

**APPENDIX B**  
**MONITORING WELL CONSTRUCTION DIAGRAMS**

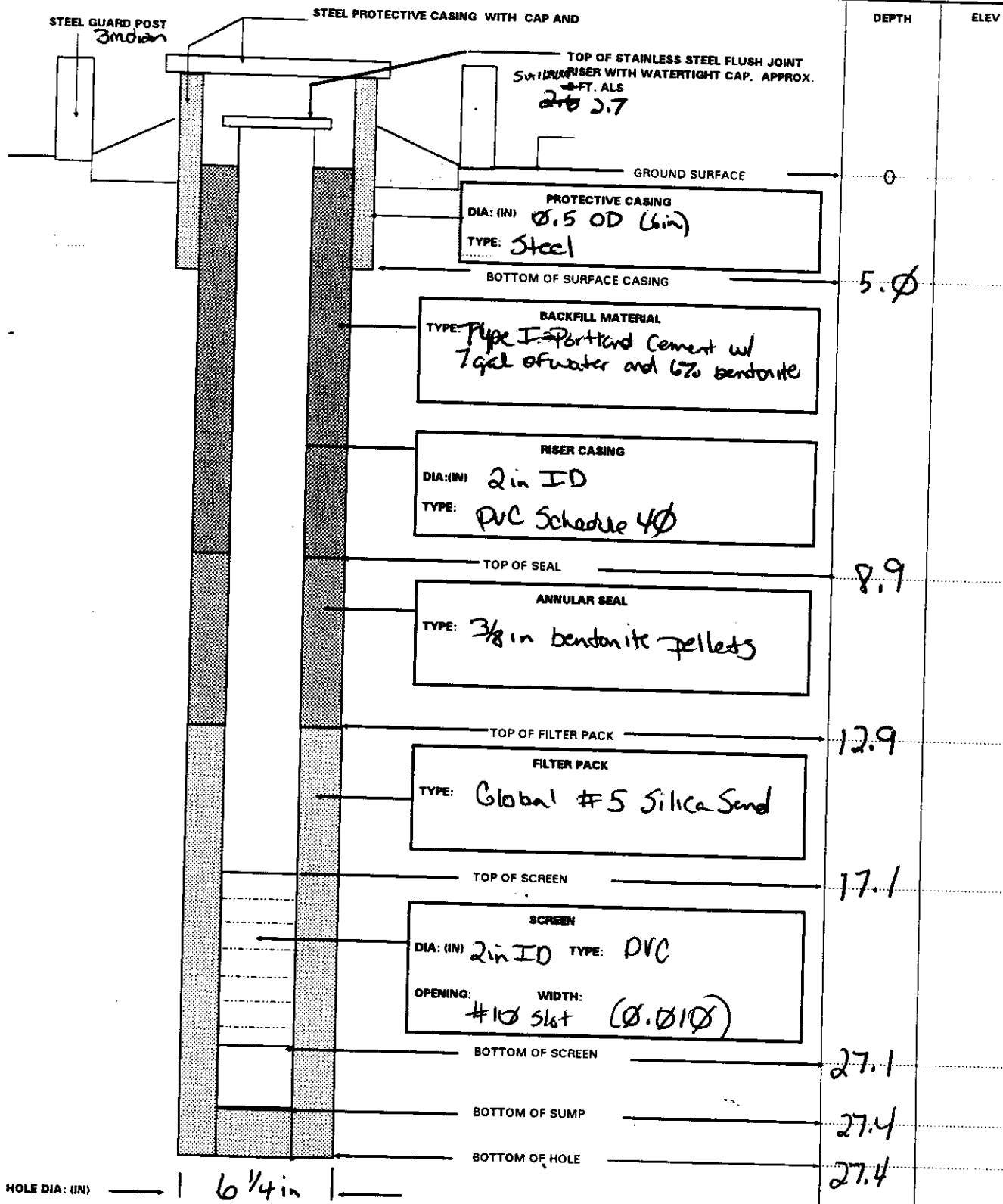


# MONITORING WELL

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0022

WELL NUMBER: <b>LL1 MW-63</b>	BEGIN: <b>7/29/96</b>	END: <b>7/29/96</b>
COORDINATES: N: E:	REFERENCE POINT: MSL	ELEVATION:



