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091851

DRILL HOLE RECORD

Hole No.: 6 Inclination: 54° S
 Property: TEA
 Co-ordinates: North _____ East _____

Elevation: _____

Date: July 6, 1986 - July 7, 1986
 Drilled By: Jim Bartlett, Lela Woprowski
 Canon Diamond Drilling
 Logged By: A.W. Mitchell
 Total Depth: _____

DEPTH		SAMPLE RECOVERY	SAMPLE NUMBER	ANALYSES			DESCRIPTION OF MATERIAL DRILLED
FROM	TO			Sp. Gr.	BaSO4	Cond.	
0	10	3%					Bedding 20° from perp to core. Small nodules in argillaceous matrix = 60% Calcareous in part
10	12	15%					do shale layer at bottom with rare nodules
12	14	15%					Massive laminated barite, calcareous
14	19	70	17.5-19	3.25			Massive calcareous barite 1/2" Argillaceous layers at 14 1/2. A 1/2" calcite vein crosscuts core at 18 1/2. Fractured except bottom foot.
19	21	50					Massive to laminated barite calcareous in upper part. Highly broken
21	23	75					Broken laminated to nodular barite Shunged in lower part.
23	24.5	90	23-24.5	4.08			Broken upper 9" Coalescing nodular beds in upper grading into laminated at bottom
24.5	28	85					Laminated barite upper 6" and lower 5" w/ punky brown material including some barite between
28	32	75	27.5-29	4.23	✓	1.5	Punky brown material which partly washed away
			29-31	4.33	✓	2	Massive laminated barite w occasional 1/8" siliceous

4.26
 5.5

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FROM	TO			Sp. Gr.	BeSO4	Cond.	
32	37	90	31-33	4.22	✓		Massive barite, a few laminations
			33-35	3.62			Siderite (?) and calcareous barite at 33
			35-37	3.89			Slumped at 35 with more included argillaceous material. Broken at 36 with punky tan material = 2"
37	42	80	38-39 1/2	4.45	✓	1.3	9" punky tan to gray material (leached carbonate?)
			40-42	3.98			1' massive to minor laminated barite
							4" argillite w/ a few barite veinlets + nodules
							lower 1' slumped, fractured, laminated barite
42	47	95	42-44	4.20	✓	2	Massive laminated barite with red abundant slump features. Red brown and tan punky zones at 42 1/2 (4") 43 (1"). 45-46 mixed barite + punky tan material. 5" Calcareous 44 1/2 + 47
			44-46	3.98			
			46-48	3.90			
47	52	95	48-50	4.23	✓	2	Massive barite widely spaced laminations
			50-52	4.40	✓	2	Calcareous top 2", 5" at 48
52	56 1/2	95	52-54.5	4.06			Massive barite w/ some laminations. Disrupted bedding at 52 (worm tube?) Lower 2' is thick bedded shale with scattered nodules, up to 1/4" across
56.5	61.5	90	56-59	4.16			Massive barite rare laminations. 1" tan punky at 59 and 61.5
			59-61	4.11			

5.5

4.32 *

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FROM	TO			Sp. Gr.	Bo504	Cond.	
61.5	66.5	95	61-63 63-65	4.12 4.32	✓		Calcareous at 62 (4"), 63 1/2 (1") do 2" punky zones at 61.5, 63, 65, and 66.5
66.5	72	90	65-67 67-69	4.15 4.39	✓		do bedding crossed core 15° from perp.
			69-71 71-73	4.40 4.27	✓		Calcareous at 66 1/2 (4"), 66 3/4 (1/2"), 72 (1/2")
72	77	80	73-75 75-78	4.21 4.32	✓		Massive barite punky zone 6" at 74
							Calcareous at 72 (1/2") and on margins of punky zone.
77	82	100					Upper 1' massive barite becoming laminated in lower portion. Remainder black carbonaceous argillite w/ scattered 1/4" layers of nodular barite
							Bedding planes 30° from perp to core. Slickens on bed. plane
82	87	95					Black argillite w/ very finely dissemin. py 2%
87	91	80					do rare barite nodules
91	96	80					do
							Upper 6" argillite with barite nodules increasing downward. Remainder laminated barite w/ 30% argillaceous beds. Lower 6" argillite w/ scattered nodules.
							Small fractures perp. to bedding common
96	101	85	98-101 103-106	3.33 3.28			top 4" argillite. do Remainder calcareous barite(?)
							Large calcite vein at 97. Tan punky material makes 1/2 core 100-106. This zone crosscuts bedding

