GEOLOGICAL WELLSITE REPORT

FOR

P.C.I. CANTERRA TWEED LAKE A-67

UNIT A, SECTION 67, GRID AREA 67° 00', 125°45'

9211-P28-1-6 Ott

PRO GEO CONSULTANTS

TELEPHONE (403) 262-9229

GEOLOGICAL WELLSITE REPORT

FOR

P.C.I. CANTERRA TWEED LAKE A-67

UNIT A, SECTION 67, GRID AREA 67° 00', 125°45'

9211-P28-1-6 Ott

Prepared For

PETRO CANADA INCORPORATED

By

Tim Vader

PRO GEO CONSULTANTS

December, 1985

TABLE OF CONTENTS

	page
WELL SUMMARY	1
DAILY SUMMARY	2
CASING SUMMARY	3
DRILL STEM TEST SUMMARY	
GEOLOGICAL SUMMARY	4
FORMATION TOPS	4
SAMPLE DESCRIPTIONS	5
CORE DESCRIPTIONS	

WELL SUMMARY

WELL NAME:	P.C.I. CANTERRA TWEED LAKE A-67
COORDINATES:	66.9365569°, 125.9385772°
LOCATION:	North Lat 66° 56' 11.60", West Long 125° 56' 18.88"
ELEVATIONS:	Ground: 390.90m KB: 397.10m
OPERATOR:	Petro Canada Incorporated
DRILLING CONTRACTOR:	Atco/Equtak #76
WELLSITE SUPERVISION:	Toolpusher: D. Lauck/B. Lickoch Engineer: M. Prichuck/Y. Hope Geologist: T. Vader
BIT SIZES:	Conductor: 445.0mm Surface: 311.0mm Downhole: 216.0mm
CASING SIZES:	Conductor: 340.0mm Surface: 244.5mm Production: 178.0mm
TOTAL DEPTH:	Driller: 1347.0m Logger: 1345.5m
BOTTOM HOLE FORMATION:	Proterozoic
CORES CUT:	Core #1 - 1276.0 - 1287.53m Core #2 - 1287.6 - 1302.0m
LOGS RUN:	Run #1 - CNL-LDT-GR; DISFL-GR; NGT; BHC-GR; DIR; Run #2 - DLL-MSFL-GR; NGT-AMS; BHC-GR; ML-MLL; HDT; WST; CNL-LDT-GR
DRILL STEM TESTS:	DST #1 - 1290 - 1301m; DST #2 1278 - 1286m
RIG RELEASED:	0800 hours 1985/12/23
WELL STATUS:	Mt. Clarke Gaswell

DAILY SUMMARY

1985/11/13

- Prepare to spud
- Spud at 0500 hours
- Drill 311mm pilot hole to 15m
- Drill mouse hole
- Drill pilot rat hole

1985/11/14

- Pilot rat hole and mouse hole
- Ream rat hole and mouse hole

1985/11/15

- Drill 311mm pilot hole for conductor to 40m (lost circulation)
- Mix lost circulation material

1985/11/16

- Drill 311mm pilot hole for conductor to 57m

1985/11/17

- Drill 311mm pilot hole for conductor to 65m
- POOH
- Pick up 444mm hole opener
- Ream conductor hole

1985/11/18

- Ream conductor hole
- POOH
- Rig to run casing
- Run casing
- Cement conductor casing
- PD at 1030 hours
- WOC
- Cement under matting

1985/11/19

- WOC
- Cement under matting around cellar
- WOC
- Cut casing
- Weld on casing bowl
- Nipple up diverter system
- Pump additional cement around cellar

1985/11/20

- Nipple up diverter system
- Slip and cut line
- RIH with bit 31 HW JD7 (RR)
- Pull rat hole sleeve
- Split open to remove kelly and cement
- Drill out cement
- Repair diverter spool crack
- Change out burst kelly hose
- Drill out cement

1985/11/21

- Drill out cement and shoe
- Ream open hole to 65m
- Drill 311mm hole to 105m
- Trip for bit
- Rig for air drilling

1985/11/22

- Rig for air drilling
- RIH with bit #2 HW JD7
- Lay down two drill collars and pick up drill pipe
- Blow hole dry
- Drill 311mm hole to 151mm

1985/11/23

- Drill 311mm hole to 207m
- Trip for bit
- Lay down drill pipe
- Slip and cut line
- RIH with bit #3 J-33
- Blow hole dry with air
- Drill ahead to 217m (hole making water from 140m) with air

1985/11/24

- Foam drill 311mm hole to 280m
- Change position of blooie line discharge
- Foam drill to 312m

1985/11/25

- Foam drill 311mm hole to 420m

1985/11/26

- Foam drill 311mm hole to 447m
- Trip for bit
- Remove kelly spinner
- RIH with bit #4 HW J-33
- Foam drill 311mm hole to 471m

1985/11/27

- Foam drill 311mm hole to 558 m

1985/11/28

- Foam drill 311mm hole to 613m
- Trip for bit

1985/11/29

- RIH with Bit #5 HW JD7
- Ream undergauge hole from 605 - 613m
- Foam drill ahead to 623m
- Trip for bit
- RIH with Bit #6 HW J-33
- Foam drill ahead to 658m

19m85/11/30

- Foam drill 311mm hole to 701m
- Run 10 stand wiper trip
- Foam drill 311mm hole to 732m

1985/12/01

- Foam drill 311mm hole to 754m
- Complete drilling 0645 hours
- Condition hole wiper trip to drill collars (20 stands)
- Run in hole and circulate (30m fill)
- Trip to log
- Log #1 DISFL/GR from 754m to 10m
- Log #2 CNL/LDT/NGT-CAL 754m to 10m with CAL to 60m

1985/12/02

- Log #3 BHC/SONIC/GR-CAL 754m to 97m (top of fluid)
- Log #4 directional survey 754m to 61m
- Rig out Schlumberger
- Run in hole no fill
- Trip to run casing
- 62 joints 750.17m of 245mm 60 kg/m 60 754m
- FC at 740m, Lynes DV tool and ECP on top point #58, ECD at 49.50m
- Displace hole with 34m^3 H_2O
- Cement with 36 tonnes "G" 27m^3 slurry

1985/12/03

- Wait on cement
- Cut casing bowl and weld on McEvoy 279mm, 29mPa x 245m casing bowl
- Nipple up BOP's
- Pressure test bowl to 15mPa O.K.

