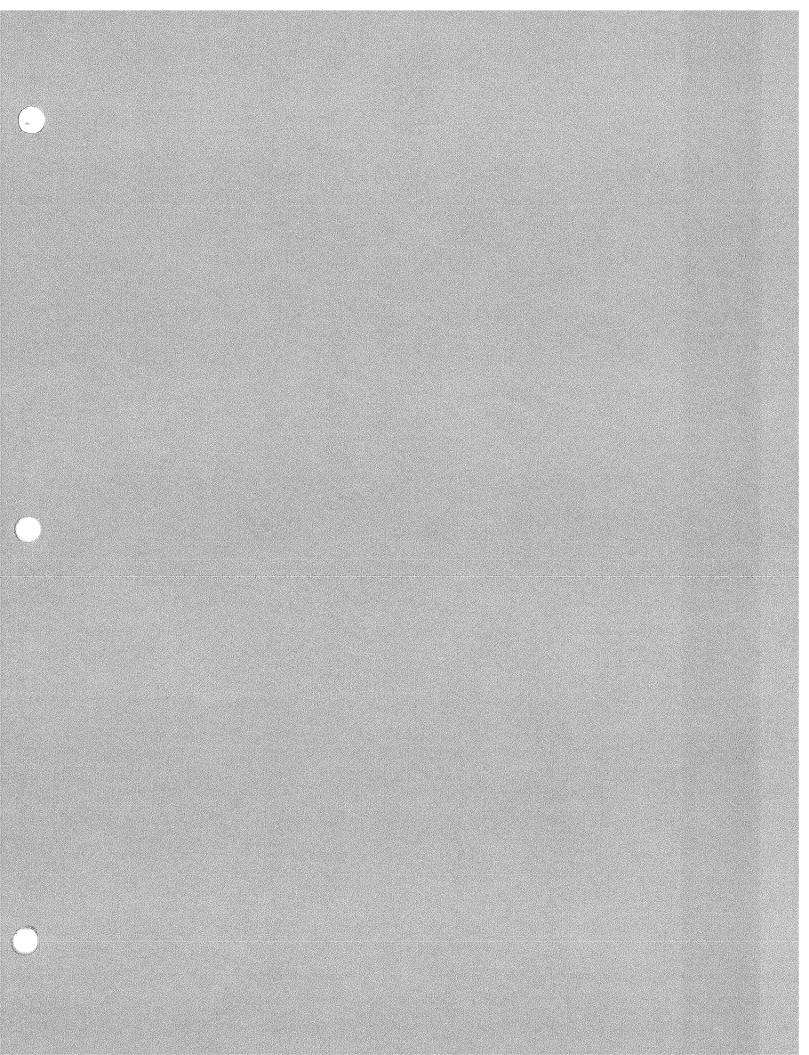
(feet)

(feet)

 $K = 1/(2\Pi L) \times (Q/h_e) \times \ln (L/r)$

Range of hydraulic conductivity

K =	2.9E-06 feet/min	Q =	0.005	ft ³ /min
	1.5E-06 cm/s	h _o =	57.85	feet
K =	3.7E-06 feet/min	Q =	0.017	ft ³ /min
	1.9E-06 cm/s	h _e =	151.43	feet
K =	3.4E-06 feet/min 1.7E-06 cm/s	Trendline Slope	9343.90	



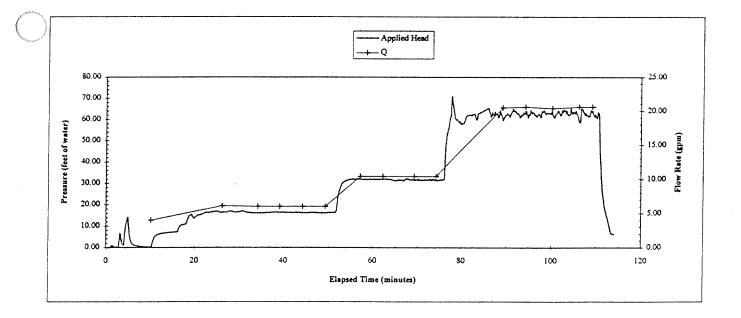
0[].1615-[14			ñ	Average Q (gal/min)		0.0 00.0	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	0.00	00.00 00.00 00.00	0.0	00.0 00.0 00.0	0.0	0.00	00.0	8.0	0.0	00.00	0.00
			5 Point Moving Averages	Δ time (minutes)		£0.0-	0.05 10.0	10:0- 00:0	000 E7 0	0.56 8.9	0.10 0.00	-0.21 -0.50	-0.55 -0.52	90.0- 22.0-	-0.17 2.12	01.0 01.02	90.0	-0.0 1
		40 (1) 739:47 78:47 78:45	5 Point M	Applied Head (feet of water)		-0.05 -0.05	40,0- 20,0- 20,0-	40.0- 20.0- 20.0-	0.00	0.18 0.35	92.0 82.0	97.0 27.0	0.61 0.49	0.36 0.28	0.24	0.16 0.16	0.15	61.0 11.0
		Hole depth (n) Hole depth (n) Above 230.00 Above 2 Below 290.00 Below 2 Vertical depth of bottom of interval (ft) 2	ges	Average Q (gal/min)	9.8 8	00°0	00.0 00.0	8 8 8 8	0.00 00.00	00 00 00 00 00 00 00 00 00	8 0 0 0 0 0 0	00.0	0.00	0.00	0.00	0.00	0.00	00.0
		Hole depth (N) Above Bakore Vertical depth of h	3 Point Moving Averages	A time (mins)	0.0	0.0 10.0	100	10.0	10 0	п, т, т,	9 1	-0.10 -0.31	8 Q Q	-0.12 -0.16	-0.10 -0.02	90.0	3.9	90°0
		er I: Trai Vertical Depth (f) He Above 239,97 Below 235,45 V	3 Point	Applied Head (feet of water)	1 0.0	1 0 10 10 10 10	20.0	10.0 10.0 20.0	0.03	0.14 0.33	0.73	0.87	8 1 1	61.U	0.22 0.18	0.17	0.13	619
		pack latio 0.00 iterv																
Comment		Test Type: Cosstant bead, Straddle, Gauge located downhole True vertical depth calcul Uole depth (ft) 23 Below 26 Below 26 Vertical depth of top of la		Q (gal/min)														
				Applied Head (feet of water)	-0.07 -0.04 -0.07	0.00 -0.05 -0.07	9 9 9 9 9 9 9 9 9	40.0- 20.0-	-0.05 -0.05	97.0 12.0	0.79 1.91	58'D	19.0	67.0	0.19	0.17	11.9	61.0
		inchea fect fect below top of casing fect below top of casing fect below top of casing fect below top of casing		Measured Head (feet of water)	0.0 0.0 0.0	0.00 -0.05 -0.07	9 9 2 2 2 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	40 °C	-0.02 -0.02	0.29	0.79 0.91	18.0	110	0.29	61.0	0.17 0.13	1.9	£1.0
	1e/CSSA	3.78 0.16 255.58 280.94 280.50 194.20 194.20		Elapsed time (minutes)	0.000 0.060 0.120	0.160 0.160	0.420 0.540 0.600	0.720 0.780	0.840 0.960 0.01	1.140	1.260 0.00 0.44	1.560	1.680	1.860	2.040	2.100 2.400	2.460	2.460
	Morrison-Malerle/CSSA Miner Flat 943-27691	251 3 14-Nov-95 Tap Bottom	12.05:48	time 3)	8 8 8 8	10:0	10:0 10:0	10'0	0.01 0.02 0.02	0.02	0.02 0.02	0.03	0.03 0.03	£0,0 £0,0	6.03	0.04 10,0	0.04	10.0
work	Client Site Project No.	Borchole Test Number Test Date Borchole diameter Borchole radius Test section location Lengh of test interval Gauge Depth Static Water Level	Start Time	Clock Time	12.05.48 12.05.52 12.05.55	12.06.06 12.06.10	12.06.13 12.06.20 12.06.24	12.06.31 12.06.35	12.06:38 12.06:46 12.06:49	12:06:56 12:07:00	12.07.04 12.07.11 12.07.14	12:07:22 12:07:25	12.07.29 12.07.36	12.07.40 12.07.47	12.07.30	12.07.54 12.08:12	12.08 16	12 08:16

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25103A.CHA, liqui Data

Plot data used in analysis

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
10.60	6.000
32.00	10.400
62.00	20.500



 Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

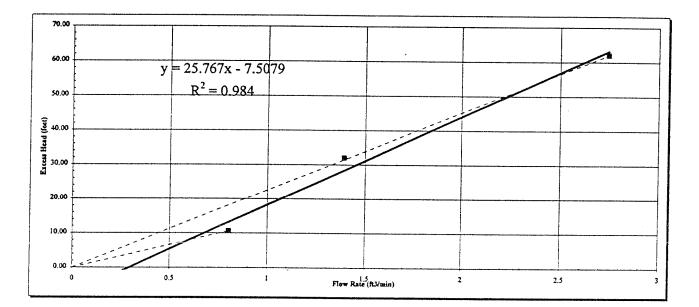
Borehole Interval Number

Plot data

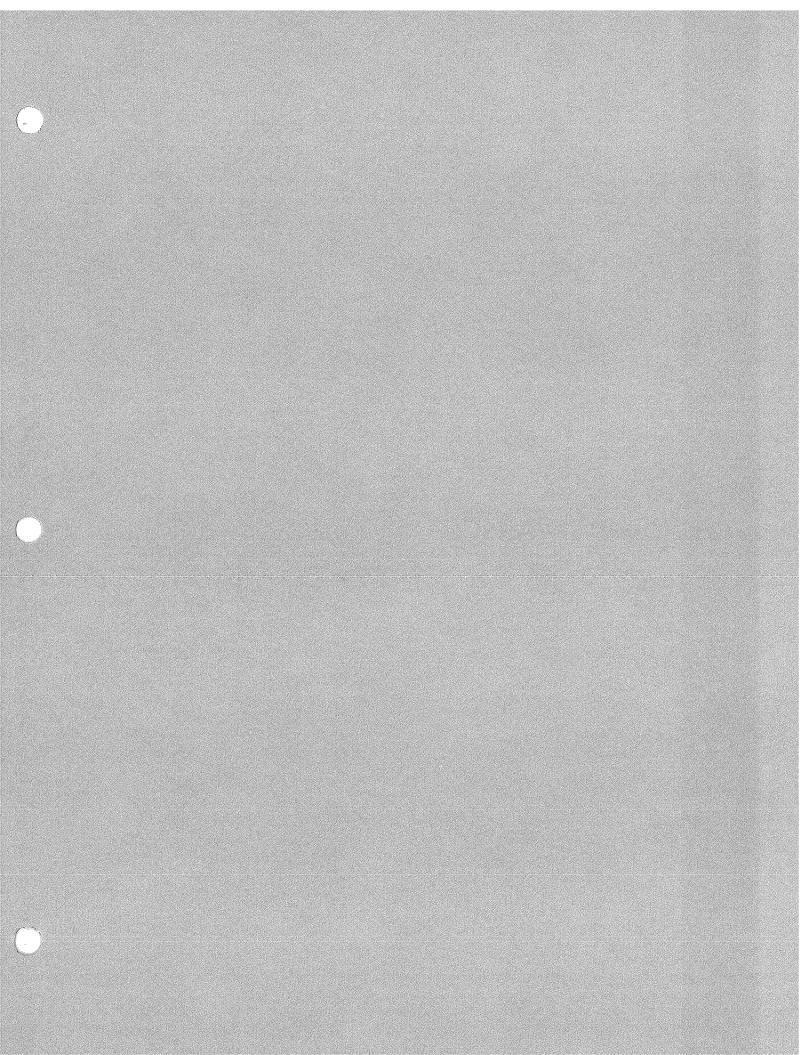
251

3

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
10.60	6.000	0.8022
32.00	10.400	1.3905
62,00	20.500	2.7409



K = 1/(2	2πL) x (Q/h _z) x ln (L/r)	Q = he = L =	K = hydraulic conductivity Q = Flow rate he = Applied head L = length of interval tested r = borehole radius								
Range of b	ydraulic conductivity										
K =	1.5E-03 cm/s 2.9E-03 feet/min	$Q = h_{\sigma} =$	0.963 10.60	ft ³ /min feet							
K =	8.6E-04 cm/s 1.7E-03 feet/min	Q = h _e =	3.291 62.00	ft ³ /min feet							
K =	6.3E-04 cm/s 1.2E-03 feet/min	Trendline SI	ope 25.77								



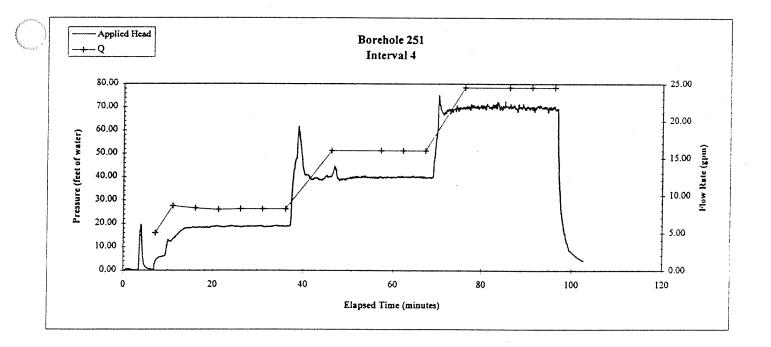
943-2791.130					Average Q (gal/min)			000	0.0	0 0.0	00.0	0.0	00.00	0.00	0.0	000	0.00	8.0	80.0	0.00	0.0	0 .0	00.0	0.00	0.00	0.00
$\left(\begin{array}{c} \\ \\ \end{array} \right)$				5 Point Moving Averages	∆ time (minutes)			(0:0	¥C 0	0.69	1 U U	0.45	0.06	9 9 9	90.0	-0.05 20.05	11.0-	-0.16 Al 0.4	-0.21	-0.16	0 IZ	9 9 7 7	-0.16	-0.16	01.0-	90.0 90.0
			cepth (N) 249.86 259.87 259.81	5 Point M	Applied Head (feet of water)			90.04 90.04	10.0	0.14 0.29	0.45	80'0	0.71	0.70	0.68 2 2 2	90 D	0.62	0.59 0.54	05.0	0.46	0.18	0.34	100	0.27	67.0	0.20
		Rotton of Intervel	Vertical depth (r) 250.00 a laterval Above 250.00 Above 21 Babov 250.00 Babov 21 Vertical depth of bottoms of laterval (r) 22 Vertical depth of bottoms of laterval (r) 22	3	Average Q (gal/min)		0.00	000 000	0.00	00.0	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00 0.00	00.0	0.0	8.0 8.0	0.0	0.00	0.0	0.00	8 8 8
			Hole depth (f) Above Balov Vertical depth of bo	3 Point Moving Averages	Δ time (mins)		0.02	10.0	0.10	65.0	4C.0	, 0.06	0.00	80.0 80.0	30.0- 20.0-	50.0-	18 X	9 9	0.10	1.9	8.0 8.0	0.10	-0.16	-0.0¢	0000	9 0.0
			Vertical Depth (f) E Above 229.9 Bolow 239.88 al (f) 230.46 V	3 Point	Applied Head (feet of water)		90 .0	1 10 10 10	20.0	0.29	0.51	0.70	0.72	0.70	890 990	9.0	0.62	0.55	0.50	0.45	95.0	97.0	0:30	0.15 22.0	17.0	8
para -		nddle packer nhole a calculation: Too of faterval	210.00 Above 210.00 Above 240.00 Below op of interval (ft)						•							1911 - 1 1911 - 1 1911 - 1			91		1					
		Teil Type: Constant baad, Synddle packer Guuge bozaed dewnhole True vertical depth calculation: Too of fakery	Haie depth (ft) Vertie Above 230.00 Above Below 240.00 Below Vertical depth of top of interval (ft)		Q (gal/min)			- 14. 																		
					Applied Head (feet of water)	98.0 93.0	-0.07	01.0	90 GP	0.27	0.59	0.72	0.72	0.72	28.00 28.00 29.00		0.60			0.39	60.0	0.39	0.29	0.23	570	
	-	inches foct	fect below top of casing fect below top of casing fect fect below top of casing fect below top of casing		Mcasured Head (feet of water)	90.0- 90.0-	-0.07 -0.03	01.0-	90.0- 10.0-	0.27	4C m	0.72	0.72	0.72	8 800 9900	0.66	0.61	0.55	0.50	603	65.0	6:0	0.29	0.23	120	0.19
	rle/CSSA		230.58 255.94 25.36 194.20 109.60		Elapsed time (minutes)	0.000 0.060	0.120	001.0	0.360	0.540	0.720	0.780	096.0	1.020	1.100	1.260	0171 1410	1.560	1.620	001	1.860	1.960	2.040	2.400	2.460	2.520
ĩ	Morrison-Malerle/CSSA Miner Flat 943-27691	251 4 14-Nov-95	Tep Bollom	14,18,51	Elapsed time (hours)	0010	00:0	10.0	10.0	10.0	10 0	10:0	0.02	0.01	0.02	0.02	0.02	0.03	0.03 70.0	10 0	0.03	[0] 0	000	10.0	10.0	1 0.0
1/10/20	Client Site Project No.	Borchole Test Number Test Date Borchole diameter Borchole radiu	Terl action location Length of teal interval Gauge Depth Static Water Level	Geacral Lithology Sandstone Start Time	Clock Time	N41851 N41855	14:18:58 14:19:02	14.19.09	14.19.16	[7,6].4] 72,6].4]	14.19.34	14.19.38	14.19.49	14,19:52	14.20.03	14.20.07	14.20.17	14:20:25	14:20:28	14:20:39	14.20.43	14:20:50	14 20 33	M.21.15	14:21:19	N-21-22

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25104A CHA, Jupui Data

Plot data used in analysis

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
19.00	8.000
40.00	16.000
* 70.00	24.500



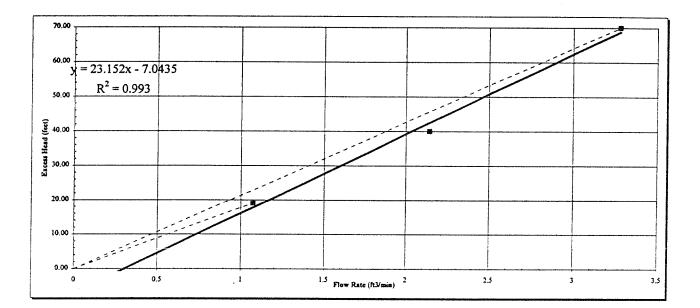
Ŷ.	Client	Morrison-Maierle/CSSA
÷	Site	Miner Flat
	Project No.	943-27691
	Borehole	251

Borenole	
Interval Number	

Plot data

4

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
19.00	8,000	1.0696
40.00	16.000	2.1392
70.00	24.500	3.2757

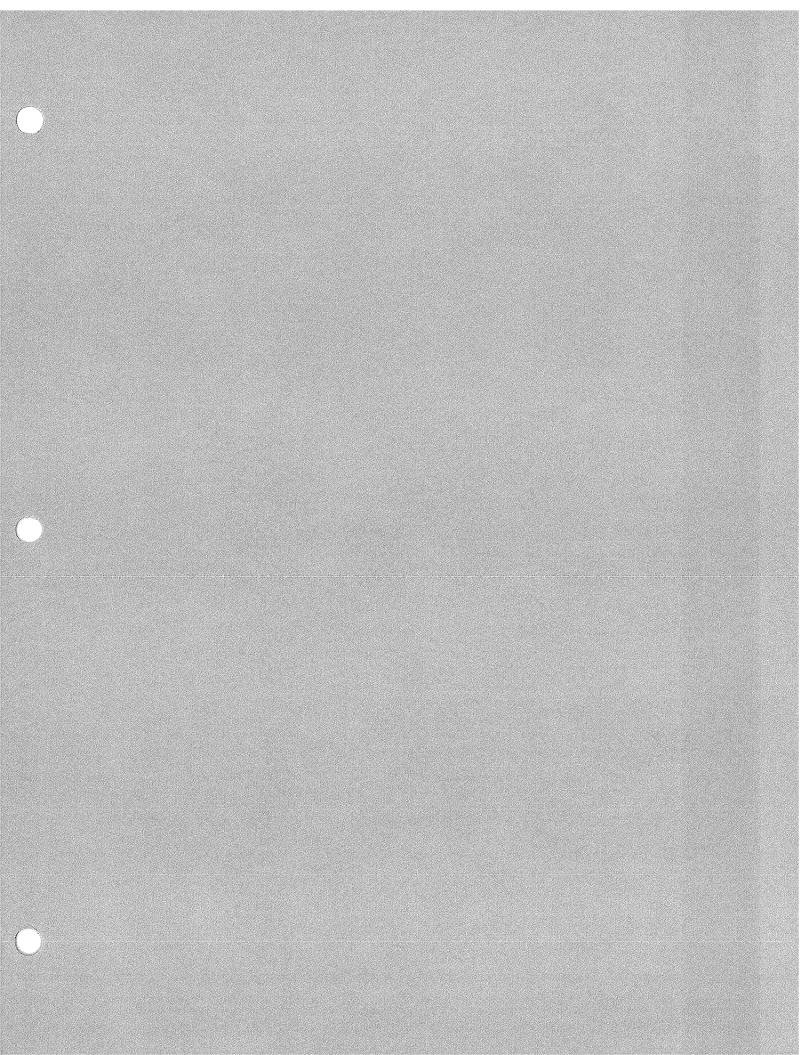


K = hydraulic conductivity (feet/min)

K = 1/(2πL) x (Q/h _e) x ln (L/r)	Q = Flow he = App L = lengt r = borehe	(ft ³ /min) (feet) (feet) (feet)		
Range of I	hydraulic conductivity				
K =	1.1E-03 cm/s 2.2E-03 feet/min	Q = h _e =	1.284 19.00	ft ³ /min feet	
K =	9.1E-04 cm/s 1.8E-03 feet/min	Q = h _e =	3.933 70.00	ft ³ /min feet	
K =	7.0E-04 cm/s 1.4E-03 feet/min	Trendline Slope	23.15		

25104A.CHA, K calculation

Page 1 of 1



inches feet feet below top of cauing feet belo

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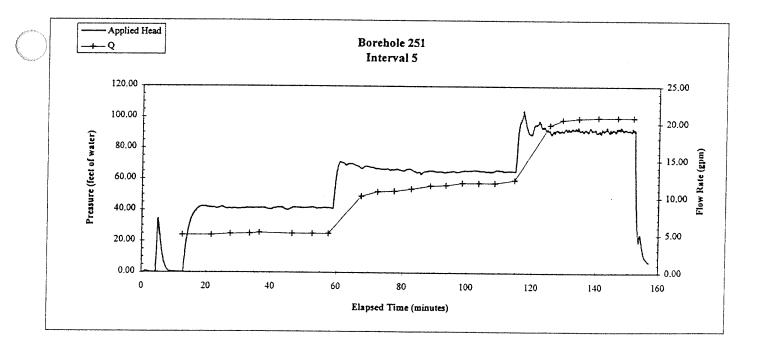
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Golder Associates

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Plot data use	d in analysis
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
41.50 65.00	5.200 12.000
92.00	21.000



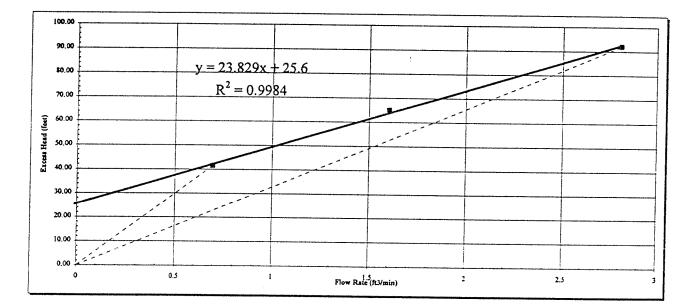
 $\left(\begin{array}{c} \end{array} \right)$

	Client	Morrison-Maierle/CSSA
ŝ	Site	Miner Flat
	Project No.	943-27691

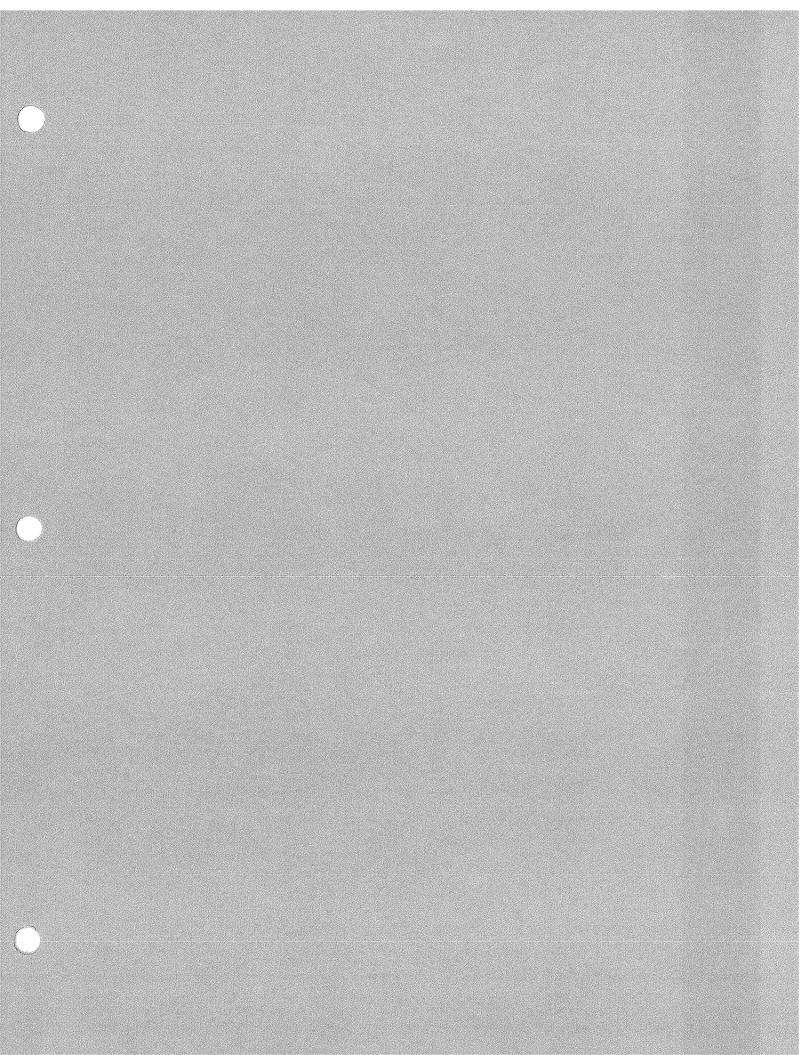
Borehole251Interval Number5

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
41.50	5,200	0.6952
65.00	12.000	1.6044
92.00	21.000	2.8077



K = 1/(2πL) x (Q/h _e) x ln (L/r)	K = hydraulic conductivit Q = Flow rate he = Applied head L = length of interval testo r = borehole radius	(ft ³ /min) (feet)
Range of l	ydraulic conductivity		
K =	3.3E-04 cm/s 6.4E-04 feet/min	$Q = 0.835 \text{ ft}^3/\text{min}$ $h_e = 41.50 \text{ feet}$	1
K =	5.9E-04 cm/s 1.2E-03 feet/min	$Q = 3.372 \text{ ft}^3/\text{mir}$ $h_e = 92.00 \text{ feet}$	I
K =	6.8E-04 cm/s 1.3E-03 feet/min	Trendline Slope 23.83	



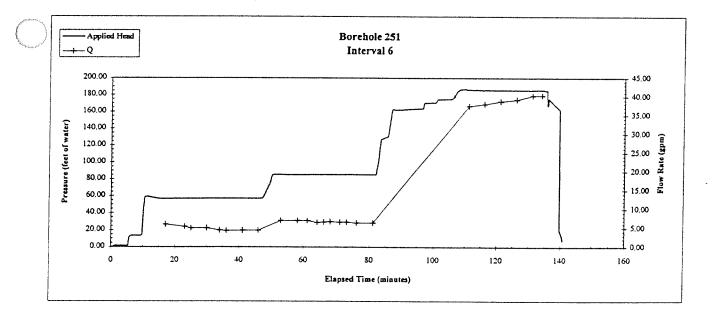
0E1.1475-EM							Average Q (sal/min)				00.0	00.0	00:00	8	0.00	0.00	0.0	0.00	0.00	800	0.00	00.0	0.00	0.0	800	8.9	00.0	0.00	0.00	0.00	0.00
						5 Point Moving Averages	∆ time A (minutes) (.00	50.07	0,00	90.0	0.66	1.13	1.1	36.0	0.55	0.49	90.0	0.02	0.04	0.00	000	0.0	000	0.00	10:0	0 00	10.01	-0.06 10.0-
			th (ft) 209-89	211,33		5 Point Me	Applied Head (feet of water)				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	60.0-	0.0	0.12	50.0	0.58	611	90.1	1.49	161	1.64	1.65	1.65	1 91	19	1.64	1.64	1.63	1.64	(9) (1	1.61
		,	Bottom of laterval Vertical Depth (ft) 210.00 Above 2 210.00 Above 2				Average Q (gal/min)			00.0	0.00	0.00	00.0	00.0	0.00	00.0	0.00	0.00	00.0	0.00	0.00	0.00	000	000	0.00	0.00	0.00	0.00	0.0	0.0	0.0
			Hole depth (ft) Above Refere	Vertical depth of bottom of laterval ((t)		3 Point Moving Averages	Δ time A (mins) (ł	10.0	0.00	-0.0 <u>7</u>		0.17		0.51	0.41	0.47	0.02	0.03	10,0	8 2		800	-0.0 3	10.0-	0.05	0.01	1 0.0	10.04	8.9
			erval Vertical Depth (ft) H. Above 119.9 Below 189.99			3 Point	Applied Head (feet of water)		500	10.0-	-0.03	-0.02 5 2 4	5 5	10.0		0.94	124	3	191	1.64	2	1.65	165	1.65	1.64	1.63	1.63	1.65	2	162	1.62
	Teit Type: Control bood Straddl, archee	Gauge located downhole True vertical depth calculation:	Top of inte 180.00 190.00	Vertical depta of top of laterval (ft)			Q (gal/min)															· · · · · · · · · · · · · · · · · · ·									
	Test Type: Contrast b	Gauge la True vei	Hole depth (A) Above Below	Vertical			Applied Head (feet of water) (g)		10.0-			300		10.0				8 9		1.61	59 J	3 3	1.65				1.04				
		inch e	feet feet below top of caaing feet below top of caaing feet	feet below top of casing feet below top of casing			Measured Head (feet of water)	10.0-	10.0- 00.0	10.0-	0.01	5.7	10:0-	10 .0	0.62	1.09	1.12	2 1 8	161	191	1.66	1 66	1.65	1.66	1.65	93 I	151	165	1.61	1.64	161
	le/CSSA			174.70 fo 169.60 fo			Elapsed time (minutes)	0.000	0.120	0.130	00£.0 036.0	07470	0.540	0.600	0.780	0.840	0.900 1.020	0+1-1	1.200	1967	1.440	1.560	1.620	1.680	1.000	1.800	2.040	2 100	2.220	2.280	2.340
	Morrison-Malerie/CSSA Miner Flat 943-27691 251 6	15-Nov-95	Top Bottom			13:13:53	Elapsed time (hours)	000	000	00.0	10.0	10.0	10.0	10.0	10.0	10.0	0.02	0.02	0.02	0.02	0.02	0.03	6.03	0.03	100	(0)0	0.03	0.04	0.04	10.0	10:0
()	Client Site Project No. Borchole Test Number	Test Date Borchole diameter	Test section location Length of test interval	Static Water Level	General Lithology Sandstone	Start lime	Clock Time	13:13:53 13:13:53	13:14:00	13:14:04 11:4:41	12:14:15	13-14-18	13.14.25 13.14.25	10 H 30	13.14.40	0.440	11454	13:15.01	13.15.05	01.01.01	91:01:01	13.13.27	13:13:30	15151	0.0.6	10.15.52	13:15.55	13.15.59	13:16:06	0131.01	13.16.13

Golder Associates

25106A.CHA, liqui Data

Plot data used in analysis

Applied Head	Flow Rate (Q)						
(feet of water)	(gal/min)						
57.50	4.300						
85.00	6.500						
185.00	40.500						

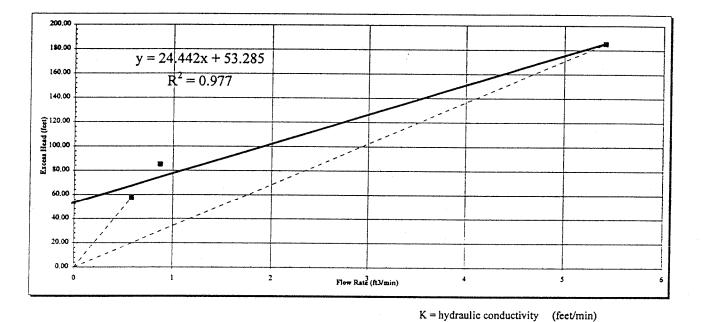


े с	lient	Morrison-Maierle/CSSA
/ S	ite	Miner Flat
P	roject No.	943-27691
B	orehole	251

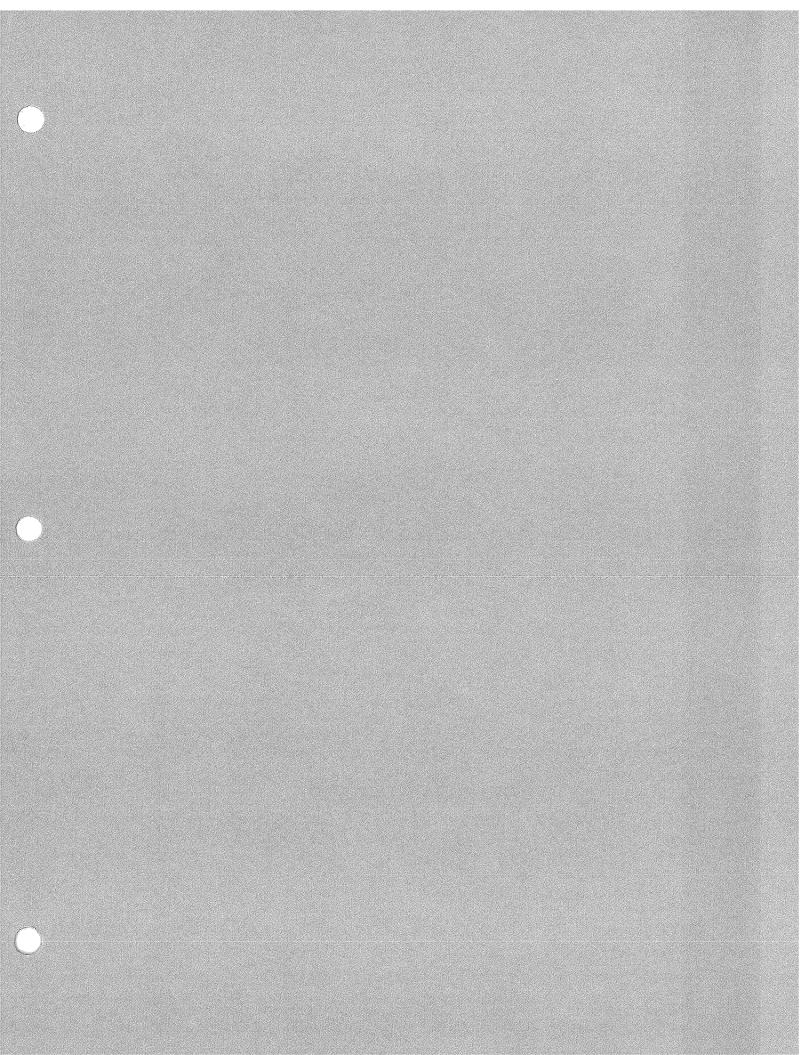
Borehole Interval Number

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
57.50	4.300	0.5749
85.00	6.500	0.8691
185.00	40.500	5.4149
57.50 85.00	4.300 6.500	0.5749 0.8691



K = 1/($(2\pi L) \times (Q/h_e) \times \ln (L/r)$	Q = Flow he = App L = lengt r = boreh	(ft ³ /min) (feet) (feet) (feet)		
Range of l	bydraulic conductivity				
K =	1.9E-04 cm/s 3.8E-04 feet/min	$Q = h_e =$	0.690 57.50	ft ³ /min feet	
K =	5.7E-04 cm/s 1.1E-03 feet/min	Q = h _e =		ft ³ /min feet	
K =	6.6E-04 cm/s 1.3E-03 feet/min	Trendline Slope	24.42		

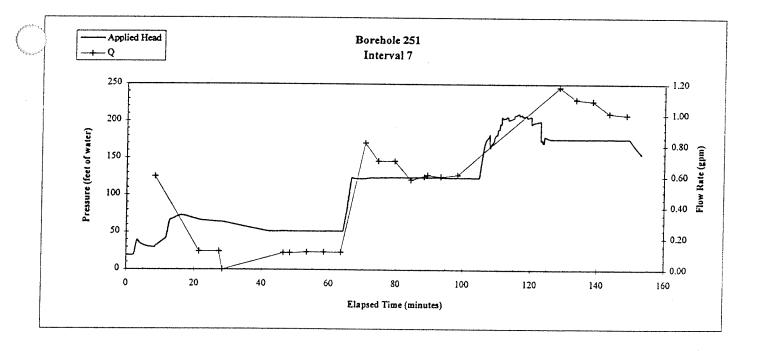


					and the second sec					$\sum_{i=1}^{n}$	0(1.1675-646
Mor Min 943.	Morrison-Malerle/CSSA Miner Flat 943-27691	Malerte/CSSA									
251 7 15-No	251 7 15-Nov-95				Test Type: Coastant head, Straddie packer Gauge located downhole						
Borehole diameter Borehole radius Test section location	2	3.78 0.16 161.08	inches foct foct below top of casing	г и	True vertical depta calculation: Top of laterval Hole depth (ft) Ver	al ertical Depth (fi	Hole depth (ft)	Bottom of Interval Vertical I	interval Vertical Deoth (M)		
Length of test interval Gauge Depth Static Water Level	Bolios	186.44 25.36 154.70 169.60	feet below top of cauing feet feet below top of casing feet below top of casing	~ # •	Above 160,00 Above Below 170,00 Below Vortical Analth of tan of Learners (A)	Above 159,9	Allove	Above 190.00 Above 190.00 Below	9.91 189.89		
			•		a range sa das sa salam mana a	66'na1 (11) w	V GFUCAI GEPHA GI	veruesi deput di bollom di interval (11)	146.33		
-	15:51:37				-	3 Po	3 Point Moving Averages	5 3 8	5 Point M	5 Point Moving Averages	
	Elapsed time (hours)	Elapsed time (minutes)	Measured Head (feet of water)	Applied Head (feet of water)	Q (gaUmin)	Applied Head (feet of water)	Δ time (mins)	Average Q (gaVmin)	Applied Head (feet of water)	Δ time (minutes)	Average Q (gal/min)
	0.00	00000	0.0	19,06				!			
	80 O	0.000	0010 0010	19.06 19.06		50 61 10	2	ŝ			
	00.0	011.0	0.0	19.06		90.61	00'0	00.0	90.61	00.0	00.0
	10.0	0.360	00.0	90.61 19.06		30.61 X0.61	8.9	0.0	30.91 20.01	0.0	0.00
	10.0	0.420	00.0	19.06		20.61	89	0.0	20,21 20,61	10.0-	0.0
	10.0	0.600	-0.02 -0.03	10.61 10.91		10.61	-0.03	0.00	10.61	£0 0-	0.00
	10.0	0.720	[0,0-	19.03		10.41 10.41	10 9	000	19.04 10.01	(0:0-	0.00
	10.0	0.740	(0).0- 20 0	E0.61		£0-61	8.0	00.00	60'61	10 m	0 00
	0.02	0.960	600-	19.01		10.61	0.0	0.00	19.03	00.00	0.00
	0.02	1.020	(0) 0			60.41 10.61	8.9	90.0 52	E0.61	00.00	0.00
	0.02	0+1-1	0.0-			to.61	8	0.00	50'61	0.00	00.0
	0.02	007.1	(0.0) 0.00			10.61	0.03	0.00	19.04	0.01	00:0
	0.02	01121	000	19.06		20.61 20.91	0.0	0.00	19.04	0.03	0.00
	0.02	1.440	00.00			30.61	80	000	19.05	() 0 ()	0.0
	£0.0	0051	0.00			19.06	0.0	0.00	90.61	00.0	8.0
	60 D	1.620	000			19.06	0.00	0.00	19.06	0.00	0.0
	[0]0	1 740	N 010	90.61		19.06	0.00	00.00	19.07	90.0	00.0
	0.03	1.860	0.05	907-61 11-61		90.61	9.0	08.0	60.61	0.11	0.00
	6.03	1.940	11.0	19.17		19.11	11.0	8 8	11.61	0.12	0.00
	0.03	2.040	0.12	19.12		81.61 11.61	0.01	000 000	19.14 19.17	0.13	0.0
	6.04	2.100	0.13	19.19		19.18	10'0	000	19.77	10.0	8.8
	10.0	2.220	0.13	19.19		10.91	0.46	00.0	02.61	2.12	8
	10.0	2.280	0.38	19.61		20.04	2.12	00.00	20.41	35.6	800
	50	1.540	174	01 IC							

Ooklor Associates

23107A CHA, liqui Data

Plot data used	l in analysis
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
50.00	0.110
125.00	0.600
175.00	1.000



C:

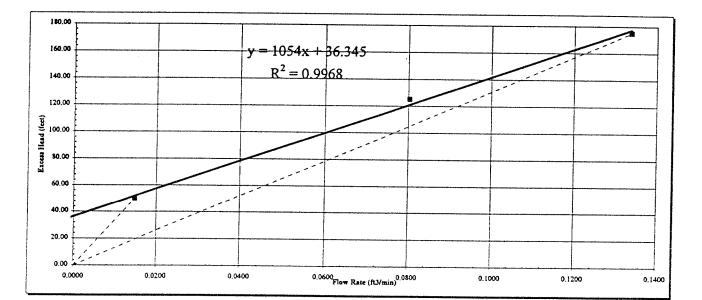
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole Interval Number

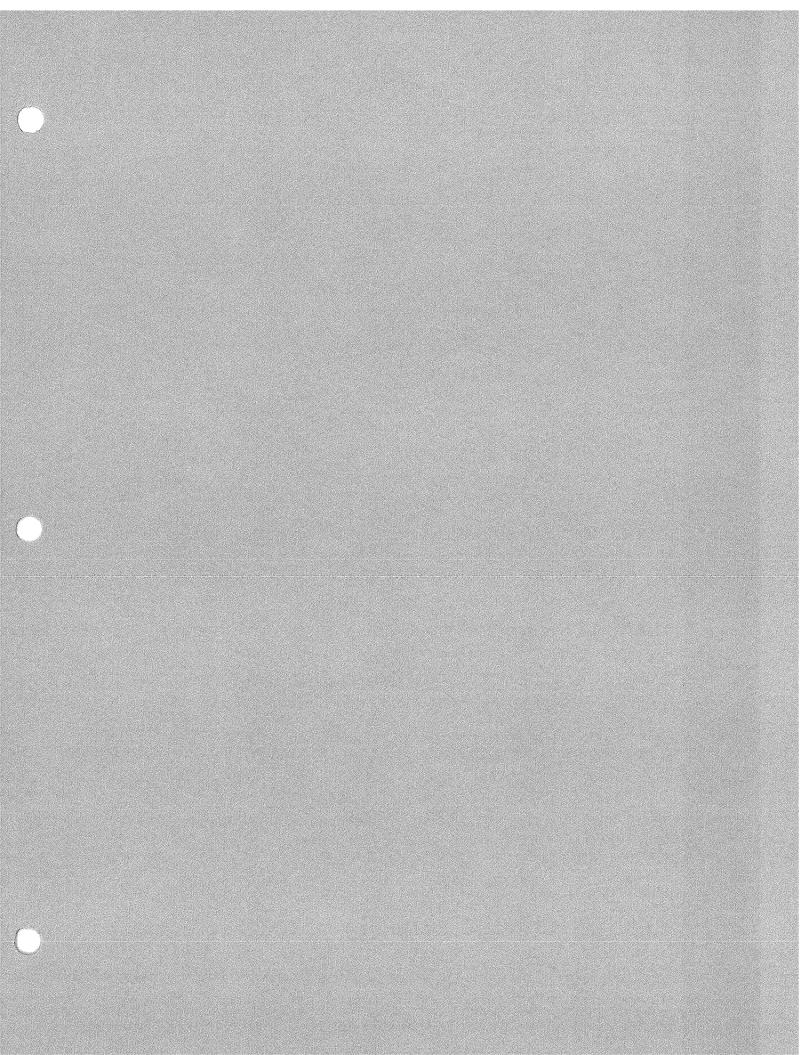
Plot data

251

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gai/min)	(ft ³ /min)
50.00	0.110	0.0147
125.00	0.600	0.0802
175.00	1.000	0.1337
	¥	



K = 1/($2\pi L$) x (Q/h _e) x ln (L/r)	K = hydraulic conductivity(feet/min)Q = Flow rate (ft^3/min) $h_e = Excess head$ (feet) $he = Applied head$ (feet) $r = borehole radius$ (feet)
Range of l	bydraulic conductivity	
K =	5.7E-06 cm/s 1.1E-05 feet/min	$Q = 0.018 \text{ ft}^3/\text{min}$ $h_e = 50.00 \text{ feet}$
K =	1.5E-05 cm/s 2.9E-05 feet/min	$Q = 0.161 \text{ ft}^3/\text{min}$ $h_e = 175.00 \text{ feet}$
K =	1.5E-05 cm/s 3.0E-05 feet/min	Trendline Slope 1054.00



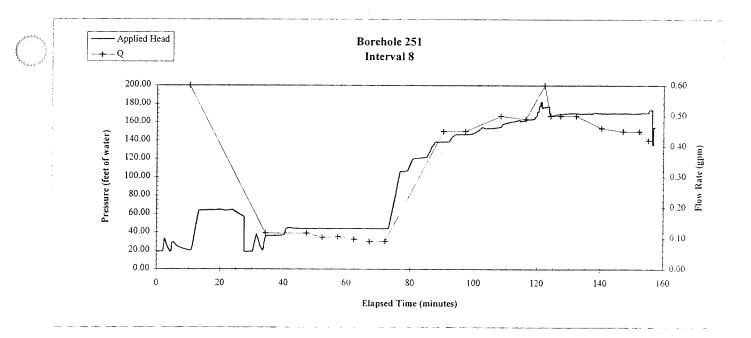
0(1,1672-646					Average Q (gal/min)			00.00	00.00	0.0	0.00	0.0	0.00	0.00	0.00	0.00	000	00.0	00.0	0.0	000	0.00	0.00	0.00	0.0	000	00.0	0.00
				5 Point Moving Averages	Δ time (minutes)			00:0	0.0	000	000	10.0	0.00	0.05	90.0	0.16	0.16 0.16	90.0	0.00	10.0	500	((,)	1.09	1.17	8 5	18.5	10.59	10.06
		bepth (f) 139.9 1669	+C191	5 Point M	Applied Head (feet of water)			19.06	19.06 19.06	19.07	30.91 30.91	19.06	19.07	19.05	19,09	[1.6]	19.20	15.21	19.24	19.24	19.22	16.61	19.52	67.61 11.04	21.62	11	25.50	16.12
		Bottom of interval Vertical Depth (n) Above 1 170,00 Bedow 1	Vertical depth of bottom of laterval (ft)	121	Average Q (gal/min)		0000	0.00	00.0 00.0	00.0	0.00 00.00	0.00	0.0	90.0 00.0	00.0	0.00	0.00	0.00	0.0	00.0	0.00	0.00	0.0	00.0	0.00	0.00	0.00	00'0
		Hole depth (f) Abore Below	ertical depth of l	3 Point Moving Averages	Δ time (mins)		00.0	10 10	B) ()	0.00	0 00 0 00		10.0	6.05	00.0	0.01 0.17	0.16	0.0	60.9 6	50.0	5.9	10.0	979	1.01	8	4.72	28'S	5.87
		er in: Tral Vertical Depth (f) H Above 1299	135.96 V.	3 Point	Applied Head (feet of water)		19.05	T0.61	19.07	90.61	10.61	19.07	19.05	19.00	01.61	01.61 81.91	19.21	19.26	17.91	17.61	19.24	19.23	17.91	20.17	21.07	22.74	25.24	28.21
		Ype: ant beed, Syraddle pack e located dewnhole vertical depth calculatio Top of lat kpth (1) 13000 14000	Vertical depth of top of interval (ft)	 A statistical statist Statistical statistical statisteps atatistical statistical statistical statistical statisti	Q (gal/min)																• • • • • • • • • • • • • • • • • • •							
		Test 7 Const Gauge Gauge True Hole c	Ve		Applied Head (feet of water)	19.10	50.61 50.61	19.05 19.09	19.05	19.06	60.61	19.05 19.05	19.06	19.09	11.61	11.61	19.26	19.27	11.61	19.26		19.23				22.29	25.32 21.12	
		inches fect fect below top of casing fect below top of casing fect below ton of casing	foot below top of casing		Measured Head (feet of water)	10 0 10 0	10.0	10.0	10:0-	0000	0.03	10:0-	01.0	£0.0	60.0 (0.0	0.05	97.0	67 D	0.11	0.20	910	0.15	0.53	1.25	¥.1	8	61.0 63.9	
	rte/CSSA	3.78 3.78 0.16 136.08 161.44 25.36	169.60		Elapsed time (minutes)	0000 09000	0.120	0.300	0.360	0.720	0,700	048.0	0.900	0.960	1.140	1.200	1.260	1.440	1.360	1.620		1.860	1.980	2.040	2.100	2.220	2.400	
	Morrison-Malerle/CSSA Miner Flat 943-27691	251 8 16-Nov-95 16-Nov-95 Bottom		а. ВНССОД	Elapsed time (hours)	0.00	0.0	10.0	10.0	10:0	10.0	10.0	0.02	0.02	10.0	0.02	0.02	0.02	0.03	0 O	(0 0	60.0	0.03	60.0	1 0'0	100	90.0	
Autor	Client Site Project No.	Borchole Test Number Test Date Borchole diameter Borchole radius Teti section location Length of test listerval Gauge Depth	Static Water Level General Lithology	Sandsione Start Time	Clock Time	8:57:48 8:57:52	8.37.55 II 57 54	B 58.00	8.58.10 8.14.13	10.86.8	8:58:35 1: 41-14	BC.35.3	1.58.42	8.58.46 8.58.44	8,58,56	8:59.00	11.45.4	8:39:14	¥:59:22	8.59.25 E 14 24	96,96,8	8.59.40	E.59.47	8.59.50	8:56:34 9 00:01	10:00'6 \$0:00'6	9.00.12	

Ookdoor Associates

25108A CHA, liqui Data

Plot data used in analysis

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
45.00	0.090
170.00	0.400



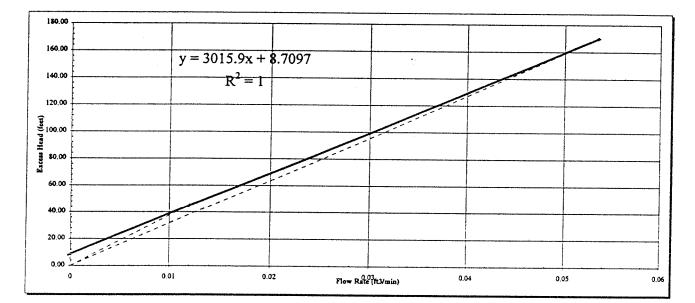
- Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691
Borehole	251

Borehole Interval Number

Plot data

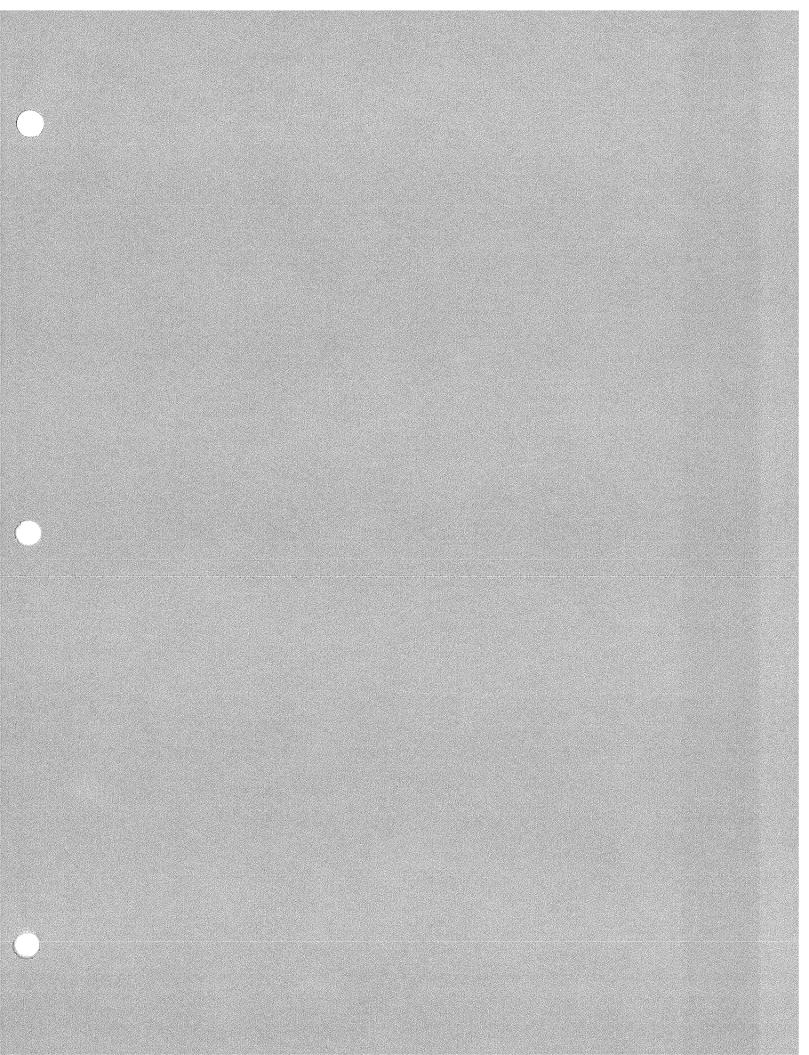
8

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
45.00	0.090	0.0120
170.00	0,400	0.0535



