SHEET # 1
Date: June 8/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: 1396.82m Core size: HQ

Hole No: BIG SPRING # 1

Spud date: May 25, 1997 Completed: Aug. 13, 1997

Logged by: Jamie Meyer / Roland Strickland

Depth .	Lithology Description	Fracture / Alteration	Remarks
	Petit Jardin Formation		4
0.00 - 3.32m	Box Dolomitic-Limestone: initially broken pieces, grading into medium grey dolomitic-limestone.	- highly fractured, many sets of calcite veins.	bedding varies from 0* - 15* (from horizontal)
6.70 - 7.84	Dolomitic-limestone with sub-vertical (1-2cm) wide quartz vein.	- high angle fracture	well cemented,
7.84 - 10.0	Dolostone: horizontally, laminated dolostone, mediu grey with irregular light gr	ey   F	very low porosity
	mottled light to medium gre		
10.0 - 11.0	Box 3 Dolostone: medium, broker and yellow stained dolostor some breccia textures, some	ne.	
11.0 - 21.4	Box 4 light and dark grey banded, laminated, mottled, breccia stromatolite zones,		yellow brown staining on some fractures.
	distinct orange/white dolomite/calcite spar		
	Box 5 light grey to white medium crystalline, calcite infilling fractures. irregular, discontinuous, blachert laminae, cavity lining	nck	

SHEET # 2
Date: June 8/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Logged by: Jamie Meyer

Depth		Lithology Description	Fracture / Alteration	Remarks
21.4 - 32.7m	Box 6	Dolostone: light, medium and dark grey dolostone. breccia dominates light grey matrix, more calcitic. some white sparry infilling. dark grey to black chert.		core well cemented low porosity.
	Box 7	laminae appears to line many cavities and coat some fragments. laminated, rounded fragments 2-10cm, stromatolites??		
	Box 8	some less disrupted zones display sub-horizontal bedding minor pyrite.		,
	Box 9 10	mildly calcareous		
32.7 - 45.0m	Box 11 Box 12 13	Dolostone: breccia features and stromatolitic patterns are present, but less common light to medium grey dolostone, slightly calcareous	high angle fractures and yellow/brown staining @32.9,35.3 41.6, and 43.6m	bedding at 36.1 is 30* from horizontal.

SHEET # 3
Date: June 8/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Logged by: <u>Jamie Meyer</u> Drilled by: <u>East Coast Drilling</u>

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Depth		Lithology Description	Fracture / Alteration	Remarks
45.0 - 52.m	Box 14	Dolostone: light to medium grey, mottled, dolostone. minor sparry calcite and pyrite few stromatolites.		@ 51.3 bedding is 25* (from horizontal)
	Box 15	bedding, fragments of laminated dolostone		·
52.0 - 53.4m	Box 15	Dolostone: light grey, mottled dolostone	extreme high angle to vertical fracturing - yellow staining - calcite on fractures	·
53.4 - 58.7m	Box 16	Dolostone: medium grey, variably mottled. 25-60cm zones of massive dolostone with 2-5mm calcite filled vugs, separated by 10-50cm zones of disrupted bedding/brecciaall well cemented, - medium calcite zones.		
58.7 - 61.1	Box 17	Dolostone: medium to massive stromatolitic dolostone.	high angle to vertical calcite filled fractures some yellow/brown staining.	50% very broken core along calcite fractures.

SHEET # 4
Date: June 10/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158 Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Logged by: Jamie Meyer

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Depth		Lithology Description	Fracture / Alteration	Remarks
61.1 - 68.3m	Box 18 Box 19	Dolostone: greenish grey, laminated to stromatolitic dolostone, grading into light and medium grey dolostone (slightly calcitic). medium grey dolostone is massive lightly mottled, and has 2-20cm zones of light grey dolomite, with very even texture, but containing angular fragments of medium grey dolomite.		bedding @ 61.6 is 20* to horizontal very broken core.
68.3 - 72.3m	Box 20 21	Dolostone: medium grey mottled dolostone, with 10-25 cm zones of dark grey, pyritiferous, argillaceous dolostone.	high angle broken fracture@ 62.0m, calcite along fractures	bedding @ 71.3 is 15* to horizontal
72.3 - 82.25	Box 22 Box 23 Box 24	Dolostone: sequence going from dark grey, argillaceous dolostone to medium grey mottled dolostone, with vertical, irregular calcite filled vuggy zones, to medium grey pseudobreccias; to light grey stromatolitic zones, broken up with abundant sparry calcite infilling, to light & medium grey mottled dolostone, and back to dark grey, very argillaceous dolostone.	high angle, yellow brown stained, calcite filled fractures @ 77.5 & 77.7; no staining, but broken at 79m.	continues to be very well cemented with no porosity.  dark grey argillaceous dolomite has perfect horizontal break.

SHEET # 5
Date: June 11/97

Location(NTS.): 2M/4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Logged by: <u>Jamie Meyer</u> Drilled by: <u>East Coast Drilling</u>

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Depth		Lithology Description	Fracture / Alteration	Remarks
82.25 - 85.25m	Box 24	Dolostone: light grey, mottled dolostone with yellow-brown stained calcite lined fractures.		core moderately to extremely broken.
85.25 - 88.0m	Box 25	Dolostone: mottled, medium grey dolostone, grading into dark grey argillaceous dolostone (two sequences)		bedding in dolomitic shale is 20* to horizontal @ 87.7m
88.0 - 95.9m	Box 26 Box 27	vugs & vuggy fractures, small scale breccias, occasional	high angle, calcite lined fractures, broken core @ 88.9, 91.3, 93.2, 94.2m.	badly broken core @ 90.0m
95.9 - 97.7m	Box 28	Dolostone: light grey mottled dolostone, with yellow stained calcite-lined fractures.		broken core through most of this interval.
97.7 - 103.95m	Box 29	Dolostone: medium grey dolostone moderately to slightly calcareous, mottled to brecciated on a small scale. 50cm zones of laminated to banded dolostone with 1-3mm green-grey laminae. burrows, soft sedimentary deformation and stromatolites	high angle fractures and broken core @ 100.7, 101.1 & 101.6m.	bedding@1004m is 15*-20* to horizontal.

SHEET # 6
Date: June 12/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size:HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Logged by: <u>Jamie Meyer</u>
Drilled by: <u>East Coast Drilling</u>

Depth		Lithology Description	Fracture / Alteration	Remarks
103. 85 - 119.04m	Box 30 31 32 33 34	Dolostone: medium grey dolostone, mottled, banded, and at times brecciated.  2mm to 2cm wide vuggy zones up to 10cm long, filled with sparry calcite.	high angle, calcite filled fractures, broken core @ 110.2. 113.6, & 117.6m.	dolostone continues to be well cemented. very low porosity.
119.04-123.2m	Box 35  Box 36	Dolostone: light to medium grey mottled dolostone, pseudobreccias, and zones of calcite - filled vugs.	abundant moderate to high angle calcite- lined fractures, yellow stained and badly broken core through half of this interval staining permeates up to 2cm in some zones.	
123.2 - 130.2m	Box 36 37	Dolostone: light grey, variably mottled dolostone. two zones, 1m each, of yellow grey dolostone, appearing "bleached", accompanying yellow stained fracture.		bedding varies from 5*-15*
130.2-133.99m	Box 38	Dolostone: light to medium grey dolostone, and dark grey dolomitic shale(55cm) irregular patches of dark grey shale in dolostone, calcite filled vugs, worm burrows	high angle fractures, partially open at 131m	bedding in shale is 20*-30* to horizontal
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SHEET # <u>7</u>

Date: <u>June 12/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed: Logged by: Jamie Meyer

Depth		Lithology Description	Fracture / Alteration	Remarks
133.99-141.3m	Box 39 40	Dolostone: initial 3cm, yellow- brown, highly weathered dolostone, indulating bedding plane, with contact ~15* to horizontal. light to medium grey dolostone calcite filled vugs & burrows	high angle fractures with yellow brown staining, particularly in light grey zones. core moderately to badly broken @ 135.85, 137, 139m	bedding averages ~15* to horizontal
141.3 - 147.0m	Box 41 Box 42	Dolostone: medium to medium dark dolostone-initially with dark grey argillaceous patches, very irregular patterns, grading down into even textured arenaceous to argillaceous dolostone. middle section is medium grey, mottled, small, 1-3mm calcite patches, which grades down into darker grey dolostone.	high angle, yellow brown stained fractures, broken core @ 144.2, & 145.6m	
147.0 - 153.29m	Box 43	Dolostone: light to medium dark grey dolostone, irregular shaped vugs and fractures filled with white calcite. dark grey argillaceous dolomite / dolomitic shale, often with abundant pyrite these infillings are up to 7-8cm wide, with breccia textures. interval ends in medium grey dolostone, slightly calcareous 1-3mm calcite filled vugs.	high angle fractures at 149.7-150.2m and at 152.9m (yellow stained)	bedding at end of interval is 10*-15* to horizontal.

SHEET # 8
Date: June 23/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation:30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size:HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Logged by: Jamie Meyer

Depth		Lithology Description	Fracture / Alteration	Remarks
149.76-156.1m	Box 44-B			shale laminae are wavy, but average 5* - 15* from horizontal. very low porosity
156.1 - 159.8m	Box 45  Box 46	Dolostone: light to medium grey dolostone, calcitic at times, initially very disrupted to brecciated. at bottom, extremely fractured and recemented with calcite veins.		
159.8 - 166.63m	Box 47  Box 48	Dolostone: light grey dolostone with lesser medium grey, slightly to moderately calcitic, stylolitic to horizontally laminated in sections. dark grey burrow-like feature near top calcite filled vugs.	very thin, irregular, calcite lined fractures	bedding generally 0*-5* from horizontal

SHEET # 9
Date: June 23/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Logged by: Jamie Meyer

Depth		Lithology Description	Fracture / Alteration	Remarks
166.63 - 171.3m	Box 49	Dolostone: light grey dolostone, mottled to lightly banded	hairline fractures, yellow and white. core still competent.	maytex on core.
171.3 - 172.5m	Box 50	Dolostone: light grey dolostone, faintly banded at least 40cm of light yellow, to bleached grey, crushed dolostone calcite veining common.	moderate to extreme fracturing and crushing of core yellow/brown staining on fractures.	core meterage straightened up in this zone to reflect markers in box.
172.5 - 178.18m	Box 51 Box 52	grey dolostone discontinuous bands of calcite,	moderate to strong fracturing, often yellow stained, calcite lined very steep angles, at times vertical.	
178.18 - 185.35m	Box 53  Box 54	Dolostone: light-medium grey dolostone, finely laminated to mottled. some small scale brecciation in 3cm thick bands occasionally core breaks on very irregular "bumpy" beddings planes, with disseminated pyrite 1-5mm calcite filled vugs, most fractures calcite lined.	high angle fracturing 75* to vertical, and broken core @ 179.1, 183.15, & 184.15 yellow-brown stained, calcite lined.	bedding 0*-5* from horizontal

SHEET # 10 Date: June 24/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Logged by: <u>Jamie Meyer</u> Drilled by: <u>East Coast Drilling</u>

Depth		Lithology Description	Fracture / Alteration	Remarks
185.35 - 186.5m	Box 55	Dolostone: medium grey to almost black dolostone the blackest interval is strongly calcareous and has strong H2S smell when broken, fine crystalline almost shaly on some breaks, but core still massive abundant 1-3mm, white calcite patches near base.		
186.5 - 192.1m	Box 56	Dolostone: medium grey dolostone with 2-8mm wide, green grey shale laminae, spaced 15-90cm shale laminae are often very thin and stylolitic in appearance shale laminae, minor pyrite dolostone is generally fine crystalline, planar laminated to thin wavy bands	core moderately to heavy fractured and broken @ 187,188, 189.3 yellow-brown calcite lined fracture @ 191.1	shale laminae vary from 0* to 30* from horizontal.
192.1 - 198.0m	Box 57 Box 58	laminated to banded, fine to medium crystalline dolostone stylolitic	white, hairline fractures through 50% of interval calcite veins rarely up to 1cm wide, with rock fragments	bedding most commonly 0*-5*, but up to 15* from horizontal.
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SHEET # 11
Date: June 24/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING # 1

Spud date: May 25, 1997 Completed:

Logged by: Jamie Meyer

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Depth	Lithology Description	Fracture / Alteration	Remarks
198.0 - 209.2m	Box Dolostone: medium grey  59 dolostone, quite massive, laminated and stylolitic (every  5-10cm)  Box rose, undulating, green grey	white, 1-8mm wide calcite veins, 70* to vertical, increasing in frequency towards bottom	bedding varies from near horizontal to 20* very low porosity
	shale laminae (1-3mm) in upper portion only' Box generally finely crystalline laminated appearance less obvious near base	hairline calcite veins also increasing towards bottom	
209.2-214.14m	Box duickly changing to dark grey uniform textures quickly changing to strongly medium to very dark mottled increasing frequency of stylolites with depth abundant white calcite-filled vugs and veins burrow textures common much more calcareous with increasing depth several undulating shale laminae.	badly broken core at 210.0, 211.5	bedding harder to see, but in 5*-15* range in shale laminae

SHEET # <u>12</u> Date: <u>June 24/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Logged by: <u>Jamie Meyer</u> Drilled by: <u>East Coast Drilling</u>

