

GEOLOGICAL REPORT

UNION BRINEX ANGUILLE H-98

**Lat. 47° 57' 40" N. Long. 59° 14' 00" W.
Province of Newfoundland**

November 21, 1973

HARRIS EXPLORATION LTD.

2603 - 505 6TH STREET S.W.
CALGARY 1, ALBERTA

TELEPHONE (403) 262-5242

November 21, 1973

Union Oil Company
of Canada Ltd.
335 Eighth Avenue S.W.
Calgary, Alberta

RE: GEOLOGICAL REPORT
UNION BRINEX ANGUILLE H-98

Dear Sirs:

Wellsite geological supervision was provided by Harris Exploration Ltd. for your well, Union Brinex Anguille H-98, from spud date to total depth at 7581 feet. The attached geological report is submitted as a summary of the pertinent drilling and geological data gathered from this well which was recently plugged and abandoned.

The well was drilled primarily as a stratigraphic test to evaluate the oil and gas potential of the expected thick section of sediments on the southwest coast of Newfoundland. The well spudded in Late Devonian - Early Mississippian (Belt, E.S., 1968, "Newfoundland Carboniferous Stratigraphy and its Relation to the Maritimes and Ireland"), Anguille Group, Cape John Formation. The well drilled from the surface to 7440 feet in a lithologically uniform section with no apparent formation change. The Cape John Formation is a fluvial deposit composed mostly of micaceous sub-arkosic sandstones and minor red and green micaceous shales.

Below 7440 feet metamorphic rocks were encountered. These beds appear similar to the overlying Cape John strata but the sandstones have been metamorphosed to quartzites.

No worthwhile reservoir beds were encountered by the well although the entire drilled section appeared to be highly fractured as indicated by abundant dolomite and quartz crystal fracture filling material and the fresh water flows from the well.

continued ... 2

Union Oil Company
of Canada Ltd.

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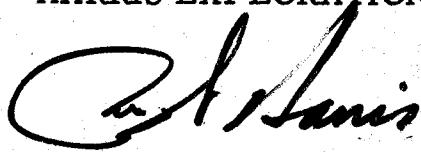
November 21, 1973

The well was air drilled from the surface to total depth which allowed continuous open-hole testing. No oil or gas shows were encountered.

We appreciate the opportunity of assisting you in this drilling venture.

Yours very truly,

HARRIS EXPLORATION LTD.



J. W. HARRIS, P. Geol.

JWH:sml

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SUMMARY OF WELL DATA

NAME: Union Brinex Anguille H-98

OPERATOR: Union Oil Company of Canada Limited

LOCATION: Lat. 47° 57' 40" N. Long. 59° 14' 00" W.

ELEVATION: K.B. 1420' G.L. 1405'

CONTRACTOR: Brinkerhoff Drilling Canada Limited

SPUDDED: August 31, 1973; 4:00 A.M.

COMPLETED DRILLING: October 31, 1973; 4:45 P.M.

RIG RELEASED: November 2, 1973; 8:00 P.M.

TOTAL DEPTH: 7581' K.B.

STATUS: Plugged & Abandoned

CASING: Surface:
9-5/8", 36#, K-55, buttress casing set at
695' K.B. with 430 sacks cement

ELECTRICAL SURVEYS: Schlumberger Dual Induction-Laterolog
2" & 5" Scales 6287' - 687'
Schlumberger Borehole Compensated Sonic Log
2" & 5" Scales
Schlumberger Continuous Dipmeter
5" Scale 6285' - 688'

ABANDONMENT PLUGS: #1. 7581' - 7381' with 100 sacks cement +
0.59% HR-4. Not felt.
#2. 6400' - 6200' with 100 sacks cement +
0.59% HR-4. Not felt.
#3. 750' - 650' with 100 sacks cement.
Felt at 630'.

EQUIPMENT & SERVICES

DRILLING CONTRACTOR: Brinkerhoff Drilling Canada Limited,
Rig #35
Toolpusher - Edward Los

DRILLING MUD SUPPLY: Dresser Magcoabar Canada

AIR DRILLING EQUIPMENT: Air Drilling Service, (Inter) Ltd.

ELECTRICAL SURVEYS: Schlumberger of Canada

CEMENTING: Halliburton Services Limited

WELL SUPERVISION: Engineering:

Union Oil Company of Canada Limited
Drilling Supervisors: Karl Jasinski and
Tom Ramsay

Geology:

Harris Exploration Ltd.
Wellsite Geologist: Joe W. Harris, P. Geol.

UNION BRINEX ANGUILLE H-98

DAILY PROGRESS REPORTS

8:00 A.M. Status

Aug. 31, 1973 23'. Drilling 17-1/2" hole with air (23' prog.). Well spudded at 4:00 A.M., August 31, 1973.

Sept. 1, 1973 36'. Drilling 17-1/2" hole with air hammer mist (13' prog.). Hole turned wet at 24' K.B.

Sept. 2, 1973 48'. Waiting on conductor pipe cement (12' prog.). Ran 1 joint 13-3/8" O.D., K-55, 61 lb./ft. buttress casing. Set at 48' K.B. with 30 sacks construction cement + 3% CaCl_2 . Cement in place at 3:30 A.M., September 2, 1973.

Sept. 3, 1973 48'. Drilling rat hole and heading up air head (0' prog.). Drilled 31' of rat hole with tongs. Kelly spinner out of order.

Sept. 4, 1973 58'. Drilling 12-1/4" surface hole with air hammer and mist (10' prog.). Started drilling 12-1/4" surface hole at 4:30 A.M., September 4, 1973.

Sept. 5, 1973 92'. Drilling 12-1/4" surface hole with air hammer and mist (34' prog.). Drilled from 48' - 68' with air. Hole started making 3 - 5 gal. water/min. at 68'. Injecting foam for mist drilling below 68'.

Sept. 6, 1973 126'. Drilling 12-1/4" surface hole with air hammer and mist (34' prog.). Hole making approximately 0.3 gal. water/min.

Sept. 7, 1973 192'. Drilling 12-1/4" surface hole with air hammer and mist (66' prog.). Hole making approximately 2 gal. water/min.

Sept. 8, 1973 231'. Drilling 12-1/4" surface hole with air hammer and mist (39' prog.). Hole making approximately 54 Bbl. fresh water/hr. below 198'.

Sept. 9, 1973 263'. Drilling 12-1/4" surface hole with air hammer and mist (32' prog.). Hole making estimated 60 Bbl. fresh water/hr.

Sept. 10, 1973 300'. Drilling 12-1/4" surface hole with air hammer and mist (37' prog.). Hole making estimated 60 Bbl. fresh water/hr.

UNION BRINEX ANGUILLE H-98

DAILY PROGRESS REPORTS
(continued)

Sept. 11, 1973 337'. Drilling 12-1/4" surface hole with air hammer and mist (37' prog.). Hole making 75 - 80 Bbl. fresh water/hr.

Sept. 12, 1973 396'. Drilling 12-1/4" surface hole with air hammer and mist (59' prog.). Hole making estimated 80 Bbl. fresh water/hr.

Sept. 13, 1973 437'. Drilling 12-1/4" surface hole with air hammer and mist (41' prog.). Hole making an estimated 80 Bbl. fresh water/hr.

Sept. 14, 1973 497'. Drilling 12-1/4" surface hole with air hammer and mist (60' prog.). No increase in water production.

Sept. 15, 1973 547'. Drilling 12-1/4" surface hole with air hammer and mist (50' prog.). No increase in water production.

Sept. 16, 1973 595'. Drilling 12-1/4" surface hole with air hammer and mist (48' prog.). No increase in water production.

Sept. 17, 1973 649'. Drilling 12-1/4" surface hole with air hammer and mist (54' prog.). Hole making estimated 80 Bbl. fresh water/hr.

Sept. 18, 1973 695'. Cementing surface casing (46' prog.). Ran 18 joints (699.77') 9-5/8" O.D. 36#, K-55, buttress casing. Set at 695' K.B. with 430 sacks construction cement. Cement in place at 9:36 A.M., September 18, 1973.

Sept. 19, 1973 695'. Nippling up B.O.P.'s and air equipment (0' prog.). Cement dropped 25' in annulus. Re-cemented top end to surface with 15 sacks construction cement + 2% CaCl_2 .

Sept. 20, 1973 695'. Drilling mouse hole (0' prog.). Headed up B.O.P.'s and leveled rig.

Sept. 21, 1973 695'. Pressure testing blind rams (0' prog.). Pressure tested for 24 hours to find leak. Found leak in space saver where bore was drilled through bolt hole on one side of outlet. Welded bolt in bolt hole and reassembled B.O.P. stack and tested same to 1500 psig. Held O.K.

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DAILY PROGRESS REPORTS
(continued)

Sept. 22, 1973 699'. Tripping in with stabilizer string (4' prog.). Pressure tested 3-1/2" pipe rams and Hydril to 1500 psig. for 15 min. Held O.K. Tested manifold and kelly cock. Held O.K. Ran in with 8-3/4" bit and drilled out cement and dried hole.

Sept. 23, 1973 840'. Drilling 8-3/4" hole with air hammer and mist (141' prog.). Drilled with air to 720' where fresh water seep of 1 Bbl./hr. was encountered. Changed over to mist drilling at 720'.

Sept. 24, 1973 1044'. Drilling with air hammer and mist (204' prog.). Hole making estimated 1 Bbl. fresh water/hr.

Sept. 25, 1973 1279'. Drilling with air hammer and mist (235' prog.). Fresh water production increased from 1 to 50 Bbl./hr. at 1050'.

Sept. 26, 1973 1471'. Tripping (192' prog.).

Sept. 27, 1973 1684'. Drilling with air hammer and mist (213' prog.). Fresh water production has increased to estimated 55 Bbl./hr..

Sept. 28, 1973 1921'. Tripping for Bit #12 (237' prog.).

Sept. 29, 1973 2069'. Fishing - tripping out with fish (148' prog.). Drilled with air hammer and mist to 2069'. Lost bit and 4" of bit sub in hole. Ran in with Bowen 8-1/8" O.D. over-shot and latched on to fish.

Sept. 30, 1973 2227'. Drilling with mist (158' prog.). Laid down air hammer and drilled ahead with conventional string. Hole making estimated 55 Bbl. fresh water/hr.

Oct. 1, 1973 2524'. Drilling with mist (297' prog.).

Oct. 2, 1973 2772'. Drilling with mist (248' prog.).

Oct. 3, 1973 3100'. Drilling with mist (328' prog.).

Oct. 4, 1973 3353'. Drilling with mist (253' prog.).

Oct. 5, 1973 3638'. Drilling with mist (285' prog.).

Oct. 6, 1973 3879'. Drilling with mist (241' prog.).

UNION BRINEX ANGUILLE H-98

DAILY PROGRESS REPORTS
(continued)

Oct. 7, 1973 3924'. Waiting on air drilling mechanic (45' prog.). Dropped survey barrel and 200' of sand line in hole. Tripped out to recover same. When attempting to unload hole to recommence drilling, oil pump drive on air booster went out and booster shut down. Bringing mechanic from Edmonton to repair booster.

Oct. 8, 1973 3924'. Waiting on air drilling mechanic (0' prog.).

Oct. 9, 1973 3984'. Drilling with mist (60' prog.). Waited 15-1/2 hrs. on air booster repairs.

Oct. 10, 1973 4261'. Drilling with mist (284' prog.). Hole making estimated 60 Bbl. fresh water/hr.