1985/12/04

- Nipple up BOP's
- Pressure test blind rams, manifold, HCR and test for function
- Test casing to DV tool 18mPa
- Test upper and lower pipe rams
- Drill out DV tool and test to 18mPa
- Tag cement at 44m, drill out to 50m
- Trip out and inspect collars with Guardian Black Light

1985/12/05

- POOH
- Inspect drill collars
- RIH (tag cement at 295.5m)
- Lay down extra drill pipe
- Thaw standpipe (2 1/4 hours)
- Drill out top plug and cement from 295.5 to 556m with bit #7 HW J-2 (216mm)

1985/12/06

- Drill out cement to 754m
- Drill 216mm hole to 759m
- Run PIT
- POOH to pick up jars and shock sub
- Clean mud tanks
- RIH with bit #8B (HW J-22)
- Displace hole to fresh water
- Drill ahead to 774m

1985/12/07

- Drill 26mm hole to 802m
- Circulate and saturate mud system with salt
- Drill ahead to 970m

1985/12/08

- Drill 216mm hole to 1133m

1985/12/09

- Drill 216mm hole to 1171m
- POOH
- RIH with bit #9B (JW J-22) and stabilizers
- Drill 216mm hole to 1197m

1985/12/10

- Drill 216mm hole to 1274m

1985/12/11

- Drill 216mm hole to 1276m
- Circulate sample
- Run 20 stand wiper trip
- Clean 4 stands to bottom
- POOH for core #1
- Pick up core barrel
- RIH
- Slip and cut drilling line
- Circulate and condition hole
- Cut Core #1 with Bit #10C 159mm (SS 226 diamond) to 1283m

1985/12/12

- Cut Core 31 to 1287.5m
- Hoist and recover core #1 (1276 - 1287.6m) jammed
- RIH to ream rat hole with Bit #11C (HW JD7)
- Ream rat hole
- Circulate 1 hour
- POOH for Core #2

1985/12/13

- Pick up core barrel
- RIH with bit #12C 159mm (Christ C-201)
- Cut Core #2 1287.6 - 1302m (jammed)
- POOH
- Recover Core #2
- Lay down core barrel
- RIH and ream rathole with bit 13C (HW J-33)

1985/12/14

- Ream rat hole
- Drill 216mm hole to 1347m (FTD)
- Circulate and condition hole
- Run 20 stand wiper trip
- Circulate and condition hole
- POOH to log

1985/12/15

- POOH to log
- Rig up Schlumberger
- Logging with Schlumberger

1985/12/16

- Logging with Schlumberger

1985/12/17

- Logging with Schlumberger
- Run in hole for clean out trip
- Circulate and condition hole

1985/12/18

- Make up test tool
- RIH with test tool
- Run DST #1 (1290 - 1301m)

1985/12/19

- Run DST #1
- POOH with DST #1
- Recover DST #1
- Make up test tool for DST #2

1985/12/20

- RIH with DST (1278 - 1286m)
- Run DST #2

1985/12/21

- Run DST #2
- POOH with DST #2
- Recover DST #2
- RIH
- Circulate and condition hole
- POOH to run casing

1985/12/22

- Run 177mm production casing
- Circulate casing
- Cement casing
- WOC

1985/12/23

- WOC
- Rig release at 0800 hours

CASING SUMMARY

Conductor Casing

ran 5 joints, 340mm, 101.2 kg/m, K-55, BT&C conductor casing. Cemented by Dowell with 20 tonnes class "G" + 3% $CaCl_2$. Landed at 61.5m KB plug down at 1985/11/18 at 1030 hours. 2.5m^3 returns to surface.

Surface Casing

Ran 62 joints 245mm, 60 kg/m, MN-80 LT&C (ECP + DV tool at 49.6m). Cemented by Dowell with 36.0 tonnes of "G", 15.5 tonnes of "G" + 2% $CaCl_2$ - STAGE 2 - 5 tonnes "G" + 2% $CaCl_2$. Landed at 754.0m. Good cement returns to surface on second stage. 458.5m cement left in casing after cement job.

Production Casing

Ran 59 joints 177mm, 43.0 kg/m L-80 LT&C production casing. Cemented by Dowell with 28.4 tonnes Class "G" + 0.5% DG5, tailed in with 2.3 tonnes "G" + 2% $CaCl_2$. Landed at 1347.0m. No cement returns to surface. Estimated cement top at 200m.

DRILL STEM TEST SUMMARY

DST #1 1290 - 1302m Fm: Mt. Clarke Type: Inflate Straddle

TIMES:	5/90/270/540
PREFLOW:	GTS throughout
VO:	
RECOVERY:	
HP:	
SIP:	
FP:	1293 KPa
OTHER:	21141 m^3/day (750mcf/day)

DST #2 1278 1286m Fm: Mt. Clarke

TIMES:	10/90/120/240
RECOVERY:	4m drilling mud
HP:	16357/16737
SIP:	12289/13013
FP:	361/396/396/413
OTHER:	GTS throughout; 9 mcf/day

GEOLOGICAL SUMMARY

PCI Canterra Tweed Lake A-67 was drilled as a confirmation well to further prove up oil potential of the Tweed Lake structure penetrated by the M-47 gas condensate discovery. A-67 was drilled about one mile to the south east structurally and about 110 meters downdip to the Mount Clarke formation in the M-47 well in anticipation of penetrating an oil zone of the structure.

Cuttings samples were caught from surface to total depth in this well.

The Mount Kindle formation frequently outcrops at surface in the area and exhibits karst features. At A-67 well centre about 3 meters of locally derived glacial material overlaid the heavily weathered Mount Kindle. The weathered zone seemed to extend to about 30 meters in depth. No samples were caught from 40 meters to 65 meters due to lost circulation problems. Samples were then caught from 65 meters to total depth. At about 76 meters the Mount Kindle formation gave way to the Franklin Mountain formation and was evidenced by a distinct color change from a tan to a light grey.

The Franklin Mountain formation consisted of clean cherty dolomites in the upper two thirds. Common fracture and intercrystalline porosity was observed throughout this zone. This part of the hole was drilled with an air and foam drilling fluid to combat lost circulation problems. Throughout the drilling of the Franklin Mountain formation the well produced vast amounts of fresh water. The lower 1/3 of the Franklin Mountain formation consisted of interbedded shales and argillaceous dolomites, with shale bands becoming more frequent towards the base. The shales are red and green in color and are soft. penetration rate increases through the shales.

A thick red shale band marks the top of the Saline River formation. Drilling through this band changes the color of the drilling fluid to red.