Depth		Lithology Description	Fracture / Alteration	Remarks
214.14-231.8m	Box 64 65 66 67 68	Dolostone: medium to dark grey almost black at times moderately to highly calcareous variably mottled, burrowed and occasionally breccia textures stylolites in medium grey intervals argillaceous in black intervals well cemented, white calcite veins veins 75* to vertical, typically pinching out 1-5mm white calcite, filled vugs sporadic through the interval		bedding generally sub-horizontal only moderate H2S smell on fresh breaks very low porosity
231.8m - 241.12m	Box 69 70 71 72	Dolostone: medium to dark grey dolostone, slightly calcareous 1-4cm bands of graded, oolitic dolomite wavy bedding planes (at times very massive, no visible bedding)	calcite veining at high angles, to vertical extreme fracturing of core @ 232.7,237, 238.5, 239.5 (50-100cm intervals)	bedding varies from o*-15* (from horizontal)
241.12 - 242.47m		Dolostone: medium grey dolostone, slightly calcareous abundant, vertically elongated calcite filled vugs	1mm wide, vertical calcite veins, < 1mm, hairline calcite veins @ 70* to horizontal	

SHEET # <u>13</u>
Date: <u>June 24/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Logged by: <u>Jamie Meyer</u> Drilled by: <u>East Coast Drilling</u>

Depth		Lithology Description	Fracture / Alteration	Remarks
242.47 - 247.21m	Box 73  Box 74	Dolostone: light grey dolostone with 1-4mm, dark wavy, discontinuous laminae,(closely spaced) grading into dark grey dolostone, with 2-15mm, very dark bands (argillaceous)	erratic calcite veining intense fracturing and yellow-brown stained fracture planes calcareous @ 243.9 & 244.7 (20 to 50cm intervals)	bedding varies from 0* to 10* from horizontal
247.21 - 256.04m		Dolostone: dark grey, massive to faintly banded, oolitic dolostone 2-4cm argillaceous bands at top of interval	yellow-brown stained calcite coated fractures @ 249.2, 250.0, 250.5, (30-40cm intervals of broken core) much of this interval is broken along 1mm calcite veins @ 255m slickensides @ 250.7	
256.04 - 272.10m	Box 77 78 79 80 81	Dolostone: medium to very dark grey oolitic dolostone, slightly to moderately calcareous faint to moderate, light colored bands & lenses 1-5cm wide, due to white calcite cement darker bands more argillaceous.	extensive vertical fracturing 257 to 259 5, yellow-brown stained calcite from 260 to 263 strong/extensive vertical fracturing associated with vuggy calcite veins, very hackly, crystal lined fractures, breaks @ 60* to horizontal	slight vuggy porosity bedding is 0*-10* from horizontal

SHEET # 14 Date: June 25-26/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Logged by: Jamie Meyer / Roland Strickland

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SHEET # <u>15</u>
Date: <u>June 26/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158 Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size:HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Logged by: Jamie Meyer / Roland Strickland

Depth		Lithology Description	Fracture / Alteration	Remarks
284.29 - 290.43m	Box 87	Limestone: mottled dark and medium grey limestone, speckled with 1-5mm calcite filled vugs pseudobreccia textures with very dark micritic matrix stylolitic to shaly seams, very irregular 1-5cm bands of oolitic limestone, and small intraformational breccias cemented with white calcite.	very little fracturing or veining	very low porosity only faint H2S smell on fresh break relatively horizontal bedding
290.43 - 295.11m	Box 88	Limestone: medium to dark grey limestone oolitic, going into intraformational breccia, (with clasts up to 4cm) and back to mixed oolitic and mottled limestone with abundant calcite filled vugs irregular shale seams and stylolites.		very low porosity relatively horizontal bedding
295.11 - 301.10m	Box 90	Limestone: medium to dark grey oolitic limestone graded beds, 1.0mm to silt, over 1 to 2cm coarse oolites typically cemented with white calcite cross bedded, silt laminations	minor discontinuous, white calcite veins, near vertical.	very low porosity very faint H2S smell generally sub- horizontal bedding.

SHEET # 16 Date: June 26/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Logged by: Jamie Meyer / Roland Strickland

Depth		Lithology Description	Fracture / Alteration	Remarks
295.11 - 301.10m	Box 91	Limestone: curved and discontinuous occasional rip-up clasts		
301.10 - 312.47m	92 93 94	Limestone: interbedded oolitic limestone, medium to very dark grey banded limestone, and limestone with stylolitic to pseudobreccia textures over 75% massive oolitic limestone with white calcite cement and minor silty laminae approximately 15% medium grey stylolitic & pseudobrecciated limestone, with very irregular bedding at times near vertical approximately 10% medium grey, fine grained limestone grading up into dark grey micrite.	minor calcite veining < 1mm to 3mm wide 75* to vertical occasional breaks in core along veins.	i .

SHEET # <u>17</u>
Date: <u>June 27/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
312.47 - 326.75m	Box 95 Box 96 Box 97 Box 98	Limestone: medium grey with very dark grey bands of limestone, weakly stylolitic to pseudobreccia textures, graded bedding throughout. No visible porosity, no shows.  - frequent soft deformational textures.  - 25% massive oolitic limestone, calcite cemented - abundant very dark bands of limestone 1-3 cm wide, with shale partings sub-parallel to bedding.  - abundant very dark bands of limestone.  - frequent well developed stylolites.	- occasional calcite veining at high angles to vertical	bedding varies from 0* - 15* (from horizontal)
326.75 to 331.03m	Box 99 100	Limestone: medium grey, microcrystalline, massive, oolitic, with minor siltstone/limestone interbands.  NVP, No shows.		generally sub- horizontal bedding

SHEET # 18
Date: June 27/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation:30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size:HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Double			/ 41	
Depth 331.03 - 337.60m	Box 101 Box 102	Lithology Description  Limestone: medium grey with abundant very dark grey partings (1-4 mm wide) and dipping 15* to 20* from horizontal. NVP, No shows.  Abundant stylolites with shale partings. Very dark grey banding sub-parallel to bedding.	Fracture / Alteration - calcite bands (5-10mm wide) sub-parallel to bedding.	Remarks bedding varies from 0* - 15* (from horizontal)
337.60 - 340.36m	Box 103	Limestone: medium to dark grey, massive oolitic limestone with minor shale partings, weakly stylolitic.  NVP, No shows.	- occasional calcite veining 75* to vertical.	

SHEET # <u>19</u>
Date: <u>June 28/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
340.36 - 347.27.m	Box 104	limestone bands (5-10mm wide) with 5*-20* dip from horizontal, soft deformation textures common, occasional rip-up clasts.	minor calcite veining 3-5mm wide, 80* to vertical.	bedding varies from 0* to 10* from horizontal.
	Box 105	abundant very dark ribbon limestone bands similar to box 104, slightly argillaceous.		i.
347.27-351.43	Box 105 Box 106	oolitic limestone, cemented with white calcite. well developed stylolitic textures with shale partings.	minor calcite veinlets, discontinuous, near vertical to sub-parallel.	

SHEET # 20 Date: June 28/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
351.43 - 353.0.m	Box 106	very dark grey bands of micritic limestone. NVP, No shows.	extensive core break up from 351.8 to 353m (mechanical)	bedding sub-horizontal
	Box 107	Predominately very dark argillaceous limestone with an oolitic section from 352.21 - 352.98m		
	,			

SHEET # <u>21</u>
Date: <u>July 10/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation:30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed: Logged by: Roland Strickland

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Depth 353.0 - 360.48m	Box 108	Lithology Description  Limestone: very dark grey, massive, micro-crystalline limestone, argillaceous, with frequent interbedded Shale, that is black, sub-fissile, moderately hard, abundant slickensided surfaces, minor flecks of pyrite throughout. NVP, no shows.	Abundant white calcite veining (2-10cm wide), from 353.49-355.99m, showing brecciated textures, with vertical veinlets.	Remarks  Bedding from 0* to 25* from horizontal
360.48 - 367.24m	Box 110	Limestone: massive, dark grey, to grey, with bands of very dark micritic limestone, abundant soft deformational textures, occasional black shale partings, minor disseminated pyrite.  NVP, no shows.	Horizontal white calcite veining at 361.91m (5-10mm wide).	Bedding 0*-10* from horizontal.
367.24 - 371.42m	Box 112 113	Limestone: massive, crystalline, grey, oolitic limestone, cemented with white calcite. Well developed stylolitic textures with black shale partings, and disseminated fine grained pyrite. NVP, no shows.	Minor vertical calcite veinlets.	Bedding 0* - 10* from horizontal.

SHEET # <u>22</u>
Date: <u>July 10/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING # 1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
371.42 - 375.47m	Box 113	Limestone: massive, grey, oolitic limestone, with bands of very dark grey, micritic, ribbon limestone, slightly argillaceous, with well developed stylolites in the oolitic limestone.	Abundant white horizontal calcite veining at 371.94 (2-10mm wide).	Bedding 0*-10* from horizontal.
375.47 - 378.94m	Box 115	Limestone: massive, crystalline grey, oolitic to pisolitic limestone, well cemented with white calcite, well developed stylolitic textures with shale partings, minor disseminated pyrite. NVP, no shows.	Minor calcite veining.	Bedding 0* - 10* from horizontal.
378.94 - 380.87m	Box 115	Limestone: grey to dark grey, micritic, with wavy very dark grey, limestone bands, occasional speckled filled calcite vugs (1-2mm), well developed stylolites with shale partings. NVP, no shows.	Minor calcite veining parallel to bedding (0.5-1cm wide) at 379.36m.	

SHEET # <u>23</u>
Date: <u>July 10/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_ Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
380.87 - 383.89m	Box 116	Limestone: grey, massive, crystalline, oolitic limestone with alternating bands of very dark grey micritic limestone, slightly argillaceous, well developed stylolites with shale partings in massive limestone. Massive white brecciated calcite vein (0.33m wide) at 383.2m. NVP, no shows	Occasional white calcite veins 3-5mm wide at 20* to bedding.	Bedding 0* - 10* from horizontal.
383.89 - 389.73m	Box 117	Limestone: grey to dark grey massive, crystalline, oolitic limestone, very well cemented with white calcite, well developed stylolitic textures with shale partings throughout. NVP, no shows	Minor calcite veining.	

**SHEET #24** Date: July 11/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed: Logged by: Roland Strickland

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Depth		Lithology Description	Fracture / Alteration	Remarks
389.73 - 399.81m	Box 119 120	Limestone: grey to dark grey, massive, crystalline, oolitic to pisolitic limestone, cemented with calcite, well developed stylolitic textures, with shale partings, occasional rip-up clasts, bioturbation, and abundant pisolites. Minor disseminated pyrite.  NVP, no shows.	Minor calcite veining verttical to horizontal.	
399.81 - 404.15m	Box 122 123	Shale: dark grey to black, sub- fissile to fissile, moderately hard, silty and micaceous, minor flecks of pyrite, interbedded with dark grey limestone, with well develpoed fine laminae, frequent slickensided surfaces, occasional mudstone, massive. NVP, no shows.	Minor calcite veining along shale-limestone contacts.	Bedding 10* - 30* from horizontal.
404.15 - 411.12m	Box 123	Limestone: 75% dark grey, micritic limestone, with well developed, fine laminae, occasional cross-bedding, ripup clasts and soft deformational structures.  Shale: 25% interbedded, dark grey shale, sub-fissile, hard, silty, micaceous, minor pyrite.  NVP, no shows.	Abundant white calcite veins, from parallel to bedding to vertical. Some veins are 2-4cm wide At 408.62-408.77m small calcite vugs filled with crystalline calcite.	Bedding 0* - 10* from horizontal.

SHEET # <u>25</u>
Date: <u>July 11/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

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Depth		Lithology Description	Fracture / Alteration	Remarks
404.15 - 411.12m	Box 125	At 409.99 - 411.2m limestone more massive, oolitic - pisolitic with minor calcite		÷
411.12 - 414.34m	Box 125	Shale-Siltstone: 60% dark grey, sub-fissile, hard, silty, calcareous, slightly micaceous. Dolomitic-Limestone: 40% grey, interbedded with shale, micritic, slightly argillaceous, cross-bedding features, fine laminae Frequent alternating bands of very dark grey-grey limestone dolomite. NVP, no shows.		Bedding 0* - 10* from horizontal.
414.34 - 422.84m	Box 126	Limestone: dark grey to grey bands of micritic limestone, with abundant shale partings, fine laminae, frequent intraclasts, occasional bioturbation, minor stylolites and disseminated pyrite. Increase in very dark grey limestone, slightly argillaceous from 419.29-420.22m White calcite vein 15cm wide at 421.87m, parallel to bedding. Abundant shale partings in the banded limestone.	Frequent calcite veining from 1-5cm wide, generally parallel to bedding. Brecciation common in the 4-5cm wide veins at 419.72 and 421.87m	Bedding 0* - 20* from hirizontal.