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FROM	TO			Sp. Gr.	BoS04	Cond.	
101	106	80					Upper 2' pinky tan to red brown material w/ rare barite layers. Remainder massive ls 5" calcite vein @ 106. Bedding 35° from perp to core.
106	111	75					Slumped argillite + calcareous barite w/ crosscutting quartz veinlets in upper 9". Then 4" nodular barite + argillaceous mat followed by 2" breccia zone cemented by quartz. 2" argillite + nodular barite slumped + brecciated in part. Veined with barite. Lower 1' is laminated barite w/ lower 3" pinky red-brown calcareous material.
111	116	85	110.5-113	3.37			Massive calcareous laminated barite. Several calcite veins at 112 up to 1/2" wide.
116	121	90	113-115 115-117 117-119	3.62 4.08 3.56			Massive laminated barite calcareous to 120. 9" calcite vein at 119. Lower 2' higher Sb. Bedding 45° to core. 1" arg layer @ 116
121	126	95	119-121 121-123	3.91 3.90			Massive laminated barite. Several 1" arg. layers in upper 1'. 0.1" calcite vein at 125
126	131	95	123-125 125-127 127-129 129-131	4.18 4.01 4.15 3.98			Broken 125-126. Calcareous layers @ 122, 125, 1260. Massive laminated barite 1/2" pinky layer at 127 1/2. Several small fractures perp. to bed. Calcareous layers at 128, 129, 131.

rem out of core

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FROM	TO			Sp. Gr.	BeSO ₄	Cond.	
131	136	85	131-133	4.26	✓	2	Massive laminated barite. Several 1/2" arg layers in upper 1'. Lowest 4" 50% shale in 1/4" lenses
			133-135.5	4.32	✓	2.5	
136	141	95	136-138	4.30	✓	2	Massive laminated barite. Top 1/4" punky lower 4" slabby
			138-140	4.31	✓	2	
141	146.5	85	140-142	4.34	✓	2	Massive laminated barite 1/4" arg. at 143 1/2" punky material @ 143 1/2" + along one edge of core to 144. Calcareous. 145-146 fract parallels core
			142-144	4.01			
			144-146.5	4.18			
146.5	152	90	148-150	4.19			Upper 6" red brown punky zone. Remainder laminated barite. Vuggy zone with limonite at 151. Laminations chaotic at 152
			150-152	4.25	✓	2	
152	157	90	152-154.5	4.08			Shumped zone at 152. Upper 3' laminated barite becoming more arg. downwards. Lower 2' Argillite with quartz veins perp. to bedding. Scattered nodules bar. 2 4" barite beds just above 157. Calcareous 152-152 1/2
157	162	90					Laminated barite with up to 30% arg mat in parts. Calcite veins 159

10.5' x 3.1" dia

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DEPTH		SAMPLE RECOVERY	SAMPLE NUMBER	ANALYSES			DESCRIPTION OF MATERIAL DRILLED
FROM	TO			Sp. Gr.	BoSO4	Cond.	
175'	177	95					laminated and nodular barite with 40% argillite; barite occurs in bands of several coarsening lenses slump features are common and also contains what looks like argillite rip up clasts. rest of zone Calcareous layers at 176'
177	181	95					cherty argillite as in 163.5-175 with 15% barite layers.
							f.g. pyrite nodules from 180-181.
							gizveins with some calcite subparallel to core axis.
							179-181
181	183	95					laminated and coarsening nodular barite as in 175-177' calcareous at 181'
183	186.25	80					cherty argillite with 5% f.g. pyrite nodules
186.25	187.25	100					laminated barite and argillite as in 175-177'
187.25	188.25	100					cherty argillite w/ 1-2% f.g. pyrite nodules
188.25	193.75	90%	188.5-191	4.21	✓	2.5	laminated barite w/ 15% argillite and minor
			191-193	4.18			limestone. contains some fine grained nodules within the limestone layers and a few slump features.
							4" mottled and fractured zone at 191' Calcareous
193.75	250	90%	193-195	4.00			massive laminated barite w/ 5% argillaceous layers 1/8"-1/4" thick.
			195-197	4.25	✓	2	argillaceous layers up to 2' thick at 195.5', 200.5', 213'.
			197-199	4.27	✓	2	Argillaceous with some fine laminations and wedges

