091851

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DRILL HOLE RECORD

Drill Hole No.: 5 Inclination: 52° N 10° E

Property: TEA

Co-ordinates: North _____ East _____

Elevation: _____

Date: July 4 1986 - July 6, 1986

Drilled By: JIM BARTLETT LECH WOOCOWSKI CARON DIAMOND DRILLING

Logged By: A.W. MITCHELL

Total Depth: 202

DEPTH FROM	DEPTH TO	SAMPLE RECOVERY	SAMPLE NUMBER	ANALYSES Sp. Gr.	ANALYSES BaSO4	ANALYSES Cond.	DESCRIPTION OF MATERIAL DRILLED
0	8	0					Black sticky broken shale. (rock bitted)
8	12	16%					Black broken siliceous shale 1 one inch
12	14	55%					Black fractured carbonaceous shale
14	16	85%					" " "
							w/ occasional 1/8" barite nodule
16	20	85					Black siliceous shale becoming more
							carbonaceous in lower foot w Ba nodules up
							to 1/4" across. Some show concentric layering
							Bedding crosses core @ 40° from perpendicular
20	23	95					do highly broken. Nodules increase
							in last 1 foot to 30-40% of rock.
23	27	85					Black shale, highly carbonaceous in part
27	28	20					rare nodules
28	30½	35					Black shale slightly more siliceous One
							layer of coalescing nodules in lower part
30½	32	0					Tricone set casing
32	39	65					Bedding 25° from perpendicular Coalescing
							nodules making 40-70% of rock w/
							carbonaceous or siliceous material remainder
							Vuggy Fe stnd zone @ 36

DRILL HOLE RECORD

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DEPTH FROM	DEPTH TO	SAMPLE RECOVERY	SAMPLE NUMBER	ANALYSES Sp. Gr.	ANALYSES BaSO4	ANALYSES Cond.	DESCRIPTION OF MATERIAL DRILLED
							nodules generally becoming smaller +
							grading into massive barite toward bottom
					2"	1s at 38½	Fractured at bottom w/ possible gypsum(?) on face
39	42	95					1" ls at top Fractured barite - finely laminated
							2" shale seam @ 40
42	46½	95					6" ls at top plumped barite at 42 finely
							laminated. Bedding near perpendicular to hole
							Fractured zone at 42½ containing white
							chalcedony + Fe oxides. 5" ls at 45
							Barite 45½ - 46½ laminated + coalescing nodules
							Fractured at 45½
							Bedding 25° from perp to hole. Finely
							laminated barite
46	51½	98					Finely laminated barite with fracture parallel
				4.17		49-51.5	to hole. Slump features @ 48'. Fracture
							w/ Barite x/s at 48½. Bedding 10° from
							perp. to hole. Several hard siliceous
							layers up to ½" thick

DRILL HOLE RECORD

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Elevation: _____ Total Depth: _____

DEPTH FROM	DEPTH TO	SAMPLE RECOVERY	SAMPLE NUMBER	ANALYSES Sp. Gr.	ANALYSES BaSO4	ANALYSES Cond.	DESCRIPTION OF MATERIAL DRILLED
51½	56½	90		4.15	h	51.5-54.5	Finely laminated barite with numerous 1"
				4.07		54.5-56	siliceous layers containing abundant
							barite-filled fractures. Slump features at 56½
56½	62	90		3.58		56.5-58.5	Fault zone at 57, rock silicified
				3.93		58.5-62	57½ - 3" ls. Bedding 25° from perpendicular
							to hole. 6" massive barite at 58'
							followed by 6" laminated Ba containing
							Ba filled fractures. 9" ls at 61
							laminated barite on last 6"
62	67	85		4.23	✓	5' 62-67	Top 6" is then massive barite w. fine
							laminations. Looks like high grade
67	72	95		4.35	✓	5' 67-72	do becoming slumped in lower 6"
72	77	95		4.37	✓	3' 72-75	do siliceous layer ½" thick at 72
				3.86		75-77	laminated at 76 and limey 76-77
77	82	95		3.94		77-79	Massive to finely laminated to 80½ becoming
				3.88		79-81.25	more laminated then coalescing nodules &
							nodular layers at 81½.
82	85	60					Fault zone at 82½ slickensides evident
							Scattered nodules in upper portion in carbonaceous
							shale which is more siliceous downward

4.37 ave 15'