K = 1/($2\pi L$) x (Q/h _e) x ln (L/r)	$Q = Flow$ $h_e = Exce$ $he = App$		·	(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of l	hydraulic conductivity				
K =	5.2E-06 cm/s 1.0E-05 feet/min	Q = h _e =	0.014 45.00	ft ³ /min feet	
K =	6.1E-06 cm/s 1.2E-05 feet/min	Q = h _e =	0.064 170.00	ft ³ /min feet	
K =	5.4E-06 cm/s 1.1E-05 feet/min	Trendline Slope	3015.90		

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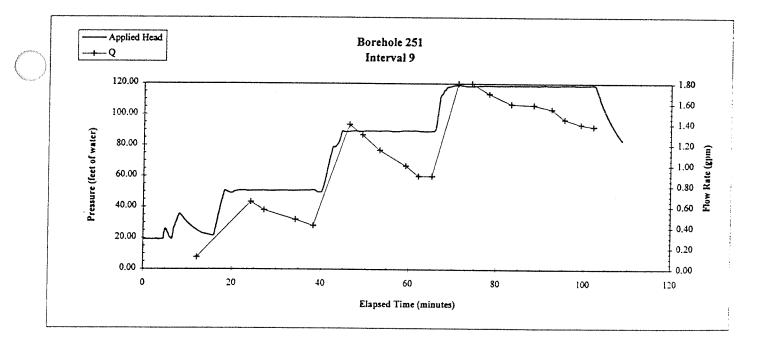
061.1975-648							Average Q	(gal/min)			0.00	0.00	000	0.0	0.00	8.0	0.00	0.00	0.00	8.0	00.0	0.00	00.0	0.00	000	0.00	0.00	0.00	0.00	0.00	0.00	0000
						5 Point Moving Averages	∆ time	(minutes)			10.0	[0]0	(0) 100	60.0	10.0-	0000	10.0-	0 02	10.02	0.02	0.0	0.02	0.00	10.0	0.07	0.03	0.00	. 10.0-	-0.07	£0.0 .	(0.0- 0.02 0	0.00 90.0
			liaterval Vertical Depth (ft) Abore (139.9)	139.92	136.36	5 Point M	Applied Head	(ICCL OF MEICL)			19.05	19.08 19.06	60'61	19.10	19.10	11.61	11.61	11.61	19.11	11.61	11.61	11.61	19.12	11.61	19.14	19.15	19.16	51.61	51.41 51.51	[].[] [] e i	19.13 19.17	71-61 51-61
			Bottom of 130.00	140.00 Bolow	(II) INFERIOR BI DECEMBI (II)	1	Average Q (sal/min)			00'0	0.00	00.0	0.00	0.0	0.00	0.0	0.00	000	0.00	0.00	0.00	8.0	000	0.0	0.00	0.00	0.0	00.0	0.00	0.00	00.0	000
			Hole depth (f) Abore	Bickow and a family for the		3 Point Moving Averages	∆ time (mine)	Ì		10.0	8.3	6.01	0.03	0.00	10.0	10.0	10.0	10.0- 10.0-	00.00	10.0	0.02	10.0-	10.0	0.03	0.03	0.04	8 2		100	0.0	0.0	00.0
			, ⁴	10.44 V		3 Point	Applied Head (feet of water)	•		19,08	10.41 10.01	60.61	19.10	11.41	19.10	19.11	01.91	11.61	19.10	11.61	11.61	21.21	19.12	19.13	19.14	19.16	19.16	11.61	[].6]	19.12	19.12	19.12
		addle packer. Bbole	i calculation: Top of interval tito, Above tito, Above	of interval (ft)													siy.			·		×								5.1g+		- 241
$\langle \rangle$		Test Type: Constant bead, Straddle packer Gauge located dwahole	True vertical depita calculation: Top of latery Vove apth (f) Vove 1000 A	Vertical depth of top of interval ((t)		- - -	Q (gal/min)			- 17 - 1 - 17 - 17 - 17																						
							Applied Head (feet of water)	19.07	19.07	19 07	19.07	60 61	01.91	19.10	11.21	19 CA	19.10	19.10	11-61	01.41	19.12	11.61	19.12	19.12	61.61 51.91	19.19	21.61	19.15	19.12	19.12	19.12	19.12
			inches foot foot foot below top of casing foot below top of casing	fect below top of caring fect below top of caring			Measured Head (feet of water)	10.0	10'0	0.01	10:0	0.03	90.0	H 0:0	0.05	0.05	0.04	0.04	0.03	20.0 20.0	0.0k	0.05	90.0 201	90.0 90.0	60.0	6.13	0.09	60.0	0.06	0.06	90 G	90.0
	1e/CSSA			104.70			Elapsed time (minutes)	0.000	0.060	0.140	0.300	0.360 0.420	01-5-0	0.600	0.720	0.840	0.960	1.040	1.140	1.260	086.1	1.440	1 670	1 680	1.800	1.860	1.920	2.040	2.100	2.220	042.2	P
	Morrison-Maierle/CSSA Miner Flat 943-27691	251 9 16-Nov-95	Top Bottom			11:37:49	Elapsed time (hours)	0.00	0.0	0.00	(0)0	10.0	0.01	10.0	10.0	10.0	0.02	0.02	0.02	0.02	0.02	20.0	£0:0	0.01	0.03	0.03	(0.0 10.0	100	100	100	10.0	
W.nc/L	Client Site Project No.	Borchole Test Number Test Date	Borebole diameter Borebole radius Test section location Length of test interval	vauge Depth Static Water Level	General Lithology Sandstone	Start Time	Clock Time	11:57.49	11.37.56 827.511	11.58,00	11:58.07	113611	11:58:21	11.54.25	11.5836	9E(\$6)11	11:54:47	11:54:54	10.45.11	11:59:05	11:59:12	12,45,11	11.59.26	00.92.11	11.42.11	11.59.41	12.92.11	11-59-51	12:00:02	12.00.06	12.00.09	

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Plot data used in analysis

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
50.00 90.00 119.00	0.400 0.900 1.400



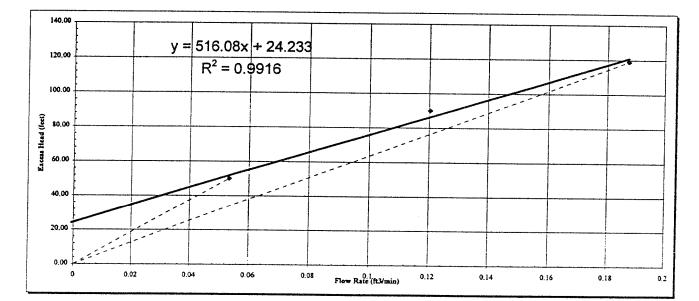
Client	Morrison-Maierie/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole 251 Interval Number

Plot data

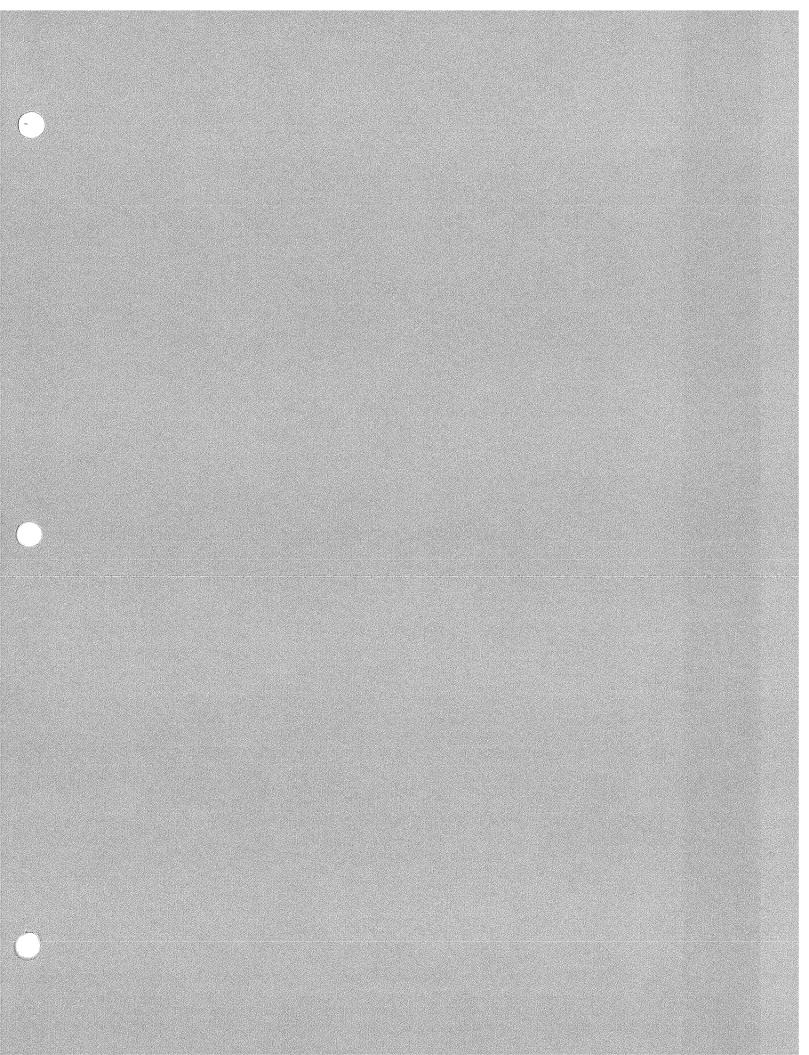
9

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
50.00	0,400	0.0535
90.00	0.900	0.1203
119.00	1.400	0.1872



K = 1/($(2\pi L) \ge (Q/h_e) \ge \ln (L/r)$	$K = hydrQ = Flowh_e = Excrhe = Appr = boreh$	(feet/min) (ft ³ /min) (feet) (feet) (feet)		
Range of I	bydraulic conductivity				
K =	2.1E-05 cm/s 4.1E-05 feet/min	Q = h _e =	0.064 50.00	ft ³ /min feet	
K =	3.1E-05 cm/s 6.0E-05 feet/min	Q = h _e =	0.225 119.00	ft ³ /min feet	
K =	3.1E-05 cm/s 6.2E-05 feet/min	Trendline Slope	516.08		

C

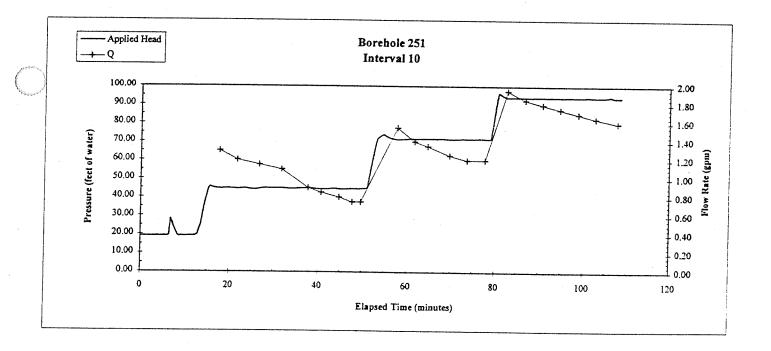


0111612-146			Average Q (gal/min)			0.0	000	0.00	0.0	800	0.00	0.00	0.00	000	0.00	00.0	0.00	0.00	000	0.00	0.00	0.00	0,00	00.0	00.0	8.0	800
		5 Point Moving Averages	∆ time (minutes)			1 0'0	00.0	0.04	00.0	800	10 0	1 0'0	00.0	8.0	0.00	19 17	0 00	0.0	10.0	10.0	0.00	0.00	0 00	100	00.0	000	8 8
	iaterval Vertical Depth (1) Above 109.94 Below 119.94	5 Point M	Applied Head (feet of water)			30.61	90.61 90.61	30.61	30. 21 70.21	19.01	19.07	19.07	19.01	19.01	30.61	19.04	19.04	30.91	19.05	19.07	19.07	19.07	19.07	19.07	19,04 19 fac	19.00	10.61
	Hole depth (ft) Above active Above 110.00 Above Below 120.00 Below	2	Average Q (gal/min)		0,00	0.0	0000	0.00	90.0 90.0	00.00	0.00	0.00	800	0.0	0000	0:00	0.00	000	0.00	0.00	0.00	00.0	0.0 0.0	000	00.0	000	000
	Hole depth (f) Abore Bdow Voorteal deevth of h	3 Point Moving Averages	∆ time (mins)		0.00	8.9	9.05	\$0.0	10 Q	0.01	0.04	00.0		0.0	00.0	0.0	10.9 20.9	10.0	0.0	0,00	10.0	00:00	100		80.0	00'0	0.00
	1 Depth (f) 80.0 85.55	3 Point	Applied Head (feet of water)		19.04	90.61 19.05	20.61	19.06 20.01	19.04	90.61	19.06	19.06	19.05	10.01	19.04	10.61	10.61 10 Pt	19.01	19.06	30.61	19.07	19.07	10.41	19.06	19.06	19.04	19.04
\bigcirc	Straddle pack downhole ppth calculatio Top of lat 80,00		Q (gal/min)													•							1				
	Test Type: Test Type: Constant head, Gauge located True vertical d Hole depth (ft) Below Vertical depth		Applied Head (feet of water) (g		19.08 19.08			19.05			19.01 14.14					19.04						19.64 19.01			80.41	19.01	19.08
	inches feet feet below top of casing feet below top of casing feet below top of casing feet below top of casing		Measured Head (feet of water)	-0.04 0.02	0.02 0.02	10 .0	[0] Q	70.0	10.0	0.01	0.02	0.02	0.02	0.02	0.02	10.0	10.0	0.02	0.02	0.02	70'0	20.0	0.02	20.0	20.0	0.02	0.02
			Elapsed time (minutes)	0.000	0.120 0.180	0.240	0.360	0.540	0.600	0.720	0,840	0.960	1.020	0+1-1	1.200	1.500	1.440	1.560	1.620	010	000 I	1.980	2 040	2.100	2.220	2.280	2.340
	Morrison-Malerte/CSSA Miuer Flat 943-27691 251 10 10 10 10 10 10 10 10 10 10 10 10 10	14.01:16	time s)	00.0	000	00.0	0.0 10.0	10.0	10.0	100	100	0.02	0.02	0.02	70.0	0.07	0.02	£0:0	[0]0	5070	10.0	£0'0	0.03	P0:0	10.0	50	1 0.0
1Jury	Client Site Project No. Borchole Test Number Test Number Test Late Borchole traius Test action location Length of test interval Gauge Depth Static Water Level	General Lithology Sandstone Start Time	Clock Time	14.01.16	14.01.23	94:01:30	14.01.38 14.01.41	14.01.48	14.01.52	14.01.59	14 02.06	14.02.14	14.02:17	14.02:24	14.02.32	14.02.39	14.02.42	14.02:50	14.02:53	10.10.11	14, 03, 04	14 03 15	14.03.18	14.00.12	14 03.29	[[[0]]	96.00.41

Golder Associates

251010A CHA, hqui Data

Plot data i	used in analysis
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
45.00 72.00 95.00	0.750 1.200 1.600

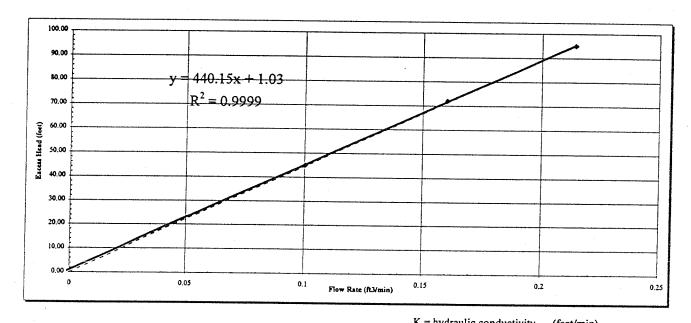


۹.	Client	Morrison-Maierle/CSSA
	Site	Miner Flat
	Project No.	943-27691
	Borehole	251

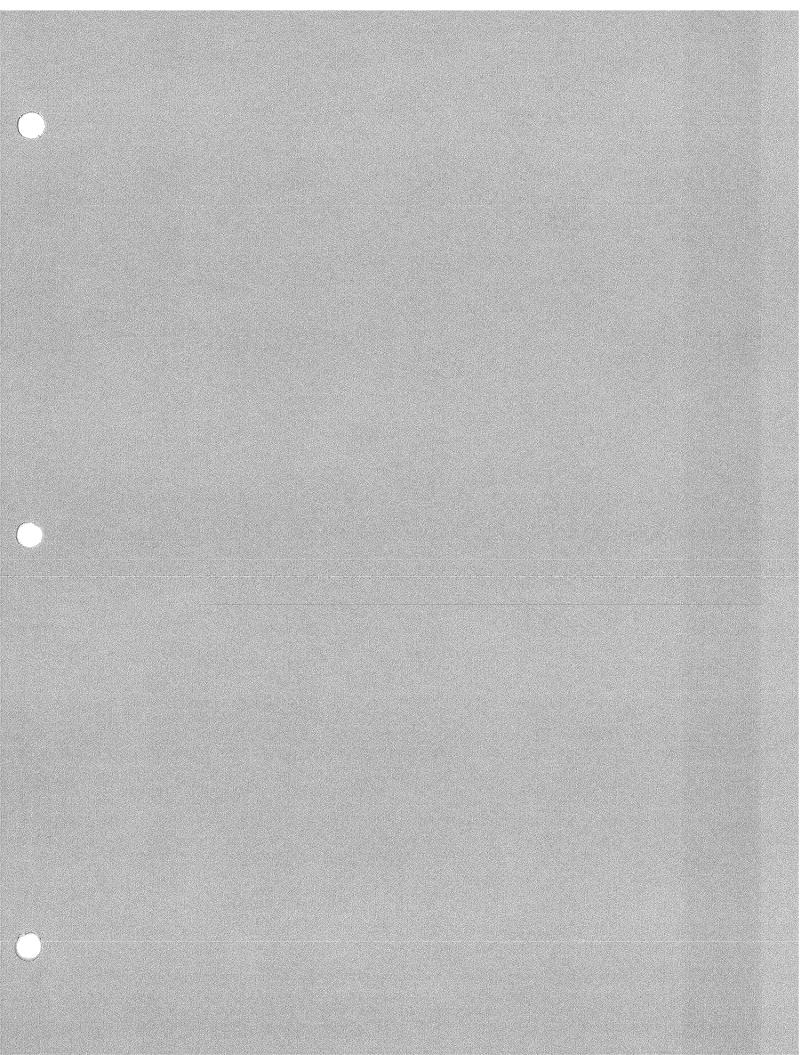
Interval Number

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
45.00	0.750	0.1003
72.00	1.200	0.1604
95.00	1.600	0.2139



K = 1/(2πL) x (Q/h _e) x ln (L/r)	$Q = Flov$ $h_e = Exc$ $he = App$	K = hydraulic conductivity Q = Flow rate h_e = Excess head he = Applied head r = borehole radius							
Range of I	hydraulic conductivity									
K =	4.3E-05 cm/s 8.5E-05 feet/min	Q = h _e =	0.120 45.00	ft ³ /min feet						
K =	4.4E-05 cm/s 8.6E-05 feet/min	Q = h _e =	0.257 95.00	ft ³ /min feet						
K =	3.7E-05 cm/s 7.2E-05 feet/min	Trendline Slope	440.15							

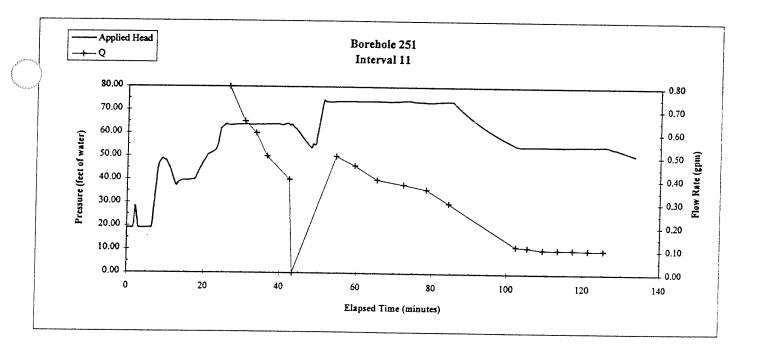


061,1875-648				18 C	•	(gal/min)	0.00	0.00	000 000 000 000 000 000 000 000 000 00	0000	000	8 8 8	000	00.0	000	0.0	0.00	800	0.00	0.00	8°0 8°0
				5 Point Moving Averages	Δ time		0.00	0.00	10'0 10'0	000	990	10.0	(0,0 (0,0	[0]0	107	410	5.71 7.60	04.7	90°5	2.91	117
			laterval Vertical Depia (n) Above 79.96 Below 89.33 Al (n) 86.39	5 Point 7	Applied Head (feet of water)		30.01 20.01	80.61 20.61	19.01 19.02	19.09 19.09	90.91 90.91	19.0 9 19.0 9	19.09 19.10	11.61 01.61	19.41 19.80	20.58	00.12 EC.ES	24.99	36.38 7.40	27.72	26.34 26.34
			Bottom of interval Hole depth (n) Vertical Above 80.00 Above Below 80.00 Below Vertical depth of bottom of interval (n)	1986	Average () (gal/min)		000 0000 0000	00.0	0.00	0.0 0.8	00.0 00.0	0.00	00.00 00.00	00.00	0,00	00.0	0.00	0.00	0.0	0.00	00 ^{.0}
			Hole depth (f) Above Below Vertical depth of	3 Point Moving Averages	∆ time (mins)	2	88	00.0 20.0	00'0 00'0	9.00 9.00	00.0 10.0	888	19	0.0	0.40 1.07	<u>8</u> 1	4.16 6	17	110	11.9	6 77
			cal Depth (n)	3 Point	Applied Head (feet of water)	19.06	19.06 19.06	19.07	90,91 90,91	60'61 	60.61 60.61	60 61 60 61	19.10 19.11	1.61	19.61	21.42	23.10 25 14	26.92	27.89	28.20	20,12 26,86
\bigcirc		Test Type: Constant kesd, Straddle packer Gauge becated downhole True vertical depth calculation:	E doj		Q (gal/min)																
				-	Applied Head (feet of water)		00.91 19.06 19.06									21.07 21.01			28.46 28.01		36.82
		inches feet	feet below top of casing feet below top of casing feet feet below top of casing feet below top of casing	, i i	(feet of water)	90.0 93.0 93.0	3 3	0.00	0.0 0.0	0.03	0.0 0.0	0.03	900	900	60 1.1	2.01	6.16 	C1.3	56'B	9.07	1.76
	rle/CSSA	3.78 0.16	61.08 86.44 25.36 54.70 169.60	Elaosed time	(minutes)	0.060 0.120 0.130	09E.0	0.420	0.600 0.660 0.744	0.840	080.1	1.200	0801	1.560	1.640	1.160	1.940 2.040	2.100	2.220	2,240	•
	Morrison-Malerle/CSSA Miner Flat 943-27691	251 11 16-No	Top Bottom	Elapsed time	(hours) 0.00	00.0 00.0	10'0	10'0	10.0	10.0	0.02	0.02 0.02	0.02	000 000	(0 0	0.01	0.03 0.03	0.04	0.04 0.04	40 D	
100 Vite	Client Site Project No.	Borchole Test Number Test Date Borebole diameter Borebole radius	reti tectuoa locatioa Length of test interval Gauge Depth Static Water Level General Lithology Statidione	Start Time Clock	Time Istaa	16:15:42 16:15:45 16:15:49	16:15:56 16:16:00 16:16:01	16:16:10 16:16:14	16.16.18 16.16.25	16:16:28 16:16:36	16:16:43 16:16:46	16.16:50 16:16:54	16:17:01 16:17:04	16:17:12 16:17:15	16.17.19 16.17.20	00171:01 77:71:01	04:17:40	16.17.44	16:17:51 16:17:55	10.17.38	

Golder Associates

251011A CHA, hput Data

Plot data use	ed in analysis
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
73.00 55.00	0.350 0.100



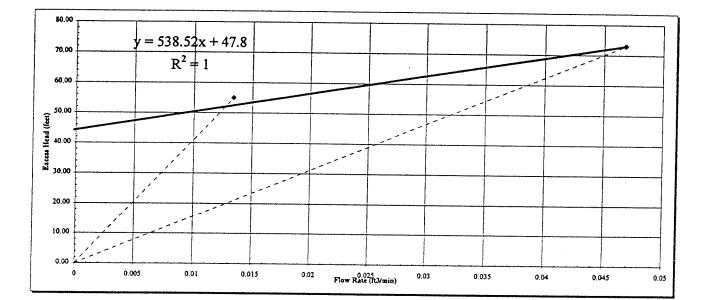
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole 251 Interval Number

Plot data

11

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
73.00	0.350	0.0468
55.00	0.100	0.0134



K = hydraulic conductivity

L = length of interval tested

Q = Flow rate

 $h_e = Excess head$

he = Applied head

(feet/min)

(ft³/min)

(feet)

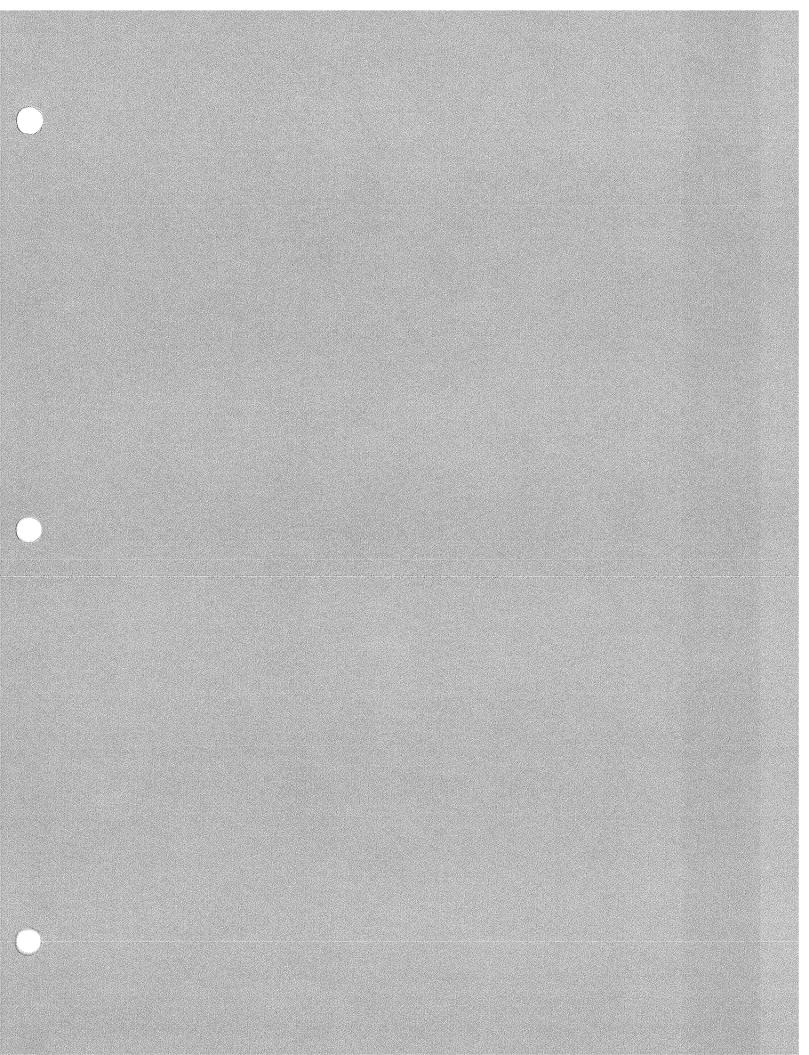
(feet)

(feet)

 $K = 1/(2\pi L) \times (Q/h_e) \times \ln (L/r)$

Range of hydraulic conductivity

K =	1.2E-05 cm/s	Q =	0.056	ft ³ /min
	2.5E-05 feet/min	h _e =	73.00	feet
K =	4.7E-06 cm/s	Q =	0.016	ft ³ /min
	9.3E-06 feet/min	h _e =	55.00	feet
K =	3.0E-05 cm/s 5.9E-05 feet/min	Trendline Slope	538.52	

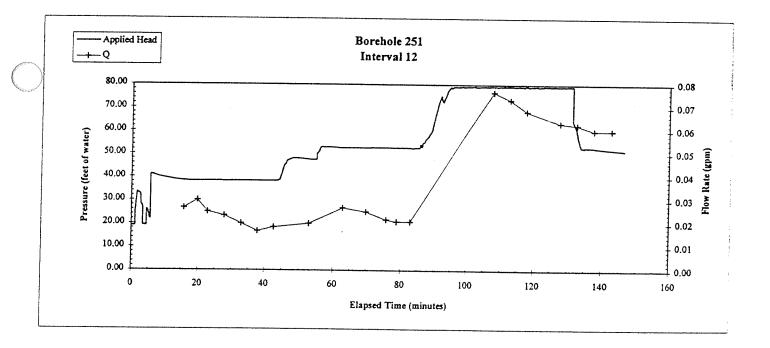


0(1.1672-614								8	Average Q	(gal/min)			2000	0.0	0.00	0.00	00.0	000	0.00	0.00	8.0	0.00	0.00	0.00	0.00	000	000	0.00	00.00	0.00	0.00	0.00	0.0	00.0	0.00
								5 Point Moving Averages	Δtime	(minutes)			100	10.0	10'0-	10.0-	00.0	100	0.02	0.23	6:39	16.01	12.27	2.81	8		10.4-	-6.29	101	¥5'L-	-0.02	-0.05 200	60 Q	100	90.0
				linterval Vertical Denth (0)	(11)	61.41		5 Point M	Applied Head	(feet of water)			19.01	10.61	10'61	00.61	00.61	19.00	19.00	19.05	12.62	25.92	28.42	30.21	30.6] 29.7e	28.24	13.77	23.96	16.52	20.71	81.91 10 to	19.15	1.41	41,91	19.14
				Bottom of interval Vertical 1	60.00 Above 70.00 Bclow	Vertical depth of bottom of interval (ft)		ges	Average Q	(CIIII/IEZ)		000	0.00	00.00	0.0	00.0	0.00	0.00	0.00	00.0	0.00	0.00	0.00	000	00.0	0.00	00.00	0.00	00'0	00.0	8.0	0.0	0.00	0.00	0.00
				Hale depth (N)	Above Below	'ertical depth of b		3 Point Moving Averages	A time (mine)	(*****)		10.0-	0.00	0.00	8.9 10 4	1019	8.0		89	20.0	5	14.20	7.13	2	đ	-0.9 9	6,70	3	6 57-	0.05	10	0.10	0.0	0.00	10.0
			-	erval Vertical Depth (N) E		36.06		3 Point	Applied Head (feet of water)			19.01	10.61	19.01	10.61	00.61	19.00	00.61		19,04	21.22	26.02	30.45 04 ct	30.75	29.06	27.63	27.15	90.92	11.12	12.61	19.19	19.17	19.13	19.14	19.14
and the set		traddie packer wabole	th calculation:	Top of interval Vertical	30.00 Above 40.00 Below	Vertical depth of top of interval (fi)						- - 					a contraction of the second	r i - cile C														-			-
		Test Type: Coastant head, Sunddle packer Gauge located dewhole	True vertical depth calculation:	liale depth (A)	Above Below	Vertical depth of			Q (gal/min)	• : :																									
									Applied Head (feet of water)	50 EI	19.02		19.01				00.61				19.24					27.67								11.21	
-			inches	feet feet below top of casing	feet feet feet below top of casing	feet below top of caring			Measured Head (feet of water)	70 CT	0.0	-0.05	6 G	0.03	\$0.0 .	29 .00	60.05 20.05	90.04	-0.07	10.01	0.18 6 11	7E.M	19.61	12.45	9.14	1.16	11	0.11	0.13	+I-0	0.17	0.07	0.07	0.06	
	rle/CSSA					169.60			Elapsed time (minutes)	0,000	0.060	0.120	005.0	0,360	0.420	045.0	0.720	0.780	0.900	0.960	1,140	1.680	2.640	2.760	3 240	000.0	3.360	096.6	4.080	0+1.4	007.4	4.260	1.320	4.320	
	Morrison-Malerie/CSSA Miner Flat 943-27691	251 12 17-Nov-95		Top Bettem				9.07:14	Elapsed time (hours)	00.0	00.0	000	0.01	0.01	10:0	10:0	10.0	10.0	0.02	70'0	0.02	0.03	100	0.05	0.05	90.0	90.0	0.06	0.07	0.0	0.07	0.07	0.07	0.07	
Anti	Client Site Project No.	Borcholc Test Number Test Date	Borchole diameter Borchole radius	Test section location	Length of test interval Gauge Depth Statis Wester I and	JIAUC WALCT LEVE	General Lithology Basali	Start Time	Clock Time	91:10:6	9.07.18 1076-0	17/04	9.07.32	9.07.36	9.07.46	9.07.90	9.07:57	9.08.01	20:20:6	9,08,19	9.08:22	9.04.35	9.09:52	9:10:07	9.10:28	\$10:32	9:10.36	9:10:36	61:11:6	211.26	9:11:26	9:11:30	EC.11.V	6011.9	

251012A CHA, ligut Data

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Plot data used in a	analysis
Applied Head Fl	ow Rate (Q)
(feet of water)	(gal/min)
38.00	0.017
52.00	0.021
79.00	0.060



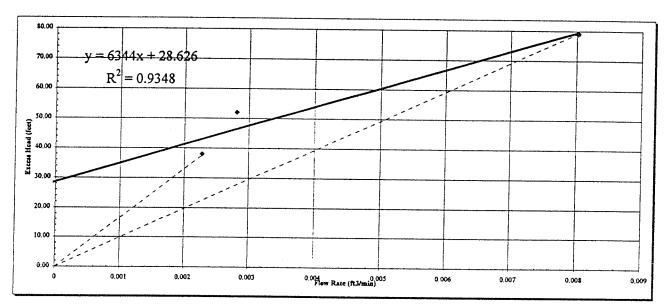
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole	251
Interval Number	12

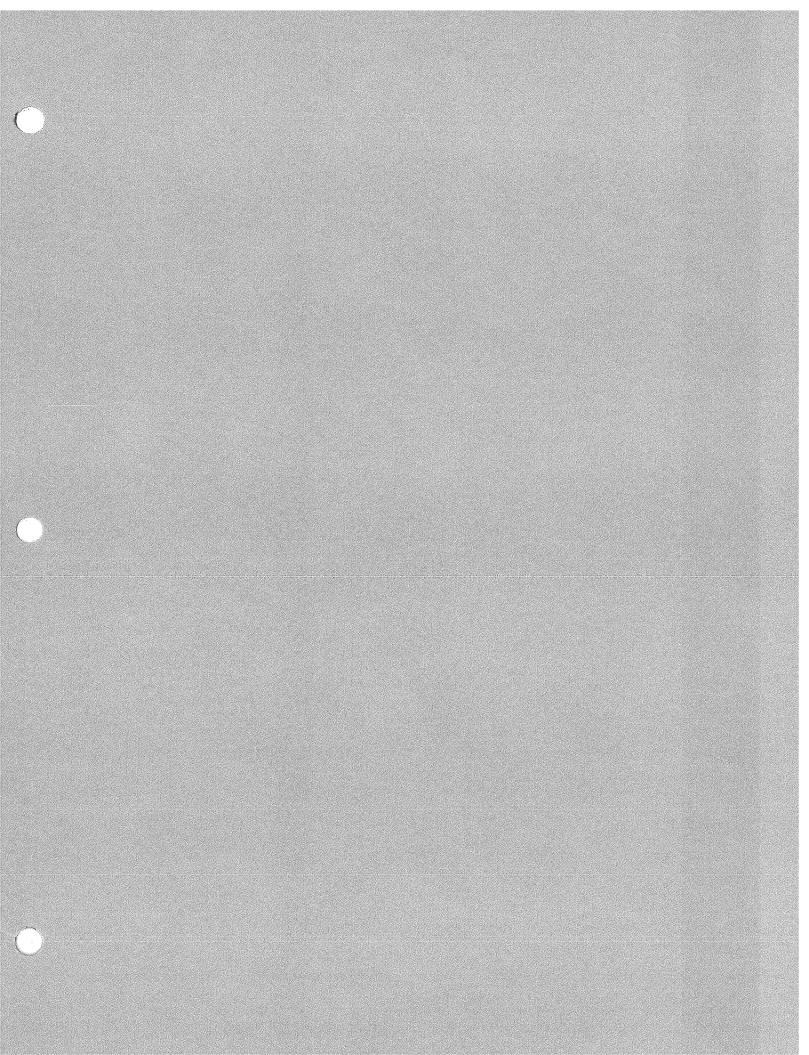
Plot data

Applied Head	Flow Rate (Q)	F
(feet of water)	(gal/min)	
38.00	0.017	
52.00	0.021	
79.00	0.060	

low Rate (Q) (ft³/min) 0.0023 0.0028 0.0080



K = hydraulic conductivity (feet/min) Q = Flow rate(ft³/min) $K = 1/(2\pi L) \times (Q/h_e) \times \ln (L/r)$ $h_e = Excess head$ (feet) L = length of interval tested (feet) he = Applied head (feet) Range of hydraulic conductivity K = 1.1E-06 cm/s Q = 0.003 ft³/min 2.3E-06 feet/min h. = 38.00 feet K = 2.0E-06 cm/s Q == 0.010 ft³/min 4.0E-06 feet/min h. = 79.00 feet K = 2.5E-06 cm/s Trendline Slope 6344.00 5.0E-06 feet/min



Packer Testing Results Borehole MF 252

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Interval #		Interva	Interval Depth	- A data matrix (A tanàné yangkanan nananananan	Lithology			Hydraulic Conductivity	Conductiv	ity	
	Ŭ.	Top	Bot	Bottom			feet/min			cm/sec	
	(fbtc) ¹	(elevation) ²	(fbtc)	(elevation)		Low	High	Low High Regression ³	Low	High	Regression
											2
12	19.58	6054.58	44.94	6029.22	Basalt	9.37E-06	1.14E-05	1.19E-05	4.76E-06	5.78E-06	6.06E-06
11	44.58	6029.58	69.94	6004.22	Basalt	1.57E-04	2.18E-04	3.12E-04	7.98E-05	1.11E-04	1.58E-04
10	69.86	6004.30	95.44	5978.72	Sandstone/Basalt	1.46E-03	1.52E-03	1.64E-03	7.43E-04	7.71E-04	8.35E-04
6	95.36	5978.80	120.94	5953.22	Sandstone	1.85E-04	5.45E-04	8.28E-04	9.40E-05	2.77E-04	4.21E-04
8	120.86	5953.30	146.44	5927.72	Sandstone	4.88E-04	9.31E-04	1.37E-03	2.48E-04	4.73E-04	6.94E-04
7	146.36	5927.80	171.94	5902.22	Sandstone	4.63E-05	1.13E-03	2.17E-03	2.35E-05	5.76E-04	1.10E-03
6	171.86	5902.30	197.44	5876.72	Sandstone	8.60E-05	5.04E-04	7.83E-04	4.37E-05	2.56E-04	3.98E-04
5	197.36	5876.80	222.94	5851.22	Sandstone	3.16E-05	8.97E-05	1.56E-04	1.60E-05	4.56E-05	7.91E-05
4	222.86	5851.30	248.44	5825.72	Sandstone	6.77E-06	4.47E-06	2.32E-06	3.44E-06	2.27E-06	1.186-06
3	248.36	5825.80	273.94	5800.22	Sandstone	1.95E-05			9.90E-06		
2	273.86	5800.30	299.44	5774.72	Sandstone	6.57E-07	1.24E-06	8.83E-06	3.34E-07	6.28E-07	4.49E-06
	299.46	5774.70	325.04	5749.12	Sandstone	1.45E-06			7.36E-07		
			All and the same spink when the same set of a statement of	and a second and a second and a second as a se							

¹ Feet below top of casing.

² Feet above mean sea level
 ³ Regression analysis does not include origin as a point.
 ⁴ Single point tests are presented in the "low" value column, however, they do not necessarily represent the low value for that interval.

PACSUM.XLS

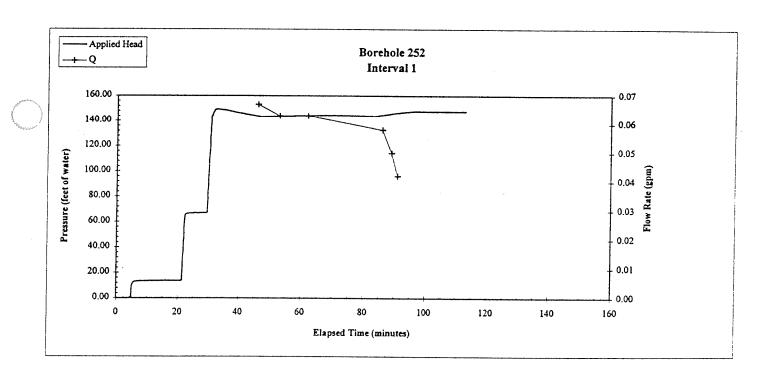
061.1872-614			Average Q (gaVmin)		0,00 0,00	0.0	0000	0.0	0.00 0.00	0:00	800	0.00	0000	0.0	0.00	00.0	0.0	0.00	00.0	0.00	0.00	0.00	0.0
		8 5 Point Moving Averages	∆ time Av (minutes) (s		000	00.0 00.0	10.0	-0.0 .	10.0	8.6	800	0.00	000	0.00	000	000	0.0	0 00	10.0	00.00	00.00	[0.0	10.0
	(1) diq 34.655 32.115	5 Point M	Applied Head (feet of water)		10'0	0.02 0.01	10.0 10.0	10.0	00.0 00.0	00.0	000	0.00	10.0	10.0	10'0	0010	0.00	0.00	0.00	0.0	0.00	10:0	10.0
	eulations: Bottom of interval 130.00 Above 3 311.40 Bebow 3	6 I I I C I A I (11)	Average Q (gal/min)	8.	0.00	00.0	00.0	0.0	0.00	0.0	0.00	0.0	0.0	0.00	0.00	00.0	0.00	0.00	0.0	8.0	0.0	0.0	000
	True vertical depth calculation: Bottom of inter Bottom of inter Above 330.00 Above Below 331.40 Below	3 Point Moving Averages	Δ time A		00.0 10.0	0.0	0.0 20.0	0.00 0.01	8	00.0 00.0	0.00	9 90 9	0.01	0.00	50:07 90 0	00'0	0,00	0.00	0.00	10:0		10.0	10.0
	al Depth (ft) 1964 2964	Poli	Applied Head (feet of water)	10:0	10 0	10.0	0.01	10.0	000	0070	00.0	00.0	10'0	10.0	10 ⁰ 0	0.00	0.00	8.0	00.0	100	10.0	10:0	0.02
$\left(\begin{array}{c} \\ \end{array}\right)$	Test Type: Constant head, Straddle packer Gauge located downholo True vertical depth calculation: True vertical depth calculation: Hole depth (f) 290.00 Above Below 300.00 Below		Q (gaVmin)																				
	A POCH ASE >		Applied Head (feet of water)	8 8 8 8 8 8 8 8 8 8 8					0.0		80			0.0 10 0		0.00	10:0	00.0	00.0	10.0	0.00	0.00	£0.0
	inches feet feet below top of casing feet below top of casing feet below top of casing feet below top of casing		Measured Head (feet of water)	00 0 00 0 00 0	00.0	00.0	000	00.0	0:00	0.00	0000	0.00	00:0	10.0	00 0	0000	10.0	0.0	0,00	10.0	00.0	00.00	0.03
	9 7 _ 0 #		Elapsed time (minutes)	0.00 0.06 0.12 0.13	0C.0 9C.0	0.42 0.54	09:00 CF 0	0.78	0.84 0.95	1.02	1 22	1.26	101	8	1.62	1.61	3	191	2.04	2.10	111	2.28	2.58
	Morrison-Malerle/CSSA Miner Flat 943-27691 943-27691 252 1 4-Nov-95 8-Nov-95 1 1 8-Nov-95 1 3-78 0-16 0-16 0-16 1-255 1 2-25 1 2-25 1 2-25 1 2-25 2-25	9:04:01	Elapsed time (hours)	90 90 90 90 90 90 90 90 90	10.0 0.01	10.0	10:0	10.0	0.02	0.02	20.0	0.02	0.02	10.0	0.03	0.01	E0.0	0.03	(0.0	0.04	0.04	10.0	*
Jijaoxe	Client Site Froject No. Borchole Test Number Test Date Borchole diameter Borchole radiu Test ecutoa location Length of test laterval Gauge Depth Static Water Level	General Lithology Siluton/Clayatone Start Time	Clock Time	9.04.0 9.04.0 9.04.0 9.04.0	9.04.19 9.04.23	9.04.26 9.04.33	9.04.37 9.0434	9.04.48 6.04.48	10 MU	9.05.02 9.05.04	£1.20.4	9.05.17	9.05.27	5.05.35	9.05:38	44°C0'A	9.05.53	9,06:00	¥.06.03	9.06.07	9.06:14	9.06.18	DC, 90, Y

Gulder Associates

25201 CHA, Input Data

Plot data used in analysisApplied HeadFlow Rate (Q)(feet of water)(gal/min)146.000.042

1

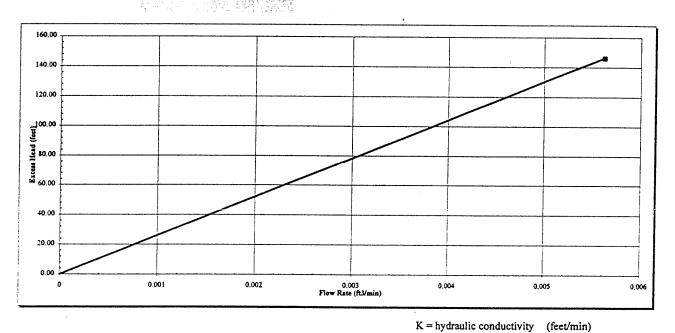


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole252Interval Number1

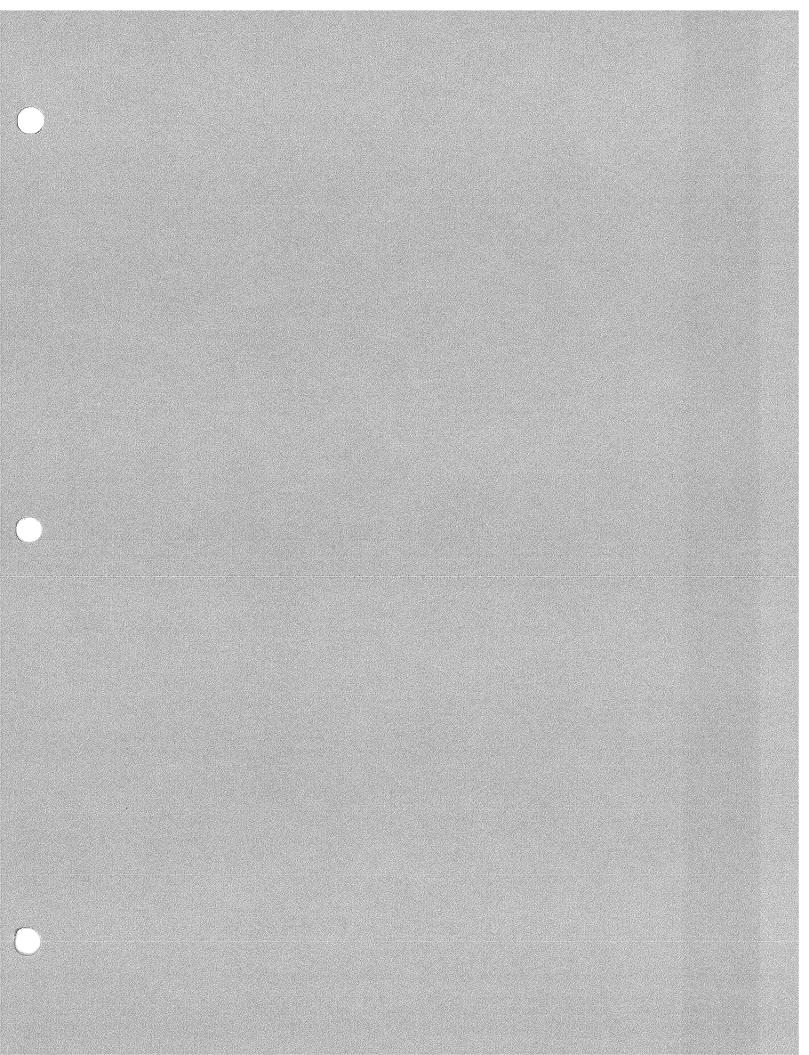
Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
146.00	0.042	0.0056
e de la composición d Porte de la composición de la composició		
지수는 것을 위해 가지 않는		



 $K = 1/(2\pi L) \times (Q/h_e) \times \ln (L/r)$ $Q = Flow rate<math>(ft^3/min)$ he = Applied head(feet)<math>L = length of interval tested(feet)<math>r = borehole radius(feet)Range of hydraulic conductivity

K =	7.4E-07 cm/s	Q =	0.007	ft³/min
	1.5E-06 feet/min	h _e =	146.00	feet

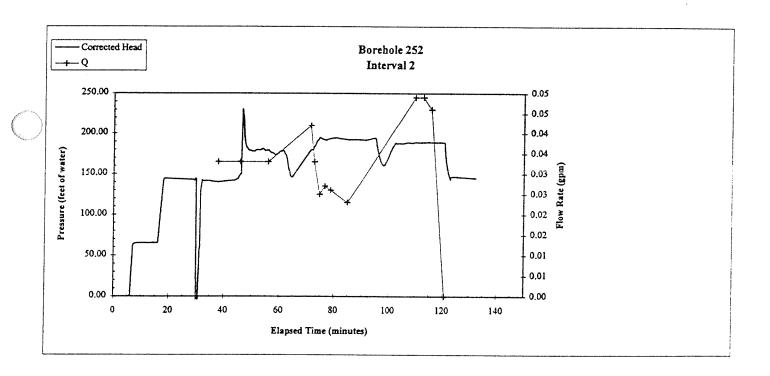


061,1875-634					Average () (sal/min)			8.0	00.0	00 00 00 00	00 0 00 0	0.0	0.00	00.0	0000	800	0.00	000	0.00	000	000	0.00	0.00	000	8.0
$\left(\begin{array}{c} \\ \end{array} \right)$				27 5 Point Moving Averages	∆time A (minutes)			00.0	3 3	900 00	00 00 00	800	000	0,00 0,00	00.0	0.00	8.0	800	0.00	8 9	0.00	0.00	0.00	000	8.0
			cpth (N) 289.24 299.23	^{299.27} 5 Point Mo	Corrected Head (feet of water)			8 8	9	8 9 9	00.0	8.0	0.00	0.00 00.0	00.0	0000	0 0.0	0.0	00:0	8 8 8	00.00	000	08.0	00.0	90.0
		calculation:	Bottom of laterval Vertical Depth (1) 290.00 Above 21 300.00 Below 23	verues appla of bottom of Interval (1) if Moving Averages	Average Q (gaVmin)		0.00	0000	00.0	99.0	00.0	0.00	0.00	00.00	0.00	0.00	0.00	0.00	0.00	0.0	00'0	0.00	0.00	0.00	0.00
		Tree vertical depth calculation:	Hole depth (f) Above Beior	Point Moving Averages	Δ time (zsins)		6,00	8 8	0.0	88		00'0 20'0	00.0	8	9 9 9	0.0	8.9	0.0	00.0 00	8 8	0.0	8.5	8 8	0.0	0.00
		F		3 Point	Corrected Hea (feet of water)		00.0	00 00 00 00	00.0	000		0.0	0.0	0.0	0.00 0.00	03.0	8 8	0.00	00 00 00 00 00	000	0.00	0.0	90 G	90.0	0.0
Ó	Tert Type: Constant band. Straddia mediar	Gauge locatod downhole True vertical depth calculation: Transfirmed	270.00		-																				
	Teil Type: Contait bead	Gauge located downhole True vertical depth calculati True of La	Hole deptb (ft) Above Below Vertical dentb		Q (gal/min)																				
					orrected Hen (feet of water)	00.0	8 8 8	00.0	00.0 00.0	00.0 00.0	00.00	00.0	00.0 00.0	00.0	00.0	8.0	000	00 D	0000	000	00.0	90 G	00.0	0.00	000
		inch cs Foot	fest below top of casing fest below top of casing fest fest below top of casing fest below top of casing		Measured Head (feet of water)	00.00 00.00	90 G	0,00	00.0	0.00	0000	0.0	0.00	0.00	0.00	00.0	0.00	0.00	0.00	0.00	800	0.00	0.00	0.00	0.0
	le/CSSA	3.78 0.16	273.86 299.44 25.58 146.60 163.88		Elansed time (minutes)	000 9900 9900	0.12	000	0.42	0.54	0.72 0.78	0.84	0.96	1.14	1.26	R 41	8	191 191	1.80	1.86	107	2.10	2.16	17	6 07
	Morrison-Maleric/CSSA Miner Flat 943-27691 252 2	6-Nov-95	Top Bottom	11:59:16	Elapsed time (hours)	00:0 00:0	00.0 00.0	10'0	10.0	10:0	10.0	10:0	0.02	0.02 0.02	10.0	700 0.01	60 ^{.0}	600 600	6.03	(0,0) 10 0	0.0	0.04	0.04	100	5
() Pronct	Client Site Project No. Borehole Test Number	Test Date Borebole diameter Borebole radius	Test section location Length of test interval Gauge Depth Static Water Level	General Lithology Claycy Sandsone Start Time	Clock Time	11:59.16 11:59.20	11.39.23 11.39.27	45.95.11 #6.94.11	11.52.11	11.59.52	95,95,11 12,00,05	12.00.06	12 00:17	12.00.24	12.00.32 Annas ti	12,00.42	12:00:50	12,00.57	10.10.21	12.01.08	12 01:18	12:01:22	12:01:26	12.01.36 12.01:36	