The Saline River consists of interbedded red and green shale with minor beds of anhydrite and cryptocrystalline, argillaceous dolomite.

The Saline River salt member consists of halite with minor thin bands of shale and anhydrite. Upon penetration of the salt member the mud system was saturated with salt and was kept saturated for the remainder of the well.

A marked decrease in the penetration rate is encountered at the top of the Mount Cap formation. The Mount Cap consists of interbeds of shale and dolomite with minor anhydrite bands. The shales of the Mount Cap commonly have a bituminous quality. The dolomite stringers as well have bituminous material engrained within and are occasionally cherty.

Two sandstone sequences near the base of the Mount Cap correlated quite well with the M-47 well. The sandstones in this well however were somewhat dirtier and less permeable than the sands in the M-47 well. Poor visible hydrocarbon shows were observed through the sands. immediately below these sands lies a four meter thick dolomite bed which marks the base of the Mount Cap Formation. Core #1 was cut from 2 meters into this dolomite through the Upper Mount Clarke sand. Core 32 was then cut through the main Mount Clarke sand and into the Proterozoic.

Visual porosity in the Upper Mount Clarke ranged from poor to fair in the silt to medium grained sandstones and siltstones. Poor patchy shows of fluorescence and cut were observed. Gas detection equipment showed minor responses throughout the zone.

The lower sand showed fair to good porosity in the silt to coarse grained sands. Common weak orange fluorescence and a fast yellow/orange cut was observed in the sands. Minor dead oil and live oil staining was also observed. Gas detection equipment showed poor responses throughout the core intervals probably due to the minor amount of gas being liberated.

After coring the well was drilled to a depth of 1347m, 48 meters into the Proterozoic. The Proterozoic in this well consisted of a red to dark grey basalt with minor fractures infilled with dolomite.

FORMATION TOPS

FORMATION	SAMPLE (m)		LOG (m)	
	Depth	Subsea	Depth	Subsea
Mount Kindle	9	(+389.1)	--	--
Franklin Mountain	76	(+321.1)	76	(+321.1)
Saline River	727	(-329.9)	754	(-356.9)
Saline River Salt Member	796	(-398.9)	796	(-398.9)
Shale Marker	875	(-877.9)	867	(-469.9)
Mount Cap	1073	(-675.9)	1074	(-676.9)
High Gamma Ray Shale	1217	(-819.9)	1200	(-802.9)
Mount Clarke Formation	1278	(-880.9)	1279	(-881.9)
Proterozoic	1299	(-901.9)	1301	(-903.9)
F.T.D.	1347	(-949.9)	1345.5	(-948.4)

SAMPLE DESCRIPTIONS

Depth	Description
5 - 10m	Dolomite; tan, cryptocrystalline to very fine crystalline, massive to sucrosic texture clean, fair fracture and vug porosity, heavily weathered, boulders in dolomite sand matrix.
10 - 28m	Dolomite; cream to tan cryptocrystalline to very fine crystalline, massive to sucrosic, clean, limey in part, fair buff and fracture porosity, weathered boulders and gravel in a dolomite sand matrix, occasional rounded quartz and chert grains.
28 - 33m	Dolomite; cream to light brown, cryptocrystalline to very fine crystalline massive to sucrosic, clean, limey in part, fair fracture and vug porosity, occasional weathered surfaces, trace of quartz grains,
33 - 40m	Dolomite; cream to tan, cryptocrystalline to very fine crystalline, massive to sucrosic texture, clean, fair fracture and minor vug porosity, trace of quartz grains.
40 - 65m	LOST CIRCULATION at 40m. regained intermittently between 40 and 65m. Returns bypassed shaker, hole severely washing out. Conductor hole 0 - 65m. * Samples through this interval were extremely poor due to severe hole washout, partial and full lost circulation. Returns intermittently pumped from cellar over shaker, proper lag times impossible.
65 - 76m	Dolomite; cream to tan, very fine crystalline, sucrosic texture, subhedral, occasionally cryptocrystalline, poor intercrystalline and fracture porosity.

FRANKLIN MOUNTAIN FORMATION 76m (+321.10m)

76 - 83m	Dolomite; light grey, very fine to medium crystalline, sucrosic texture in part, common dolomite rhombohedrons, euhedral, rare clear quartz grain inclusions, poor to fair intercrystalline porosity, trace of disseminated pyrite inclusions.

83 - 93m Dolomite light grey, fine to medium crystalline, occasionally coarse crystalline, sucrosic texture in part, euhedral, common dolomite rhombohedrons, rare clear quartz and chert inclusions, poor to fair intercrystalline porosity

93 - 105m Dolomite; light grey, tan, cryptocrystalline to fine crystalline, occasionally medium crystalline, subhedral, massive to occasionally sucrosic texture, poor effective intercrystalline porosity, trace of metasomatic chert.

105 - 111m Dolomite; white to cream, fine to medium crystalline, euhedral, sucrosic texture in part, common dolomite rhombohedrons, trace of chert, rare quartz crystals, fair effective intercrystalline porosity

111 - 127m Dolomite; white to light grey, fine to medium crystalline, subhedral, massive to sucrosic texture, occasionally coarse crystalline, common dolomite rhombohedrons, pockets of metasomatic chert and quartz crystals, poor effective intercrystalline porosity, trace of vuggy porosity

127 - 142m Dolomite; light to occasionally medium grey, fine to medium crystalline, anhedral to subhedral, massive texture, rare dolomite rhombohedrons, poor effective intercrystalline porosity with rare bands and pockets of
Chert; white to light grey, hard, conchoidal fracture, trace of quartz crystals.

142 - 159m Dolomite; white to light grey, very fine to fine crystalline, occasionally medium to coarse crystalline, massive texture, occasional dolomite rhombs, poor effective intercrystalline porosity with occasional bands and pockets of
Chert; as above

159 - 169m Dolomite; light grey, occasionally medium grey, cryptocrystalline to fine crystalline, clean, subhedral, rare dolomite rhombs, massive texture, poor effective intercrystalline porosity, trace of vug porosity with common bands of
Chert; white to light grey, hard, conchoidal fracture, translucent in part, trace of light grey shale.

169 - 175m Dolomite; as above with rare thin bands of
Chert; as above

175 - 180m Interbeds of Dolomite; as above and
Chert; as above

180 - 195m — Dolomite; white to light grey, cream, very fine to fine crystalline subhedral, massive texture, clean, poor vug and fracture porosity, with occasional thin bands and pockets of
Chert, white, light grey, clear, hard, conchoidal fracture, common quartz crystals, rare laminae of light grey/green dolomitic shale.