DRILL HOLE RECORD

Drill Hole No.: 5 Inclination: _____ Date: _____

Property: _____ Drilled By: _____

Co-ordinates: North _____ East _____ Logged By: _____

Elevation: _____ Total Depth: _____

DEPTH FROM	DEPTH TO	SAMPLE RECOVERY	SAMPLE NUMBER	ANALYSES Sp. Gr.	ANALYSES BaSO4	ANALYSES Cond.	DESCRIPTION OF MATERIAL DRILLED
85	90	90					abundant siliceous layers 85-87 coalescing nodular layers 40% of
							rock at top increasing to 80% in
							lower part. 87-90 laminated barite with
							some nodular layers. Frac. parallel to core
90	92	85					Broken laminated barite with several
							½" siliceous layers.
92	96½	95					Massive laminated gray barite 92-94
							94-96½ becoming more argillaceous with
							coalescing nodular beds increasing
							toward 96½
96½	99	95					Nodular barite beds with 40% barite
							at top decreasing to 10% at bottom
							Matrix is black carbonaceous shale
99	104	95					Bedding is 15° from perp. to core.
							Black shale with scattered barite nodules
							@ less than 10% of rock. Becomes highly
							carbonaceous at 102. Dilatant zone
							at 101 has white clay in openings
104	109	85					Black carbonaceous shale. Pyrite nodules
							at 105. Widely scattered barite nodules

DRILL HOLE RECORD

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Co-ordinates: North _____ East _____ Logged By: _____

Elevation: _____ Total Depth: _____

DEPTH FROM	DEPTH TO	SAMPLE RECOVERY	SAMPLE NUMBER	ANALYSES Sp. Gr.	ANALYSES BaSO4	ANALYSES Cond.	DESCRIPTION OF MATERIAL DRILLED
109	112	65					Laminated to nodular barite with abundant argillaceous
							bands. Fracture paralleling core at 110 is
							filled with dickite (?).
112	117	90					112-113 laminated barite w/ several 1" siliceous
							zones + a large dickite (?) filled fracture
				3.58		116.5-119	paralleling the core. Bedding is 10° from
							perpendicular to core.
							113-117 Calcareous laminated barite w/ dickite (?)
117	122	90		3.91		119-121	Calcareous massive barite. Several 1" layers
				3.91		121.5-124	of siliceous material
122	127	90		4.12		124-127.5	122-123 slumped laminated barite
							123-125 broken barite with abundant argillaceous
							layers 125-127 Massive laminated barite
							grading into coalescing nodules. Several
							1" siliceous layers.
127	132	85		4.21	✓	130.5-131.5	127-128 Massive laminated barite
							128-130 Porous punky calcareous zone
							130-131½ laminated barite becoming nodular
							at bottom. Last 2" black shale some ba. nodules
132	133	95					Black shale w scattered nodules.

DRILL HOLE RECORD

Drill Hole No.: TEADOH-5 Inclination: -50° /N 10°

Property:

Co-ordinates: North East

Elevation:

Date: July 6/86

Drilled By: E.C. Coxon Diamond Drilling

Logged By: TG: 133'4" to EOH

Total Depth: 202'

DEPTH FROM	DEPTH TO	SAMPLE RECOVERY	SAMPLE NUMBER	ANALYSES Sp. Gr.	ANALYSES BaSO4	ANALYSES Cond.	DESCRIPTION OF MATERIAL DRILLED
133'4"	179'8"	95%		4.01		134.5-137	[redacted] barite, argillaceous and [redacted] mud bedded in to bedded
							carbonaceous barite; laminated barite with carbonaceous
							shale seams every 1/16" to inch o/a 10°. The argillaceous
							barite only occurs in the upper part of the unit
							[redacted] in the following sections 133'4" - 135'3"
				4.17		137-140	(The unit is correlated with 136'9" - 137'6"
							W.M's coalescing barite nodules 138'10" - 139'5"
							zone) 139'10" - 140'2"
							The remainder of the unit consists of thinly bedded to
							medium bedded barite with some carbonaceous shale
				4.08		140-142.5	seams (1/8" to 1" + several" apart)
							The barite is slightly calcareous locally (6" at 135'3" and
				4.31	✓ 3.5	142.5-147	4" at 148'. The unit is also interbedded with limestone
							in three locations with barite and limestone mostly occurring
							in approximately equal proportions: 5" at 145'
				4.23	✓ 3	149-152	6" at 154'
				4.07		152-154	30% limestone: and from: 175'5" - 178'10" ([redacted])
				4.37	✓ 2	154-156	This limestone is also cut by several thin calcite veins
				4.43	✓ 2	156-158	The barite shows several small sedimentary
				4.33	✓ 2	158-160	deformation features with slumping and flame texture