Colder Associates

23202 (')1A, Input Data

Plot data used	in analysis
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
178.00	0.023
189.00	0.046



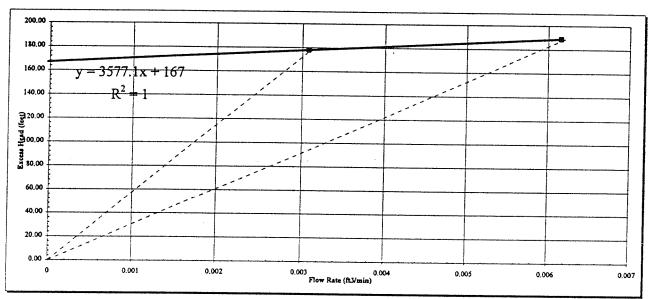
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole 252 Interval Number 2

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)	
(feet of water)	(gal/min)	(ft ³ /min)	
178.00	0.023	0.0031	
189.00	0.046	0.0062	



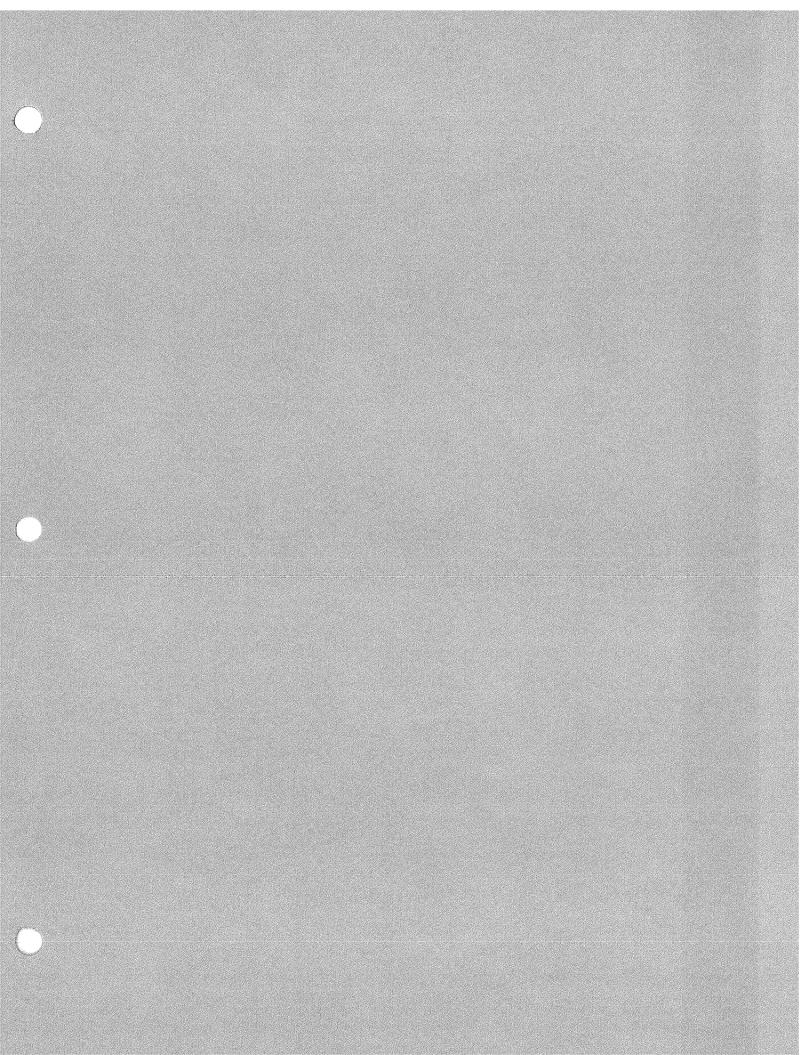


 $K = 1/(2\pi L) x (Q/h_e) x \ln (L/r)$

K = hydraulic conductivity(feet/min)Q = Flow rate (ft^3/min) he = Applied head(feet)L = length of interval tested(feet)r = borehole radius(feet)

Range of hydraulic conductivity

K =	3.3E-07 cm/s	Q =	0.004	ft ³ /min
	6.6E-07 feet/min	h _e =	178.00	feet
K =	6.3E-07 cm/s	Q =	0.007	ft ³ /min
	1.2E-06 feet/min	h _e =	189.00	feet
K =	4.5E-06 cm/s 8.9E-06 feet/min	Trendline Slope	3577.10	



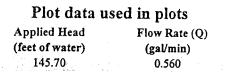
		a Average ()	(gal/min)		00.0	0.0	0.0	8 8	80	0.00	8.0	000	0.00	0.00	0.00	80	0.0	0.0	0.00	0.00	0.00	0.0	0.00	00:0	000	00.0	0.00
		S Point Moving Averages Head ∆ time	(minutes)		10.0	10.0-	10.0-	90 0 00 0	10.0	0.00	00.0 70 97	-0.04	0.06	0 27	0110	[9]	1.89	12.2	3.49	10.54	39.39	11.14	39.48	11.12	90.0r	14.52	10.01
	epih (ft) 209 st 179 st 273.78	5 Point M Applied Head	(feet of water)		1 0.0	10.04	300	5.7	0.04	1 0.0	5 5 7	-0.05	40°0+	0.02	0.17	0.76	121	1.76	1.57	4.75	12.73	78.15	11.46	10/14	19.45	10.00	8.0
	True vertical depth calculation: Bottom of facerval Hole depth (11) Vertical Depth (11) Above 370.00 Above 2 Below 310.00 Below 3 Vertical depth of bottom of laterval (11) 23	ges Average Q	(gal/min)	8.9	0.00	0.00	00 G	000	0.0	00.0	000	00.00	0.00	0.00	000	0.00	0.00	00.00	0:00	0.00	0.00	00.0	800		8.0		0.00
	True vertical depth calculation: Bottom Hole depth (ft) 270.00 Below 280.00 Vertical depth of bottom of late	3 Point Moving Averages Head Δ time Λ	(suisa)	0.01	0.03	0.00	10.0	10.0	20	8 8	6.9	0.0	-0.0J	90.00	12.0	1.02	0.89	0.87	1	2.62	01.6 22.2	11.65	12.00		2.95		4.21
		3 Point Applied Head	(feet of water)	20.0 .	-0.03	[0]0-	10 10 10 10	10.04	10.0- 20.0		0.0	-0.0 1	-0.02 	() () Y		0.76	1.22	1.69	111	16.6	0.01	22.00	12.15	15 05	68.66	1.11	
addle packer whole	True vertical depth calculation: Top of laterval Hole depth (I1) Vertical Depth (I1) Above 24000 Above 239.9 Below 230.00 Below 239.82 Vertical depth of top of laterval (I1) 248.21	₹						. 1					ţ.		• ••												- 1
Test Type: Comtant head, Straddlo packer Gauge located downhole	True vertical depth calculation: Tap of latery V V V Above 240,00 A Bdow 250,00 B Vertical depth of top of laterval	ð	(gal/min)																and a Tari								
5 5 4	2 8 9 E	Applied Head				10.07			6 0 0			10.04					8			E	12.17	41.53	47,84	64.24	69.54	12.19	71.75
	inchea feet feet below upp of caaing feet below upp of caaing feet below upp of caaing feet below upp of caaing	Measured Head	(ICCI OI MBIEL)	800 500	10 (9	10'0-	-0.05	19 .07	10'0- 10'0-	1 0.0*	-0.0¢	10 10 10 10	0.0	0.00	0.25	57.0 27.1	1	11	1.02	4.77	11.11	41.53	H1.H	64.24	PS-69	72.19	21.67
e/CSSA	3.78 ir 0.16 fr 248.36 fr 273.94 fr 25.58 fr 146.60 fr 163.88 fr	Elapsed time	(c:),,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	90 10 90 10 11 10	0.0	97.0	0.42	0.54	0.72	0.78	1	1.02	1.44	1.44	1.50	8	1.62	1.68	1.74	1.80	1.86	1.98	11	1.11	2.34	2.40	2.46
Morrison-Malerle/CSSA Miner Flat 943-27691 252 3 6-Nov-95	Top Bottom	15:00:50 Elapsed time 1 (hours)		3 8 8 9	10:0	10.0	100	10.0	10.0	0.01	10.0	0.02	0.02	0.02	600	10.0	0.03	0.03	0.03	0.03	0.03	(0.0	1 0.0	H 0:0	10.0	6.04	0.04
Client M Site M Project No. 94 Borchote 23 Test Number 3 Test Date 6.1	Borehole diameter Borehole radiuu Test section location Length of test laterval Gauge Depth Static Water Level General Lithology Studstone/Claystone	Start Time Clock E Time	2	15.00.57 15.00.57 15.00.57	15.01.08	15 01.12	13:01.15	07:10.51	EC:10:51	15:01:37	15.01.48	15.01.51	15.02:16	13.02:16	15:02:20	15.02.27	12:07:51	15.02.31	15.02.34	15.02:38	15:02:42	15.02.49	[0.[0.5]	13.01.03	01:00:01	1 20 21	11:03:14

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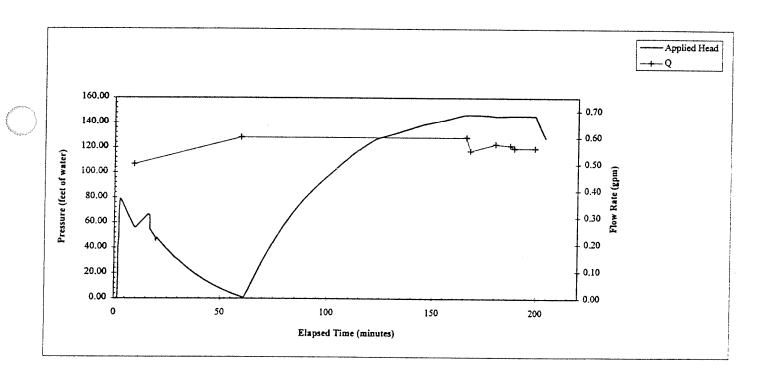
23203 CHA, liqui Data

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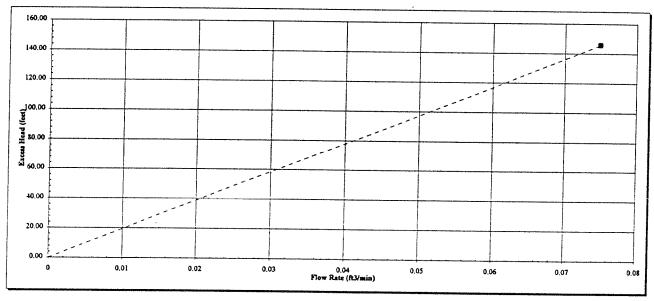
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole252Interval Number3

Plot data

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
145.70	0.560

Flow Rate (Q) (ft³/min) 0.0749



 $K = 1/(2\pi L) \times (Q/h_e) \times \ln (L/r)$

Range of hydraulic conductivity

K =	9.9E-06 cm/s	Q =	0.090	ft³/min
	2.0E-05 feet/min	h _e =	145.70	feet

K = hydraulic conductivity

L = length of interval tested (feet)

Q = Flow rate

he = Applied head

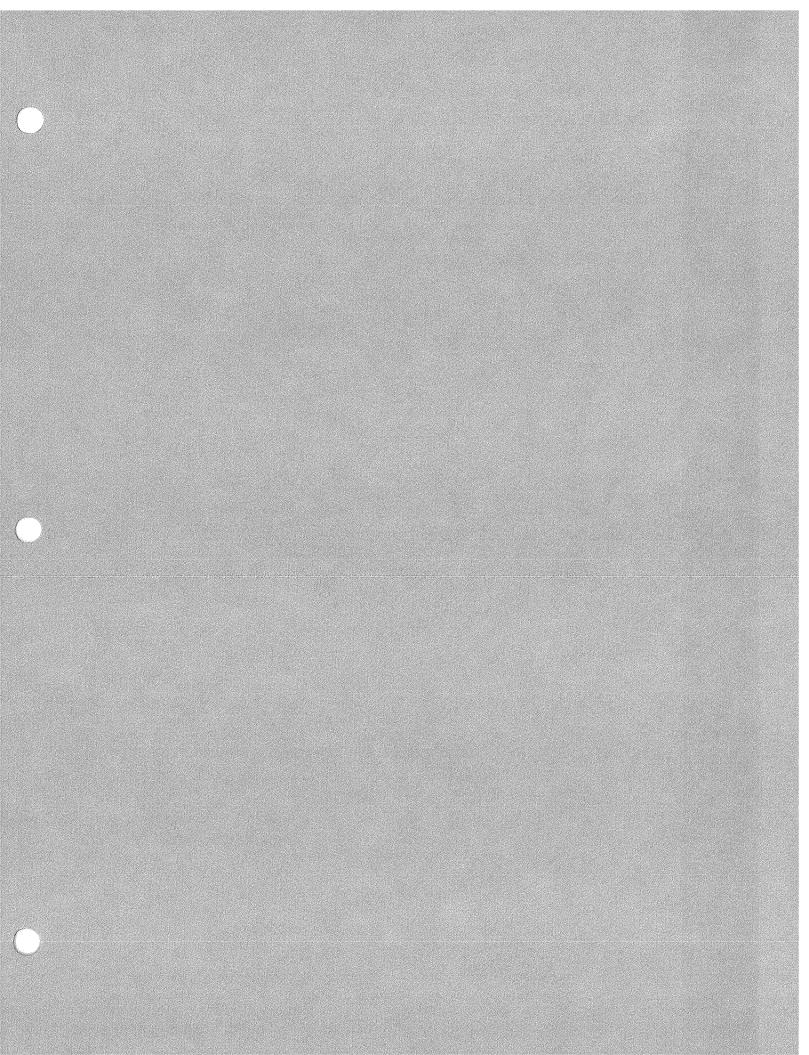
r = borehole radius

(feet/min)

(ft³/min)

(feet)

(feet)

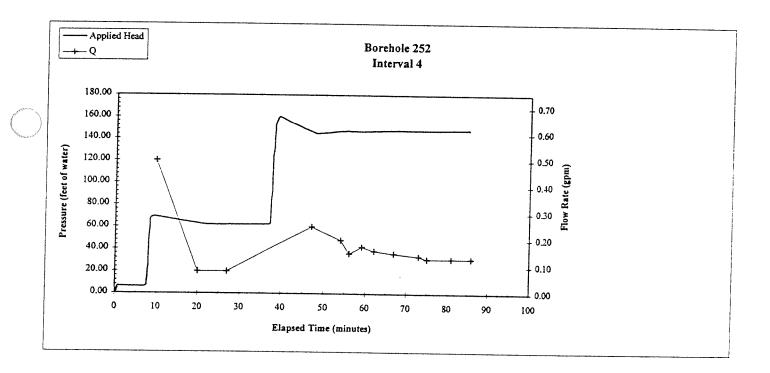


0(1,1972- (1 4								77	Average Q	(nimus)			00.00	0.00	0.00	8 8	0.00	0.00	000	0.0	0.00	00'0	0.00	00,0	0.00	0.00	0 0.0	800	00.00	0:00	0.00	0.00	0.00	0.00
\bigcirc								5 Point Moving Averages	∆ time	(mmmcs)			121	H Z	741	1 1 1 1	3.86	2.18	0.06	0.00	10 .0	8.9	10.0-	-0.02	0.00	0.05		40.0	-0.03	0.03	00.0	000	000	(0.0- 00.0
				'interval Vertical Depth (N)	219.86	246.29		5 Point M	Applied Head				0.83	1.27	107 101	4.10	3.06	5.83 6.77	634	6.35	6.15	EC.0	[]	26.9	16.9	6.31 6.79	628	6.27	6.36	6.26	6.26	6.26	97 0	6 25 5 2
			h calculation:	3	240.00 Above 250.00 Below	Vertical depth of bottom of interval (ft)		1843	Average Q (gal/min)			0.00	0.00	00 0 0	80	00.0	0.00	0000	0.00	0,00	90 S	000	0.00	0.00	8.0	000	0.00	0.00	0.00	0.0	0.00	000 000		0.00
			True vertical depth calculation:	Hole depth (ft)	Above Below	ertical depth of l		3 Point Moving Averages	∆ time (mins)	Ì		0.46	92.0 0		2.60	84.6	212	4rn 90.0	0.00	0.00	8.9	3	0.02	0 .0	5.0	1010	4.9	[0'0-	00.0	8 6	0.0	0.0	900	8.0
			H	Depth (ft)	219.9 229.86	V (1.111		3 Point	Applied Head (feet of water)			0.46	0.76	12	2.75	121	3)48 1 - 4	PC 9	6.35	6.35		16.9	6.32	6.32	6.32 6.11	679	6.28	6.27	613	6.23 24 2	97.9 91.9	97.9	6.25	Ŗ
\bigcirc		Test Type: Constant head, Straddle packer Gaugo located downhole –	True vertical depth calculation:	Top of int	220.00 Above 230.00 Below	Vertical depth of top of interval (ft)											a sector de la compacta de la compac La compacta de la comp																	and the second s
"Altenia (k.		Test Type: Constant In Gaugo local	True vertic	Hole depth (ft)	Below	Vertical de			d Q r) (gal/min)	· · ·						1944) 1944														•.				
									Applied Head (feet of water)	0.21	0.29	90.0 25.0	1.15	1.58	2.49	4.16	6.30	6.35	92.9	51.9 21.9	60.9	16.3	0(.9	6.9 11 8	6.30	6.30	6.29	6.26 6.25	6.16 6.16	623	6.28	6 2 3	6.23	6.25
			inches	feet below top of casing feet below top of casing	foot foot below ton of casine	feet below tup of casing			Measured Head (feet of water)	0.21	0.29	8.0 ACO	511	1.58	2.49	4.18 5 97	00.9	6.35	6.36 81.4	6.3	60.9	16.3	6.30	6.34	6.30	6.30	6.29	6.26 6.75	979 979	6.23	6.28	6.25	£13	6.25
	te/CSSA		3.78	<u>ن</u> ـ م					Elapsed time (minutes)	0.00	0.06	0.12	0(.0	0.36	0.42	1 0900	0.72	0.78	3.0	201	1.14	8.1	971	Ē	1.36	1.62	1.01	2.16 2.16	2.16	111	2.28	1.28	134	3.40
	Morrison-Malerte/CSSA Miner Flat 943-27691	252 4 7-Nev-95		T+p Boltum				7:49:04	Elapsed time (hours)	0.00	00.0	00 00 00	10.0	10:0	10.0	10.0	10.0	10.0	0.02	0.02	0.02	0.02	0.02	0.02	60.0	0.03		10.0	0.04	100	N0:0	100	10.0	1 0'0
Average and a second se	÷	Borchole Test Number Test Date	Borehole diameter Borehole radius	Test section location	Length of test interval Gauge Depth	Static Water Level	General Lithology Sandstone	Start Time	Clock Time	7.49.04	7:49:08	7:49:15	7:49:22	7:49:26 7-49-79	47.45.1 91.92.7	7.49.40	7,49.47	7.49.51	7.50,02	7:50.05	7:50:12	01.02.1 01.02.1	12.02.1	7,50:30	15023	15021	7.51.10	7:51:14	7:51:14	713117	7:51:21	15121	March 1	13128

Golder Associates

25204 CHA, liqui Dala

Plot data used in analysisApplied HeadFlow Rate (Q)(feet of water)(gal/min)62.010.083147.650.130



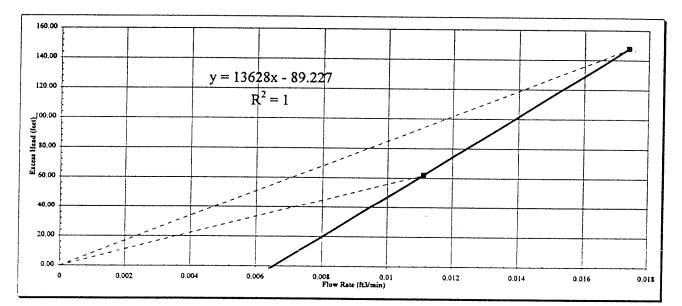
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole 252 Interval Number

Plot data

4

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
62.01	0.083	0.0111
147.65	0.130	0.0174



K = hydraulic conductivity

L = length of interval tested (feet)

Q = Flow rate

he = Applied head

r = borehole radius

(feet/min)

(ft³/min)

(feet)

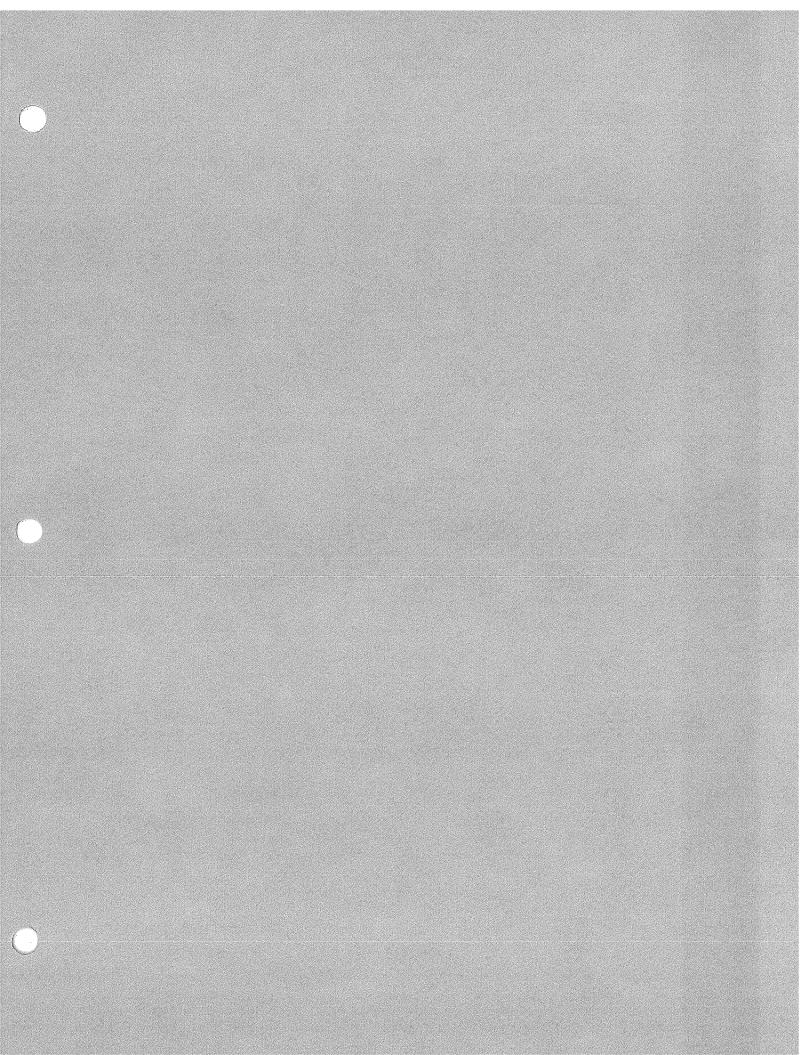
(feet)

 $K = 1/(2\pi L) \times (Q/h_e) \times \ln (L/r)$

Range of hydraulic conductivity

K =	3.4E-06 cm/s	Q =	0.013	ft ³ /min
	6.8E-06 feet/min	h _e =	62.01	feet
K =	2.3E-06 cm/s	Q =	0.021	ft ³ /min
	4.5E-06 feet/min	h _e =	147.65	feet

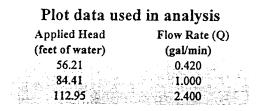
K = 1.2E-06 cm/s Trendline Slope 13628.00 2.3E-06 feet/min



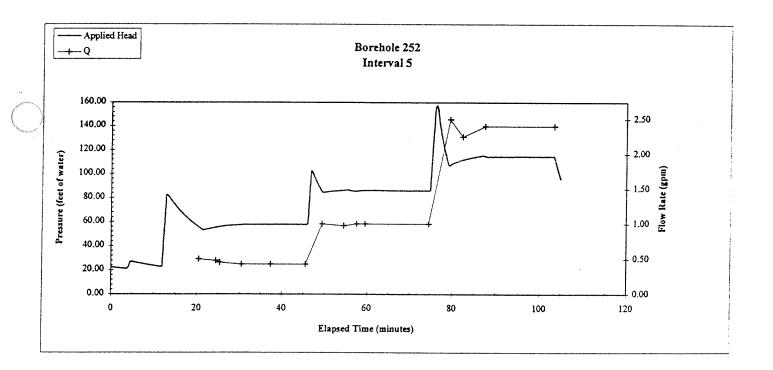
061.1972-614				Average Q (gal/min)	?	00.0	0.00	0 0.0	0.00	0.00	00.0	00.00	00.0 00.0	0.0	0.00	0.00	00.0	9 0.0	00.0	00.00	0.00	00.0
\bigcirc			ll S Point Maxima Aurona	orung Averages A time (minutes)		-0-11	01.0-	0.21 81.0-	11.0	11.9	\$0.0 1 d	10.0	21 Q Q Q	-0,17 -0,17	10	-0-12 90.09	01.0-	98 9 97 9	0.15	11.0-	91.0	1.0
		liaterval Vertical Depth (f) Above 219.87 Below 229.86	122.N K Point M	Applied Head (feet of water)		11.13	17.7 17.7	22.09 22.09	22.00	21.95	21.91 21.80	21.46	21.80	21.76	21.69	21.66	21.62	21.60 21.56	21.55	12.15	21.48	21.45
		10	Vertical depth of bottom of laterval (ft) at Moving Averages	Average () (gal/min)		93 0 03 0	80 00 00 00 00 00	90 00 00 00	0:00	0.00	0.00	8.0	90.0	0.00 00.0	0.00	0.0	0.00	90 O	0.00	000	0.0	00.0
		True vertical depth calculatioa: Bottom Hole depth (ft) Above 220.00 Bolow 220.00	4 Vertical depth of botta 3 Point Moving Averages	Δ time (mins)		8 8 8 9 9 9	3 3 3	31 4	90.0	8.9	29 .0- 78/0-	1 0,0 10,0	6.0	0.0	-0.0K	5 X	19 .9	5 7	-0.0¢	0.11	8 2	90.0
		a: T Erval Vertical Depth (ft) H Above 199,9	197.24 V 3 Point	Applied Head (feet of water)		22 26 24 25 26 25		22.09	21.94	16/17 16/17	21.91 21.86	21.86 21.64	21.61	и.и И.И	21.69	21.64	21.62	21.59	21.55	21.51	1.4	4
$\left(\begin{array}{c} \\ \end{array} \right)$	Teil Type: Coastant head, Straddle packer Gauge located døwabøle	True vertical depth calculation: Tep of interval Hole depth (ft) Vertical Above 190.00 Above Below 200.00 Below	Vertical depth of top of laterval (ft)	Q A (()																		
	Test Type: Coastant k Gauge loci	True ve Hole de Above Belau	Veruce	Applied Head (feet of water) (g	22.33										21.67 21.67		21.62		21.57			
		inches freat below top of casing freat below top of casing freat below top of casing	feet below top of casing	Measured Head (feet of water)	20.63 20.78	17.02 17.02	20.66 20.66	20.62 20 50	20.50 20.45	20.45	65.05	20.34	0C.02 75.02	20.23	20.17 20.17	20.13	11.02	20.07	20.07	96:61	26.61	19.91
	e/CSSA	3.78 0.16 197.36 222.94 166.50		Elapsed time (minutes)	90 0 90 0	0.0	0.36 0.42	0.54	0.72	M 0	5	1.20	97.1 97.1	1.44	162	1.64	91	86.1	2.10	11	3.26	2.34
	Morrison-Malerie/CSSA Miner Flat 943-27691 252 5 7-Nov-95	Top	9:40:37	Elapsed time (hours)	00 0 00 0 00 0	00.0	10.0	10'0	10.0	0.01 0.02	0.02	0.02	0.02	0.02	CO10	0.03	0.0	0.0 10.0	10.0	M0.0	0.04	10 0
1130000	Client M Site M Project No. 94 Borehole 25 Test Number 5 Test Date 7-1	Borebole diameter Borebole radius Test section location Length of test interval Gauge Depth	Static Water Level General Lithology Standtione/Clayatone Start Time	Clock F Time	9.40:37 9.40.41 9.40.44	9.40.48 9.40.55	9:40.59 9:41:02	9.41.09 9.41.13	92.11.24	75:14.4 \$6:14.8	9:41:38 9:41:42	57-17-5	9,42,00	11-CP-6	942.14	9:42:18 9:42:21	9.42.29	95:29:9	EP:29:6	9,12,50	9:42.54	9:42:57

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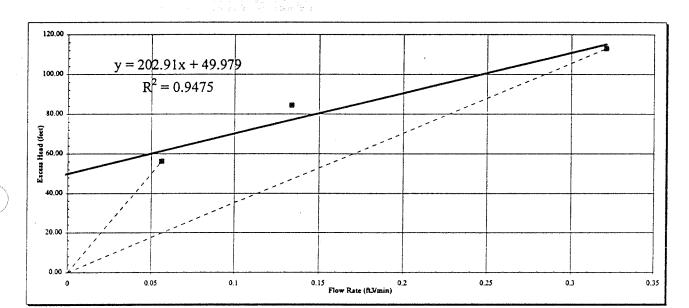
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole Interval Number

Plot data

252 5

Å	pplied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
	56.21	0.420	0.0562
	84.41	1,000	0.1337
	112.95	2.400	0.3209

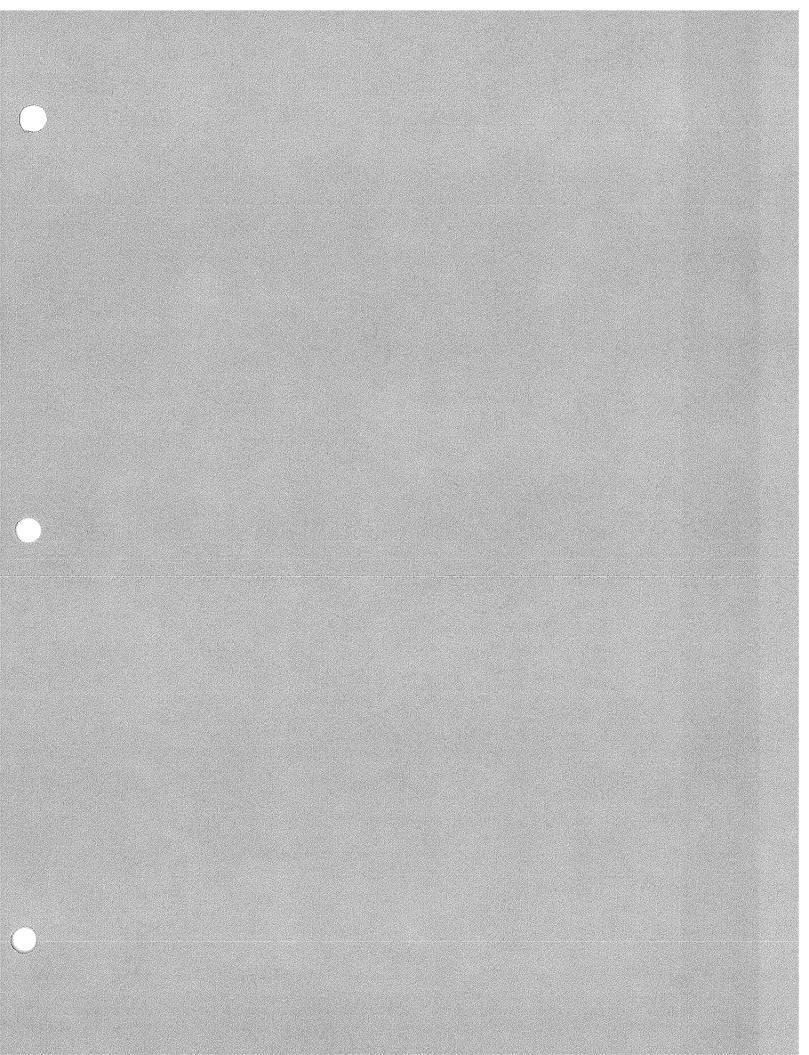


K :	= 1	/(2IIL)	¥	(ር/ኬ)	¥	In	(r/ n)
v.		/(2110)	А	(QmD	А	111	(Lai)

·		Q = Flow he = App L = lengt r = boreh	lied head h of inter	val tested	(ft ³ /min) (feet) (feet) (feet)
Range of I	hydraulic conductivity				
K =	1.6E-05 cm/s	Q =		ft ³ /min	
	3.2E-05 feet/min	h _e =	56.21	feet	
K =	4.6E-05 cm/s	Q =	0.321	ft³/min	
	9.0E-05 feet/min	h _e =	112.95	feet	
K =	7.9E-05 cm/s	Trendline Slope	202.90		
	1.6E-04 feet/min				

K = hydraulic conductivity (feet/min)

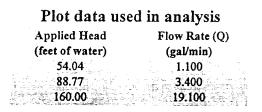
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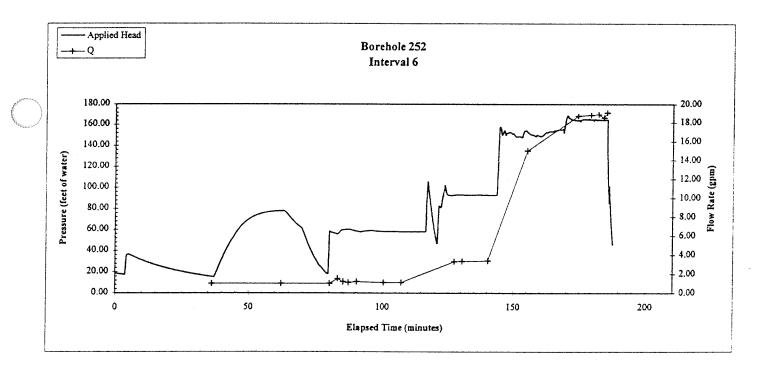
061.1972-614								Ĩ	Average ()	(gal/min)				0.00	00.00	900 000	00.0	0.00	00.0	00.0	0.00	8.0	00.0	0.00	00.0	0.0	8.0	000	0.00	0.00	0.00	000	000	000	0.00
\bigcirc								5 Point Moving Averages	Δtime	(minutes)				11.0	91.0	0.21	-0.20	910	9 9 9	-0.07	01.0	9 7	07.0-	81 .0-	-0.16	110	8 2	90.0	-0.16	-0.15	-0.17	1. j		-0.16	-0. It
				laterval Vertical Depth (ft)	149,49	197.32		5 Point M	Applied Head	(feet of water)				11,72 11,72	18.71	18,66	18.61	11.57	8	18.46	18.45 54.51	11.39	80.81	00.31	18.36 2011	16.23	14.19	18.17	18.15	18.10	18.07		12.97	17.94	15.61
			th calculation:	Bottom of laterval Vertical I	190.00 Above 200.00 Above	Š		1863	Average Q	(gal/min)			0.00	00.0	0.0	0.00	0.00	0.00	0.00	0.00	0000	0.00	0.00	9.0	0.00	080	000	0.00	00.0	0.0	00'n	000	0.0	00'0	000
			True vertical depth calculation:	Hole depth (ft)	Above Balove	ertical depth of		3 Point Moving Averages	Δ time	(anina)			19.4	8 X	0.10	1 0.0 1	6.13 11.0		10.0-	38. G	3 3	11.0-	9 0.0	\$8.0 0	11.0	000	0.01	1 0.0	-0.07	1.9		20.0	-0.0X	10.0-	-0.10
			ų		6.691 9.671	V 87.171		3 Point	Applied Head	(feet of water)				18.75	18.71	18.67	18.61 12 57	11.5	11.50	18.48 11 12	9 E E	96.81	50.81	97 11	18.21	97 91	18.19	18.19	18,16	191	18.02	6671	19.11	17.96	16'21
\bigcirc		Test Type: Constant head, Straddle packer Gauge located dawnhole	True vertical depth calculation:	Top of int	170.00 Above 180.00 Below	Vertical depth of top of laterval (ft)																	and the second secon												
		Teil Type: Constant b Gauge loca	True vert	Hole depth (f)	Above Below	Vertical d			lied Head	(feet of water) (gal			18.78	-		90 8	11.04 11.55			18.45								1818						19.71	
			inches	feet below top of casing feet below top of casing	feet	feet below top of casing feet below top of casing			Measured Head	(Icct of water)	14.12	14.13 12.12	14.7H	14.76	14.72 22.22	14.00	14.55	14.51	14.50	14.45	14.44	9 : : :	17 N	14.24	14.22	14.17	11.12 11.12	14.18		14.06	14.00	14.00	19.EI 19.EI	5 11	
	14/CSSA		3.78			166.50			Elapsed time	(connice)	00.0	0.06	0.18	0.24	0.36	0.54	0.60	0.72	0.75	96.0	1.02	•1'i	1.26	101	1.44	95-1	1.62	121	1.86	1.94	2.16	1	2.28 2.14	1	•
	Morrison-Maierte/CSSA Miner Flat 943-27691	222 6 7-Nov-95		Tep Bottom				12:09,43	Elapsed time (hours)	(cinon)	0.00	00.0	0.00	0:00	10.0	10.0	10.0	10:0	10:0	0.02	0.02	20.0	0.02	0.02	0.02	0.03	100	0.0	0.03	CO:O	0.04	10'0	0.04	P.04	
100000	Client Site Project No.		Borchole diameter Borchole radius	Test acction location	Length of test interval	Gauge Level Static Water Level	General Lithology Sandstone	Start Time	Clock Time		12.09.43	12,09,50	12.09.54	12.09.57	12:10:05	12:10:15	12:10:19	12:10:26	12.10.33	12:10:41	12:10:44	12.10.55	12.10.59	12.11.06	12.11.09	121121	12:11:24	12:11:27	12:11:35	12:11:42	121159	00 11 71 10 11 11	11.12.03	17:12.03	

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Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

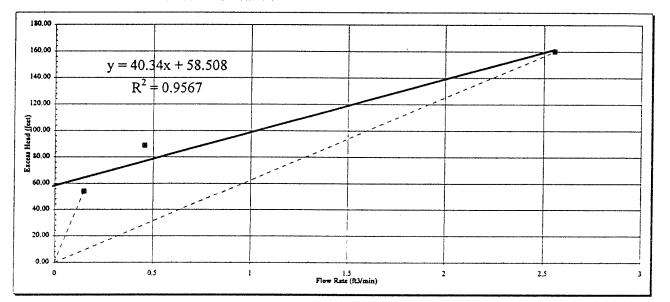
Borehole Interval Number

Plot data

252

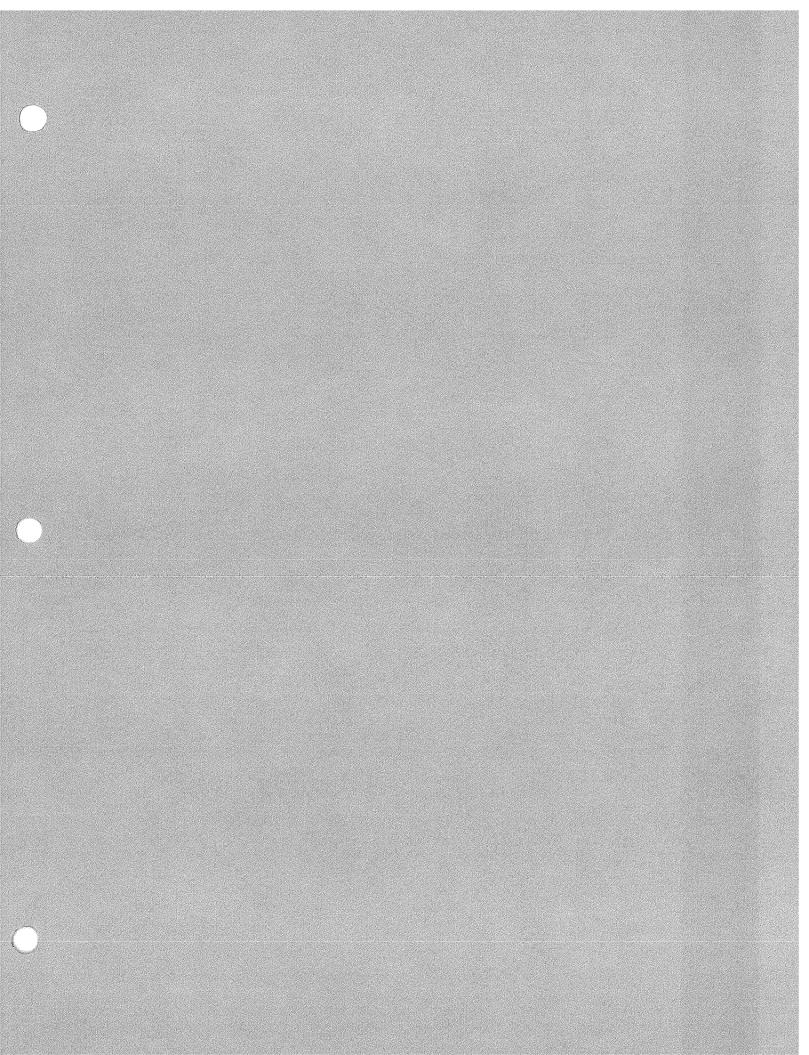
6

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
54.04	1.100	0.1471
88.77	3.400	0.4546
160.00	19.100	2.5537



K = 1/(2	2πL) x (Q/h _e) x ln (L/r)	Q = Flow he = App L = lengt	aulic cond / rate lied head h of inter- ole radius	val tested	(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of h	ydraulic conductivity				
K =	4.4E-05 cm/s 8.6E-05 feet/min	Q = h _e =	0.147 54.04	ft ³ /min feet	
K =	2.6E-04 cm/s 5.1E-04 feet/min	Q = h _e =	2.554 160.00	ft ³ /min feet	
K =	4.0E-04 cm/s 7.9E-04 feet/min	Trendline Slope	40.34		

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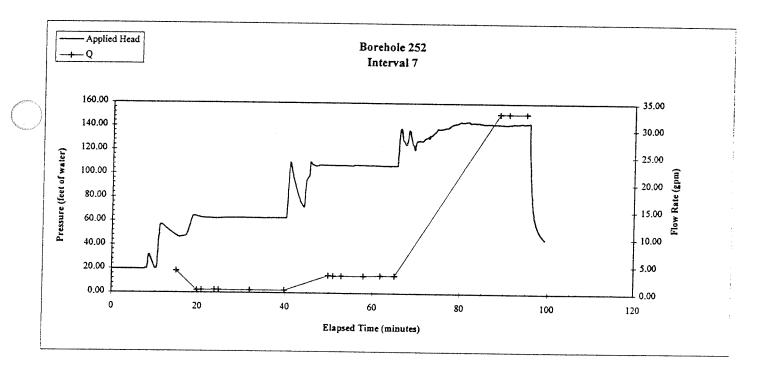


0(1)16(<u>7-</u> 194					3	Average Q (gal/min)				3 0 0	00.0	0.00	8 8 9 9	00.00	0.00	0000	0000	0.00	000	000	0.00	0.00	980	0000	0.00	000	00 (0 00 (0	800	990	90.0
()					5 Point Moving Averages	Δ time (miautes)				0.0 0.0	0.0	0.00	000	00'0	0.00	000	£0:0 -	CO O-	60.0 1	0.00	0.0	0.01	(0.0 (0.0	0 00	0.00	800	000	10.07	0.0	0.0
			laterval Vertical Depth (ft) Abore 169.9	9.971	5 Point M	Applied Head (feet of water)	•		:	19.67	19 ,61	19.61 19.41	19.61	19,61	19.61 	19.68	19.68	19.67	79.61	39 761	99.61	19.67	19.61	89.61	19.64	19.68 19.68	19.61	99/61	19.66	19.65
		t calculation -	3	Bedow 180.00 Below Vertical depth of bottom of interval (f)		Average Q (gal/min)			000	0.0	0.00	0.0	00.0	0.00	000	00.0	0.00	8.8	0.0	00.0	0.00	0.00	0.00	0.00	000	000	000	00.0	0.00	00.0
		True vertical dentis calculation -	Hole depth (f) Above	Beiow artical depth of h	3 Point Moving Averages	Δ time (mins)			0.0	0.0	0.0	8.8	0,0		8 8	8	80.0	6.0	80	0,00	0.0	10°0	8	0.00	8.9	800	907	6.0	-0.07	0.00
		Ē	erval Vertical Depth (N) Hc Abova 169.9	179.9 176.26 Ve	3 Point	Applied Head (feet of water)		:	90.71 19.66	19.67	19.66	19 19	19.68	19.68	40%I	19.61	19.65	19.67	19.66	19.66	19.66	19.67	19.65	19.61	19.68 19.68	19.66	19.61	19.67	19.65	19.64
\bigcirc	Tert Type:	Constant mean, Suradote packar Gauge located dewalsolo	Top of interval Vertica 140.00 Above	Below 130.00 Below Vertical depta of top of interval (ft)																								144 · · · ·	1. 	
	Test Type: Constant build	Constant mead, Straddie Gauge located devrahols True vertical depth calcu	Hole depth (ft) Above	Below Vertical dept h ol		Q (gal/min)																								d'i
				m -		Applied Head (feet of water)	99.61	29.61 20.01	19.66	19.61	19.68	19.68	19.61	19.68 19.64			19.68 19.68				90 fi			19.61 1 a źw	19.61	19.68	19.61	19.68	19.66	19.61
		inch a	foot foot below top of casing foot below top of casing	feet below top of cusing foet below top of cusing		Measured Head (fect of water)	0.01	to:0	10.0	0.03	(0)) (0))	10.0	0.03	(0.0 (0.0	0.03	0.03	0.03	0.01	0.01	10:0	10.0	0.03	0.03	10.0 10.0	10 10	0.0	0.03	0.03	10:0	3 0'0'
	rle/CSSA	3.78	0.16 146,36 171.94 25 58	139.50 163.88		Elapsed time (minutes)	000	0.06	0.18	0.30	09.0	0.66	0.66 21	8C.0	0.14	96-0 -	1.14	1.20	1.26	8C1	8	1.62		1	1.98	2.04	2.16	1	2.28	*7
	Morrison-Malerie/CSSA Miner Flat 943-27691 252 7	26-voV-8	Top Bottom		7:40:12	Elapsed time (hours)	000	000	0.00	10.0	10.0	10.0	10.0	10.0	10.0	0.02	0.02	0.02	0.02	0.02	0.03	[0:0	C0.0	E0 0	0.03	0.03	10:0	10:0	10 10 10	5
Monte	Client Site Project No. Borchole Test Number	5	Borchole radius Test section location Learth of test interval	Gauge Depth Static Water Level	General Lithology Sundstone Start Time	Clock Time	7:40:12	7:40.19	7.40.23	7:40,30	7.40.48	7.40.52	7 40-55	7:40:59	7.41:02	7:41:10	7:41:20	7:41:24	7.41.28	16142	7:41:46	7.41.49	7.41.53	7:42.04	11:25:2	7:42.14	7:42:22	74234	7.137.1 TELEL	•

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Plot data used	l in analysis
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
42.88	0.470
87.04	3.200
123.00	33.000



Ì	Client	Morrison-Maierle/CSSA
	Site	Miner Flat
	Project No.	943-27691

Borehole Interval Number

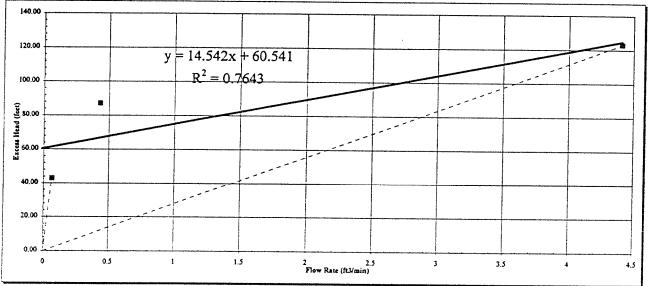
Plot data

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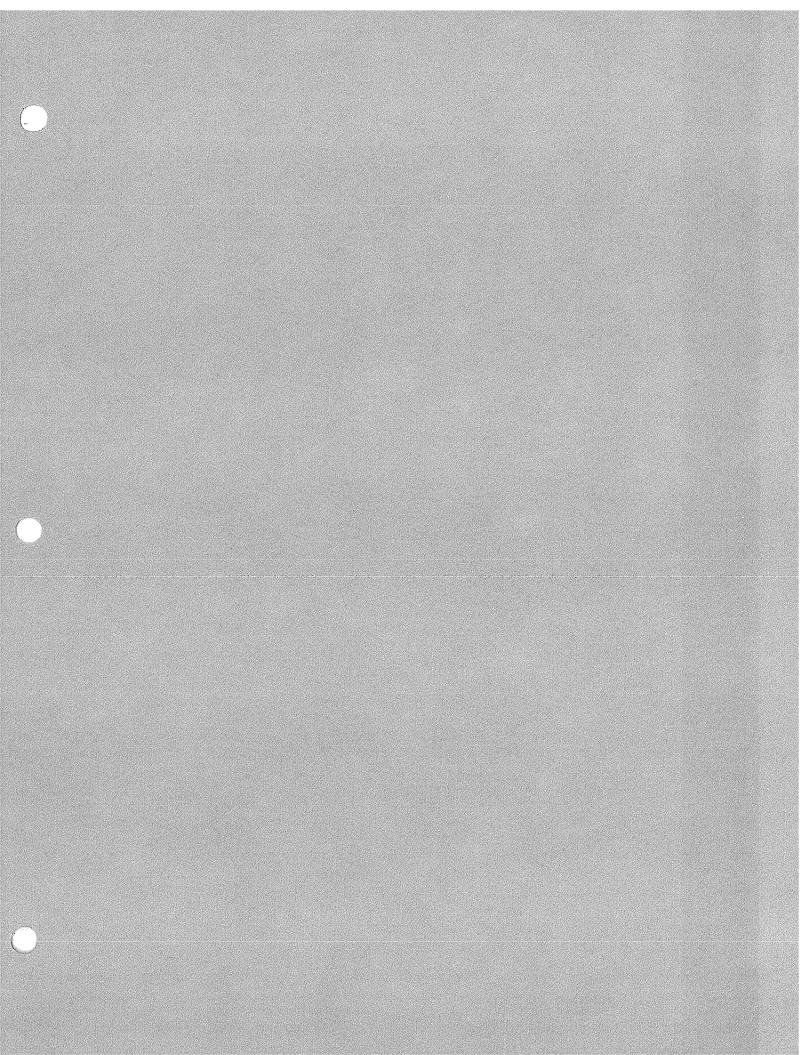
7

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
42.88	0.470	0.0628
87.04	3.200	0.4278
123.00	33.000	4.4121





K = 1/(2πL) x (Q/h _e) x ln (L/r)	Q = Flow he = App	v rate llied head h of inter	val tested	(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of l	hydraulic conductivity				
K =	2.4E-05 cm/s 4.6E-05 feet/min	Q = h _e =	0.063 42.88	ft ³ /min feet	
K =	5.8E-04 cm/s 1.1E-03 feet/min	$Q = h_e =$	4.412 123.00	ft ³ /min feet	
K =	1.1E-03 cm/s 2.2E-03 feet/min	Trendline Slope	14.54		