Oct. 11, 1973 4588'. Drilling with mist (320' prog.).

Oct. 12, 1973 4820'. Drilling with mist (232' prog.).

Oct. 13, 1973 5248'. Drilling with mist (428' prog.).

Oct. 14, 1973 5505'. Drilling with mist (257' prog.). Decrease weight on bit from 26 - 18 M# due to increase in deviation from 4-1/2° @ 4828' to 8° + at 5400'.

Oct. 15, 1973 5668'. Drilling with mist (163' prog.). Decrease weight on bit to 10 M#.

Oct. 16, 1973 5903'. Drilling with mist (235' prog.). Decrease weight on bit to 8 M#.

Oct. 17, 1973 6023'. Tripping in and reaming tight hole (120' prog.). Had 16° + deviation at 5965' and 6023'. Decreased weight on bit to 6 M#. Pulled out to change collar string and ran in to 2325' where string hung up.

Oct. 18, 1973 6023'. Tripping out of hole with fish (0' prog.). Reamed tight hole from 2335' - 2425' and pulled out of hole. Ran in with core barrel and found tight hole from 3600' - 3860'. Stuck core barrel at 3860'. Worked pipe and pulled loose with 155 M string weight. Pulled out of hole and found outer barrel had backed off at safety joint. Layed down inner barrel and ran back in hole and screwed into top of fish. Pulled 140 M string weight to pull loose.

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DAILY PROGRESS REPORTS
(continued)

Oct. 19, 1973 6030'. Tripping in with core barrel (7' prog.). Finished trip out with fish and ran back to bottom with bit. Cleaned out 30' of loose fill and drilled to 6030'. Pulled out of hole and trip in with core barrel.

Oct. 20, 1973 6043'. Reaming rat hole at 6042' (13' prog.). Cut Core #1. 6030' - 6043' (13'). Recovered 12.5'. Barrel jammed.

Oct. 21, 1973 6135'. Drilling with mist (92' prog.). Drilling with 4-10 M string weight due to deviation problems.

Oct. 22, 1973 6235'. Drilling with mist (100' prog.). Drilling with 8-10 M, 65 - 80 R.P.M.

Oct. 23, 1973 6310'. Tripping out to log (75' prog.). Mud: Wt. 8.4, Visc. 45. Drilled until Schlumberger arrived on location. Completed drilling at 11:30 P.M., October 22, 1973. Displaced hole to mud and circulated formation water out of hole.

Oct. 24, 1973 6310'. Waiting on Schlumberger repairs (0' prog.). Mud: Wt. 8.4, Visc. 45. Ran Schlumberger BHC-GR to bottom and found weight indicator not working. Pulled off bottom logging without running repeat section. Logged 3500' and found that camera was set for logarithmic scale. Ran back to bottom to relog section and motor died on unit. Could not restart due to fuel pump failure. Sent for new fuel pump and mechanic from Edmonton. Should arrive this afternoon.

Oct. 25, 1973 6310'. Logging with Schlumberger (0' prog.). Mud: Wt. 8.4, Visc. 45. Installed new injector pump on logging unit. 28 hours total down time. Ran Borehole Compensated Sonic Log and Four-Arm High Resolution Continuous Dipmeter.

Oct. 26, 1973 6376'. Drilling with mist (66' prog.). Ran Dual Induction-Laterolog and ran in with bit to drill ahead while waiting on Dipmeter interpretation.

Oct. 27, 1973 6557'. Drilling with mist (181' prog.).

Oct. 28, 1973 6830'. Drilling with mist (273' prog.). Decision made to continue drilling to 7500' using 3-1/2" aluminum pipe.

UNION BRINEX ANGUILLE H-98

DAILY PROGRESS REPORTS
(continued)

Oct. 28, 1973 (continued) Operator had previously obtained permission from Dept. of Mines & Energy to go to 7500'. Depth limitation is due to length of surface casing string and rig capacity.

Oct. 29, 1973 7156'. Drilling with mist (326' prog.).

Oct. 30, 1973 7500'. Drilling with mist (344' prog.). Reached 7500' at 8:00 A.M. but since lithology indicates the possibility of a formation change, to metamorphics, it was decided to drill slightly deeper to the next lithologic unit. Permission to deepen was obtained from the Dept. of Mines & Energy.

Oct. 31, 1973 7570'. Tripping in to cut Core #2 (70' prog.). Pulled out and layed down 68 joints of 3-1/2", 13.30# drill pipe and picked up core barrel and 67 joints of 3-1/2" aluminum pipe.

Nov. 1, 1973 7581'. Laying down core (11' prog.). Cut Core #2. 7570' - 7581' (11'). Core jammed at 7581'. Completed coring at 6:00 P.M. October 31, 1973. Waited 8 hours for gale force winds to subside to pull core.

Nov. 2, 1973 7581'. Waiting on cement in Plug #3 (0' prog.). Recovered Core #2. Set abandonment Plug #1. 7581' - 7381' with 100 sacks cement + 0.59% HR-4. C.I.P. at 4:00 P.M., November 1, 1973. Set Plug #2. 6400' - 6200' with 100 sacks cement + 0.59% HR-7. C.I.P. at 6:00 P.M. November 1, 1973. Set Plug #3. 750' - 650' with 100 sacks cement. C.I.P. at 2:00 A.M., November 2, 1973.

Nov. 3, 1973 7581'. Plugged and abandoned (0' prog.). Ran in with 3-1/2" drill pipe and felt Plug #3 at 630' K.B. at 10:00 A.M., November 2, 1973. Layed down pipe and B.O.P.'s. Rig released at 8:00 P.M., November 2, 1973.

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DEVIATION SURVEYS

<u>INCLINATION</u>	<u>DEPTH</u>	<u>INCLINATION</u>	<u>DEPTH</u>
°	ft.	°	ft.
7/8	80	3-1/2	2490
1-1/8	120	2-3/4	2660
1-1/8	150	2-7/8	2960
1-3/4	180	3	3353
1-7/8	210	3-3/8	3532
2-1/4	235	3-1/2	4195
1-3/4	255	4-1/2	4828
2	285	8+	5400
1-3/4	330	8+	5490
2	355	8+	5690
1-3/4	395	12-1/4	5813
1-3/4	425	12	5874
1-1/4	485	14	5965
1-7/8	510	16+	6023
2-1/4	545	15-3/4	6069
2-1/4	575	15-3/4	6099
2	600	16	6130
2-1/4	640	15-7/8	6160
2-1/4	660	16	6220
2	750	15-7/8	6347
1-3/4	872	16-1/2	6376
1-3/4	990	16	6437
2	1114	15	6466
2	1200	15	6525
4-1/2	1836	14-3/4	6556
4-3/4	1927	14	6615
4-1/2	2069	13	6736
5-1/4	2160	14-1/2	7006
4-1/2	2221	15-1/2	7565
3	2335		

UNION OIL COMPANY OF CANADA LIMITED

BIT RECORDFIELD Anguille Mts.DISTRICT NewfoundlandCONTRACTOR Brinkerhoff Drilling Can. Ltd. WELL Union Brinex Anguille H-98DATE DRILLING STARTED Aug. 31/73 COMPLETED Oct. 31/73 ACTUAL DRILLING 63 DAYS

BIT NO.	MAKE	TYPE	SIZE	DEPTH		FOOT- AGE	BIT HOURS	DRLG. SPEED	SERIAL No.	Cond. T-B-G	Remarks
				FROM	TO						
1B	Reed	YC4G	17-1/2	Surf	48	48	43.75	1.1	454675	3-3-I	Air drlg w/
1A	Sec	H-100	12-1/4	48	81	33	52.75	0.6	415601	1-1-I	hammer
2A	Sec	DMJ	12-1/4	81	92	11	6.00	1.8	913097	2-3-I	" " "
3A	Reed	YCG	12-1/4	92	211	119	55.00	2.2	033296	1-1-I	" " "
1A	Sec	H-100	12-1/4	211	287	76	46.25	1.6	415601	2-4-I	" " "
3A	Reed	YCG	12-1/4	287	332	45	19.00	2.4	033296	2-4-I	Air drlg w/
4A	Sec	S-88	12-1/4	332	502	170	71.50	2.4	447334	2-8-I	hammer &
5A	Sec	M-88	12-1/2	502	695	193	74.75	2.6	439220	2-2-I	foam mist
1	Sec	M44N	8-3/4	Drill out cement					451551		Air drlg w/ 6-3/4"
2	Sec	DMJ	8-3/4	695	699	4	6.00	0.7	320472	2-7-O	hammer & mist
3	Sec	H100P	8-3/4	699	752	53	9.50	5.6	450055	2-7-I	" " "
4	Sec	M88P	8-3/4	752	906	154	11.50	13.4	913776	2-6-I	" " "
5	Sec	H100P	8-3/4	906	1032	126	11.50	11.0	913671	2-3-I	" " "
6	Smi	9JSP	8-3/4	1032	1176	144	13.75	10.5	LP272	2-3-I	" " "
7	Sec	M88P	8-3/4	1176	1328	152	11.50	13.2	340934	2-7-I	" " "
8	Smi	SS9P	8-3/4	1328	1471	143	13.50	10.6	N4728	8-8-I	" " "
9	Sec	H100P	8-3/4	1471	1572	101	9.25	10.9	913870	1-6-I	" " "
10	Sec	H100P	8-3/4	1572	1729	157	12.25	12.8	913852	1-1-I	" " "
11	Sec	M88P	8-3/4	1729	1921	192	13.00	14.8	913926	1-8-I	" " "
12	Sec	M88P	8-3/4	1921	2069	148	12.50	11.8	424181	1-3-I	" " "
13	Sec	S86	8-3/4	2069	2579	510	40.00	12.8	913922	4-6-I	Air drlg w/ mist
14	Smi	3JS	8-3/4	2579	3235	656	42.00	15.6	NE802	1-1-I	" " "
15	Smi	3JS	8-3/4	3235	3924	689	53.75	12.8	NB291	2-1-I	" " "
RR 14	Smi	3JS	8-3/4	3924	4799	875	64.00	13.7	NE802	2-2-I	" " "
16	Smi	3JS	8-3/4	4799	5551	752	47.00	16.0	NE793	1-3-I	" " "
17	Sec	S86	8-3/4	5551	6023	472	35.00	13.5	913923	6-8-I	" " "
18	Sec	M44N	8-3/4	6023	6030	7	0.50	14.8	451540	1-1-I	" " "
19	Chr	Diam.	6-3/4	6030	6043	13	4.00	3.3	EC87310 Gd.	"	" " "
20	Sec	H100P	8-3/4	6043	6310	267	56.75	4.7	449916	1-2-I	" " "
21	Smi	3JS	8-3/4	6310	7570	1260	89.75	14.0	NB285	3-3-I	" " "
R 19	Crst	Diam.	6-3/4	7570	7581	11	4.25	2.6	EC87310 Gd.	"	" " "

UNION BRINEX ANGUILLE H-98

FORMATION TOPSK. B. 1420'

<u>Formation</u>	<u>(Abbrev.)</u>	<u>Depth</u>	<u>(Datum)</u>	<u>Remarks</u>
U. Dev. - L. Miss., Anguille Gp., Cape John Fm.	(D-Mcj)	Surface	(+1405)	Highly fractured sands and shales flowing fresh water
U. Dev. - L. Miss. Metamorphics	(D-M meta)	7440'	(-6035)	
Total Depth	(TD)	7581'	(-6161)	

DRILL STEM TESTS

No drill stem tests were taken.