# MONITORING WELL

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0022

WELL NUMBER: *LL1 MW-064*

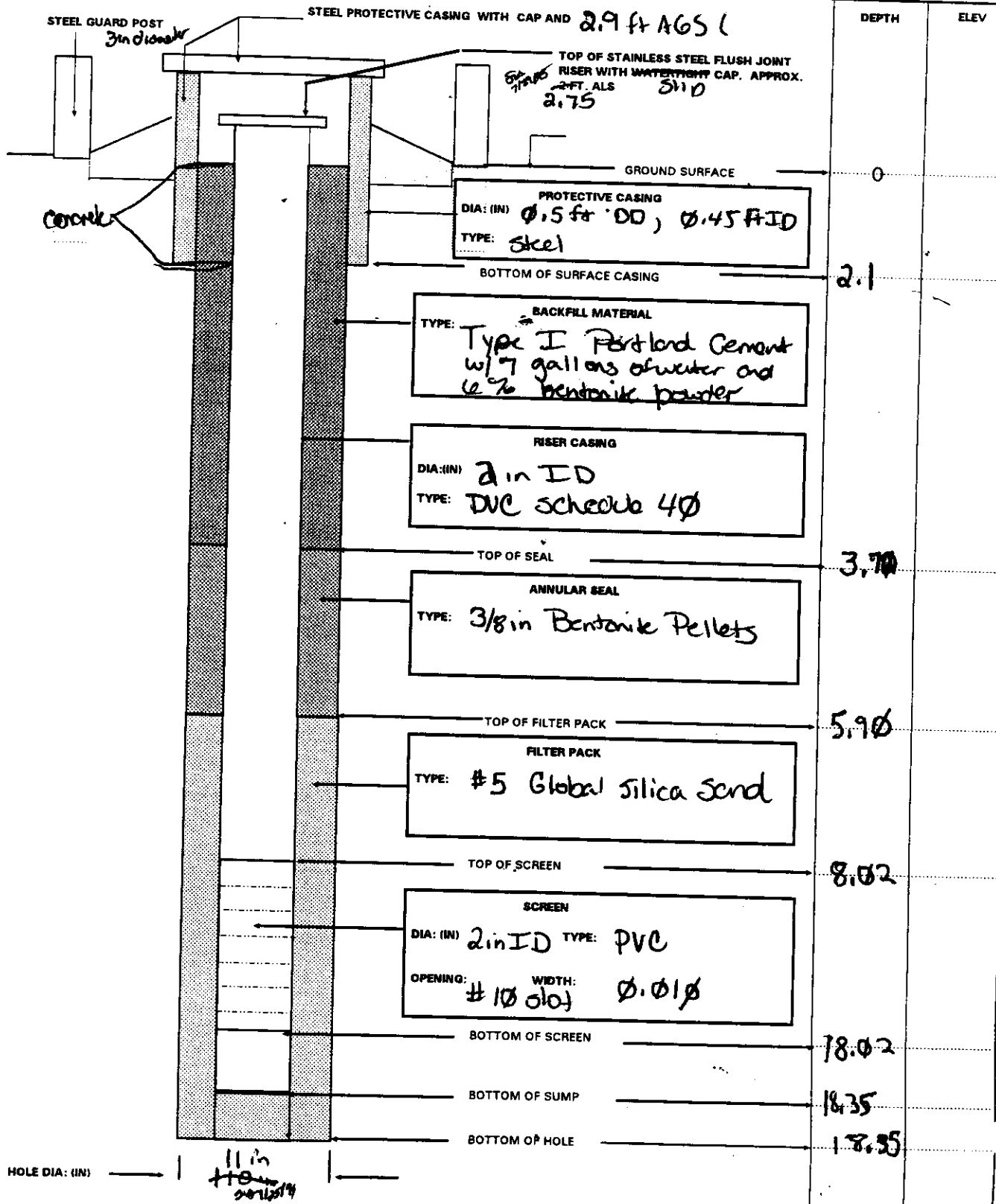
BEGIN: *7/23/96*

END: *7/25/96*

COORDINATES: N:  
E:

REFERENCE POINT:  
MSL

ELEVATION:

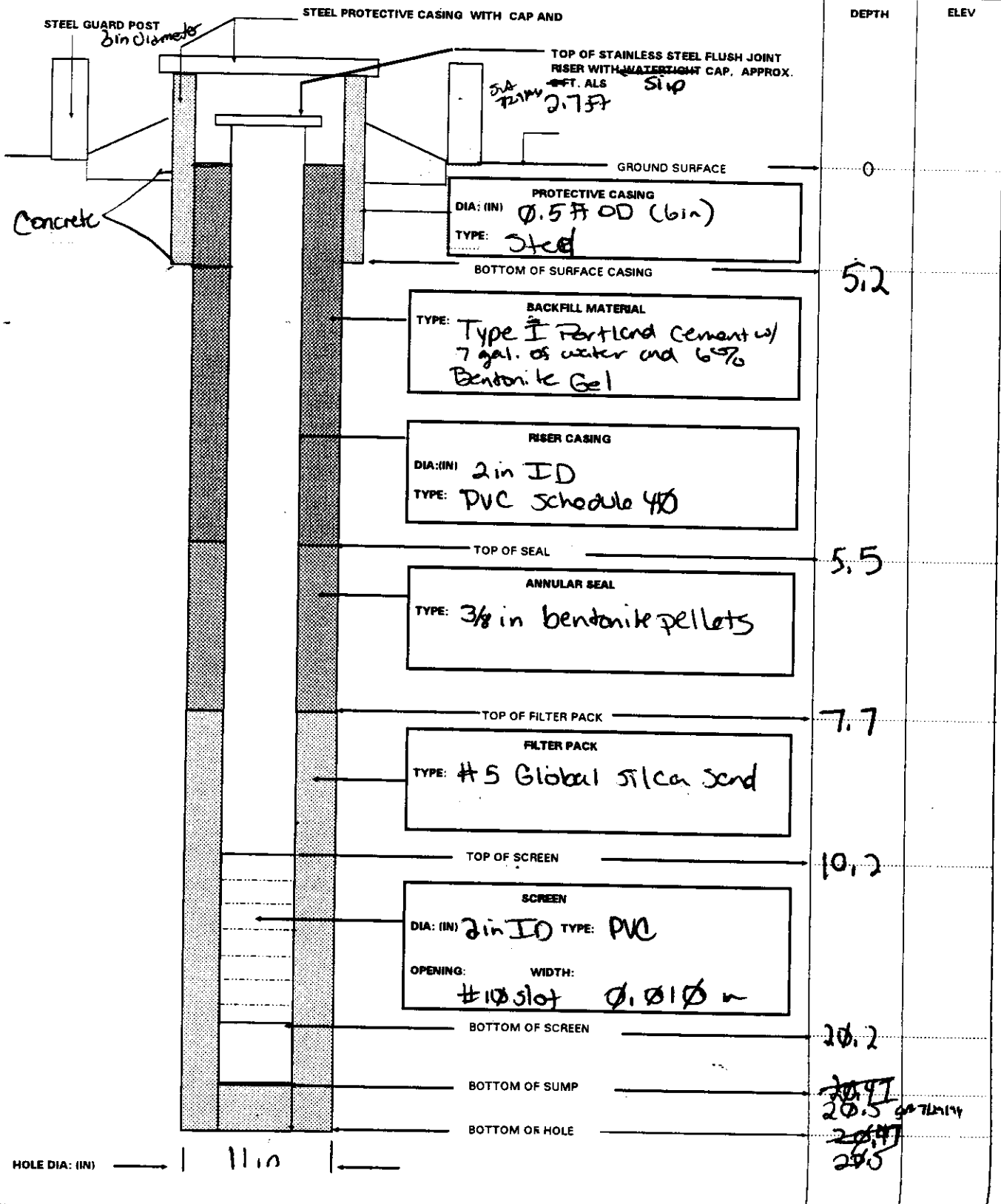


# MONITORING WELL

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0022

WELL NUMBER: <b>LL1MW 65</b>	BEGIN: <b>7/24/96</b>	END: <b>7/25/94</b>
COORDINATES: N: E:	REFERENCE POINT: MSL	ELEVATION:



# MONITORING WELL

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0022

WELL NUMBER: *LL1mw67*

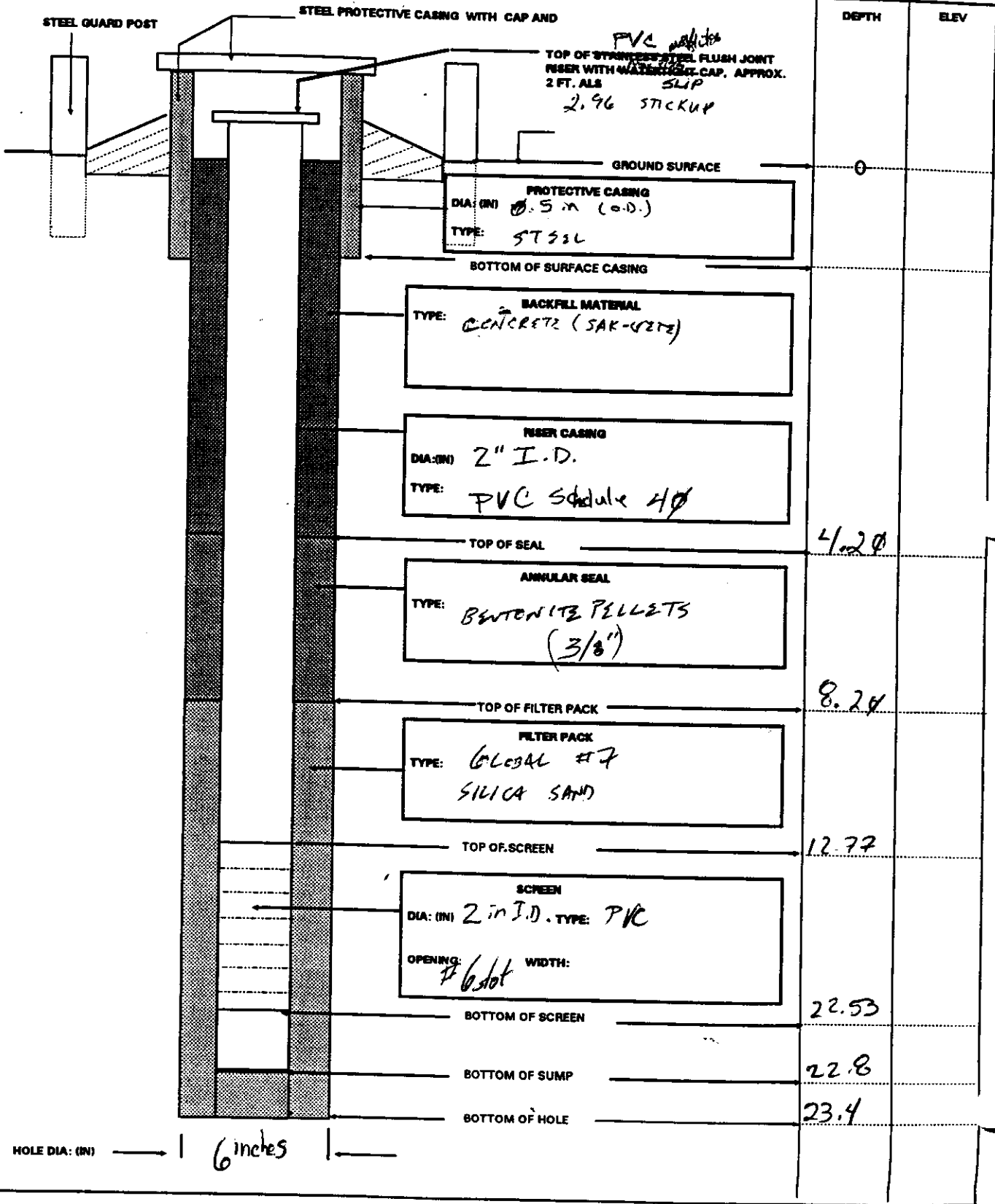
BEGIN: *12 AUG 96*

END: *13 AUG 96*

COORDINATES: N:  
E:

REFERENCE POINT:  
MSL

ELEVATION:



# MONITORING WELL

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 00222

WELL NUMBER: LL2mw 59

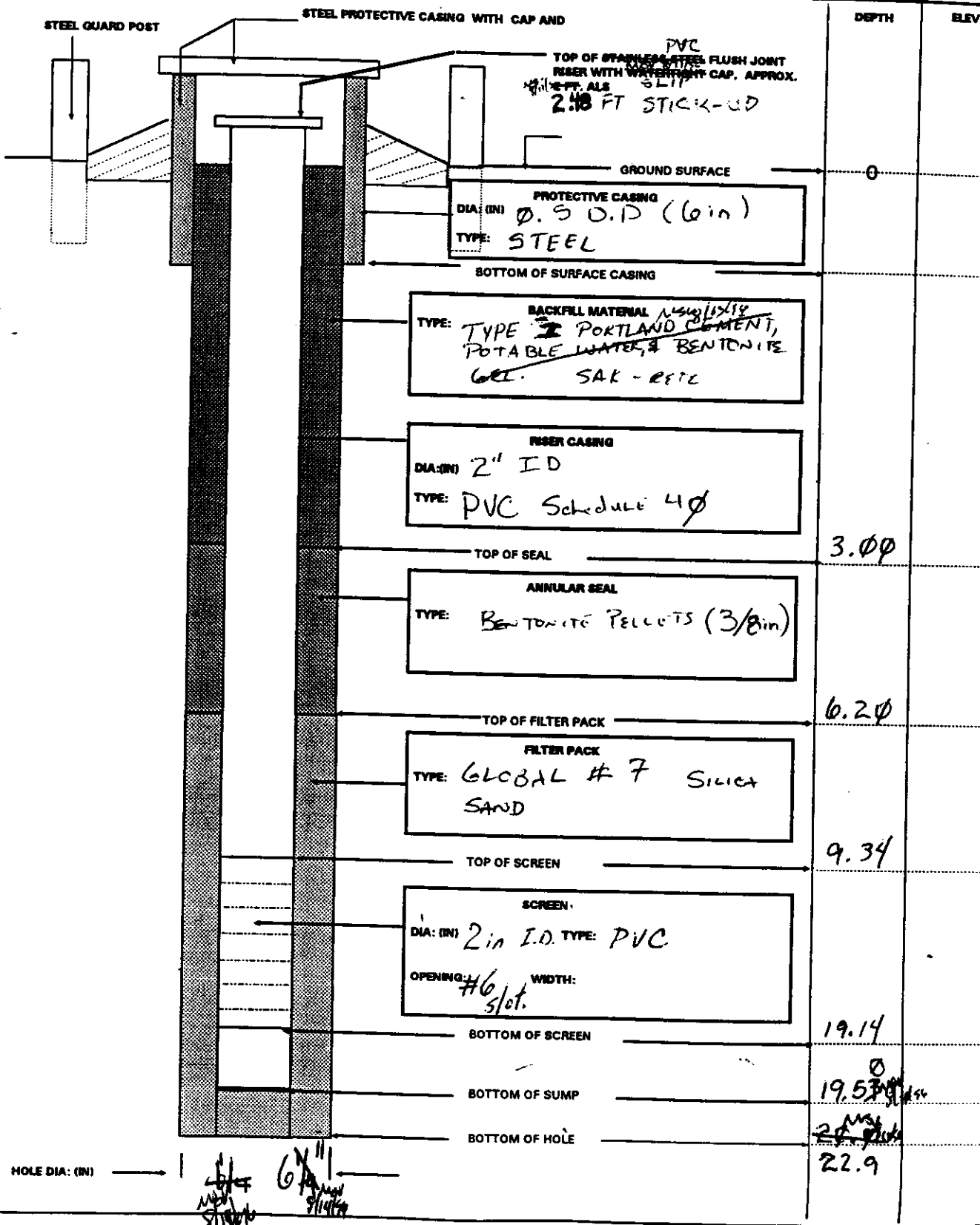
BEGIN: 10 AUG. 96

END: 11 AUG. 96

COORDINATES: N:  
E:

REFERENCE POINT:  
MSL

ELEVATION:



# MONITORING WELL

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0022

WELL NUMBER: LL2mw 60

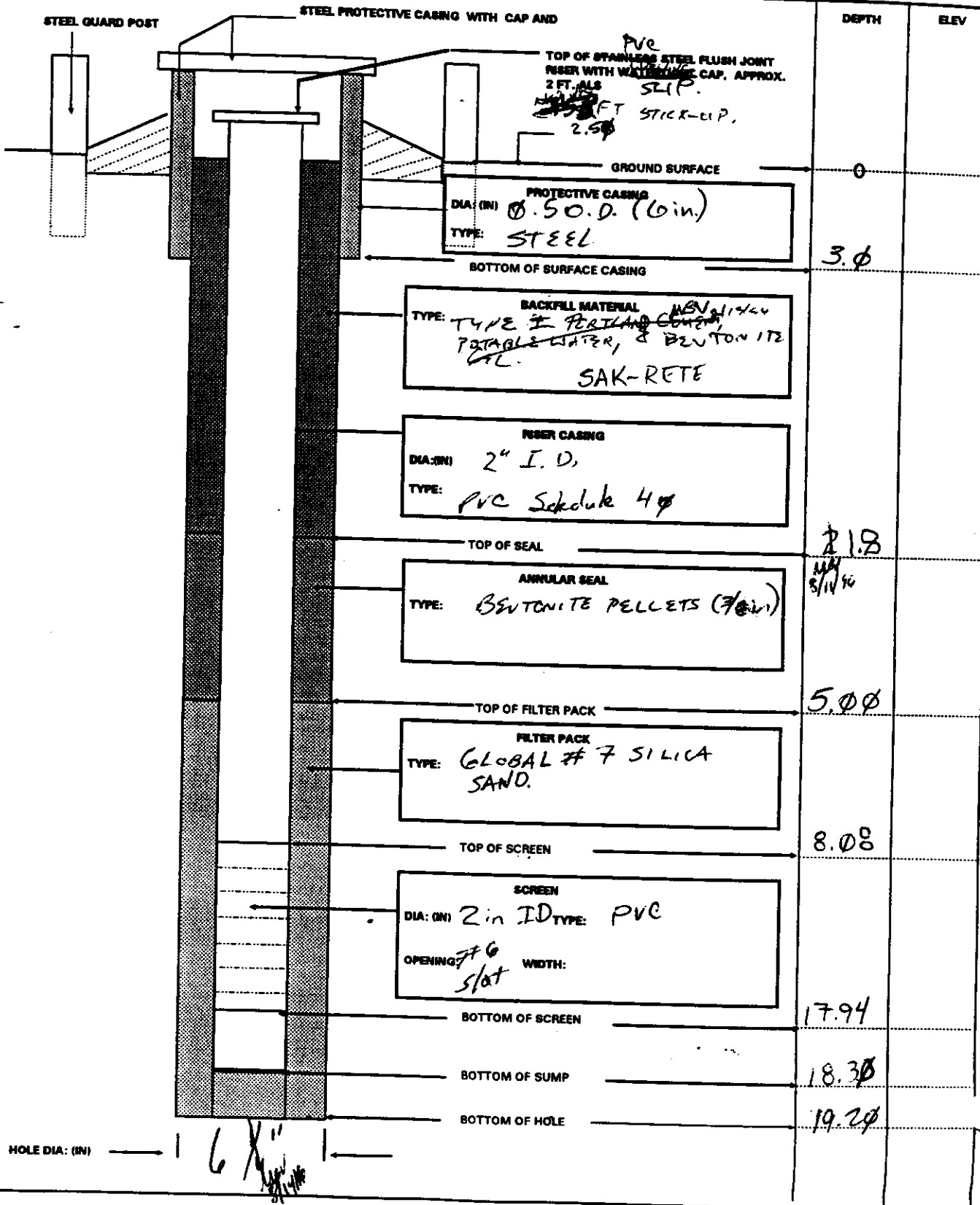
BEGIN: 11/AUG/96

END:

COORDINATES: N:  
E:

REFERENCE POINT:  
MSL

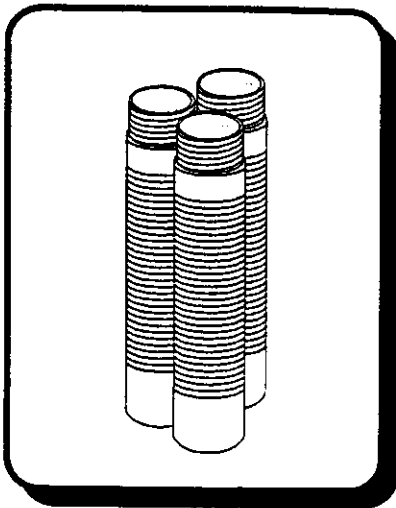
ELEVATION:







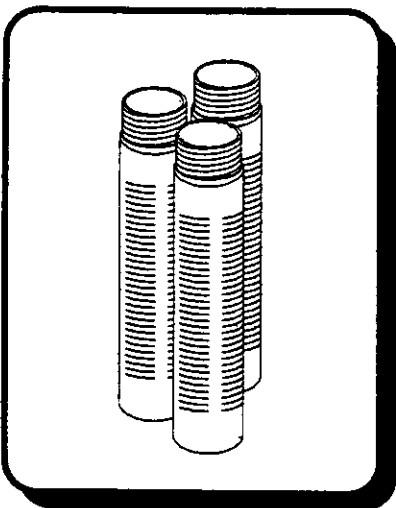
# PVC Screen & Riser



## PVC Vee-Wire® Screens

Global Drilling Suppliers offers Johnson PVC Vee-Wire screens, the only continuous slot, wire-wrapped, non-metallic screens available without a restricting pipe base. Offers more open area per foot than any other non-metallic screen, enabling a more representative sample to be collected.

