

MW-1D Heat Pulse Summary

SAIC--New Hanover, PA

Tuesday, April 24, 2012

Logging performed using the Mount Sopris Heat Pulse Flowmeter

Ambient Conditions							
Depth (ft BGS)	Run	Clock Time (hours)	Fluid Velocity (gpm)	Direction of Curve	Comments	Avg. Fluid Velocity (gpm)	Flow Zones
60	1	14:25	∅	N/A	No Flow	N/A	
	2	14:25	∅	down	No Flow		
	3	14:26	∅	N/A	No Flow		
124	1	14:33	∅	N/A	No Flow	N/A	
	2	14:34	∅	N/A	No Flow		
	3	14:35	∅	N/A	No Flow		
175	1	14:40	∅	N/A	No Flow	N/A	
	2	14:41	∅	N/A	No Flow		
	3	14:42	∅	N/A	No Flow		
215	1	14:46	∅	N/A	No Flow	N/A	
	2	14:47	∅	down	No Flow		
	3	14:48	∅	N/A	No Flow		
240	1	14:52	∅	N/A	No Flow	N/A	
	2	14:53	∅	N/A	No Flow		
	3	14:54	∅	down	No Flow		
277	1	14:58	∅	N/A	No Flow	N/A	
	2	14:59	∅	N/A	No Flow		
	3	14:59	∅	down	No Flow		

* Please note: the lower limit of the probe is 0.03 gpm. Lesser values should only be used for qualitative purposes.

Key:	
∅	No measurable flow
N/A	Not applicable
<	Inflow zone (into borehole)
>	Outflow zone (into formation)
Incon.	Inconclusive results
■	Used in Average Fluid Velocity calculation
■	Considered an outlier

MW-2D Heat Pulse Summary

SAIC--New Hanover, PA

Thursday, April 26, 2012

Logging performed using the Mount Sopris Heat Pulse Flowmeter

<i>Ambient Conditions</i>							
Depth (ft BGS)	Run	Clock Time (hours)	Fluid Velocity (gpm)	Direction of Curve	Comments	Avg. Fluid Velocity (gpm)	Flow Zones
62	1	10:35	Ø	N/A	No Flow	N/A	
	2	10:36	Ø	N/A	No Flow		
	3	10:37	Ø	up	No Flow		
108	1	10:43	Ø	N/A	No Flow	N/A	
	2	10:44	Ø	N/A	No Flow		
	3	10:46	Ø	N/A	No Flow		
128	1	10:49	Ø	N/A	No Flow	N/A	
	2	10:50	Ø	N/A	No Flow		
	3	10:51	Ø	down	No Flow		
160	1	10:56	Ø	N/A	No Flow	N/A	
	2	10:57	Ø	N/A	No Flow		
	3	10:58	Ø	N/A	No Flow		
209	1	11:04	Ø	N/A	No Flow	N/A	
	2	11:05	Ø	N/A	No Flow		
	3	11:06	Incon.	up	Inconclusive		
	4	11:07	Ø	N/A	No Flow		
238	1	11:11	Ø	N/A	No Flow	N/A	
	2	11:12	Incon.	up	Inconclusive		
	3	11:14	Ø	N/A	No Flow		
267	1	11:19	Ø	N/A	No Flow	N/A	
	2	11:22	Ø	N/A	No Flow		
	3	11:23	Ø	N/A	No Flow		
	4	11:24	Incon.	up	Inconclusive		

** Please note: the lower limit of the probe is 0.03 gpm. Lesser values should only be used for qualitative purposes.*

Key:	Ø	No measurable flow
	N/A	Not applicable
	<	Inflow zone (into borehole)
	>	Outflow zone (into formation)
	Incon.	Inconclusive results
	[Grey Box]	Used in Average Fluid Velocity calculation
	[Yellow Box]	Considered an outlier

MW-3D Heat Pulse Summary

SAIC--New Hanover, PA

Wednesday, April 25, 2012

Logging performed using the Mount Sopris Heat Pulse Flowmeter

<i>Ambient Conditions</i>							
Depth (ft BGS)	Run	Clock Time (hours)	Fluid Velocity (gpm)	Direction of Curve	Comments	Avg. Fluid Velocity (gpm)	Flow Zones
48	1	12:34	Ø	N/A	No Flow	N/A	
	2	12:35	Ø	N/A	No Flow		
	3	12:36	Ø	N/A	No Flow		
68	1	12:39	Ø	N/A	No Flow	N/A	
	2	12:40	Ø	N/A	No Flow		
	3	12:41	Ø	N/A	No Flow		
103	1	12:45	Ø	N/A	No Flow	N/A	
	2	12:45	Ø	N/A	No Flow		
	3	12:46	Ø	N/A	No Flow		
139	1	12:50	Ø	N/A	No Flow	N/A	
	2	12:51	Ø	N/A	No Flow		
	3	12:52	Ø	N/A	No Flow		
181	1	12:56	Ø	N/A	No Flow	N/A	
	2	12:57	Ø	N/A	No Flow		
	3	12:58	Ø	N/A	No Flow		
218	1	13:02	Ø	N/A	No Flow	N/A	
	2	13:03	Ø	N/A	No Flow		
	3	13:05	Ø	N/A	No Flow		

** Please note: the lower limit of the probe is 0.03 gpm. Lesser values should only be used for qualitative purposes.*

Key:	Ø	No measurable flow
	N/A	Not applicable
	<	Inflow zone (into borehole)
	>	Outflow zone (into formation)
	Incon.	Inconclusive results
	[Grey Box]	Used in Average Fluid Velocity calculation
	[Yellow Box]	Considered an outlier