OPEN HOLE TESTING WHILE AIR DRILLING

0' - 24'	Hole dry.
24' - 48'	Hole making mist of fresh water. Conductor pipe set at 48' K.B.
48' - 68'	Hole dry.
68' - 92'	Hole making 3 - 5 gal. fresh water/min.
68' - 126'	Hole making approx. 18 gal. fresh water/hr.
68' - 192'	Hole making approx. 120 gal. fresh water/hr.
68' - 231'	Hole making approx. 54 Bbl. fresh water/hr.
68' - 263'	Hole making est. 60 Bbl. fresh water/hr.
68' - 337'	Hole making 75 - 80 Bbl. fresh water/hr.
68' - 695'	Hole making est. 80 Bbl. fresh water/hr. Surface casing set at 695' K.B.
695' - 720'	Hole dry.
720' - 1050'	Hole making est. 1 Bbl. fresh water/hr.
720' - 1471'	Hole making est. 50 Bbl. fresh water/hr. Flow increased from 1 to 50 Bbl./hr. at 1050'.
720' - 4261'	Hole making est. 55 Bbl. fresh water/hr.
720' - 7581'	Hole making est. 60 Bbl. fresh water/hr.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
14.6'	Ground Level - Drilling starts in <u>Mississippian Anguille Gp., Cape John Fm.</u>
20'	SANDSTONE, gray green, very fine grained, calcareous, very micaceous, with red mica flakes, slightly argillaceous, hard, tight. Some red, fissile, sandy SHALE. Surface beds dipping $05^{\circ}E$, $5^{\circ}W$. Abundant vertical fractures.
30'	SANDSTONE, gray green to red, very fine, poorly sorted subangular quartz grains with abundant red and green mica flakes, calcareous cement, some argillaceous, hard, tight.
40'	SANDSTONE, brick red to gray green, very fine, poorly sorted subangular quartz grains with abundant red and green mica flakes, very argillaceous, calcareous, tight. Some red, sandy, fissile SHALE.
50'	SHALE, green to brick red, silty, calcareous, blocky, brittle, hard, slightly micaceous, grading to shaly SILTSTONE.
60'	SHALE, brick red with some green, as above, interbedded with SANDSTONE, greenish gray to red, fine to silty, calcareous, argillaceous, red and green mica, hard, tight, grading to SILTSTONE, gray, argillaceous.
70'	SANDSTONE, greenish gray, fine to medium, subangular, fair sorted quartz and minor pink feldspar (?) grains, some red mica flakes, bright green intergranular clay patches, calcareous, hard, tight with some red sandy SHALE as above.
80'	SANDSTONE and SHALE as above with a few large (up to 7 mm.) white to clear quartz crystals (fracture fill ?).
90'	SANDSTONE, gray green, fine to coarse with some pebbles of gray siltstone, white quartz and gray shale, poorly sorted, angular quartz with minor feldspar and hornblende grains, calcareous and bright green clay (chlorite?) cement. Some SHALE, gray green to light gray, micromicaceous, fissile, silty. Sandstone is hard and tight, trace vuggy porosity in quartz crystals.
100'	SHALE, brick red, very sandy with very fine quartz grains, micaceous, green, red, and black mica, calcareous. Some SANDSTONE, gray to green to light brown to red, very fine, calcareous, slightly micaceous, quartzose with traces of red and green clay particles, hard, tight.
110'	SHALE, brick red, sandy to silty, slightly calcareous, some green mica, fissile, interbedded with SANDSTONE, reddish brown, very fine, well sorted, quartz with minor hornblend, calcareous, argillaceous, hard and tight.
120'	SANDSTONE, light reddish brown, very fine, well sorted quartz grains with a few flakes of red and green mica, calcareous, argillaceous in part, hard, tight. Some SHALE as above.
130'	SANDSTONE, gray green, fine to very fine, angular quartz grains with red and green mica, some feldspar and red and green clay, calcareous, hard, tight. SHALE as above. Some SANDSTONE as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
140'	SANDSTONE, gray green, fine to very fine, angular quartz grains with red and green mica, pink feldspar and some green clay, calcareous cement, hard, tight. Some SHALE, brick red, sandy to silty, slightly calcareous, fissile.
150'	SANDSTONE, reddish brown, very fine, well sorted, angular quartz with a trace of pink feldspar grains, some red and green mica, calcareous, slightly argillaceous, hard, tight.
160'	SANDSTONE as above grading to SILTSTONE, brick red, argillaceous, micaeuous, calcareous with some SHALE, brick red, micaceous with red and green mica, silty to sandy, slightly calcareous, fissile.
170'	SHALE as above with thin interbeds of SANDSTONE and SILTSTONE as above.
180'	SANDSTONE, greenish gray, fine to very fine, fair sorted, angular quartz grains with abundant red mica and minor green mica and flecks of red clay, calcareous, argillaceous in part, hard, tight, with SHALE as above.
190'	SHALE, gray green to brick red, very silty, slightly micaceous, calcareous, fissile. Some SANDSTONE, reddish brown, very fine, calcareous, argillaceous, hard tight.
200'	SANDSTONE, gray green, very fine, angular quartz grains with green mica, calcareous, tight, argillaceous grading to SHALE, gray green, sandy to silty, calcareous, fissile, and trace red SHALE as above.
210'	SANDSTONE, gray, medium to fine, angular, fair sorted quartz and minor white feldspar grains, some muscovite, siliceous, slightly calcareous, some green clay, very hard and tight with abundant fractures filled with white quartz crystals laced with some white dolomite crystals.
220'	SANDSTONE as above, trace white quartz and dolomite crystals.
230'	SANDSTONE as above, trace red silty SHALE.
240'	SANDSTONE, reddish brown, very fine, abundant red mica, calcareous, hard, <u>trace fair intergranular porosity</u> . Trace SHALE, green, fissile.
250'	SANDSTONE, greenish gray, fine to very fine, angular, fair sorted quartz grains with green mica, calcareous, hard, tight, some white feldspar.
260'	SANDSTONE, gray green, as above.
270'	SANDSTONE, reddish brown, very fine to fine, calcareous, slightly argillaceous, quartz with some red mica, hard, tight, with SHALE, brick red, fissile. slightly micaceous, silty.
280'	SANDSTONE, reddish brown to gray, fine to very fine, angular quartz and some white and pink feldspar grains, abundant red and green mica, calcareous, argillaceous in part, hard, tight. Some SHALE as above.
290'	SANDSTONE, reddish brown, very fine, as above. Some SHALE as above.
300'	SANDSTONE as above. Increase in SHALE as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
310'	SANDSTONE, reddish brown, very fine, angular quartz and white and pink feldspar grains, red and green mica, calcareous, argillaceous in part, hard, tight. SHALE, brick red, silty, fissile, slightly micaceous.
320'	SHALE, brick red, fissile, micro-micaceous, silty. SILTSTONE, gray to reddish brown, argillaceous, slightly calcareous, red and green mica, hard. Traces of green silty SHALE and SANDSTONE as above.
330'	SILTSTONE, reddish brown to greenish gray, calcareous, argillaceous, sandy, red and green mica, hard, tighr. SHALE as above.
340'	SHALE as above. SANDSTONE, greenish gray, very fine, angular quartz and feldspar grains, red and green mica, calcareous, hard, tighr. Some SILTSTONE as above.
350'	SANDSTONE, greenish gray, fine, as above, mostly loose grains and dust.
360'	SANDSTONE, as above with some intergranular green clay (chlorite).
370'	SANDSTONE, greenish gray, fine to medium, fair sorted, angular quartz and white and pink feldspar grains, slightly micaceous, calcareous with green clay flecks, hard, tight.
380'	SANDSTONE as above. Sample mostly loose grains and dust.
390'	SANDSTONE as above.
400'	SHALE, greenish gray, slightly calcareous, silty in part, micro-micaceous; cuttings are well rounded granules due to turbulence of water in sample catching pail on blooey line. SANDSTONE, as above.
410'	SANDSTONE, greenish gray, fine to medium, fair sorted, angular quartz with abundant pink orthoclase grains, trace green mica (muscovite), calcareous, intergranular green clay, hard, tight. Some SHALE as above.
420'	SANDSTONE as above. SHALE, greenish gray, fissile, silty, hard, micro-micaceous. Some SHALE, red, calcareous, fissile, micaceous, sandy to silty.
430'	SANDSTONE as above. SHALE, green to brick red to maroon, calcareous, silty, fissile, brittle, micaceous, sandy.
440'	SHALE, brick red to maroon to green, as above; abundant rounded granules due to water turbulence in catching pail. Some SANDSTONE as above.
450'	SHALE as above with some green and greenish gray. Minor SANDSTONE as above.
460'	SANDSTONE, greenish gray, fine to medium, angular quartz and white and pink feldspar, calcareous, green and red mica, minor green clay, hard, tight. SHALE, brick red, sandy to silty, calcareous, micaceous, fissile, grading to SANDSTONE, reddish brown, fine to very fine, argillaceous, calcareous, hard, tight.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
470'	SANDSTONE, greenish gray to reddish gray, fine to very fine to medium, angular quartz and white and pink feldspar grains, calcareous, slightly micaceous, green and some red clay flecks, hard, tight. SHALE, brick red, silty to sandy, micaceous, slightly calcareous, fissile, brittle.
480'	SANDSTONE, brownish red, very fine to silty, slightly calcareous, argillaceous, with some greenish gray, fine, as above, hard, tight. Some SHALE as above.
490'	SHALE, brick red, micaceous, silty in part, slightly calcareous, fissile, brittle. SANDSTONE, greenish gray to brick red, fine to very fine, calcareous, fair sorted, angular quartz and feldspar grains, slightly micaceous, argillaceous in part, hard, tight.
500'	SHALE as above. SANDSTONE, reddish brown to greenish gray, very fine to fine grained, as above.
510'	SANDSTONE, gray green to reddish brown, fine to medium to very fine, angular quartz and feldspar grains, fair sorting, calcareous, red and green intergranular clay, red and green mica, hard tight. SHALE as above.
520'	SHALE, dark brownish red, slightly calcareous, fissile, silty in part, micro-micaceous. Minor SANDSTONE, gray green, fine to very fine, as above.
530'	SANDSTONE, greenish gray, fine, fair sorted, angular quartz and feldspar grains, red and green mica, some green clay, calcareous, hard, tight. SHALE, dark brownish red, sandy to silty, slightly calcareous, fissile.
540'	SANDSTONE, greenish gray grading to reddish brown, argillaceous, as above. Trace SHALE as above.
550'	SANDSTONE, greenish gray, fine, angular, well sorted quartz and white and pink feldspar, red and green mica, calcareous, hard, tight.
560'	SHALE, brick red, fissile, micaceous, slightly calcareous. Some SANDSTONE, greenish gray to reddish brown, fine to very fine, as above.
570'	SHALE as above. SANDSTONE, reddish brown to greenish gray, very fine to fine, argillaceous, as above.
580'	SANDSTONE and SHALE as above.
590'	SANDSTONE, greenish gray, fine to very fine to medium, angular, fair sorted quartz and white and pink feldspar grains, calcareous, slightly argillaceous, micaceous, hard, tight. SHALE as above, trace green.
600'	SANDSTONE, greenish gray, fine to very fine, as above. Some SHALE as above.
610'	SANDSTONE, greenish to reddish gray, fine to very fine, as above. Trace SHALE as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
620'	SHALE, dark brick red to gray to green, silty, red is slightly calcareous, fissile, micro-micaceous. SANDSTONE, greenish gray to gray, very fine to silty, calcareous in part, micaceous, hard, tight.
630'	SHALE, dark brick red, micaceous, fissile, calcareous. SANDSTONE, reddish gray to reddish brown, very fine, calcareous, micaceous, argillaceous in part, hard, tight.