SHEET # 26 Date: July 11-12/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING # 1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
422.84 - 429.91m	Box 129	Limestone: crystalline, grey, massive oolitic limestone with minor stylolitic textures and shale partings, minor flecks of pyrite.  From 429.25-429.91m limestone is grey, micritic with bands of dark grey limestone, soft deformation structures with intraclast common.  NVP, no shows	Minor calcite veining.	Tomarks
429.91 - 434.33m	Box 130 131 132	Dolostone: very dark grey, micritic dolostone, with a fine laminae, slightly argillaceous, with shale partings common. NVP, no shows. From 433.43-434.33m dolostone becomes more calcareous, with increase in calcite veining both parallel and vertical to bedding, increase in shale partings	Occasional calcite veins parallel to bedding.  Calcite veining from 433.94 - 434.17	Bedding 10* - 30* from horizontal.
434.33 - 440.37m	Box 132	Limestone: massive crystalline grey, oolitic-pisolitic limestone, weakly stylolitic, minor shale partings, occasional intraclasts, minor fine grained pyrite. From 434.33-435.25m micritic with abundant calcite veining. NVP, no shows.	Calcite veining parallel and vertical to bedding from 434.63 - 439.12m	

SHEET # <u>27</u>
Date: <u>July 12/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING # 1

Spud date: May 25, 1997 Completed:

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Depth	Lithology Description F		Fracture / Alteration	Remarks
440.37 - 443.5m	Box 134	Dolostone: dark grey, micritic, with fine laminae, slightly calcareous. Abundant white calcite veining throughout with common veinlets of pyrite, frequent shale partings.  NVP, no shows.	Abundant white calcite veining parallel and vertical to bedding. Brecciation and micro-faulting and small scale folding common	Bedding 10* - 30* from horizontal.
443.5 - 453.96m	Box 135	massive, micritic limestone, occasionally dolomitic, with a fine laminae, slightly argillaceous. Abundant calcite veining from 443.5-444.45m From 444.45 to 450.62m very dark grey limestone with minor calcite parallel to bedding, increase in shale partings.	White calcite veining from 443.5-444.45, brecciated with small scale faulting.	Bedding 10* - 30* from horizontal.
	137	NVP, no shows. From 450.62-453.96m dark grey micritic limestone interbedded with dolostone, frequent shale partings, occasional intraclasts, frequent alternating bands of grey to dark grey limestone with fine laminae, speckled white calcite blebs throughout.  NVP, no shows	Abundant white calcite veining at 451.45-452.08m parallel to bedding  At 453.6m calcite veining 1-2cm wide parallel to bedding.	Bedding 20* - 30* from horizontal.

SHEET # 28 Date: July 13/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
453.96 - 461.12m	138   1   139   1   140   i	Limestone: grey to dark grey micritic limestone with alternating wavy bands of black to dark grey, micritic dolostone, frequent shale partings, intraclasts, bed slumping, and soft deformation common.  NVP, no shows	Abundant white calcite veining (0.5-1.5cm wide) throughout, both parallel and near vertical to bedding. Frequent micro-faulting and folding, minor brecciation.	Bedding 20* - 30* from horizontal.
461.12 - 475.63m	140   1 141   1 142   1 143   1 144   8	Limestone: grey to dark grey, massive, crystalline, bioturbated intraformational conglomerate, limestone. Frequent black, argillaceous rims surrounding the limestone, minor very fine grained pyrite, occasional stylolites with shale partings. NVP, no shows	Minor calcite veining	
475.63 - 481.05m	144	Limestone: grey to dark grey micritic limestone, interbedded with black to dark grey wavy bands(2-3cm wide) micritic dolostone. Argillaceous, frequent black shale partings, soft deformation structures common, stromatolitic at 480.19m, rip-up clasts, crossbedding, & graded bedding common.  NVP, no shows.	Abundant white calcite veining both parallel to near vertical to bedding. Abundant microfaulting and folding, with brecciation common.	Bedding 20* - 30* from horizontal.

SHEET # <u>29</u>
Date: July 13/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size:HQ

Hole No: BIG SPRING # 1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
481.05 - 484.73m	Box 146	Dolostone - Siltstone: black to dark grey, micritic, dolostone, interbedded with brown grey fine grained siltstone, well indurated & slightly calcareous. Occasionally intraclastic with large rip-up clasts. Grey micritic limestone with shale partings from 484.32-484.73m.	Abundant white calcite veining up to 2cm wide. Brecciation common throughout.	Bedding 10* - 20* from horizontal.
484.73 - 486.19m	Box 147	Limestone: grey, massive, crystalline, oolitic limestone, with well developed stylolitic texture. NVP, no shows.	minor calcite veining	
486.19 - 491.26m	Box 147	Limestone - Dolostone: grey, micritic limestone, interbedded with black-grey micritic dolostone. Fine laminae, abundant soft deformation structures, occasional intraformational conglomerate limestone, frequent shale partings, minor fine grained pyrite. NVP, no shows.	Abundant white calcite veining, (0.5-3cm wide), parallel to near vertical to bedding. At 489.36-490.46m intense small scale folding and faulting.	Bedding 20* - 40* from horizontal.

SHEET # 30 Date: <u>July 14/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
491.26 - 493.69m	Box 149	Limestone-Dolostone: dark grey - black, micritic dolomitic limestone, fine laminae, occasional cross-bedding & intraformational conglomerate limestone, minor shale partings. NVP, no shows.	Minor white calcite parallel to bedding.	Bedding 20* - 30* from horizontal.
493.69 - 500.18m	Box 149	Limestone: grey-dark grey, massive, crystalline to micritic limestone. From 493.69-494.67m interbedded with black micritic dolostone, bioturbated & intraformational limestone, minor shale partings. From 494.67-495.84m very dark grey massive oolitic-pisolitic limestone with abundant intraformational limestone. From 495.84-496.96m mainly micritic limestone interbedded with black micritic dolostone, frequent black shale partings, micaceous. From 496.96-500.18m grey micritic to massive limestone, slightly pisolitic, interbedded with black dolostone, intraformational conglomerate common. NVP, no shows.	Minor calcite veining parallel to bedding.	Bedding 20* - 30* from horizontal.

SHEET # <u>31</u>
Date: <u>July 14/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

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Depth		Lithology Description	Fracture / Alteration	Remarks
500.18 - 514.76m	Box	Shale - Siltstone: Shale 70% dark grey - black sub-fissile, hard, blocky, well indurated, slightly calcareous with well developed fine laminae. Siltstone 20% dark grey, massive, interbedded with shale and grey micritic limestone. Frequent micaceous -clay partings, minor fine grained pyrite. Limestone 10% From 500.32-500.85m limestone stromatolitic with intraclasts. NVP, no shows.	Abundant white calcite veining both parallel and near vertical to bedding. Extensive brecciation at 501.33m & from 507.63-508.91m.	Bedding 20* - 40* from horizontal.

SHEET # <u>32</u> Date: <u>July 15/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
514.7-517.65m	Box 157	Shale: dark grey, black, sub- fissile to fissile, hard, indurated slightly calcareous, well developed fine laminae, frequent micaceous-phyllitic partings, minor pyrite, fossil fragments @ 515.31m. NVP, no shows.	Abundant white calcite veining predominately parallel to bedding. Brecciation with micro-folding and faulting throughout.	Bedding 20* - 30* from horizontal
517.65 - 522.37m	Box 158 159	Limestone: grey to dark grey, massive, crystalline, intraformational conglomerate, bioturbated, minor slumping. fossil fragments @ 518.31m, minor shale partings. NVP, no shows.	Minor calcite veining parallel to bedding.	
522.37 - 524.6m	Box 159	Limestone - Shale: grey micritic limestone, interbedded with black fissile to sub-fissile shale, hard and indurated. Cross-bedding and soft deformation common, minor pyrite. NVP, no shows.	Minor calcite veining parallel to bedding.	Bedding 20* - 30* from horizontal.
524.6 - 536.85m	Box 159 160 161	Limestone: grey to dark grey, massive, crystalline to micritic, intraformational conglomerate limestone, bonded by a matrix of black carbonate mud, intraclastic, bioturbated,	Minor calcite veining parallel to bedding.	,

**SHEET #33** Date: July 15/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_ Core size: HQ

Hole No:BIG SPRING #1

Logged by: Roland Strickland
Drilled by: East Coast Drilling

Spud date: May 25, 1997 Completed:

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Depth		Lithology Description	Fracture / Alteration	Remarks
524.6 - 536.85m	Box 162	Limestone: with occasional shale partings. NVP, no shows		
536.85 - 540.39m	Box 163	Limestone - Shale: grey - light grey, micritic, limestone, interbedded with black fissile -sub-fissile shale, hard, indurated, slightly calcareous, cross-bedding, slump beds and soft deformation common, occasional rip-up clasts. NVP, no shows.	Minor calcite veining parallel to bedding, micro-faulting common.	Bedding 10* -30* from horizontal.
540.39 - 545.83m	Box	Limestone: grey to light grey, micritic, abundant intraformational conglomerate limestone bonded by a matrix of black carbonate mud with frequent rip-up clasts.  Large intraclasts up to 3cm in diameter, frequent interbedding of black shale, hard, indurated. Shale partings common, occasional fine grained pyrite. NVP, no shows.	Minor calcite veining with small scale folding and faulting.	Bedding 20* - 30* from horizontal.

SHEET # <u>34</u>
Date: <u>July 16/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation:30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_\_Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

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Depth		Lithology Description	Fracture / Alteration	Remarks
545.83 - 550.4m	Box 166 167	Shale: black, fissile-sub-fissile, hard, indurated, well developed fine laminae, interbedded with light grey limestone, soft deformation common, occasional intraclasts.  NVP, no shows.	Abundant white calcite veining from 1 -2cm wide, parallel to near vertical to bedding, frequent micro-folding & faulting.	Bedding 30* - 40* from horizontal.
550.4 - 555.52m	Box 167	Limestone: grey, micritic, intraformational conglomerate limestone, bonded by a matrix of black calcareous carbonate mud. Abundant shale partings with frequent interbedded black shale.  From 554.17-555.52m predominately black shale with occasional intraformational limestone. At 553.65m minor fossil fragments, occasional intraclasts. NVP, no shows.	Occasional calcite veining parallel to bedding, up to (6cm wide), brecciation common.	
555.52 - 566.07m	Box 169	Limestone 60% - Shale 40% grey to light grey micritic intraformational conglomerate limestone, bonded with black carbonate muds, interbedded with black fissile to sub-fissile shale. NVP, no shows.  From 558.89-562.39m, black sub-fissile shale	Frequent calcite veining parallel to near vertical to bedding.	Bedding 10* -40* from horizontal.

SHEET # <u>35</u>
Date: <u>July 16/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation:30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size:HQ

Hole No: BIG SPRING # 1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
555.52 - 566.07	Box 170	From 558.89-562.39m mainly black shale, minor pyrite, interbedded with dark grey limestone, intraclastic, with fossil fragments.		
	171	From 562.39-563.28m abundant intraformational conglomerate, with intraclasts up to 3cm in diameter. From 563.28-564.08m black fissile shale.		
	172	From 564.08-566.07m mainly intraformational conglomerate, light grey limestone, bioturbated, burrowed limestone with fossil fragments @ 565.45m, occasional rip-up clasts.		
566.07 - 570.42m	Box 172 173	Limestone: dark grey, massive limestone, cemented with a matrix of black carbonate muds, fossil fragments throughout this section, minor pyrite, occasional black shale partings. NVP, no shows.	Frequent white calcite veining parallel to near vertical to bedding, up to 10cm wide. Brecciation at 569.52-570.42m.	

SHEET # <u>36</u>
Date: <u>July 16/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

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Depth		Lithology Description	Fracture / Alteration	Remarks
570.42 - 576.22m	Box 173 174 175	Shale - Limestone: black fissile-sub-fissile, hard, laminated shale, with interbedded limestone(0.5-2cm wide), light grey, micritic. NVP, no shows.	Abundant white calcite veining, mainly parallel to bedding. Some parallel veins @ 575.93 are 15cm wide. Abundant micro faulting and folding in the white calcite veinlets.	
576.22 - 581.76m	Box 175	Limestone: grey to light grey micritic, intraformational conglomerate limestone, bonded by a matrix of black calcareous carbonate muds, intraclastic, occasional fine grained pyrite, abundant shale partings. NVP, no shows.	Minor calcite veining.	
581.76 - 587.38m	Box 177 178	Shale 70% - Limestone 30% black fissile-sub-fissile, laminated, hard shale, interbedded with light grey micritic limestone, intraclastic, fine laminae, with abundant micro-faulting and folding, cross-bedding & slump beds common, fine grained pyrite throughout. NVP, no shows.	Abundant white calcite veining mainly parallel to bedding. Numerous microfolding and faulting features. Brecciation @ 585.56-585.98m	

SHEET # <u>37</u>
Date: <u>July 17/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING # 1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
587.38 - 601.39m	Box 178	Limestone: 60% - Shale: 40% grey to light grey micritic limestone, with sections of intraformational conglomerate and intraclasts up to 3cm wide, interbedded with black fissile to sub-fissile shale, laminated. NVP, no shows.		
	179	From 587.38-591.07 intraformational conglomerate limestone, with abundant intraclasts and rip-up clasts.	Abundant white calcite veining, parallel to near vertical to bedding. Frequent brecciation with complex microfaulting & folding.	Bedding increase from 20* - 50* from horizontal.
	180	From 591.07-593.26m, grey limestone with black interbedded laminated shale.	Minor calcite veining, mainly parallel to bedding.	Bedding 20* - 30* from horizontal.
	180	From 593.26-594.37m, mainly intraclastic limestone in a matrix of black shale.	Abundant white calcite, parallel to bedding.	Bedding 10* - 20* from horizontal.
	181	From 594.37-599.01m, limestone with black, fine laminated shale.	Occasional calcite veining, up to 3cm wide, mainly parallel to bedding.	Bedding 20* - 40* from horizontal
	182	From 599.01-601.39m, mainly black shale with minor pyrite, interbedded with light grey, micritic limestone, occasional intraclasts.	Frequent calcite veining mainly parallel to bedding, with micro-faulting, folding & brecciation	Bedding 10* - 20* from horizontal.

