

Drill Hole No. MH-36
 Bearing: N 35 E Inclination: 56°N
 Coordinates: North 628,787.45 East 1,450,257.90
 Elevation: 1089.60

Date: 4/12/78
 Drilled By: Boyles Bro. Ralph Jex, Jim McCall
 Logged By: Ferryl C. Gale
 Rotary: 0.0-20.0
 Total Depth: T.D. 503.0' Core: 20.0-503.0'

DEPTH		%	SAMPLE	SAMPLE	ANALYSES			DESCRIPTION OF MATERIAL DRILLED
FROM	TO	RECOVERY	NUMBER	INTERVAL	Sp. Gr.	BaSO ₄		
0.0	20.0							Alluvium, no sample recovery, set casing.
20.0	26.0							Lt. gray fine-grained sandstone bleached & leached, strong limonite staining in fractures. core loss of 2.0'.
26.0	33.0							Sandstone as before, 2.5' loss of core.
33.0	41.5							Sandstone as before, wisps of black shale occasional.
41.5	47.5							Sandstone as before plus medium limonite staining in fractures, Bedding dip 88°S. Occasional qtz veinlets.
47.5	59.8							Sandstone as before (57.4-57.8 black shale lenses) occasional wisps of black shales in sandstone thereafter; moderately fractures; Bedding dip 87°S.
59.8	70.5							Sandstone as before. Bedding dip 84°S.
70.5	77.0							Sandstone as before
77.0	83.0							Interbedded black shale and gray sandstone lenses and lamina. Bedding dip 84°S.
83.0	87.0							Interbedded black shale and gray sandstone as before; 3.0' core loss.

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DEPTH		% RECOVERY	SAMPLE NUMBER	SAMPLE INTERVAL	ANALYSES			DESCRIPTION OF MATERIAL DRILLED
FROM	TO				Sp. Gr.	BaSO ₄		
87.0	98.0							Gray 8 in. grained sandstone, well cemented, occasional fractures.
98.0	110.0							Sandstone as before, (105.0-109.0 occasional wisps of black shale. Bedding dip 86°S.
110.0	111.5							Fault, highly fractured and broken sandstone and carbon filled fractures.
111.5	121.0							Sandstone as before, moderately fractured, (lens of black shale 112.5-113.0) (112.0-112.5 brecciated sandstone fragments. Bedding dip 88°S.
121.0	133.0							Sandstone as before, scattered wisps of black shale, occasional veinlets of qtz. Moderately fractured; Bedding dip 90°
133.0	142.0							Sandstone as before, occasional wisps of black shales, moderately fractured (141.5-142.5 highly fractured slicken sides, carbon rich. Bedding Dip 90°
142.0	146.0							Sandstone as before, numerous qtz. filled veinlets, moderately fractured.
146.0	154.0							Black shale, 146.0-148.0 shear zone)

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DEPTH		% RECOVERY	SAMPLE NUMBER	SAMPLE INTERVAL	ANALYSES			DESCRIPTION OF MATERIAL DRILLED
FROM	TO				Sp. Gr.	BaSO ₄		
								scattered lenses of gray sandstone 153.0-154.0
								shear zone. Bedding Dip 83°N 152.0)
154.0	156.0							Sandstone as before, faulted core loss 1.5'
								qtz. stringer, highly broken.
156.0	162.0							Sandstone as before, scattered qtz. veinlets.
162.0	165.0							Black shale, marcasite veneering fractures,
								Bedding dip 83°N.
165.0	167.0							Black shale, shear zone, highly broken
								into fragments.
167.0	170.0							Interbedded black shales and gray sandstone.
170.0	172.0							Black shale, shear zone, highly broken
172.0	177.0							Interbedded lenses of black shale and gray
								sandstone, (Mottled appearance locally due
								to brecciated between 175.0-176.0)
177.0	183.5							Sandstone as before, with qtz. stringer and
								veinlets, moderately broken.
183.5	188.0							Black shales, having the appearance of being
								squeezed, sheared & gnarled, gouge slicken
								sides present. Calcite filling fractures &
								voids, carbon rich, graphitic.