640'	SANDSTONE as above. SHALE as above.
650'	SANDSTONE, greenish gray, fine, well sorted, angular quartz and some white and pink feldspar grains, slightly micaceous, calcareous, green clay flecks, hard tight. Trace of calcite fracture lining.
660'	SANDSTONE as above. SHALE, brick red, sandy to silty, calcareous, fissile, micaceous.
670'	SANDSTONE, reddish gray to reddish brown, fine to very fine, well sorted, angular quartz and feldspar grains, calcareous, argillaceous in part, hard, tight with a trace of SANDSTONE as above. SHALE as above.
680'	SHALE and SANDSTONE as above.
690'	SHALE, dark brick red, as above. SANDSTONE as above.
695'	SHALE as above with minor SANDSTONE as above.
Total depth of 12 $\frac{1}{4}$ " hole at 695' K.B.	
710'	SHALE, dark brick red, sandy to silty in part, slightly calcareous, micaceous in part. SANDSTONE, brown to reddish brown, very fine to fine, angular grains, fair sorted, calcareous, argillaceous, red and green mica, hard, tight.
720'	SHALE, as above, some slightly schistose, some hairline calcite filled fractures. SANDSTONE as above.
730'	SANDSTONE, greenish gray, fine, green mica, slightly dolomitic, angular, fair sorted quartz grains, hard, tight. SHALE as above. Abundant coarse dolomite and quartz crystals (fracture fill?). Hole making water mist.
740'	SANDSTONE as above with some dolomite and quartz crystal lined fractures. Minor SHALE as above.
750'	SHALE, gray green, schistose, sandy, subwaxy luster, micaceous. SANDSTONE, greenish gray, coarse to pebbles, dolomitic, slightly micaceous, dolomite and quartz crystal lined fractures, pebbles are varicoloured, very fine to coarse grained quartzite and quartzitic sandstone, calcareous, occasional pebble fragment shows rounding, tight.
760'	SANDSTONE, greenish gray, fine to very fine, dolomitic, slightly argillaceous, slightly micaceous, angular quartz grains, hard tight. Trace SHALE as above. Trace pebbles as above.
770'	SANDSTONE as above with a trace of quartz and dolomite crystal fracture filling.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
780'	SANDSTONE, greenish gray to reddish brown, very fine to fine, argillaceous, dolomitic, micaceous, hard, tight. SHALE, brick red to gray green, fissile, sandy, dolomitic, micaceous.
790'	SHALE as above. SANDSTONE, greenish gray, as above.
800'	SHALE, brick red, as above with a trace of greenish gray as above. SANDSTONE as above.
810'	SHALE, brick red, as above, some greenish gray, as above. SANDSTONE, greenish gray to reddish brown, as above.
820'	As above.
830'	SHALE, dark brick red, sandy to silty, dolomitic, micaceous, fissile. SANDSTONE, reddish brown, very fine to silty, argillaceous, dolomitic, red and green mica, angular quartz and some pink feldspar, fair sorted, dolomitic, argillaceous, hard, tight.
840'	As above.
850'	SHALE, dark brick red, micro-micaceous, fissile, some sandy, some with a silky sheen.
860'	SANDSTONE, greenish gray to reddish brown, fine to very fine, angular, fair sorted quartz and white to pink feldspar grains, calcareous, red and green mica, argillaceous, hard, tight. SHALE as above.
870'	SANDSTONE, dark greenish gray, very fine to fine, calcareous, argillaceous, very micaceous, dark green mica, hard, tight.
880'	SANDSTONE, greenish gray, fine, argillaceous, dolomitic, angular, fair sorted quartz with a trace of feldspar, micaceous, hard, tight.
890'	SANDSTONE, greenish gray, fine to medium, slightly micaceous, as above.
900'	SANDSTONE, greenish gray, medium, well sorted, angular quartz and feldspar grains, dolomitic, slightly argillaceous, hard, tight. Abundant loose coarse white quartz and dolomite crystal fracture lining.
910'	SANDSTONE, reddish brown, very fine to fine, angular, fair sorted, red and green mica, argillaceous, dolomitic, hard, tight, some greenish gray, as above. SHALE, brick red, fissile, red and green mica, dolomitic.
920'	SHALE as above. SANDSTONE, reddish brown, very fine, slightly micaceous, as above.
930'	SHALE and SANDSTONE as above with a trace of SANDSTONE, greenish gray, fine, fair sorted, angular grains, dolomitic, argillaceous, hard, tight.
940'	SHALE as above. Trace of SANDSTONE as above.
950'	SHALE as above. Some SANDSTONE, reddish brown, very fine, micaceous, dolomitic, argillaceous, hard, tight.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTIONS</u>
960'	SHALE, brick red, fissile, dolomitic, red and green mica. Some SANDSTONE, reddish brown, very fine, micaceous, dolomitic, argillaceous, hard, tight.
970'	SHALE as above. Trace of SANDSTONE as above.
980'	SHALE as above, silty to sandy. Trace of SANDSTONE as above.
990'	SHALE as above, very silty. Trace of SANDSTONE, greenish gray, very fine, as above.
1000'	SHALE, greenish gray, silty to sandy, dolomitic, micro-micaceous, fissile to blocky. Trace of SANDSTONE as above.
1010'	SHALE, greenish gray to gray green, as above. Some SANDSTONE, greenish gray, very fine to fine, slightly micaceous, dolomitic, argillaceous, angular, fair sorted grains, hard, tight.
1020'	SANDSTONE and some SHALE as above. Abundant loose quartz and dolomite crystal fracture lining.
1030'	SANDSTONE, gray, fine, well sorted quartz and gray and pink feldspar grains, red and clear muscovite mica, calcareous, slightly argillaceous, hard, tight.
1040'	SHALE, dark brick red, silty, fissile, calcareous, micro-micaceous. SANDSTONE, reddish brown, fine to very fine, fair sorted, angular grains, slightly micaceous, argillaceous, calcareous, hard, tight.
1050'	SANDSTONE, reddish brown to greenish gray, very fine to fine, as above. SHALE as above. <u>Water flow increased from mist to 50 bbl./hr.</u>
1060'	SANDSTONE, greenish gray, fine, fair sorted, angular quartz and gray to pink feldspar, some red and green mica, calcareous, argillaceous, hard, tight.
1070'	SHALE, dark brick red, as above. SANDSTONE as above.
1080'	SHALE as above. SANDSTONE, very fine to fine, as above.
1090'	SHALE as above. Trace of SANDSTONE as above.
1100'	SANDSTONE, gray, very fine, angular, fair sorted quartz and gray to pink feldspar, some red and green mica, dolomitic, hard, tight. Some SHALE as above.
1110'	SANDSTONE, reddish brown to greenish gray, very fine to fine, as above. SHALE as above.
1120'	SANDSTONE, dark reddish brown, very fine to silty, as above. SHALE as above.
1130'	SANDSTONE, reddish brown to greenish gray, very fine, angular, fair sorted quartz and feldspar grains, red and green mica, dolomitic, hard, tight. SHALE, dark brick red, fissile, micaceous, silty, dolomitic.
1140'	SANDSTONE, reddish brown, very fine to silty, some argillaceous, as above. SHALE as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
1150'	SANDSTONE, reddish brown, very fine to silty, angular, fair sorted quartz and feldspar grains, red and green mica, dolomitic hard, tight. Some SHALE as above. Some white dolomite and quartz crystal fracture filling.
1160'	As above.
1170'	SHALE and SANDSTONE as above.
1180'	SHALE as above. Some SANDSTONE reddish-brown, very fine to fine, as above.
1190'	SANDSTONE, reddish-brown to greenish gray, very fine to fine, argillaceous, as above. Trace of SHALE as above.
1200'	SANDSTONE, dark reddish-brown, very fine to silty, argillaceous, dolomitic, micaceous.
1210'	SHALE, dark brick-red, fissile, slightly dolomitic. SILTSTONE, dark reddish-brown, argillaceous, dolomitic, micro-micaceous. Some SANDSTONE as above.
1220'	SHALE as above, some silty. SANDSTONE, greenish-gray, very fine, dolomitic, red and green mica, angular, fair sorted grains, hard, tight.
1230'	SANDSTONE, very fine to silty, as above. Traces of SHALE, dark brick-red to gray-green, silty, as above.
1240'	SANDSTONE, greenish-gray, very fine to silty, angular, fair sorted quartz and gray and pink feldspar, slightly micaceous, dolomitic, hard, tight. Trace of brick-red and gray-green SHALE as above.
1250'	SANDSTONE, very fine to silty to fine, as above. Some brick-red and a trace of gray green SHALE as above.
1260'	SILTSTONE, greenish-gray, dikinutucm argukkaceiysm nucrionucaceiys, SANDSTONE as above. SHALE, gray-green, fissile, dolomitic, micro-micaceous, silty in part.
1270'	SILTSTONE as above, some sandy. SANDSTONE, very fine to silty as above. Trace SHALE as above.
1280'	SILTSTONE and SANDSTONE as above. Some gray-green SHALE as above. Abundant white quartz and dolomite crystal fracture filling.
1290'	SILTSTONE as above. Trace SANDSTONE as above. Abundant white quartz and dolomite crystal fracture filling.
1300'	SANDSTONE, greenish-gray, very fine, angular, fair sorted quartz grains, slightly argillaceous, dolomitic, micro-micaceous, hard, tight.
1310'	SANDSTONE, greenish-gray, fine, fair sorted, angular quartz and some gray and a trace of pink feldspar, slightly micaceous, dolomitic, slightly argillaceous, hard, tight.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTIONS</u>
1320'	SHALE, dark brick red, fissile, micro-micaceous, slightly dolomitic, silty to sandy. Some SANDSTONE, greenish-gray, fine, fair sorted, angular quartz and gray to pink feldspar grains, red and clear muscovite mica, dolomitic, slightly argillaceous, hard, tight.
1330'	SHALE as above, trace sandy.
1340'	SHALE, brick-red to gray-green, as above. Some SANDSTONE, light reddish-brown, fine, angular, fair sorted quartz and feldspar, dolomitic, hard, tight.
1350'	SANDSTONE as above. Some SHALE, brick-red and green, as above, few pieces of both are schistose.
1360'	SHALE, dark brick-red to gray-green to gray, fissile to blocky, slightly dolomitic, micro-micaceous, red and green mica.
1370'	SANDSTONE, reddish-brown to greenish-gray, very fine to silty, dolomitic, argillaceous, micro-micaceous, hard, tight. SHALE, dark brick-red to greenish-gray, silty, as above.
1380'	Shale, dark brick-red as above. Some SANDSTONE as above.
1390'	SANDSTONE, greenish-gray, fine to very fine, as above.
1400'	SILTSTONE, gray, dolomitic, argillaceous, micro-micaceous. SHALE, gray, fissile to blocky, micro-micaceous, silty in part, dolomitic. Minor SANDSTONE as above.
1410'	SILTSTONE, as above, some sandy. SHALE as above.
1420'	SANDSTONE, light greenish-gray, very fine, fair sorted, angular quartz grains, clear mica, slightly dolomitic, hard, tight.
1430'	SANDSTONE, as above with a few pieces quartzitic. Trace of dark gray silty SHALE.
1440'	SANDSTONE, gray, very fine to fine, dolomitic, micaceous, angular quartz grains, fair sorted, hard, tight.
1450'	SANDSTONE, as above. Trace of SHALE, gray, fissile.
1460'	SANDSTONE, gray to buff to greenish-gray, very fine to silty, as above.
1470'	SANDSTONE, greenish-gray to reddish-brown, very fine to fine, dolomitic, angular, poorly sorted grains, slightly micaceous, hard, tight. SHALE, dark brick-red, fissile to blocky, dolomitic, micro-micaceous.
1480'	SHALE as above. SANDSTONE, greenish-gray, argillaceous, as above.
1490'	SHALE as above. SANDSTONE, reddish-brown, very fine, fair sorted quartz and some pink feldspar grains, angular, dolomitic, argillaceous, red mica, hard, tight.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
1500'	SHALE, dark brick red, fissile to blocky, micro-micaceous, dolomitic. SANDSTONE, reddish brown, very fine, angular, poorly sorted, red to green mica, calcareous, hard, tight.