SHEET # <u>38</u>
Date: <u>July 17/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING # 1

Logged by: Roland Strickland
Drilled by: East Coast Drilling

Spud date: May 25, 1997 Completed:

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Depth		Lithology Description	Fracture / Alteration	Remarks
601.39 - 606.71m	Box 183	Shale: black, sub-fissile, blocky silty, hard, with fine grained pyrite common.  NVP, no shows.	Abundant white calcite veining, parallel and near vertical to bedding, frequent brecciation, micro-faulting and folding.	Bedding 10* - 20* from horizontal
606.71 - 609.92m	Box 184	Shale: 60% - Limestone: 40% black, sub-fissile to blocky shale, interbedded with grey micritic limestone, with intraclasts of light grey limestone up to 5cm in diameter, intraformational conglomerate limestone common, frequent slump beds NVP, no shows.	Frequent white calcite veining mainly parallel to bedding.	Bedding 10* - 30* from horizontal.
609.92 - 614.71m	Box 185	Limestone: light grey to grey micritic limestone, with minor interbedded black shale, frequent intraformational conglomerate limestone. Frequent shale-phyllitic partings. NVP, no shows.	Abundant white calcite veining parallel and near vertical to bedding. Intense brecciation from 610.64-611.46m	Bedding 10* from horizontal.

SHEET # <u>39</u>

Date: July 17-18/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth	Lithology Description		Fracture / Alteration	Remarks
614.71 - 617.03m	Box 186	Limestone: 50% - Shale: 50% grey micritic limestone interbedded with black blocky shale, frequent large rip-up clasts 5cm in diameter. NVP, no shows.	Abundant white calcite brecciation throughout the whole section.	:
617.03 - 621.25m	Box 187	Shale: black, blocky to massive, hard, slaty with frequent rip-up clasts and brecciated fragments of light grey limestone, abundant schistose partings.  Melange type structure.  NVP, no shows.	Intense brecciation of white crystalline to massive calcite throughout the whole section.	Bedding 20* from horizontal.
621.25 - 625.6m	Box 188 189 190	Shale: 60% - Siltstone: 40% black, sub-fissile to blocky, hard, shale interbedded with light grey to buff siltstone, quartz-feldspar rich, very hard, well indurated, slightly calcareous, occasional intraclasts of grey limestone. NVP, no shows.	Abundant white calcite veining parallel and near vertical to bedding. Brecciation throughout.	Bedding 10* - 30* from horizontal.
625.6-633.40m	Box 190	Shale: 70% - Limestone: 20% Siltstone: 10% Predominately black, sub-fissile to blocky, hard shale, interbedded with light grey micritic ribbon limestone and	Abundant calcite veining mainly parallel to bedding. Strongly brecciated from 625.97-627.36m	Bedding 20* - 40* from horizontal.

SHEET # <u>40</u>
Date: <u>July 18-19/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING # 1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
625.6 - 633.40m	Box 190 191 192	Shale: Limestone: Siltstone minor grey-buff, quartz-feldspar rich siltstone, very hard and well indurated. Frequent rip-up clasts and intraclasts of grey limestone. Phyllitic partings very common. NVP, no shows.	Extensive veining from 628.28-629.23m Calcite vein 10cm wide at 629.76m. Micro-faulting and folding common.	Bedding 20* - 40* from horizontal.
633.40 - 645.80	Box 192 193 194 195 196	Limestone: 50% - Shale: 50% grey, micritic limestone, intraformational conglomerate limestone, with intraclasts 5cm in diameter, interbedded black, sub-fissile-blocky, hard shale, frequently slaty to phyllitic, minor pyrite, occasional very fine grained grey-buff siltstone. NVP, no shows.	Abundant calcite veining throughout with brecciated zones from 635.96-636.91m from 637.16-637.57m extensive complex micro-faulting and folding.	Bedding 20* - 30* from horizontal.
645.80 - 654.40m	Box 196 197 198	Shale: 70% - Limestone: 30% black, sub-fissile to blocky, hard, smooth, laminated, slightly calcareous shale, interbedded with thin (3-15mm) wide grey ribbon limestone, occasional intraclasts and rip-up clasts. NVP, no shows.	Frequent calcite veining parallel to near vertical to bedding. Micro- faulting and folding common.	Bedding 30* - 40* from horizontal.

SHEET # <u>41</u>
Date: <u>July 19/97</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
654.40 - 661.66m	Box 198 199 200	Shale: 50% - Siltstone: 40% Limestone: 10% black, blocky to sub-fissile, hard shale, interbedded with siltstone, grey-buff, very hard, indurated, quartz-feldspar rich, bonded in a matrix of black carbonate muds, cross laminated, occasional intraclasts of grey limestone, fossil fragments @ 659.45m NVP, no shows.	Abundant calcite veining mainly vertical to bedding. Intense brecciation from 655.58-656.61m & from 659.45-660.89m. Microfaulting and folding common.	Bedding 20* - 30* from horizontal.
661.66 - 666.51m	Box 201	Shale: black, fissile to sub- fissile, blocky, medium hard, smooth with abundant slickenside partings, micaceous, occasional pyrite, interbedded with grey-buff, very hard, indurated siltstone. Minor ribbon grey micritic limestone NVP, no shows	Frequent calcite veining, parallel to near vertical to bedding.	Bedding 40* - 50* from horizontal.
666.51 - 671.64m	Box 202	Shale: 70% - Limestone: 30% black shale, fissile-sub-fissile, hard, smooth, laminated, interbedded with grey ribbon limestone, minor intraformational conglomerate limestone and intraclasts, some soft deformation, mainly phyllitic partings, minor	Frequent calcite veining, mainly parallel to bedding, minor brecciation, micro-faulting and folding common.	Bedding 30* from horizontal.

SHEET # <u>42</u>

Date: July 19-20/97

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation:30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth			Lithology Description	Fracture / Alteration	Remarks
666.51 - 671.64m (5.13m)	Box 203	Shale: 70% - Limestone: 30% argillaceous. NVP, no shows.			
671.64 - 673.43m (1.79m)	Box 204	Shale: 50% - Limestone: 50% black, sub-fissile to blocky, hard, smooth, dense shale interbanded with light grey micritic limestone up to (0.75m wide) NVP, no shows.	Occasional calcite veining parallel to near vertical to bedding. Micro-folding common.	Bedding 30* from horizontal.	
673.43 - 674.50m (1.07m)	Box 204	Shale: 70% - Limestone: 30% black shale, sub-fissile, hard, cross-laminated, interbedded, with grey ribbon limestone. NVP, no shows,	Calcite veining mainly parallel to bedding.	Bedding 10* - 20* from horizontal.	
674.50 - 683.44m (8.94m)	Box 205 206 207	Shale: black, sub-fissile, hard, occasional slickensides, schistose. Frequent angular sub-rounded clasts of limestone in a matrix of carbonate muds. Brecciated fragments of grey limestone and white crystalline calcite common, minor light grey ribbon limestone. Melange type features. Six(6)cm of fault gouge at 682.89m. NVP, no shows.	Abundant white calcite veining parallel and near vertical to bedding. Brecciation throughout. Frequent complex micro-folding and faulting.	Bedding 30* - 40* from horizontal.	

SHEET # <u>43</u>
Date: <u>July 20, 1997</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
Depth 683.44 - 698.95m (15.51m)	Box 208 209 210 211 212		Frequent white calcite veining from mainly parallel to near vertical to bedding.  Frequent calcite veining parallel to bedding. Occasional calcite veining parallel to bedding. Frequent calcite veining parallel to bedding. Frequent calcite veining parallel to bedding.	

SHEET # <u>44</u>
Date: <u>July 20, 1997</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_ Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

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Depth	Lithology Description		Fracture / Alteration	Remarks
698.95 - 715.64m (16.69m)	Box 213	Shale: black, blocky to fissile, hard to medium hard, occasionally laminated, smooth with frequent slickensides.  NVP, no shows.  From 698.95-702.10m interbedded grey ribbon	Abundant calcite veining parallel to	Bedding 30* from horizontal.
		limestone with rip-up clasts.	near vertical to bedding Micro-faulting and folding.	
	214	From 702.10-704.23m shale, black, blocky-splintery, hard, dense, with an increase in bedding from 30*-60*.	Occasional calcite veining mainly parallel to bedding.	Bedding 60* from horizontal
	214	From 704.23m-706.15m mainly shale, black, blocky with increase brecciated zones of angular fragments of limestone, siltstone and white calcite.	Abundant calcite veining parallel to near vertical to bedding.	Bedding 30* - 50* from horizontal.
	215	From 706.15-714.26m shale, black, sub-fissile to fissile, occasionally splintery,	Frequent calcite veining parallel to near vertical to	Bedding 30* - 50* from horizontal.
	217	waxy along partings, minor ribbon limestones, increase in limestone from 712.22-714.26m banded, intraformational conglomerate, with intraclasts in brecciated zones.	bedding. Minor brecciation throughout.	

SHEET # 45

Date: July 20-21, 1997

Location(NTS.): 2M/4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_\_Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
698.95 - 716.64m (17.69m)	Box 217	From 714.26-716.64, shale, black, blocky, dense, slaty, with silty partings.	Minor calcite veining.	Bedding 40* from horizontal.
716.64 - 718.64m (2.0m)	Box 218	Shale: black, blocky to sub- fissile, smooth to irregular partings, occasional brecciated zones with fragments of limestone, siltstone, and white calcite. NVP, no shows.	Abundant white calcite in a chaotic pattern throughout, complex folding common.	Bedding 40* -50* from horizontal
718.64 - 728.66m (10.02m)	Box	fissile, smooth, shaly to schistose throughout, with interbanded limestone and siltstone and ribbon limestone.		
	219	NVP, no shows. From 718.64 -719.95m intraformational conglomerate limestone, rounded fragments of siltstone, rip-up clasts, occasional cross-bedding and soft deformation features.	Occasional white calcite parallel to near vertical to bedding.	Bedding 40* from horizontal
	219	From 719.95-722.06 shale, laminated, waxy to silty partings, with grey ribbon and parted limestone.	Minor calcite veining mainly parallel to bedding.	Bedding 30* - 40* from horizontal.
	220	From 722.06-726.13m, black shale, waxy-micaceous partings with occasional brecciated fragments of limestone, siltstone and white calcite.	Frequent white calcite veining, mainly near vertical to bedding.	Bedding 30* from horizontal.

SHEET # <u>46</u>
Date: July 21, 1997

Location(NTS.): 2M/4

UTM Cood: N 5664039, E 572158

Elevation:30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size:HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
	Box 221	From 726.13 - 728.66m shale, black, hard, dense, blocky to sub-fissile, slaty with greasy partings	Minor white calcite veining.	
728.66 - 731.62m (2.96m)	Box 222	Shale: 70% - Ribbon Limestone: 30% black shale, sub-fissile, hard, laminated and cross-laminated, with grey ribbon limestone. NVP, no shows.	Abundant white calcite veining, mainly parallel to bedding.	Bedding 10* - 20* from horizontal.
731.62 - 733.84m (2.22m)	Box 223	Melange Zone: Shale, black, blocky, slaty, with brecciated fragments of siltstone and limestone bonded in a matrix of black carbonate muds and crystalline calcite, schistose slickensides common.	Abundant white calcite brecciation, with calcite vein 19cm wide @ 732.62m, chaotic structures throughout.	Bedding 30* from horizontal.
733.84 - 738.78m (4.94m)	Box 224	Shale: black, sub-fissile to blocky, hard, dense, slightly laminated and calcareous, slaty, smooth, greasy partings, minor brecciated zone of limestone and white calcite @ 738.37m NVP, no shows.	Minor calcite veining parallel to bedding.	Bedding 20* - 30* from horizontal.

SHEET # <u>47</u>

Date: July 21-22, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_\_Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
738.78 - 742.47m (3.01m)	Box 225	Limestone: grey, intraformational conglomerate limestone, bonded in a matrix of black carbonate muds, soft deformation structures common, parted black, greasy, shale throughout. NVP, no shows.	Calcite vein 15cm wide @ 738.79. Minor veining, mainly parallel to bedding.	Bedding 20* - 30* from horizontal
742.47 - 747.87m (5.40m)	Box 226	Shale: - Ribbon Limestone: black, blocky to sub-fissile, hard, dense, finely laminated, slickensided, greasy, micaceous partings common, minor pyrite, occasional thin bedded ribbon and nodular limestone, with rip-up clasts. NVP, no shows.	Abundant white calcite veinlets in a chaotic appearance.	Bedding 30* - 40* from horizontal.
747.87 - 752.00m (4.13m)	Box 228	Limestone: 70% - Shale: 30% dark grey, micritic, nodular bedded limestone, with abundant black shale partings, cross laminations common, from 749.41-750.17m, blocky, dense shale.  NVP, no shows.	Abundant calcite veining parallel and near vertical to bedding. Brecciation 0.26m wide @ 749.08m & 0.32m wide @ 750.91m	

SHEET # <u>48</u>
Date: <u>July 22, 1997</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

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	Depth		Lithology Description	Fracture / Alteration	Remarks
Agent from the first	752.00 - 754.13m (2.13m)	Box 229		Minor calcite veining mainly parallel to bedding.	Bedding 50* from horizontal.
	754.13 - 756.72m (2.59m)	Box 229	Limestone: 70% - Shale: 30% grey, micritic, nodular bedded limestone, with interbedded and parted black shale, waxy slickensides common. Intense brecciation, with fragments of limestone throughout. NVP, no shows.	Abundant white calcite veining parallel to near vertical to bedding. Abundant microfaulting and folding.	Bedding 30*- 40* from horizontal.
	756.72 - 764.55m (7.83m)	Box 230 231 232	Limestone: light grey, massive, micritic, stylo-nodular to ribbon limestone, with occasional rounded clasts of crystalline limestone, 2-3mm in diameter, minor shale-schistose partings. From 761.82-762.37m, black shale with ribbon and parted limestone.  NVP, no shows.	Minor calcite veining parallel to bedding.	Bedding 20* from horizontal

SHEET # 49

Date: July 22-23, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size:HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth	Lithology Description	Fracture / Alteration	Remarks
764.55 - 766.30m (1.75m)	Box 232 Limestone: 80% - Shale: 20% grey, micritic, ribbon limestone stylo-nodular bedding, cross-laminated, with black shale, greasy -micaceous partings. NVP, no shows.	Frequent calcite veining parallel and near vertical to bedding. Calcite vein @765.22m, 11cm wide. Brecciation throughout.	Bedding 20* -30* from horizontal.
766.30 - 771.42m (5.12m)	Box Limestone: 60% - Shale: 40% grey microcrystalline to crystalline limestone, ribbon to nodular, cross-laminated to interbedded, with black, sub fissile, medium hard, shale, slump folded, smooth, waxy partings.  Oolitic limestone 0.2m wide @ 766.30m and 0.29m wide @ 771.13m.  Mainly black shale from 770.50-770.89m.  NVP, no shows.	Frequent calcite veining mainly parallel to bedding.	Bedding 10* -20* from horizontal.
771.42 - 772.81m (1.39m)	Box Limestone: grey, massive, micritic, nodular bedded with very thin partings of black shale, minor slump beds, oolitic @ 771.42 (0.34m wide) NVP, no shows.	Minor calcite veining mainly parallel to bedding.	Bedding 20* -30* from horizontal.