191, 192-195

Calcareous 200-201

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FROM	TO			Sp. Gr.	BaSO4	Cond.	
		6" core lost	199-201	3.98			-No. no and, to check calcareous nature of
		at 212'	201-203	4.29	✓ 2		these appear to be limestone beds at:
			203-205	4.29	✓ 2		for 6" above 222' for 2" at 194'
			205-207	4.31	✓ 2		for 4" below 226'
			207-209	4.35	✓ 2		for 1" above 245'
			209-211	4.03			
			211-213.5	3.85			A zone of intense calcite veining and brecciation
			213.5-216	4.15			occurs from 228' 1/2 to 229' 1/4 for 4" at 221' and
			216-218	4.11			for 4" at 212' and 1" at 216'
			218-221	4.19			
			222-224	4.26	✓ 2		
			224-226	4.28	✓ 2		
			226.5-228.75	4.27	✓ 2		
			230-232	4.13			beds bedding is contorted at: 238' 1/2
			232-234	4.23	✓ 2		
			234-236	4.33	✓ 2		pinkish limestone clay shale and bedded
			236-238	4.15	244-246	3.96	zone of 4" above 240', limestone fine, 233'
			238-240	4.13	246-248	4.10	bedding, coarse grained through zone average: ~30°
			240-242	3.95	248-250	4.15	
			242-244	4.04			
250	252	100%	250-252	3.93			beds laminated to thin bedded interbedded w/ lam.
							to thin bedded black chert argillite - 30% argillite, beds
							of argillite are up to 1/4" thick and contain thin
							quartz tension cracks perpendicular to bedding.
							Small load structures are common in this unit.
							The beds locally consist of fine nodules.
252	255	100%	252-255	4.02			massive laminated beds as in 19375-250' zone
							contact with underlying cherty argillite is gradational

14' 4.25 WA

15.25 4.24

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FROM	TO			Sp. Gr.	Bo504	Cond.	
							bedding is truncated at 255'
255	257 1/4	100%					massive black pyritic chert with chert argillite and
			258-261	4.25	✓	2	bands at top of unit. bedding is contorted at top of
			261-263				unit and contains quartz tension cracks in cherty
							layers. bedding at 30° to core (90° = 11 to core) in
							cherty layers is truncated by bands lamellae at 15°
							c/a at top of unit.
							chert contain 5% m.g. pyrite nodules.
257 1/4	261	90	261-263	3.83			massive laminated to thin bedded chert w/ 5% argillite
			263-265	4.05			lamellae. 1/2" thick chert layers with tension cracks at
			265-267	4.15			267'
			267-269	4.25	✓	2	1/2" zone of chert veining at 264 1/2'
							bands is thin bedded from 262' - 263'
261	269 3/4	100	269.5-272	4.17			black pyritic chert, argillite: upper contact
							gradational, lower contact sharp.
269 3/4	291	95	272-274	4.30	✓	2	bands, laminated, massive with 5-7% argillite
			274-276	4.26	✓	2	seam 1/16" + 1/16" 4" pyritic and banded chert, argillite
			276-278	4.12			at 272' 1" thick chert with gtz filled tension
			279-280	4.16	✓	2	cracks at 274'
			280-282	4.24	✓	2	
			282-284	4.24	✓	2	
			284-286	4.17	✓	2	
			286-288	4.26	✓	2	
			288-290	4.30	✓	2	hematite stained, highly fractured and gtz veined