1510'	SANDSTONE, greenish-gray to green, very fine to fine, poorly sorted, angular quartz and gray to pink feldspar grains, red and green mica, calcareous, argillaceous, hard, tight. SHALE as above, some dark gray, very micaceous.
1520'	SHALE, dark brick-red to gray, as above. SANDSTONE as above.
1530'	SANDSTONE, gray to greenish-gray, fine to very fine, dolomitic, some clear mica, fair sorted, angular quartz and feldspar, hard, tight. Some SHALE, brick-red, as above.
1540'	SANDSTONE, greenish-gray, fine to medium, calcareous, fair sorted, angular quartz and white to pink feldspar grains with a few coarse orthoclase grains, some clear mica, hard, tight.
1550'	SANDSTONE, gray, dolomitic, abundant fine to medium orthoclase grains, as above.
1560'	SANDSTONE, gray to greenish-gray to reddish brown, fine to very fine, poorly sorted, angular quartz and white to pink feldspar grains, red and green mica, calcareous to dolomitic, hard, tight. Some SHALE, brick-red, fissile, micro-micaceous.
1570'	No sample.
1580'	SANDSTONE, light brown, dolomitic, abundant white and pink feldspar, as above. Some SHALE as above.
1590'	SHALE, sandy, as above. SANDSTONE, greenish-gray to light brown, as above.
1600'	SHALE as above. SANDSTONE, very fine to fine, as above.
1610'	SHALE as above. SANDSTONE, fine to very fine, as above.
1620'	SANDSTONE, greenish-gray to reddish brown, as above. SHALE as above.
1630'	SANDSTONE, fine, calcareous, as above. SHALE as above.
1640'	SHALE as above. SANDSTONE, reddish-brown to greenish-gray, argillaceous, as above.
1650'	SHALE as above with some SANDSTONE, reddish-brown, fine to very fine, dolomitic, as above.
1660'	SHALE as above with minor SANDSTONE as above.
1670'	SHALE as above. SANDSTONE, greenish-gray, fine to medium, fair sorted, angular quartz and abundant white and pink feldspar, red and green mica, dolomitic, hard, tight.
1680'	As above with an increase in SANDSTONE as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
1690'	SANDSTONE, greenish-gray to reddish-gray, fine, fair sorted, angular quartz and abundant white and pink feldspar, red and green mica, dolomitic, hard, tight.
1700'	SHALE as above. SANDSTONE, reddish-brown to greenish-gray, fine to very fine, argillaceous, as above.
1710'	SHALE as above. SANDSTONE, fine to medium, as above.
1720'	SANDSTONE, gray to greenish-gray, fine to very fine to medium, poorly sorted, angular quartz and gray and pink feldspar, some red and green mica, calcareous, hard, tight. Some SHALE, brick red, dolomitic, blocky to fissile, sandy, micaceous.
1730'	SANDSTONE, gray to reddish-gray, fine to very fine, as above. SHALE as above.
1740'	SANDSTONE, greenish-gray to reddish tan, fine to medium to very fine, poor sorting, subangular quartz and white to pink feldspar, some red and green mica, dolomitic, gritty, slightly friable, tight. SHALE as above.
1750'	SANDSTONE, greenish-gray to gray, as above with a <u>trace of poor porosity</u> , Minor SHALE as above. Abundant white quartz and dolomite fracture fill.
1760'	SANDSTONE, gray to reddish-gray, very fine to fine, poorly sorted, dolomitic, some argillaceous, red and green mica, soft, slightly friable, tight. SHALE, brick red to gray, as above.
1770'	SANDSTONE, gray to greenish-gray, very fine to fine, poorly sorted, angular quartz and white to pink feldspar, dolomitic, red and green mica, hard with some soft as above with white clay cement. SHALE as above. SILTSTONE, gray, micaceous, dolomitic, argillaceous.
1780'	SANDSTONE, greenish gray, fine, fair sorting, angular quartz and white and pink feldspar, slightly micaceous, dolomitic, gritty, slightly friable, tight. Minor SHALE as above.
1790'	SANDSTONE, reddish-brown, very fine, angular, calcareous, argillaceous, micro-micaceous, hard, tight with minor SANDSTONE as above. SHALE, green and brick red, blocky, sandy, micaceous, dolomitic.
1800'	SANDSTONE, reddish-brown, dolomitic to calcareous, as above. Some SHALE as above.
1810'	SANDSTONE, reddish-brown to tan, dolomitic to calcareous, argillaceous, some with white clay, hard, tight, as above. SHALE, brick-red, sandy, blocky, micro-micaceous, dolomitic.
1820'	SANDSTONE, light-brown to reddish brown, very fine, angular quartz and feldspar, some red mica, dolomitic, hard, tight. Minor SHALE as above.
1830'	SANDSTONE as above. Trace of SHALE, brick red to green, as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
1840'	SANDSTONE, light-brown to reddish-brown to green, very fine, angular quartz and feldspar, some red mica, dolomitic, hard, tight. SHALE, dark brick red, sandy, dolomitic, blocky, micro-micaceous.
1850'	SANDSTONE, brown to greenish-gray, very fine to fine, fair sorting, angular quartz and gray and pink feldspar, slightly micaceous, dolomitic, hard tight. Trace of SHALE, brick-red to green, silty, as above.
1860'	SANDSTONE, greenish-gray to brown, fine to very fine, as above. Traces of SHALE, brick-red to gray to green, as above.
1870'	SANDSTONE, greenish-gray to gray, very fine to fine, as above. Minor SHALE, dark reddish-gray, blocky, silty, dolomitic, slightly micaceous.
1880'	SANDSTONE, greenish-gray to dark-gray, fine to very fine to medium, slightly micaceous, as above. SILTSTONE, dark gray, dolomitic, slightly micaceous, argillaceous, hard. SHALE, dark brick-red to dark brownish-gray, dolomitic, blocky, slightly micaceous, silty.
1890'	SANDSTONE, brown, very fine, dolomitic, slightly micaceous, slightly argillaceous, hard, tight. SHALE, gray-green, fissile to blocky, dolomitic.
1900'	SANDSTONE, brown, very fine to silty, as above. SHALE, brick-red to green, with a trace of gray, as above.
1910'	SANDSTONE, brown, very fine to fine, dolomitic to calcareous, as above. SHALE, brick-red, as above.
1920'	SANDSTONE and SHALE as above.
1930'	SANDSTONE, brown to greenish-gray, fine, fair sorted, angular quartz and white to pink feldspar, slightly micaceous, some chlorite, dolomitic, hard, tight. SHALE, brick-red with a trace of green, as above.
1940'	SHALE, dark brick-red to reddish-gray, blocky to fissile, sandy to silty, red and green mica, dolomitic. SANDSTONE as above.
1950'	SHALE, dark brick-red, fissile to blocky, silty in part, micro-micaceous, red and green mica, dolomitic. SANDSTONE, very fine to fine, as above.
1960'	SANDSTONE, greenish-gray to brown, fine to very fine, calcareous to dolomitic, as above. Some SHALE, gray green, fissile, micro-micaceous, dolomitic, and dark brick-red as above.
1970'	SANDSTONE, brown to greenish-gray to gray, very fine to fine, dolomitic, as above. SHALE, gray-green to gray to brick-red, as above.
1980'	SHALE, brick-red to gray-green, blocky to fissile, as above. SANDSTONE, argillaceous, as above.
1990'	SANDSTONE, reddish-brown, fine to very fine, poorly sorted, angular quartz and white to pink feldspar, argillaceous, calcareous, hard, tight. SHALE, silty to sandy, as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
2000'	SANDSTONE, reddish-brown fine to very fine, poorly sorted, angular quartz and feldspar, argillaceous, calcareous, hard, tight. SHALE, brick-red to gray-green, blocky to fissile, micro-micaceous, silty to sandy, dolomitic.
2010'	SANDSTONE, dark gray-green to gray to reddish-brown, fine to very fine, poorly sorted, angular quartz and gray and pink feldspar, slightly micaceous, red and green mica, calcareous to dolomitic, argillaceous, hard, tight. SHALE, brick-red and dark gray, sandy, calcareous, micro-micaceous.
2020'	SANDSTONE, calcareous, as above. Minor SHALE, dark gray to dark brick-red, as above.
2030'	SANDSTONE, dark gray to greenish-gray, fine to very fine, calcareous, argillaceous, micaceous, red and green mica, very hard, tight. SHALE, dark brick-red to dark gray, as above.
2040'	SANDSTONE, gray to greenish-gray to reddish-brown, fine, calcareous, quartzitic in part, as above. Trace SHALE as above.
2050'	SANDSTONE as above, some argillaceous. Minor SHALE as above.
2060'	SANDSTONE, gray to greenish-gray to reddish-gray, fine, angular, poorly sorted quartz with some gray to pink feldspar, red and green mica, argillaceous, calcareous, hard, tight. Minor SHALE, dark brick-red, blocky, micaceous, dolomitic, sandy.
2070'	SANDSTONE, reddish-brown to reddish-gray, very fine, angular, red and green mica, very argillaceous, dolomitic, hard, tight. SHALE, brick-red, as above.
2080'	SANDSTONE, reddish-brown to greenish-gray, very fine to fine, slightly micaceous, dolomitic, argillaceous, angular, fair sorted quartz and feldspar, hard, tight. SHALE gray-green, fissile, dolomitic, micro-micaceous, silty. SILTSTONE, dark gray-green, dolomitic, very argillaceous, hard.
2090'	SANDSTONE, brown, very fine, dolomitic, slightly argillaceous, as above. SHALE, brick-red, silty, dolomitic, micaceous, blocky to fissile.
2100'	SHALE, dark brick-red, as above, some green, as above. SANDSTONE as above.
2110'	SANDSTONE and SHALE as above.
2120'	SANDSTONE with minor SHALE as above.
2130'	SANDSTONE as above with a trace gray-green, fine, fair sorted, angular quartz and gray to pink feldspar, red and green mica, dolomitic, chloritic, hard, tight. Minor SHALE as above.
2140'	SANDSTONE, brown to gray-green, very fine to fine, as above. SHALE, dark brick-red, silty to sandy, as above.
2150'	SANDSTONE, brown to reddish-brown, very fine, angular grains, argillaceous, dolomitic, micaceous, hard, tight. SHALE, sandy to silty, as above.
2160'	SHALE, dark maroon, blocky, micaceous, sandy to silty, dolomitic. SANDSTONE, brown, as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
2170'	SHALE, dark gray, blocky, micro-micaceous, dolomitic, silty, hard. Trace SANDSTONE, brown, very fine, angular, argillaceous, dolomitic, micaceous, hard, tight.
2180'	SHALE, dark gray to dark reddish-gray, blocky to fillile, as above. Minor SANDSTONE, green, fine, fair sorted, angular quartz and gray to pink feldspar, green mica, dolomitic, hard, tight.
2190'	SANDSTONE, greenish-gray, as above. Trace SHALE as above.
2200'	SANDSTONE, greenish-gray, fine to medium, as above.
2210'	SANDSTONE, as above, trace argillaceous.
2220'	SANDSTONE, dark greenish-gray to dark reddish-brown, very fine to fine, as above.
2230'	SANDSTONE, reddish-brown to greenish-gray, micro-micaceous, argillaceous, as above. SHALE, dark brick-red, blocky to fissile, silty, micro-micaceous, dolomitic.
2240'	SANDSTONE, reddish-brown, as above. Some SHALE as above.
2250'	SANDSTONE as above. Minor SHALE as above.
2260'	SANDSTONE, very fine, as above. SHALE as above.
2270'	SANDSTONE as above. Minor SHALE as above.
2280'	As above.
2290'	SHALE as above. Minor SANDSTONE as above.
2300'	SHALE as above. Some SANDSTONE as above.
2310'	SHALE as above. Some SANDSTONE, very argillaceous, as above.
2320'	SHALE as above with minor gray-green, fissile, micro-micaceous. SANDSTONE as above.
2330'	SANDSTONE, reddish-brown to greenish-gray, very fine to fine, fair sorted, angular quartz with minor feldspar grains, red mica, dolomitic, argillaceous, hard, tight. SHALE as above.
2340'	SANDSTONE, greenish-gray, as above, and gray, medium, fair sorted, subangular quartz and orthoclase grains, trace slear mica, dolomitic, soft, slightly friable, <u>20% with poor porosity</u> .
2350'	SANDSTONE, greenish-gray, fine to medium, as above, <u>10% with poor porosity</u> .
2360'	SANDSTONE, gray and greenish-gray, as above, <u>20% with poor porosity</u> .
2370'	SANDSTONE, greenish-gray to gray, as above, <u>10% with poor porosity</u> .