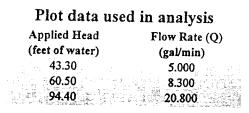
						_	Average Q	(gal/min)			22.0	00.0	00.0	0.00	0.0	000	00.0	00.0 00.0	0.00	000	03.0	000	00.0	0.00	000	0000	000	0.00	0.00	00.0	8.0	0.00
						5 Point Moving Averages	Δ time	(minutes)			C0 0	00.0	0.00	10 0	800	0 00	000	00.0	0.00	00.0	0.00	0.00	00'0	0.00	000		00:0	01.0	0.00	0.00	000	8
		iaterval Vertical Depth (ft)	16.91	5C.991		5 Point Mc	Applied Head	(feet of water)			0761	19.59	19.59	19.59 14 40	65,61	19.59	19.39 19 50	92.91	19.59	19.59	65 61 65 61	19.59	19.59	19.59	19.39 18 48	92.91	19.59	19.59	19.59	19.39 19.66	40.61	40.41 02 01
	is calculation:	2	140.00 Above 150.00 Below	Vertical depth of bottom of interval (ft)		Ages	Average Q	(gal/min)		55.0	0010 0010	0.0	0.00	00.0	00'0	0.00	00,00	0.0	0.00	8.6	00.0	0.00	0.00	00'0	000 000	98.0	0.00	00'0	00'00	0.0 0	80	000
	Tree vertical depth calculation:	Hole depth (ft)	Above Below	ertical depth of		3 Point Moving Averages	Δ time	(anina)		504	10.0	0.0	10 19	8.0	00.0	0.0	8 8	970	0.0	8.8	8	0,00	0.0	8.8	8	00.0	0.00	0.00	0.00	8	900	000
	F		119.9	V 61.021		3 Point	Applied Head	(feet of water)		09 61	09.61	19.60	09.61	95.6I	19.59	65.61	65.61	19.59	92.91 22.21	4C.41	65.61	65.61	19.59	4C.VI	67.61	19.59	19.39	19.59	95.91	92.91 92.91	19.59	19.59
idie packer seie	alculation:	Top of interval Vertical	120.00 Above 130.00 Below	of interval (ft)			•		ħ		<u>.</u>	. 4								£		ar ,			c" .		5.14					
Teil Type: Coaitai baad, Straddle packar Gauge located drwhole	True vertical depth calculation:	cpth (N)	Below	Vertical depth of top of Interval (f)			ð	(gaVmin)																								• •
e c	Tn	°H.	Below	Ve			Applied Head	(ICCI OI MAIEL)	19.59	19.21	19.59	19761	4C.41	65.61	19.59	19.39	19.39	19.39	95.91				45.91					92.91		19.39	19.59	19.59
	inches 6	feet below top of casing feet below ton of casing	foot foot foot to construction	feet below top of casing			Measured Head	(ICCI 01 #41CL)	38 .07	3 0.07	-0,06	2.0	8 8	-0.06	-0.06	88	-0-CP	20.02 200	5 73 70	90 .04	-0.06	19	93 (P	-0.06	-0.0 6	90.04	28 29 2	8 1	8 28	90.0	-0.06	90 (P
elcssA	3.78 inch			163.88			Elapsed time (minuter)		90 00	0.12	0.18	0.0	0.42	0.54	09.0	0.78	0.84	96-0 -	11	1.20	1.26	131	*	1.62	1.68	01.1	9 5	2.01	2.10	1.1	2.28	2.34
Morrison-Maleriz/CSSA Miner Flat 943-27691 252 8 8 2-00-95		T op Bottom				9:46:18	Elapsed time 1 (hours)		0000	0,00	0.00	10.0	0.01	10.0	10.0	10.0	0.01	0.02	0.02	0.02	0.02	70'D	10.0	60.0	0.03	60.0	000	0.0	H0:0	10.0	10:0	1 0:0
Client N Site No. Project No. Borchole 2 Test Number 8 Test Date 4	Borehole diameter Borehole radius	Test section location	Length of test interval Gauge Deuth	Static Water Level	General Lithology Sandstone	Start Time	Clock Time		9,46,22	9.46.25	9.46:29	0,045,04	9:46.43	01:04:30	9:46:54	9.47.05	9.47,0 0	9:47:16 9:47:19	9.47.26	9.47.30	9.47.34	9:47:44	9.47.52	9.47:55	9.47.59	9.48.06	9.48.17	9.48.20	9:48:24	9:48:31	9.44.35	9.48.38

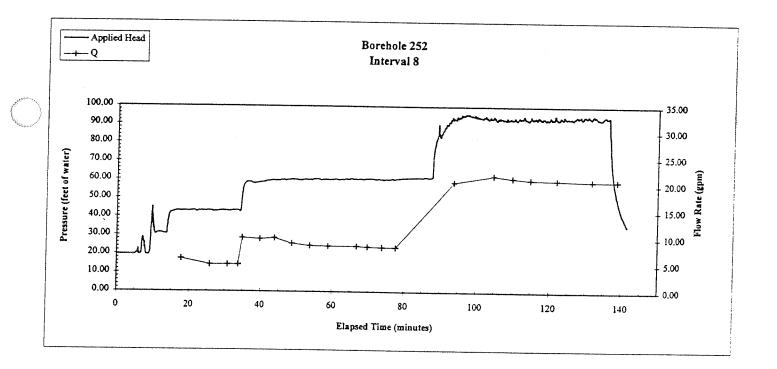
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Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

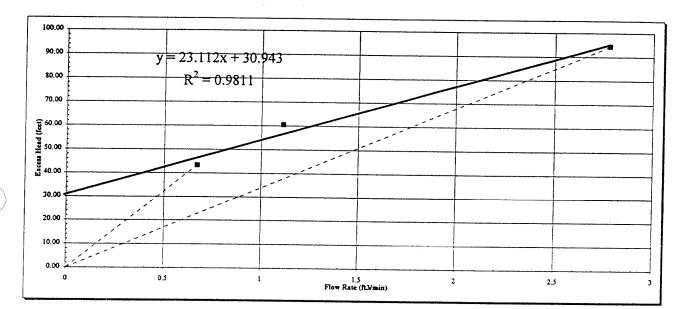
Borehole Interval Number

Plot data

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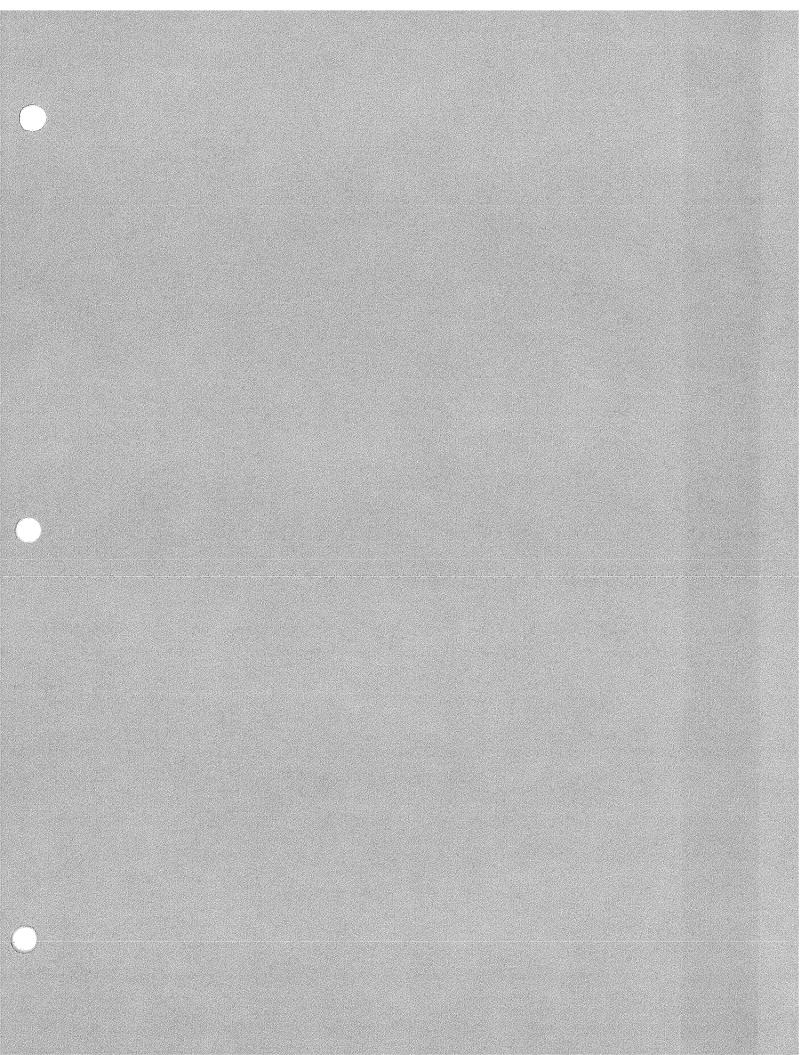
8

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
43.30	5.000	0.6685
60.50	8.300	1.1097
94.40	20.800	2.7810



K = 1/(2πL) x (Q/ḥ_) x ln (L/r)	K = hydraulic conductiv Q = Flow rate he = Applied head L = length of interval tes r = borehole radius	(ft ³ /min) (feet)
Range of l	ydraulic conductivity		
K ≃	2.5E-04 cm/s 4.9E-04 feet/min	Q = 0.669 ft^3/m h _e = 43.30 feet	in
K =	4.7E-04 cm/s 9.3E-04 feet/min	$Q = 2.781 \text{ ft}^3/\text{m}$ $h_e = 94.40 \text{ feet}$	in
K =	6.9E-04 cm/s 1.4E-03 feet/min	Trendline Slope 23.11	

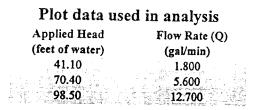
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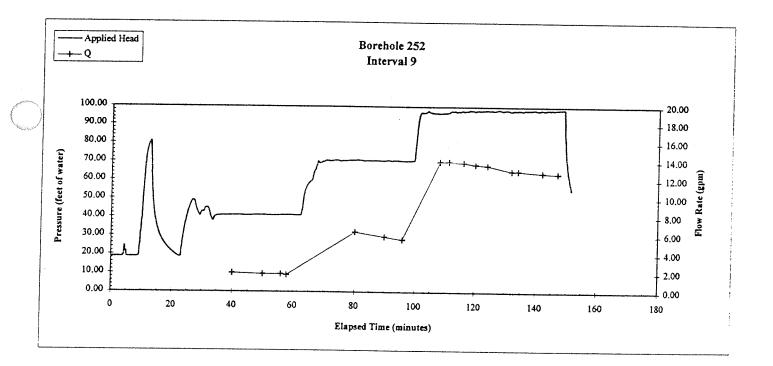


0111612-696		2	A A A A A A A A A A A A A A A A A A A	0.00
		5 Point Moving Averages	Δ time (minutes)	0.00
	epith (ft) [19.95] [20.87]	5 Point M	Applied Head (feet of water) 11.65 1	18.64
	True vortical depth calculation: Bottom of interval Hole depth (ft) Vertical Depth (ft) Above 120.00 Above 11 Bolow 12.120.00 Below 11	li ce	> bù	0.00
	True vertical depth calculation: Bottona Hole depth (ft) Above 120.00 Beiow 6 120.00 Vertical depth of bottom of later	3 Point Moving Averages	$\Delta time (mins) = 0.00 (mins) - 0.01 (mins) - 0.00 (mins) $	0'00'
	er I: T Vertical Depth (n) H Moore 93,95 Bdow 93,31 V V 1 (n) 93,31 V	3 Point		11.64
\bigcirc	ead, Straddo pack ted dewrabole al depith calculatio (n) 2000,00 pith of top of latery		O Ja	
	Teri Type: Constant h Gauge loca True vertic Hote depth Below Vertical de		Applied Head (cet of water) 11.6 11.6 11.6 11.6 11.6 11.6 11.6 11.	1
	inches feet feet below top of casing feet below top of casing feet below top of casing feet below top of casing		Measured Head (feet of water) - 001 - 002 - 001 - 001	
			Elapsed time (minutes) 000 004 014 014 014 014 014 014 014 014	
	Morrison-Maleric/CSSA Miner Flat 943-27691 252 9 8-Nov-95 8-Nov-95 8-109 8-10 8-10 8-10 120,9 8-10 120,9 10,131	12:28:04	Elapsed time (hours) 0.00 0.01 0.01 0.01 0.01 0.01 0.02 0.02	
())	Client Site Project No. Borchole Test Number Test Number Test Number Borchole diameter Borchole diameter Borchole diameter Borchola location Cauge Depta Static Water Level Static Water Level Static Water Level Static Water Level Static Water Level Static Water Level Static Water Level	Start Time	Clock Time Time 12.864 12.865 12.865 12.865 12.265	

Golder Associates

25209A CHA, liquí Data





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Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole Interval Number

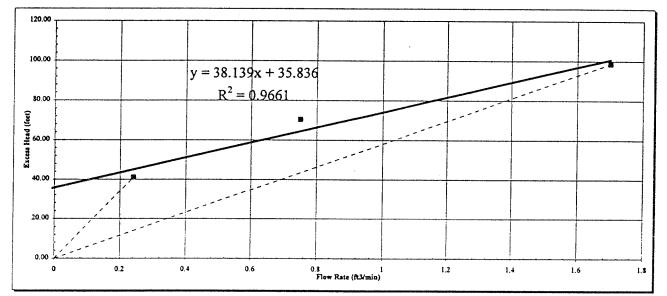
Plot data

252

9

Applied Head	Flow Rate (Q)	Flow Rate (Q)								
(fect of water)	(gal/min)	(ft ³ /min)								
41.10	1.800	0.2407								
70.40	5,600	0.7487								
98.50	12.700	1.6980								
	· · · · · · · · · · · · · · · · · · ·									





K = hydraulic conductivity

L = length of interval tested (feet)

Q = Flow rate

he = Applied head

r = borehole radius

(feet/min).

(ft³/min)

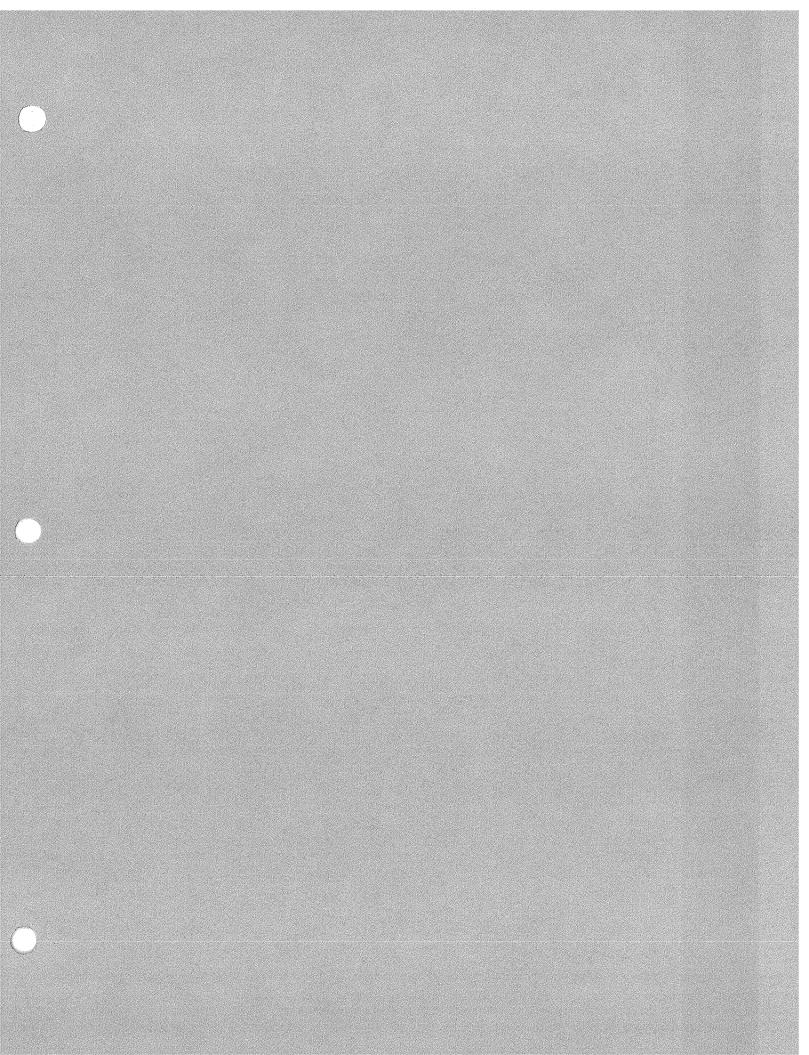
(feet)

(feet)

$K = 1/(2\pi L) \times (Q/h_{r}) \times \ln (L/r)$					
	K =	1/(2#1)	x (O/h) v In	(T /r)

Range of hydraulic conductivity

K =	9.4E-05 cm/s 1.9E-04 feet/min	Q = h _e =	0.241 41.10	ft ³ /min feet
K =	2.8E-04 cm/s 5.5E-04 feet/min	$Q = h_e = 0$	1.698 98.50	ft ³ /min feet
K =	4.2E-04 cm/s 8.3E-04 feet/min	Trendline Slope	38.14	



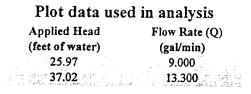
QE1.1972-1 1 9									Ø,	(a																								
i i i i i i i i i i i i i i i i i i i								ទ		(galvain)			0.0	0.0	0.0	800	0,00	8 8	8.8	0.00	0.0	8 8	0.0	0.00	0.00	8 8	00.0	00'0	0.00	80.0	000	0.0	0.0	0.00
$\left(\right)$								5 Point Moving Averages	Δ time	(minutes)			00.0	1010	800	8.6	0.02	00.0	0.00	0.00	80	0.0	0.00	0 00	0.00	00.0	00.0	00:0	00.0	00.0	[0]0	2.05	8 0.0	60°.17
				liaterval Vertical Denib (ft)	29.95 29.95	6['56		5 Point M	Applied Head	(icei ni Maler)			17.67	997.LI	17.67	13.67	17.67	17.65	17.65	17,68	197.11 17.62	17.68	17.68	17.64	17.61	17.64	17.68	17.68	17.68	17.64	17.68	11.09	18.04	18.06
			h calculation:	Bottom of laterval Vertical I	90.00 Above 100.00 Below	Ę		23	Average () (o=1/min)			0.00	0.00	8.8	0.00	0.00	0.0	0.0	0.00	0000		00.0	0.00	0.0	8.0	0:00	0.00	0.00	00.0	00.0	0.00	0.00	0.00	0.00
			True vertical depth calculation:	Hole depth (A)	Above Baiow	crtical depth of h		3 Point Moving Averages	Δ time (mim)	ĺ		0.0	9 9 9	20.0	8.0	0.02	8.0		0.0	8.8	8	0.0	0.00	88	8	9,0	0.00	0.0	800	0.0	00.0	0.03	2.05	-0.12
				erval Vertical Depth (ft) Hi	59.97 69.96	69.82 Ve		3 Point	Applied Head (feet of water)			17.66	17.66	17.67	17.67	1971	17.65	17.68	17.68	17.68	17.68	17.64	17.68	17.01	17,66	17.68	17.68	17.68	17.68	17.68	17.68	17.69	16.31	18.34
\bigcirc		Teit Type: Coastant head, Straddle packer Gauge located dowshole	True vertical depth calculation:	Top of int	\$0.00 Above 70.00 Below	Vertical depth of top of interval (ft)			(म									i në për të së																
494294.		Test Type: Constant hy Gauge local	True vertic	Hole depth (ft)	Above Below	Vertical de									* 3						a a				1840 19 19									1 1.
									Applied Head (feet of water)	17,62	17.68	17.62	17.68	17.68	17.66	17.68 17.68	17.68	17.68	17.68	17.67	17.68	17.68	17.68	17.68	17.68	17.68	17.68	17.68	17.68	17.68	17.61	17.61	17.91	2
			inch a	feet feet below top of casing	feet below top of casing	test below top of casing fest below top of casing			Measured Head (fect of water)	0.0-	£0.0	[0.0- [0.0	0.03	0.03	10:0	0.03	0.03	£0.0	10.0 10.0	0.02	0.03	0 0 0	0.0	0.0	0.03	000 300	500 100	10.0	0.03	0.03	600 100	0.04 A 0.04	2.05	2
	JCSSA				95.44 25,58	163,88			Elapsed time (minutes)	00.0	0.06	0.15	0(.)0	96.0	0.42 9.6	090	0.72	0.78	3 60	1.02	11	1.20	13	1.44	1.56	1.62	9	1.86	1.98	2.04	n17	121	234	
	Morrison-Malerle/CSSA Miner Flat 943-27691	252 10 8-Nov-95		Top	Bellem			15:16:52	Elapsed time H (hours)	0.00	000	000	10:0	10:0	10.0	10.0	10.0	100	0.02	0.02	0.02	0.02	0.02	0.02	(0.0	60.0 10.0	6.03	0.03	£0.0	0.03	100	0.0	0.04	
130M	Client Site Project No.	Borchole Test Number Test Date	Borebole diameter	Borchoic radius Test section location	Length of test interval Course Proch	Static Water Level	General Lithology Sandstone/Coluvium/Baselt	Start Time	Clock Time	13.16.52	13.16.56	15:17.03	13.17.10	15.17.14	12:17:51	15:17:21	5021151	15:17:42	15:17:50	65:71:51	13:14:00	15.11.05	15.14:15	15:14:14	15.18.26	(C.81:51	15.11.40	15:18:44	15.18.51	15. 11. 51	15.19.05	15:19,09	15:19:12	

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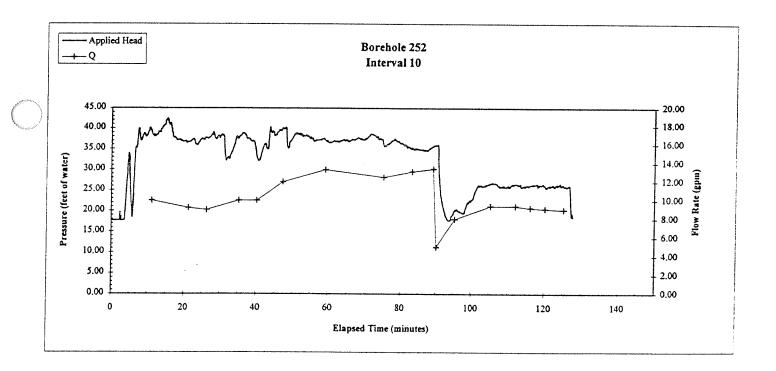
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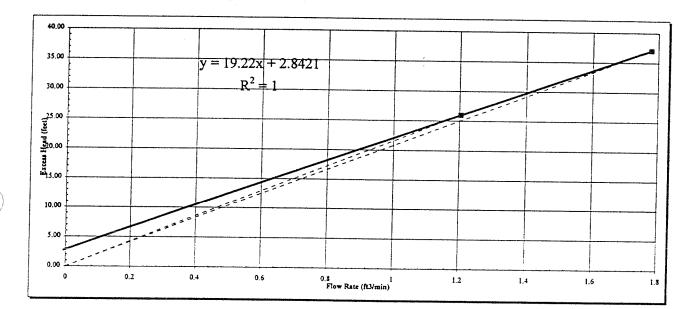
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Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

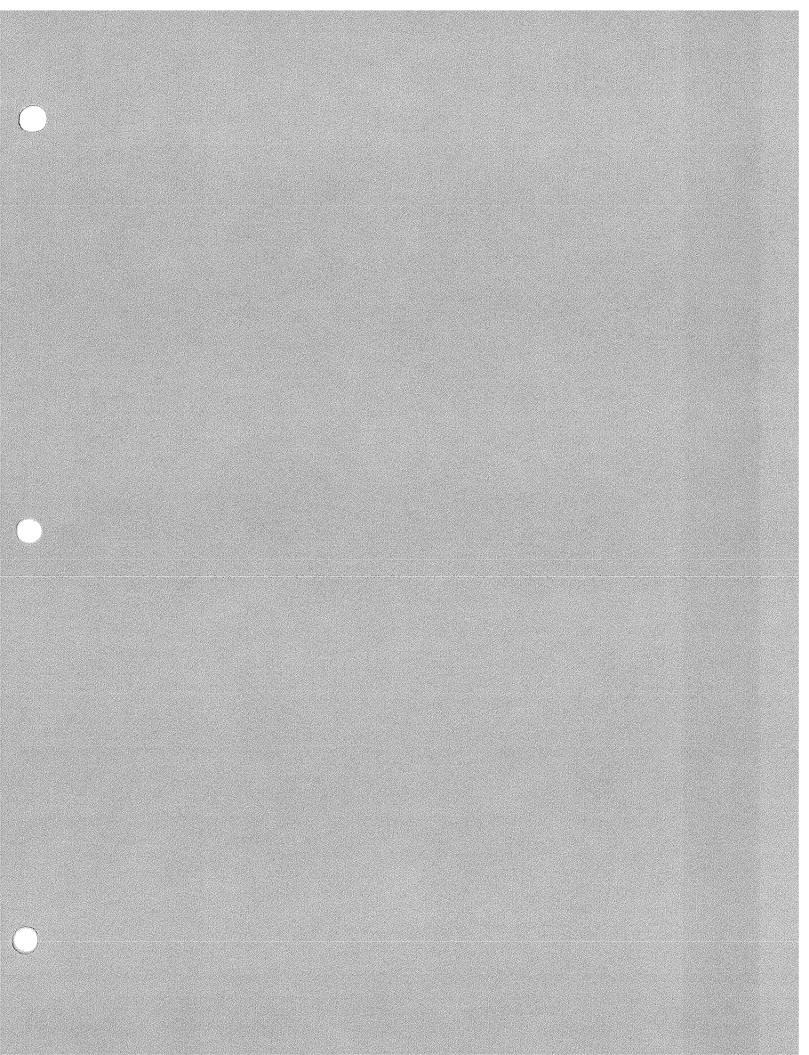
Borehole	252
Interval Number	10

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
25.97	9.000	1.2033
37.02	13.300	1.7782



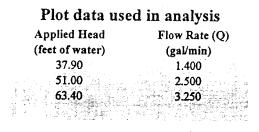
K = 1/((2πL) x (Q/h _e) x ln (L/r)	Q = Flow he = App L = lengt	K = hydraulic conductivity $Q =$ Flow ratehe = Applied headL = length of interval testedr = borehole radius							
Range of l	hydraulic conductivity									
K =	7.4E-04 cm/s 1.5E-03 feet/min	Q = h _e =	1.203 ft ³ /min 25.97 feet							
K =	7.7E-04 cm/s 1.5E-03 feet/min	Q = h _e =	1.778 ft ³ /min 37.02 feet							
K =	8.3E-04 cm/s 1.6E-03 feet/min	Trendline Slope	19.22							

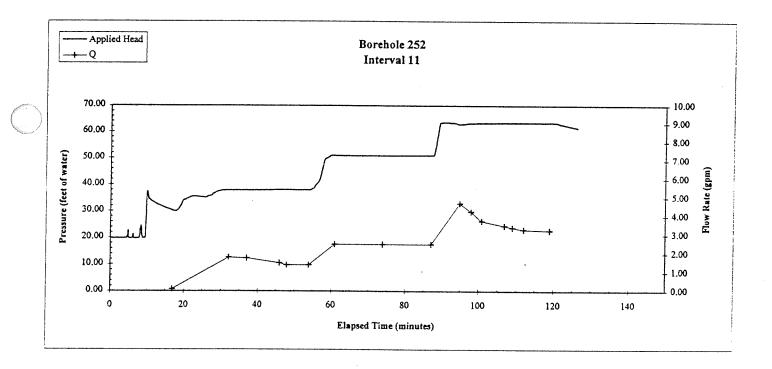


943-2791.130							Average Q	(gal/min)			8	0.00	0.0	00.0	0.00	00.00	8 :	00.0	0.00	00.0	000	000	00.0	0.00	0.0	00.00	0.00	0.00	0000	00.0	3 2
*						240 a.14	e Aven				ö					ō	0	6 ð	0.1	ő	6 6	. 3	.0	ō	5 5	0.0	0.0	0.1	00		000
() Kanalar						5 Point Movine Average	Δtime	(minutes)			00.00	00.0	6.9	£0.0-	00.0	00.00	0000	00 00 00 10 00	0.0	£0'0	(0 ⁻⁰	0.00	000	0.00	10.0-	E0:01	E0.0-	E0.0-	0.0	10.0	0.02
				Vertical Depth (ft) Above 59.97 Below 60 ts	96 [.] 69	S Point	Applied Head	(feet of water)			19.79	19.79 19.78	87.61	11.61	19.76	19.76	19.76 25	19.76	19.76	19.77 19.76	19.78	19.79	62.61 10.70	19.79 19.79	19.78	19.7 a	19.77	19.76	19.76 19.76	19.76	97.61
			calculation: Bottom of interval	Vertical I 60.00 Above 70.00 Below	ferv	3	Average Q	(gal/min)		0.00	0.00	0,00	0.00	00.0	0.0	0.00	0000	0.00	0.00	0000	0.00	0.00	000	00.0	0.00	0.00	00.0	0.0	0.00	000	0.00
			True vertical depth calculation: Bottom	Hole depth (ft) Abora Babou	Vertical depth of be	3 Point Moving Averages	Δ time	(saims)		0.00	0.00	0000	(0 ^{.0-}	0.0 . 0.00	99		10.0-	10.0	0.0	100	9.6	0.00	00.0 0	8	0.0	£0,03	0.03	10'9	0.01	00'0	0.00
			·	Vertical Depth (n) Above 39.97 Balow 49.97	44.55	3 Poin	Applied Head	(feet of water)		97.61	19.79	67.81 67.81	19.78	19.76 19.76	19.76	19.76 19.75	19.76	19.76	19.76 12.21	19.70	19.79	19.79	19.79	19.79	97.61	19.78	19.11	19.76 19.76	19.76	19.76	19.76
		traddle packer wubolo	th calculation: Top of interval	Vertici 40.00 Above 30.00 Balow	Vertical depth of top of interval (ft)						1																- : [.]				:,
		Test Type: Constant head, Straddle packer Gauge located dewnhole	True vertical deptb calculation: Top of latery	Hole depth (f) Above Below	Vertical depth of		ð	(galumin)			·																				
							Applied Head	(ICCI UI WAICE)	97.91 19.79	19.79	19.79	19.79	19.79 10.76	19.76	19.76	19.76	52.61	87.61 27.01				19.79	61.91	19.79	19.79 10.70	67.61	19 76	19.75	19.76	19.76	19.76
			inches feet	foot below top of caring feet below top of caring foot	foot below top of casing foot below top of casing		Measured Head		50 D	(0))	50'0 10'0	0.03	0.03	99.0	0.00	0.00	10.0-	0.00	80	£0.0	0.03	0.01 10.01	0.0	0.03	0.03	00.0	90,0	10.0-	0.00	0000	00.0
	Malerle/CSSA				1 88.E91		Elapsed time (minutes)		90.0	0.12	0.24	0.36	0.54 10.0	0.60	8 .0	101	1.06	111	97.1	1.26	151 121	<u>5</u>	1.62	1.68	9 9	161	2.04	2.10	11	2.28	•
	Morrison-Maleric/CSSA 943-27691	252 11 9-Nov-95	1	Pottam		8:31:09	Elapsed time (hours)	000	000	000	0.00	10.0	10.0	10.0	0.02	0.02	0.02	0.02	0.02	0.02	0.02	60.0	0.03	(9.0	0.0	60.0	E0.0	10.0	1 00	1 10 10 10	Ş
Jocu	Client Site Project No.	Borcholc Test Number Test Date	Borchole diameter Borchole radius Treeseit	Length of test interval	Static Water Level	General Lithology Basalt Start Time	Clock Time	901C1	8110	8.31.16 8.31.20	13123	10101	IVIEN	8:31:45	10:2018 01:2018	B:32;14	8.32:14	12258	8.32.21	82328 2000	10200	8:32:43	8, 32, 46	6.12.50 12.01-12	10:55.8	B0:EC:B	10001	STOCE.	12:10:1 10:00	07:FF:#	

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25211A CHA, Input Data





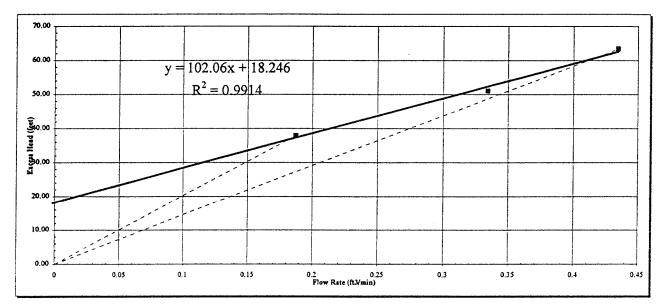
Client	Morrison-Maierle/CSSA
Site	
Project No.	943-27691

•	
Borehole	252
Interval Number	11

Interval Number

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
37.90	1.400	0.1872
51.00	2.500	0.3343
63.40	3.250	0.4345



K = hydraulic conductivity (feet/min)

L = length of interval tested (feet)

(ft³/min)

(feet)

(feet)

Q = Flow rate

he = Applied head

r = borehole radius

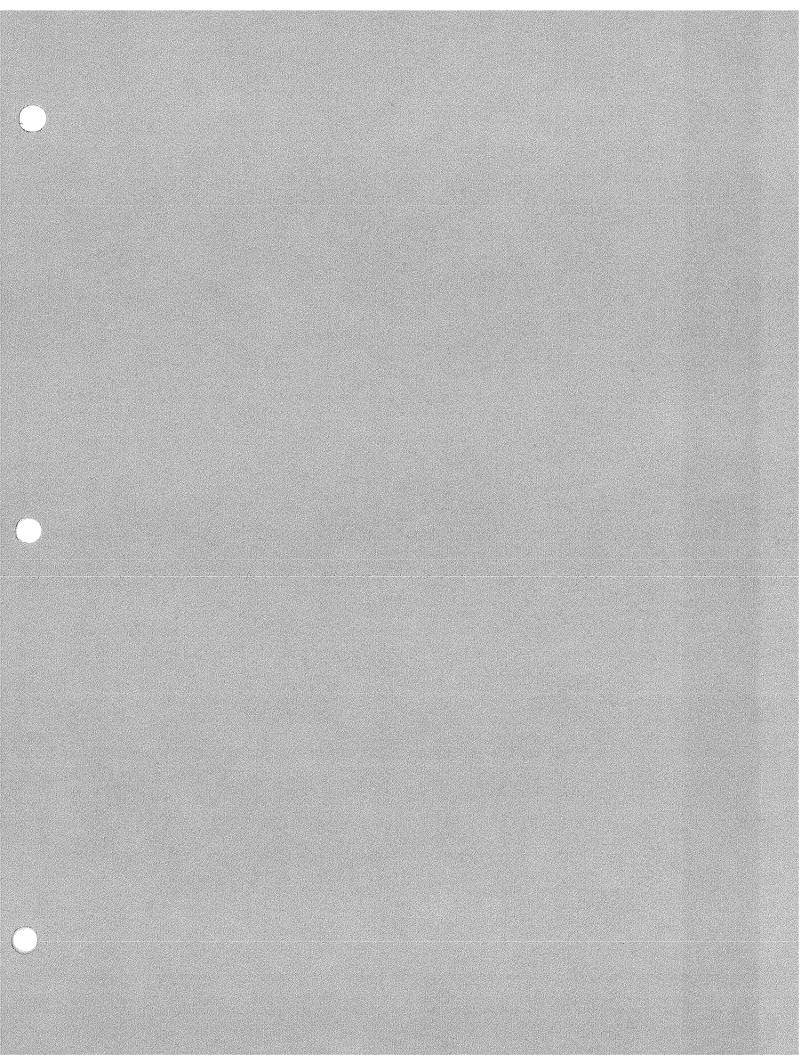
 $K = 1/(2\Pi L) \times (Q/h_e) \times \ln (L/r)$

Range of hydraulic conductivity

K =	8.0E-05 cm/s 1.6E-04 feet/min	Q = h _e =		ft ³ /min feet
K =	1.1E-04 cm/s 2.2E-04 feet/min	Q = h _e =	0.435 63.40	ft ³ /min feet
K =	1.6E-04 cm/s	Trendline Slope	102.06	

3.1E-04 feet/min

25211A.CHA, K calculation

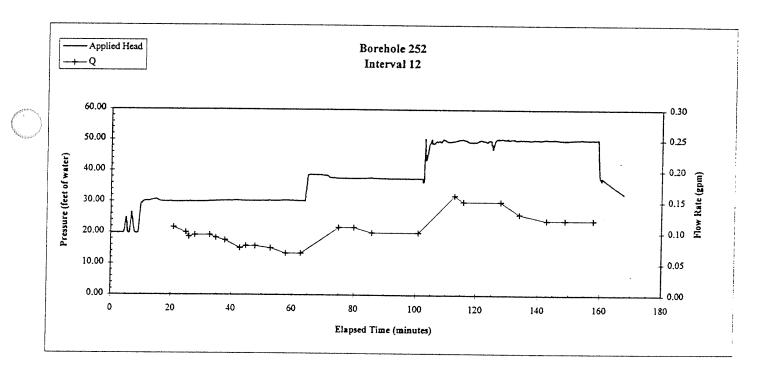


0(1.1672-636									Average Q	(gal/min)				000	80	0.00	00.0	00.0	00.0	0.00	800	00.00	0.00	0.0	000	00'0	0.00	0.00	000	0,00	0.00	00.0	0.00	0000
								5 Point Moving Averages	Δ time	(minutes)			:	0.0	10.0	0.0	8 00	10 .0	00:0	0.05	10'0	60'0	00.0	60'0	10.07	-0.03	-0.07	-0.02	500	10.0	0.04	0.00	5.9	8 9
				epth (ft)	39.97 49.97	44.91		5 Point M	Applied Head	(feet of water)				87,91	19.77	19.76 10.72	19.76	19.77	14.61	19.78	19.80	19.81	19.82	19.21	19.41	18.61	18,61	97.91 PC 01	08.61	18,81	18.61	18.61	19.61	09.79 19.79
			calculation:	Bottom of Interval Vertical Depth (ft)	40.00 Above 50.00 Below	Vertical depth of bottom of interval (ft)		5	Average Q	(gal/min)			8.0	0.00	0.00	00:00	0.0	0.00	0.0	00.0	0.00	0.00	000	00.0	0.00	00'00	0.00	0.00	00'0	00.00	00.0	0.0	000	0.00
			True vertical depth calculation:	Hole depth (N)	Above Bedow	rrtical depta of be		3 Point Moving Averages	A time	(suim)		:	800	20	0.00	8.9	0.0	0.00	90'0 90'0	10.0	0.03	0.0	8.8	0.0	10:0-	01.0	0 0 0	000	0.00	0.04	10.0	00.0	200	1 0.0
			÷		10.00 19.99	19.57 Ve		3 Point	Applied Head	(feet of water)			19.75	19.78	17.61	17.61 77.61	19.76	19.76	19.78 19.78	19.79	19.79	99.61	11.0	51.61	19.83	23.61	19.79	67.61	19.80	19.80	23.61	19.62		19.74
		raddle packer rabole	h calculatios:	Top of interval Vertical Depth (ft)	10.00 Above 20.00 Below	Vertical depth of top of interval (ft)			<u> </u>			*										÷.												4
\bigcirc		Test Type: Cosstant bend, Straddle packer Gauge located dewnabele	True vertical depth calculation:	Hole depth (ft)	Above Bckow	crtical depth of t			Q	(um/reg)											•													
			F	- 244 - 144 - 144	~ #				Applied Head	(ICCI OI WALCI)	19.76	19.76 19.78	01.61	19.76	19.76 14.77	19.77	19.76	19.76 19.76	19.80	19.76	19.41	19.41	19.46			08.91					78.61			
			inches	feet below top of caning feet below top of caning	foct	teet below top of curing			Measured Head (feet of water)		0010	0.02	0.04	0000	0000 1010	10.0	0.00	00'0 00'0	10.0	00,00	0.02 10.02	0.05	0.10	0.05	0.12	0.02	0.02	0.05	to:0	CO 10	90 G	0.06	0.05	0.02
	L/CSSA		3.78						Elapsed time (minutes)		8	0.42	0.42	8+0 5+1	80	0.60	90 80 10	0.78	0.14	9 6.0	70 1	1.20	1.26	5	1	1.62	1.68	1.80	9 1 -	2.04	2.10	111	2.28	151
	Morrison-Malerie/CSSA Miner Flat 943-27691	252 12 9-Nov-95		Top Bottom				10:52:14	Elapsed time 1 (hours)		3 00	10.0	10.0	10.0	10.0	10.0	0.01	10.0	10.0	0.02	0.02	0:02	0.02	0.02	2010	0.03	0.03	0.03	0.0	£0'0	0.04	90.04	M 0.0	1 0.0
Jooet	Client Site Project No.	Borchole Test Number Test Date	Borehole diameter Borehole radius	Test section location	Length of test interval Gauge Denth	Static Water Level	General Lithology Basalt	Start Time	Clock Time	11-0-01	10.52.18	96.52.01	10:52:39	10.52:43	10:52;50	10.52.50	10.52:54	10.53.01	10.53,04	10:33:12 10:33:12	10.53.22	10.53:26	10:53:30	0.12.01	10:53:48	10:53:51	10.51.55	10.54.02	00.4C.01	10:54:16	10.54:20	10:54:27	16:45:01	10:54:34

Golder Associates

25212A CHA, Input Data

Plot data use	d in analysis
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
30.22	0.067
37.47	0.100
50.09	0.120



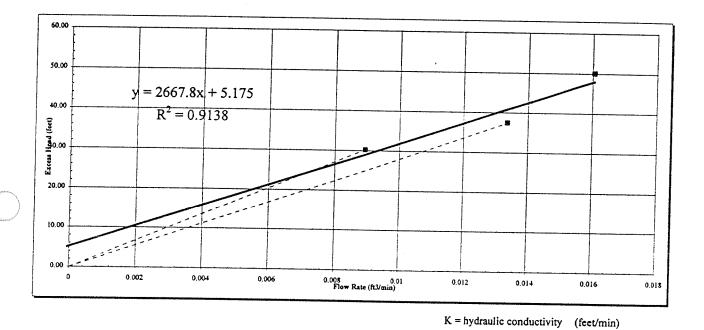
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Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole252Interval Number12

Plot data

(ft ³ /min)
0.0089
0.0134
0.0160



 $K = 1/(2\pi L) x (Q/h_e) x \ln (L/r)$

Range of hydraulic conductivity

K =	4.8E-06 cm/s 9.4E-06 feet/min	$Q = 0.009 \text{ ft}^3/\text{min}$ $h_e = 30.22 \text{ feet}$
K =	5.8E-06 cm/s 1.1E-05 feet/min	$Q = 0.013 \text{ ft}^3/\text{min}$ $h_e = 37.47 \text{ feet}$
K =	6.1E-06 cm/s	Trendline Slope 2667.80

1.2E-05 feet/min

Trendline Slope 2667.80

Q = Flow rate

he = Applied head

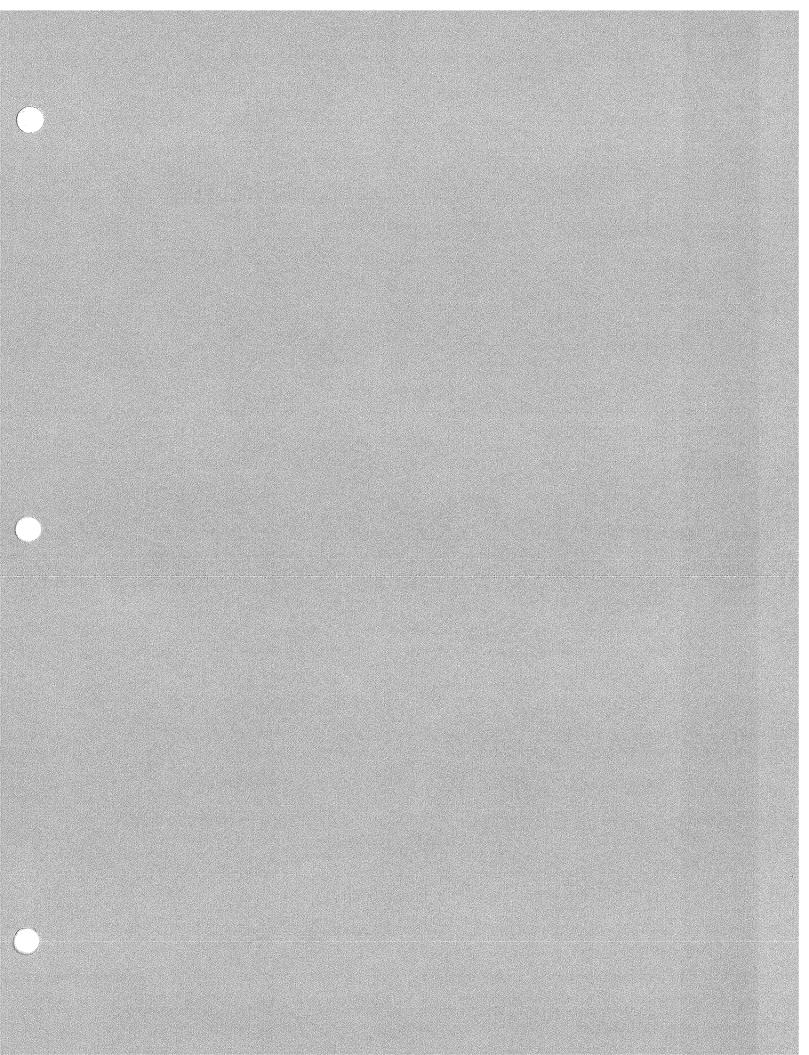
r = borehole radius

L = length of interval tested (feet)

(ft³/min)

(feet)

(feet)



Packer Testing Results Borehole MF 253

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Interval #		¥-+						and a second	The second se		
111111 7 41 T		ALLICIVA	Interval Deptn		Lithology			Hydraulic Conductivity	Conductiv	itv	
		Top	Bott	ttom			factimin			- C -	
	1.1.1									cm/sec	
	(and the second	(elevation)	(fbtc)	(elevation)		Low	Highk	High & Regression	Low	High	Regression
)
13 (15)	45.10	6026.31	70.10	6001.31	Sandstone	1.97E-04	2 29E-04	2 71F_04	1 005-04	1165.04	
12	50.10	6021.31	74.80	5996.61	Sandstone	2.92E-04			1 405 04	1.105-04	1.3/12-04
10 (14)	70.00	6001.41	95.10	16 3056 31	Candetone	4 545 04	10 200 2		1.405-04		
11	00 66				ominoine	+	0.035-04	8.0915-04	2.31E-04	3.06E-04	4.11E-04
	13.90	10./660	88.90	5982.51	Sandstone	6.08E-04			3.09E-04		
۰ ۲	95.00	5976.41	120.10	5951.31	Sandstone	9.21E-03	101E-02	7 078-03	1 695 02	14E A7	1 050 00
8	123.22	5948.19	147 77	\$072.60				C0-71711	CU-200.F	0.14E-U3	4.035-03
2	147 77	0/ 00/	7///	60.0760	oanusione	3.90E-04			1.98E-04		
	71.141	60.6260	172.42	5898.99	Sandstone	2.29E-04	2.66E-04	5.17E-04	1 17F-04	1 355-04	1 K3E 04
0	172.42	5898.99	196.92	5874.49	Sandstone	4 69F-04				10-700-1	+n-1017
5	196.92	5874.49	221.62	5849 79	Sandetone	10 202 0	1 720 01	0 0/1 01	2.30E-04		
4	221.62	5840 70	746 17	607630	Allochimo	4.07E-04	+0-300-+	8.80E-U4	1.47E-04	2.21E-04	4.50E-04
~		C1.0702	71.042	67.0280	Sandstone	1.37E-03	7.49E-04	7.15E-04	6.94E-04	3.81E-04	3.63E-04
<u>c</u>	240.12	92.2280	270.62	5800.79	Sandstone	5.08E-05			2 58F-05		
									2222		
2											
	II										
								-			

¹ Feet below top of casing.

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² Feet above mean sea level

³ Regression analysis does not include origin as a point. ⁴ Single point tests are presented in the "low" value column, however, they do not necessarily represent the low value for that interval.