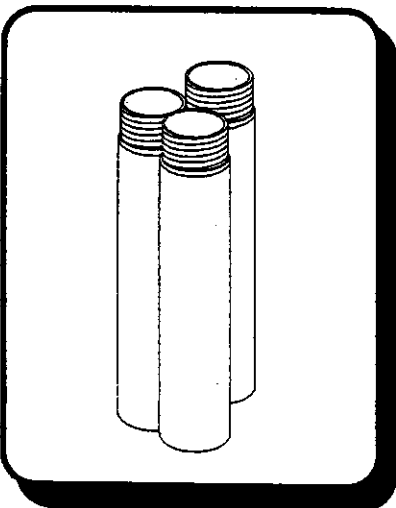
Pipe Size	Diameter		Shipping Weight (lbs./ft.)	Open Area (sq. in./ft.)			Strength		
	O.D. (In.)	I.D. (In.)		6-Slot	10-Slot	20-Slot	Collapse (psi)	Tensile (lbs.)	Hanging Wt. (lbs.)
2 INCH	2.56	2.00	0.8	4.8	7.4	13.8	85	1,700	425
4 INCH	4.62	4.00	1.7	7.2	11.6	21.8	75	2,100	525
6 INCH	6.63	5.75	3.7	8.1	13.2	25.0	75	4,600	1,150
8 INCH	9.38	7.50	4.6	N/A	21.6	40.6	55	5,500	1,375



## PVC Slotted Pipe

Slotted PVC pipe is used when monitoring applications do not require the performance of Vee-Wire screen. Schedule 40 PVC specs illustrated. Schedule 80 PVC also available.

Pipe Size	Diameter		Shipping Weight (lbs./ft.)	Open Area (sq. in./ft.)			Strength		
	O.D. (In.)	I.D. (In.)		6-Slot	10-Slot	20-Slot	Collapse (psi)	Tensile (lbs.)	Hanging Wt. (lb.)
3/4 IN.	1.05	0.84	0.3	0.63	1.12	2.12			
1 IN.	1.32	1.03	0.4	0.95	1.49	2.83			
1-1/4 IN.	1.66	1.36	0.6	1.13	2.05	3.89			
1-1/2 IN.	1.90	1.59	0.7	1.19	2.05	3.72			
2 IN.	2.38	2.06	0.8	1.80	3.10	5.60	190	2,100	525
4 IN.	4.50	4.02	2.2	N/A	5.90	10.60	97	7,500	1,875
6 IN.	6.63	6.06	4.0	N/A	6.60	13.40	53	11,000	2,750
8 IN.	8.63	7.96	5.7	N/A	8.50	15.90	37	11,600	2,900
10 IN.	10.75	9.98	8.7	N/A	N/A	21.24			
12 IN.	12.75	10.89	11.5	N/A	N/A	24.78			



## PVC Riser Pipe

Feature straight and square joints with precise threads to minimize the chance of cross-threading and poor alignment. Schedule 40 PVC specs illustrated. Sch80 also available.

Pipe Size	Diameter		Shipping Weight (lbs./ft.)	Strength			
	O.D. (In.)	I.D. (In.)		Collapse (psi)	Tensile (lbs.)	Column (lbs.)	Hanging Wt. (lbs.)
3/4 IN.	1.05	0.84	0.3				
1 IN.	1.32	1.03	0.4				
1-1/4 IN.	1.66	1.36	0.6				
1-1/2 IN.	1.90	1.59	0.7				
2 IN.	2.38	2.06	0.8	276	2,100	37	525
4 IN.	4.50	4.02	2.2	142	7,500	405	1,825
6 IN.	6.63	6.06	4.0	78	11,000	1,575	2,750
8 IN.	8.63	7.96	5.7	54	11,600	4,140	2,900
10 IN.	10.75	9.98	8.7				
12 IN.	12.75	10.89	11.5				

# Global Drilling Suppliers, Inc.


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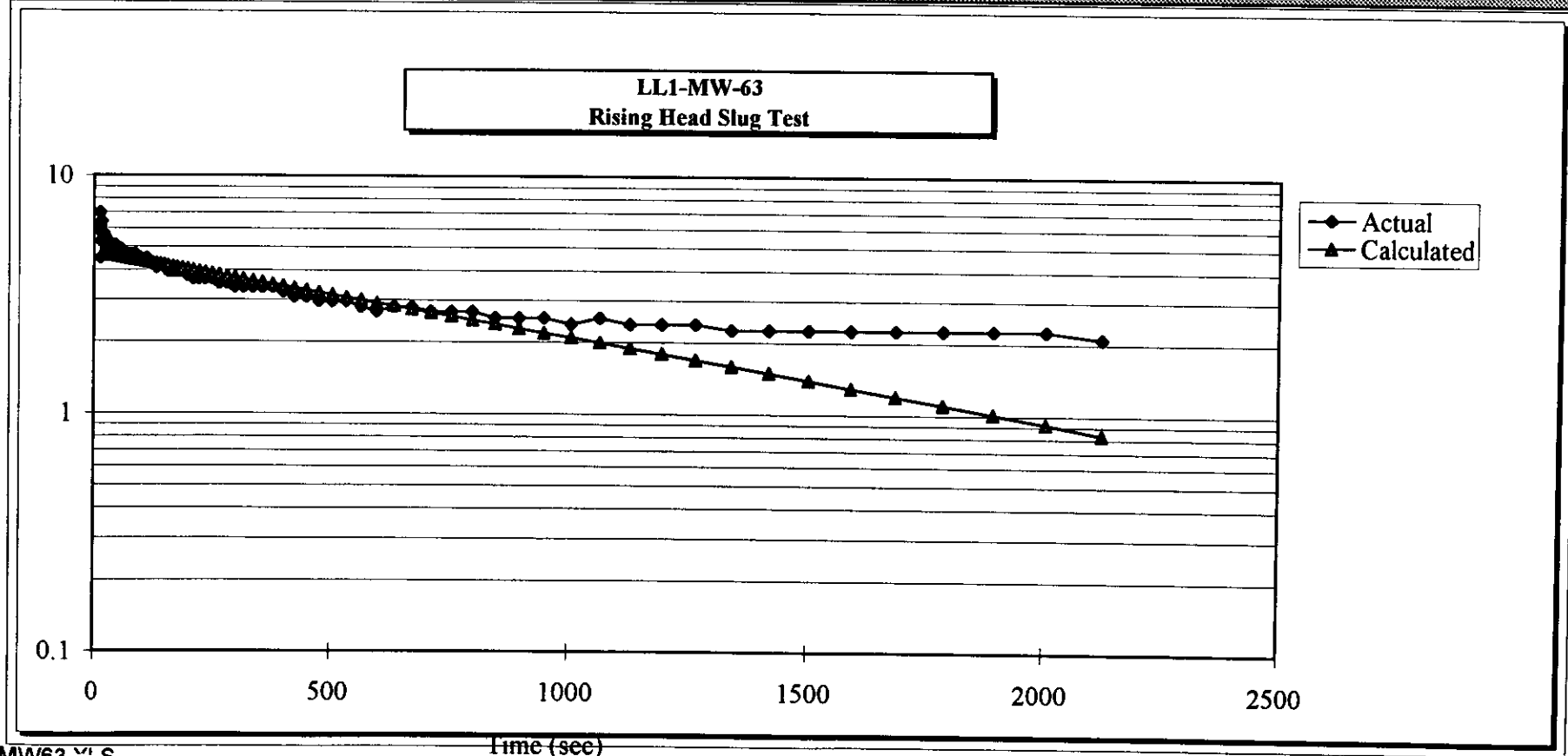