138.25

DRILL HOLE RECORD

Drill Hole No.: 5 Inclination: _____ Date: _____

Property: _____ Drilled By: _____

Co-ordinates: North _____ East _____ Logged By: TG

Elevation: _____ Total Depth: _____

DEPTH FROM	DEPTH TO	SAMPLE RECOVERY	SAMPLE NUMBER	ANALYSES Sp. Gr.	ANALYSES BaSO4	ANALYSES Cond.	DESCRIPTION OF MATERIAL DRILLED
			8.69	4.34	✓ 2	160-162	A 5" by ½" vertical worm burrow occurs at
			8.06	4.03		162-164	135'3"
			8.68	4.34	✓ 2	164-166	A few thin barite veinlets are present between 149' and end
			8.52	4.26	✓ 2	166-168	of section
			8.54	4.27	✓ 2	168-170	Limonite stained shears at 145'
			8.64	4.32	✓ 2	170-172	149' } near surface fracturing and
			8.58	4.29	✓ 2	172-174	162' } groundwater movement along
			8.60	4.30	✓ 2	174-176	at 162' also dark grey mica fracture
			7.38	3.69		176-178	Tight gypsum fracture surface at 178'8"
179'8"	180'3"	100%	1.09	4.36	✓ .3	179-179.25	massive carbonaceous shale & mudstone with ~25% graphite
180'8"	181'8"	100%					carbonaceous shale with thin lenses of nodular barite
							- 15% nodular barite lenses ; nodules are
							very fine grained & fine grained barite nodules which
							occur as ⅛" - ½" lenses. The nodules coalesce to
							form thin layers.
181'8"	182'10"	100%		4.08		182-182.5	mudstone/limestone probably a barite to calcite lense with
							5% calcite veinlets. The upper 4" contain a 2"
							diameter siltstone barite nodule

ave 4.28 WA
30.5
32.75
30.5
25.75

DRILL HOLE RECORD

Drill Hole No.: 5 Inclination: _____ Date: _____

Property: _____ Drilled By: _____

Co-ordinates: North _____ East _____ Logged By: TC 133'4" to EOH

Elevation: _____ Total Depth: 202'

DEPTH FROM	DEPTH TO	SAMPLE RECOVERY	SAMPLE NUMBER	ANALYSES Sp. Gr.	ANALYSES BaSO4	ANALYSES Cond.	DESCRIPTION OF MATERIAL DRILLED
182'10"	191'3"	85%					carbonaceous shale interbedded with chert which is well bedded
							in places. bedding @ 23°
							The chert beds average 1-3" thick but are
							up to 10" thick. Unit is ~ 30% chert
							Unit contains 10% barite which occurs in
							3 forms (a) very fine grained nodules occurring in seams or in
							180'3" - 191'8"
							2. thin bedded laminated barite interbedded
							with shale in 2.5" bed at 184.6" and a 2" zone
							at 190'. Shows some slumping features
							3. zones of large individual nodules between
							1/8" and 1/2" diameter within both chert and shale
							zones; occurs as follows
							at 186' 10" thick with 5% nodules
							187'6" 7" thick with 10% nodules
							191' 10" thick with 40% nodules
191'3"	202	95%					chert with 10% zoned barite and 10% barite
							seams and nodules
							The barite occurs as individual nodules

DRILL HOLE RECORD

Drill Hole No.: 5 Inclination: _____ Date: _____

Property: _____ Drilled By: _____

Co-ordinates: North _____ East _____ Logged By: TC

Elevation: _____ Total Depth: _____

Grid angle at 202 = 53° uncorrected

DEPTH FROM	DEPTH TO	SAMPLE RECOVERY	SAMPLE NUMBER	ANALYSES Sp. Gr.	ANALYSES BaSO4	ANALYSES Cond.	DESCRIPTION OF MATERIAL DRILLED
							and an overlying zone of fine-grained nodules
							as follows: (fine grained to med. grained)
							at 196': 12" thick occurs as f.g.-m.g. nodules (50%) and
							as thin beds of fine grained nodules interbedded with
							fine grained pyrite (50%) with each bed being 1" thick.
							197½': 2" thick 40% m.g. nodules and coalescing f.g. nodules
							197'8" - 4" thick 40% barite: coalescing nodular seams
							199' - 10" thick 40% barite: laminated zone of
							f.g. nodular barite and a zone of m.g nodules.
							200.7" to 202' - 20% barite occurs predominantly
							as individual M.G nodules in zone with some seams
							of coalesced f.g. nodules this zone contains more
							coalesced nodules
							~~Barite occurs as~~
							pyrite occurs in thin seams (1/16" to 1/8")
							within 10% of the rock. The seams are up to 1" thick
							(196') and contain 50% pyrite. The seams are parallel to
							bedding at 12° (+/- 2°) (parallel to core). Pyrite also occurs as
							m.g individual nodules (up to 1/8" in diameter) within the massive
							clasty zone (202' to 196') Nodular seams = 10% of the rock,