SHEET # <u>50</u> Date: <u>July 23, 1997</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_ Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
772.81 - 774.87 (2.06)	Box 235	Shale: 70% - Limestone: 30% black, sub-fissile, hard, dense, very fine laminae, slump folded, greasy argillaceous partings, interbedded with grey micritic limestone, slightly nodular, thinly to cross-bedded, rip-up clasts. NVP, no shows.	Abundant calcite veining mainly parallel to bedding, micro-folding and faulting common.	Bedding 20* -30* from horizontal.
774.87 - 778.23m (3.36)	Box 236	Limestone: dark grey, micritic, parted limestone, slightly ribbon, with very thin, smooth, waxy, parted black shale, laminated and cross laminated features common.  NVP, no shows.	Calcite brecciation @774.86m (0.28m wide), minor veining parallel to bedding.	Bedding 40* -50* from horizontal.
778.23 - 781.64m (3.41m)	Box 237	Limestone: dark grey, micritic, ribbon limestone, slightly nodular, with very fine laminated to interbedded black shale. Oolitic section @779.27m, (0.29m wide) NVP, no shows.	Highly fractured and brecciated, with white calcite parallel to near vertical to bedding. Intense brecciation @779.04m (0.35m wide).	Bedding 30* -40* from horizontal.

SHEET # 51 Date: July 23, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_ Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

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Depth		Lithology Description	Fracture / Alteration	Remarks
781.64 - 786.0 (4.37m)	01m Box 238	Limestone: 40% - Shale: 60% dark grey micritic to crystalline limestone, interbedded with black fissile to sub-fissile hard shale, laminated and cross laminated, slump beds common, oolitic section @ 784.59m (0.23m wide). NVP, no shows.	Abundant calcite veining in a chaotic appearance. Brecciation throughout. Small fault zone with calcareous argillaceous muds @ 781.98m, 0.10m wide, and @ 782.57m 0.20m wide. Calcite vein @ 782.57m, 0.19m wide.	
786.01 - 787.9 (1.93m)	94m Box 239	Limestone: grey, micritic to crystalline, massive, with minor interbedded black shale, fossil fragments @786.59.  NVP, no shows.	Frequent calcite veining parallel to near vertical to bedding. Brecciation @786.85m (0.22m wide.)	Bedding 30* -40* from horizontal.
787.94 - 793.2 (5.32m)		Shale: black, hard, dense, blocky to splintery, slaty, minor pyrite, silty partings interbedded with grey limestone (up to 6cm wide),parted limestone, laminated to cross laminated from 791.92-793.00m. NVP, no shows.	Occasional calcite veining mainly parallel to bedding.	Bedding 20* -30* from horizontal.

SHEET # <u>52</u>

Date: July 23-24, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

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Depth 793.26 - 797.90m (3.93m)	Box 242	Lithology Description  Limestone: dark grey, massive, very hard, indurated, coarse crystalline, oolitic limestone, slightly stylolitic with very irregular partings.	Fracture / Alteration Frequent calcite veining parallel to near vertical to bedding.	Remarks  Bedding 10* -20* from horizontal.
NOTE: DEPTH CORRECTION FROM 798.69 -		NVP, no shows.		
794.48 - 798.02m (3.97m)	Box 243	Limestone: 70% - Shale: 30% grey, micritic, ribbon limestone with interbedded and thin parted shale, laminated and cross laminated, rip-up clasts common, slaty partings.	Calcite veining mainly parallel to bedding, up to 5cm wide.	Bedding 10* -20* from horizontal.
798.02 - 805.42m (7.40)	Box 244	NVP, no shows.  Limestone: 60% - Argillite: 40% grey to black, micro-crystalline to crystalline, stromatolitic limestone(mounds up to 1.49m) interbedded with grey-green massive argillite, up to 0.53m wide hard, indurated, minor pyrite. At 799.83 pisolitic section 0.29m wide. Frequent argillaceous partings, with splintery and slaty partings. NVP, no shows.	veining, chaotic throughout, with	Bedding 20* -30* from horizontal.

SHEET # <u>53</u>

Date: July 24-25, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

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Depth		Lithology Description	Fracture / Alteration	Remarks
805.42 - 809.41m (3.99m)	Box 246	Limestone: 70% - Shale: 30% grey, dark grey, micritic to crystalline, brecciated limestone, interbedded with black shale, hard blocky to subfissile, with smooth silky to silty partings. NVP, no shows.	Brecciated with dark grey to light grey angular fragments of limestone and occasional argillite fragments, cemented with calcite @ 805.4m ,1.24m wide, and @ 808.74m 0.69m wide.	Bedding 20* from horizontal.
809.41 - 810.63m (1.22m)	Box 247	Limestone: dark grey to black, micritic, massive, with frequent bird's eye white calcite, occasional fine grained pyrite, paper thin shale partings, silty to micaceous appearance.  NVP, no shows.	Minor hairline calcite veining parallel to bedding.	Bedding 20* - 30* from horizontal.
810.63 - 813.49m (2.86)	Box 248	Argillite: grey-green, mssive, hard, indurated, with occasional fine grained and cubic pyrite. Frequent silty partings. NVP, no shows.	Very minor calcite veining.	Bedding 20* - 30* from horizontal.
813.49 - 831.38m (17.89m)	Box 249 250 251	Limestone: dark grey to black, crystalline to coarse crystalline, massive, oolitic limestone, with well developed stylolitic structures. Pisolitic from 813.62-814.76m, occasional intraclasts.	Minor calcite veining parallel and near vertical to bedding. Brecciation @ 817.82m, 0.46m wide.	Bedding 20* - 40* from horizontal.

SHEET # <u>54</u> Date: <u>July 25, 1997</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_ Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
813.49 - 831.38m (17.89m)	Box 252 253	Limestone: Frequent stylolitic partings, very irregular, sandy to silty. Occasional micritic massive light grey limestone, with paper thin shale partings. NVP, no shows.	From 830.63-831.38 calcite veins perpendicular to bedding.	
831.38 - 837.25m (5.87m)	Box 254 255	Limestone: grey to dark grey, micro-crystalline to crystalline, massive, very ribbon thin limestone, with paper thin black shale partings. Frequent oolitic sections up to 0.44m wide, occasional irregular schistose partings. NVP, no shows.	Minor white calcite veinlets.	Bedding 30* - 40* from horizontal.
837.25 - 841.12m (3.87m)	Box 256	Limestone: 70% - Shale: 30% grey to dark grey, crypto-crystalline to micro-crystalline, massive limestone, slightly dolomitic, interbedded with black shale, blocky to platy, hard, dense, with minor pyrite, silty-schistose partings. NVP, no shows.	Frequent calcite veining parallel to bedding, also chaotic calcite appearance throughout. Microfaulting and folding only in the black shale.	Bedding 30* - 40* from horizontal

SHEET # <u>55</u>

Date: July 25-26, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING # 1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
841.12 - 842.92m (1.80m)	Box 257	Shale: Black, blocky to platy, dense, silty partings. NVP, no shows.	Intense brecciation from 841.49-842.92m with fragments of limestone and argillite. Abundant white calcite, with micro-faulting and folding.	
842.92 - 846.84m (3.92m)	Box 258	Limestone: Dark grey, micro-crystalline to crypto-crystalline, massive, hard, indurated, oolitic limestone, with well developed stylolitic structures. Frequent interbedded, micritic very dark grey limestone, with paper thin shale partings, crosslaminated, irregular hackly, schistose partings common. NVP, no shows.	Abundant calcite veining parallel to bedding, slight brecciation from 843.60-844.92m	Bedding 40* - 50* from horizontal.
846.84 - 857.82m (10.98m)	Box 259	Limestone: 60% - Shale: 40% grey to dark grey, micritic to micro-crystalline, stromatolitic limestone, interbedded with black, blocky to sub-fissile, dense shale. NVP, no shows.		

SHEET # <u>56</u> Date: <u>July 26, 1997</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

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Total Depth: Core size:HQ

Hole No: BIG SPRING # 1

Spud date: May 25, 1997 Completed:

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Depth		Lithology Description	Fracture / Alteration	Remarks
846.84 - 857.82m (10.98m)	Box 259	From 846.84-848.94m, limestone with interbedded shale(0.25m wide), with minor pyrite, slightly oolitic. From 848.94-851.10m	Occasional calcite veining with microfolding.	Bedding 40* - 60* from horizontal.  Bedding 40* - 60*
		stromatolitic grey-green limestone, with black shale layering throughout.		from horizontal
		From 851, 10-853, 32m, micritic to slightly onlitic limestone, interbedded with black shale up to (0.23m wide) with minor pyrite.	Minor calcite parallel to near vertical to bedding.	Bedding 30* - 40* from horizontal.
	261	From 853.32-854.76m, black shale, blocky to sub-fissile, hard, dense, calcareous, with frequent cubes of pyrite, platy to silty partings.	Frequent calcite veining, with microfolding.	Bedding 20* - 30* from horizontal.
	ī	From 854.76-856.90m, grey limestone with interbedded black shale, minor pyrite.		
	262	From 856.90-857.67m black shale, calcareous, greasy, argillaceous partings.	Brecciated zone with abundant calcite veining up to (0.11m wide)	Bedding 40* - 50* from horizontal.

SHEET # <u>57</u>

Date: July 26-27, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth	***************************************	Lithology Description	Fracture / Alteration	Remarks
857.82 - 862.42m (4.60m)	Box 263	Limestone: grey micritic limestone, with thin black shale partings, interbedded with dark grey, oolitic limestone (up to 0.37m wide), having well developed stylolitic structures. NVP, no shows.	Minor calcite veining near vertical to bedding.	Bedding 40* from horizontal.
862.42 - 895.85m (33.43)	Box	Limestone: dark grey to black, crypto-crystalline to crystalline, hard, dense, mainly massive to finely laminated.  NVP, no shows.		
	264	From 862.42-867.43m, micritic, intraformational conglomerate limestone, bonded in a matrix of black wavy carbonate muds, slump beds common, interbanded black micritic limestone, up to 1 cm wide and parallel to bedding.	Abundant microfaulting and folding. Minor calcite vein @ 864.44m, 0.06m wide. Frequent microfaulting and folding in the black limestone	Bedding 40* - 50* from horizontal.
	265	From 867.43-869.64m, micro- crystalline to crystalline, massive, occasionally bioturbated, with intraclasts.		Bedding 30* - 40* from horizontal.
	266	From 869.64-870.73m, micro- crystalline limestone with black bands of crypto-crystalline limestone, up to 1 cm wide.	Frequent micro- faulting and folding.	Bedding 40* from horizontal.

SHEET # <u>58</u>

Date: July 27, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_ Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth	Lithology Description	Fracture / Alteration	Remarks
862.42 - 895.85m (33.43m)	Box 267 Limestone: 267 From 870.73 - 875.16m, massive, micro-crystalline to crypto-crystalline, occasionally crystalline limestone, with black bands parallel to bedding.  268 From 875.16-882.78m, dark grey to black, massive, very hard, crypto-crystalline to micro-crystalline limestone, with very thin stylolites running near vertical to bedding, irregular, hackly	Occasional calcite veining.	Bedding 60* from horizontal.
	partings.  270 From 882.78-886.10m, dark grey to black, massive, very hard, crypto-crystalline, occasional stylolites, with black carbonaceous partings.  271 From 886.10-889.36m, very dark grey, micro-crystalline to	Frequent calcite veining with	Bedding 10* from horizontal.  Bedding 10* from horizontal.
	crypto-crystalline, massive limestone, with black wavy crypto-crystalline limestone bands. Well developed stylolites, parallel and near vertical to bedding.	brecciation and tension gashes. Minor micro-faulting and folding.	

SHEET # 59

Date: July 27-28, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
862.42 - 929.06m (66.64m)	Box 272	From 889.36-893.64m Limestone, dark grey, massive, micro-crystalline to crypto-crystalline, very hard, indurated slightly intraformational conglomerate limestone, occasional stylolites, black silty carbonaceous partings.	Frequent tension gashes, filled with black cryptocrystalline limestone.	Bedding 10* -30* from horizontal.
	<ul><li>273</li><li>274</li><li>275</li><li>276</li></ul>	From 893.64-905.20m Oolitic Limestone: coarse crystalline, black, oolitic, very hard, massive, occasional stylolites, with carbonaceous irregular partings.  From 905.20-907.56m Limestone: dark grey to black,	Minor calcite veinlets	Bedding 10* -30* from horizontal.  Bedding from 898.04-904.66m 0* - 10* from horizontal.  Bedding 10* - 20*
	277	micritic, with near vertical tension gashes, filled with crypto-crystalline, black limestone. Frequent stylolites.  From 907.56 - 908.46m Oolitic Limestone: crystalline, dark grey to black, very hard,	Calcite veinlets parallel to bedding.	from horizontal.  Bedding 0* - 10* from horizontal.
,	278	massive.  From 908.46 - 912.40m  Micritic Limestone: dark grey to black,	Minor calcite veining parallel to bedding.	Bedding 0* - 20* from horizontal.