**APPENDIX B.2**  
**MONITORING WELL SLUG TEST RESULTS**

### Slug Test Hydraulic Conductivity (K) Calculation


Well ID	LL1-MW-63	Test Date	8/7/96
Test Type	Rising Head	Evaluation Method	Bouwer & Rice
			
<b>Borehole Parameters</b>		<b>Calculation Parameters</b>	
Pretest water level	23.29 ft bgs	Radius of casing ( $r_c^2$ )	6.45 cm      In R/rw      2.71
Casing inside diameter	2.00 in	Radius of borehole (rw)	7.94 cm
Borehole diameter	6.25 in	Effective radius of investigation (Re)	190.50 cm
Saturated thickness (H)	7.00 ft	Length of screen (Le)	304.80 cm
Screen length (Le)	10.00 ft	Distance from static water level (Yo)	4.75 cm
Saturated penetration (Lw)	6.86 ft	Hydraulic conductivity (K)	2.35E-05 cm/sec

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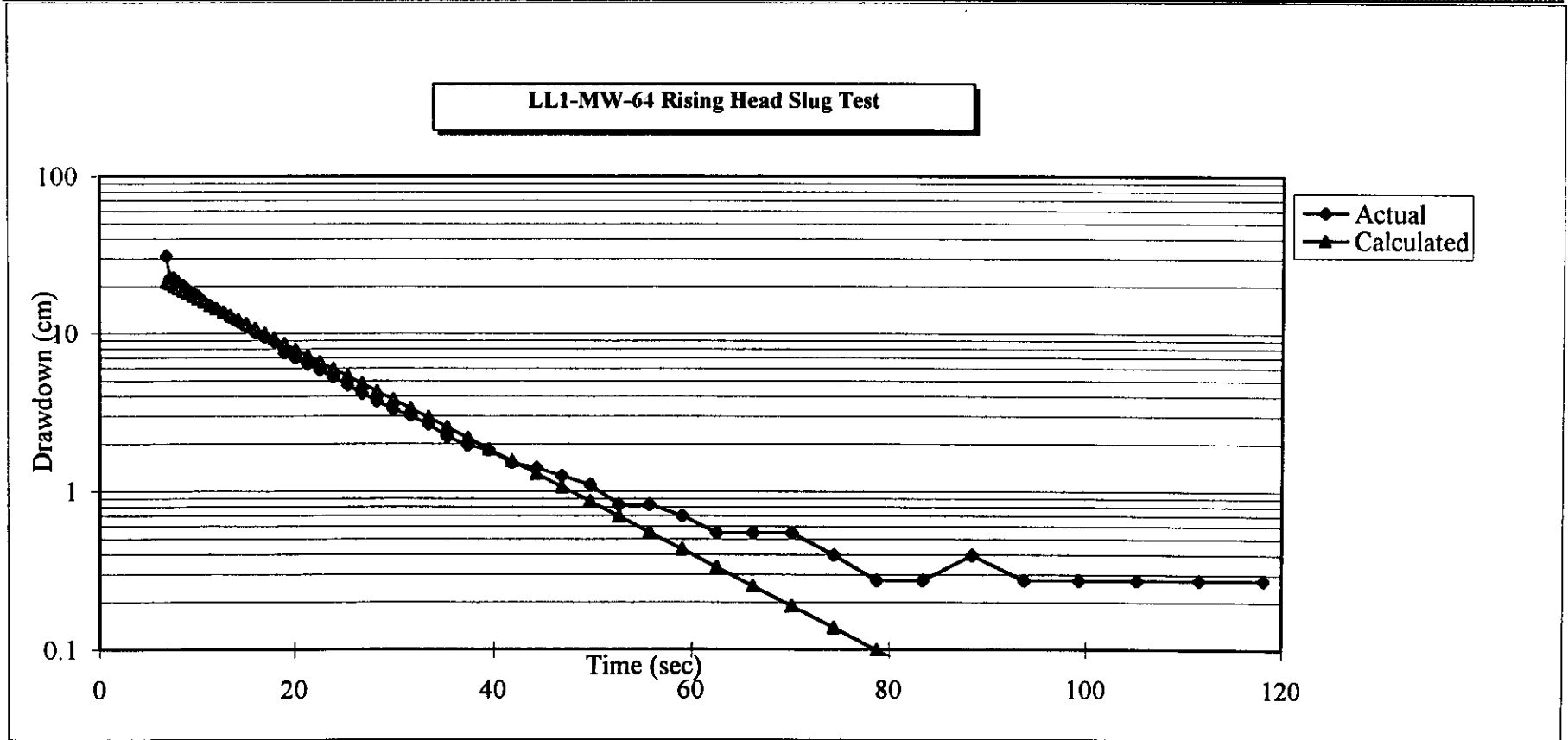


MW63 v S  
10/16

### Slug Test Hydraulic Conductivity (K) Calculation

Well ID	LL1-MW-64	Test Date	8/6/96
Test Type	Rising Head	Evaluation Method	Bouwer & Rice
			
<b>Borehole Parameters</b>		<b>Calculation Parameters</b>	
Pretest water level	3.23 ft bgs	Radius of casing (rc <sup>2</sup> )	6.45 cm      In R/rw      2.16
Casing inside diameter	2.00 in	Radius of borehole (rw)	13.97 cm
Borehole diameter	11.00 in	Effective radius of investigation (Re)	60.05 cm
Saturated thickness (H)	16.00 ft	Length of screen (Le)	304.80 cm
Screen length (Le)	10.00 ft	Distance from static water level (Yo)	35.00 cm
Saturated penetration (Lw)	15.15 ft	Hydraulic conductivity (K)	1.70E-03 cm/sec