note: no acid

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FROM	TO			Sp. Gr.	BaSO4	Cond.	
			290-292	4.19			basitic (85%) augillite from 290'-296.5'
			292-294	4.34 ✓			
			294-297	4.12			
			297-298 3/4	4.20 ✓	1.8		maybe limy at 292'
							siliceous basite at 279.5' and from 288 1/4 to 289'
							bedding c/a = 35° clay filled fracture at: 284'
298	298 3/4	100%	299-300	4.17			black pyritic cherty augillite w/ 5% very fine grained disseminated pyrite bedding c/a = 40°
298 3/4	300' 10"	100%					laminated basite w/ 10% augillaceous lamellae upper and lower parts of unit are augillaceous
300' 10"	306' 3"	100	301.5-304.25	4.25 ✓	2.8		black pyritic cherty augillite w/ 10% interfoliation to form dog shaped porous nodules and some lamellae at bottom of unit
301' 3"	306' 1/4	100	304.5-307	4.13			massive medium bedded basite with 1-2% augillite lamellae
306' 1/4	306' 1/2	95					graphitic augillite w/ slickensides on bedding surface
306' 1/2	332'	95	307-309	4.35 ✓	2		massive laminated to medium bedded basite with 2-5% augillite lamellae slightly siliceous at the top and bottom of the section. Syndepositing faults and slumps are common in the bottom 1'
			309-312	4.33 ✓	2		
			312-314	4.37 ✓	322-324	4.38	
			314-316	4.36 ✓	324-326	4.41	
			316-318	4.34 ✓	326-328	4.35	
			318-320	4.32 ✓	328-330	4.28	
			320-322	4.38 ✓	330-332	4.34	

clay filled fracture, 311', 313'

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FROM	TO			Sp. Gr.	Bo504	Cond.	
332	332 1/4	90%					carbonaceous and argill. black argillite w/ 20% large lenticular (1" / 1 1/4") to round (1/4" / 1/4") shaped lenticular nodules.
332 1/4	333 1/4	100					massive laminated barite w/ 5-7% argillite lamellae. barite is slightly siliceous and contains abundant quartz microfractures perpendicular to bedding.
333 1/4	335	90%	335-337				graphitic and pyritic cherty argillite with extremely graphitic lower contact (fractured?) and gradational upper contact. bedding and flaser bedding along upper contact. Central 1' of unit contains 30% quartz veins (veins up to 3" thick) at 45° to core axis. Section
							lenticular shaped seams and rounded barite nodules occur in the top 6" of unit.
335	345 1/2	95%	335-337	4.19			massive laminated to med bedded barite.
			337-339	4.26	✓	2	upper 1 1/2' is cut by several microfaults which offset bedding by 1/4 to 1". The fractures usually contain minor quartz. The barite is siliceous.
			339-341	4.11			
			341-343	4.19			
			343-345.5	4.32	✓	2.5	from 339' to end of section: it is given 341'

4.22 10.5

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FROM	TO			Sp. Gr.	BoSD4	Cond.	
							clay fracture: 344 3/4', 341 3/4'
							possible syndepositional fault offsetting bedding,
							by ~3"-4" near parallel to the core for ~1' at
							344', bedding is also contorted in same area
							bedding c/a: 50°
345 1/2	362	85%					black pyritic chert - cherty argillite - rock was hard
	E04						with slow drilling: upper contact is carbonaceous
							and unit is slightly carbonaceous throughout
							Upper 3' contains 15% lenticular shaped and
							rounded (large to medium sized (up to .1" by
							2" in size) faint nodules which decrease
							in abundance to 2-3% for rest of hole.
							extremely botryoidal core is carbonaceous
							argillite from 357 to 357 1/2 and from 358 1/2 to
							359 1/2 (~85% recovery in these zones)
							rock is strongly quartz veined at:
							346', 352', 359 1/2 & 360 1/2
							bedding c/a: 45°
							acid test uncorrected 57°.