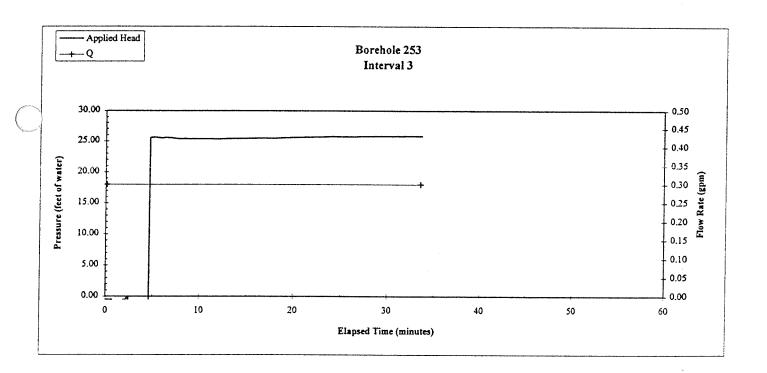
() Miles												943-2791.130
Client Site Project No.	Morrison-Maleric/CSSA Miner Flat 943-27691	lerle/CSSA										
Borehole Test Number Test Date	253 3 21-Oct-95				Test Type: Coastant head, Straddie packer Gauge located dewnhole	e packer e						
Borchole diameter Borchole radiua Test section location Length of test interval Gauge Depth Static Water Level	a Tep Bottoon	3.78 0.16 24.50 24.50 24.50 170.64	inches feet feet below top of casing feet below top of casing feet feet below top of casing		True vertical depth calculation: Top of laterval Hole depth (M) Verti Above 240,00 Bdow Bdow 2000 Bdow Vertical depth of top of laterval (M)	calculation: Top of laterval Vertical 240,00 Above 250,00 Below	e: Tra Erval Vertical Depth (11) Hol Above 239,97 Below 239,97 24,00 14 (11) 24,00 Vertical Vertical	True vertical depth calculation: Bottom Hele depth (f) 270.00 Bedow 270.00	calculation: Bottom of Interval Vertical Depth (f) 270.00 Above 22	cpita (ft) 2.09.56 -		
General Lithology Sandstone Start Time	1631:61						Poi	3 Point Moving Averages	versease appending to postone of laterval (ft) of Moving Averages	270.58 5 Point Ma	38 5 Point Moving Averages	
Clock Time	Elapsed time (hours)	Elapsed time (minutes)	Mcasured Head (feet of water)	Applied Head (feet of water)	Q (gal/min)	~ ::	Applied Head (feet of water)	Δ time (mins)	Average Q (gal/min)	Applied Head (feet of water)	Δ time (minutes)	Average Q (sal/min)
16:91:91 14:90:91	00.0	0 90,0	3 9 9 9	95 Q 95 Q								
14:16.3 x 14:10.42	00.0	0.12 0.18	05.07 64-07	95.0	0.30		05.0	0.00	0.10			
14,16,45 14:16:53	0000 0010	0.24 0.36	-0.49 0.40				-0.49 -0.49	8.9	0.10	-0.49 0.49	10.0	90.00 90
14:16:56 14:17:03	10'0	0.42	0.49				-0.49 -0.49	90.0 90.0	00.0	0.49 0.40	00.0	9.0
14:17.07	10.0	9.0	87°7	67 () () ()			\$ 9 9	0.0	000	9. o	20.0	00.0
14:17:14 14:17:18	10.0	0.72 0.78	-0.51 -0.62				22	114	0000	-0.52 -0.55	0.12	00.0 00.0
14:17:21	10:0	0.84 2.0	-0.63				5 79 797	-0.12 -0.05	0000	-0.58 -0.61	1.0- 1.0-	80.0
11.132	0.02	1.02	-0.67 -0.73	-0.67 -0.73			10.0 10	0.10	0.00	8 9'0-	110	0.0
14:17:39	0.02 0.02	<u> 1</u> 2	-0.77				12.1 0	0.14 19.0-	00.0	57.0- 87.0-	81.0- 51.0-	00.0
14.17.47	0.02	521	-0.82	-0.81 -0.82			919	20.0-	0.00	61.0-	-0.12	00.0
14.17.54	0.02	5	0.85				110	5 TO TO	00.0	28.0- 53.0-	10 10-	9 8 0
14.18.01	60.0	51	587 7	0.83			-0.84	0.01	0.00	-0.84	10.01	9 070
14.13.08	[0:0	1.62	-0.86				110- 110-	10.0	0.00	-0.25 200	10.0-	00.0
14.18.19	0.03 U UJ	1.68	29 29 29				-0.77	0.26	000	-0.74	570 570	00.0
14:16:23	0.03	98.1	1 5 9	8 F			19.0°	0.27	0.00	-0.69	0.30	0.00
14.18:30	0.03	36.1	-0.X6				8.07 28.07	0.04 10.0	0.00	(9. 0	16.0	0.00
16.16.31	100 1100	2.04		-0.55			-0.55	0.02	00'0	8 5 9	000	000
14118-44	100	17	45.0- 15.0-	7, q			-0.54	0.02	0,00	0.45	0.48	800
14:12,48	0.04	2.28	90.0-				80.0- 11.0-	0.66	0.00	(('0-	0.58	0.00
14.18.55	100	2.4	P 0'0	0.04			-0.28	8.9	0.60	1C.0-	11.0	0.00
							1 -	;	}	19.04	51.9	0.0

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25303A CHA, lapat Data

Plot data	used in analysis
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
25.80	0.300

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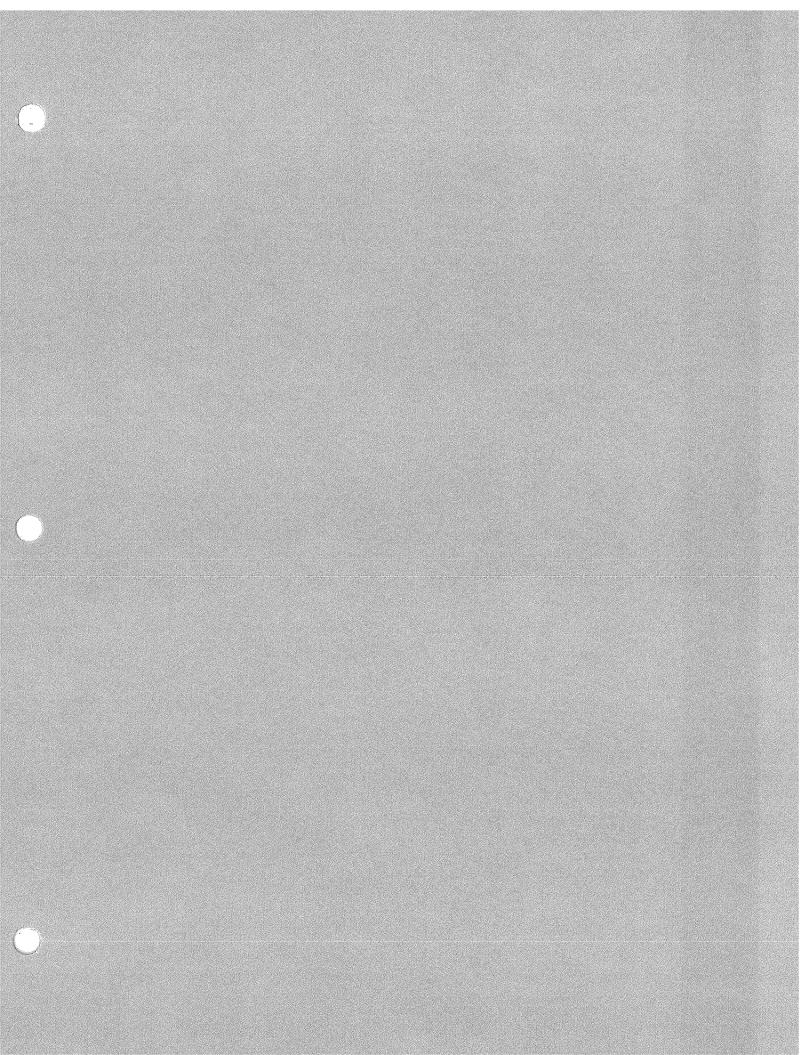


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Client	Morrison-	Maierle/CSSA		
Site	Miner Fla	t		
Project No.	943-27691			
Borehole	253			
Interval Number	3			
	Plot data			
		Applied Head	Flow Rate (Q)	Flow Rate (Q)
		(feet of water) 25.80	(gal/min) 0.300	(ft3/min) 0.0401

K = 1/(2	pL) x (Q/he) x in (L/r)	K = hydraulic conductivity	(feet/min)
		Q = Flow rate	(ft3/min)
		he = Applied head	(feet)
		L = length of interval tested	(feet)
		r = borehole radius	(feet)
Range of hyd	raulic conductivity		
K =	2.6E-05 cm/s	Q = 0.040 ft3/m	nin
	5.1E-05 feet/min	he = 25.80 feet	

25303A.CHA, K calculation

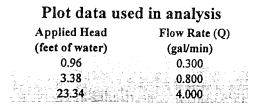


0(1.1072-614			Average Q	(1111111)	80	00.0 00.0	00.0 00.0	0.00	0.00 00.00	8.9	000	0.00 00.0	00.0	00'0	00.0	00'0	08.0	0.00	0,00	000	00.0
		s S Solite Molecular	orung Averag Δ time (minuter)	(5)101	00.0 0	0 00 00	00.0	00'0 00'0	0000	00.0	8	00.0 00.0	00 0 00 0	00.0	00.0	00.0	0.00	10.0-	0.01	0.05	117.0
		ରୁ କୁ ଏ	Applied Head (feet of water)		20:0-	10.0-	-0.02	-0.02 -0.02	-0.02 -0.02	-0.02 -0.02	-0.02	(n) n	60.0- 10.0-	-0.0- 0.02	0.0	0.0	60 0	£0.0-	(0 ^{.0}	-0.02 0.00	3.3
		True vertical depth calculation: Bottom of laterval Hole depth (ft) Vertical Depth (ft) Above 14000 Above 121 Below 1230,00 Below 121 Vertical depth of bottom of laterval (ft) 24	Average Q (gal/min)		00.0 00.0	00.0	0000	0.00	0.00	8.0 8.0	0.0	0.00	00'0	0.00	0000	0.0	00.0	00.00	00'0	0.00	00.0
		Tree vertical depth calculation: Bottom Hede depth (ft) Above 230.00 Peddor Vertical depth of bottom of inte	Δ time (mins)		8 9 9	8.8 8.0	8 8 3		0.00	8.8	00.0 00	800	000	00.0	0.0	80	0.0	0.00	10'0-	0.05	10.0
		at: T. Erval Vertical Depth (f) H. Above 21997 Bolow 21997 v(f) 221.59 V.	Applied Head (feet of water)		-0.02 -0.02	-0.02 -0.02	100 000	100	10.0-	-0.02 -0.02	-0.01 20.02	1 0 0	(0) 0 -	(0)9 (0)9	60.03	6.9 619	0.0	£0.0-	600 800	10.0	0.02
	traddie packer wakole	True vertical depith calculation: Top of laterval Hole depth (ft) Top of laterval Above 220.00 Bolow Bibow 230.00 Bolow Vertical depth of top of laterval (ft)							1. 4 ¹ · · ·												
	Teit Type: Constant houd, Straddie packer Gauge located downhole	True vertical depits calculation: Hole depits (ft) Top of latery V Above 220.00 A Bubow 220.00 B Vertical depits of top of laterval	Q (gaVmin)	0.30																	20 (1) 1995 - 1997 - 19
	F G G		Applied Head (feet of water)	-0.02 -0.02	-0.02 -0.02	70 0 9 0 9					-0.03 -0.02	0.0- 0.0-		-0.02 -0.03	0 O			609 609	(0) 0	0.02	0.02
		luches foct foct foct below top of casing foct below top of casing foct below top of casing foct below top of casing	Measured Head (feet of water)	10.0-	-0.02 -0.02	0.02	-0.02 -0.02	-0.01 2010-	0.02	0.02	-0.07	60.0 . 20.0-	0.03	70°0-	60 0	£0'0-	E0.0-	10'0- 10'1-	£0.0-	50.0 1	0.02
		9.78 0.16 24.6.12 24.50 1.80.00 1.74.75	Elapsed time (minutes)	0 90'0	0.11 0.12	0.36 0.42	0.54 0.6	0.72 0.78	11.0	1.02	1.2	1.26 1.32	7 3	51	1.64	1.36	1.98	51	111	2.28	2.34
	Morrison-Malerle/CSSA Miner Flat 943-27691 253 253 253 23-0ct-95	Tap Boltom B:16:06	Elapsed time (hours)	00.0	0000 1010	10.0 10.0	10.0	10.0	0.01 0.02	0.02	0.02	0.02	0.02	0 0	0.03	£0:0	0.03	10 .0	0.04	10.0	3
Const	Client Site Project No. Borehole Test Number Test Date Borehole diameter	Boochoic radius Test section location Length of test laterval Gauge Depth Staule Water Level General Lithology Standutone Start Time	Clock Time	8: 16:06 8: 16: 10	1.16.17 1.16.24	8.16/28 8.16/31	8:16:38 8:16:42	8.16.53 8:16.53	8:16.56 8:17:04	8:17:07 8:17-11	811718	81722 81725	8:17:32 8:17:40	01210	11734	11735	8. 18.05 8.14.05	8.16.12	6: 1 m - 1 o	6.18.2) 	1997 - 1997 - 19 19

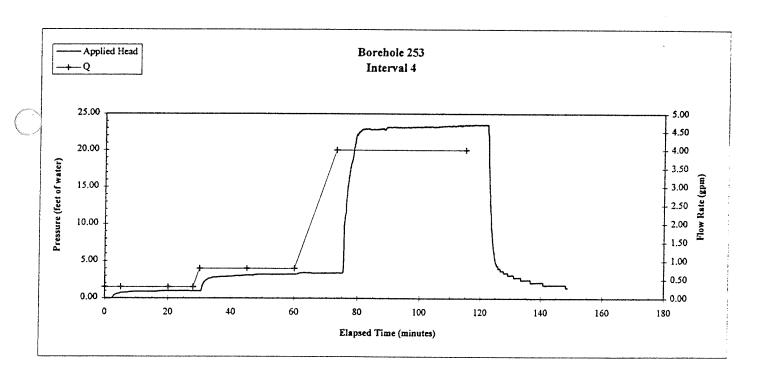
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25304A CHA, luput Data



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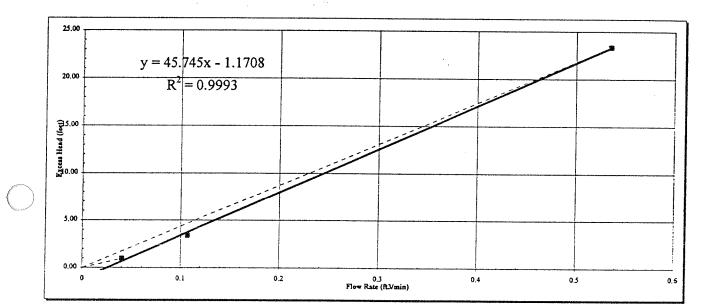


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borchole	253
Interval Number	4

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
0.96	0.300	0.0401
3.38	0.800	0.1070
23.34	4.000	0.5348



K = hydraulic conductivity (feet/min)

L = length of interval tested (feet)

(ft³/min)

(feet)

(feet)

Q = Flow rate

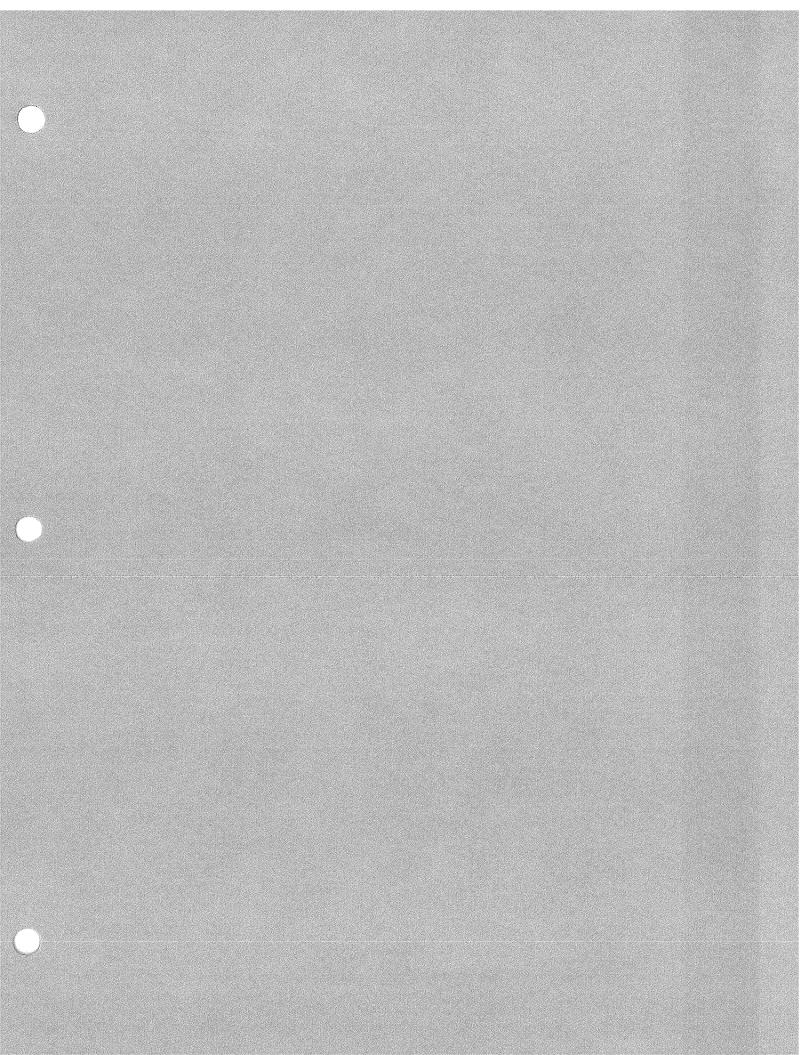
he = Applied head

r = borehole radius

 $K = 1/(2\pi L) \ge (Q/h_e) \ge \ln (L/r)$

Range of hydraulic conductivity

K =	6.9E-04 cm/s	Q =	0.040	ft ³ /min
	1.4E-03 feet/min	h _e =	0.96	feet
K =	3.8E-04 cm/s	Q =	0.535	ft ³ /min
	7.5E-04 feet/min	h _e =	23.34	feet
K =	3.6E-04 cm/s 7.2E-04 feet/min	Trendline Slope	45.75	



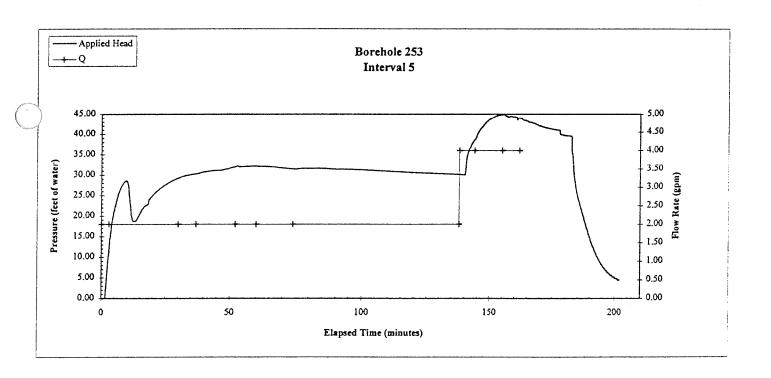
61.1%1.1%							crages	e Average Q	cs) (galmu)			0.00	00.00	0.00	0:00	3.9	00.0	0.00	900 800	0.00	00'00	00.0	00.0	00 0	000	00.0	0.00	000	9 8.9	0000	000	000
Norman Pr							5 Point Moving Averages	Δ time	(minutes)			00 0	00.9	0.00	0.0	8.0	00'0	0.0	10.0	0.01	10.0	0.00	0.92	1	11.7 11.1	5	12.4	3.6	3.60	9-1 	1	212
				երլե (Ո)	219.97	221.59	5 Point N	Applied Head				10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10'0	0.02	0.02	07:0	0.57	1	2.89	3.92	4.83	5.64	6.79	ar	67.1
			lculation:	5	230.00 Above 230.00 Below	om of interval (ft)		Average Q (eat/min)			0.00	200	0.0	0.00	0.00	0.00	0.00	000	0.00	00'0	00.0	0.00	0.00	00.0	0.0	0.00	0.00	00.0	00.0	0.00	0.00	0.00
			True vertical depth calculation:	Hole depth (ft)	Allow	Vertical depth of bottom of interval (ft)	3 Point Moving Averages	A time A (mins)			0,00	9 9 9	0.00	8.9	80.0	0:00		000	0.00	10.0	100	90.0	0.00	0.92 1 AA	Ξ	1.34	2.97	1.17	67.0 (1.0	0.77	0.72	1.07
			£	al Depth (f)	199.97	196.89		Applied Head (feet of water)			10:0	10.0	0.01	10.0	10.0	0.01	10.0	10.0	10.0	0.01	10.0	0.02	0.02	1.0	1.15	2.60	611	4.79 6.07	6.42	6.79	7.16	7.65
\bigcirc		Test Type: Constant head, Straddle packer Gauge located downhole	True vertical depth calculation:	Top of lau lepth (ft)		דניוננו ובקנה פו ופף פו ותנודעון (וו)		Q (gal/min)	2.00				-											-								
		Tei Gan	Ĩru	Hole d	Bedow	5		Applied Head (feet of water)	10.0	10.0	10.0			100		10.0			0.0	0.02	0.02	0.02	0.02	14.0		2,75	97.5	6.07	6.41			7.51
			inches	reet feet below top of casing feet below top of casing	feet feet below top of cusing feet below top of cusing			Measured Head (feet of water)	0.01	0.01	10.0	10.0	10.0	10:0	10:0	10.0	10:0	10.0	10:0 10:0	0.02	10.0	t0:0	0.0 0.02	16.0	1.86	2.75	5.72	6.07	6.41	6.79	11	16.7
	erle/CSSA		3.78	0.10 196,92 221.62	24.70 177.00 174.75			Elapsed time (minutes)	٥	90:0	10	0.54	90 90	9.0	0.66	0.78	0.64	8.0	1.06	1.2	1.26	8C 1	8	1.62	1.61	9 T	2.16	2.22	112	121		5
	Morrison-Malerle/CSSA Miner Flat 943-27691	253 5 22-Oct-95		Top Bollom			11:47.51	Elapsed time (hours)	00.0	0.00	0.0	10.0	100	10'0	10'0	10'0	10.0	0.02	7010	0.02	0.02	0.02	10 0	0.03	0.0	0.0	0.04	1 0.0	1 0.0	1 0.0	5 8	ſ
113MX	Client M Site M Project No. 9	Borcholc 2 Test Number 5 Test Date 2:	Borchole diameter Borchole radius	Test section location	Leagth of test interval Gauge Depth Static Water Level	General Lithology	Start Time	Clock F Time	19261	11:47:55	11.48.02	14.48.23 14.48.23	11.44.27	11:48:27		1148.38	10.44.41	18.48.49 11.14.43	1141156	11:49.03	11.49.07	11:49:17	11:49.25	11.49 28	20'49'11 60'69'11	EP-69-EF	10:00:11	11.30.04	H000011	11.06.11	11:00:11	

23305A CHA, Input Duta

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Plot data used in analysisApplied HeadFlow Rate (Q)(feet of water)(gal/min)30.102.00039.904.000

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Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borchole 253 Interval Number

Plot data

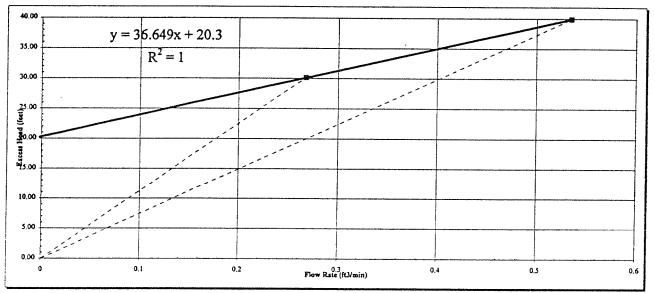
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Applied Head (feet of water) 30.10 39.90

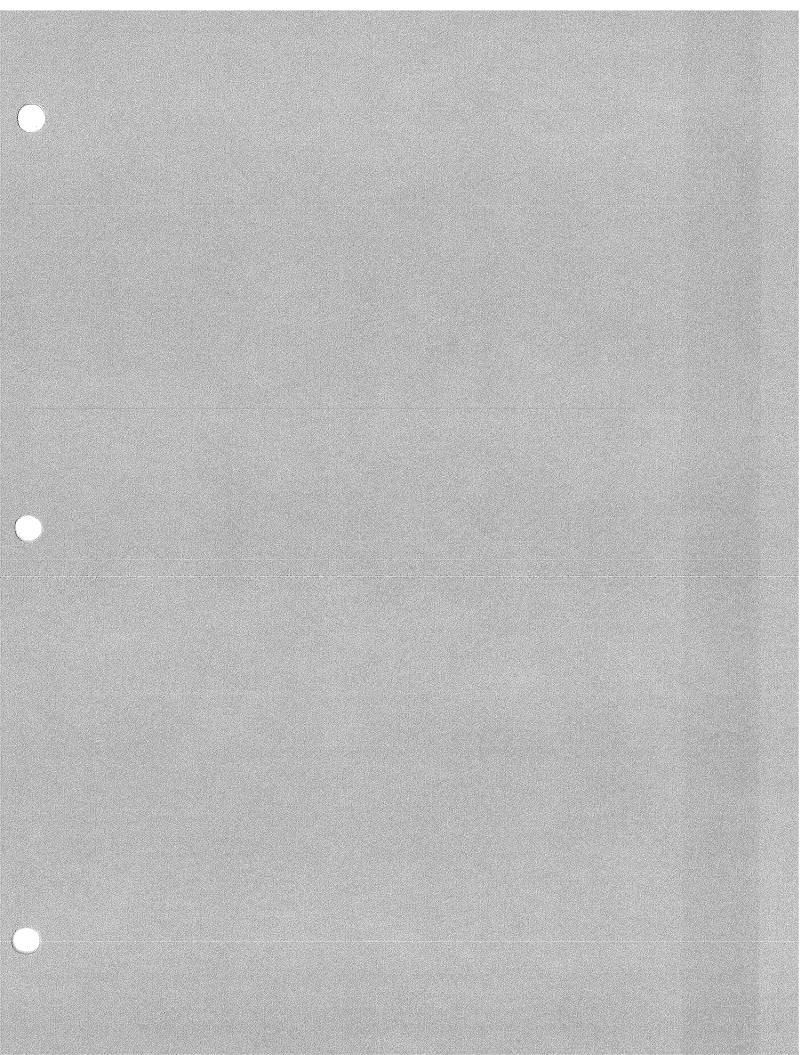
Flow Rate (Q) Flow Rate (Q) (ft³/min) 0.2674 0.5348 (gal/min)



2.000 4.000



K = 1/(2	2πL) x (Q/h _e) x ln (L/r)	K = hydr $Q = Flow$ $he = App$ $L = lengt$ $r = boreh$	rate lied head h of inter	val tested	(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of h	ydraulic conductivity				
K =	1.5E-04 cm/s 2.9E-04 feet/min	Q = h _e =	0.267 30.10	ft ³ /min feet	
K =	2.2E-04 cm/s 4.4E-04 feet/min	Q = h _e =	0.535 39.90	ft ³ /min feet	
K =	4.5E-04 cm/s 8.9E-04 feet/min	Trendline Slope	36.65		

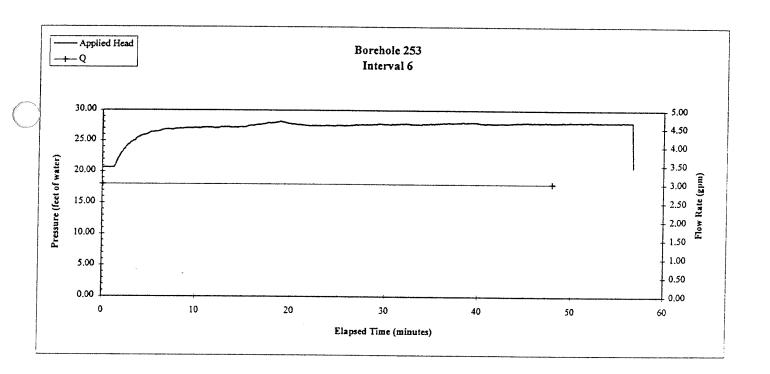


0(1.1675-614								8	Average Q (gal/min)				0.60	9 00	0.00	8.9	800	00.0	0.00	90 00 00 00	0.00	00.0	00.0	800	00.0	0000	0.00	000	0.00	0.00	000	0:0	000
()								5 Point Moving Averages	∆ time (minutes)				0.0	10.0	0.01	0.02	10:0-	00.00	0.02	10.0	0 24	0.52	1 47	121	1.17	0.87	52.0	0.78	0.70	0.26	8C.0	750	9.3E
				еріћ (fi)	79,981 79,991	196.89		5 Point M	Applied Head (feet of water)				20.65 20.65	30.66	20.65	20.65	10.64	20.64	20.64	20.65	20.70	18.02	21.25	21.60	21.89	22.14	11.60	11.11	27-22	23,06	23.16 27 75		141
			a calculation:	Bottom of interval Vertical Depth (ft)	190.00 Above 200.00 Below	Vertical depth of bottom of interval (ft)		53	Average Q (gal/min)			1.00	00.0	0.00	00.0	0.00	0.00	0.00	00.00	0.00	0.00	000	00.0	0.00	0.00	00.00 00.00	0.00	0.00	0.00	0.0	00.0	0.00	0.0
			True vertical deptà calculation:	Hole depth (A)	Above Below	ertical depth of b		3 Point Moving Averages	A time (mina)			8.9	0.0	0.00	80	10.0-		10.0	10.0	10.0	0.0	550	0.65	66.0	0.72	110	1910	9 9	0.17	8	2	11	0.19
			ŗ		179,56	171.40 V.		3 Point	Applied Head (feet of water)			20.65	20.02	30.66	20.66	20.65	20.64	20.62	20.65	20.65	20.66	16.02	21.20	21.61	21.96 21.96	1 a	22.57	e7.22	10,11	B0717		10.62	23.45
Ċ		traddie patker wnhole	ta calculation:	Top of interval Vertical Depth (ft)	170.00 Above 180.00 Below	Vertical depta of top of laterval (ft)			< 5	1.45 m							- 17 - I		. •														
		Tett Type: Censtant head, Straddle pacher Gauge localed dewnhole	True vertical deptà calculation:	Hole depth (ft)	Above Below	/ertical depth of			Q (gal/min)		3.8																		28 1 - 1 1	·			
			F	1		-			Applied Head (feet of water)	20.65	20.65	20,65		20.65 70.65			20.63				20.02	20.89	21.17	21.54	21.26	22.34	22.41	22.95	21.12	ПR	12.62	36.62	23.44
			inches	feet below top of casing	feet feet below top of casing	feet below top of casing			Measured Head (feet of water)	0.02	10:0-	0.02	-0.02	10 (P	10'0-	-0.02	10.0- 10.0-	10 O	[0]0-	10.14 10.10	10.0-	0.22	0.50	48°0	671	1.67	174	1 3	3	1.4	124	2.69	<i>1</i> 1.1
	e/CSSA		3.78	0.10 172.42 106.02	24.50 164.00	173.20			Elapsed time (minutes)	0	90'0 1 0	0.18	1	0.62	0.54	9.6	0.78 U.78	911.0	6.9	1.14	1	1.26	5	1 29	1.68	174	1.74	191	2.04	2.04	2.1	2.16	2.16
	Morrison-Malerie/CSSA Miner Flat 943-27691	253 6 21-0ct-95		Top Holion			80-80-91	00.07.01	Elapsed time (hours)	0.00	0.00	0.00	10:0	10.0	0.01	10.0	100	10.0	0.02	0.02	0.02	0.02	0.02	£0'0	£0:0	0.03	0.03 0.03	6.03	0.03	0.03	10.0	10.0	1 0.04
C monocu	Client Site Project No.	Borehole Test Number Test Date	Borchole diameter Borchole radius	Test section location	Length of test interval Gauge Depth	Static Water Level	General Lithology Sandstone Start Time		Clock Time	16:28:08	10.28.12	16.28.19	16.28:26 16.74:30	EE:02:91	16.21.40	16:28;44 14:37 41	16:21:55	16/24.58	16:29.06	16.29.16	16:29:20	16.29.24	16.29.51	16.29.45	16:29 49	16.29.32	10.00.01	16:30.07	16:30:10	16.30,10	16:30:14	1000001	81° AC 110

Golder Associates

25306A CHA, Input Data

Plot data used in analysisApplied HeadFlow Rate (Q)(feet of water)(gal/min)27.943.000

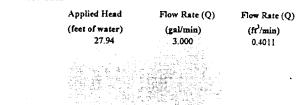


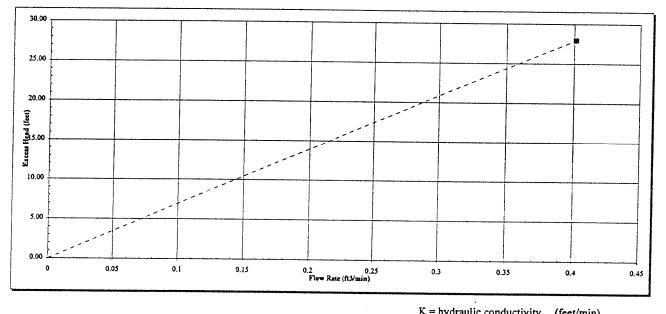
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691
Borehole	253

Interval Number

Plot data

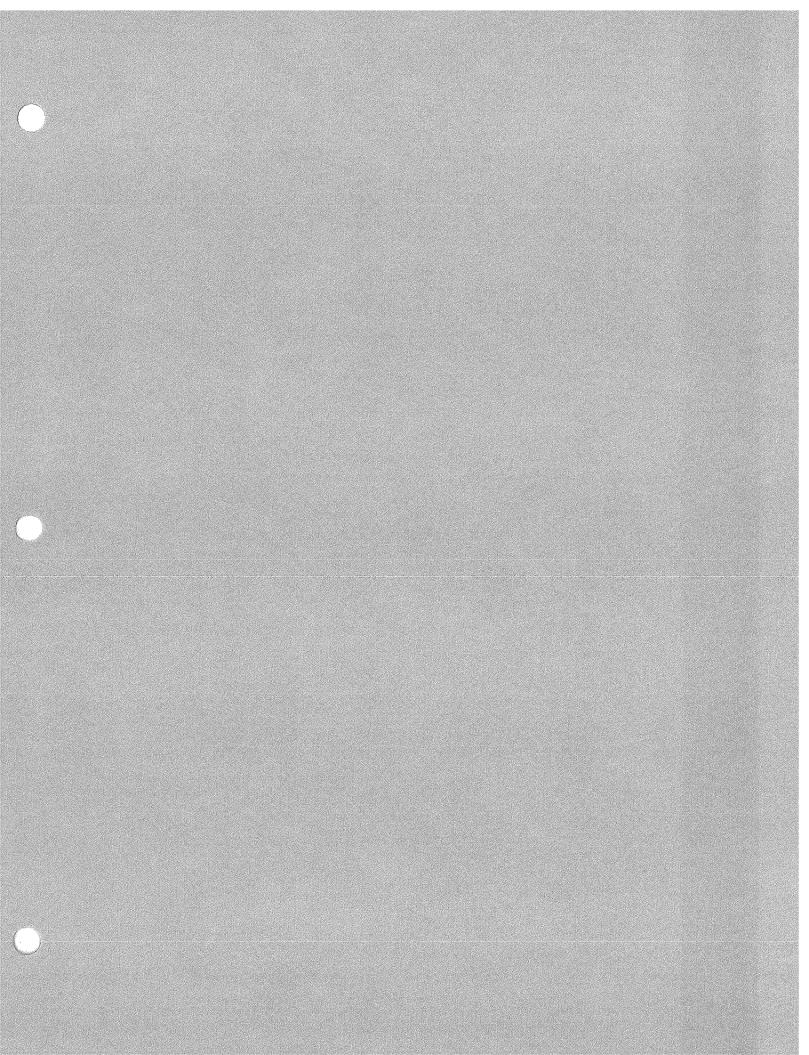
6





$K = 1/(2\pi L) \times (Q/h_e) \times \ln (L/r)$	R = ny arabic conductivity $Q = Flow rate$ $he = Applied head$ $L = length of interval tested$ $r = borehole radius$	(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of hydraulic conductivity		

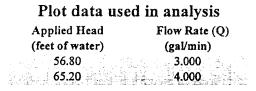
K =	2.4E-04 cm/s	Q =	0.401	ft ³ /min
	4.7E-04 feet/min	h _e =	27.94	feet



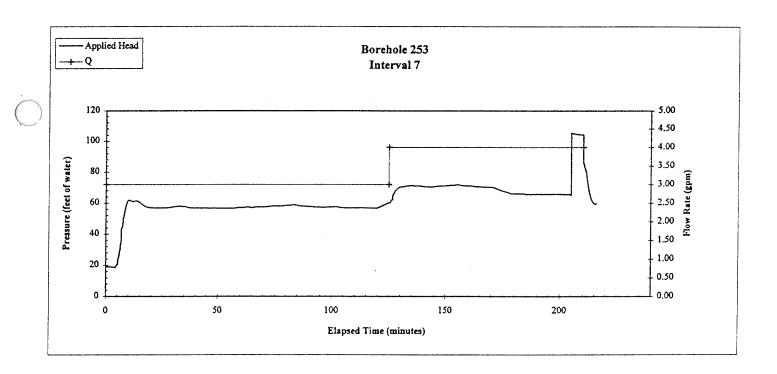
01116/2-EP6		1 1 1 1	Average Q (gal/min)	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
		se 26 40 5 Point Moving Averages	∆ time (minutes)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		5 2 2	Applied Head (feet of water)	19.02 19.02 19.02 19.02 19.02 19.03
		alculation: Bottom of laterval Vertical Depth (n) 170.00 Above 180.00 Bolow 1 am of laterval (n) 1	Average Q (gal/min)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		Tree vertical depth calculation: Bottom of later Bottom of later Bottom of later Bottom of later Vertical depth of bottom of laterval (n) Vertical depth of bottom of laterval (n) Point Moving Averages	Δ time (mias)	800 800 800 800 800 800 800 800 800 800
		Polt	Applied Head (feet of water)	19 00 19 00 19 00 19 00 19 00 19 00 19 00 19 00 18 28 18 28 18 29 18 28 18 29 18 28 18 29 18 29 18 18 18 18 18 18 18 18 18 18 18 18 18
	rad die pacher rakole	True vertical depth calculation: Top of laterval Hole depth (ft) Vertical Depth (ft) Above 139,98 Below 140,00 Below 149,96 Below 140,00 Below 149,50 Vertical depth of top of laterval (ft) 147,50		
\bigcirc	Tei Type: Constant head, Stradda packer Gauge located downhole	True vertical depits calculation: Top of latern Whee depits (n) V Above 140.00 A Béow 130.00 B Vertical depits of top of laternal	Q (gal/min)	8 8
	5 0 1	True Hake Above Below	Applied Head (feet of water)	
-		inchea feet feet below top of casing feet feet beat feet below top of casing feet below top of casing	Measured Head (feet of water) 404	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	UCSSA	3.78 0.16 147.72 172.42 24.70 141.00 174.95	Elapsed time (minutes) o	
	Morrison-Malerie/CSSA Miner Flat 943-27691 253 7 253 253 253	Tep Bottom 8:22:58	Elapsed time E (hours) 0.00	0.00 0.00 0.01 0.01 0.02 0.02 0.02 0.02
ww.	Client Site Project No. Borehole Test Nymber Test Date	Borchole diameter Borchole radiua Test acction location Length of test interval Gauge Depth Static Water Level Static Water Level Standstone Start Time	Clock Time 12258	20102 2012 2012 2012 2012 2012 2012 201

Civiliar Associatos

25307A CHA, liqui Data



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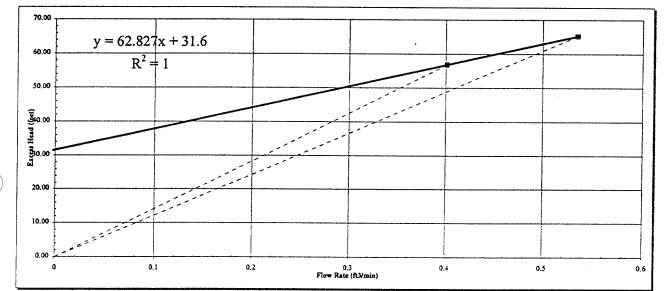
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole 253 Interval Number

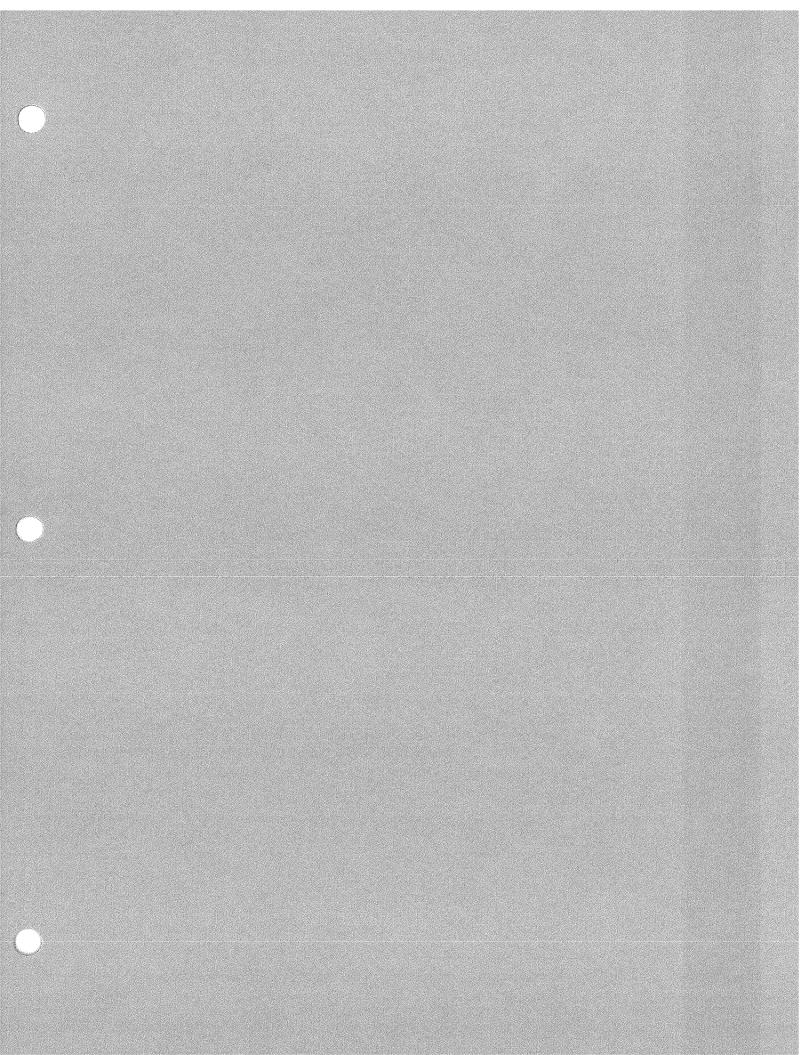
Plot data

7

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water) 56.80 65.20	(gal/min) 3.000 4.000	(ft ³ /min) 0.4011 0.5348
	in the main of the	
	na sa	



K = 1/(2	2πL) x (Q/h _e) x in (L/r)	K = hydraulic conductivity Q = Flow rate he = Applied head L = length of interval tester r = borehole radius	(ft ³ /min) (feet)
Range of h	ydraulic conductivity		
K =	1.2E-04 cm/s 2.3E-04 feet/min	$Q = 0.401 \text{ ft}^3/\text{min}$ $h_e = 56.80 \text{ feet}$	
K =	1.4E-04 cm/s 2.7E-04 feet/min	$Q = 0.535 \text{ ft}^3/\text{min}$ $h_e = 65.20 \text{ feet}$	
K =	2.6E-04 cm/s 5.2E-04 feet/min	Trendline Slope 62.83	



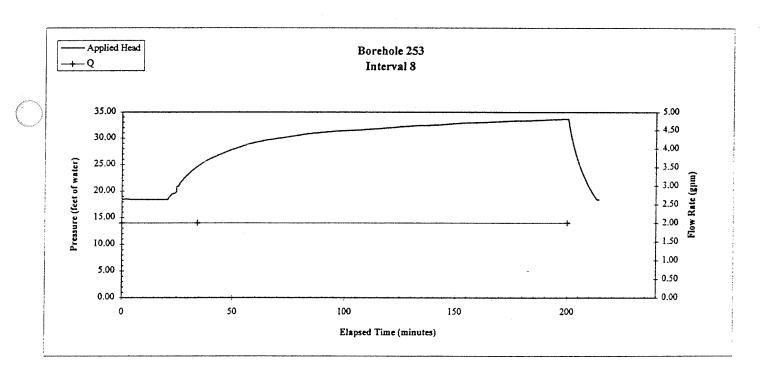
aaing aaing aaing Yater) Appl (feet	addle packer abole realculation: Top of laterval Vertical Depth (1) 130.00 Above 119.99 130.00 Bdow 139.96	True vertical depth calculation:				
253 3.06.157 8 3.78 inches 1.10.16 feet Tra 123.22 feet below up of caring Potran 147.72 feet below up of caring 1.17.00 feet	al bore dow	True vertical dept				
3.78 inchea 0.16 feet Top 1123.22 feet below top of casing Matter 147.72 feet below top of casing 17.10 feet below top of casing 17.10 feet below top of casing 17.11 feet below top of casing 17.12 feet below top of casing 17.13 feet below top of casing 17.14 S5 feet below top of casing 17.13 feet below top of casing 17.14 S5 feet below top of casing 17.15 feet below top of casing 17.16 feet below top of casing 17.17 feet below top of casing 17.18 feet below top of casing 17.19 feet below top of casing 17.19 feet below top of casing 17.10 feet below top of casing 12.19.01 feet below top of casing 12.19 feet below top of casing 12.19 feet below top of casing 12.19 feet of water feet of water 0000 1147	al Ertical Dep bove elow	True vertical dept				
Te 113.25 24.50 feet below upp of casing cast below upp of casing 24.50 feet below upp of casing cast below upp of casing 24.50 117.00 feet below upp of casing 174.95 feet below upp of casing feet below upp of casing port of water 12.19.01 117.00 feet below upp of casing feet below upp of casing port of water Applied Head 12.19.01 117.00 feet below upp of casing feet below upp of casing port of the casing feet below upp of casing port of the casing feet below upp of casing port of the casing feet below upp of casin	ical Dep re w		a calculation:			
A.3.0 Red [17.00 Red below up of caring (red below up of caring (17.95) 12.19.01 12.19.01 12.19.01 (feet below up of caring (hours) (hours) (minutes) 000 0 000 0.00 011 0.00 000 0.11 000 0.12 000 0.13 000 0.147 000 0.147 000 0.147 000 0.147 000 0.147 000 0.00 011 0.00 012 0.00 013 0.00 014 0.00 015 0.00 016 0.00 011 0.00 011 0.00 012 0.00 013 0.00 014 0.00 011 0.00 011 0.00 012 0.00 013 0.00 014 0.01 015 0.00 016 0.00 017 0.00 018 0.00 019 0.00 011 0.01	129.96	Hele depth (A) Above	Bottom of laterval Vertical Depth (ft) 140.00 Above 1	bepth (ft) 139.95		
Elapsed time Measured Head Applied Head (minutes) (feet of water) (feet of wat	12 121			149.94		
Elapsed time Measured Head Applied Head (minutes) (feet of water) (feet of water) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1147 0 0 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0				N. 141		
Elapsed time Measured Head Applied Head (minutes) (feet of water) (feet of water) 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 1147 0 0 0 <td< td=""><td></td><td>3 Point Moving Averages</td><td>52</td><td>5 Point M</td><td>5 Point Moving Averages</td><td></td></td<>		3 Point Moving Averages	5 2	5 Point M	5 Point Moving Averages	
0 0.00 11.47 0.12 0.00 11.47 0.13 0.00 11.47 0.14 0.00 11.47 0.15 0.00 11.47 0.16 0.00 11.47 0.18 0.00 11.47 0.19 0.00 11.47 0.24 0.00 11.47 0.25 0.00 11.47 0.26 0.00 11.47 0.27 0.00 11.47 0.26 0.00 11.47 0.27 0.00 11.47 0.26 0.00 11.47 0.27 0.00 11.47 0.28 0.00 11.47 1.12 0.00 11.47 1.13 0.00 11.47 1.14 0.01 11.47 1.13 0.02 11.47 1.14 0.01 11.47 1.14 0.02 11.47 1.14 0.01 11.4	Applied Head (feet of water)	Δ time (mins)	Average Q (gal/min)	Applied Head (feet of water)	∆ time (minutes)	Average Q
0.06 0.00 11.47 0.12 0.00 11.47 0.13 0.00 11.47 0.14 0.00 11.47 0.24 0.00 11.47 0.24 0.00 11.47 0.24 0.00 11.47 0.42 0.00 11.47 0.43 0.00 11.47 0.44 0.00 11.47 0.55 0.00 11.47 0.66 0.00 11.47 0.73 0.00 11.47 0.74 0.00 11.47 0.75 0.00 11.47 0.76 0.00 11.47 1.14 0.00 11.47 1.13 0.00 11.47 1.14 0.01 11.46 1.13 0.02 11.47 1.14 0.01 11.47 1.14 0.02 11.49 1.14 0.02 11.49 1.14 0.02 1			!			
0.13 0.00 11.47 0.24 0.00 11.47 0.25 0.00 11.47 0.42 0.00 11.47 0.43 0.00 11.47 0.42 0.00 11.47 0.43 0.00 11.47 0.44 0.00 11.47 0.54 0.00 11.47 0.73 -0.01 11.47 0.74 0.00 11.47 0.74 0.01 11.47 0.74 0.01 11.47 1.14 0.01 11.47 1.14 0.01 11.47 1.14 0.01 11.47 1.14 0.02 11.47 1.14 0.02 11.47 1.14 0.02 11.47 1.14 0.02 11.49 1.14 0.02 11.49 1.14 0.02 11.49	-					
0.24 0.00 11.47 0.36 0.00 11.47 0.42 0.00 11.47 0.43 0.00 11.47 0.46 0.00 11.47 0.54 0.00 11.47 0.6 0.00 11.47 0.73 0.00 11.47 0.74 0.00 11.47 0.74 0.01 11.46 0.74 0.01 11.46 0.74 0.01 11.47 1.14 0.01 11.47 1.13 0.02 11.47 1.14 0.01 11.47 1.14 0.02 11.47 1.13 0.02 11.49 1.14 0.02 11.49 1.14 0.02 11.49		0.00	0.0			
036 000 11.47 0.42 000 11.47 0.43 000 11.47 0.54 000 11.47 0.5 000 11.47 0.6 000 11.47 0.73 -0.01 11.47 0.74 -0.01 11.46 0.74 -0.01 11.46 0.74 -0.01 11.47 1.14 0.00 11.47 1.13 0.02 11.47 1.14 0.01 11.47 1.14 0.02 11.47 1.14 0.02 11.47 1.14 0.02 11.49 1.14 0.02 11.49 1.14 0.02 11.49 1.14 0.02 11.49	11.07	8.6	000	19.67	00.0	0,00
0.00 18,47 0.54 0.00 18,47 0.6 0.00 18,47 0.7 -0.01 18,47 0.7 -0.01 18,47 0.7 -0.01 18,47 0.7 -0.01 18,46 0.7 -0.01 18,46 0.7 -0.01 18,46 0.9 0.00 18,47 1.14 0.00 18,47 1.13 0.02 18,47 1.13 0.02 18,47 1.14 0.01 18,47 1.13 0.02 18,47 1.14 0.01 18,47 1.13 0.02 18,47		0.0	0.00	174	000	000
0.6 0.00 11.47 0.73 0.00 11.47 0.73 0.01 11.46 0.74 0.01 11.46 0.96 0.00 11.47 1.02 0.00 11.47 1.14 0.01 11.44 1.14 0.01 11.44 1.13 0.02 11.49		00.0	0.00	18.47	00.00	0.00
0.72 -0.01 13.46 0.78 -0.01 13.46 0.94 -0.01 13.46 0.94 -0.01 13.47 0.94 -0.01 13.47 1.02 0.00 13.47 1.14 0.01 13.47 1.13 0.02 13.49 1.13 0.02 13.49 1.14 0.01 13.49 1.13 0.02 14.49 1.14 0.02 14.49	18.47	000	000	18.47	10.0-	0.00
0.1 -001 18.6 0.96 -001 18.4 0.96 -001 18.4 0.96 0.00 18.47 1.02 0.00 18.47 1.14 0.01 18.47 1.13 0.02 18.49 1.13 0.02 18.49 1.13 0.02 18.49 1.13 0.02 18.49 1.14 0.02 18.49 1.13 0.02 18.49			0.0	18.4/ 18.46	20.9 70.9	0.0
0.% 0.00 18.47 1.02 0.00 18.47 1.14 0.01 18.47 1.13 0.02 18.49 1.13 0.02 18.49 1.13 0.02 18.49		10'0	00.00	18.46	00.0	0.0
102 0.00 18.47 1.14 0.01 18.49 1.32 0.02 18.49 1.38 0.02 18.49 1.38 0.02 18.49	18.45	0.02	000	18.46	0.02	0.00
1.14 0.01 18.48 1.12 0.02 18.49 1.13 0.02 18.49 1.13 0.02 18.49		10'0	0.0	18.47 18.47	0.02	000
		10.0	00.00	18.48	0.01	000
0.02 BL1	12.45 12.45	10.0	00:0	18.48	10.0	0.00
		800	0010	18.49 18.49	10.0	0.0
67'ti 70'n		0.0	00.0	18.49	10.0	00 M
		10.0	0.00	18.49	00 0	0.00
1.64 0.02 13.49		0.00	000	18.49	10.0	0.00
1.46 0.03 14,50	6 10 18 10	90.0 2	000	IE.49	0.00	0.00
1.86 0.02 13.49		800	0.00	15.49	10.0	0.0
03.81 60.0		98.9	0.00	18,50	000	80.0
2.04 0.03 18.50 2.1 0.01 0.05		0.0	0.00	18.50	10.0	00.0
2.22 0.04 18.50 2.22 0.04 18.51		10:0	0.00	11.50	00.0	0.00
2.28 0.03 18.50		0.00	0.00	13.50	0.00	0.00
0.04 2.34 0.03 18.50 A. 2.34 0.03 A. 2.34		98.0	0.0	16.50	000	0.0

Ookler Associates

25308A CHA, Input Data

Plot data used in analysisApplied HeadFlow Rate (Q)(feet of water)(gal/min)33.603.000

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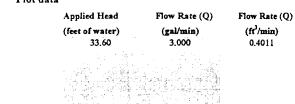
Client Morrison-Maierle/CSSA Site Miner Flat Project No. 943-27691

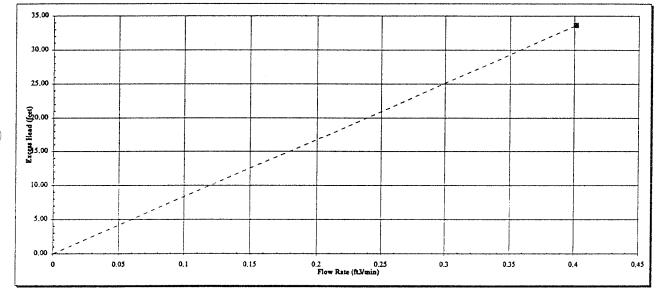
Borehole Interval Number

Plot data

253

8

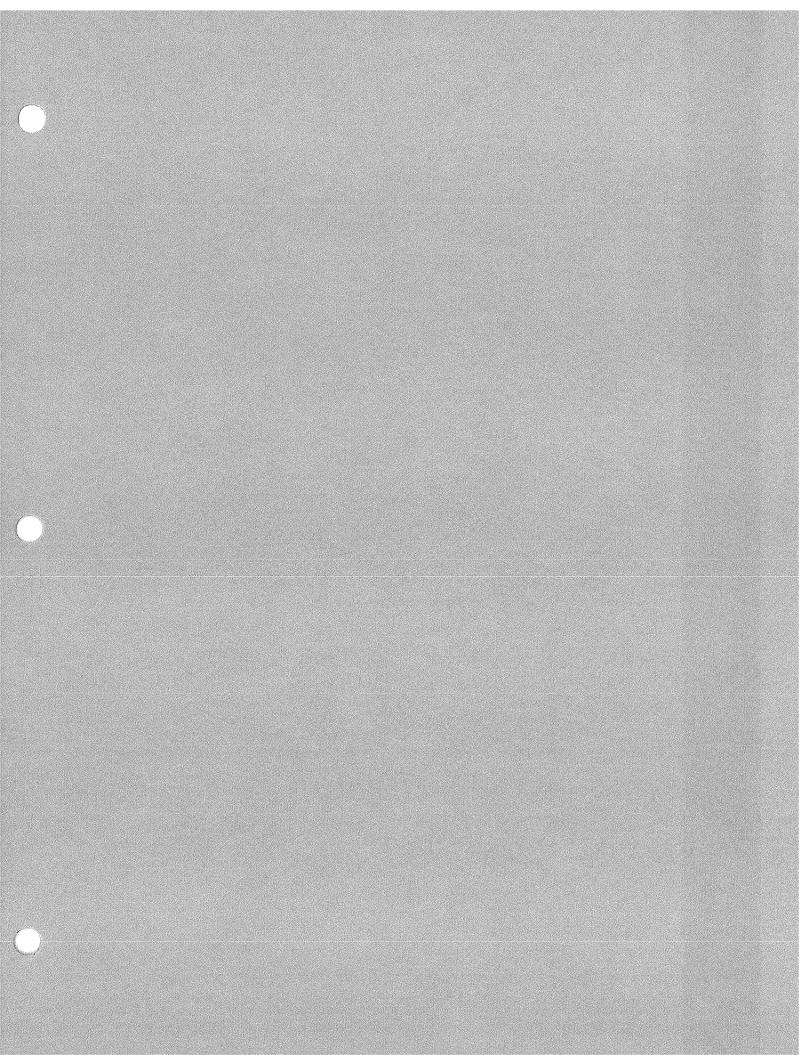




$K = 1/(2\pi L) \times (Q/h_e) \times \ln (L/r)$	K = hydraulic conductivity	(feet/min)
	Q = Flow rate	(ft³/min)
	he = Applied head	(feet)
	L = length of interval tested	(feet)
	$\mathbf{r} = $ borehole radius	(feet)
Range of hydraulic conductivity		