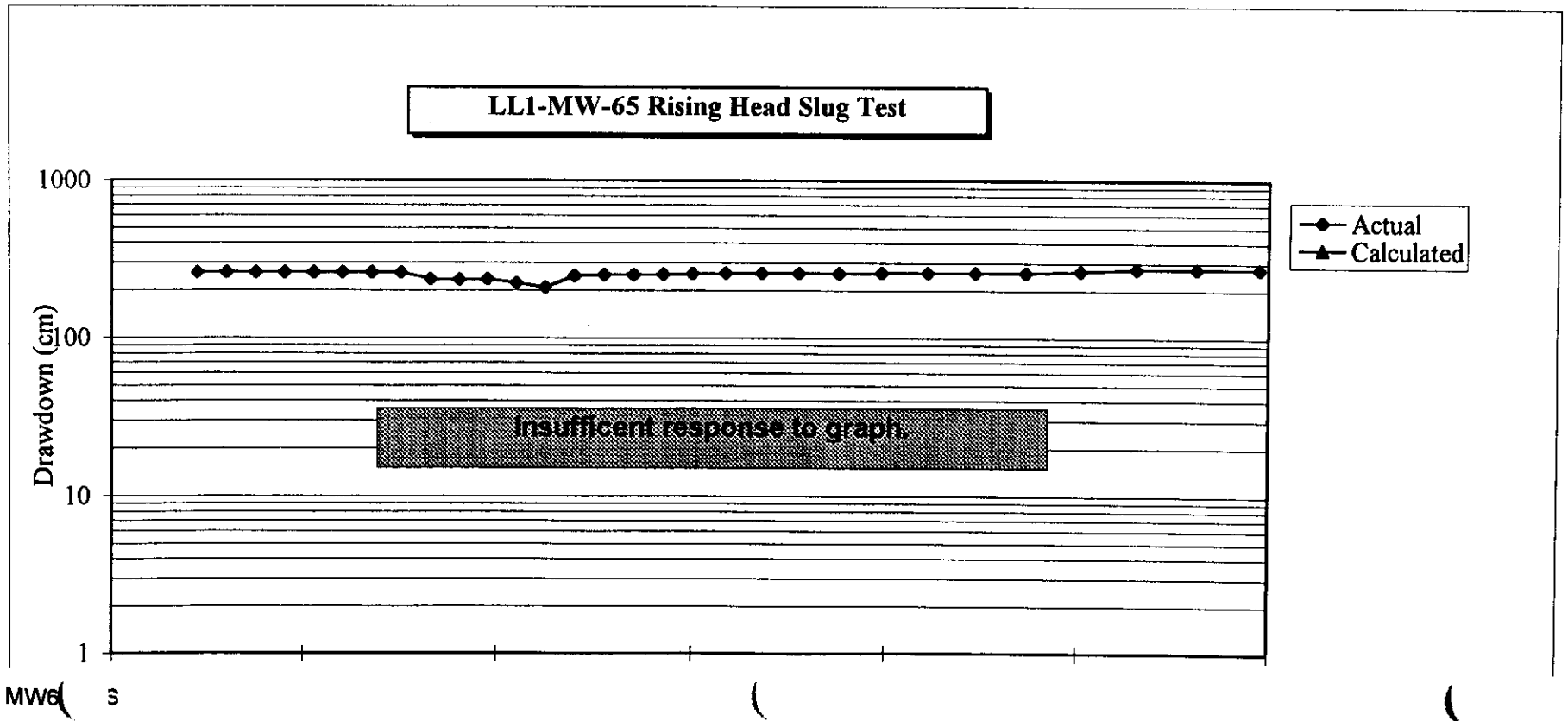
B-13




### Slug Test Hydraulic Conductivity (K) Calculation

Well ID	LL1-MW-65	Test Date	8/26/96	
Test Type	Rising Head	Evaluation Method	Bouwer & Rice	
<b>SAIC</b>				
<b>Borehole Parameters</b>			<b>Calculation Parameters</b>	
Pretest water level	13.39	ft bgs	Radius of casing ( $r_c^2$ )	6.45 cm
Casing inside diameter	2.00	in	Radius of borehole (rw)	13.97 cm
Borehole diameter	11.00	in	Effective radius of investigation (Re)	60.05 cm
Saturated thickness (H)	10.00	ft	Length of screen (Le)	304.80 cm
Screen length (Le)	10.00	ft	Distance from static water level (Yo)	62.97 cm
Saturated penetration (Lw)	9.80	ft	Hydraulic conductivity (K)	cm/sec
			In R/rw	1.93

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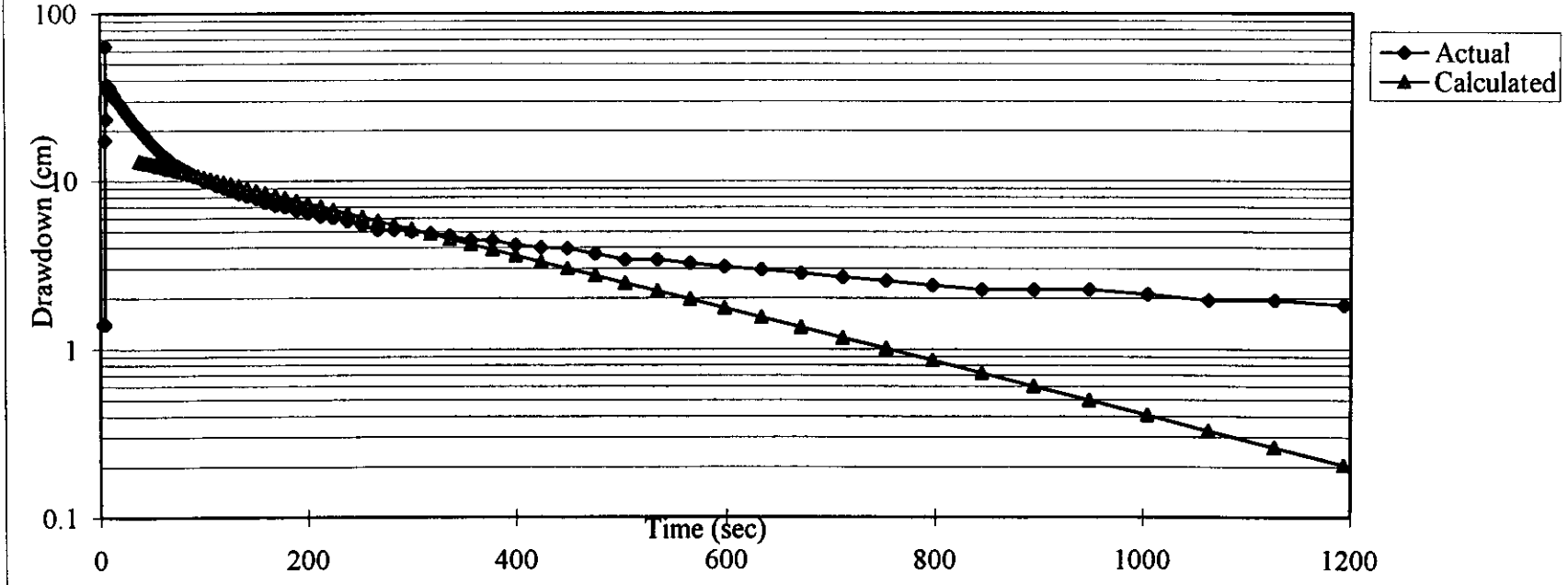