SHEET # <u>60</u>
Date: <u>July 28, 1997</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

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Depth		Lithology Description	Fracture / Alteration	Remarks
862.42 - 929.06m (66.64m)	Box 278	with very well developed near vertical tension gashes filled with cryptocrystalline black limestone.  From 912.40 - 917.23m  Oolitic Limestone: massive dark grey to black, crystalline, very hard.	Frequent calcite veining, mainly parallel to bedding. Occasional tension gashes filled with black crypto- crystalline limestone, cross-cutting calcite veins, near vertical to	Bedding 10* - 20* from horizontal
	280 281 282 283	From 917.23-926.02m Oolitic Limestone: massive dark grey to black, crystalline to micro-crystalline, carbonaceous partings common. From 926.02-927.68m Micritic Limestone: dark grey to black, very hard, alternating	bedding.  Occasional white calcite veining parallel to near vertical to bedding.	Bedding 0* - 10* from horizontal.  Bedding 0* - 10* from horizontal.
		bands of black crypto- crystalline limestone (1cm wide), parallel to bedding, with frequent carbonaceous partings.		

SHEET # 61

Date: July 28-29, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_ Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

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Depth		Lithology Description	Fracture / Alteration	Remarks
862.42 - 931.35m (68.93m)	Box 283 284	From 927.68-931.35m Limestone: light grey, micritic, occasional fine laminae, well developed fine stylolites, common phyllitic slickensided partings.	Abundant white calcite veining, parallel to bedding. Brecciation common throughout.	Bedding 0* - 20* from horizontal
931.35 - 937.99m (6.64m)	Box 285	Limestone: 60% - Shale: 40% grey, micritic, laminated to cross-laminated, medium hard, interbedded with black shale, sub-fissile to blocky, mediumhard, dense, common ribbon limestone, frequent fine grained and cubic pyrite, greasy, platy schistose partings.  NVP, no shows.	Frequent brecciation zones from 933.07- 934.48 & 936.35- 937.68m. Possible melange zone.	Bedding 10* - 30* from horizontal.
937.90 - 944.77m (6.87m)	Box 287	Oolitic Limestone: 100% dark grey to black, massive, crystalline, very hard, well developed stylolites, infilled with black crypto-crystalline limestone, very irregular schistose partings with carbonaceous coatings. NVP, no shows.	Abundant calcite veining from 937.90-938.92m, parallel and vertical to bedding.	Bedding 10* - 20* from horizontal.

SHEET # <u>62</u>

Date: July 29-30, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_ Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Tidhalasa Danairtian	Fracture / Alteration	Remarks
944.70 - 949.65m (4.95m)	Box 288	Lithology Description  Limestone: 100% dark grey, micro-crystalline, massive to nodular bedded with paper thin black shale, irregular hackly partings, with carbonaceous coatings.  NVP, no shows.	Very minor calcite veining.	Bedding 30* from horizontal.
949.65 - 958.69m (9.04m)	Box 290	Oolitic Limestone: dark grey, crystalline, massive, very hard, recrystallized oolites, with well developed stylolites, infilled with black crypto- crystalline limestone, very irregular slaty partings, occasional fine grained pyrite. From 955.40-955.86m, grey micritic limestone, with greasy phyllitic partings. NVP, no shows.	Occasional calcite veining parallel and near vertical to bedding.  Abundant calcite veining, with microfolding and faulting.	Bedding 10* - 20* from horizontal.
958.69 - 976.21m (17.51m)	Box 292 293 294 295 296 297	Limestone: 100% Oolitic, dark grey to black, massive, very hard, crystalline to coarse crystalline, frequent pisolitic intervals up to (0.44m wide), well developed stylolites mainly parallel to bedding, very irregular hackly - slaty partings. NVP, no shows.	Calcite veining parallel and near vertical to bedding. Intense veining @ 968.49-971.78m	Bedding 0* - 20* from horizontal.

SHEET # <u>63</u>

Date: July 30-31, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth of case	Lithology Description	Fracture / Alteration	Remarks
976.21 - 980.58m (4.37m)	Box 298 Shale: 60% - Limestone: 40% Dark grey to grey, slaty to phyllitic, hard, dense, silty-sandy partings, calcareous frequent fine grain & cubic (10mm) pyrite, interbedded with grey micritic limestone, slightly stromatolitic. NVP, no shows.	Very minor calcite veining.	Bedding 10* - 20* from horizontal.
980.58 - 986.62m (6.04m)	Box 299 Ribbon Limestone with Black Shale. Limestone laminated to cross-laminated, frequent intraclasts, and rip-up clasts, bioturbated, with dark grey Shale-Phyllite, paper thin partings up to 10mm wide, platy to smooth, slickensided, occasionally dense, hard, soft deformation common, minor fine grain pyrite, moderately calcareous, intraformational conglomerate, pisolitic interval (0.10m wide) NVP, no shows.	Abundant calcite veining parallel and near vertical to bedding. Intense micro-folding & faulting. Brecciation common.	Bedding 10* - 20* from horizontal.
986.62 - 989.42m (2.80m)	Box Limestone: 100% 301 Grey to grey-green, micritic, slightly dolomitic, stromatolitic with common interbedded dark grey shale,	Minor calcite veining occasional micro- folding. Fault gouge (argillaceous), 0.10m wide @ 986.62m.	Bedding 20* - 30* from horizontal.

SHEET # <u>64</u> Date: <u>July 31, 1997</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

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Depth		Lithology Description	Fracture / Alteration	Remarks
986.62 - 989.42m (2.80m)	Box 301	irregular silty partings, NVP, no shows		
989.42-997.59 (8.08m)	302 303	Ribbon Limestone - with Black Shale grey to dark grey, micritic, limestone, laminated to crosslaminated, frequent intraclasts, rip-up clasts, slightly stromatolitic, interbedded with shale-phyllite, dark grey-black, hard, sub-fissile to blocky, abundant argillaceous partings, with smooth-silky phyllitic partings, fine grained pyrite. At 994.25m, fault gouge, 10mm wide. NVP, no shows.	Frequent calcite veining parallel and near vertical to bedding. Brecciation @ 995.13 & 996.15m	Bedding 10* - 30* from horizontal
997.50 - 1004.61 (7.11m)	Box 304 305	Oolitic Limestone: 100% massive, dark grey, very hard, crystalline to coarse crystalline, occasional pisolites, well developed stylolites, mainly parallel to bedding, with paper thin partings.  NVP, no shows.	Abundant calcite veining parallel and near vertical to bedding. White crystalline calcite veins @ 998.93m (0.09m wide), &, at 999.16m, (0.28m, wide).	Bedding 10* - 30* from horizontal.

SHEET # 65 Date: Aug 1, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation:30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_ Core size:HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
1004.6 - 1014.96m (10.36m)	307 308 309	Oolitic Limestone: massive, dark grey to grey, very hard, crystalline to coarse crystalline, interbedded with micritic, grey limestone, well developed stylolites, with shale partings up to 3mm wide, mainly parallel to bedding, interbedded shale from 1006.17 to 1007.05m. NVP, no shows.	Frequent calcite veining parallel and near vertical to bedding. Brecciation @ 1006.62m (0.44m wide).	
1014.96- 1020.34 (5.38m)	Box 310	Ribbon Limestone: & Black Shale - Phyllite. micritic, grey, laminated to cross-laminated, intraclasts, slightly intraformational conglomerate, interbedded with dark grey to black Shale-Phyllite, hard, dense, hackly-flaky, smooth-waxy partings, soft deformation common, calcareous. NVP, no shows.	Occasional calcite veining, mainly parallel to bedding.	Bedding 20* - 30* from horizontal.
1020.34 - 1023.57 (3.23m)	Box 312	Pisolitic Limestone: grey, micro-crystalline to crystalline, massive, hard, minor stylolites, flaky phyllitic partings common. NVP, no shows.	Occasional white calcite veining parallel to near vertical to bedding. Minor brecciation @ 1021.55m (0.20m wide.	Bedding 20* from horizontal.

SHEET # <u>66</u>
Date: <u>Aug 1, 1997</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
1023.57 - 1027.87 (4.30m)	Box 313	Ribbon Limestone: - Shale - Phyllite: micritic, grey, laminated to cross-laminated, intraclasts, frequent rip-up clasts. shale-phyllite, black to grey, dense, blocky to sub-fissile, minor fine grained pyrite, some soft deformation, smooth argillaceous partings. NVP, no shows	Abundant white calcite veining, with frequent complex micro-faulting and folding. Brecciation @ 1026.47m, (0.52m wide).	from horizontal
1027.87 - 1036.33 (8.46m)	Box 314	Limestone: 60% - Shale: 40% parted and ribbon limestone, dark grey to grey, micritic, intraformational conglomerate, abundant intraclasts & rip-up clasts, stromatolitic @ 1036.56 (0.26m wide), nodular bedding in a matrix of black shale common, slightly dolomitic, interbedded with black shale-phyllite, dark grey, sub-fissile to blocky, hard, dense, slump beds, rhythmitic layering of Limestone-Shale common. NVP, no shows.	Occasional white calcite veining parallel to bedding. Brecciation @ 1030.43m (0.15m wide).	Bedding 30* - 40* from horizontal.

SHEET # <u>67</u> Date: <u>Aug. 2, 1997</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_\_Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
1036.33 - 1047.37 (11.04m)	Box 317	Limestone: 60% - Shale: 40% From 1036.30-1040.65m dark grey limestone, micritic, intraformational conglomerate, Abundant intraclasts & rip-up clasts, slightly stromatolitic, cross-bedding, oolitic @1039.69 (0.34m wide), nodular bedded, interbedded with black shale-phyllite, blocky, flaky-greasy partings, parted limestones common.  From 1040.65-1043.13m limestone, grey, nodular bedded in a martix of black shale.	Abundant white calcite in a chaotic structure. Veining parallel & near vertical to bedding, micro-folding & faulting common.  Minor calcite veining	Bedding 20* - 30* from horizontal.  Bedding 35* from horizontal.
	319	NVP, no shows.  From 1043.13-1047.35m Melange zone: black shale-phyllite & parted limestone. shale-phyllite sub-fissile to blocky, dense, up to 0.63m wide, interbedded with micritic limestone, slightly oolitic, intraclasts & rip-up clasts, occasional nodular bedding.	Abundant white calcite veining. Brecciated throughout with angular fragments in a white carbonate matrix.	

SHEET # 68

Date: Aug. 2, 1997

Location(NTS:): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation:30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size:HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

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Depth	Lithology Description	Fracture / Alteration	Remarks
1047.35 - 1055.97 (8.62m)	Box shale: 60% - Limestone: 40% shale-phyllite, dark grey, blocky to sub-fissile, dense, hard, with smooth, waxy partings, interbedded with parted and ribbon limestone, micritic, slightly dolomitic, intraclasts, slump beds common, minor pyrite.  NVP, no shows.	White calcite veining parallel and near vertical to bedding. Intense brecciation @ 1048.34m (0.59m wide),& @ 1053.29m (0.68m wide) cemented with very fine calcite.	Bedding 30* from horizontal.
1055.97 - 1059.20 (3.23m)	Box 323 Ribbon - Parted Limestone: with Black Shale-Phyllite. (Melange) limestone, micritic, laminated, abundant intraclasts and rip-up clasts, grey nodular bedding, interbedded with very dark to black, shale-phyllite, blocky, dense, hackly-sub-fissile. NVP, no shows.	Abundant white calcite veining parallel and near vertical to bedding. Brecciation frequent with a chaotic appearance in the white carbonate.	Bedding 30* from horizontal

SHEET # 69

Date: Aug. 2-3, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_\_ Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
1059.20 - 1066.79 (7.59m)	Box 324	Melange (Major Thrust Fault)  Shale: 60 % - Limestone: 40% Parted Limestone with interbedded Black Shale- Phyllite: limestone micritic, nodular bedding, parted, frequent intraclasts and rip- up clasts, abundant soft deformation structures, interbedded shale-phyllite, black, blocky, hard, dense, splintery, slickensided partings. NVP, no shows.	Intense Limestone - Shale brecciation, with complex faulting and folding, infilled with abundant ribbon white calcite and minor quartz in a chaotic display. Fragmental limestone common. Veining parallel to near vertical to bedding.	Bedding mainly 30* from horizontal, but occasionally up to 50* from horizontal.
1066.79 - 1093.61 (26.82m)	Box	Limestone: Parted & Ribbon Limestone with interbedded Shale - Phyllite.		
	326	From 1066.79-1072.67m dark grey -black, shale-phyllite, hard, dense, blocky, silty, slickensided, with occasional interbeds of parted & ribbon dark grey, micritic, limestone, intraclastic, rip-clasts common. NVP, no shows.	Frequent calcite veining mainly parallel to bedding. Abundant micro- folding and faulting. Chaotic display of very fine ribbon white calcite.	Bedding 10* - 20* from horizontal.