K =	2.0E-04 cm/s	Q =	0.401	ft³/min
	3.9E-04 feet/min	h _e =	33.60	feet

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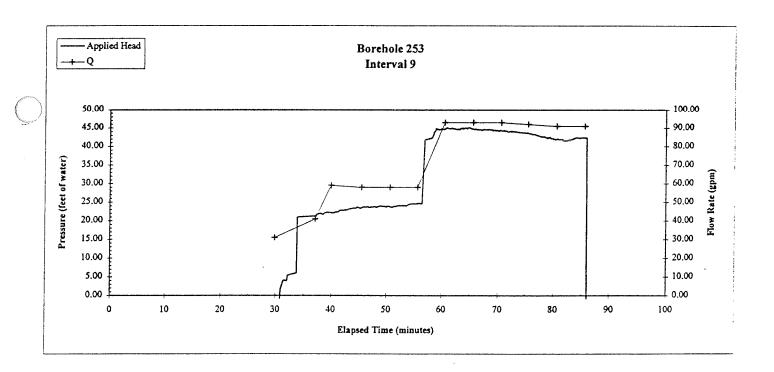
0(1,1975-646				Average Q (gal/min)	ĺ	0.00	8 8 9	8 80 00 00 00 00	00.0 00.0	0.00	3 8 8	80 0 90 0 90 0	80 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
$\left(\begin{array}{c} \end{array} \right)$			S Point Moving Averages	Δ tíme Avi (minutes) (ga			8 8 9 8 5 6 5 5			8 8 8 8			000 000 010 010 010 010 010 010 010 010
		bepth (ft) 115,99 129,96	S Point Mov	Applied Head (feet of water)		15.51 18.51 19.51	15.21- 15.21- 15.21-	16.11 18.11 18.11	1621- 1821- 1821-	12.12 12.11 12.12 13.12 13.12 14.121		2 4 4 2 4 4 2 4 4 2 4 2 4 2 4 2 4 2 4 2	221 1231 1249 1249 1240
		True vertical depth calculation: Bottom of laterval Hole depth (n) Vertical Depth (n) Above 1120.00 Above 1 Below 130.00 Below 1 Vertical depth of bottom of laterval (n) 1	ges	Average Q (gal/min)	8.6	0.00 00.0 0.00	30 G 30 G 30 G	00.0 00.0	300 200 200 200 200 200 200 200 200 200	8 0 0 0 8 0 0 0	00.0 00.0	00.0 00.0 00.0	000 000 000 000 000 000
		True vertical depth calculatioa: Bottom Hole depth (n) Abava 130.00 Bolow 130.00 Vertical depth of bottom of later	3 Point Moving Averages	Δ time (mins)	00.0	00'0 00'0 00'0	90 90 90 90 90 90 90 90 90 90 90 90 90 9	8 8 8 8 6 8	8.9	8 8 8	0.0 0.0	90 0 90 0 90 0 90 0 90 0 90 0 90 0 90 0	0,00 0,00 0,10 0,09
		a: Trai Prai Abora 1999 Bidow 99,99 Bidow 99,99 V V	3 Point	Applied Head (feet of water)	-12,51	12.1- 12.1- 12.1-	25.21- 25.21- 18.21-	12.1 12.1 12.1	12.1- 22.1- 22.1-		221- 221- 221-	12.52 12.52 12.52 12.52	-12.52 -12.52 -12.60 -12.61 -12.62
		Test Type: Constant bend, Straddle packer Gauge located downhale True vertical depth calculation: True vertical depth calculation: Hole depth (ft) Vertical Above 80.00 Buow Bdow											
		Test Type: Coastant head, Straddle packer Gauge located downhale True vertical depth calculations: True vertical depth (t) Vove 9000 Julierval Bélow 100,00 B Vertical depth of top of laterval		Q (gaVmin)									
				Applied Head (feet of water)	12.11 12.11 12.11					1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	11 22 11 22 11 23 12 4 12 4
		inches feet feet below top of casing feet below top of casing feet feet below top of casing		Measured Head (feet of water)	- 10 0 0 0	10 0 0 0 0 0 0	0.05 0.02 0.02	10.0	-0.02 -0.02 -0.02		40.02 10.02 10.02		404 405 406 409
	1e/CSSA	7.1 0.16 95.00 120.10 123.00 170.93		Elapsed time (minutes)	0 0.12 0.12 0.13	E.0 342.0 24:0	0,72 87,0 484	1 6.0 20	701 11	1 2 2 1	1 62 1 62	1.8 1.86 1.96 2.04	
	Morrison-Malerle/CSSA Miner Flat 943-27691	253 9 (r) 14-Dec-95 Top Boutann		Liapsed fime (hours)	8 8 8 8 9 9 9 8	10'0 10'0	10:0 10:0	0.01 0.02 0.02	0.02	0.02 0.02	£0'0 £0'0	0.0 0.0 0.0	6 0 9 0 9 0 9 0 9 0 9 0
Conctr Conctr	Client Site Project No.	Borchole Test Number Test Date Borchole diameter Borchole radius Test section location Length of test interval Gauge Depth Static Water Level Central Litbology	Sandstone Start Thue Clock	Time 740 M	2004-7 2004-7 2004-7	7:49:46 7:49:50 7:49:53	11.96.7 7.50.15 7.50.18	7:50:18 7:50:22 7:50:26	7.50.29 7.50.36 7.50.40	7:90.44 7:90:51 7:00:54	7:51:02 7:51:05 7:51:09	05126 75120 75127	7:51:54 1:61:67 7:51:68

Golder Associates

25309A.CHA, Input Data

Plot data used in analysis Applied Head Flow Rate (Q) (feet of water) (gal/min) 42.36 91.000 24.59 58.000

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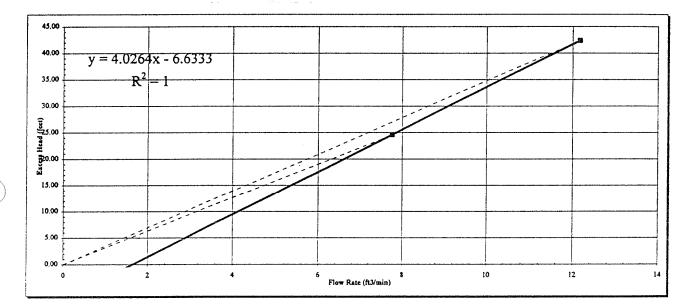


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

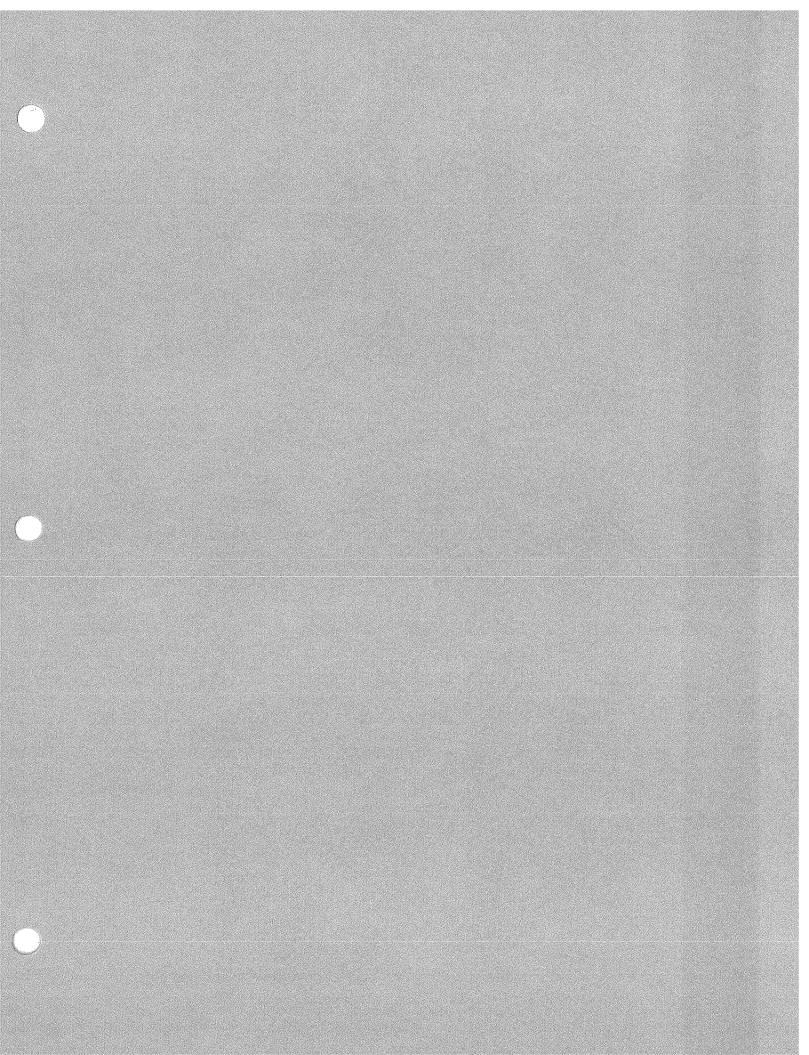
Borehole 253 Interval Number 9 (r)

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
42.36	91.000	12.1667
24.59	58.000	7.7546
	1.00	



K = 1/(2πL) x (Q/h _e) x in (L/r)	Q = Flow he = Appl L = length	K = hydraulic conductivity Q = Flow rate he = Applied head L = length of interval tested r = borehole radius							
Range of l	bydraulic conductivity									
K =	4.7E-03 cm/s 9.2E-03 feet/min	Q = h _e =	12.167 42.36	ft ³ /min feet						
K =	5.1E-03 cm/s 1.0E-02 feet/min	Q = h _e =	7.755 24.59	ft ³ /min feet						
K =	4.0E-03 cm/s 8.0E-03 feet/min	Trendline Slope	4.03							



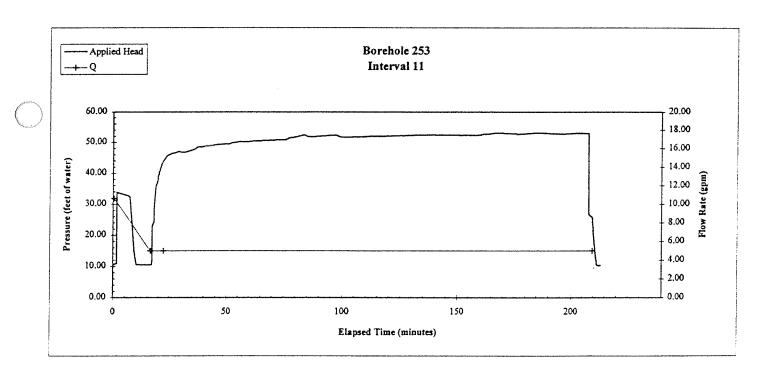
0(1.1415-614								1ges	Average () (coltraio)				2.12	11	80	00'0	8.0	8.8	0.00	8.9	0000	00.00	0.0		00 0	0.00	0.00	0.00	0000	0.00	000	0.00	0.00
								5 Point Moving Averages	∆ time (minuted)				0.34	61.0 97.0-	11.0	60.0	0110	0.20	0.16	0.18 1 1 0	0.0	0.10	0.0	110	22.91	21.65	11.23	10.44 27.5	er 7	-2.19	-2.05	-2.41	91.5- 20.5-
				liaterval Vertical Depth (ft)	66'61 86'68	88°89		5 Point M	Applied Head (feet of water)				10.62	10.05 07.01	10.66	10.62	10.04	10.69	t0.73	10.78 10.81	10.54	10.86	10.01 10.00	10.01	15.52	19.83	24.11	17.92 22.02	212	31.04	30.49	29.92	29.37 28.81
			True vertical depth calculation:	Bottom of interval Vertical	80,00 Above	Vertical depth of bottoms of interval (ft)		ng cs	Average Q (gal/min)			3.53	61	00.0	0.60	000	000	0.00	0.0	8.0	00.0	0.0	900	00.00	0.00	0.00	000	000	0.00	0.00	0.00	0.00	0000
			rue vertical dep	Hole depth (ft)	Abova Below	crtical depth of		3 Point Moving Averages	Δ time (mins)	•		12.0	8.0 200	24	4.17	10.0	0.0		11.0	0.0	6.03	10.0	0.02	0.06	0.12	21.15	5 1	601-	-1.14	-0.97	-1.05	101-	ŧ; Ţ
			Ŧ	erval Vertical Depth (ft) H	69.99 79.99	V, 68.67		3 Point	Applied Head (feet of water)			10.52	10.67	10.72	10.62	10.58 10.60	10.64	10.68	10.74	10.02	10.84	10.16 10 10	10.69	10.93	10.96	18.60	23.80 32.86	32.07	11.57	31.00	30.52	79.97 24.74	28.78 28.78
\bigcirc		Test Type: Constant bood, Straddle packer Gauge located downhole	True vertical depth calculation:	Top of int	70.00 Above \$0,00 Below	Vertical depth of top of interval (I)					ator d' e d' Seguerro - se																						
		Test Type: Constant head Gauge located	True vertical (Hole depth (ft)	Above Below	Vertical depth		.e	Q (gal/min)																		- 83						
			-						Applied Head (feet of water)	60.01	601	10.39 20.72	10.14	10.73	10.59	10.36 10.60	10.64	10.69	10.10	10.61	10.87					20.11 Cir II					30.01		
			inch e s	feet feet below top of caring	food below top of caaing food food helow top of caaing	feet below top of casing			Measured Head (feet of water)	10:0-	10.0-	10.0- 1 16	9.4 1	££.0	0'I0 X 0	0.10	0.24	0.29	04.0	0.41	0.47	. 1970	0.51	0.50	0.57	10.01	21.15	21.80	21.06	29 .02	19.61	10.61	18.25
	hucssa				88.90 15.00 71.00				Elapsed time (minutes)	0	0.06	0.12 0.42	0.45	0.48	95.0 4.0	0.0 99 D	0.72	0.75	80	1.02		1.26	1.36	4	85.1 1.55	191	1.14	7.26	1.12	11	35.1	7.62	7.68
	Morrison-Malerle/CSSA Miner Flat 943-27691	253 11 25-0ci-95		Tep T				7:52:36	Elapsed time (hours)	00.0	0.00	0000	0.01	10.0	100	10.0	10.0	10.0	0.02	0.02	0.02	0.02	0.02	0.03	10.0	0.03	0.12	0.12	0.12	0.12	61.0	0.13	0.13
Kingl	Client Site Project No.	Borcholc Test Number Test Date	Borehole diameter	Borehole radius Teat section location	Leagth of test interval Gauge Depth	Static Water Level	General Lithology Sandstone	Start Time	Clock Time	7.32.36	7.52.40	19161	20,12,1	7.51.05	7.57.04	91167	1.53.19	00:001	16.657	10001	1,53.46	7,53,52	V.E.C.1	1.54.02	0.82	7:34.17	1139.44	12.42.7	7.9255 50,005	1,00,02	8,00,10	£1:00:1	8.00.17

Golder Associates

25311A CHA, hour Data

Plot data used in analysisApplied HeadFlow Rate (Q)(feet of water)(gal/min)53.005.000

, **f**

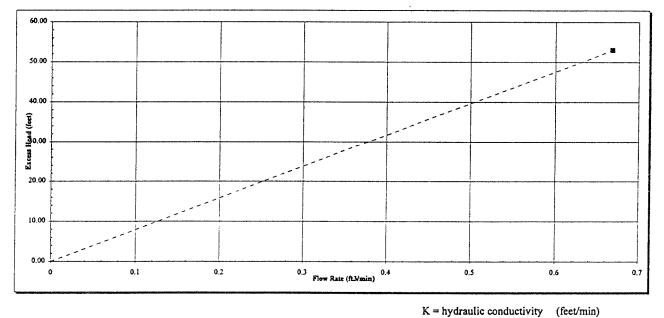


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691
Borehole	253

Interval Number 11

Plot data

Applie	d Head	Flow Rate (Q)	Flow Rate (Q)
(feet o	f water)	(gal/min)	(ft ³ /min)
	53.00	5.000	0.6685



K =	$1/(2\pi L) \ge (Q/h_e)$	x ln (L/r)
-----	--------------------------	------------

Range of hydraulic conductivity

K =	3.1E-04 cm/s	Q =	0.669	ft³/min
	6.1E-04 feet/min	h _e =	53.00	feet

Q = Flow rate

he = Applied head

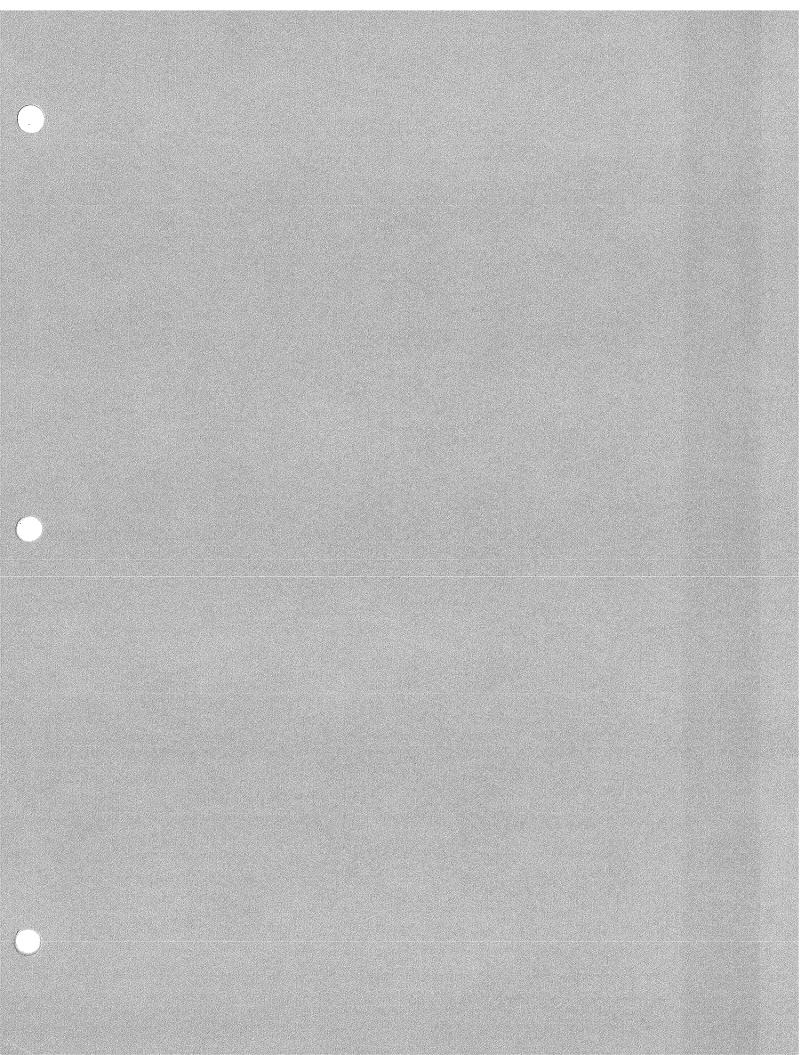
r = borehole radius

L = length of interval tested (feet)

(ft³/min)

(feet)

(feet)



01.1912-194					Average Q (gaVmin)			070	09.0	0.60	0.00	0.00	0.00	0.00	80	0.00	0.0	0.0	0.00	00.0	0000	000	00.0	0.00	0.00	0.00	00.0	00.0	0.00
$\left(\begin{array}{c} \\ \end{array}\right)$				9 5 Point Moving Averages	∆time Av (minutes) (g			10.0-	10.0	-0.02	10 Q	-0.07	-0.07	10.01	0.00	0.03	0.07	60'0	0.10	0.11	C1 0	71.0	0.10	0.06	0.03	0.03	10.0	10.0	00.0
			alh (f) 63.99 79.99	74.79 5 Point Mo	Applied Head (feet of water)			24.02	24.02	24.01	28.02 59.52	\$6.62	23.56	1 .2	1.93	16,11	¥.11	87 EZ	24.00	24.03	24.06	24.11	24.14	24.16	24.18	24.18	24.19	24.19	34.26
			alculation: Bottom of laterval Vertical Depth (n) 70.00 Abuve 6 80.00 Balow 1	iom of laterval (f) s	Average Q (gal/min)		8	8 1 8	1.00	0.00	0.0	00.00	00.0	0.0	00.00	00.00	200	0.00	0.00	0.00	00.0	0.0	00.00	0.00	0.00	0.00	0.00		0.0
			True vertical depth calculation: Bottom Hole depth (1) Above 70 00 Balow 80 00	Vertical depth of bottom of laterval (1) 3 Point Moving Averages	Δ time (mins)			5 7	10.0-	0.0	0.0	50'0-	3 2 9 9	5 7	0.00	0.0		10.0	0.05	0.05 2.2.2	0.0	10.0	0.04	90.04	0.02	10.0	10.0	8	80
			s: Tr ryal Vertical Depth (It) Hi Above 30,00 Below 39,99	30.10 V(3 Point	Applied Head (feet of water)		1012	24.02	24,01	24.01	34.00	39,52	8.5	26.02	29,62	29.02	1	36.12	24.00	24.03	24.05	24.12	24.15	24.17	24.18	24.19	91.92 01.11	97 F	24.20
		addle packor shole	i calculation: Top of laterval 20,00 Above 60,00 Below	op ef laterval (f)								1 (mg) (1 1 (mg) (1 1 (mg) (1)		1.14	1							- 14						:	
\bigcirc		Test Type: Coastant bend, Striddla packer Gauge located downhole	Truc vertical depits calculation: Top of latery Hole depits (ft) 20,00 A Above 60,00 B	Vertical depth of top of Interval (n)	Q (gal/min)			3.8																					
				-	Applied Head (feet of water)	24.03	24.04	24.01	24.01	24.01	24.00	1912	21.97 14.12	16.12	16.62	23.92	8.12	19.62	24.00	24.03	24.05	24.12	24.15	24.16	24.19	24.19	24.17	24.20	24.20
			inchea feet feat below uop of caning feat below uop of caning feat feat below top of caning	foot below top of curing	Measured Head (feet of water)	-0.02	10.0- 00:0	-0.0 1	-0.04 10.0	1 7	-0.05	-0.07	60)7 11 0-	61.9	-0.14	[].0- [].0-	-0.0 0	-0.0 t	-0.05	-0.02 D (M)	0,0	0.07	0.10		0.14	41 n	0.14	0.15	0.15
	JCSSA			66.0/1	Elapsed time (minutes)	0	0.15	0.42	970 770	9.0	0.6	2 ,66	0.75	0.84	96.0	1.14	12	1.26	2	* *	1 62	1.68	5.8	9 1 .1	161	H07	111	1.28	2.34
	Morrison-Maleric/CSSA Miner Flat 943-27691	253 12 25-0ci-95	Tap	12:15:47	Elapsed time (hours)	00.0	0.00	10.0	10.0	10.0	0.01	0.01	0.01	0.01	0.02	20.0	0.02	0.02	0.02	70'0	0.03	0.03	0.03	0.01 0.01	50,0	60 M	10.0	100	0.04
() MARCE	Client Site Project No.	Borehole Test Number Test Date	Borchole diameter Borchole cadius Test section location Length of test interval Cauge Depth	stauc water Level General Lithology Sandstone Start Time	Clock Time	12.15.47	12.15.51	12:16:12	12.16.16 17.16.19	12.16.23	12:16:23	12:16:27 13:16:30	12-16-34	12.16.37	12.16.45	12.16.55	12.16.59	E0.71.21	12:17:06	12.72.1	12:17:24	12:17:28	50.71.21	12-17-46	04/11/11 07/11/11	12.17.50	12.14.00	12.14.04	12:18,07

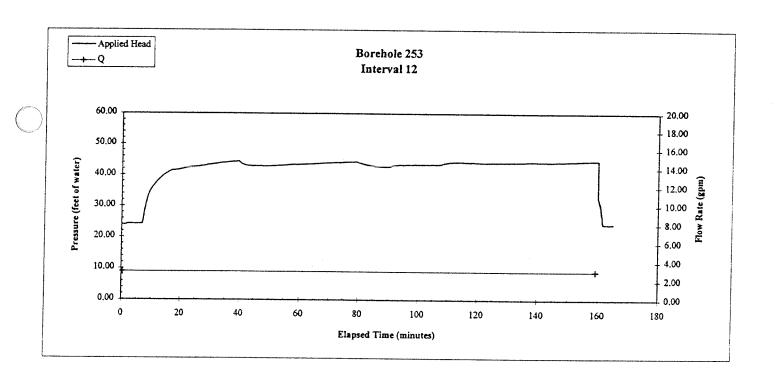
Coldor Associates

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25312A CHA, liqui Data

Plot data used in analysisApplied HeadFlow Rate (Q)(feet of water)(gal/min)44.603.000

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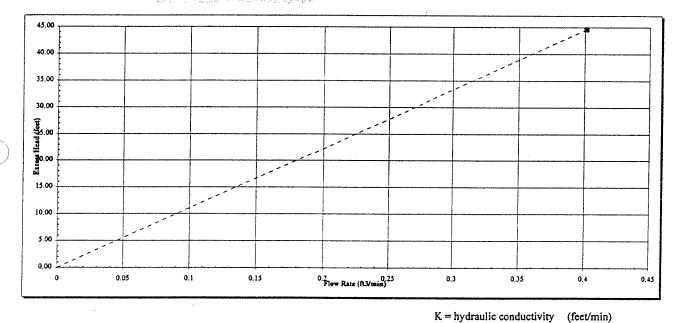
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Client Morrison-Maierle/CSSA Site Miner Flat Project No. 943-27691 Borehole 253

Interval Number 12

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ⁾ /min)
44.60	3.000	0.4011



$K = 1/(2\pi L) x$	(Q/h_) x]	ln (L/r)
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Range of hydraulic conductivity

K =	1.5E-04 cm/s	Q =	0.401	ft³/min
	2.9E-04 feet/min	h _e =	44.60	feet

(ft³/min)

(feet)

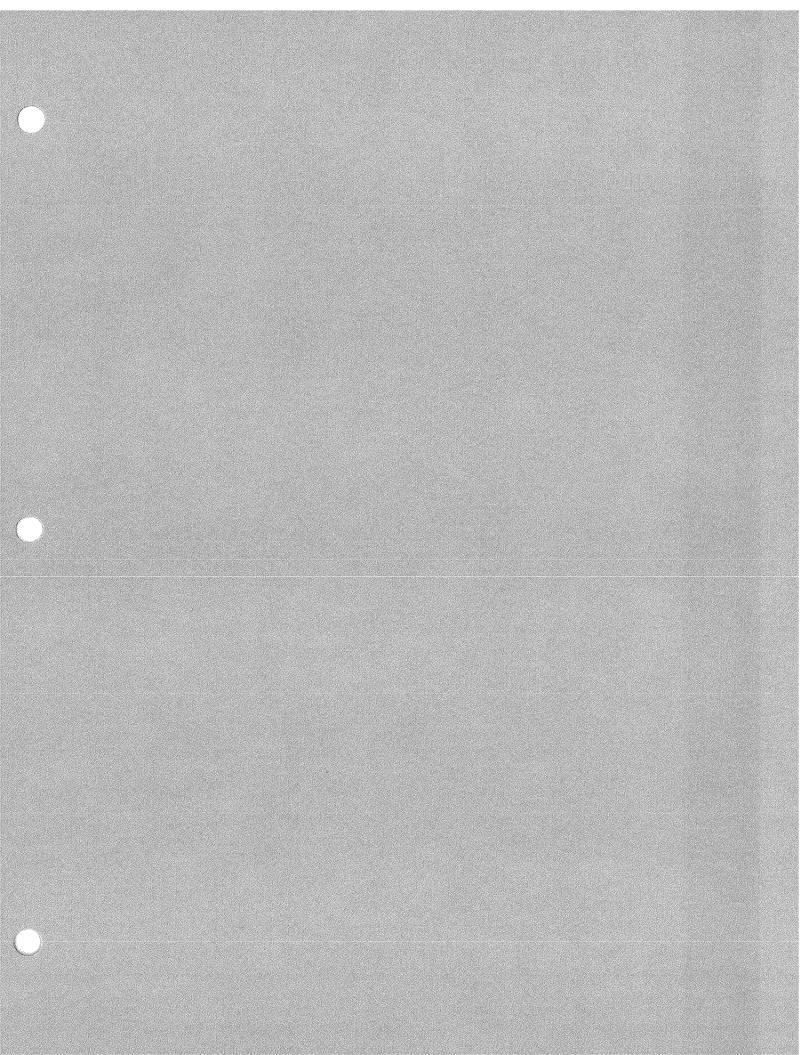
(feet)

(feet)

Q = Flow rate he = Applied head

r = borehole radius

L = length of interval tested



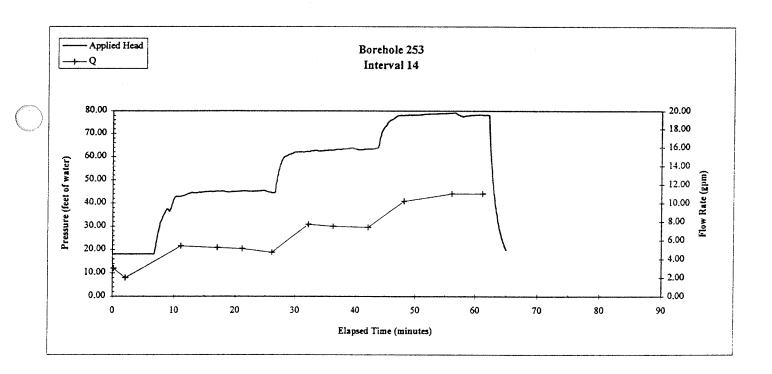
041.1975-646			Average Q (gal/min)		0.60 0.60	0.00	0.00 00.00	0000	0.0	8	80 00 00 00 00 00	8.0	80	800	0.0	0.00	0.00	040 04	97.0	0,60	0.40	00.0
$\left(\begin{array}{c} \end{array} \right)$		# 5 Point Moving Averages	∆ time (minutes)		10:0	000 900	00.0	000 000-	100	10.0	0.0	10:0	00.0	0.00	90.'Q	0.02	0.00	000	3	0.01	£0.0-	10.0-
	laterval Vertical Depth (f) Above 89.99 Below 99.99	93.09 5 Point M	Applied Head (feet of water)		18.08 18.08	18.08 18.09	60 60 E	18.10	18.09 18.10	18.10 	11.11	14,12 14,12	8.8	(1.8) (1.8)	II II	18.11	11.11		11.11	18.10	14.10	18.05
	5	Vertical depth of bottom of interval (ft) at Moving Averages	Average Q (gal/min)	1.8	1.00	8 8 C	3 8 3	0.00	00.0	00.0	000	00.0 00.0	00.00	0.00 00.0	0.00	0.0	00.0	0.67	0.67	0.67	0:00	0.0
	True vertical depth calculation: Bottom Hode depth (T) Above - 90.00 Below - 100.00	Vertical depth of botto 3 Point Moving Averages	∆ time (mins)	10.0	0.0 80.0	883	10.0		10.0	0.01 10.0-	0.00	6.01 6.01	0.0	10.0	10.0-	50:0-	0.05	0.00	10.0-	10.0	0.05	10.0
		69.99 V 3 Point	Applied Head (feet of water)	18.08	18.06 18.06	50 SI	9 8	60 H	18.10	18.10 18.10	11.11	111	tru	11.13	11.51	18.10		18.13	11.11	18.09	18.08	18.10
\bigcirc	Test Type: Constant head, Straddle packer Gauge located downholo True vertical depth calculation: True vertical bepth calculation: Hole depth (ft) Vertical Depth (ft) Above 0.99 Bidow 79,99	Vertical depth of top of interval (ft)	Q A (fgal/min) (fi		3.6														2,00			
	Test 1 Const	Ve	Applied Head (feet of water)	18.09 18.06 18.08	80 81 80 81	18.01	18.12 18.08			18.12	18.08 11 12			'	[1.]]				(1.01 (1.01	1.1	11 K	
	inches foet feet below top of casing feet below top of casing feet below top of casing	foot below top of casing	Measured Head (feet of water)	900 1000 1000	3 13 2	6.0 40.0	0.07 0.03	0.03 0.07	90.0	0.07	0.03	0.08	9.08 9.00	0.07	0.06	0.03	0.08	10.0	0.08	10.0	0.05	
	12/CSSA 3.78 0.16 70.00 25.10 25.10	170.93	Elapsed time (minutes)	0 0.06 0.12	0.24	0.42 0.54	0.6 0.72	0.78 0.84	94 O	1.14	1.26	1 C1	<u> </u>	1.62	1.6	1.86	1.96	101	1	111	13	
	Morrison-Malerle/CSSA Miner Flat 943-27691 253 14 14-Dec-95 14-Dec	10:43:54	Elapsed time (hours)	90 0 90 0 90 0 90 0	00.0	10.0 10.0	10.0	10.0	0.02	0.02	0.02 0.02	0.02	10'0 10'0	0.03	0.0	60.0	0.03	00	100	0.0	10.0	
Jrsow A	Client Site Project No. Borchole Test Number Test Date Borchole diameter Borchole indua Test action location Length of test laterval Gauge Deptb	Static Water Level General Lithology Sandstone Start Time	Clock Time	10,43,54 10,43,01 10,44,01	10:44,08 10:44:16	10:44:19 10:44:26	0044301 704437	10:44:41	10:44:52 10:44:55	10.45.02	10:45:10	10:43:17 10:43:00	10:45:28	10:45:31	10.45.42	10:45:46	10.45.53 10.45.53	10.46.00	10.46.07	10:46:11	10.46:14	

Golder Associates

25314A CHA, liqui Data

Plot data used in analysis							
Applied Head	Flow Rate (Q)						
(feet of water)	(gal/min)						
44.40	4.700						
63.26 78.22	7.400 11.000						

i

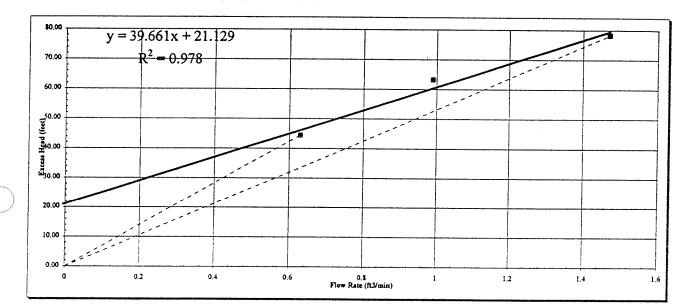


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691
Borehole	253

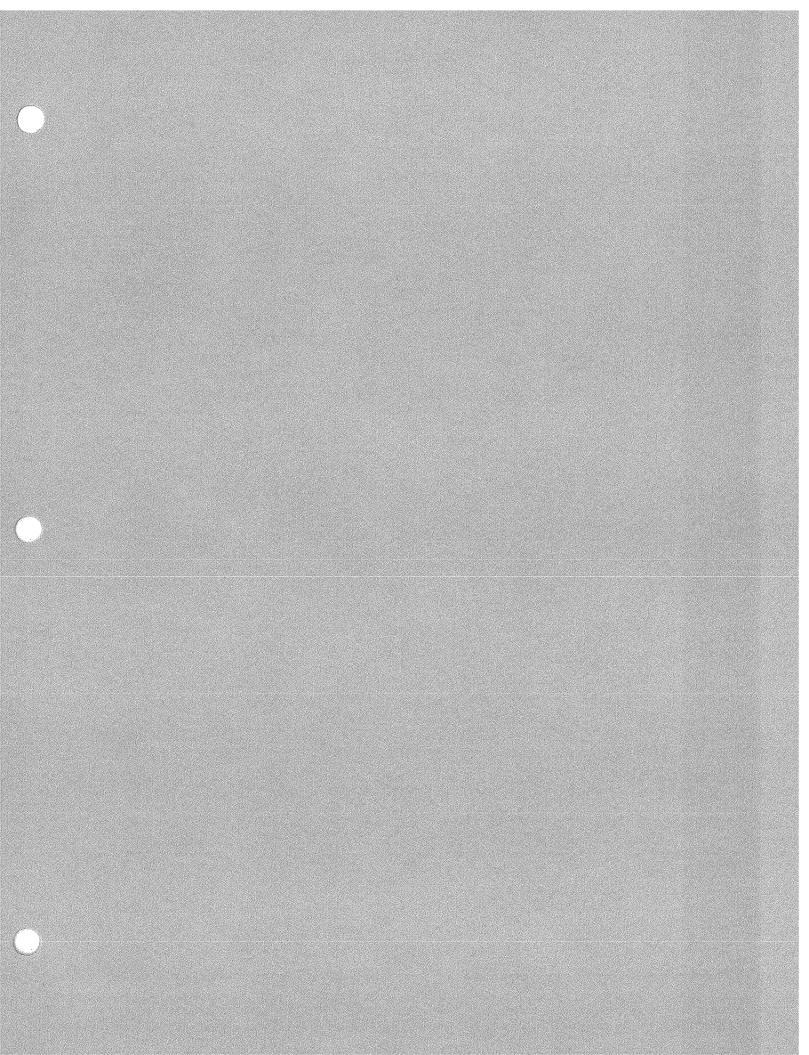
DOLETO	e	433
Interval	Number	14

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)				
(feet of water)	(gal/min)	(ft ³ /min)				
44.40	4.700	0.6284				
63.26	7.400	0.9894				
78.22	11.000	1.4707				



K = 1/(2	$2\pi L$) x (Q/h _e) x in (L/r)	Q = Flow he = App L = lengt	K = hydraulic conductivity Q = Flow rate he = Applied head L = length of interval tested r = borehole radius					
Range of h	ydraulic conductivity							
K =	2.3E-04 cm/s 4.6E-04 feet/min	Q = h _e =	0.628 ft ³ /min 44.40 feet					
K =	3.1E-04 cm/s 6.0E-04 feet/min	$Q = h_e =$	1.471 ft ³ /min 78.22 feet					
K =	4.1E-04 cm/s 8.1E-04 feet/min	Trendline Slope	39.66					



0E17642-EP6			Average Q (gal/min)		0.0 0.00 0.00	00.0 00.0	00.0 00.0	00 00 00 00 00 00	00 ⁰ 0	0.00 0.00 0.00 0.00	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
\bigcirc		» 5 Point Moving Averages	∆ time (minutes)	Ì	10:0- 10:0- 10:0	10.0 10.0	00'0 00'0	00'0 10'0	10'0- 10'0-	\$0;0 \$0;0 09:0	0 00 0 00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	iaterval Vertical Depth (f) Abore 69.99 Below 79.99	70.09 5 Point M	Applied Head (feet of water)		18.55 18.55 18.55	18.55 18.55 18.55	18.55 18.55 18.55	18.55 18.55 18.55	2 2 2 2 2 2	85 21 25 21 25 22 21 25 25 25 25 25 25 25 25 25 25 25 25 25 2	11.14 14.15
	b calculation: Bottom of interval Vertical 1 70.00 Above	Vertical depth of bottom of laterval (ft) it Moving Averages	Average Q (gaVmin)	0.0	00'0 00'0	00'0 00'0 00'0	80.0 80.0 80.0	0.00 09.00 00.00	00 00 00 00 00 00 00 00 00 00 00 00 00	8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 9 8 8 8 8 8 8 8 8 8
	True vertical depth calculation: Bottom Hole depth (ft) Above 70.00 Bdow 80.00	 Vertical depth of botto Point Moving Averages 	∆ time (mins)	-0.03	0.01 0.00 0.02	0.02 10.0	9870 1070	10'0 10'0	60.0 90.0 10.0	5 8 8 8 8 7 6 6 6 8	000 000 100 100 100 100 100 00 100 00 00
		3.10 V 3 Point	Applied Head (feet of water)	18.56	18.56 18.55 18.55	82.81 82.81 82.61	5 5 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1	18.25 18.51 18.55	25 11 11 25 12 11 25 12 11		
	traddle packer webole th calculation: Top of laterval 40.00 Above 50.00 Bebow							- 11			
\bigcirc	Test Type: Constant Mend, Straddle packer Gauge located downhole True vertical depth calculation: Hole depth (ft) Vove 40.00 Abb Below 50.00 Bel		Q (gal/min)								
			Applied Head (feet of water)	14.57 18.57 18.56	12.21 14.24	87 B B B B B B B B B B B B B B B B B B B		11.35 11.56 11.56			
	inches feet feet below top of casing feet below top of casing feet below top of casing	•	Measured Head (feet of water)	0.0 0.0 0.0	20.0- 20.0- 20.0-	90 Q 90 Q 90 Q	20.0- 20.0-	8 9 5 9 9 7 9 7 9 8 9 9		33 33 33 33 9 9 9 9 9 9 9	98 98 50 7 9 9 9 9 9 9 9 9 9 9 9 9 9
	arte/CSSA 3.78 0.16 70.10 25.00 19.00		Elapsed time (minutes)	0 0.06 0.12	0.0 86.0 24.0	9.0 2.6 2.7.0	17.0 17.0 18.0	<u> </u>	1.18	1.56 1.62 1.8	1,16 1,92 2,04 2,1 2,2 2,2 2,34 2,34
	Morrison-Mai Miner Flat 943-27691 253 15 253 14-Dec-95 14-Dec-95 14-Dec-95 14-Dec-95	12:07:54	time s)	8 8 8 8	10.0 10.0	10:0 10:0	0.01 0.02 0.02	0.02 0.02 0.02	0.02 0.02 0.02	0.03 0.03 0.03	000 000 140 140 140 140 140 140 140 140
Joon	Client Site Project No. Borchole Test Number Test Number Test Number Borchole diameter Borchole cadius Test section location Length of test interval Gauge Depta Static Water Lovel	General Lithology Sandsione Start Time		12.07:54 12.07:58 12.08.01 12.08.05	12.08.12 12.08.16 12.04:19	12.04.26 12.04:30 12.04:37	12.08.41 12.08.44 12:08:52	12.09.02 12.09.02 12.09.06	12.09:10 12.09:17 12.09:20	82:00:21 15:09:21 26:09:21 26:09:21	12.09.46 12.09.49 12.09.36 12.10.00 12.10.07 12.10.14

Colder Associates

25315A.CHA, liput Data

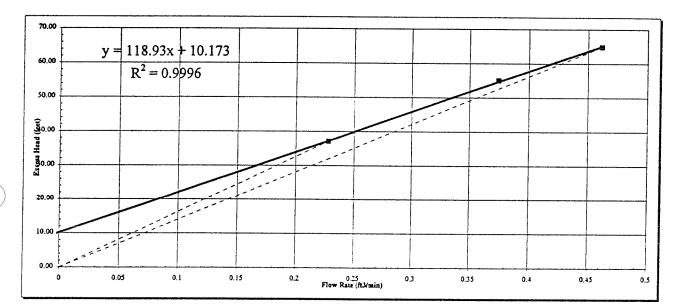
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehol	e
Interval	Number

Plot data

253 15

Applied Head	Flow Rate (Q)	Flow Rate (Q)				
(feet of water)	(gal/min)	(ft ³ /min)				
37.09	1.700	0.2273				
55.02	2.800	0.3744				
64,83	3.450	0.4613				

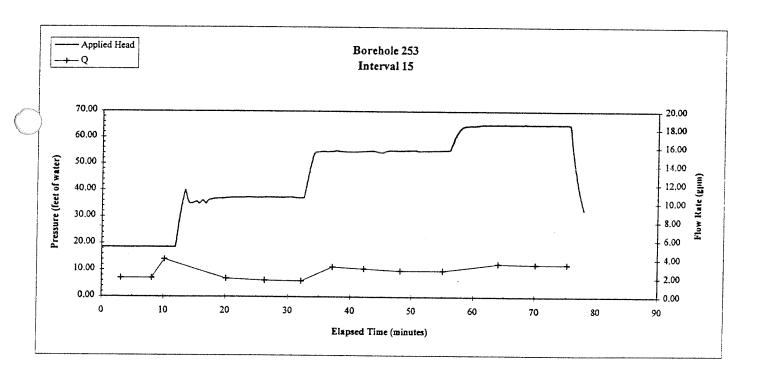


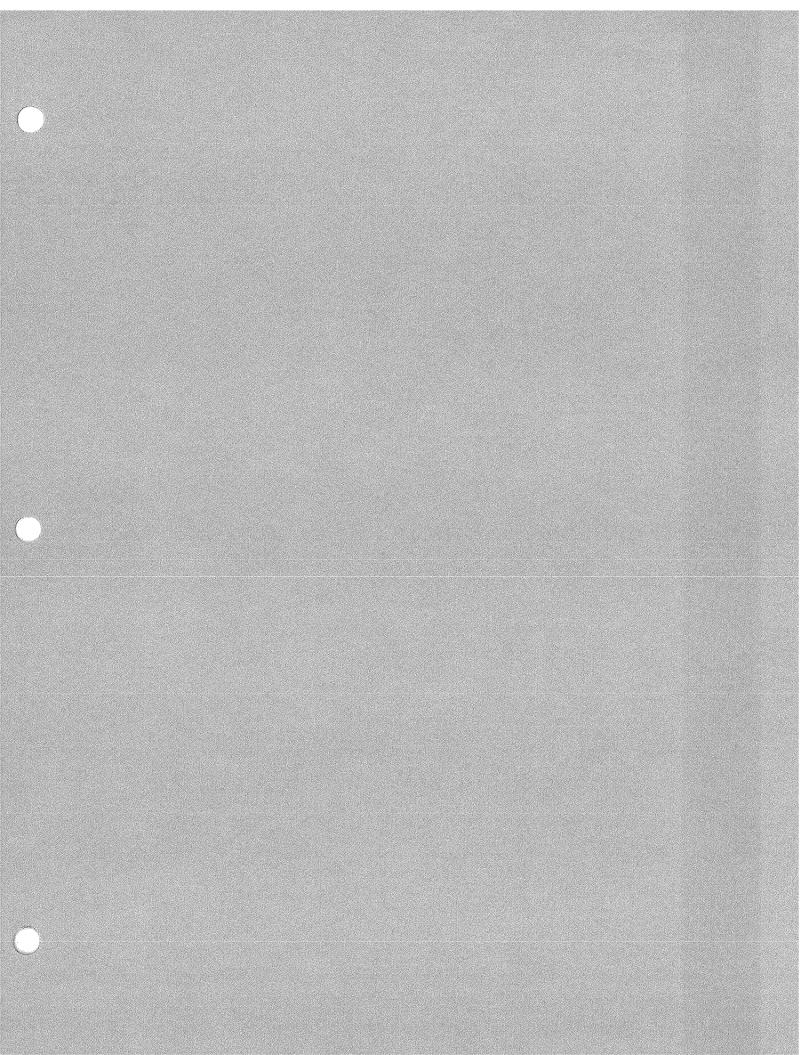
K = 1/(.	2πL) x (Q/h _e) x ln (L/r)	K = hydr $Q = Flow$ $he = App$ $L = lengt$ $r = boreh$	(feet/min) (ft ³ /min) (feet) (feet) (feet)		
Range of h	hydraulic conductivity				
K =	1.0E-04 cm/s 2.0E-04 feet/min	Q = h _e =	0.227 37.09	ft ³ /min feet	
K =	1.2E-04 cm/s 2.3E-04 feet/min	Q = h _e =	0.461 64.83	ft ³ /min feet	
K =	1.4E-04 cm/s 2.7E-04 feet/min	Trendline Slope	118.93		

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Plot data used	in analysis
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
37.09	1.700
55.02	2.800
64.83	3.450

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Packer Testing Results Borehole MF 254

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Interval #		Tutomo	1 N - 4	and a state of the second state							
		THICKA	merval Deput		Lithology			Hvdraulic Conductivity	andmetiv	ritu	
	T	Top	Bottom	tom							
	IN THE	1					Inna			cm/sec	
	(JUC)	(elevation)	(tbtc) ((elevation)		Low ⁴	High	High Regression ³	Low'	High	Regression
13	29.00	6032.25	35 40	28 2009	1						
c1	35 40	20 2002	0000	C0.C200	Dasait	2.6/E-04			1.36E-04		
	01.00	C0.C200	06.60	6001.35	Basalt	1.27E-03			6 48F-04		
((1) 11	55.00	6006.25	65.00	5996.25	Basalt	9.48E-05	1.04E-04	1 155-04	4 915 05	6 7 2 7 6	
10 (14)	64.92	5996.33	90.02	5971.23	Sandstone/Bacalt	3 245-03	0 010 0		-101E-00	0.205-00	S.83E-US
6	80.07	5071.22	115.00		1000 minimum manuel	CU-302.C	8.UIE-U3	2.236-02	1.65E-03	4.07E-03	1.29E-02
	7/./0	CC.176C	70.CII	5946.23	Sandstone	5.07E-03	7.17E-03	1.13E-02	2 57E-03	3 64F-01	5 7AB 03
8	113.58	5947.67	138.94	5922.31	Sandstone	4 53E-04					7.14E-UJ
7	138.58	5977 67	163.04	10 2003					2.30E-04		
7		10.44/0	+4.001	16.1480	Sandstone	3.20E-04	-		1.63E-04		
0	80.001	5897.67	188.94	5872.31	Sandstone	1.76E-04	1 86F-04	1 016-04	0 050 05	0 425 05	
5	189.25	5872.00	214.11	5847.14	Sandstone	\$ 03E-06			0.202-00	y.43E-U3	9.71E-05
4	214.11	5847.14	238 98	5877 77		00-777.7			3.01E-06		
3	00 000		0.00-*	17.7700	Sandstone	4.71E-07			2.39E-07		
	04.007	17.7780	263.85	5797.40	Sandstone	9.41E-07			4 78F-07		
2	263.96	5797.29	288.85	5772.40	Sandstone	4 74B_06			10-70/-4		
	288.83	CF (77)	212 70			20-71-1-1			2.41E-06		
		71.7110	0/.010	CC.14/C	Sandstone	2.34E-06			1.19E-06		
									22.2.2		

¹ Feet below top of casing.

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² Feet above mean sea level
 ³ Regression analysis does not include origin as a point.
 ⁴ Single point tests are presented in the "low" value column, however, they do not necessarily represent the low value for that interval.