### Slug Test Hydraulic Conductivity (K) Calculation


Well ID	LL2-MW-59	Test Date	8/8/96
Test Type	Rising Head	Evaluation Method	Bouwer & Rice
			
<b>Borehole Parameters</b>		<b>Calculation Parameters</b>	
Pretest water level	13.12 ft bgs	Radius of casing (rc <sup>2</sup> )	6.45 cm      In R/rw      2.52
Casing inside diameter	2.00 in	Radius of borehole (rw)	7.94 cm
Borehole diameter	6.25 in	Effective radius of investigation (Re)	60.05 cm
Saturated thickness (H)	10.00 ft	Length of screen (Le)	298.70 cm
Screen length (Le)	9.80 ft	Distance from static water level (Yo)	15.00 cm
Saturated penetration (Lw)	8.86 ft	<b>Hydraulic conductivity (K)</b>	<b>9.80E-05 cm/sec</b>

LL2-MW-59  
Rising Head Slug Test

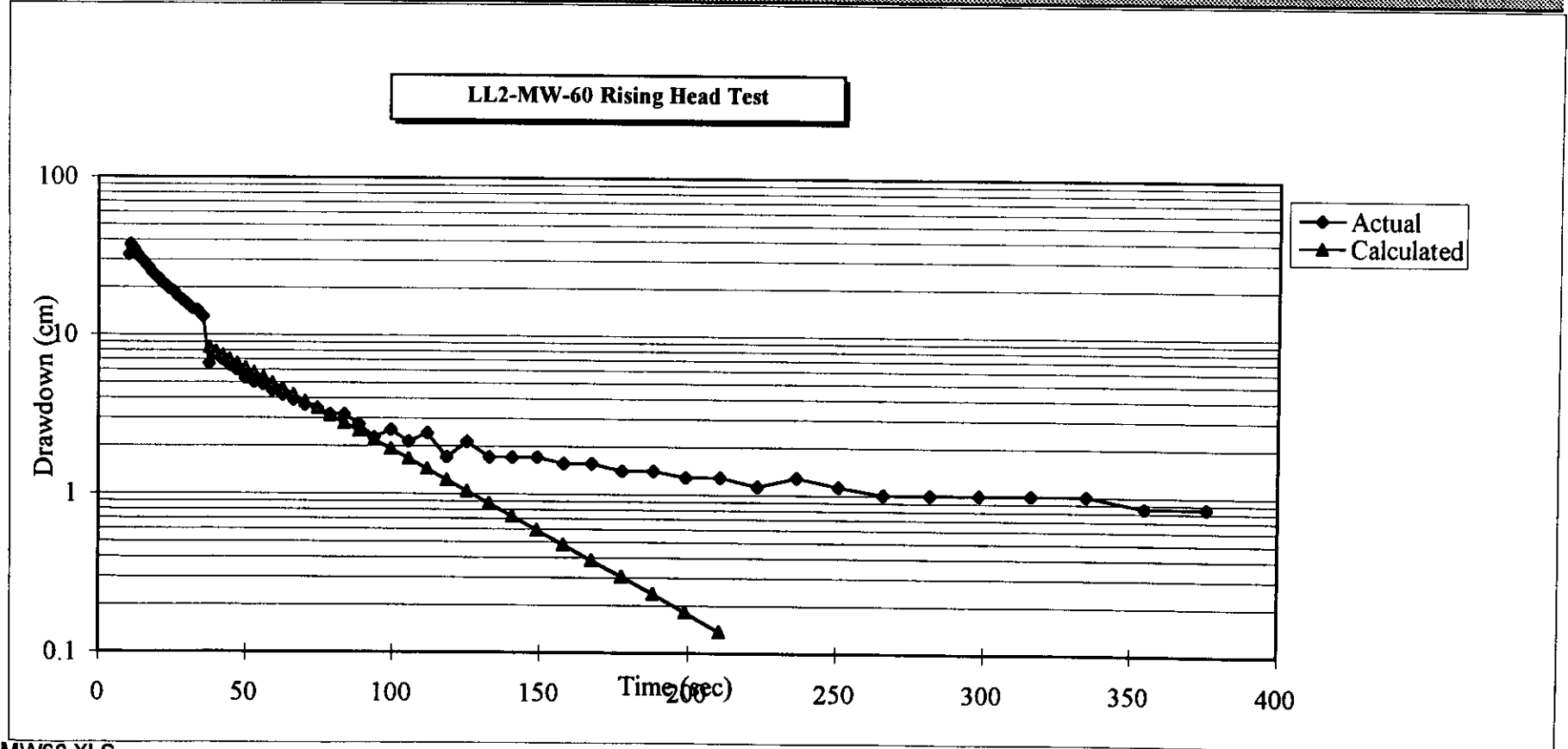
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## Slug Test Hydraulic Conductivity (K) Calculation


Well ID	LL2-MW-60	Test Date	8/20/96
Test Type	Rising Head	Evaluation Method	Bouwer & Rice
			
<b>Borehole Parameters</b>		<b>Calculation Parameters</b>	
Pretest water level	10.38 ft bgs	Radius of casing ( $r_c^2$ )	6.45 cm
Casing inside diameter	2.00 in	Radius of borehole (rw)	7.94 cm
Borehole diameter	6.25 in	Effective radius of investigation (Re)	60.05 cm
Saturated thickness (H)	9.00 ft	Length of screen (Le)	300.53 cm
Screen length (Le)	9.86 ft	Distance from static water level (Yo)	20.00 cm
Saturated penetration (Lw)	8.82 ft	Hydraulic conductivity (K)	5.70E-04 cm/sec
		In R/rw	2.25

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### Slug Test Hydraulic Conductivity (K) Calculation

Well ID	LL1-MW-67	Test Date	8/22/96
Test Type	Rising Head	Evaluation Method	Bouwer & Rice
			
<b>Borehole Parameters</b>		<b>Calculation Parameters</b>	
Pretest water level	17.62 ft bgs	Radius of casing ( $r_c^2$ )	6.45 cm      ln R/rw      1.08
Casing inside diameter	2.00 in	Radius of borehole (rw)	7.62 cm
Borehole diameter	6.00 in	Effective radius of investigation (Re)	60.05 cm
Saturated thickness (H)	18.00 ft	Length of screen (Le)	297.48 cm
Screen length (Le)	9.76 ft	Distance from static water level (Yo)	12.00 cm
Saturated penetration (Lw)	8.14 ft	Hydraulic conductivity (K)	6.50E-05 cm/sec

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**LL1-MW-67 Rising Head Slug Test**