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
2380'	SANDSTONE, reddish-brown to greenish-gray, very fine to fine, fair sorted, angular quartz and white to gray feldspar grains, some red and green mica, argillaceous, dolomitic, hard, tight.
2390'	SANDSTONE, reddish-brown, very fine to fine, calcareous, as above. Trace SHALE, dark brick-red, as above.
2400'	SANDSTONE as above with some SHALE as above.
2410'	SANDSTONE and SHALE as above.
2420'	SHALE as above. SANDSTONE, dolomitic, as above.
2430'	SANDSTONE as above with a trace of green. SHALE as above.
2440'	SHALE as above. SANDSTONE, reddish-brown to greenish-gray, as above.
2450'	SHALE, dark brick-red, dolomitic, fissile to blocky, some sandy. SANDSTONE, reddish-brown, fine to very fine, as above.
2460'	SANDSTONE, greenish-gray to reddish-brown, fine to very fine, as above. SHALE, as above.
2470'	As above.
2480'	SHALE, dark green to reddish-gray, fissile to blocky, dolomitic, sandy, micro-micaceous, some dark brick-red as above. Minor SANDSTONE, greenish-gray with a trace of reddish-brown as above.
2490'	SHALE, dark gray-green to dark grayish-red, sandy in part, micro-micaceous, fissile to blocky.
2500'	SANDSTONE, greenish-gray to gray, very fine, argillaceous, dolomitic, clear mica, angular quartz grains, fair sorted, hard, tight. Trace of SHALE as above.
2510'	SANDSTONE, gray-green to gray, very fine to fine, as above. SHALE, dark gray, very micaceous, fissile, brittle, hard, sandy, with a trace of green, as above.
2520'	SANDSTONE, gray to greenish-gray, fine, fair sorted, angular quartz grains, micaceous, clear mica, dolomitic, hard, tight. Minor SHALE as above. Abundant white quartz and dolomite fracture fill.
2530'	SANDSTONE, light-gray, as above. Trace SHALE, dark gray, as above. Abundant white quartz and dolomite fracture fill.
2540'	SANDSTONE, as above. 25% of sample is white quartz and dolomite fracture filling material.
2550'	SANDSTONE as above. 25% of sample is white quartz, dolomite and calcite fracture fill material.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
2560'	SANDSTONE, gray, fine, fair sorted, angular quartz grains, clear mica, dolomitic, argillaceous, very micaceous, hard, tight, with dark gray SHALE partings. 30% of sample is white dolomite and quartz crystals.
2570'	SANDSTONE, fine to medium, slightly argillaceous, micaceous, as above, with dark gray, micaceous SHALE partings. 10% of sample is fracture fill material as above.
2580'	SANDSTONE, gray, fine to medium, fair sorted, angular quartz and gray feldspar (?) grains, slightly micaceous, dolomitic, hard, tight.
2590'	SANDSTONE, gray to greenish-gray, fine, slightly argillaceous, as above.
2600'	SANDSTONE, greenish-gray to gray, very fine, as above. Minor SHALE, gray-green, fissile, sandy in part.
2610'	SANDSTONE, greenish-gray, fine to very fine, poorly sorted, angular quartz and gray and pink feldspar, micaceous, red and green mica, dolomitic, hard, tight. Minor SHALE, as above.
2620'	SANDSTONE as above.
2630'	SANDSTONE, fine, as above.
2640'	SANDSTONE, fine to medium, increase in orthoclase content, as above.
2650'	SANDSTONE as above. Minor SHALE, maroon, fissile, dolomitic, red mica.
2660'	SANDSTONE, fine to very fine, subangular, as above. Trace of SHALE, maroon to gray-green, some sandy to silty, as above.
2670'	SANDSTONE, argillaceous, as above. SHALE, dark brick red with minor gray green, sandy in part, as above.
2680'	SHALE, brick-red with some gray green as above. SANDSTONE as above.
2690'	SHALE, brick-red with minor gray-green, as above. SANDSTONE as above.
2700'	SHALE as above. SANDSTONE, argillaceous, as above.
2710'	SANDSTONE, gray, fine to medium, fair sorted, angular quartz and gray feldspar (?) grains, argillaceous in part, slightly micaceous, dolomitic, hard, tight. Trace of SHALE as above.
2720'	SANDSTONE, trace argillaceous, as above. Trace of SHALE, dark gray, micaceous, fissile.
2730'	SANDSTONE, as above.
2740'	SANDSTONE, as above. Trace of SHALE, dark gray, as above.
2750'	SANDSTONE, as above. Trace of SHALE, dark brick-red, fissile, micro-micaceous, dolomitic.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
2760'	SHALE, dark brick-red, as above, with some gray-green, fissile, silty in part. Some SANDSTONE as above.
2770'	SHALE, dark brick-red, sandy in part, as above, with a trace of gray-green, as above. Trace of SANDSTONE, reddish-brown to gray, very fine to fine, argillaceous, dolomitic, hard, tight.
2780'	SHALE, dark brick-red, as above. Some SANDSTONE, reddish-brown, very fine, argillaceous, dolomitic, slightly micaceous, hard, tight.
2790'	SHALE as above. Some SANDSTONE, reddish-brown to greenish-gray, very fine to silty, as above.
2800'	SHALE as above. SANDSTONE, greenish to reddish gray, very fine to fine, calcareous, poorly sorted, subangular quartz and gray and pink feldspar, red mica, hard, tight.
2810'	SANDSTONE, fine to very fine to medium, dolomitic, red and green mica, as above. Some SHALE as above.
2820'	SANDSTONE, reddish-brown to greenish-gray, very fine to fine, argillaceous, dolomitic, micaceous, red and green mica, hard, tight.
2830'	SANDSTONE, greenish-gray to reddish-brown, as above. Minor SHALE, sandy, as above.
2840'	SANDSTONE, reddish-brown to greenish-gray, as above. Minor SHALE as above.
2850'	SHALE, dark brick-red to greenish-gray, fissile, slightly dolomitic, micro-micaceous, sandy in part. Trace of SANDSTONE as above.
2860'	SHALE, dark brick-red with minor gray-green as above. Some SANDSTONE, greenish-gray to reddish-brown, as above.
2870'	SHALE, dark gray to brick-red, as above. Some SANDSTONE, gray to reddish-brown, calcareous, as above.
2880'	SHALE as above. SANDSTONE, greenish-gray, as above.
2890'	SANDSTONE, as above. SHALE, gray to dark brick-red, as above.
2900'	SHALE, dark brick-red and dark reddish-gray, as above. SANDSTONE, greenish-gray to gray, as above.
2910'	SANDSTONE, gray, very fine to fine, poorly sorted, angular quartz and gray and pink feldspar, calcareous, argillaceous, red and green mica, hard, tight. Some SHALE, dark brick red to gray, fissile, dolomitic, sandy, micaceous.
2920'	SANDSTONE, greenish-gray to gray, as above. SHALE, dark brick-red, silty, as above.
2930'	As above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
2940'	SANDSTONE, reddish-brown to gray, very fine to fine, poorly sorted, angular, angular quartz and gray and pink feldspar, calcareous, argillaceous, red and green mica, hard, tight. SHALE, dark brick red, fissile, sandy, dolomitic, micaceous.
2950'	SANDSTONE, reddish-brown to greenish-gray, very fine to fine, as above. SHALE, as above.
2960'	SANDSTONE, very argillaceous, as above. Some SHALE as above.
2970'	SHALE as above. SANDSTONE, greenish-gray to reddish-brown, fine to very fine, argillaceous, as above.
2980'	SHALE as above. SANDSTONE, greenish-gray, as above and gray, very argillaceous, as above.
2990'	SHALE, dark brick-red, as above, and gray, blocky, sandy, micaceous. SANDSTONE, as above.
3000'	SILTSTONE, brown, dolomitic, argillaceous. SHALE, dark brick-red, as above. Some SANDSTONE, reddish-brown, very fine, very argillaceous, dolomitic, hard, tight.
3010'	SANDSTONE, brown, very fine, slightly micaceous, calcareous, hard, tight. SILTSTONE, calcareous, as above. SHALE, dark brick-red, as above.
3020'	SANDSTONE, as above. SHALE, as above. Trace of SILTSTONE, as above.
3030'	SILTSTONE, greenish-gray, dolomitic, argillaceous, micro-micaceous, hard. Minor SANDSTONE, light gray, quartzose, very fine, dolomitic, slightly argillaceous, hard, tight. Minor SHALE as above.
3040'	As above with minor SHALE, greenish-gray, fissile, silty.
3050'	SANDSTONE, as above. SILTSTONE, as above. Some SHALE, greenish gray, as above.
3060'	As above.
3070'	SANDSTONE as above. SHALE, dark brick-red, fissile, micaceous, red and green mica, dolomitic, silty to sandy. Minor SILTSTONE and greenish-gray SHALE, as above.
3080'	SHALE, dark brick-red, as above. SANDSTONE, greenish-gray, very fine to fine, argillaceous, as above. Minor SHALE, greenish-gray, as above.
3090'	SANDSTONE, reddish-brown, very fine, argillaceous, dolomitic, micro-micaceous, hard, tight. Some SHALE dark brick-red, as above.
3100'	SANDSTONE, light brown to reddish brown, as above. SHALE as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
3110'	SANDSTONE, reddish-brown to greenish-gray, very fine to fine, poorly sorted, angular quartz and gray and pink feldspar grains, red and green mica, argillaceous, dolomitic, hard, tight. Minor SHALE, dark brick-red, fissile, micaceous, red and green mica, dolomitic, silty to sandy.
3120'	SANDSTONE, fine to very fine, as above. Some SHALE as above.
3130'	SANDSTONE, very fine to fine, as above. Minor SHALE as above.
3140'	As above.
3150'	SANDSTONE, very fine, as above. SHALE as above.
3160'	SANDSTONE, calcareous, very argillaceous, as above. SHALE as above.
3170'	SANDSTONE, as above. SHALE, dark brick-red to gray-green to gray, as above.
3180'	SHALE, dark brick-red to gray-green, as above. Minor SANDSTONE as above.
3190'	SHALE, dark gray to gray-green to dark brick-red, sandy to silty, dolomitic, fissile, micaceous, red and green mica. Trace of SANDSTONE, as above.
3200'	SHALE, as above. SANDSTONE, as above.
3210'	SANDSTONE, greenish-gray to green to brown, fine to very fine, fair sorted, angular quartz grains, green and red mica, dolomitic, argillaceous in part, chloritic, hard, tight. Some SHALE, dark gray to gray-green and trace of dark brick-red, as above.
3220'	SANDSTONE, argillaceous, calcareous to dolomitic, as above. Some SHALE, dark gray to gray-green to dark brick-red, as above.