SHEET # 70

Date: Aug. 3, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
1066.79 - 1093.61 (26.82m)	Box 328	From 1072.67-1076.79m limestone: dark grey, micritic, cross-bedded, intraclastic, rip-up clasts, abundant soft deformation, occasional parted limestone, 2cm wide, with interbeds of black shale 1cm wide, slightly stromatolitic. NVP, no shows.	Frequent calcite veining parallel to near vertical to bedding. Occasional brecciation.	Bedding 10* - 20* from horizontal
	329	From 1076.79-1078.88m limestone: grey, nodular bedded in a fine lined matrix of black shale, intraformational conglomerate limestone. NVP, no shows.	Very strongly brecciated with complex folding and faulting, in a matrix of white calcite and black shale.	Bedding 20* from horizontal.
	330	From 1078.88 - 1083.66m parted & ribbon limestone interbedded with black shale-phyllite, up to 3cm wide. Limestone dark grey, micritic, intraclastic, with abundant ripup clasts & soft deformation, slightly intraformational conglomerate, shale-phyllite, splintery to flaky, slickensided partings. NVP, no shows.	Abundant white calcite veining with a chaotic display of white calcite throughout. Frequent complex folding - faulting. Brecciated limestone common	Bedding 20* - 40* from horizontal.

SHEET # <u>71</u>

Date: Aug. 3-4, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_ Core size: HQ

Hole No BIG SPRING #1

Spud date: May 25, 1997 Completed:

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	Depth	* 1	Lithology Description	Fracture / Alteration	Remarks
	1066.79 - 1093.61 (26.82m)	Box 331 332 333	Limestone: - Shale From 1083.66 - 1093.61m Shale: 70% - Limestone: 30% shale-phyllite, dark grey-black, hard, dense, blocky to splintery, greasy-slickensided, interbedded with light grey limestone, micritic, brecciated, parted limestone, and nodular bedded, up to 0.68m wide. Shale-phyllite from 1090.97- 1093.18m (2.21m), minor pyrite. NVP, no shows.	Abundant calcite veining parallel to near vertical, in a chaotic display. Intense brecciation @1084.52 (0.68m wide), & @ 1088.89 (0.90m wide). Small fault zone @1084.52m with calcite crystals filling vugs, (0.20m wide) minor pyrite.	Bedding 20* - 40* from horizontal
	1093.61 - 1099.61 (5.99m)	Box 334	MARCH POINT FM. (equivalent)  Limestone: 100% grey, massive, micritic to crystalline, nodular bedded, with paper thin shale partings, splintery-platy, slickensided. NVP, no shows.	Minor calcite veining mainly parallel to bedding.	Bedding 20* - 30* from horizontal.
	1099.61 - 1100.70 (1.10m)	Box 336	Oolitic Limestone: dark grey, massive, with occasional fine stylolites and paper thin shale partings.  NVP, no shows.	Abundant calcite veining parallel to near vertical to bedding.	Bedding 10* from horizontal.

SHEET # <u>72</u>

Date: Aug. 4, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation:30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth	r is.	Lithology Description	Fracture / Alteration	Remarks
1100.70 - 1102.96 (2.26m)	Box 336	Shale-Phyllite: with Limestone. dark grey to black shale-phyllite with parted limestone, blocky to sub-fissile, silty-splintery partings. NVP, no shows.	Minor white calcite veining mainly parallel to bedding.	Bedding 10* - 20* from horizontal.
1102.96 - 1104.33 (1.37m)	Box 337	Parted-Ribbon Limestone & interbeds Shale-Phyllite. limestone micritic, dark grey, intraclastic, interbedded with black shale-phyllite, up to 2cm wide, blocky, hard, smooth, greasy partings. NVP, no shows.	Occasional calcite veining mainly parallel to bedding.	Bedding 20* - 30* from horizontal.
1104.33 - 1106.36 (2.03m)	Box 338	Oolitic Limestone: massive, grey, hard, indurated, pisolitic, slightly nodular bedded, occasional stylolites with paper thin shale partings. NVP, no shows.	Minor calcite veining parallel to bedding.	Bedding 30* from horizontal.
1106.36 - 1119.25 (12.89m)	Box 338	Parted & Ribbon Limestone with Oolitic Limestone. NVP, no shows.		
	,	From 1106.36-1107.48m parted limestone with interbeds of black shale-phyllite up to 1cm wide, intraclastic, with abundant rip-up clasts.		Bedding 20* - 30* from horizontal.

SHEET # <u>73</u>

Date: Aug. 4, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_ Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth	Lithol	ogy Description	Fracture / Alteration	Remarks
1106.36 - 1123.62 (17.26m)	Oolitic	107.48 - 1107.94m limestone, massive, dark ard, indurated		
	Parted black s 0.14m micritio	107.94 - 112.35m - nodular limestone with hale-phyllite, up to wide, slightly oolitic, c, grey, irregular y shale-phyllite partings.	Abundant white calcite veining. Intense brecciation with angular fragments of limestone cemented in a white fine grained carbonate matrix.	
	Limest massiv crystall	112.35 - 1117.06m one, stylo-nodular, wavy, e, dark grey, micro- line, with paper thin, greasy shale-phyllite s.	Very minor calcite veining.	Bedding 30* from horizontal
	Parted interbe and Ocup to 0 parted nodula intracla massiv	17.06 - 1123.62m -Ribbon Limestone with dded Shale-Phyllite. ditic Limestone intervals 0.47m wide. limestone is micritic, r bedded, grey, astic, oolitic limestone is e, crystalline, hard, ed. NVP, no shows.	Abundant white calcite veining parallel to near vertical to bedding. Brecciation throughout but intense @1119.51m (0.39m wide).	Bedding 30* - 40* from horizontal

SHEET # <u>74</u>

Date: Aug. 4-5, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation:30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

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Depth		Lithology Description	Fracture / Alteration	Remarks
1123.62 - 1136.90 (13.28m)	Box 344	Limestone: 60% - Shale: 40% From 1123.62 - 1130.02m Parted limestone, micritic, dark grey, intraformational conglomerate, intraclastic, abundant rip-up clasts, interbedded with black shale-phyllite, dense, hard, blocky, up to 0.36m wide. Smooth greasy partings, minor fine grained pyrite. NVP, no shows.	Frequent calcite veining parallel to near vertical to bedding. Chaotic display of white carbonate common. Intense brecciation @ 1128.93m (0.86m wide).	Bedding 20* - 30* from horizontal.
	345	From 1130.02 - 1133.34m Shale - Phyllite, dense, dark- grey, black, hard, blocky-hackly slickensided partings, minor pyrite, paper thin ribbon grey limestone. NVP, no shows.	Occasional calcite veining mainly parallel to bedding. Minor micro-folding.	Bedding 20* - 40* from horizontal
	346	From 1133.34 - 1135.15m Limestone: 50% - Shale: 50% grey, micritic, pisolitic, slightly nodular, intraclasts, interbedded with grey-green shale-phyllite, calcareous, blocky to sub-fissile platy, silty argillaceous partings.	@ 1134.43m, (0.72m	Bedding 30* - 50* from horizontal.
	347	From 1135.15 - 1136.90 Shale - Phyllite dense, dark grey to black, hard, blocky-platy, smooth, occasional fine grained pyrite.	Occasional calcite veining mainly parallel to bedding.	Bedding 20* - 40* from horizontal.

SHEET # <u>75</u>
Date: <u>Aug. 5, 1997</u>

Location(NTS.): 2M/4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth	1	Lithology Description	Fracture / Alteration	Remarks
1136.90 - 1140.79 (3.89m)	Box 348	Oolitic Limestone: dark grey, massive, micro- crystalline to crystalline, occasional stylolites with paper thin argillaceous partings, parallel to bedding. NVP, no shows.	Abundant calcite veining parallel, cross-cutting, and near vertical to bedding. Moderately brecciated.	Bedding 20* - 30* from horizontal.
1140.79 - 1146.43 (5.64)	Box 349	Parted & Ribbon Limestone - interbedded with Shale-Phyllite. Parted-ribbon limestone, grey, micritic, intraclastic, rip-up clasts, slump beds, interbedded with dark grey-black, shale-phyllite, up to 0.25m wide, dense, blocky-platy, smooth partings, occasional oolitic limestone @ 1144.30m, 0.51m wide.	Frequent calcite veining, mainly parallel to bedding. Micro-folding common.	Bedding 20* - 30* from horizontal.
1146.43 - 1153.84 (7.41m)	Box 351	Oolitic Limestone: brecciated, grey to dark grey, massive, micro-crystalline to crystalline, with well developed stylolites, with very thin argillaceous partings. NVP, no shows.	Intensely brecciated from 1146.43 - 1150.08m, angular fragments cemented with white carbonate.	Bedding 20* - 30* from horizontal.
1153.84 - 1154.29 (0.45m)	Box 352	Shale - Phyllite: green-grey shale-phyllite interbedded with dark green Chert stringers, 2cm wide.		Bedding 40* from horizontal.

SHEET # <u>76</u>
Date: <u>Aug. 5, 1997</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation:30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size:HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

5.33		<del></del>			·
	Depth		Lithology Description	Fracture / Alteration	Remarks
	1153.84 - 1155.84 (2.00m)	Box 353	Shale - Phyllite: dark grey to black, dense, hard, blocky-hackly, smooth slickensided partings, with occasional parted and ribbon limestone, minor pyrite.	Calcite veining parallel to bedding.	Bedding 20* - 30* from horizontal.
	1155.84 - 1157.10 (1.26m)	Box 353	Shale - Phyllite: green grey, dense, very hard, blocky-platy, silty partings. NVP, no shows.	Minor calcite veining.	Bedding 10* - 20* from horizontal.
	1157.10 - 1162.53 (5.43m)	Box 354 356	Oolitic Limestone: massive, dark grey, very hard, siliceous, with well developed stylolites, parallel to bedding and paper thin argillaceous partings, brecciated throughout. NVP, no shows.	Intense brecciation from 1157.10 - 1158.52m, very strongly cemented with white buff carbonate.	Bedding 10* - 20* from horizontal.

SHEET # <u>77</u>
Date: <u>Aug. 6, 1997</u>

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth	· · ·	Lithology Description	Fracture / Alteration	Remarks
1162.53 - 1191.46 (28.93m)	Box 356 357 358 359 360 361 362 363	Oolitic Limestone: dark grey-black, massive, micro-crystalline to crystalline, very hard, indurated, well developed stylolites, mainly parallel to bedding, breaking splintery-irregularly, with carbonaceous coatings, occasionally micritic, light grey very hard. Fine to coarse oolitic intervals, slightly pisolitic.  From 1184.24 - 1184.68m irregular partings with graphite- carbonaceous coatings, slickensided. NVP, no shows.	Frequent calcite veining throughout, mainly parallel to bedding, occasionally near vertical. Brecciation @ 1171.08m, (0.61m wide), @ 1178.71m, (0.45m wide), @ 1185.34 to 1190.86m, cemented with white, fine grained carbonate.	NOTE: Total gas units @ 1184.39m, 287 units. @ 1184.39m=287 units @1184.70m=34 units @1185m=41units. Probably from stylolitic partings.
1191.46 - 1194.37 (2.91m)	Box 364	Siltstone: dark grey, dense, massive, hard indurated, blocky-splintery, earthy partings with frequent thin flakes of pyrite, weakly calcareous. Occasional pyrrhotite and pyrite throughout NVP, no shows.	Very minor calcite veining.	Bedding 10* - 20* from horizontal.

SHEET # 78

Date: Aug. 6-7, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_Core size: HQ

Hole No BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks	
1194.37 - 1205.46 (11.09m)	Box 365 366 367 368	Parted & Ribbon Limestone with Black Shale-Phyllite. limestone, micritic, crossbedded, intraclastic, rip-up clasts, occasional slump beds, abundant soft deformation structures interbedded with black shale-phyllite, up to 0.36m wide, hard, dense, blocky-platy, smooth greasy partings, occasional pyrite. NVP, no shows.	Occasional calcite veining, mainly parallel to bedding with micro-folding and faulting common. Frequent complex micro-folding.	Bedding 0* - 20* from horizontal	
1205.46 - 1209.27 (3.81m)	Box 369	Oolitic Limestone: dark grey-black, massive, very hard, indurated, well developed stylolites, mainly parallel to bedding, with paper thin black carbonaceous partings, breaking irregular to splintery. Slightly re-crystallized to Marble.	vertical to bedding Brecciation	Bedding 10* - 20* from horizontal.	
1209.27 - 1211.27 (2.00m)	Box 370	Shale - Phyllite with Ribbon-Parted Limestone: green-grey, shale-phyllite, very hard, dense, blocky-platy, with fine grained pyrite, interbedded with micritic, grey ribbon - parted limestone. NVP, no shows.	Minor calcite veining, mainly parallel to bedding.	Bedding 20* - 30* from horizontal.	

SHEET # <u>79</u>

Date: Aug. 7, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
1211.27 - 1220.96 (9.69m)	Box	Oolitic Limestone - Marble NVP, no shows	Frequent calcite	Bedding 0* - 10*
	371	From 1211.2 -1213.88 (2.61m) dark grey to black, microcrystalline to crystalline, massive, fine oolitic limestone, with well developed stylolites parallel to bedding, paper thin irregular partings with carbonaceous coatings.	veining parallel and near vertical to bedding. Occasional brecciation cemented with white carbonate.	from horizontal.
		From 1213.88-1216.56 (2.68m) Marble: light grey to white, micro-crystalline to crypto - crystalline, relict limestone textures, frequent oolites, black wavy streaks throughout, occasional stylolites.	Abundant white calcite veining in a chaotic display.	Bedding 0* - 10* from horizontal
		From 1216.56-1217.42 (0.86m) dark grey-black, massive, limestone, very hard, crystalline to crypto-crystalline, faintly oolitic, occasional stylolitic.	Brecciated throughout	Bedding 40* - 50* from horizontal.
	372	From 1217.42-1218.61 (1.19m) light grey to white, microcrystalline to crypto-crystalline marble, with dark grey wavy laminae.	Abundant micro- folding and faulting.	Bedding 10* - 20* from horizontal.