7/30/96

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0(1'16/2-EM6					Average Q (gal/min)			0.00	0 0	0.00	00.0	90.0	0.00	0.00	0.00	0 0.0	0.00	08.0	0.0	0.00	0.00	000	0.0	000	0.00	00.0
\bigcirc				5 Point Moving Averages	∆ time (minutes)			0.00	0.00	0.00	00.0	0 00	80	000	000	000	0.00	0.00	800	10.0	00'0		0.0	00.0	0.00	000
			epth (ft) 309-36 319-36 313-66	5 Point M	Applied Head (feet of water)			10.0	10.0	10.0	10.0 10.0	10.0	10.0	10.0	10.0	10,0	0.01	10.0	10.0	10'0	10:0	10.0	10.0	0.01	10.0	10.0
			True vertical depth calculation: Bottom of laterval Bottom of laterval Botom 310.00 Above 20 Botom 320.00 Below 31 Vertical depth of bottom of laterval (ft) 31	3	Average Q (gal/min)		0.00	10.0	10.0	000	00.0 00.0	0.00	0.0	0.0	0.0	0.0	0.00	00:0	00.0	0.00	0:00	00.0	0.0	0.00	0,00	0000
			True vertical depth calculation: Bottom e Hole depth (ft) Above 310.00 Below 320.00 Vertical depth of bottom of inter	3 Point Moving Averages	A time (mins)		10.0-	8.9	8 8	8.9	8 8	0.0	8 8	0.00	93.0	0.0	0.0	90 G	10.0	0.00	90'0 00'0	0.0	0.0	0.00	00.0	00:0
			at: Tn rval Vertical Depth (n) Ho Above 219,96 (n) Below 219,96 (n) val (n) 244.79 Ve	3 Point	Applied Head (feet of water)		10.0	10.0	10.0	10'0	10.0	10.0	10.0	10.0	10:0	10.0	10:0	10.0	10.0	0.01	10.0	100	t0:0	0.01	10.0	10.0
\bigcirc		Test Type: Constant head, Straddle packer Gauge located downhole	vertical depth calculati Top of iau kepth (ft) 240.00 290.00 290.00		ر (وau/min)			0,00						e Totog												
	ł	<u>5</u> 5	True. Hole c Above Below		Applied Head (feet of water)	0.02	10.0 10.0	10 0	10:0	10.0	10.0	10.0	10:0	10.0	10.0		10 0	100	0.01	0.02	0.02	0.02	0.02	10'0	0'0	70.0
			inchea feet feet below top of casing feet feet feet feet below top of casing foet below top of casing		Measured Head (feet of water)	0.02	10.0	10.0	10.0	0.0	10.0	10.0	10'0	10:0	10:0	0.01	10/0	10'0	10.0	0.02	0.02	0.02	0.02	0.01	70'D	10.0
	JCSSA		1.78 0.16 288.83 313.70 24.87 24.87 157.87		Elapsed time (minutes)	00.0 00.0	0.12	00.0	0.42	0.54	0.72	0.78	8.0	1.02	1.20	1.26	121	8	1.80	2 1	16.1	1.94	2.04	2.10		1
	Morrison-Malerle/CSSA Miner Flat 943-27691 244	234 1 26-Oct-95	Top Beitean	. Sandstone 12:09:45	Elapsed time (hours)	0010	0,00	10.0	10.0	10.0	10:0	10.0	0.02	0.02	10.0	0.02	0.02	0.0	(0))	0.03	10.0	0.03	0.03	300	10.0	30
June	Clicat Site Project No. Horehole		Borcholc diameter Borcholc radius Test accion location Length of test interval Gauge Depth Static Water Level	General Lithology Sandtume/Gypaiferous Sandtume Start Time 12:09:	Clock Time	12:09:45 12:09:49	12.09:52	12:10.03 12:10.07	12.10.10	12:10:17 12:10:21	12.10.28	12:10:32	12.10.43	12:10:46 13:10:46	12:10:57	12.11.01	12.11.04	12:11:19	10.11.21	101121	12.11.40	12:11.44	12.11.57	12.11.51	12 12 02	12 12 05

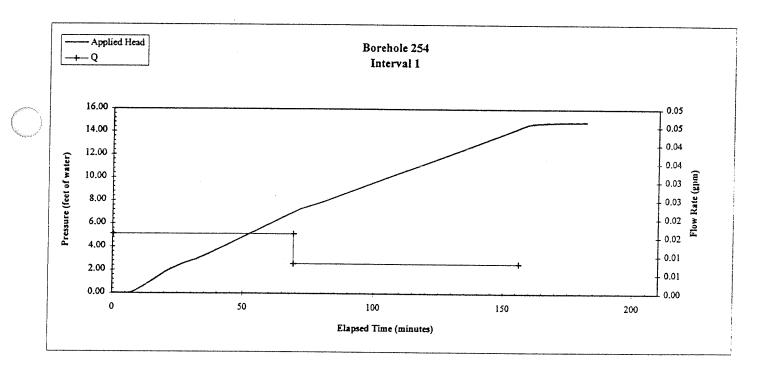
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Golder Associates

25401A CHA, Input Data

Plot data ı	ised in analysis
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
14.80	0.008

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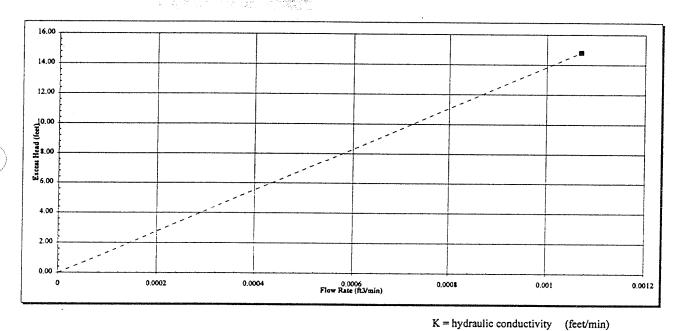


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691
-	

Borehole254Interval Number1

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
14.80	0.008	0.00107



Q = Flow rate

he = Applied head

r = borehole radius

L = length of interval tested (feet)

ft³/min feet (ft³/min)

(feet)

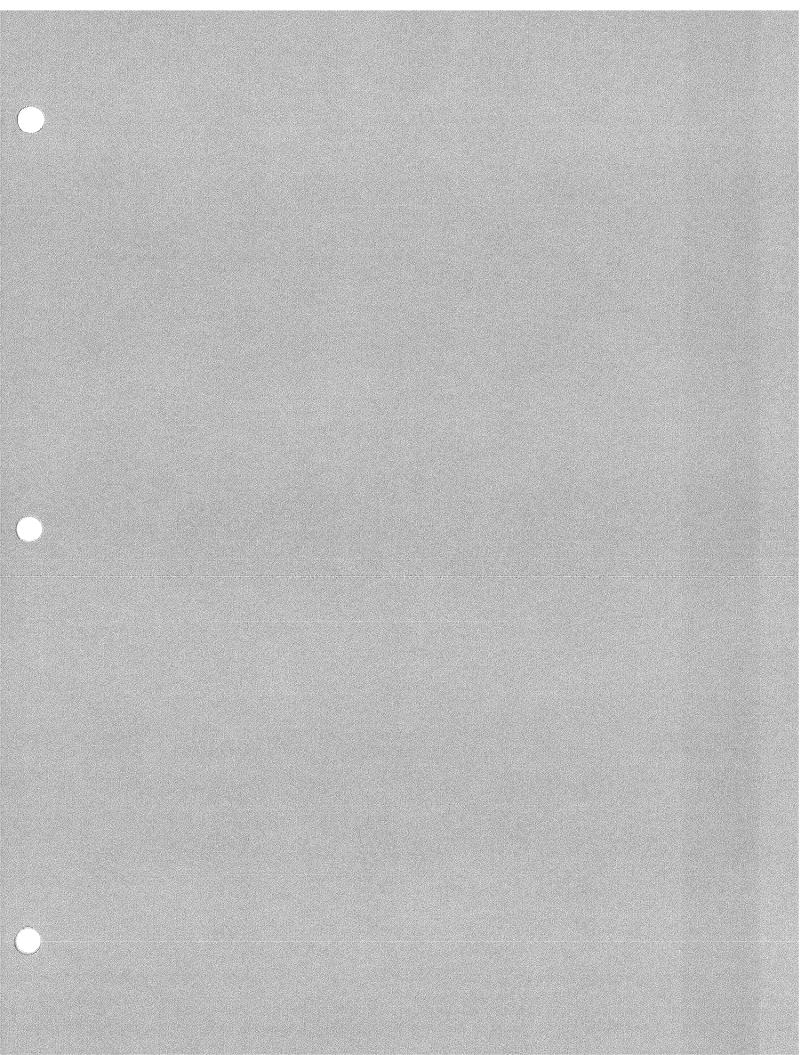
(feet)

 $K = 1/(2\pi L) x (Q/h_e) x \ln (L/r)$

Range of hydraulic conductivity

K =	1.2E-06 cm/s	Q =	0.001
	2.3E-06 feet/min	h. =	14.80

25401A.CHA, K calculation



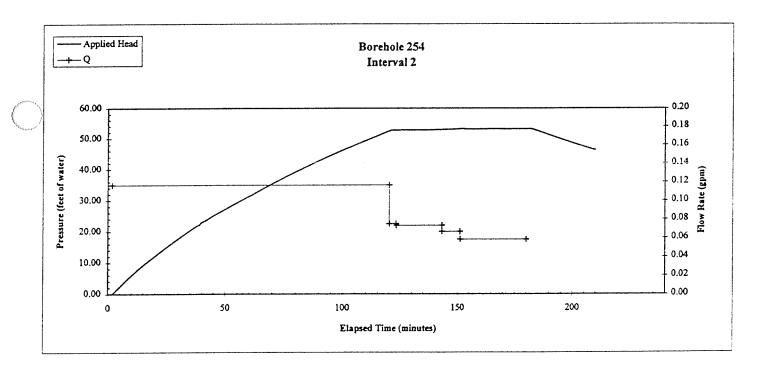
0(116/2-616			Average Q (gal/min)			00.0	0.0	00.0	0.00	00.00	000	0.00	00:0	0.00	0.00	00.0	0.00	0.02	0.02	10.0	0.02	70.0	8.0	00.0	0.00
$\left(\begin{array}{c} \end{array}\right)$		8 8 1 5 Point Movine Averaed	Δ time A (minutes) (j			10.0-	10.0	10.0-	10.0-	10.0	000	0 00	000	10.0	10.0-	10.0-	10.0	10.0	0.07	0.13	91.0 CL 0	0 21	110	0.24	E2.0
		286 (S) 286 (S)	Applied Head (feet of water)			00.0	000	00'0	10.0-	10:0-	10.0-	10.0	10.0-	10.0-	-0.02	0.02	-0.02 -0.02	-0.02	10.0-	0.02	0.0 01 0	0.16	1	0.27	£C.0 \$E.0
		True vertical depth calculation: Boltom of interval Boltom of interval Vertical depth of bottom of interval (ft) Vertical depth of bottom of interval (ft) 23 Moving Averages	Average Q (gal/min)		0.00	00.0	0.00	00.0	00:0	00.0	0.00	0.00	00.0	0.00	0.00	000	800	0.00	10.0	0.0	5 8	80	0,00	00.0	000
		True vertical depth calculation: Bottom - Bottom - Bottom - Above - Budow - 190,00 - - - - - - - - - - - - - - - - - -	Δ time (mimt)		20 Q	0.0	10.0- 0.00	8	10.0	10.0	10.0-	10.0	10.0-	10'0-	0.00	0.00	10.0	10.0-	0.02	90.0	110	11.0	0.12	0.12	0.11 0.12
		an: T Frval Frval Vertical Depth (ft) H Above 239.56 Below 269.56 val (ft) 263.57 V val (ft) 263.57 V	Applied Head (feet of water)		10.0	00'0	8.0	0.00	10:0-	10:0-	-0.02	10:0-	10.9	10.0-	0.02	6.07 9	0.02	-0.03	-0.02	0.00	01.0	0.16	0.22	0.28	8C.0 8C.0
	itradds packer ownhole	True vertical depth calculation: Top of interval Hole depth (f) Vertical Above 2000 Above Bdow 270,00 Bdow Vertical depth of top of interval (f)							4. 1991. 1. 1992. 1. 1992.				- 1												
	Test Type: Constant bead, Straddle packer Gauge located downhole	True vertical depth calculation: Top af laterv V V Above 260.00 AL Below 200.00 B	Q (gal/min)																						
			Applied Head (feet of water)	0.01	10'0 00'0	0.0			10.0-		-0.02	6:05 0:01			0.02				0.01			0.15			(C.0 4(.0
		inchea Fox fox below top of caaing fox fox fox below top of caaing foxt below top of caaing	Measured Head (feet of water)	0.01 0.02	10'0	0.0	000	0.00	10.0-	10.0-	-0.02	-0.02	10:0-	10.0-	20.0- C0.0-	0.02	-0.02	£0.0-	[0'0'	0.05	0.11	0.15	0.22	0.28	81.0 90.0
	VCSSA	3.78 0.16 263.96 288.85 24.89 24.89 157.87 153.68	Elapsed time (minutes)	0 90.0	0.12 0.18	0.0 X10	0.42	0.54	0.72	0.78	10	<u>8</u> 1	1.26	1.26	7	Ŧ	1.56	1.62	101	1.86	36.1	3.04	2.1	111	134
	Morrison-Malerle/CSSA Miner Flat 943-27691 254 25 2 2 2 2 0 2 0 0 5 0	Tup Bottom I Sandatone I 5:56:00	Elapsed time (hours)	00.0	00) A	10:0	10.0	10.0	10.0	10.0	10.0	0.02	0.02	0.02	0.02	0.02	0.03	600	60 D	0.03	(0.0	10.0	10.0	10.0	1.0
Tours	Client Site Project No. Borehole Test Number Test Date	Borchole diameter Borchole radius Test section location Tag Langth of test interval Gauge Depth Gauge Depth Static Water Level Ceneral Lithology Start Time 15:563	Clock Time	15.36,00 15.36,04	15.56.07 13.56.11	13.56.11 13.5622	15.56.23	15.56.32 14-55-32	15.56:41	15.36.47	15,56,50	15.57:12	15:57:16	15.57.16	15,57,23	15:37:26	15.57.34	15.57:37	15:57:48	15:57:52	42.72.21	15.58.02	15.38.06	15.58.13	15.58.20

T/June

Goldor Associatos

25402A CHA, liqut Data

Plot data used in analysisApplied HeadFlow Rate (Q)(feet of water)(gal/min)53.100.058

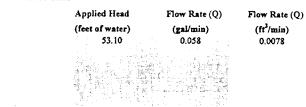


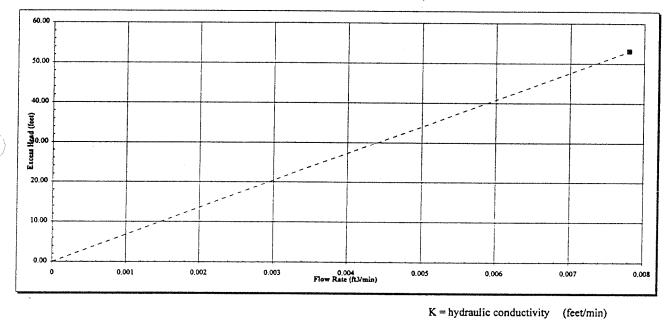
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691
Borehole	254

Interval Number

Plot data

2





 $K = 1/(2\pi L) x (Q/h_e) x \ln (L/r)$

Range of hydraulic conductivity

K =	2.4E-06 cm/s	Q =	0.008	ft³/min
	4.8E-06 feet/min	h _e =	53.10	feet

Q = Flow rate

he = Applied head

r = borehole radius

L = length of interval tested (feet)

(ft³/min)

(feet)

(feet)

07114/2-1H								3	Average Q (sal/min)				00.00	000	000	000	00:0	10.0	0.04	90.0	00.0	0.00	0.00	0 00	000 0000	0,00	00.0	0.0	0.0	0000	0.0	00.00	000	85
								5 Point Moving Averages	Δ time (minutes)				0.00	8.0	8	0.00	10.0	10'0-	10:0-	10.0-	0.0	10.0-	0.00	000	0.00	0.00	0.00	0.00	0.02	91.0	12.0	0.36	070	2
				l Interval Vertical Depth (ft)	259.96 269.96	18.092		5 Point M	Applied Head (feet of water)				0.00	90 G 00 G	000	0.00	8.9	10.0-	10:0-	10.0-	10:0-	10:0-	10:0-		10'0	10.0-	10.0-	10.0-	10.0	90.0	60.0	0.17	0.26	
			calculation:	3	260.00 Above 270.00 Below	Vertical depth of bottom of interval (ft)		5	Average Q (gal/min)	I		0.00	0000	00.0	00'0	010	0.0	0.07	0.07	00.0	0.00	0.00	0000	0.00	00.00	0.00	0.0	000	00.0	0.0	0.00	0.00	0.00	
			True vertical deptà calculation:	Hole depth (ft)	Abore Below	artical depth of b		3 Point Moving Averages	A time (mins)			0.0	8.6	8.0	0.0	8.6	10.0	10:0-	10:0-	8.0	10.0-	00.0 0		80	0,00	0.0	8.8	8	0.02	0.0	0 .14	0.18	6.23	
			Ę	;	239.57	238.95 Ve		3 Point	Applied Head (feet of water)			00:00	0.0	00.0	0.00	0.00	00.0	10.0-	10:0	10.0	10.0-	10.0-	10.0-	10.0-	10.0-	10.0	10.0	0.02	10.0-	0.02	0.06	0.16	0.26	
		iraddie packer wnbole	th calculation:		240,00 Below	Vertical deptà of top of interval (ft)			IY I																									
\bigcirc		Test Type: Cosstant bead, Straddle packer Gauge located downhole	True vertical depth calculation:	Hole depth (N)	Below	ertical deptà of			Q (ali ^m in)	and the second									3															
		200	Ĩ	H	čă	>			Applied Head (feet of water)	10.0	0010	09.0	00.0	0.00	00.0			10.0				10.0				10.0					0.0		0.26	
			inches	reet feet below top of casing feet below top of casing	foot foot below top of casing	feet below top of casing			Measured Head (feet of water)	10:0	0.00	0.00	000	0.00	0.00	000	0.00	10:0-	10.0-	10.0-	10.0	10.0-	10.0-	10.0-	10:0-	10 G	-0.02	-0.02	-0.02	10.0	0.07	21.0 94.0	97.0	
	ICSSA		3.78	238.98	24.87	152,53			Elapsed time (minutea)	•	90:0	0.12	0.24	0.36	170 170	9.0	0.72	110	0.96	1.02	1.14	41	1.5	51	1.62	891	1.74	1.86	86.1	2.04	17	2.22		
	Morrison-Maierle/CSSA Miner Flat 943-27691	254 3 27-Oct-95		Top Bottom				8:05:11	Elapsed time (hours)	0.00	00.0	000	00.00	10.0	100	10.0	10.0	10.0	0.02	0.02	20.0	0.02	0.03	[0]0	0.03	0.03	0.03	60.03	0.0 20.0	0.03	5.0 100	10.0		
13 Well	Clieat N Site No. 9	Borchole 25 Test Number 3 Test Date 27	Borchole diameter Borchole radius	Test section location	Length of test interval Gauge Depth	Static Water Level	General Lithology Sanditone	Start Time	Clock F Time	8.03:11	8.05.15 8.05.15	8.05.22	B.05:25	8.05/33 2.05/34	05.50. 3	E.03.47	8.05.54 # 05.54	10,00.8	B.06;09	11.06:12 • 64:10	1 .06:23	N.06:37	14:00.8	B.06.41	8.00.52 8.06.52	1.06:52	8.06;55	B :07.03	8.07.10 # 67-11	1.07.17	8:07:24	8.07:28	107-11	10.10.4

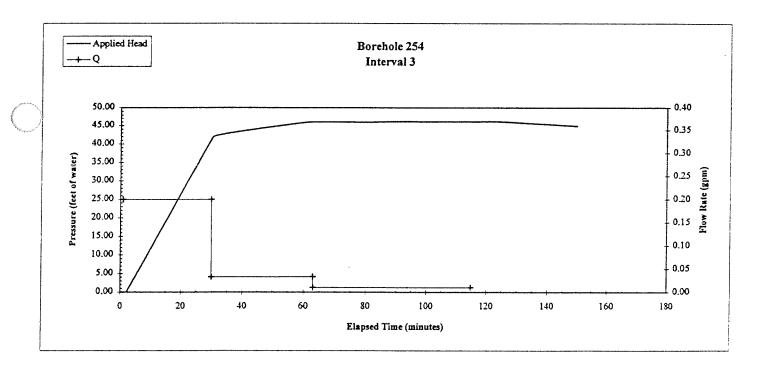
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25403A.CHA, liqui Data

Plot data	used in analysis
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
46.00	0.010

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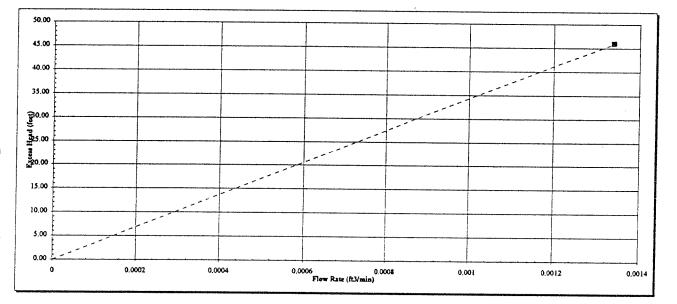
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Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691
	

Borehole254Interval Number3

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
46.00	0.010	0.00134

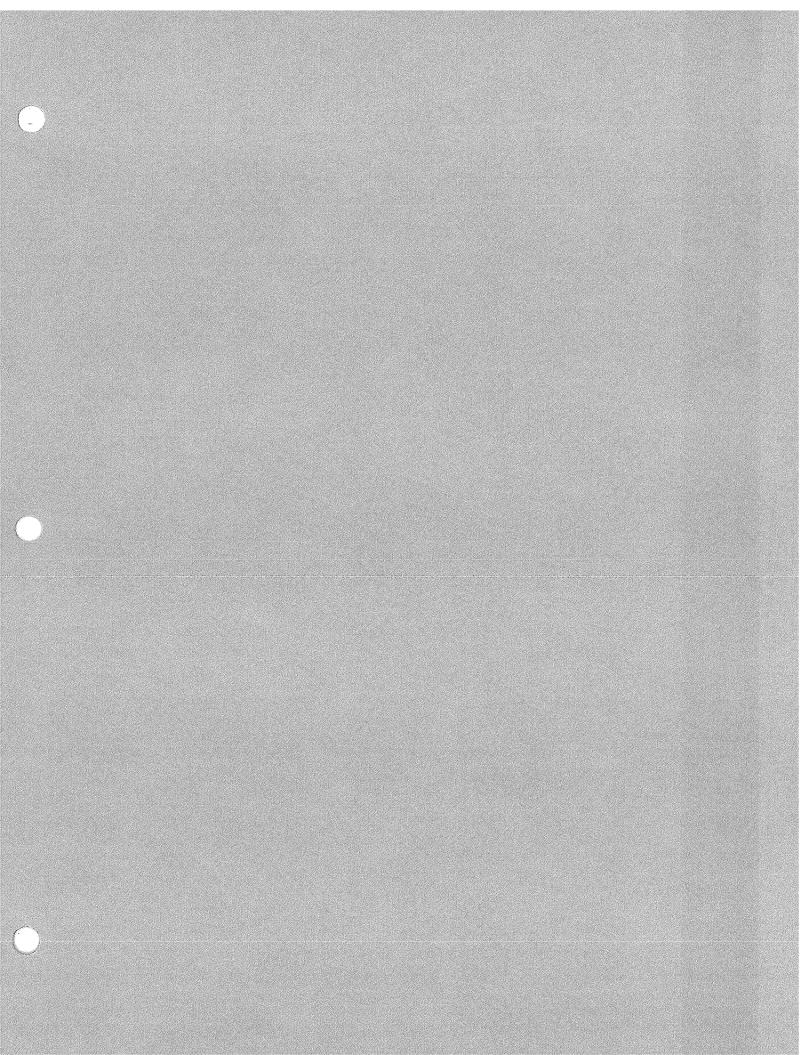


K = 1/($2\pi L$) x (Q/h _e) x ln (L/r)	K = hydraulic conductivity Q = Flow rate he = Applied head L = length of interval tested r = borehole radius	(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of l	hydraulic conductivity		
K =	4.8E-07 cm/s	$0 = 0.001 e^{3/2}$	

 	ciii/ 3
9.4E-07	feet/min

 $Q = 0.001 \text{ ft}^3/\text{min}$ $h_e = 46.00 \text{ feet}$

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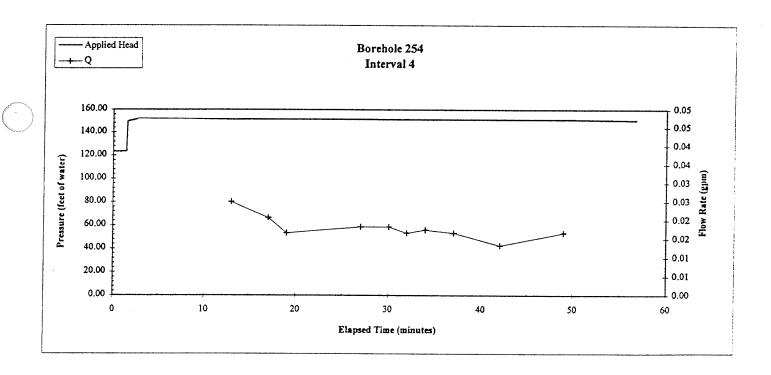


0711612-174		3	Average Q (gal/min)		8 8 8	00 0	00.0	0010	8 8 8	000	0.0 00.0	00.00	0000	0.00	0.00	0.00	00.0
		5 Point Moving Averages	∆ time (minutes)		10 0	10.0	0.01 0.01	0.04 0.05	10 0 10 0	0.05	18.22 18.72	27.92 28.45	282 113	0.73	11.0- 10.0-	-0.03	10'0-
	epth (f) 229,97 239,97 234,95	5 Point M	Applied Head (feet of water)		97 TZ	76.451 76.451	76.021 BC.021	10.021 90.021 94.00	13 EL	123.45 123.45	128.65 134.15	139.73 145.42		66.1C1	152.13 152.10	152.09	152.0 9 152.09
	True vertical depth calculation: Bottom of interval Hole depth (h) Vertical Depth (f) Above 230.00 Above 22 Above 240.00 Below 23 Vertical depth of bottom of interval (f) 23	2	Average Q (gal/min)	8 8	8 8 8	0.00	0.00	8°0 8'0 8	0.0 0.0	0.00	0.00	00'00 00'0	8 8 8	0.00	00.0	0.0	0.0
	Tree vertical depth calculation: Bottom e Hole depth (ft) Above 230,00 Bolow 240,00 Vertical depth of bottom of inte	3 Polat Moving Averages	Δ time (mins)	8.6	00'0 10'0	0.0 0.0	10.0	10 ⁰ 0	0.02 0.05	0.0 0.0	10.0 25.22	27.50 2.00		8	6 G	10.0-	10.0
	eer To To To all To Above 2099,97 and Below 119,97 and Mal (ft) 214,06 Vy	3 Point	Applied Head (feet of water)	90.00 91.00	80.021 80.021	16.021 16.021		- 60'EE	123.42 123.44	123.45 123.46	123.47 132.10	141.27 150.58 151.55	151.02 151.02	1121	152.11	152.09	152.09
	3 3 3 6 6																
fai Type:	Constant based. Straddle pa Gauge located dowahala True vertical depth calcular Hole depth (ft) Above 210.00 Béow 220.0 Vertical depth of top of late		Q (gal/min)														
			Applied Head (feet of water)	80.001 80.001 80.001 80.001		70.021 20.021						12.091 12.021 15.131	151.92	152.13 152.13	132.10	152.09	151.04
	inchea foot foot below top of casing foot below top of casing foot below top of casing foot below top of casing		Measured Head (feet of water)	80.021 80.021 80.021 80.021	50,021 36,021	76.621 86.621 77.621	70.021 10.021	90.051 19.051	123.42 123.43	123.46 123.46	123.47	150.97 151.38	151.92 152.20	152.13 152.11	152.10	152.09 152.09	152.08
ACSSA	3.78 0.16 214.11 238.98 24.87 157.87 157.87		Elapsed time (minutes)	0 0.06 0.12 0.12	0.36	0.54 0.54 0.6	0.78 0.78	0.84 0.96	101	<u> </u>	1 1 1	17	2.64	2.76 2.76	287	3	2.94
Morrison-Maierle/CSSA Miner Flat 943-27691 254 4 (r)	1 (v) 27-Oct-95 Top Bottom	9:37:59	Elapsed time (hours)	000 000 000	10.0	10.0	10.0	0.01 0.02	0.02	70 D	20.0	10.0	0.04 20.0	0.05 0.05	0.05	0.05	0.03
7/Juwe Client Site Project No. Borebole Teat Number		General Lithology Sandatone Start Time	Clock Time	9656.9 60,06.9 80,86.9 01,06.9	9:38:17 9:38:28	9.38.24 16.38.29 9.38.05	9.38.42 6.46.9	9,38,49 9,38,57	90,90,9 91,90,07	81.45.4 31.45.9 52.95 V	22.4C.4 EE 4E 4	9.40.34	9.40.37 9.40.41	9:40:45 9:40.45	9.40.48	9:40:55	9:40.55

Golder Associated

254043A.CHA, liqui Data

Plot data used in analysisApplied HeadFlow Rate (Q)(feet of water)(gal/min)151.000.017



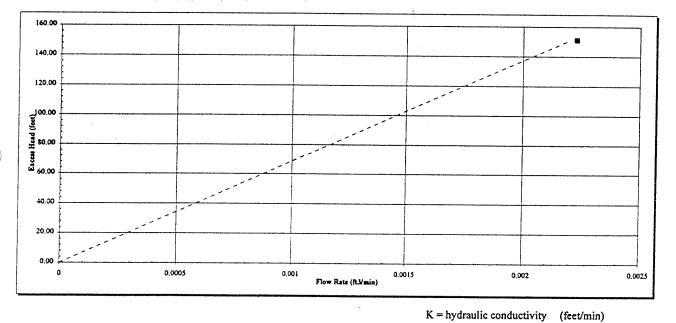
(^{er}

Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691
Borehole	254

Interval Number 4 (r)

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ff ³ /min)
151.00	0.017	0.0022



 $K = 1/(2\pi L) \times (Q/h_e) \times \ln (L/r)$

Range of hydraulic conductivity

K =	2.4E-07 cm/s	Q =	0.002	ft³/min
	4.7E-07 feet/min	h _e =	151.00	feet

Q = Flow rate

he = Applied head

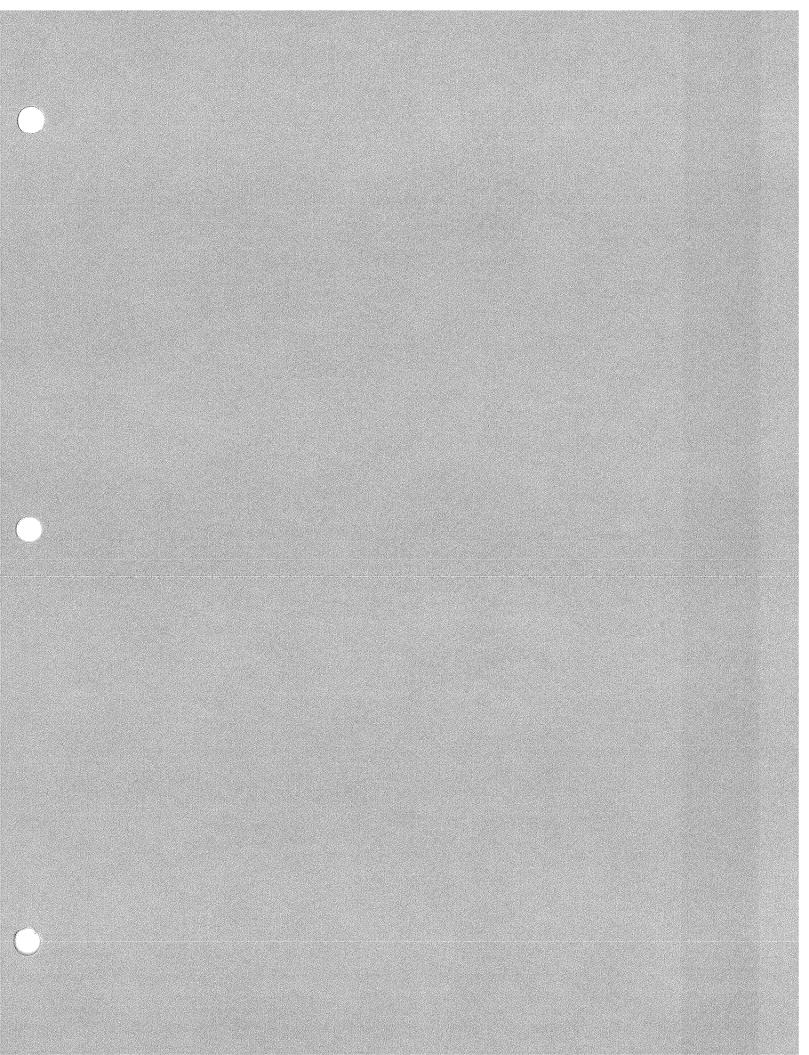
r = borehole radius

L = length of interval tested (feet)

(ft³/min)

(feet)

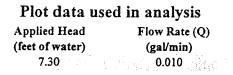
(feet)

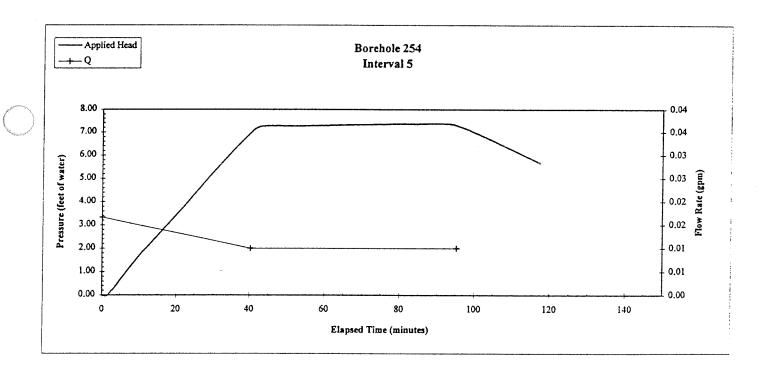


0(1.1912-646				Average Q (gal/min)			00.0	0.00	800	000	0 00	0000	800	0.00	0.00	0.00	0.00	0.0	000	000	0.00	0.0	0.00	0.00	000	0.00	00.0	0000	00.0
\bigcirc			5 Point Moving Averages	∆ time A (minutes) (10.0-	10.0-	10.0	100-	-0.02	10.0	0.02	-0.01	00.0	10.0	0.02	E0:0	10.0	(0.0	£0,0	10.0	0.05	90.0	10.0	10.0	100	10.0	0.07
		pth (ft) 209.97 219.97 214.04	5 Point Mc	Applied Head (feet of water)			10.0-	40.07 20.02	100	-0.02	6.0	(0.0) 10 cl	10.0	10 .0-	10.01	1 0.0	£0.0-	5 F	10:0-	0.00	0.00	10'0	0.02	0.04 2.02	c0.0	10.0	6		110
	alculation: Botona of internet	Vertical Depth (ft) 210.00 Above 201 220.00 Balow 211 (000 of laterval (ft) 214	-	Average Q (gal/min)		0.00	0.00	0.00	0.0	0.00	0.0	00.0 50	00.0	00.00	0'00	0.0	8 8	80	000	0.00	00'00	0.00	00'0	0.00				00.0	0.0
	True vertical depth calculation: Barrae	Hode depth (R) Vertic. Above 210.00 Above Below 210.00 Bulow Vertical depth of bottom of interval (1)	3 Point Moving Averages	A time (mins)		10.0-	10.0	8.8	0.01	10.0-	8.0	1017		10.0-	-0.01	10.0	50 G	100	2010	20.0	0.02	0.02	3	000 700			100	0.01	10.0
		Vertical Depth (n) H Above 179 -98 (m) Babow 189,97 (m) Val (n) 189.22 V	3 Point	Applied Head (feet of water)		10:0-	10:0	6 7 7	-0.02	0.02	0.03	0.07		10:0-	1 0:0-	7 00		10.0	10:0-	10:0-	0.0	10.0	0.02		0.07	900	110		41'0
a conversa	Teit Type: Cousiant band, Straddle packer Gauge located downhole True vertical depth calculation: True vertical depth. Too of interval	Hole depth (f) Vertien Above 1840.00 Above Bdow 1900.00 Balow Vertient depth of top of interval (f)		_									- - 																
()	Test Type: Constant bead, Straddle p Gauge located downhole True vertical depth catcul True vertical depth catcul	Hole depta (f) Above Below Vertical depta o		Q (gal/min)	0.02																								
				Applied Head (feet of water)	10.04	10.0	10.04			10.0- 10.0					1 0 - 0							10.0							0.14
	inches Foot	foct below top of cauling foct below top of cauling foct foct below top of cauling foct below top of cauling		Measured Head (feet of water)	10.0-	10 0	10 07 70 07	0.0	-0.02	60 Q	6. 9	2.9	0 .0	2 0.0-	-0.0 0	5 7	6.0	-0.02	10.0-	0,00	000	10.0	70:0	0.05	0.04	0.09	0.11	613	0.14
	a/CSSA 3.78 0.16	189.25 214.11 24.86 157.87 152.53		Elapsed time (minutes)	0 (0	1.9	0.24	97:0	0.42	0.54	0.72	0.78	6.84	80	701	1	1.26	86.1	1.44	2	1.62	1.0	1.86	16.1	2.04	2.1	111	2.28	HC2
	Morrison-Malerle/CSSA Miner Flat 943-27691 254 5 17-Oct-95 31	Top Bellom	13:53:44	Elapsed time (hours)	00.0	3 0	00.0	10.0	10.0	10.0	10.0	10.0	10.0	0.02	700	0.02	0.02	0.02	0.02	0.03	60 C	600 600	0.03	0.03	0.03	10.0	10 0	10.0	10:01
730xx		ret ection location Length of test interval Gauge Depth Static Water Level	General Lithology Sandstone Start Time	Clock Time	11.01.01	15:65:01 35:02:01	12.53.51	13:54:06	13.54.09	1354.20	13:54:27	10.401	10.54:34	20-00-00 20-00-00	13:4:31	13.34.56	13:55.00	13:55:07	11:55:10	13511	17.65.11	1135.01	13:35:36	11:35:43	13:35:46	13:33:50	13:35:01	10.56.01	13,36,04

Ouldor Associates

25405A CIEA, Equil Data





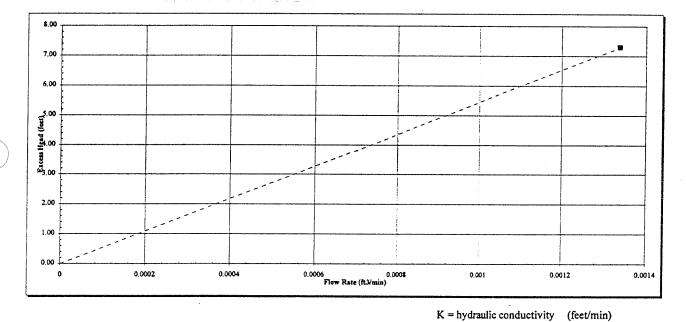
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Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole254Interval Number5

Plot data

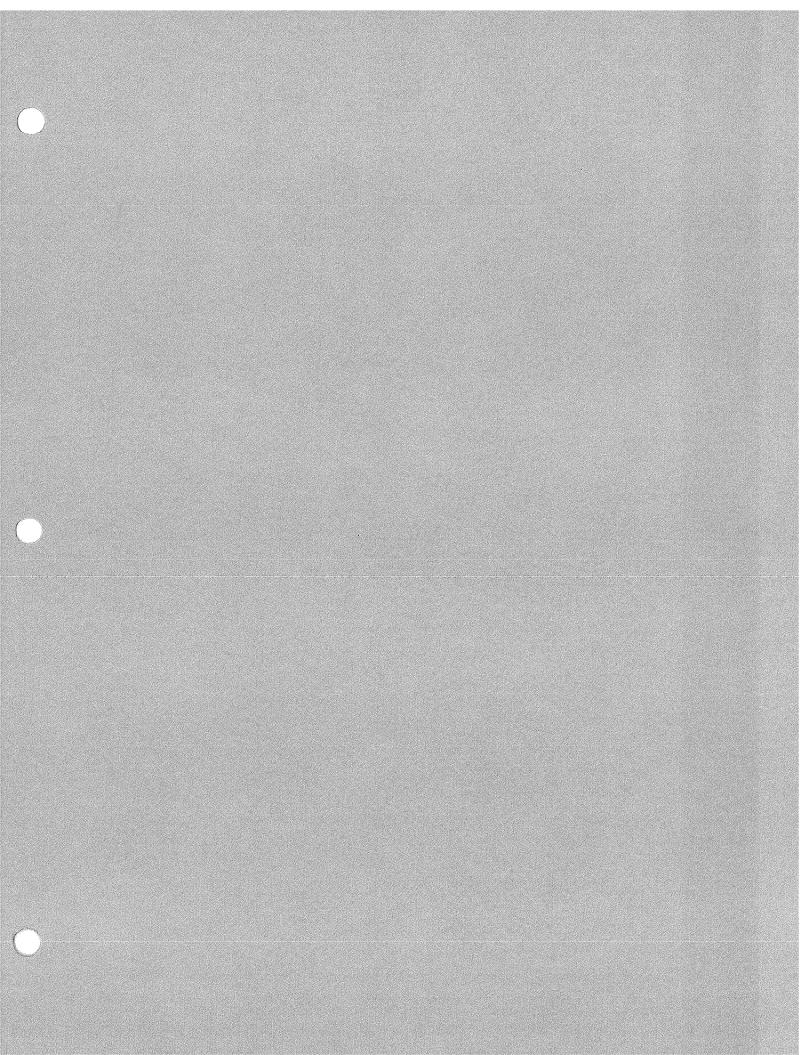
Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
7.30	0.010	0.00134



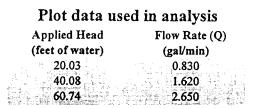
K = 1/($2\pi L$) x (Q/h _e) x ln (L/r)	Q = Flow rate he = Applied head L = length of interval tested r = borehole radius	(ft ³ /min) (feet) (feet) (feet)
Range of l	hydraulic conductivity		
K =	3.0E-06 cm/s	$Q = 0.001 \text{ ft}^3/\text{min}$	

5.9E-06 feet/min

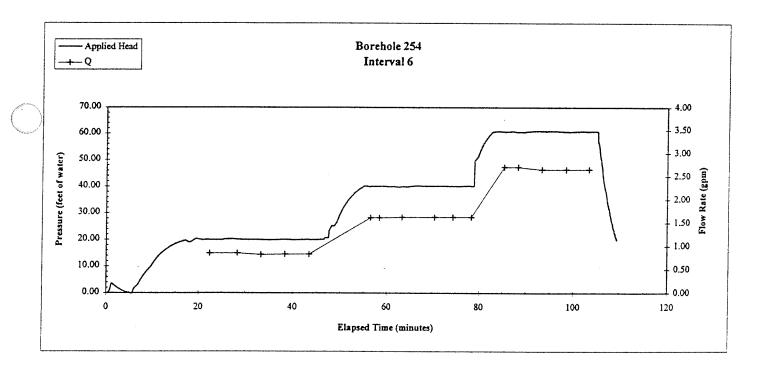
 $h_e = 7.30$ feet



0(1)1475-144				Average Q (gal/min)		0.00	00.0	0.00	8 8 8	000	0.00	8 .0	000	00.0	00.0	0.00	0000	00.0	0.00	00:0	0.0	0.00	8	
\bigcirc			5 Point Moving Averages	Δ time (minutes)		-0.02 0.19	0.39 0.69	0.97	1 5 5	51	2.27	11 O	9.9	1 4.0	C4-77	-0.48	4 9 9	-0.47	4 2	9 9 9	110	7 9	2 7	
		epth (A) 179.98 189.97 184.91	5 Point M	Applied Head (feet of water)		2 0.0 70.0	0.03 0.17	0.36 0.65	66-0	2.01	1.02	27.C	771	92.6	3.17	3.05	2.80	2.69	2.57	1.40	124	212		
	. calculation:	Bottom of interval Hole depth (ft) Vertical Depth (ft) Above 180.00 Above 17 Below 190.00 Below 11 Vertical depth of bottom of interval (ft) 11	52	Average Q (gal/min)	00,6	00.0	0.0 0.0	0.0 00.0	00:0	00:0	00.0	000	0.00	0.00	0.00	0.0	0.00	0.00	00.0	0.00	0.00	0.00	8	
	Tree vertical depth calculation:	Hole depth (ft) Above Below Vertical depth of b	3 Point Moving Averages	Δ time (mins)	-0.03 	0.0	600	0.46 0.56	0.73		140	51 ja	9.16 2.1	11.04	170	29	7	-0.24	17 P	, r	-0.31	97.9 97.9	•	
	F	l Depth (N) 139.96 149.94 [] []		Applied Head (feet of water)	-0.01	30.0	20.0-	4C.0 08:0	16.0 20.1	18.1 245	133	8-1 13-1	3.49	97.C	71.6	3.05 19 C	2.80	2.68	161	13	1.24	2.13 2.01		
	Teil Type: Coastaat head, Siraddie packer Gauge located domahole True vertical depth calculation:	Top of laterval Hole depth (ft) Vertica Above 160,00 Above Bdow 170,00 Bdow Vertical depth of top of laterval (ft)		Q (gal/mia)																				Outdar Associates
	4034	₩ 4 8 >		Applied Head (feet of water)	20.0 20.0 20.0 20.0 20.0 20.0 20.0 20	80.0 01.0	0.12				3,46 3.59											2.13		
-	incides ford	rece feet below top of casing feet below top of casing feet below top of casing feet below top of casing		Measured Head (feet of water)	0.00 00,00 00,00	8 01 0 9 10 9 10	0.12	09:0	4810 11.1	1.16	3.46 3.59	3.56	05.E 04.E	3.29	3.17	2.93	2.81	2.68	245	2.34	2.2	2.02		
IJ/CSSA	3.78 A.10	160,58 188,94 25,36 157,20		Elapsed time (minutes)	0 0.06 0.12 0.12	1.0	0.42	990	0.72	1.02	1.04	2	97.1 76.1	1.44	81	1.68	8.1	98-1 16-1	2.04	2.1		277 717		
Morrison-Malerie/CSSA Miner Plat	943-27691 254 6 (r) 27-0ci-95	Top Bottom	11:11:42	Elapsed time (hours)	900 900 900 900 900 900 900 900 900 900	10.0	10.0 10.0	10.0	100	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	60.0	0.03	10.0	1 010	10.0		
70000 Client Site	Froject No. Borebole Test Number Test Date Borebole ralius	Test section location Length of test interval Gauge Depth Static Water Level	General Lithology Sandaione Start Time	Clock Time	1101.42 1111.46 1111.49 1111.49	11.12.00	11:12:07 11:12:14			11:12.43	11:12:47 11:12:50	11:12:54	10/21/11	11:13:02	91:01:11	11.11.2	11:13:30	IFICH 1	11:13,44	#P(E))1	80 AU 11	11.14.02		234162A ('ILA, hquul Dala



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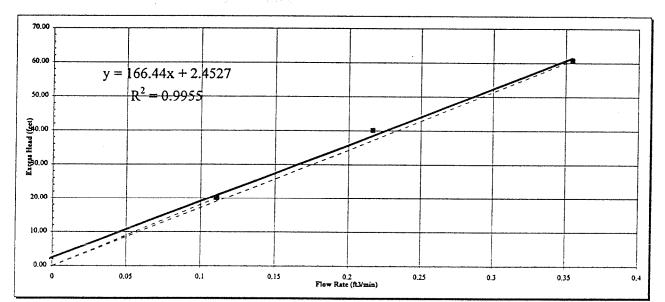
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691
Borehole	254

Interval Number

Plot data

6 (r)

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
20.03	0.830	0.1110
40.08	1.620	0.2166
60.74	2.650	0.3543
	4 	



K = hydraulic conductivity

L = length of interval tested (feet)

Q = Flow rate

he = Applied head

r = borehole radius

(feet/min)

(ft³/min)

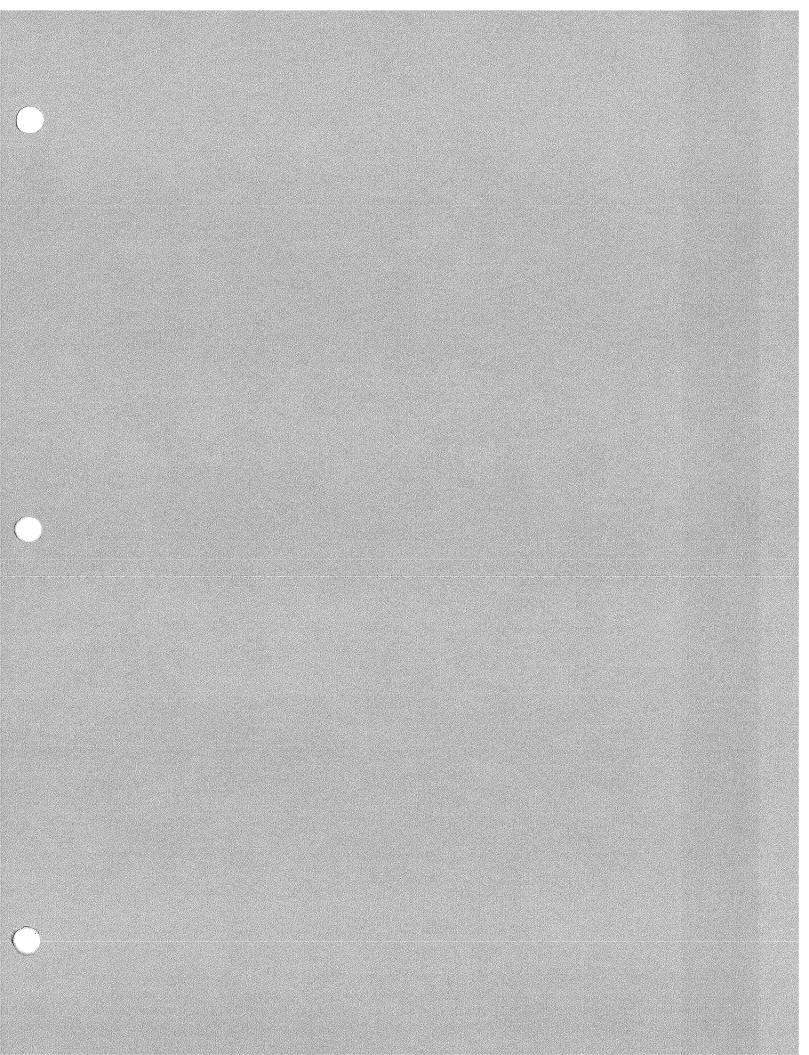
(feet)

(feet)

 $K = 1/(2\pi L) \times (Q/h_e) \times in (L/r)$

Range of hydraulic conductivity

K =	9.0E-05 cm/s 1.8E-04 feet/min	Q = h _e =	0.111 20.03	ft ³ /min feet
K =	9.4E-05 cm/s 1.9E-04 feet/min	Q = h _e =		ft ³ /min feet
K =	9.7E-05 cm/s 1.9E-04 feet/min	Trendline Slope	166.44	

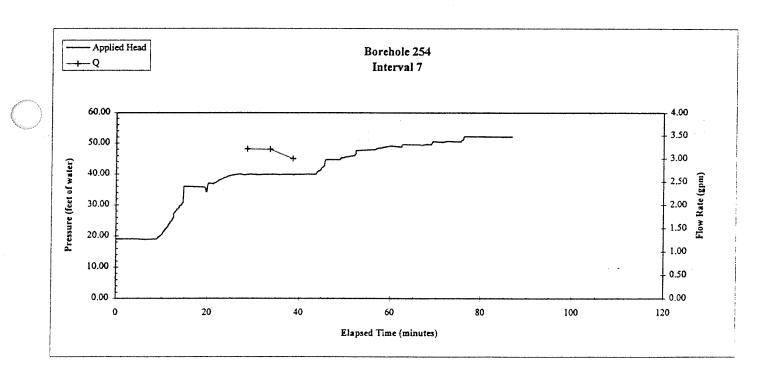


01116LE116			ň	Average Q (gal/min)		00.0	0.00	90.0	98.0 68.0	0:00	00.0	00.0	0.00	0000	00'0	0000	0010	95 9	0 00	00.1	0.0	000	00 0 00 0
() N _{and}			5 Point Moving Averages	Δ time (minutes)		00 0 00 0	883	8.0	00.00 0000	00.00	00.00	0.00	0.00	10.0-	0.00	99 0	00 00 00 00	90.0	00:0	8	10.0	100	70'0
		Depth (f) 139.98 163.98	5 Point M	Applied Head (feet of water)		89.05 19.05	19.05 19.05	50.61	19.05	19.05	19.05	50.61	20.91 20.01	20.61	19.04	19.01	40.61 40.61	10.41	19.04	H0.61	19.04	20.71	50'61
		of laterval Vertical Above Below rval (ft)	3	Average Q (gal/min)	0.0	00.0 00.0	8 8 8	00.0	00.0 00.0	0.00	00.0	0.00	0.0	0.00	00.0	8.0	0.0	0.00	0.00	800	00.0	8.0	0.0
		True vertical depth calculation: Bottom · Hobero depth (h) 180.00 Abore 170.00 Botow 170.00 Vertical depth of bottom of inte	3 Point Moving Averages	Δ time (mins)	0.0	9 9 9 9	8 8 8	0.0	8 8	0.0	8 8	0.0	8.0	0.0	0.0	8 8	8.0	00.0	0.0	8.8			0.0
			3 Point	Applied Head (feet of water)	19.05	19.05 19.05	50.61 50.61	20.61	19.05	50.61	20.41 20.61	19.05	20.61 19.05	19.61	19.04	10.01	10.61	19.04	19.61	90'61	50 E I	19.05	50.61
Maran .	addle packer ahole	True vertical depth calculation: Top of laterval Hole depth (ft) Vertical Depth (ft) Above 130.00 Above 139.98 Below 140.00 Below 139.98 Vertical depth of top of laterval (ft) 133.56										. '		· · .	~ 1			-			•		
	Test Type: Coustaat kead, Straddle packer Gauge located downhole	True vertical depth calculation: Top at laterv Hole depth (ft) 19,00 At Above 130,00 Bt Bdow 140,00 Bt Vertical depth af top of laterval		Q (gal/min)				and the second se															
	ĔŬŬ	. π 4 4 ×		Applied Head (feet of water) 1905	19.05 19.05	20,41 20,61	20.61 20,05	19.05 19.05	19.05	19.05 10.05	10.61		50.41 50.41			40.61		19,04	19.04		10.61	19.05	19.05
		inches feat feat below top of casing feat below top of casing feat below top of casing feat below top of casing	-	Measured Head (feet of water) -001	10.0	5 5 5	10 0	10.0-	10.0	10.0	0.07	10:0	10.0	-0.02	0.02	70-0- 10-0-	10.0 -	10.0-	-0.07 -0.61	10.07	10.0	10.0-	10:0-
JCSSA		3.78 0.16 138.58 163.94 163.94 25.36 132.20 150.70		Elapsed time (minutes) o	0.06 0.12	C 3	0.42	0.6 27.0	0.78	980 980	1.02	11	1 26	86.1	141 144	8 I I	1 64	= }	9	3	1.1	11	82.2
Morrison-Malerle/CSSA Miner Flat 943-27691	254 7 (r) 28-Oct-95	Tap	13:21:27	Elapsed time (hours) 0.00	00.0 100.0	10 0	10:0	10:0	10.0	0.01 0.02	0.02	0.02	20.0	0.02	0.02	0.03	6.03	(0.0 (0.0	(0)0	10.0	0.04	0.04	10 0
700% Client Client Site Praject No.	Borehole Test Number Test Date	Borchole diameter Borchole radius Test section location Length of test interval Gauge Depth Static Water Level	General Litbology Sandstone Start Time	Clock Time D.21:27	101001 10101	0.1145 0.12149	131.52 1321.59	13:22:03 13:22:10	13:22:14	13.22.17 13.22.25	13:22:24	20:22:41 91:52:41	11:22:43	13.22.50	10.12.11	H0.02.01	10.12.11	0.0.0	0.014	92-02-01	10,033	13:23:40	19:00 C

Gulder Associator

254072A ('IIA, Input Data

Plot data	used in analysis
Applied Head	Flow Rate (Q)
(feet of water)	
39.86	3.000



Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole254Interval Number7 (r)

40,00

35.00

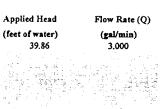
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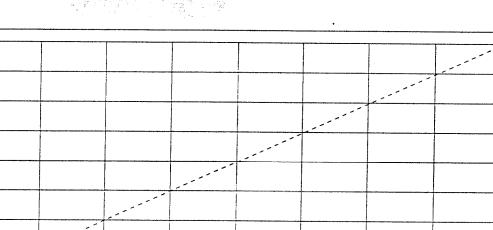
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320.00