195 - 206m — Dolomite; white to light grey, very fine to fine crystalline, occasionally medium crystalline, subhedral, clean, massive texture, poor vug and fracture porosity, occasional coarse dolomite rhombs, with occasional bands and pockets of
Chert; white, clear, light grey, hard, conchoidal fracture, translucent to opaque, trace of quartz crystals, trace of light grey/green dolomitic shale

206 - 222m — Dolomite; light to medium grey, very fine to medium crystalline, massive to sucrosic texture, subhedral, occasional coarse dolomite rhombs, slightly argillaceous, poor vug and fracture porosity, trace of disseminated pyrite, with common bands and pockets of
Chert; as above

222 - 226m — Interbeds of Chert; white, clear, light grey, opaque to translucent, trace of quartz crystals, and
Dolomite; light to medium grey, fine to medium crystalline, sucrosic texture, occasional dolomite rhombs, slightly argillaceous, poor vug and fracture porosity

226 - 237m — Dolomite; as above with occasional thin bands and pockets of
Chert; as above

237 - 240m — Dolomite; cream to light grey, microcrystalline to fine crystalline, occasionally medium crystalline, subhedral, sucrosic texture, clean, rare coarse dolomite rhombs, poor vug and fracture porosity, trace of chert

240 - 250m — Dolomite; light to medium grey, cream, cryptocrystalline to medium crystalline, subhedral, slightly argillaceous in part, sucrosic in part, poor vug and fracture porosity, trace of chert

250 - 260m — Dolomite cream, light to medium grey, cryptocrystalline to very fine crystalline, rarely fine to medium crystalline, massive texture, very slightly argillaceous in part, tight

260 - 266m — Dolomite; cream, light to medium grey, cryptocrystalline to medium crystalline, massive to sucrosic texture, argillaceous in part, tight

266 - 274m	Dolomite; as above but with rare thin bands and pockets of Chert; white to light grey, hard conchoidal fracture, abundant dolomite (fine crystalline), rhombohedron inclusions
274 - 285m	Dolomite; cream, occasional light grey, cryptocrystalline to fine crystalline sucrosic, subhedral, tight
285 - 290m	Dolomite; light brown, light grey/brown cryptocrystalline to medium crystalline, subhedral, sucrosic in part, poor effective intercrystalline porosity
290 - 295m	MISSED SAMPLE
295 - 300m	Dolomite; as above
300 - 315m	Dolomite; cream, light grey/brown, cryptocrystalline to microcrystalline, occasionally medium crystalline, subhedral, massive texture, trace of vug and fracture porosity, with rare thin bands and pockets of Chert; white, translucent, hard, conchoidal fracture, trace of fine grained dolomite rhombohedron inclusions.
315 - 332m	Dolomite; cream, light grey/brown, cryptocrystalline to medium crystalline, subhedral, massive, sucrosic in part, clean, trace of vug and fracture porosity, trace of quartz crystals.
332 - 341m	Dolomite; cream, tan, light grey, microcrystalline to medium crystalline, massive to sucrosic texture, slightly argillaceous in part, trace of vug and fracture porosity
341 - 348m	Dolomite; cream to light brown, microcrystalline to fine crystalline, occasionally medium crystalline, subhedral, massive texture, slightly argillaceous in part, trace of vug and fracture porosity
348 - 357m	Dolomite; cream, tan, occasionally light brown, microcrystalline to medium crystalline, subhedral, sucrosic in part, clean to very slightly argillaceous in part, poor vug, fracture and intercrystalline porosity, trace of quartz crystals
357 - 372m	Dolomite, cream, tan, light grey/brown, microcrystalline to fine crystalline, occasionally medium crystalline, massive to sucrosic texture, subhedral, trace of vug and fracture porosity, trace of quartz crystals

372 - 386m	Dolomite, tan, light grey, cryptocrystalline to fine crystalline, occasionally medium crystalline, subhedral, massive to sucrosic texture, clean, trace of vug and fracture porosity, trace of quartz crystals
386 - 391m	Dolomite; tan to medium grey/brown, cryptocrystalline to microcrystalline, anhedral, dense; massive texture, slightly argillaceous, tight
391 - 397m	Dolomite; cream to tan, occasionally light brown, cryptocrystalline to microcrystalline, anhedral, massive texture, dense, clean, tight
397 - 415m	Dolomite; tan, light to medium brown, microcrystalline to very fine crystalline, occasional medium crystalline, subhedral, massive slightly argillaceous, tight, trace of chert and quartz crystals
415 - 427m	Dolomite; cream to tan, light brown, cryptocrystalline to microcrystalline, occasionally fine to medium crystalline, massive texture, anhedral, slightly argillaceous in part, trace of vug and fracture porosity, trace of disseminated pyrite, trace of quartz crystals, trace of chert.
427 - 436m	Dolomite; cream, light to medium brown, cryptocrystalline to microcrystalline, massive texture, anhedral, slightly argillaceous in part trace of vug and fracture porosity, trace of disseminated pyrite, trace of quartz crystals.
436 - 453m	Dolomite; cream, tan, light grey/brown, cryptocrystalline to microcrystalline, massive, anhedral, dense, very slightly argillaceous in part, tight, trace of disseminated pyrite.
453 - 461m	Dolomite; cream, tan, light to medium grey/brown, cryptocrystalline to medium crystalline, subhedral massive to sucrosic texture, slightly argillaceous in part, occasional coarse dolomite rhombs, poor intercrystalline porosity, trace quartz crystals, trace of light grey/green dolomitic shale.
461 - 478m	Dolomite; tan, light brown, cryptocrystalline to fine crystalline, subhedral, massive texture, very slightly argillaceous, tight, trace disseminated pyrite
478 - 483m	Dolomite; tan to light brown, very fine to fine crystalline, subhedral to euhedral, sucrosic texture, clean, poor intercrystalline and pinpoint porosity