SHEET # 80

Date: Aug. 7-8, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_ Core size: HQ

Hole No: BIG SPRING # 1

Spud date: May 25, 1997 Completed:

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Depth	i Ne	Lithology Description	Fracture / Alteration	Remarks
1211.27 - 1220.96 (9.69m)	Box 372	Limestone - Marble From 1218.61-1219.49 (0.88m) dark grey-black, massive, limestone, very hard, frequently oolitic, irregular partings with slickensides.	Minor calcite veining.  Minor calcite	Bedding 20* - 30* from horizontal.
		From 1219.49-1220.96 (1.47m) light grey-white to dark grey, limestone-marble, massive, slightly oolitic, wavy whiteblack bands.	veining.	
1220.96 - 1234.93	Box	Dolostone: Brecciated		From 1225.43-
(13.77m)	373 374	dark grey-black, massive, very hard, abundant to occasionally	Fault Zone: highly fractured and fragmental. Loosely	1230.28 (4.85m). Bedding 60* - 80* from horizontal.
A STATE OF THE STA	375	oolitic, calcareous, minor vugs, fine crystalline to micro-crystalline, cemented with	consolidated and weakly cemented with fine calcareous	Hom norizontar.
	376	cream calcareous muds. Highly fractured and splintery, well	fault gouge.	From 1230.28-
	377	polished slickensides common. Stylolitic from 1233.60- 1234.73m. NVP, no shows.	Abundant slickensides from 1225.43-1230.28m,	1234.73 (4:45m). Bedding 30* from horizontal.
	-		Highly polished.	

SHEET # <u>81</u>

Date: Aug. 8, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

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Depth	Lithology Description	Fracture / Alteration	Remarks
1234.98 - 1247.47 (12.54m)	Box (equivalent)  Limestone: Oolitic grey to dark grey, massive, whard, micro-crystalline to	ery	
	crystalline, fine to coarse oolites.  From 1234.93-1242.56 (7.63 frequent stylolites, parallel to bedding, irregular partings w black carbonaceous coatings	1242.56 (7.63m) Brecciated limestone	Bedding 20* - 30* from horizontal.
	From 1242.56-1247.47 (4.91 limestone: dark grey-black, massive, fine oolites, frequer stylolitic, very irregular parti with paper thin carbonaceous coatings, no brecciation NVP, no shows.	parallel to bedding.	Bedding 10* - 20* from horizontal.

SHEET # 82

Date: Aug. 8-9, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth 1247.47 - 1254.38 (6.91m)	Box 381 382	Lithology Description  Limestone: Micritic: Brecciated massive, grey-dark grey, micritic, very hard, slightly peloidal, fine laminae, with very paper thin black partings, frequent rip-up clasts, intraclastic, occasional stylolites, breaking irregular, with carbonaceous coatings. NVP, no shows.	Fracture / Alteration  Frequent calcite veining mainly parallel to bedding. Finely brecciated with angular fragments, very well cemented with white carbonate muds.	Remarks  Bedding 0* - 20* from horizontal.
1254.38 - 1259.84 (5.46m)	Box 384 385	Limestone: Oolitic massive, grey to dark grey, very hard, indurated, micro-crystalline to crystalline, frequent stylolites, with paper thin irregular partings and carbonaceous coatings, alternating bands of micritic limestone (1-2cm wide), intraclastic. NVP, no shows.	Frequent white carbonate veining, parallel and vertical to bedding.	Bedding 0* - 10* from horizontal.
1259.84 - 1262.23 (2.39m)	Box 386	Shale-Phyllite: - Parted Limestone: dark grey to black, dense, very hard, blocky to platy, silty partings, interbedded with parted limestone, micritic, intraclastic, cross-bedding, with slump beds. NVP, no shows.	Abundant calcite veining, parallel to near vertical to bedding. Brecciated @ 1260.85 (0.30m wide). Frequent micro folding & faulting.	Bedding 20* - 40* from horizontal.

SHEET # <u>83</u>

Date: Aug. 9, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
1262.23 - 1275.80 (13.57m)	387 d n 388 v 389 n F v i i 1 1 n	Limestone: Oolitic to Micritic: dark grey to grey, massive, micro-crystalline to crystalline, very hard, coarse to fine oolites with well developed stylolites, mainly parallel to bedding, paper thin irregular partings, with carbonaceous coatings, anterbanded with micritic timestone, up to 5cm wide. From 1274.08-1275.80m, increase banding of fine oolitic timestone with very dark grey micritic limestone. NVP, no shows.	Frequent calcite veining, mainly parallel, but occasionally, vertical to bedding.	Bedding 10* - 20* from horizontal.
1275.80 - 1280.21 (4.41m)	391 S	Parted Limestone with Black Shale-Phyllite: dark grey to black, dense, hard, blocky-platy, silty partings, with carbonaceous coatings, interbedded with parted & ribbon limestone, micritic, slump beds, intraclasts, crossbedding, occasional fine oolites, up to 4cm wide. NVP, no shows.	Minor calcite veining near vertical to bedding.	Bedding 0* - 10* from horizontal.

SHEET # 84

Date: Aug. 9-10, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_\_Core size: HQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

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Depth	ZVBB.	Lithology Description	Fracture / Alteration	Remarks
1280.21 - 1288.08 (7.87m)	Box 392	Oolitic Limestone: massive, dark grey-black, micro-crystalline to crystalline, very hard, indurated, occasional stylolites, but well developed, with very irregular partings, carbonaceous coatings fine to medium oolites, occasional rip-up clasts. NVP, no shows.	Frequent calcite veinlets near vertical to bedding. Occasional brecciation @ 1282.94 (0.49m wide).	Bedding 0* - 10* from horizontal.
1288.08 - 1305.31 (17.23m)	394 395	Parted & Ribbon Limestone with Black Shale-Phyllite micritic, grey to dark grey, cross-bedding, slump beds, intraclastic, rip-up clasts, with black shale-phyllite, dense hard, silty partings, up to 4cm wide.		Bedding 10* - 40* from horizontal.
	396	From 1289.60-1290.20 (0.60m) fine oolitic limestone, massive, occasional stylolite, but very well developed.  NVP, no shows.	Frequent calcite mainly parallel to bedding.	
	397	From 1297.66-1300.04, (2.38m) black shale-phyllite, up to 0.09m wide, interbedded with micritic limestone, up to 0.10m wide, slightly stylolitic.	Abundant calcite veining mainly parallel to bedding.	Bedding 40* from horizontal.

SHEET # 85

Date: Aug. 10-11, 1997

Location(NTS.): 2M/4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_Core size: HQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth	Lithology Description		Fracture / Alteration	Remarks
1288.08 - 1305.31 (17.23m)	Box 398	From 1300.04-1300.75 (0.71m) fine oolitic limestone, occasional stylolites, but very irregular and well developed.	Calcite veining near vertical.	Bedding 0* - 10* from horizontal
	399	From 1300.75-1305.31 (4.56m) parted limestone, micritic to slightly oolitic, interbedded with black shale-phyllite, (2-3cm wide).		Bedding 10* - 20* from horizontal.
1305.31 - 1312.83 (7.52m)	Box 400	Oolitic Limestone: massive, dark grey to black, fine to medium oolites, very hard, indurated, frequent stylolites, with very irregular partings and carbonaceous coatings. NVP, no shows.	Occasional calcite veining, near vertical to bedding.	Bedding 0* - 10* from horizontal.

SHEET # 86

Date: Aug. 11-12, 1997

Location(NTS.). 2 M / 4

UTM Cood: N 5664039, E 572158 Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: NQ=46mm

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth	see 1	Lithology Description	Fracture / Alteration	Remarks
1312.83 - 1329.55 (16.72m)	Box 402 403 404	March Point Fm. (equivalent) NOTE: Began coring with NQ =46mm @ 1312.83m  Oolitic Limestone: dark grey to black, massive, frequent stylolites, very irregular partings, with graphite and carbonaceous coatings.	Frequent calcite veining, mainly vertical to bedding.	Bedding 0* - 10* from horizontal
	405	From 1322.69 -1326.13 (3.44m) fine oolites, occasional stylolites with mainly paper thin irregular partings, slightly micritic. NVP, no shows.	Calcite veining mainly parallel to bedding, up to 2cm wide.	Bedding 10* - 30* from horizontal.
1329.55 - 1353.09 (23.54m)	Box 407 408	Parted-Ribbon Limestone: and Shale-Phyllite: parted-ribbon limestone, grey to dark-grey, micritic, hard, cross-bedded, slightly intraclastic & oolitic, interbedded with shale-phyllite, black, blocky-platy, hard, dense, calcareous. NVP, no shows.	Minor calcite veining from 1329.55-1337.15m.	Bedding 20* - 35* from horizontal.

SHEET # <u>87</u>

Date: Aug. 12, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158 Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_ Core size: NQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed:

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Depth		Lithology Description	Fracture / Alteration	Remarks
1329.55 - 1353.09 (23.54m)	Box 409	From 1337.15-1341.09 (3.94m) mainly black shale-phyllite, with minor parted limestone.	Abundant calcite veining, mainly parallel to bedding.  @ 1338.16m quartz-carbonate vein (0.53m wide).	Bedding 35* from horizontal.
	410	From 1341.09-1343.23 (2.14m) grey-green, shale-phyllite, interbedded, with black shale-phyllite & minor parted-ribbon limestone.	Frequent calcite veining mainly parallel to bedding.	Bedding 20* - 40* from horizontal.
	411	From 1343.23-1348.65 (5.42m) black shale-phyllite, blocky-sub-fissile, medium hard, dense, highly calcareous, with paper thin ribbon limestone and occasional parted limestone, frequent fine grained pyrite, smooth partings.  NVP, no shows.	Frequent calcite veining mainly parallel to bedding. Micro-folding & faulting common.	Bedding 10* - 20* from horizontal.
	413	From 1348.65-1353.09 (4.44m) parted & ribbon limestone interbedded with black shale-phyllite, cross-bedded, slump beds, intraformational conglomerate, slightly oolitic.	Minor calcite veining parallel to bedding. Brecciated shale & limestone @ 1348.65m, (0.36m wide).	Bedding 0* - 10* from horizontal.

SHEET # 88

Date: Aug. 12-13, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: \_\_\_\_ Core size: NQ

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
1353,09 - 1355,38 (2.29m)	Box 414	Oolitic Limestone: massive, grey to dark-grey, fine oolites, slightly micritic, occasional stylolites, vertical to bedding. NVP, no shows.	Frequent calcite veining parallel and near vertical to bedding. Brecciation @ 1354.31m (0.43m wide).	Bedding 20* - 30* from horizontal.
1355.38 - 1365.74 (10.36m)	Box 415 416 417	Parted Limestone with Black Shale - Phyllite: parted limestone, micritic, hard, cross-bedded, with frequent interbeds of fine micritic limestone, massive, slump beds, shale-phyllite partings paper thin to 1cm wide, medium hard argillaceous greasy, smooth, medium hard, minor pyrite. NVP, no shows.	Frequent calcite veining parallel and near vertical to bedding. Brecciation @ 1361.71m (4cm wide), & @ 1362.10m 0.11m wide)	Bedding 0* - 10* from horizontal.
1365.74 - 1375.91 (3.63m)	Box 418 419 420	Micritic Limestone: massive to slightly laminated, grey, hard, intraclasts, cross- bedded, with frequent oolite intervals up to 0.80m wide. Occasional stylolites from parallel to near vertical to bedding, interbedded shale- phyllite up to 2cm wide. NVP, no shows.	Minor calcite veining parallel and near vertical to bedding. Minor faulting and folding.	Bedding 20* - 40* from horizontal.

SHEET # 89

Date: Aug. 13, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: Core size: NO

Hole No:BIG SPRING #1

Spud date: May 25, 1997 Completed:

Depth		Lithology Description	Fracture / Alteration	Remarks
1375.91 - 1379.54 (3.63m)	Box 421	March Point Fm. (equivalent)  Oolitic Limestone: massive, grey to dark-grey, micro-crystalline to crystalline, hard, dense, fine to medium oolites, frequent stylolites parallel to bedding with paper thin irregular partings, minor pyrite.  NVP, no shows.	Minor calcite veining parallel to bedding @1378.54m. Fault Zone with clear crystalline calcite lining small veins. Mechanical break up of core from 1379.35 to 1379.35m	Bedding 20* - 40* from horizontal.
1379.54 - 1381.82 (2.28m)	Box 422	Parted -Ribbon Limestone with Black Shale-Phyllite: micritic, cross-bedded, intraclastic, rip-up clasts, slump beds interbedded with black shale-phyllite up to 5cm wide, splintery to platy partings, carbonaceous coatings, occasional oolitic intervals. NVP, no shows.	Minor calcite veining mainly parallel to bedding.	Bedding 20* - 40* from horizontal.

SHEET # 90

Date: Aug. 13, 1997

Location(NTS.): 2 M / 4

UTM Cood: N 5664039, E 572158

Elevation: 30.0m (98') above MSL

Dip at Collar: Vertical

Total Depth: 1396.82m Core size: NQ

Hole No: BIG SPRING #1

Spud date: May 25, 1997 Completed: Aug. 13, 1997

Logged by: Roland Strickland
Drilled by: Fast Coast Drilling

Drilled by: East Coast Drilling

Depth	Lithology Description		Fracture / Alteration	Remarks
1381.82 - 1393.25 (11.43m)	Box 423 424 425 426	March Point Fm. (equivalent) Oolitic Limestone: massive, dark grey to black, fine to medium oolites, frequent stylolites mainly parallel to bedding, but occasionally near vertical, with paper thin irregular partings, occasionally micritic. NVP, no shows.	Minor calcite veining mainly parallel to bedding.	Bedding 10* - 30* from horizontal.
		NOTE: Total drilling depth 1396.82m.		