

## DRILL HOLE LOG

Drill Hole No. MH\_34  
 Bearing: N 35 E Inclination: 46½° N  
 Coordinates: North 622,008.34 East 1,450,002.14  
 Elevation: 1114.96

Date: 2/8/78  
 Drilled By: Ralph Jex  
Boyles Bros. Jim McCall  
 Logged By: Ferryl C. Gale  
Air rotary 0-20.0  
 Total Depth: 257.0 Core 20.5-257.0

DEPTH		%	SAMPLE	SAMPLE	ANALYSES			DESCRIPTION OF MATERIAL DRILLED
FROM	TO	RECOVERY	NUMBER	INTERVAL	Sp. Gr.	BaSO <sub>4</sub>		
0.0	5.0	0						Cased hole, Buff colored Colluvium, no sample recovered.
5.0	10.0	65%		5.0'				Buff to tan colored oxidized sandstone.
10.0	15.0	65%		5.0'				Tan colored oxidized sandstone & shales grading into lt. gray sandstone.
15.0	20.0	65%		5.0'				Lt. gray sandstone & shale Hit H2O 20'
								All dips were taken before the hole was surveyed and assuming the hole would be straight, all dips were measured relative to 46½° N. Barite zone true dip was calculated.
20.0	30.8	100		Begin Coring				Dark gray fine-grained sandstone; well cemented; wisps of black shale occasionally; thread fractures filled w/ carbon; limonite staining along some fractures; (28.0-28.2) thin lamina of black shale grading back into dark gray sandstone.
30.8	44.6							Dark gray fine-grained sandstone; well cemented; abundant thread stress fractures filled w/ carbon (40.0-40.2; 43.5-43.7 black shale lamina, carbon rich);

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Elevation:                     

Total Depth:                     

DEPTH		%	SAMPLE	SAMPLE	ANALYSES			DESCRIPTION OF MATERIAL DRILLED
FROM	TO	RECOVERY	NUMBER	INTERVAL	Sp. Gr.	BaSO <sub>4</sub>		
								gray shales 40.2-42.0 which have decomposed to clays & mud?. Bedding dip 66°N
44.6	56.0							Dark gray fine-grained sandstone; abundant thread stress fractures filled with carbon; (46.7-47.3 carbon rich shale; highly fractured & broken) locally grading from sandstone to silty sandstone.
56.0	59.0							Dark gray silty sandstone; somewhat decomposed to shales.
59.0	65.5							Gray fine-grained sandstone; well cemented occasional fractures filled w/ carbon.
65.5	68.5							Lt. Gray silty sandstone; decomposed, slightly, w/ threads of gypsum.
68.5	78.2							Dark gray fine-grained sandstone; locally silty sandstone; thread sheer fractures filled w/ carbon; (at 74.7 & 75.1 qtz. filled fractures)
78.2	79.4							Dark gray shales; decomposed.
79.4	90.8							Dark & lt. gray sandstone; fine-grained; well cemented locally; decomposed locally near black shale lenses;