483 - 499m	Dolomite; light grey, light brown, cryptocrystalline, occasionally microcrystalline, anhedral, massive texture, tight, dense
499 - 511m	Dolomite; white cream, light grey, cryptocrystalline, occasionally microcrystalline to very fine crystalline, anhedral, massive texture, tight, dense
511 - 522m	Dolomite; cream, tan, light brown, cryptocrystalline to fine crystalline, subhedral, massive to sucrosic texture, tight; trace of shale
522 - 537m	Dolomite; cream, light brown, microcrystalline to medium crystalline, sucrosic in part, euhedral in part, poor intercrystalline and vug porosity, with common laminae and bands of Shale; white light grey/green, soft, slightly dolomitic, bentonitic, with pyrite and dolomite inclusions, possibly derived from diatomaceous or radiolarian ooze
537 - 551m	Dolomite, cream, tan, cryptocrystalline, anhedral, massive texture, tight, traces of shale pyrite, traces of diatoms? or radiolarians?
551 - 567m	Dolomite; cream, tan, light grey, cryptocrystalline to microcrystalline, anhedral, massive texture, clean, tight, trace of chert, quartz crystals, pyrite
567 - 581m	Dolomite; cream to light brown, cryptocrystalline to microcrystalline, occasionally very fine crystalline, massive texture subhedral, very slightly argillaceous in part, tight, trace of chert
581 - 587m	Dolomite; cream to tan, cryptocrystalline to microcrystalline, massive texture, clean, anhedral, tight
587 - 600m	Dolomite; cream, light grey, light to medium brown, cryptocrystalline to fine crystalline, massive to sucrosic texture, subhedral, slightly argillaceous in part, trace of vuggy porosity, trace of pyrite, trace of quartz crystals, trace of shale
600 - 605m	MISSED SAMPLE
605 - 610m	Dolomite; cream, tan, light brown, cryptocrystalline to microcrystalline, anhedral, massive texture, clean to very slightly argillaceous, tight trace of grey/green shale partings, trace of pyrite, trace of chert
610 - 624m	Dolomite; cream, light grey/brown, cryptocrystalline, anhedral, massive texture, slightly argillaceous, hard, tight, trace of disseminated pyrite

624 - 636m Dolomite;, cream to light grey/brown, light brown, cryptocrystalline, occasionally microcrystalline, slightly limey, anhedral, massive texture, slightly argillaceous hard, tight, trace of pyrite

636 - 640m Dolomite; as above, with rare thin laminae of Shale; light grey/green, medium grey, grey/green, blocky, soft, slightly dolomitic in part, waxy in part, trace of disseminated pyrite

640 - 651m Dolomite; cream, tan, light brown, slightly limey, cryptocrystalline to microcrystalline, subhedral, massive texture, very slightly argillaceous, hard, tight

651 - 660m Dolomite; cream, tan, light grey/brown, limey to very limey, anhedral, massive texture, slightly argillaceous, hard, tight

660 - 671m Dolomite; cream, tan, cryptocrystalline, slightly limey, anhedral, massive texture, very slightly argillaceous, hard, tight

671 - 676m Dolomite; cream, tan, light brown, cryptocrystalline, slightly limey in part, anhedral, massive texture, very slightly argillaceous to argillaceous, hard, tight, trace of grey/green shale partings

676 - 684m Dolomite; cream, tan, cryptocrystalline, slightly limey in part, anhedral, massive texture, clean to slightly argillaceous, hard, tight

684 - 695m Dolomite; cream, tan, light brown, slightly limey in part, cryptocrystalline to microcrystalline, subhedral, massive texture, clean to slightly argillaceous, hard, trace of vug and fracture porosity, trace of chert, trace of grey/green shale partings.

695 - 711m Dolomite; cream, tan, slightly limey, cryptocrystalline anhedral, massive texture, clean to slightly argillaceous, hard, tight trace of chert, trace of anhydrite

711 - 721m Dolomite; light brown, light to medium grey/brown, slightly limey, cryptocrystalline, anhedral, massive texture, slightly argillaceous to very argillaceous, moderately hard, trace of anhydrite, with occasional thin bands of
Shale; medium to dark grey/green, blocky, moderately hard, waxy in part, slightly dolomitic, trace of disseminated pyrite inclusions.

721 - 727m Dolomite; tan, light to medium grey/brown, slightly limey, cryptocrystalline, anhedral, massive texture, slightly argillaceous to very argillaceous, tight; trace of disseminated pyrite, grades to dolomitic shale in part, interbedded with
Shale; light to medium grey, light to medium grey/green blocky, moderately hard, waxy in part, dolomitic in part, trace of disseminated pyrite, grades to argillaceous dolomite

SALINE RIVER FORMATION ? 727m (-329.9m SS)

727 - 734m Dolomite; cream, tan, light to medium grey/brown slightly limey, cryptocrystalline, occasionally microcrystalline, anhedral, massive texture, slightly argillaceous to very argillaceous, tight; grades to dolomitic shale in part, with common bands and beds of
Shale light to medium grey/green, as above, and
Shale; brick red, brown, blocky, moderately hard, slightly dolomitic, grades to very argillaceous dolomite in part

734 - 747m Interbeds of Dolomite; cream tan, light grey/brown, light red/brown, cryptocrystalline, anhedral, massive texture, clean to very argillaceous, tight; grades to dolomitic shale and
Shale; grey/green, green, red, as above

747 - 754m Dolomite; cream, tan, light grey/brown, red/brown, cryptocrystalline, anhedral, massive texture, clean to very argillaceous, tight; grades to dolomitic shale in part, interbedded with
Shale; grey/green, green red, red/brown, blocky, moderately hard, dolomitic in part, grades to very argillaceous dolomite in part

754 - 764m Interbeds of Shale; red, red/brown, green, grey/green, subfissile, slightly micromicaceous in part, waxy in part, dolomitic in part, anhydritic in part, and
Dolomite; light grey, light brown, red/brown, cryptocrystalline to very fine crystalline, anhedral, massive clean to argillaceous, tight, grades to shale in part, trace of anhydrite

764 - 778m Interbeds of Shale; red, green, red/brown, subfissile, micromicaceous in part, soft, waxy in part, dolomitic in part, anhydritic in part, and;
Dolomite; tan, light brown, grey/brown, cryptocrystalline, anhedral, massive, slightly argillaceous to argillaceous, trace of anhydrite cement, tight, grades to shale in part, trace of anhydrite

778 - 787m Interbeds of Shale; red, red/brown, green, grey/green, blocky to subfissile, micromicaceous in part, soft, waxy in part, dolomitic in part, anhydritic in part, and
Dolomite; cream, light grey/brown, red/brown, cryptocrystalline, anhedral, massive, abundant anhydrite cement, argillaceous to very argillaceous, tight, grades to shale in part, trace of anhydrite