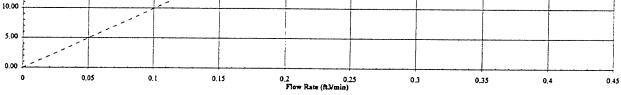
15.00

Plot data



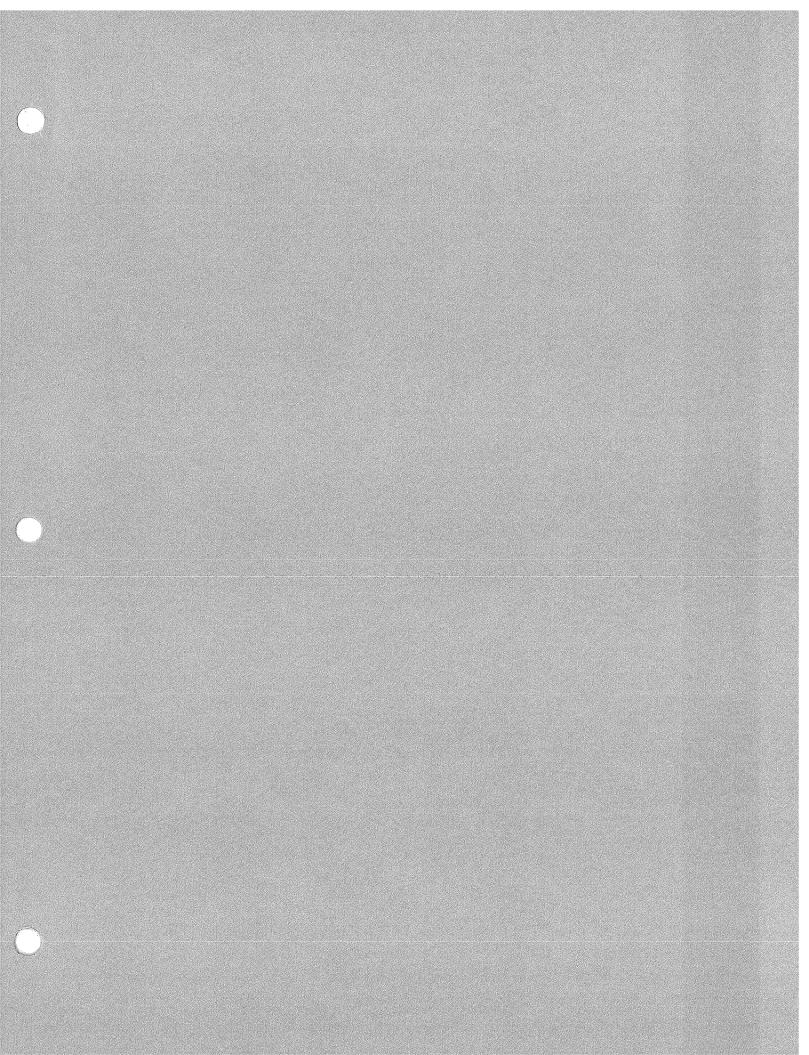


Flow Rate (Q) (ft³/min) 0.4011



K = 1/($2\pi L$) x (Q/h _e) x ln (L/r)	K = hydraulic conductivity Q = Flow rate he = Applied head L = length of interval tested r = borehole radius	(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of l	ydraulic conductivity		
K =	1.6E-04 cm/s	$Q = 0.401 \text{ ft}^3/\text{min}$	

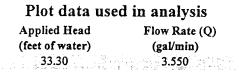
ζ=	1.6E-04 cm/s	Q =	0.401	ft ³ /m
	3.2E-04 feet/min	h _e =	39.86	feet



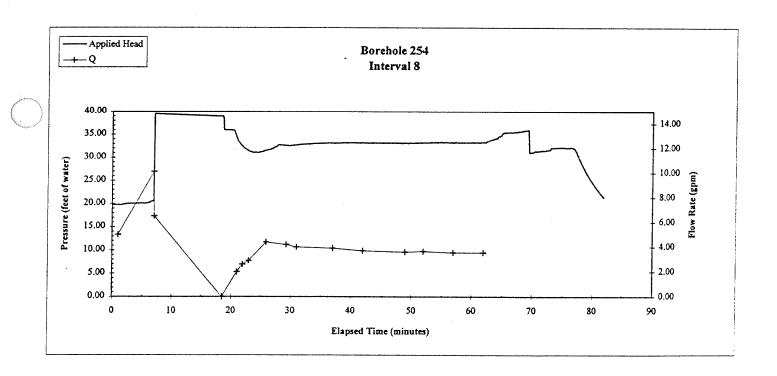
00111642-686			22 5 Point Moving Averages	Δ time Average Q (minutes) (ral/min)		000 000 000 000			0.02 1.00 0.00 1.00 0.00 1.00 0.00 0.00		0.07 0.00 0.07 0.00 0.08 0.00 0.04 0.00 0.01 0.00 0.01 0.00 0.01 0.00 0.07 0.00
		epdk (ft) 129.96 139.96	131.92 5 Point Mov	Applied Head (feet of water)		19.74 19.74 19.74	19.74 19.74 19.74	19.75 19.75 19.75	19.75 19.76 19.76 19.76	19.76 19.76 19.77 19.78	ar (1 14 (1 14 (1 16 (16
		True vertical depth calculation: Bottom of laterval Hole depth (ft) Vertical Depth (ft) Above 130.00 Above 12 Bedow 140.00 Bedow 1	(1) The party is 1	Average Q (gal/min)	8	00 00 00 00 00 00 00 00 00 00 00 00 00	0.00 0.00 00.00	0.00 0.00 1.67	1.67 1.67 0.00 0.00	8 8 8 8 8 8 8 8 8 8 8 8 8 8	000 000 000 000 000 000 000 000 000 00
		True vertical depth calculation: Bottom (Above 120.00 Babov 140.00 Vortical doorb of horono of 1	3 Point Moving Averages	Δ time (mina)	8.0	10 00 00 00 00 00 00 00	8 8 8 8 8 8		100 200 200 200	10.0 20.0 10.0 20.0	0.04 0.04 0.05 0.05 0.05 0.05 0.05 0.02
			Poù	Applied Head (feet of water)	47.91	19.74 19.74 19.74	47.81 47.81 47.81	19.73 19.73 19.75	87.81 87.81 87.81	19.75 19.77 19.71 19.80	51,61 51,61 51,61 51,61 51,935
	ŝtraddle packer Pwabole	True vertical depth calculation: Top of laternal Hole depth (ft) Vertical Above 110.00 Above Báow 1130.00 Báow		¥ ¥							
	Tei Type: Conian bead, Siradde packer Gauge located downbale	True vertical depth calculations: Top of interv Ve Move (10, 10,00 Above Blow (10,00 Blow Above Vertical depth of top of interval		Q (gal/min)				8			
				Applied Head (feet of water)	19.75 19.75 19.74	16.14 17.4	47.61 47.91 27.91	27.91 27.91 27.91	19.76 77.91 19.75	•	19 81 19 84 19 86 19 90 19 90 19 99 19 99
		inchea feet feet below top of casing feet below top of casing feet below top of casing feet below top of casing		Measured Head (feet of water)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			10 0- 10 0-	100- 101- 0010	8 7 7 8 8 8 8 9 9 9	0.03 0.09 0.12 0.14 0.14 0.15 0.19 0.21
	ILCSSA	87, E 0.10 82, E11 94, 861 25, 30 02, 301		Elapsed time (minutes)	0 0.06 0.12 0.12	0.24 0.36 0.42	0.54 0.6 0.72	0.78 0.84 0.96	1.02 1.14 1.26	11 1 2 3 1 17 1 3 3 1 17 1 3 1 3 1	11 14 136 138 138 138 12 12 12 12 12 12 12 12 12 12 12 12 12
	Morrison-Malerle/CSSA Miner Flat 943-27691 254 8 (r) 20-Nov-95	Top	7:53.06	Elapsed time (hours)	00 0 00 0 00 0 00 0	10'0 10'0	10 0 10 0	0.0 10,0 20.0	0.02 0.02 0.02	0.02 0.03 0.03 0.03	000 000 000 900 900 900 900 900 900 900
Support State	Client Site Project No. Borchole Test Nomber Test Date	Borehole diameter Borehole radius Test acction location Leagth of test interval Gauge Depth Static Water Level	General Lithology Sandstone Start Time	Clock	80167 01 187 01.187 02.187	05/25/ 15/25/ 16/257	7.53.34 7.53.42 7.53.49	65.657 36.667 94.9657	754.07 754.14 754.18 754.22	90,807 20,807 20,807 20,807 20,807	2,54,54 2,52,52 2,52,52 1,52,51 1,52,51 1,52,51 1,52,51 2,52,51 2,52,51

Golder Associates

254082A.CHA, Input Data



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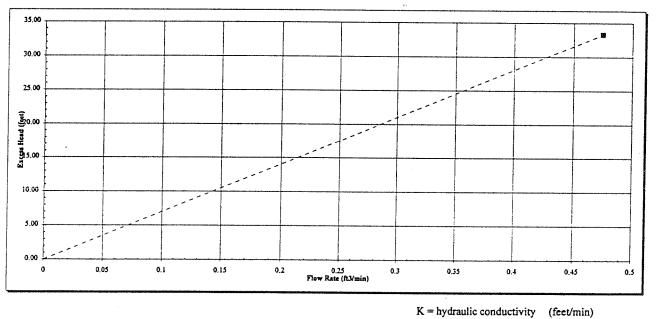


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691
Borehole	254

Interval Number 8 (r)

Plot data

aia			
	Applied Head	Flow Rate (Q)	Flow Rate (Q)
	(feet of water)	(gal/min)	(ft ³ /min)
	33.30	3.550	0.4746



$K = 1/(2\pi)$.) x (Q/h _e) x ln	(L/r)
----------------	------------------------	--------	-------

Range of hydraulic conductivity

K =	2.3E-04 cm/s	Q =	0.475	ft ³ /min
	4.5E-04 feet/min	h _e =	33.30	feet

Q = Flow rate

he = Applied head

r = borehole radius

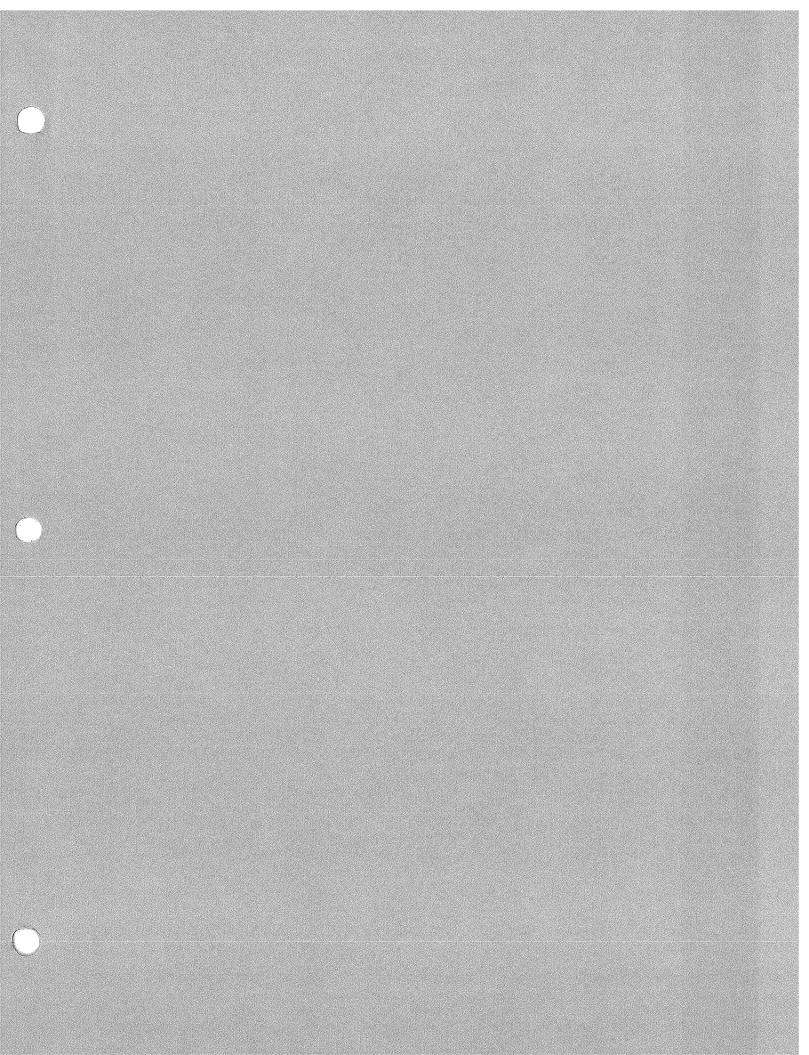
L = length of interval tested (feet)

(ft³/min)

(feet)

(feet)

254082A.CHA, K calculation



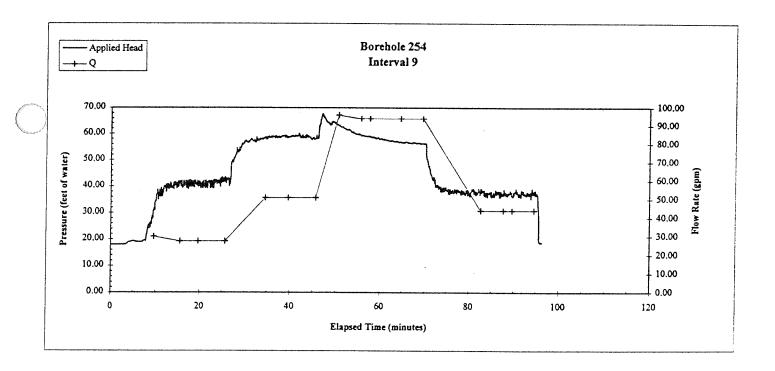
0[1]16[]-[16					agus Average () (gal/min)			00.0	000	00.0	00'0	0.00	0.00	0.00	8 8	0:00	0.0	0.0	0.00	0 .0	00.0	00.00	00.00	0000	00.0 100.0	8 8 8	0.00
				0 A Point Muvine A versee	∆ time ∆ time (minutes)			000	0.0	88	8.0	0.0	0.0	00.0	000 0	90:02	10.0 0.00	10.0	10:0	0.00	50.0	10.0-	0.02	() () () ()	70:0-	10.0	(U,U
			epth (ft) 109.99 119.99	11501 A Point M	Applied Head (feet of water)			17.97 17.07	12.11	17.97 17.67	16.11	19,11	86711 17.99	6 6721	17.99	17.99	17.99	17.99	17.98	17.99	18.00	18.00	16.01	10.81	18.01	1011	-a.e.
			t calculation: Bottom of interval Vertical Depth (1) 110.00 Above 1 120.00 Balow 1	Vertical depth of bottom of laterval (ft) it Movine Averages	Average Q (gal/min)		0.00	00.0	0.0	0.00	0.0	8.0	0.00	0.00	0.0	0.00	8 8 8	0.00	0.00	800	00.0	00.0	0.0	8	000	000	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
			True vertical depth calculation: Bottom Hole depth (1) Above 110.00 Below 120.00	Vertical depth of botto 3 Point Movine Averaces	Δ time (mins)		0.0	0.0 0.0	80	00.0 00.0	8,9	8.0 8	100	0.03 10 c	0.06	0.0	8 8	0.0	1 0.07	10.0	0,03	0.02	5 .9		0.02	0.03 0.02	
		• • • • • • • • • • • • • • • • • • •	a: T. rval Vertical Depth (ft) H. Above 79.99 Balow 89.99	. 19.98 V 3 Point	Applied Head (feet of water)		16.11	16:11 16:11	17.51	18.11 18.11	19.71	19.11 19.11	17,94	11.00 11.00	66.11	17.99	11.00	17.99	17.99	17.99	18.00	18.02	18.01	14.01	18.01	18.01 18.01	
		Tesi Type: Constant bead, Straddle packer Gauge located dewrhole	vertical depth calculation Top of inte depth (ft) 20.00. 20.00.	Vertical depth of top of interval (fi)	Q (gal/min)																						
		<u>5</u> 5 4	True Hale c Above Bsiow	Ve	Applied Head (feet of water)			79.71 79.71		79.71 79.71		79.71 79.71		66.71 [8.03		17.97 18.01			17.97			11.01				18.01 18.02	
			inchea feet feet below top of caaing feet below top of caaing	feet below tup of casing feet below tup of casing	Measured Head (feet of water)	80 .97 97	80.0-	10 .0	B 0.0	80.9 90.9	10 .0	10 .0	1 0.0	0.07	1 0.0	3 3	1 0.0	10 .0	-0.01 -0.07	90.04	10.0-	1 .0	0.07	- 0.02	-0.0¢	10'0- 10'0-	
	le/CSSA			155.28	Elapsed time (minutes)	0	8 El 1	. .	9C.0	0.54	0.6 2.4	0.78	1 10	201	N :	77	26.1	a i	1.62	1.68	-	98 1	2.04	2.1	111	22 23	
	Morrison-Malerle/CSSA Miner Flat 943-27691	254 9 (r) 13-Dec-95	Top	8:50:24	Elapsed time (hours)	00.0	8 8 8	10.0	100	10.0	10:0	10.0	10.0	0.02	10.0	0.02	0.02	0.02	E0.0	0.03	0.03	0 0 10 0	6.03	P0:0	0.04	10.0 10.0	
which	Client Site Project No.	Borchole Test Number Test Date	Borcholc diameter Borcholc radius Test section location Leugth of test interval Concerbruch	Gange septu Static Water Level General Litbology Start Time	Clock Time	8:30:24 8:50:28	1606.4	E:50:42	E:50.46 E:50.49	B.50.56	B:51:00 B:51:04	11151	8:51:14 8:51:22	131:25	B.51:32	B.51:40	E5143	8:51:50	1:52.01	8:52.05	1.52.12 	5,32,33	1:32.26	8:32:30	1.52:37	E.52.41 E.52.44	

Gulder Associates

254092A CHA, Bigur Daia

Plot data used in analysisApplied HeadFlow Rate (Q)(feet of water)(gal/min)37.2444.00056.2294.000

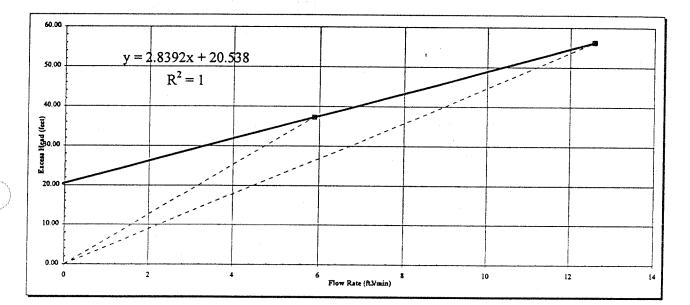
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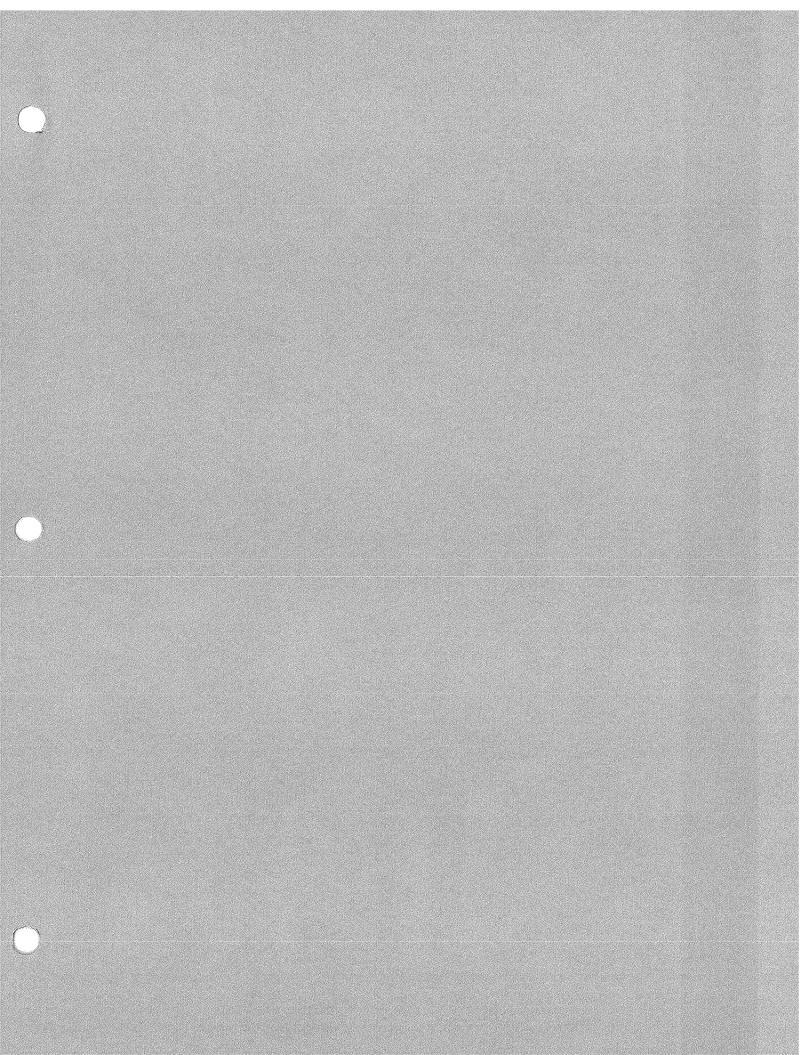
Ì	Client	Morrison-Maierle/CSSA
	Site	Miner Flat
	Project No.	943-27691
	Borehole	254
	Interval Number	9 (r)

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
37.24	44.000	5.8828
56.22	94.000	12.5678



K = 1/(2)	2πL) x (Q/h _e) x in (L/r)	Q = Flow he = App	lied head h of inter	val tested	(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of h	ydraulic conductivity				
K =	2.6E-03 cm/s 5.1E-03 feet/min	Q = h _e =	5.883 37.24	ft ³ /min feet	
K =	3.6E-03 cm/s 7.2E-03 feet/min	Q = h _e =	12.568 56.22	ft ³ /min feet	
K =	5.7E-03 cm/s 1.1E-02 feet/min	Trendline Slope	2.84		

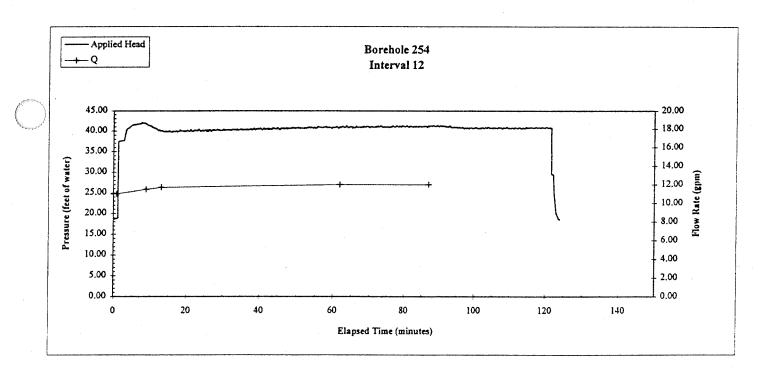


061.1912-649										Average Q	(gaumu)				000	000	0.00	000	0.0	2.20	2.20	2.20	2.20	1.20	00.0	00.0	0.00
\bigcirc								5 Point Moving Averages	•	A time .					() () () () () () () () () () () () () (0.07	0.02	10.0	-0.02	0.05	0.21	0.14	0.15	61.0	18.54	18 89	19.46
				ottom of interval Vertical Depth (f) Above 50	3	59.90		5 Point Mo		Applied Head (feet of water)				11 73	11.72	18.71	18.70	18.70	18.71	18.71	18.76	18.78	18.82	18.65	22.59	26.36	20.25
			th calculation:	Bottom of interval Vertical Depth (f 50,00 Above		Vertical depth of bottom of interval (ft)		-		Average Q (gal/min)				8.8	0.00	00.00	00.00	0.00	0.00	0.00	1.67	3.67	3.67	0.00	0,00	0.00	80.0
			True vertical depth calculation:	Hole depth (ft) Above	Below	'ertical depth of		3 Point Moving Averages	A 41	(mine)			wø	4.0	90.0	0.02	10.0	0.00	0.03	-0.02	0.03		6 11	-0.07	0.02	67.91	1 0'01
			F	Vertical Depth (ft) H	2 2 2	35.40 V		3 Point M	Applied Head	(feet of water)			12 74	14.73	18.71	18.69	18.69	18.71	11.71	11.71	18.72	12./2			91.85	10.CT	A-10
\bigcirc		Test Type: Constant head, Straddle packer Gauge located downhole.	True vertical depth calculation: True vertical dente calculation:	Hole depth (ft) Vertical Above 30.00 Above	ow 40.00 Below	Vertical depth of top of interval (ft)			0	(ui																- 440 249	
		4 ° 5	ц ц	ho Ab	Bclow	Ve			Applied Head	(feet of water)	14.90	18.73	EC.21	18 76	18.69		17 TE	12.71	11.72	14.69	13.74	18.92	3	18.87	18.87	37.46	
			inch ei feet	feet below top of casing feet below top of casing	feet below top of casing	fect below top of caring			Measured Head	(feet of water)	0.25	9 0.0	0.08	0.1	10 S		100	90.0	0.07	0.04	0.09	0.27	0.20	0.22	0.22	18.81	
	Ie/CSSA		3.78 0.16	35.40 59.90 24.50	29.00	154.30			Elapsed time	(minutes)	¢	0.06	0.12	10	0.36	0.42	0.54	9.0	0.66	0.78	0.84	1.05	1.05	1.14	13	1.26	
	Morrison-Malerle/CSSA Miner Flat 943-27691	254 12 29-Oct-95		Top Boitem				9:50:10	Elapsed time	(Fours)	0:00	0.00	900	10:0	10.0	10.0	10.0	10.0	0.01	10.0	10:0	0.02	0.02	0.02	0.02	0.02	
hiouxe	Client Site Project No.	Borchole Test Number Test Date	Borchole diameter Borchole radius	I cat accison location Length of test interval	Gauge Depth Static Water Load		UCERCIAL LAINOLOGY Banalt	Start Time	Clock	linc	9:30:10	9-2014	11:00:14	12,02.6	26.02.4	9.50.35	9.50.42	9,50:46	9,50,50	9.30.57	9.51.00	9.113	9.115	9:51:18	9.51:22	9.31.26	

Golder Associates

254012A CHA, Input Data

Plot data used in analysisApplied HeadFlow Rate (Q)(feet of water)(gal/min)41.1512.000



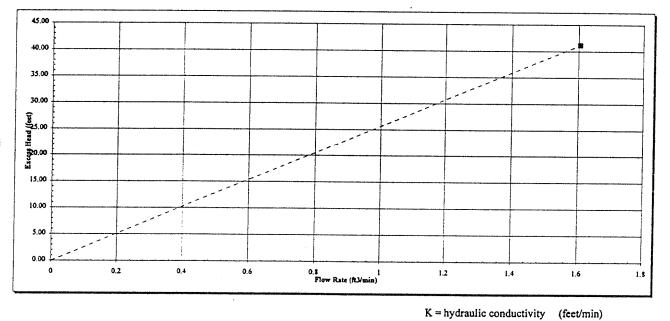
Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

Borehole 254 Interval Number

Plot data

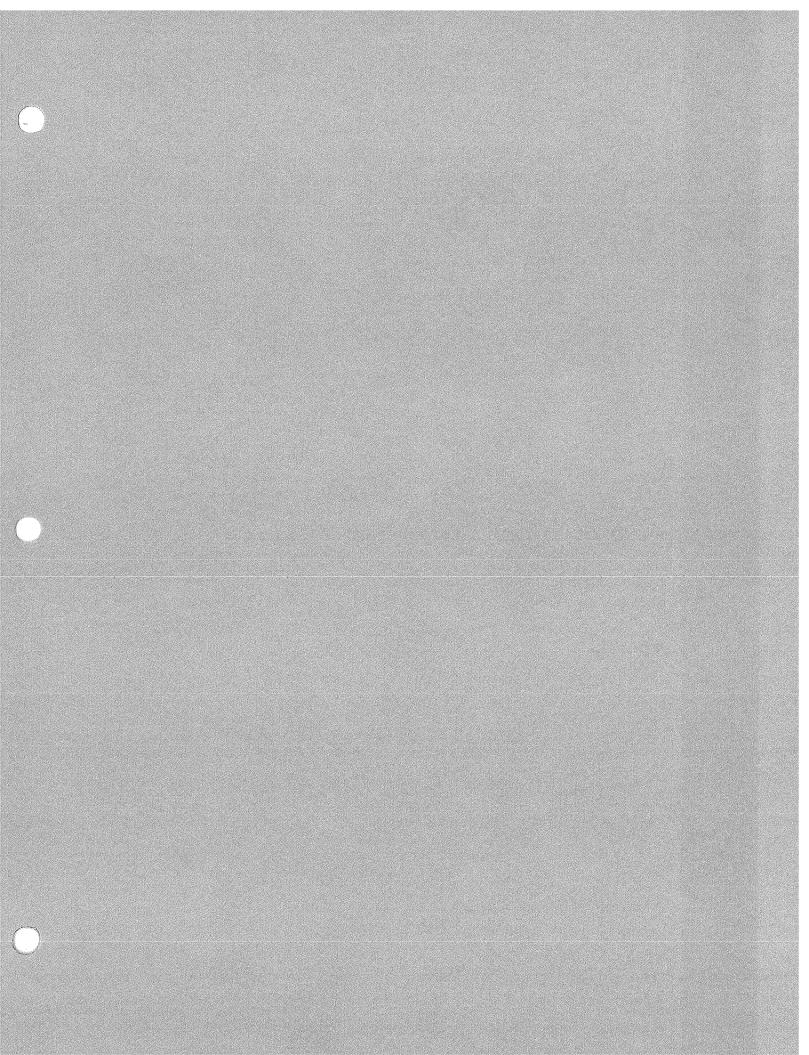
12

44.44			
	Applied Head	Flow Rate (Q)	Flow Rate (Q)
	(feet of water)	(gal/min)	(ft ³ /min)
	41.15	12.000	1.6044
		and the second	



$K = 1/(2\pi L) x (Q/h_e) x \ln (L/r)$	Q = Flow rate he = Applied head L = length of interval tested r = borehole radius	(ft ³ /min) (feet) (feet) (feet)
Range of hydraulic conductivity		

K =	6.5E-04 cm/s	Q =	1.604	ft ³ /min
	1.3E-03 feet/min	h _e =	41.15	feet



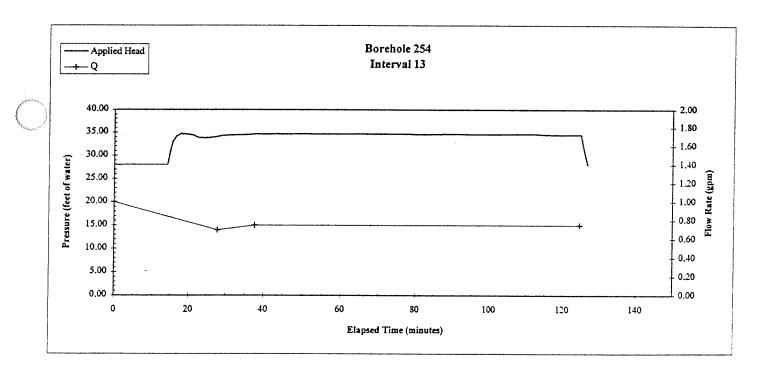
0111825198			1614	Average Q		0.00	00 00 00 00	0.00	0000	0.00	00.0	0.0	00.00	0000	0000	0.0	0.00	0.00	0.00	0.00	00.0
			5 Point Moving Averages	∆ time (minutes)		0.03	6 6	01.0	9 9	01.0-	8 3 7 7	10.0-	-0.05	(0-0-	100	0.02	CO:O	0.05	0.04	9.04	0.04
		laterval Vertical Depth (ft) Above 20 Below 20 15,40	5 Point M	Applied Head (feet of water)		28.19	28.17	28.15	28.10	28.04	20.02	28.01	28.00	27.99 29.72	1 6,75	27.98	66'LZ	28.00	28.01	28.02	28.03 28.04
		7 6	D	Average Q (gal/min)	8.0	0.00	00.00	00.0	0.00	000	00.0	0.00	000	0.00	0,00	0.00	0.0	0.00	0.0	0.0	0000
		True vertical depth calculation: Bottom o Hole depth (ft) Above 20.00 Bolow [2] 20.00 Vertical depth of bottom of late	3 Point Moving Averages	Δ time (mins)	10.0	8 8	-0.05	3 3	3 8.0	20 Q 20 Q	10:07	0.0	8	8.0	0.00	10.0		20.0			0.02
		ter Mi Tr Prval Vertical Depth (ft) Ha Abova 20,000 Ha Babov 30,000 Ve	3 Point 1	Applied Head (feet of water)	28,20	28.19 28.19	20.17	24.13	28.10	28.05	26.03	24.01	27.95	27.94	27.96	27.98	64.11 100 BC	8 F F	24.02	28.01	21.04
$\langle \rangle$		Test Type: Constant head, Straddle packer Gauge lecated downhole True vertical depth calculation: True vertical depth (1) Vertica Hole depth (1) Vertica Bulow 20.00 Bulow Vertical depth of top of laterval (1)		Q (gal/min)																	
		500 F # 4 # >		Applied Head (feet of water)	28.20 28.20 28.20 28.70	28.20	24.17 28.15	28.13	28.10 28.07	20.05	28.03				27.94				28.02	28.03	28.04
		inches feed feed below top of casing feed below top of casing feed feed below top of casing feed below top of casing		Measured Head (feet of water)	97 0 90 0 91 0 93 0 93 0	10'0-	10.0- 20.0-	-0.07	0.10 0.13	40.15	119	12.0-	-0.22	6.9 5	477 70	12.0-	010	-0.19	1 1.0-	-0.17	0.16
	laierte/CSSA	3.78 0.16 35.00 35.40 6.40 6.40 1.4.30		Elapsed time (minutes)	0 0.06 0.12 0.18	0.3	0.42	15.0	0.72	0.76	8	1.02	111	1.26	1 3	1.44	1.36	1.62	1.68		1.86
	Morrison-Maierle/C\$SA Miner Flat 943-27691	134 13-Oct-95 Top Bottom	12:17:21	Elapsed time (hours)	00 0 13 0 13 0 13 0 10 10 10 10 10 10 10 10 10 10 10 10 10	10.0	10.0	10.0	0.01	100	0.02	20.0	0.02	0.02	0.02	0.02	CO.O	(0 [.] 0	0.01	(0) 0	10.0
Inure	Client Site Project No.	ber iameter adius a location ta ta ta t Level	otart time	C.10ctk Time	12:17:21 12:17:25 12:17:28 12:17:23	4071.01 13-17-01	12.17.46	1671-21 76.11.11	12.18.04	12.18.04	12:18:19	12:16:22	92.81.21 FF-84-C1	16:41:51	12:18.44	12.18.47	12:18:55	BCB171	20.71.21 13.19.04	11-01-11	n

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254013A.CHA, Input Data

Plot data used in analysis Applied Head Flow Rate (Q)

Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
34.50	0.750

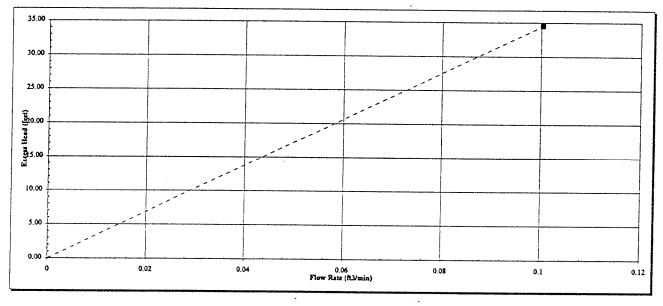


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691
Borehole	254

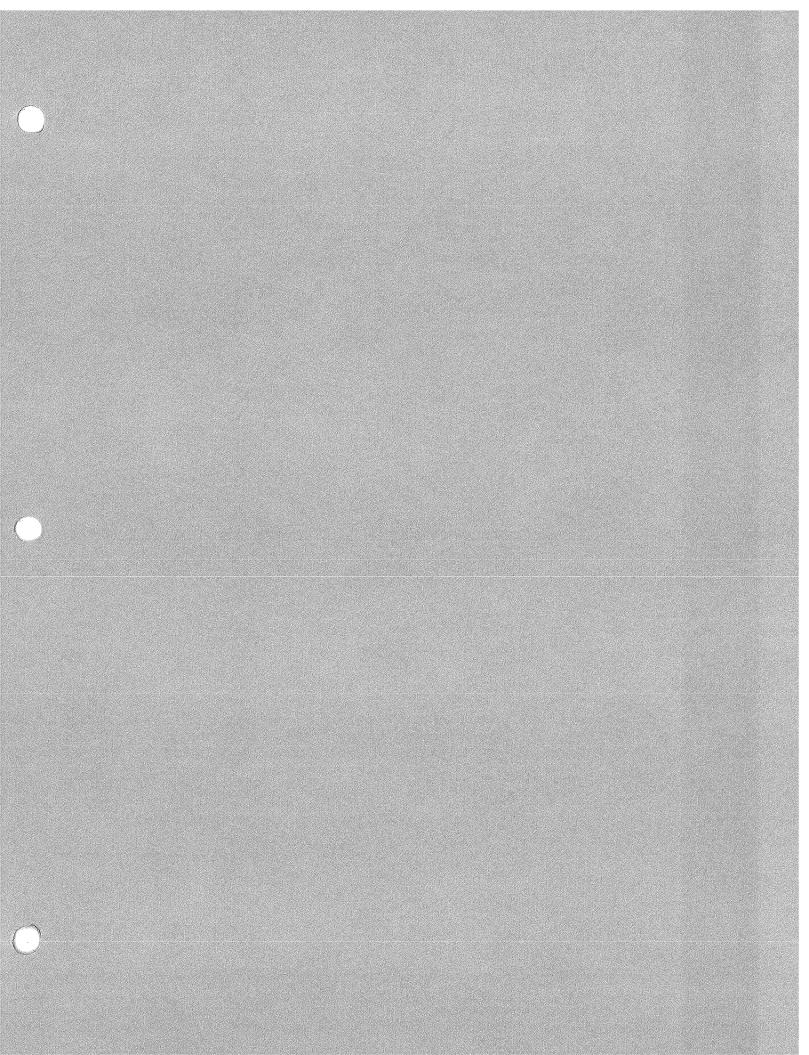
Borehole Interval Number 13

Plot data

Applied Head Flow Rate (Q) Flow Rate (Q) (feet of water) 34.50 (gal/min) 0.750 (ft³/min) 0.1003



K = 1/($(2\pi L) \ge (Q/h_e) \ge \ln (L/r)$	K = hydraulic conductivity Q = Flow rate he = Applied head L = length of interval tested r = borehole radius	(feet/min) (ft ³ /min) (feet) (feet) (feet)
Range of	hydraulic conductivity		
K =	1.4E-04 cm/s 2.7E-04 feet/min	$Q = 0.100 \text{ ft}^3/\text{min}$ h _e = 34.50 feet	

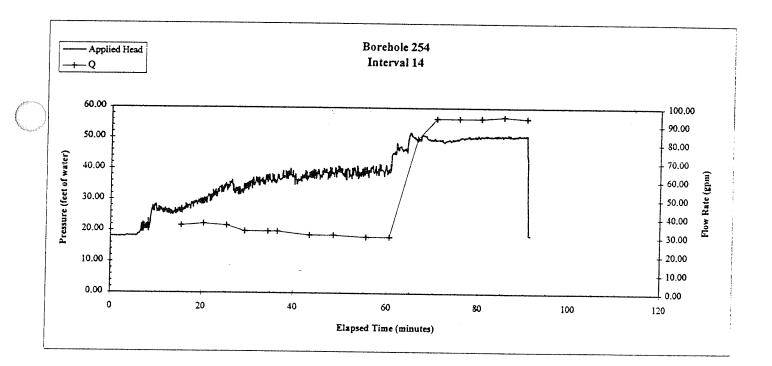


3.78 inches 0.16 feet 0.15 feet 0.16 feet 0.12 feet 0.12 feet 23.10 feet 135.23 feet below upp of caning 23.11 feet 23.12 feet 135.23 feet below upp of caning 23.11 feet 23.12 feet below upp of caning 23.13 feet below upp of caning 23.14 feet 23.15 feet below upp of caning 23.14 feet 23.23 feet below upp of caning 23.24 feet below upp of caning 23.25 feet below upp of caning 23.26 feet below upp of caning 23.27 feet below upp of caning 24 feet of watch 25 feet of watch 26 feet of watch 27 feet of watch 28 feet of watch 29 feet of watch <th>Applied Itead (fect of water) 11.06 11.06 11.05</th> <th>Ype: ant head, Straddle packer located downhole retical depth calculation: Top of laterval (n) Vertice (a) Above (n) Babove (a) depth of top of laterval (n)</th> <th>3 Point</th> <th>True vertical depth calculation: Frue vertical depth (ft) Bottom 6 Bottom 6 Bottom</th> <th>True vertical depth calculations: Boutom of fatterval Above Boutom of fatterval Above 90.00 Botom 99 Vertical depth of bottom of laterval (f) Above 100.00 Botom 99 Vertical depth of bottom of laterval (f) Above 100.00 Botom 99 Vertical depth of bottom of laterval (f) Above 2000 0000 Botom 99 Vertical depth of bottom 100.00 Botom 99 Vertical 100.00 Botom 90 Vertical 100.00 Botom 90 Vertic</th> <th>සින් සි ක්රී ප්රප්රප්රප්රප්රප්රප්රප්රප්රප්රප්රප්රප්රප</th> <th>9 1 1 5 Paint Moving Averages Head ∆ time vater) (minutes) 0 00 0 00</th> <th>Average Q (sold mine) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.</th>	Applied Itead (fect of water) 11.06 11.06 11.05	Ype: ant head, Straddle packer located downhole retical depth calculation: Top of laterval (n) Vertice (a) Above (n) Babove (a) depth of top of laterval (n)	3 Point	True vertical depth calculation: Frue vertical depth (ft) Bottom 6 Bottom	True vertical depth calculations: Boutom of fatterval Above Boutom of fatterval Above 90.00 Botom 99 Vertical depth of bottom of laterval (f) Above 100.00 Botom 99 Vertical depth of bottom of laterval (f) Above 100.00 Botom 99 Vertical depth of bottom of laterval (f) Above 2000 0000 Botom 99 Vertical depth of bottom 100.00 Botom 99 Vertical 100.00 Botom 90 Vertical 100.00 Botom 90 Vertic	සින් සි ක්රී ප්රප්රප්රප්රප්රප්රප්රප්රප්රප්රප්රප්රප්රප	9 1 1 5 Paint Moving Averages Head ∆ time vater) (minutes) 0 00 0 00	Average Q (sold mine) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.
	6 U U U		10 81 10 81 10 81	8 8 8 8 8 8 8 8	9,00 0,00 0,00 0,00	18.04 18.03 18.03	(0.0 00.0 00.0	8 8 8 8

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254014A CHA, Input Data

Plot data	used in analysis
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
39.50	30.000
50.34	94.000

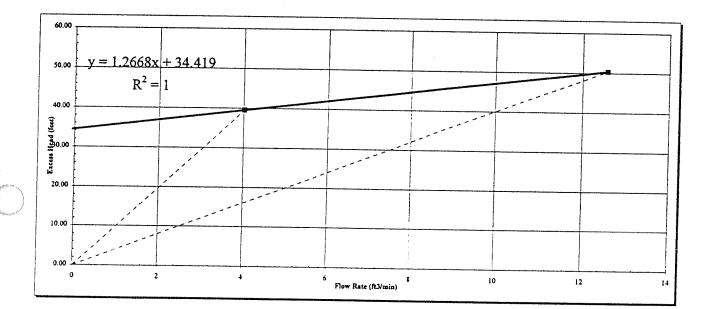


Client	Morrison-Maierle/CSSA
Site	Miner Flat
Project No.	943-27691

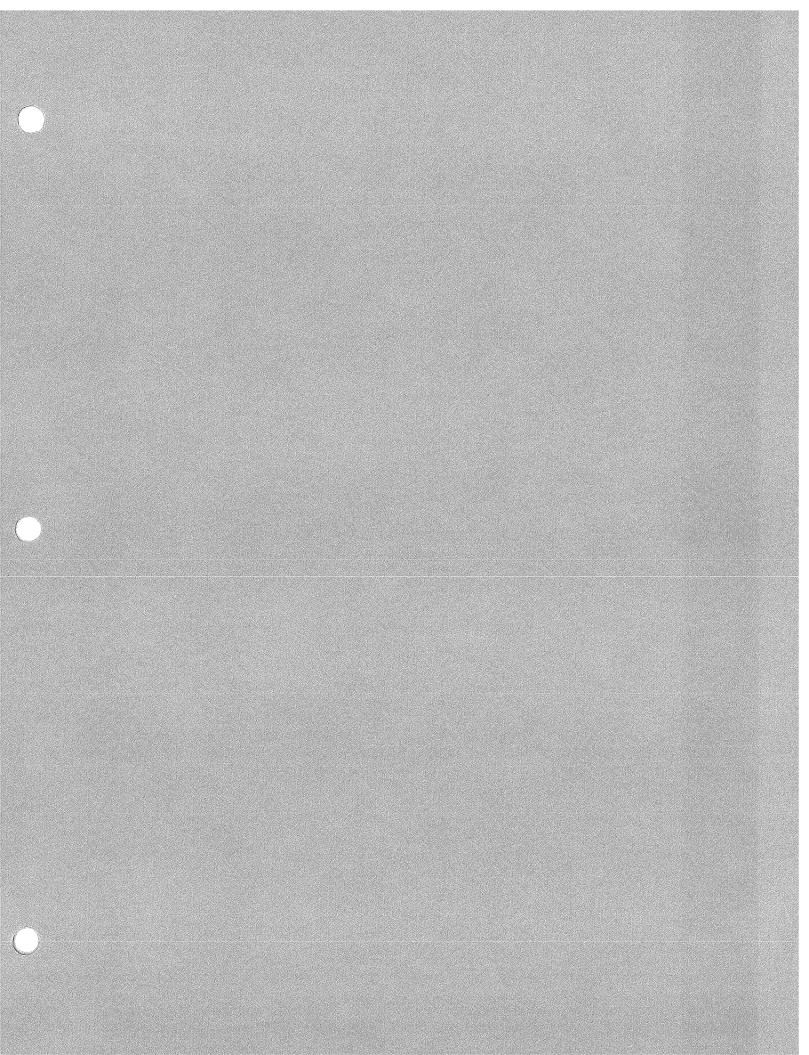
Borehole254Interval Number14

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)
(feet of water)	(gal/min)	(ft ³ /min)
39.50	30.000	4.0110
50,34	94.000	12.5678



K = 1/(2πL) x (Q/h _c) x in (L/r)	K = hydraulic conductivity(feet) $Q =$ Flow rate(ft ³ /m) $he =$ Applied head(feet) $L =$ length of interval tested(feet) $r =$ borehole radius(feet)	nin)
Range of I	hydraulic conductivity		
K =	1.7E-03 cm/s 3.3E-03 feet/min	$Q = 4.011 \text{ ft}^3/\text{min}$ $h_e = 39.50 \text{ feet}$	
K =	4.1E-03 cm/s 8.0E-03 feet/min	Q = 12.568 ft^3/min h _e = 50.34 feet	
K =	1.3E-02 cm/s 2.5E-02 feet/min	Trendline Slope 1.27	

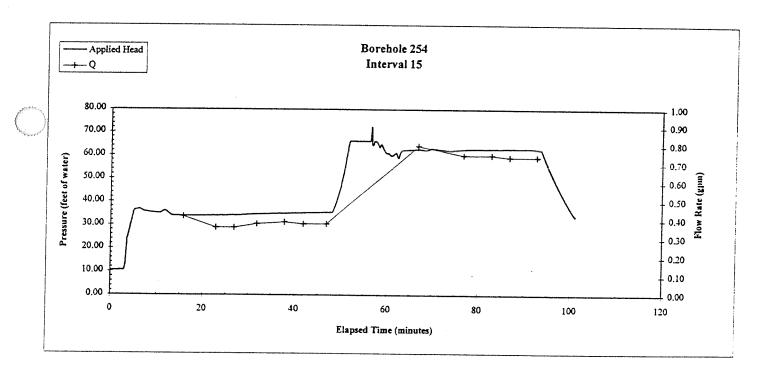


943-2791.130								(aimina)			00.0	0.00	0.00	0.00	00.0	0.00	0.00	0.00	00.0	00.0	0.00	0.00	000	000	0.0	80	0.0	0.00	00.0	0.00
						5 Point Moving Averages	Δ time				00.0	0010 6010	0.04	0.02	0.02	-0.0	10.0	10.0	100	0.04	10.0	(0.0-	9 .57	5 5	0.07	0.10	0.06	0.04	90.04	1 0.0
				cpth (ft) 60 60.99	6 0.30	5 Point Me	Applied Head (feet of water)				10.47	10.47	10.47	10.47	10.48	10.49	10.48	10.49	10,49	10.50	10.51	0.0	10.49 10.49	10.49	10.49	10.51	10.53	10.54	10.53	10.53
			i calculation; Bottom of interval	Vertical Depth (f) 60.00 Above 70.00 Below 6	Vertical depits of bottom of interval (ft)	3	Average Q (gal/min)			0.00	0.00	0.00	00.00	0.00	0.00	0.00	000	000	0.00	0.00	0.00	0.00	0,00	0.00	0.00	0.00	0.00	0.00	0000	V.U
			True vertical depta calculation: Bottom e	Hole depth (N) Above Below	ertical depth of by	3 Point Moving Averages	A time (mins)			0.03	20:0-	0.02	0.0	0.02	0.00	0.00	18. F	0.01	0.03	0.00	10.0	1010	10:0-	0.02	9.0	0.06	9.0	8.0		
				-	M SC	3 Point	Applied Head (feet of water)			10.47	10.46	10.47	10.46 10.46	10.47	10.50	10.45	10.47	10.49	10.50	10.51	15.01	05.01	10.48	10.47	10.48	10.51	10.51	10.55	12.01	
		Terl Type: Coustant baad, Straddle packer Guyer located dowabole	in the	90 05 90 05					- 5					••••						f						la Maria		j. Nga	1°, -	
		Test Type: Coustant head, Straddle J Gauge located downhole	True vertical d	Hole deptk (fi) Above Below Vertical Analy			Q (gal/ania)			er Alexandr				******* *******																
							Applied Head (feet of water)	10.49	10.45 10.49	10.41	10.47	10.45	10.45	10.51	10.46	10.47	10.48	10.48	16.01	10.51	10.52	10.52							10.55	
			inches foet feet below ton of caring	feet below top of curing feet feet feet below top of curing foet below top of curing			Measured Head (feet of water)	-0.02	-0 02 -0 01	-0.02	E0.0-	90177 10107	3 9.7	10.0	10.0	10.01	-0.03	-0.02	100	0.01	0.02	0.02	-0.03 2004	1917	10.0	0.05	0.05	0.05	0.05	
	le/CSSA		3.78 0.16 55.00	65.00 10.00 155.28			Elapsed time (minutes)	0	0.06	0.15	(.0 Xr 0	6.42	0.54	0.6 7.7	0.78	110	8.0	1.14	1	1.26	1.34		5	191	1.74	1.166	1.98	2.04	2.1	
	Morri son-Maie rle/CSSA Miaer Flat 943-27691	254 15 13-Dec-95	ţ			01:14:51	Elapsed time (bours)	0.0	900	0.00	10.0	10.0	10.0	10.0	10.0	10.0	0.02	0.02	20.0	0.02	0.02	100	0.03	0.03	0.03	60.0	0.03	0.03	0.0 4	
1000	Client Site Project No.	Borehole Test Number Test Date	Borchole diameter Borchole radius Test section location	Length of test interval Gauge Depth Static Water Level	General Lithology Basalt Stort Time		Clock Time	13:43:16 13:43:20	13.43.23	0.0.27	13,43,38	15(5)(1)	19/69/61 Carteri	201411 92.04:01	E0:14:E1	13:44:06	13:44:17	13:44:24	13:44:28	13:44:32	0794351 CF-FF-FF	13:44,46	E2:00:00	13.44.57	13.45.00	13:45:04	13:45:15	13:45;14 13:45;14	77.64.61	

Golder Associates

254013A (')1A, liqui Data

Plot data	used in analysis
Applied Head	Flow Rate (Q)
(feet of water)	(gal/min)
35.32	0.380
62.88	0.740

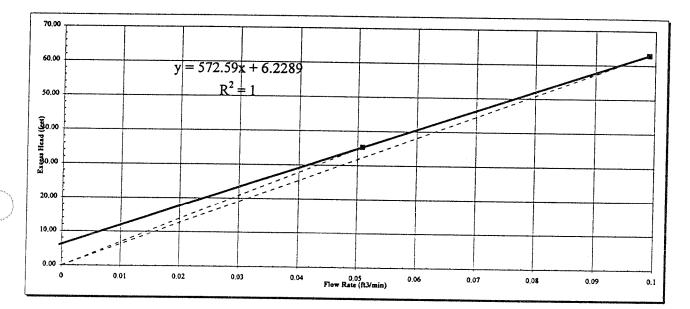


Ŋ,	Client	Morrison-Maierle/CSSA
Į.	Site	Miner Flat
	Project No.	943-27691

Borehole254Interval Number15

Plot data

Applied Head	Flow Rate (Q)	Flow Rate (Q)			
(feet of water)	(gal/min)	(ft ³ /min)			
35.32	0.380	0.0508			
62.88	0.740	0.0989			



K = 1/(2πL) x (Q/h _e) x ln (L/r)	K = hydrQ = Flowhe = AppL = lengtr = boreh	(feet/min) (ft ³ /min) (feet) (feet) (feet)			
Range of I	ydraulic conductivity					
K =	4.8E-05 cm/s 9.5E-05 feet/min	Q = h _e =	0.051 35.32	ft ³ /min feet		
K =	5.3E-05 cm/s 1.0E-04 feet/min	Q = h _e =	0.099 62.88	ft ³ /min feet		
K =	5.8E-05 cm/s 1.2E-04 feet/min	Trendline Slope	572.59			