Drill Hole No. MH-34

Date: 2/8/78

Bearing: N 35 E Inclination: 46 $\frac{1}{2}$  N

Drilled By: \_\_\_\_\_

Coordinates: North \_\_\_\_\_ East \_\_\_\_\_

Logged By: \_\_\_\_\_

Elevation: \_\_\_\_\_

Total Depth: \_\_\_\_\_

DEPTH		%	SAMPLE	SAMPLE	ANALYSES			DESCRIPTION OF MATERIAL DRILLED
FROM	TO	RECOVERY	NUMBER	INTERVAL	Sp. Gr.	BaSO <sub>4</sub>		
								occasional qtz. filled fractures; (83.8-
								84.0 black shale lense, carbon rich)
90.8	100.5							Lt. Gray fine-grained sandstone; well-
								cemented; occ. qtz. filled fracture, also
								carbon rich fractures.
100.5	103.5							Black shale, occasionally thin lamina of
								gray sandstone.
103.5	112.3							Dark gray sandstone; fine-grained wisps of
								black shales; locally silty sandstone.
112.3	114.5							Black shales; thin lamina of gray silty
								sandstone interbedded w/ black shale; shows
								pronounced bedding. Bedding dip 89°S.
114.5	118.5							Black silty sandstone; poorly cemented;
								grading into dark gray shales locally.
118.5	126.6							Gray silty sandstone; poorly cemented.
								(highly broken 120.0-121.0, 124.0-125.0)
126.6	129.0							Black silty sandstone; poorly cemented.
129.0	137.0							Gray silty sandstone; occasional wisps of
								black shale. Moderately cemented.

Drill Hole No. MH-34

Date: 2/12/78

Bearing: N 35 E Inclination: 46 $\frac{1}{2}$ ° N

Drilled By: \_\_\_\_\_

Coordinates: North \_\_\_\_\_ East \_\_\_\_\_

Logged By: \_\_\_\_\_

Elevation: \_\_\_\_\_

Total Depth: \_\_\_\_\_

DEPTH		%	SAMPLE	SAMPLE	ANALYSES			DESCRIPTION OF MATERIAL DRILLED
FROM	TO	RECOVERY	NUMBER	INTERVAL	Sp. Gr.	BaSO <sub>4</sub>		
137.0	138.7							Gray fine-grained sandstone; locally silty sandstone; moderately cemented gypsum filling thread fractures.
138.7	151.3							Interbedded dark gray sandstone & gray sandstone; carbon fracture fillings throughout, locally becoming silty sandstone.
151.3	162.0							Gray fine-grained; silty sandstone; locally darker in color; moderately cemented. Bedding dip 78° S.
162.0	169.5							Gray silty sandstone; moderate cemented, Locally, fractures filled w/ carbon.
169.5	171.0							Black shales; carbon rich (Fault 170.5-171.5 very broken) minor movement).
171.0	173.2							Gray fine-grained sandstone; moderately cemented; locally silty sandstone.
173.2	178.0							Gray fine-grained silty sandstone mod. cemented; locally darker in color.
178.0	181.0		2773	3.0'				Barite zone app. 15% Barite, thinly bedded barite modules along bedding plane, interbedded w/ black shales, also scattered nodules. Bedding dip 82° S. 67° true dip.

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Total Depth: \_\_\_\_\_

DEPTH		% RECOVERY	SAMPLE NUMBER	SAMPLE INTERVAL	ANALYSES		DESCRIPTION OF MATERIAL DRILLED
FROM	TO				Sp. Gr.	BaSO <sub>4</sub>	
181.0	182.2						Highly altered gray shales; altered to mud, very friable.
182.2	184.2		2774	2.0'			Barite app. 30% Barite . Bedding Dip 82°S. interbedded Barite along bedding, (67°S true dip.) plane w/ black shales.
184.2	188.0		2775	4.2'			Barite app. 25%; interbedded shales & barite; some scattered nodules, bedding dip 76°S, 61° S true dip.
188.0	192.9		2776	4.4'			Barite app. 30-40%, Low medium grade. Bedding dip 83°S. interbedded barite w/ black shale, elongated barite nodules along bedding plane, 68°S true dip.
				13.6' at 61° angle			
				corrected width of barite			
				6.59'			
192.9	195.4						Blackish gray shales, carbon rich; graphitic.
195.4	197.9						Black highly altered shales, carbon rich, graphitic.
197.9	207.3						Gray fine-grained sandstone; gypsum filled fractures; locally thin lamina of interbedded shale & sandstone; wisps of black shale in sandstone; weak dissiminated pyrite. Bedding dip 79°S true dip 64°S.