MW-4D Heat Pulse Summary

SAIC--New Hanover, PA

Friday, April 27, 2012

Logging performed using the Mount Sopris Heat Pulse Flowmeter

Ambient Conditions							
Depth (ft BGS)	Run	Clock Time (hours)	Fluid Velocity (gpm)	Direction of Curve	Comments	Avg. Fluid Velocity (gpm)	Flow Zones
72	1	15:39	Ø	N/A	No Flow	N/A	
	2	15:40	Ø	N/A	No Flow		
	3	15:41	Ø	N/A	No Flow		
90	1	15:44	Ø	N/A	No Flow	N/A	
	2	15:44	Incon.	up	No Flow		
	3	15:45	Ø	down	No Flow		
125	1	15:50	Ø	N/A	No Flow	N/A	
	2	15:52	Ø	N/A	No Flow		
	3	15:53	Ø	N/A	No Flow		
160	1	15:57	Ø	N/A	No Flow	N/A	
	2	15:58	Ø	N/A	No Flow		
	3	15:59	Ø	N/A	No Flow		
190	1	16:03	Ø	N/A	No Flow	N/A	
	2	16:04	Ø	N/A	No Flow		
	3	16:05	Ø	N/A	No Flow		
230	1	16:37	Ø	N/A	No Flow	N/A	
	2	16:38	Ø	N/A	No Flow		
	3	16:39	Ø	down	No Flow		

* Please note: the lower limit of the probe is 0.03 gpm. Lesser values should only be used for qualitative purposes.

Key:	
Ø	No measurable flow
N/A	Not applicable
<	Inflow zone (into borehole)
>	Outflow zone (into formation)
Incon.	Inconclusive results
■	Used in Average Fluid Velocity calculation
■	Considered an outlier

MW-5D Heat Pulse Summary

SAIC--New Hanover, PA

Monday, April 30, 2012

Logging performed using the Mount Sopris Heat Pulse Flowmeter

Ambient Conditions							
Depth (ft BGS)	Run	Clock Time (hours)	Fluid Velocity (gpm)	Direction of Curve	Comments	Avg. Fluid Velocity (gpm)	Flow Zones
55	1	13:23	∅	N/A	No Flow	N/A	>
	2	13:24	∅	down	No Flow		
	3	13:26	∅	N/A	No Flow		
80	1	13:30	∅	N/A	No Flow	0.025	<
	2	13:31	0.024	up	Upward Flow		
	3	13:32	0.025	up	Upward Flow		
	4	13:32	0.026	up	Upward Flow		
118	1	13:37	∅	up	No Flow	0.014	<
	2	13:40	0.013	up	Upward Flow		
	3	13:42	∅	N/A	No Flow		
	4	13:43	∅	up	No Flow		
	5	14:16	0.015	up	Upward Flow		
	6	14:16	0.014	up	Upward Flow		
	7	14:17	0.014	up	Upward Flow		
146	1	13:48	0.016	up	Upward Flow	0.014	<
	2	13:49	0.014	up	Upward Flow		
	3	13:50	0.013	up	Upward Flow		
	4	13:51	0.013	up	Upward Flow		
189	1	13:56	∅	N/A	No Flow	N/A	<
	2	13:57	∅	down	No Flow		
	3	13:58	∅	N/A	No Flow		
213	1	14:03	∅	N/A	No Flow	N/A	<
	2	14:05	∅	up	No Flow		
	3	14:06	∅	down	No Flow		

* Please note: the lower limit of the probe is 0.03 gpm. Lesser values should only be used for qualitative purposes.

Key:	∅	No measurable flow
	N/A	Not applicable
	<	Inflow zone (into borehole)
	>	Outflow zone (into formation)
	Incon.	Inconclusive results
		Used in Average Fluid Velocity calculation
		Considered an outlier

MW-7D Heat Pulse Summary

SAIC--New Hanover, PA

Thursday, April 26, 2012

Logging performed using the Mount Sopris Heat Pulse Flowmeter

Ambient Conditions							
Depth (ft BGS)	Run	Clock Time (hours)	Fluid Velocity (gpm)	Direction of Curve	Comments	Avg. Fluid Velocity (gpm)	Flow Zones
50	1	17:41	∅	N/A	No Flow	N/A	
	2	17:42	∅	N/A	No Flow		
	3	17:45	∅	N/A	No Flow		
79	1	16:52	∅	N/A	No Flow	N/A	
	2	16:52	∅	down	No Flow		
	3	16:57	∅	N/A	No Flow		
120	1	17:02	0.033	up	Upward Flow	0.034	>
	2	17:03	0.033	up	Upward Flow		
	3	17:04	0.034	up	Upward Flow		
	4	17:05	0.036	up	Upward Flow		
	5	17:05	Incon.	N/A	Inconclusive		
	6	17:06	0.035	up	Upward Flow		
148	1	17:10	∅	N/A	No Flow	N/A	<
	2	17:11	∅	up	No Flow		
	3	17:12	∅	down	No Flow		
162	1	17:15	∅	N/A	No Flow	N/A	
	2	17:16	∅	N/A	No Flow		
	3	17:17	∅	N/A	No Flow		
190	1	17:21	∅	N/A	No Flow	N/A	
	2	17:21	∅	down	No Flow		
	3	17:23	∅	down	No Flow		
210	1	17:26	∅	N/A	No Flow	N/A	
	2	17:27	Incon.	up	Inconclusive		
	3	17:28	∅	N/A	No Flow		

* Please note: the lower limit of the probe is 0.03 gpm. Lesser values should only be used for qualitative purposes.

Key:	∅	No measurable flow
	N/A	Not applicable
	<	Inflow zone (into borehole)
	>	Outflow zone (into formation)
	Incon.	Inconclusive results
		Used in Average Fluid Velocity calculation
		Considered an outlier