3230'	SANDSTONE, dolomitic, as above. Some SHALE, greenish-gray to dark brick-red, as above.
3240'	SANDSTONE, greenish-gray, very fine to fine, fair sorted, angular quartz grains, dolomitic, micaceous, hard, tight. Trace of SHALE, gray, fissile, dolomitic, micro-micaceous, sandy.
3250'	As above.
3260'	SANDSTONE, greenish-gray to brown, very fine, as above. SHALE, dark brick-red, fissile, micro-micaceous, dolomitic.
3270'	SHALE as above. SANDSTONE, very fine to fine, as above.
3280'	SHALE as above. SANDSTONE, gray-green to brown, very fine, calcareous to dolomitic, as above.
3290'	SHALE as above. SANDSTONE, very fine to fine, as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
3300'	SANDSTONE, reddish-brown to greenish-gray, very fine, argillaceous, fair sorted, angular quartz grains, calcareous to dolomitic, micaceous, hard, tight. SHALE, dark brick-red, fissile, micro-micaceous, dolomitic.
3310'	SANDSTONE, brown to reddish-brown, very fine to silty, calcareous, argillaceous, as above. SHALE as above.
3320'	SANDSTONE as above. Some SHALE as above.
3330'	SANDSTONE, brown to greenish-gray, very fine to fine, as above. Minor SHALE as above.
3340'	SANDSTONE, greenish-gray to reddish-brown, fine to very fine, red and green mica, as above. Some SHALE as above.
3350'	SANDSTONE, angular to subangular quartz and some pink feldspar grains, as above. SHALE, dark brick-red to gray-green, waxy luster, fissile, micro-micaceous, dolomitic.
3360'	SHALE, sandy in part, as above. Some SANDSTONE as above.
3370'	SHALE as above. SILTSTONE, greenish-gray, calcareous, argillaceous. SANDSTONE as above.
3380'	SHALE, gray-green to green to dark brick-red, sandy. Some SANDSTONE, reddish-brown to greenish-gray, very argillaceous, as above. Some calcite and quartz fracture fill.
3390'	SHALE, gray-green with minor dark brick-red, as above. Minor SANDSTONE, greenish-gray and a trace of reddish-brown, as above.
3400'	SHALE, green to gray-green, fissile, micaceous, dolomitic, silty to sandy. Some calcite and quartz fracture filling material.
3410'	SHALE as above. SANDSTONE, green to greenish-gray, fine, fair sorted, angular quartz and gray and pink feldspar grains, red and green mica, dolomitic, argillaceous in part, hard, tight.
3420'	SANDSTONE, poorly sorted, subangular, as above.
3430'	SANDSTONE, angular grains, as above.
3440'	SANDSTONE, as above. Some SHALE, dark gray-green, dolomitic, blocky to fissile, micro-micaceous.
3450'	SANDSTONE, gray-green to brown, fine to very fine, as above. Some SHALE, dark brownish-red, as above.
3460'	SANDSTONE, greenish-gray, fine, as above. Trace of SHALE as above. Some white calcite and quartz fracture fill.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
3470'	SANDSTONE, greenish-gray, fine, poorly sorted, angular quartz and gray and pink feldspar grains, red and green mica, dolomitic, argillaceous in part, hard, tight. Some SHALE, gray-green, dolomitic, fissile, micro-micaceous.
3480'	SHALE, dark gray-green, as above. Minor SANDSTONE as above.
3490'	SHALE as above. Some SANDSTONE as above. Some SILTSTONE, dark gray-green, dolomitic, argillaceous, hard.
3500'	SHALE as above. SANDSTONE, light greenish-gray, fine, as above. Some SILTSTONE as above.
3510'	SANDSTONE, angular quartz and feldspar grains, calcareous, as above. Minor SILTSTONE, as above. Trace of SHALE as above.
3520'	SANDSTONE, fine to very fine, as above. Minor SHALE, gray-green to gray, slightly dolomitic.
3530'	SANDSTONE, light greenish-gray to green, as above. Minor SHALE, gray-green, as above.
3540'	SHALE, dark brick-red and minor gray-green, micro-micaceous, red and green mica, calcareous, fissile, sandy. Some SANDSTONE, reddish brown to green, very fine, micro-micaceous, calcareous, hard, tight.
3550'	SHALE as above. Trace of SANDSTONE as above.
3560'	SHALE as above. SANDSTONE, argillaceous, as above.
3570'	SANDSTONE as above. SHALE, dark brick-red with a trace of gray-green, as above.
3580'	SANDSTONE as above. SHALE, dark brick-red, as above.
3590'	SANDSTONE, very fine to fine, as above. SHALE as above.
3600'	SANDSTONE, greenish-gray to reddish-brown, fine to very fine, fair sorted, subangular quartz and gray and pink feldspar grains, red and green mica, calcareous, argillaceous, hard, tight. Some SHALE as above.
3610'	SHALE, dark brick-red to gray-green, dolomitic, micromicaceous, fissile, sandy. SANDSTONE, reddish-brown to greenish-gray, very fine to fine, as above.
3620'	SHALE, gray-green to dark brick-red, as above. Some SANDSTONE, greenish-gray to reddish-brown, very fine, as above.
3630'	SANDSTONE, very fine to fine, as above. Some SHALE as above.
3640'	SHALE as above. SANDSTONE, very fine, as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
3650'	SANDSTONE, greenish-gray, fine, fair sorted, angular quartz and feldspar grains, red and green mica, calcareous, slightly argillaceous, hard, tight. Minor SHALE, dark brick-red, micro-micaceous, dolomitic, fissile, sandy.
3660'	SANDSTONE, greenish-gray to gray, dolomitic, as above.
3670'	SANDSTONE, fine to very fine, argillaceous, calcareous. Minor SHALE, dark gray, fissile, micro-micaceous.
3680'	SANDSTONE, gray, clear mica, trace of pyrite, as above. SHALE as above.
3690'	SANDSTONE, fine, dolomitic, as above.
3700'	SANDSTONE, fine to very fine, as above.
3710'	SANDSTONE, very fine to fine, as above.
3720'	SANDSTONE, very fine, as above.
3730'	SANDSTONE, as above with red and green mica.
3740'	SANDSTONE, greenish gray to light brown, very fine, dolomitic, argillaceous in part, hard, tight. Some SHALE, dark gray to dark brick-red, fissile, micro-micaceous, dolomitic, silty.
3750'	SANDSTONE as above. Some SHALE, silty to sandy, as above.
3760'	SANDSTONE, greenish-gray to brown, argillaceous, red and green mica, as above. Some SHALE, dark brick-red, as above.
3770'	SANDSTONE and SHALE as above.
3780'	SANDSTONE, brown to greenish-gray, very fine to fine, as above. SHALE, dark brick-red to dark gray, as above.
3790'	SHALE, sandy to silty, as above. SANDSTONE, greenish-gray to brown, fine to very fine, very argillaceous, hard, tight.
3800'	SHALE, dark gray with some dark brick-red, fissile, silty, dolomitic, micro-micaceous.
3810'	SHALE, dark reddish to greenish gray and some dark brick-red and gray-green, fissile, micro-micaceous, dolomitic.
3820'	SHALE as above. Minor SANDSTONE, greenish-gray, very fine, argillaceous, slightly dolomitic, tight.
3830'	SHALE, reddish-gray to gray-green to dark brick-red, some silty, as above. SANDSTONE, greenish-gray, fine to very fine, dolomitic, as above.
3840'	SANDSTONE, fine, as above. SHALE, gray-green to dark brick red, as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
3850'	SANDSTONE, gray to greenish-gray, fine, fair sorted, angular quartz and feldspar grains, dolomitic, clear mica, hard, tight. SHALE, gray, fissile, micro-micaceous, dolomitic.
3860'	SANDSTONE, gray, very fine to fine, dolomitic, slightly micaceous, argillaceous in part, hard, tight. Some SHALE, silty, as above.
3870'	SANDSTONE, argillaceous, as above. Trace SHALE as above.
3880'	SANDSTONE, very fine to fine, calcareous, as above. Trace SHALE as above.
3890'	SANDSTONE, gray with minor green, very fine to fine, fair sorted, angular quartz and feldspar grains, dolomitic, clear mica, hard, tight.
3900'	SANDSTONE, gray to greenish-gray, very fine to silty, calcareous, red green and clear mica, hard, tight. Some SHALE, dark brick-red and gray-green, fissile, micro-micaceous, dolomitic.
3910'	SHALE, dark brick-red, as above. Some SANDSTONE, gray-green to reddish-brown, very fine, argillaceous, as above.
3920'	SHALE, as above. SANDSTONE, reddish-brown to greenish-gray, fine to very fine, poorly sorted, angular quartz and gray and pink feldspar grains, argillaceous, calcareous, tight.
3930'	SHALE, dark brick-red to gray-green, fissile, micro-micaceous, dolomitic. Minor SANDSTONE as above.
3940'	SHALE, dark brick-red with minor gray-green, as above.
3950'	SHALE, dark brick-red, sandy, as above. Some SANDSTONE, reddish-gray, fine, poorly sorted, angular quartz and gray and pink feldspar grains, dolomitic, argillaceous, red and green mica, hard, tight.
3960'	SANDSTONE, greenish to reddish gray, as above.
3970'	SANDSTONE, gray-green to reddish-gray, as above.
3980'	As above.
3990'	SANDSTONE, greenish-gray, very fine to fine, fair sorted, angular quartz and gray feldspar grains, micro-micaceous, dolomitic, hard, tight.
4000'	SANDSTONE, gray, micro-micaceous, as above.
4010'	As above.
4020'	SANDSTONE, very fine, as above.
4030'	As above.
4040'	SANDSTONE, gray to greenish-gray, some clear muscovite, as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
4050'	SANDSTONE, gray to greenish-gray, very fine, fair sorted, angular quartz and gray feldspar grains, dolomitic, micro-micaceous, clear muscovite, hard, tight. Minor SHALE, gray-green, fissile, slightly dolomitic.
4060'	SANDSTONE, some argillaceous, as above, trace pyritic. Some SHALE, as above, trace brick-red.
4070'	SHALE, greenish-gray and minor dark brick-red, waxy luster, fissile, micro-micaceous, slightly dolomitic, silty. SANDSTONE, reddish-brown to gray, fine to very fine, very argillaceous, very micaceous, red and green mica, dolomitic, tight.
4080'	SHALE, greenish-gray and dark brick-red, as above.
4090'	SHALE, gray-green to dark brick-red, very micaceous, red and green mica, sandy to silty. SANDSTONE, reddish-brown to greenish-gray, very argillaceous, very micaceous, dolomitic, as above.
4100'	As above.
4110'	SHALE, gray-green to dark brick-red, waxy luster, micro-micaceous, fissile, slightly dolomitic, sandy to silty.