787 - 796m Interbeds of Shale; green, grey/green, minor red, soft, blocky to subfissile, micromicaceous in part, waxy in part, very dolomitic in part, very anhydritic in part, grades to dolomite in part, and
Dolomite; cream, light brown, cryptocrystalline, anhedral, massive, abundant anhydrite cement, slightly argillaceous to very argillaceous, tight; grades to shale in part

SALT MEMBER 796m (-389.9m SS)

796 - 820m Salt; dissolved in mud system, with occasional thin bands and laminae of
Shale; red, green, grey/green, soft, blocky to subfissile, micromicaceous in part, waxy in part, dolomitic in part, anhydritic in part, and;
Anhydrite; light grey, translucent, flakey in part, argillaceous in part, dolomitic in part, and
Dolomite; as above

820 - 837m Halite; clear, minor orange and red, vitreous, soft, with rare thin bands of
Shale; green, grey/green, soft, waxy, dolomitic in part, anhydritic in part, traces of
Dolomite; cream, light grey/brown, cryptocrystalline, anhedral, massive, abundant anhydrite cement, argillaceous in part, tight; and
Anhydrite; light to medium grey, flakey, dolomitic in part, argillaceous in part, translucent in part, trace of salt casts

837 - 860m Halite; clear, minor orange, vitreous, soft, with rare thin laminae of
Anhydrite; light grey/green, blocky, soft, argillaceous in part, slightly dolomitic in part, rare laminae of shale and dolomite

860 - 875m Halite; clear, trace of orange, soft, vitreous with rare laminae of
Anhydrite; as above, trace of shale

SHALE MARKER 875m (-477.9m SS)

875 - 888m	Anhydrite; cream. light grey, light grey/green, soft, massive to microcrystalline, slightly argillaceous in part, chalky texture in part, slightly dolomitic in part, with minor bands and laminae of Shale; light grey, light grey/green, rarely brown and red, very soft, subfissile, micromicaceous in part, slightly dolomitic in part, waxy in part, anhydritic in part, trace of dolomite
888 - 910m	Halite; clear, minor to commonly orange, vitreous, soft, traces of anhydrite
910 - 915m	Halite; clear, rarely orange, soft, vitreous, trace of anhydrite
915 - 935m	Halite; clear, white, rarely orange, vitreous to drusy, soft, trace of anhydrite inclusions
935 - 942m	Anhydrite; cream, light grey, very fine crystalline, chalky texture, soft, slightly dolomitic in part, slightly argillaceous in part, minor halite inclusions, trace of dolomite, trace of shale, with thin bands of Halite, as above
942 - 955m	Halite; clear, white, rarely orange, soft, vitreous to drusy, rare anhydrite inclusions, trace of anhydrite laminae
955 - 972m	Halite; clear, minor white and orange, soft, vitreous to occasionally drusy, rare anhydrite inclusions,t race of anhydrite
972 - 981m	Halite; clear, minor white, commonly orange, soft, vitreous to occasionally drusy, rare anhydrite inclusions
981 - 1002m	Halite; clear, white, rarely orange, soft, vitreous to drusy, rare anhydrite inclusions
1002 - 1007m	Halite; clear, white, commonly orange, soft, vitreous to drusy, rare anhydrite inclusions, trace of anhydrite
1007 - 1014m	Halite; as above with rare thin laminae of Anhydrite; light grey, light orange, cream, soft, microcrystalline, flaky in part, argillaceous in part, slightly dolomitic in part
1014 - 1020m	Interbeds of Halite; as above, and Anhydrite; cream, tan, light grey, soft massive to microcrystalline, massive to chalky texture, argillaceous in part, dolomitic in part, and

1014 - 1020m (cont'd) Dolomite; cream, tan, soft, microcrystalline, trace of anhydrite cement, trace of calcite cement, slightly argillaceous in part, trace of pinpoint porosity, trace of shale

1020 - 1032m Halite; clear, white, minor orange, soft, vitreous to drusy, common anhydrite inclusions, trace of anhydrite

1032 - 1038m Interbeds of Halite; as above, and
Dolomite; as above

1038 - 1047m Halite; as above, with rare thin bands of
Dolomite; as above, and rare thin bands of
Anhydrite; cream, light grey, soft, chalky texture, slightly argillaceous, dolomitic, grades to anhydritic dolomite

1047 - 1053m Interbeds of Halite; clear, white, orange, soft, vitreous to drusy minor anhydrite inclusions, and
Dolomite; as above with thin bands and laminae of
Shale; green, subfissile, waxy in part, dolomitic in part, anhydrite in part, and
Anhydrite; as above

1053 - 1073m Halite clear, white, rarely orange, vitreous to occasionally drusy, rare thin bands of shale and anhydrite, and dolomite

1073m MOUNT CAP (-675m SS)

1073 - 1087m Interbeds of Shale; medium grey, grey/green, blocky to sue, slightly dolomitic in part, slightly anhydritic in part, and
Dolomite; cream, tan, light grey, cryptocrystalline to microcrystalline, common anhydrite cement, moderately hard, slightly argillaceous to argillaceous, trace of effective intercrystalline porosity, trace of anhydrite

1087 - 1099m Interbeds of Shale; medium grey, light to medium grey/green, blocky to subfissile, slightly dolomitic in part, and
Dolomite; cream, tan, light grey, cryptocrystalline to microcrystalline, common anhydrite cement, slightly argillaceous to argillaceous, trace of intercrystalline porosity, with rare thin bands or pockets of
Anhydrite, cream, white, massive to chalky texture, dolomitic in part, slightly argillaceous in part

1099 - 1104m Interbeds of Shale; as above,
Anhydrite; as above, and
Dolomite; cream, tan, light grey, cryptocrystalline to microcrystalline, common anhydrite cement, tight

1104 - 1113m Dolomite; cream, tan, medium brown, cryptocrystalline to microcrystalline, slightly limey in part, anhedral, trace of anhydrite cement, bitumen engrained, tight; with minor thin bands of
Shale as above, and
Anhydrite; as above, trace of dark brown bituminous shale laminae, trace of chert

1113 - 1123m Dolomite; cream, light to medium brown, microcrystalline to very fine crystalline, subhedral, sucrosic texture in part, silicified in part, common anhydrite cement, bitumen engrained, poor pinpoint and intercrystalline porosity with common bands of
Shale; light to medium grey, grey/green, red/brown soft to moderately hard, slightly dolomitic in part.