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FROM	TO	RECOVERY	NUMBER	INTERVAL	Sp. Gr.	BaSO ₄		
188.0	190.5							Fault, 183.5 to 190.5, sheared zone, highly broken black shale; slicken sides, carbon rich.
190.5	198.0							Gray fine-grained sandstone well cemented, moderately broken, minute fractures filled w/ carbon, scattered qtz. veinlets.
198.0	209.0							Sandstone as above.
209.0	220.0							Sandstone as above, occasional black shale lens, Bedding dip 84°S. (Sheared zone 215.0-219.0)
220.0	232.0							Sandstone as above, moderately broken
232.0	242.0							Sandstone as above, darker gray due to influence of carbon. Bedding Dip 80°S.
242.0	245.0							Sandstone as above. Bedding dip 88°S.
245.0	251.0							Interbedded black shale and gray sandstone, (248.0-250.0 shear zone)
251.0	253.0							Sandstone as above.
253.0	263.8							Sandstone as above, occasional lens of black shale. Bedding dip 88°N
263.8	267.0							Interbedded black shale & gray sandstone. Bedding dip 88°S.

DRILL HOLE LOG

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DEPTH		% RECOVERY	SAMPLE NUMBER	SAMPLE INTERVAL	ANALYSES			DESCRIPTION OF MATERIAL DRILLED
FROM	TO				Sp. Gr.	BaSO ₄		
267.0	274.6							Sandstone as before.
274.6	285.0							Sandstone as before, occasionally thin lamina of black shales. Bedding dip 85°N
285.0	295.8							Sandstone as above, Bedding dip 85°N.
295.8	307.0							Sandstone as above, occasional wisps and lamina of black shales. Bedding dip 86°N
307.0	320.0							Sandstone as before, 2.0' core loss 313.0-315.0, faulted bleached and leached, sandstone friable, numerous qtz. & clacite veinlets locally.
320.0	332.0							Sandstone as before, (Faulted 320.5-322.0) Core loss 1.0'.
332.0	341.0							Sandstone as before. Bedding dip 85°N.
341.0	352.1							Sandstone as before, 343.5-347.5 fault highly broken. Carbon rich in fracture.
352.1	362.0							Sandstone as before.
362.0	363.5							Black shales w/ thin lamina of gray sandstone Bedding dip 86°S. 362.3'.
363.5	364.5							Fault broken sandstone fragments. Brecciated carbon rich, strong qtz & clacite stringers, slicken sides.

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FROM	TO	RECOVERY	NUMBER	INTERVAL	Sp. Gr.	BaSO ₄		
364.5	374.9							Gray sandstone as before.
374.9	381.0							Sandstone as before, numerous qtz. veinlets.
381.0	385.6							Dark gray sandstone carbon rich grading to gray sandstone. Bedding dip 84°S.
385.6	397.3							Sandstone as before, locally thin lamina of black shales. Bedding dip 86°S.
397.3	409.0							Sandstone as before, locally darker in color, locally carbon rich. Occasional lenses of black shale. Bedding slicken sides.
409.0	418.3							Sandstone as before, Bedding dip 86°S.
418.3	429.3							Sandstone as before, interbedded w/ black shale, bedding dip 89°S.
439.4	439.9		2827					Barite zone, low, low grade, approx. 2% scattered nodules in black shales.
439.9	441.2		2828					Barite zone, medium grades, 40% BaSO ₄ , nodular and bedded lamina of barite in black shale. Bedding Dip 90°.
441.2	441.8							Black sandstone.
441.8	443.1		2829					Barite zone, med. grade 40% Barite, nodular & bedded Barite.