Drill Hole No. MH-34

Date: 2/13/78

Bearing: \_\_\_\_\_ Inclination: \_\_\_\_\_

Drilled By: \_\_\_\_\_

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Logged By: \_\_\_\_\_

Elevation: \_\_\_\_\_

Total Depth: \_\_\_\_\_

DEPTH		%	SAMPLE	SAMPLE	ANALYSES			DESCRIPTION OF MATERIAL DRILLED
FROM	TO	RECOVERY	NUMBER	INTERVAL	Sp. Gr.	BaSO <sub>4</sub>		
207.3	213.0							Black shales; highly altered, carbon rich, weak dissiminated pyrite.
213.0	221.2	50	2777	8.2'				Barite zone app. 70% barite, scattered nodules grading to continuous nodules along bedding. Bedding dip 80°S. (true dip 65°S) some interbedding of barite & black shales (221.0-221.2 massive barite)
								Black shale lamina were washed out during drilling; explanation for 50% recovery.
221.2	224.2		2778	3.0'				Barite app. 20% Barite interbedded w/ black shales; down hole grading to scattered nodules.
224.2	225.8							Gray shales, w/ wisps of black shale.
225.8	228.3							Gray shales; fractures carbon filled; wisps of black shales occas.
228.3	229.8		2779	1.5'				Barite app. 10%; occasional nodules of barite in dark gray shales.
229.8	232.7							Gray shales; carbon filled fractures; wisps of black shale occasionally.
232.7	233.7		2780	1.0'				Barite app. 5%, scattered nodules in gray shales.

13.7' at 67° (correct width 5.35')

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DEPTH		%	SAMPLE	SAMPLE	ANALYSES			DESCRIPTION OF MATERIAL DRILLED
FROM	TO	RECOVERY	NUMBER	INTERVAL	Sp. Gr.	BaSO <sub>4</sub>		
233.7	237.5							Gray shales; carbon filling fractures; a pyrite veneering broken fractures.
237.5	243.5	25%						Black shales; very broken; highly altered (app 75% washed away in drilling) carbon rich.
243.5	252.5							Gray silty shales; locally carbon rich making darker gray color. Gypsum filling fractures.
252.5	255.2							Black shales; carbon rich, graphitic, very broken; slicken sides, due to movement along bedding probably during Ouachita Orogeny.
255.2	257.0							Arkansas Novaculite; dark gray; well cemented cert; Marcasite filling abundant fractures.
	E. O. H		257.0	on Novaculite				This hole was used for our test for hardness of novaculite; one 40/60 stone per karat diamond bit drilled 0.7 ft. The novaculite is harder than the hubs of hell.

**Total Depth:** \_\_\_\_\_

10/77



# Samples Sent to Houston

MH-34

<u>Sample</u>	<u>Footage</u>	<u>Sp. Gravity</u>
MH-34-2773	178.0-181.0	
34-2774	182.2-184.2	
34-2775	184.5-188.0	
34-2776	188.0-192.4	
34-2777	213.0-221.2	
34-2778	221.2-224.2	
34-2779	228.3-229.8	
34-2780	232.4-233.4	

FANCY HILL - DIAMOND DRILL HOLES  
INDIVIDUAL CORE ANALYSES BY INTERVALS

SAMPLE	LOG #	DEPTH	INTERVAL	A.P. SPECIFIC GRAVITY	CALCULATED % BaSO <sub>4</sub>
MDDH 34					
2773	1700	178.0-181.0	3.0	3.041	24.06
-	-	181.0-182.2	1.2	2.761	0.00
2774	1701	182.2-184.2	2.0	3.101	28.65
-	-	184.2-184.5	0.3	2.761	0.00
2775	1702	184.5-188.0	3.5	3.138	31.0
2776	1703	188.0-192.4	4.4	3.022	22.56
2777	1704	213.0-221.2	8.2	3.318	43.89
2778	1705	221.2-224.2	3.0	3.124	30.37
-	-	224.2-228.3	4.1	2.761	0.00
2779	1706	228.3-229.8	1.5	2.857	8.76
-	-				0.00
		Total	31.20		
		Weighted Average		3.075	26.67