1123 - 1133m Shale; medium to dark grey, occasionally grey/green, blocky to subfissile, slightly micromicaceous in part, slightly calcareous, with occasional thin bands of
Dolomite; cream, tan, light to medium brown, cryptocrystalline to microcrystalline, slightly limey in part, silicified in part, trace of anhydrite cement, slightly argillaceous to argillaceous, bitumen engrained
trace of intercrystalline porosity

1133 - 1135m Limestone; cream, tan, light to dark brown, bioclastic, slightly dolomitic, slightly argillaceous to very argillaceous, bitumen engrained, trace of intergranular porosity, grades to limey shale, trace of dolomite, trace of anhydrite

1135 - 1142m Shale; medium to dark grey/green, medium grey, blocky to subfissile, micromicaceous in part, waxy in part, slightly calcareous in part, with rare thin bands of
Dolomite; as above

1142 - 1151m Shale; as above with rare thin laminae or beds of
Dolomite; tan, light to dark brown, cryptocrystalline to microcrystalline, slightly limey in part, argillaceous to very argillaceous, bitumen engrained, tight to trace porosity

1151 - 1161m Shale; as above with common bands of
Limestone; tan, light to dark brown, micritic to very fine granular, slightly argillaceous to argillaceous, slightly dolomitic, bitumen engrained in part, tight

1161 - 1177m Shale; medium grey, medium grey/green, subfissile, slightly micromicaceous in part, slightly calcareous in part, with common bands of
Limestone; tan, light to dark brown, micritic to very fine granular, slightly argillaceous to argillaceous, slightly dolomitic, bitumen engrained in part, tight; and rare bands of
Dolomite; tan to light brown, cryptocrystalline to microcrystalline, subhedral massive texture, clean to argillaceous, limey in part, trace of earthy porosity

1177 - 1186m Shale; light to medium grey/green, medium grey/brown, blocky to subfissile, micromicaceous in part, calcareous in part, moderately hard, with occasional thin bands of
Limestone; cream, tan, light to medium brown, micritic, moderately hard, calcite cement, argillaceous to very argillaceous, grades to limey trace pelecypoda shale in part, with rare thin bands of
Dolomite; cream, tan, cryptocrystalline to microcrystalline, subhedral, massive texture, argillaceous, tight

1186 - 1192m Shale; medium to dark grey dark grey/brown, blocky to subfissile, micromicaceous, calcareous, moderately hard, bituminous in part, with common beds of
Limestone; tan, light to medium brown, micritic to very fine granular, slightly dolomitic, argillaceous to very argillaceous, tight; common pelecypods

1192 - 1200m Dolomite; light to dark brown, cryptocrystalline to microcrystalline, slightly limey in part, massive texture, argillaceous to very argillaceous, bitumen engrained in part, very poor effective intercrystalline porosity, common dull orange fluorescence, slow weak yellow green massive cut, with occasional bands of
Shale; medium to dark grey/brown, occasionally brown/black, blocky to subfissile, micromicaceous, bituminous, and rare laminae of
Limestone; cream to tan, micritic, slightly argillaceous, tight

1200 - 1205m Dolomite; tan to dark brown, cryptocrystalline, very silty, argillaceous, bitumen plugged grades to siltstone, poor effective earthy porosity, abundant weak yellow fluorescence, slow weak yellow massive cut, with rare laminae of
Shale; as above

1205 - 1207m Dolomite; cream, tan, light to medium brown, cryptocrystalline to microcrystalline, argillaceous to very argillaceous, slightly limey in part, bitumen engrained in part, tight, trace of very weak orange fluorescence trace of slow weak yellow massive cut

1207 - 1211m Shale; medium grey, blocky to subfissile, very micromicaceous in part, slightly calcareous in part

1211 - 1217m Limestone; tan, light to medium brown, micritic to very fine granular, dolomitic to very dolomitic in part, slightly argillaceous to very argillaceous, slightly bitumen engrained, tight, grades to limey dolomite

1217m HIGH GAMMA RAY SHALE (-819.9m SS)

1217 - 1228m Shale; medium grey, subfissile, very micromicaceous slightly calcareous in part, moderately hard

1228 - 1229m Sandstone; white to light grey, quartz, silt to very fine grained, subangular, well sorted, clean, abundant dolomite cement, abundant silica cement, tight, poor intergranular porosity

1229 - 1231m Dolomite; cream, tan, light brown, cryptocrystalline, clean to argillaceous, slightly limey, tight

1231 - 1239m Sandstone; white to cream, light brown, silt to very fine grained, subangular, well sorted, abundant dolomite cement, abundant silica cement, clean to slightly argillaceous, poor intergranular porosity, with rare laminae of
Shale; medium grey, blocky to subfissile, very micromicaceousin part, slightly calcareous in part, moderately hard.

1239 - 1252m Shale; medium to dark grey, dark grey/brown, blocky to subfissile, micromicaceous to very micromicaceous, bituminous in part, slightly calcareous in part

1252 - 1260m Dolomite; medium to dark brown, mottled, occasionally light brown, cryptocrystalline to medium crystalline, subhedral, massive texture, bitumen engrained, argillaceous to very argillaceous, tight

1260 - 1263m Sandstone; white, cream, light grey, silt to very fine grained, subangular, well sorted, abundant dolomite cement, abundant silica cement, slightly argillaceous to argillaceous matrix in part, friable to moderately hard, poor effective intergranular porosity, common bright yellow fluorescence very slow weak yellow/green massive cut

1262 - 1265m Interbeds of Shale; as above, and
Dolomite; as above

1266 - 1274m Sandstone; cream, light grey, occasionally medium grey, silt to occasionally very fine grained, subangular, well sorted, abundant silica and dolomite cement, slightly argillaceous to argillaceous matrix in part, friable to moderately hard, occasional mica flakes, poor effective intergranular porosity, trace bright yellow fluorescence, very slow very weak yellow/green massive cut, with rare thin bands of
Shale; medium to dark grey, blocky to subfissile, micromicaceous in part, slightly dolomitic in part, slightly bituminous in part, and
Dolomite; medium to dark brown, mottled, cryptocrystalline to medium crystalline, subhedral, massive texture, silty and sandy in part, bitumen engrained, argillaceous to very argillaceous, tight

1274 - 1276m Dolomite; light to dark brown, mottled, microcrystalline to medium crystalline, subhedral, massive texture, rarely silty and sandy, bitumen engrained, argillaceous to very argillaceous, tight