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FROM	TO	RECOVERY	NUMBER	INTERVAL	Sp. Gr.	BaSO ₄		
443.1	444.6		2830					Barite zone, low to med. grade 30% BaSO ₄ , thinly bedded barite in black shale. Bedding Dip 89°S.
444.6	445.7							Black shale, silicious, sandy.
445.7	447.0		2831					Barite zone, approx. 50% BaSO ₄ medium grade, nodular & thinly bedded lamina of barite in black shale. Bedding Dip 90°.
447.0	451.0		2832					Barite zone, low-Med. grade barite, approx. 40% BaSO ₄ , nodular & thinly bedded barite in black shale.
451.0	452.0							Black shale.
452.0	455.0		2833					Barite zone, low to med. grade 35% BaSO ₄ , isolated barite nodules & thinly bedded lamina of barite. Bedding dip 89 S.
455.0	462.0							Black shales, sandy, carbon rich, locally lighter in color. occasional lamina of gray sandstone.
462.0	465.0							Dark gray sandstone, wisps of black shales, thin lamina of shale.
465.0	467.5		2834					Barite zone, low grade 20% Barite. Thinly lamina of bedded barite.

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FROM	TO	RECOVERY	NUMBER	INTERVAL	Sp. Gr.	BaSO ₄		
467.5	473.5		2835					Barite zone, high grade, 80% BaSO ₄ , large nodules to massive barite, very thin lamina of black shales. Bedding Dip 88°S.
473.5	477.0		2836					Barite zone, Med. grade 60% BaSO ₄ , fine-grained thinly laminated barite.
477.0	481.0		2837					Barite zone, med. grade, 50% barite. Thinly laminated to random oriented large nodules.
481.0	483.1		2838					Barite zone, med. grade 50% BaSO ₄ , thinly bedded barite & black shales. Bedding dip 82°S.
483.1	484.2		2839					Barite zone, low grade, very fine grained approx. 10% BaSO ₄ , scattered nodules.
484.2	487.0		2840					Barite zone, low grade, 5% BaSO ₄ , scattered, sparse nodules.
487.0	491.5		2841					Barite zone, low grade, 5% BaSO ₄ , small scattered nodules.
491.5	494.4		2842					Barite zone, low grade, approx. 5% BaSO ₄ , Bedding dip 85°S. scattered nodules.
494.4	507.0							Black shales, thinly bedded w/ gray sandstone. Bedding Dip 87°N.
507.0	510.8							Gray shales, highly bleached near Novaculite contact.

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Bottom Hole	coords	629, 086.68	1,450, 404.94	703.95
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FANCY HILL - DIAMOND DRILL HOLES
INDIVIDUAL CORE ANALYSES BY INTERVALS

SAMPLE	LOG #	DEPTH	INTERVAL	A.P. SPECIFIC GRAVITY	CALCULATE % BaSO ₄
MH - 36					
2827	3300	439.4-439.9	0.5	2.860	9.02
-	-	439.9-440.3	0.4	2.761	0.00
2828	3301	440.3-441.2	0.9	3.071	26.38
-	-	441.2-441.8	0.6	2.761	0.00
2829	3302	441.8-443.1	1.3	3.075	26.68
2830	3303	443.1-444.6	1.5	2.986	19.68
-	-	444.6-445.7	1.1	2.761	0.00
2831	3304	445.7-447	1.3	3.192	35.29
2832	3305	447-451	4.0	3.137	31.33
-	-	451-452	1.0	2.761	0.00
2833	3306	452-455	3.0	3.025	22.80
2834	3307	465-467.5	2.5	2.920	14.21
2835	3308	467.5-473.5	6.0	3.578	59.71
2836	3309	473.5-477	3.5	3.559	58.63
2837	3310	477-481	4.0	3.333	44.87
2838	3311	481-483.1	2.1	3.041	24.06
2839	3312	483.1-484.2	1.1	2.777	1.47
2840	3313	484.2-487	2.8	3.014	21.93
2841	3314	487.0-491.5	4.5	2.967	18.13
2842	3315	491.5-494.4	2.9	2.822	5.62
Total			45.00		
Weighted Average				3.133	31.02