1276 - 1302m SEE DETAILED CORE DESCRIPTION

1302 - 1320m Basalt; dark red, dark grey/red, dark grey, blocky, aphanitic to very fine crystalline, hematitic, hard, with rare fracture infilling of dolomite

1320 - 1333m Basalt; red, dark grey/red, grey, blocky, hard, aphanitic to fine crystalline, hard, hematitic in part, with common to abundant veins and fissures infilled with
Dolomite; red/brown, tan, cryptocrystalline to microcrystalline, dolomite cement, calcite cement, clean to slightly argillaceous, iron stained in part, tight

1333 - 1347m Basalt; red, maroon, red/brown, blocky, hard, aphanitic, occasionally very fine to fine crystalline, common mica flakes, hematitic

1347m F.T.D. (-949.9m SS)

DETAILED CORE DESCRIPTIONS

CORE #1 1276.0 - 1287.53m Cut 11.53m Rec 11.53m

Coring Times: (minutes/.20m)

27,19,20,19,22; 32,18,16,13,9; 12,3,3,4,3;
3,3,4,13,14; 10,11,13,23,24; 26,18,13,17,10 ;
28,15,9,10,10; 31,34,41,30,26; 22,19,18,12,13;
14,17,18,17,17; 17,16,33,5,2; 16,19,12

1276.0 - 1277.69m
1.69m

Dolomite; light to medium grey, dark grey/brown, microcrystalline to medium crystalline, subhedral, massive texture, bituminous shale laminae throughout, tight; no visible shows

1277.69 - 1278.28m
0.59m

Dolomite; light to medium grey/brown, fine to medium crystalline, subhedral, massive texture, abundant fine to medium quartz grains, rounded to well rounded, common argillaceous laminae, slightly limey, sand content increases toward base, occasionally grading to dolomitic sandstone, tight, no shows

1278.28 - 1280.17m
1.89m

Sandstone; tan to medium grey/brown, grey/green, quartz, silt to medium grained, occasionally coarse grained, common calcite cement, slightly argillaceous to argillaceous matrix, rounded to well rounded, poor to fair effective intergranular porosity, becoming increasingly fine grained towards base, trace of patchy weak yellow fluorescence fast yellow green massive cut, minor ball and pillow structures,

1280.17 - 1283.37m
3.20m

Sandstone; light grey, tan to light brown, light grey/brown, quartz, silt to very fine grained, rounded to well rounded, well sorted abundant silica cement, minor calcite cement slightly argillaceous matrix in part, occasional argillaceous laminae, poor to fair effective intergranular porosity, common yellow/white fluorescence, very slow weak yellow/white cut (shows to 1282.33) no shows 1282.33 - 1283.37m, fluorescence due in part to possible mineral fluorescence

1283.37 - 1284.87m
1.50m

Siltstone; light grey, tan, quartz, silt abundant silica cement, trace of calcite cement, subangular to subrounded, well sorted, common argillaceous laminae increases towards base, grading to silty shale in part, poor effective intergranular porosity, common yellow/white fluorescence, very slow weak yellow white cut, shows due in part to possible mineral fluorescence

1284.87 - 1287.53m

Shale; medium to dark grey/brown, blocky, hard, slightly micromicaceous, siliceous?, conchoidal fracture in part, common vertical and horizontal fractures, abundant to rare silt lenses and laminae decreasing towards base

- ALL INTERVAL CONTACTS ARE GRADATIONAL

CORE #2 1287.6 - 1302.0m Cut 14.4m Rec. 14.4m

Coring Times: (minutes/.20m)

10,8;	13,13,17,14,4;	2,4,3,4,3;
1,2,1,7,8;	10,14,11,6,7;	8,3,3,1,2;
10,9,9,12,11;	12,12,14,20,16;	24,5,8,7,7;
8,7,8,6,7;	7,6,8,7,9;	10,21,16,10,23;
13,13,14,14,13;	13,12,6,11,7;	13,14,14,15,14

1287.6 - 1288.7m
1.10m

Shale; medium to dark grey, fissile, slightly micromicaceous, trace of disseminated pyrite, common blebs and laminae of siltstone, possible pelecypod fragment

1288.7 - 1289.28m
0.58m

Sandstone; light to medium grey, quartz, minor chert fine to coarse grained, subrounded to well rounded, poorly sorted, hard, abundant silica cement, common silty matrix, abundant argillaceous laminae, rare pyrite blebs, poor to fair effective intergranular porosity, common mineral fluorescence

1289.28 - 1290.50m
1.22m

Sandstone; light grey/green, quartz, fine to coarse grained, subrounded to well rounded, poorly sorted, silty matrix, clean, poorly indurated, friable, poorly cemented with silica cement fair to good effective intergranular porosity, no visible shows, possible flushed, no bedding features, sharp upper contact

1290.5 - 1292.15m 1.65m	Sandstone; light grey, light grey/brown, quartz, silt to very fine grained, subrounded, well sorted, silica cement, minor siderite cement, hard, slightly argillaceous in part poor effective intergranular porosity, trace of cast porosity, occasional sideritic bands, bioturbated, common mineral fluorescence? (no cut, possibly due to very low permeability
1292.15 - 1293.04m 0.89m	Sandstone; (same as 189.28 - 1290.50m interval) with occasional vertical bands of coarse grained sandstone with dead oil staining
1293.04 - 1295.0m 1.96m	Sandstone; tan to dark grey, quartz, silt to very fine grained, subangular to subrounded, well sorted, silica cement, common argillaceous matrix, poor to fair effective intergranular porosity, trace of dead oil staining, trace of live oil staining, common weak orange fluorescence, fast yellow/orange massive cut, occasional siderite bands.
1295 - 1298.33m 3.33m	Sandstone; tan to dark grey, silt to fine grained, subangular to subrounded, moderately sorted, silica cement, argillaceous matrix in part, poor to fair effective intergranular porosity, common dead oil staining, abundant weak yellow/orange fluroescence, fast yellow/orange massive cut, petroliferous odor, common large scale cross bedding, hard,
1298.33 - 1298.78m 0.45m	Sandstone; dark red/grey, quartz, very fine to medium grained, subrounded to well rounded, moderately sorted, silica cement, argillaceous matrix, hard, poor effective porosity, no shows
1298.78 - 1299.18m 0.40m	Interbedded Sandstone; as above, and Basalt; red, aphanitic texture, hard
1299.18 - 1302.0m 2.82m	Basalt; red, maroon, hard, massive aphanitic texture, hematitic, dolomite infill of minor fracture.