4120'	SHALE, dark brick-red to gray-green, dull luster, as above. Some SANDSTONE, reddish-brown to greenish-gray, argillaceous, dolomitic, micaceous, dolomitic, hard, tight.
4130'	As above.
4140'	SHALE, dark brick-red and minor gray-green, as above. SANDSTONE, as above.
4150'	SANDSTONE, reddish-brown to greenish-gray, very fine, very micaceous, very argillaceous, dolomitic, tight. Some SHALE, dark brick-red, as above.
4160'	SANDSTONE, as above. Some SHALE, as above.
4170'	SANDSTONE, reddish to greenish gray, very fine, poorly sorted, angular quartz and gray feldspar grains, red and green mica, argillaceous, calcareous, hard, tight.
4180'	SANDSTONE, very fine to silty, as above.
4190'	SANDSTONE, as above. SHALE, dark brick-red, fissile, sandy, dolomitic, micro-micaceous.
4200'	SANDSTONE, greenish-gray to reddish-brown, very fine to fine, poorly sorted, subangular quartz and feldspar grains, micaceous, red and green mica, calcareous, argillaceous in part, hard, tight.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
4210'	SANDSTONE, reddish-brown to greenish-gray, very fine, poorly sorted, subangular quartz and feldspar grains, red and green mica, calcareous, argillaceous, hard, tight. Minor SHALE, gray-green to dark brick-red, fissile, sandy, dolomitic, micro-micaceous.
4220'	SANDSTONE, very fine to fine, dolomitic, as above. SHALE, dark brick-red, as above.
4230'	SANDSTONE, very fine to silty to fine, as above. Minor SHALE, silty to sandy, as above.
4240'	As above.
4250'	SANDSTONE, greenish-gray to reddish-brown, fine to very fine, fair sorted, angular quartz and gray and pink feldspar, red and green mica, dolomitic, argillaceous in part, hard, tight. SHALE as above.
4260'	SANDSTONE, reddish-brown to greenish-gray, very fine to fine, argillaceous, as above.
4270'	SANDSTONE, as above. Minor SHALE, silty, as above.
4280'	SANDSTONE, as above. SHALE, dark grayish-red, silty to sandy, as above.
4290'	SANDSTONE, fine to very fine, as above. SHALE as above.
4300'	SANDSTONE, very fine to fine, as above. SHALE, dark brownish-red, as above.
4310'	SHALE, dark brick-red to dark brownish-red, as above. SANDSTONE as above.
4320'	SHALE, as above. SANDSTONE, greenish-gray to reddish-brown, as above.
4330'	SANDSTONE, fine to very fine, as above. SHALE, dark brick-red, micro-micaceous, as above.
4340'	SHALE, dark brick-red with minor gray-green, as above. SANDSTONE, greenish-gray, fine, as above.
4350'	SANDSTONE, greenish-gray, fine to medium, as above. SHALE, dark brick-red, as above.
4360'	SANDSTONE, fine to very fine, as above. SHALE as above.
4370'	SHALE, gray-green, fissile, micro-micaceous, silty, slightly dolomitic. Minor SANDSTONE, greenish-gray, very fine to fine, as above.
4380'	As above.
4390'	SANDSTONE, light gray, very fine, micro-micaceous, dolomitic, angular, poorly sorted, hard, tight. SHALE, greenish-gray to gray-green, micro-micaceous, dolomitic, fissile.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
4400'	SANDSTONE, light gray, very fine to fine, micro-micaceous, dolomitic, angular, poorly sorted, hard, tight. SHALE, greenish-gray to gray-green, micro-micaceous, silty, slightly dolomitic, fissile.
4410'	SANDSTONE, fine to very fine, as above. Some SHALE, as above.
4420'	SANDSTONE, some argillaceous, as above. SHALE as above.
4430'	SANDSTONE, light gray to greenish-gray, as above. Trace SHALE as above.
4440'	SANDSTONE as above. SHALE dark brick-red with minor gray-green, fissile, micro-micaceous, dolomitic.
4450'	SHALE, as above. SANDSTONE, reddish-brown to greenish-gray, dolomitic, very argillaceous, micaceous, red and green mica, hard, tight.
4460'	SANDSTONE, very fine to fine, as above. SHALE, dark brick-red, as above.
4470'	SANDSTONE, very fine to silty to fine, as above. SHALE, dark brick-red to greenish-gray, as above.
4480'	SANDSTONE, very fine to fine, as above. Minor SHALE, greenish-gray with a trace of dark brick-red, as above.
4490'	SANDSTONE, dark reddish-brown, as above. SHALE, dark brick-red, as above.
4500'	SHALE as above. Minor SANDSTONE as above.
4510'	As above.
4520'	SHALE as above. SANDSTONE, dark reddish-brown to greenish-gray, as above.
4530'	As above.
4540'	SHALE as above. Some SANDSTONE as above.
4550'	As above.
4560'	As above.
4570'	SHALE and SANDSTONE as above.
4580'	No sample.
4590'	SHALE as above with minor gray-green as above. Minor SANDSTONE as above.
4600'	SHALE as above. Some SANDSTONE, dark reddish-brown to greenish-gray, as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
4610'	SHALE, dark brick-red and gray-green, fissile, dolomitic, micro-micaceous, silty to sandy. Minor SANDSTONE, dark reddish-brown to greenish-gray, very fine, very argillaceous, dolomitic, red and green mica, hard, tight.
4620'	As above.
4630'	SHALE as above. Trace of SANDSTONE as above.
4640'	SHALE, dark brick-red, as above. Some SANDSTONE, very fine to silty, as above.
4650'	SHALE, dark brick-red to gray-green, as above.
4660'	As above.
4670'	SHALE as above. Trace SANDSTONE as above.
4680'	SHALE as above. Minor SANDSTONE, very fine, as above.
4690'	SHALE as above. Trace of SANDSTONE as above.
4700'	SHALE, greenish-gray to dark brick-red, as above. Minor SANDSTONE as above.
4710'	SHALE as above. Some SANDSTONE as above.
4720'	SHALE, gray-green with some dark brick-red, as above. Minor SANDSTONE as above.
4730'	SANDSTONE, light gray, very fine to fine, poorly sorted, subangular grains, trace pyrite, clear and green mica, dolomitic, hard, tight. Minor SHALE, gray-green, as above.
4740'	As above.
4750'	As above.
4760'	SHALE, gray-green to dark brick-red, as above. SANDSTONE, greenish-gray to brownish-red, very fine to fine, dolomitic, argillaceous, red and green mica, hard, tight.
4770'	SANDSTONE, brownish-red to greenish-gray, very fine, very argillaceous, as above. SHALE, dark brick-red to gray-green, as above.
4780'	SANDSTONE, reddish-brown, very fine to fine, poorly sorted, subangular quartz with a trace of pink feldspar grains, red and green mica, dolomitic, argillaceous, hard, tight.
4790'	As above.
4800'	As above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
4810'	SANDSTONE, reddish-brown, very fine to fine, poorly sorted, subangular quartz with a trace of pink feldspar grains, red and green mica, dolomitic, argillaceous, hard, tight. Minor SHALE, dark brick-red, fissile, micro-micaceous, silty, dolomitic.
4820'	No sample.
4830'	SHALE, dark brick-red to gray-green, silty to sandy, as above. Minor SANDSTONE, very fine to silty, as above.
4840'	As above.
4850'	As above.
4860'	SHALE as above. SANDSTONE, greenish-gray to reddish-brown, very fine, as above.
4870'	SANDSTONE, as above. Some SHALE as above.
4880'	SANDSTONE, reddish-brown to greenish-gray, very fine to fine, as above. Some SHALE as above.
4890'	SANDSTONE, dark reddish-brown and greenish-gray, very argillaceous, as above. Minor SHALE, dark brick-red, as above.
4900'	SANDSTONE, greenish-gray with minor dark reddish-brown, fine to very fine, as above.
4910'	SANDSTONE, very fine to fine, as above. Minor SHALE, dark brick red with a trace of gray-green, as above.
4920'	SANDSTONE, greenish-gray, fine to very fine, as above. Some SHALE as above.
4930'	SANDSTONE and SHALE as above.
4940'	SHALE, dark brick-red with a trace of gray-green, silty to sandy, as above. Some SANDSTONE, greenish-gray to dark reddish-brown, as above.
4950'	SHALE, dark brick-red, as above. Minor SANDSTONE, dark reddish-brown, very fine, as above.
4960'	SHALE as above. Some SANDSTONE, dark reddish-brown, as above.
4970'	SANDSTONE, brown, as above. SHALE as above.
4980'	SANDSTONE, calcareous, as above. Some SHALE as above.
4990'	As above.
5000'	SANDSTONE as above. Minor SHALE as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
5010'	SANDSTONE, light to dark reddish-brown, very fine, poorly sorted, angular grains, red and green mica, argillaceous, dolomitic, hard, tight. SHALE, dark brick-red, fissile, silty to sandy, micro-micaceous, dolomitic.
5020'	SHALE, dark brick-red to gray-green, as above. SANDSTONE, dark reddish-brown to gray-green, very argillaceous, as above.
5030'	SHALE, as above. Minor SANDSTONE, gray-green, as above.
5040'	SHALE as above. Trace SANDSTONE as above.
5050'	SHALE, gray-green, sandy with minor dark brick-red as above grading to SANDSTONE, gray-green, very argillaceous, as above.
5060'	SHALE, gray-green, as above. Some SANDSTONE as above.
5070'	SHALE, gray-green, fissile, slightly dolomitic, some sandy, micro-micaceous.
5080'	SHALE as above, trace sandy.
5090'	As above.
5100'	As above.
5110'	SANDSTONE, greenish-gray, very fine to fine, fair sorted, subangular quartz, clear and green mica, dolomitic, argillaceous, hard, tight. Some SHALE as above.
5120'	SANDSTONE, greenish-gray to gray-green, as above. Some SHALE as above.
5130'	SANDSTONE, gray to greenish gray, fine to very fine, some argillaceous, as above. Some SHALE as above.
5140'	SANDSTONE as above. Minor SHALE as above.
5150'	SANDSTONE as above. Trace SHALE as above.
5160'	SANDSTONE, greenish-gray, argillaceous, as above. Some SHALE as above.
5170'	SHALE, gray-green to dark brick-red, silty to sandy, as above. Some SANDSTONE, greenish-gray to reddish-brown, very fine, as above.
5180'	SHALE as above. SANDSTONE, reddish-brown to greenish-gray, very argillaceous, as above.
5190'	SANDSTONE, reddish-brown, very fine to fine, red and green mica, very argillaceous, hard, tight. SHALE as above.
5200'	SANDSTONE, argillaceous, as above. Trace of SHALE as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
5210'	SANDSTONE, reddish-brown, very fine to fine, red and green mica, argillaceous, poorly sorted, angular quartz grains, dolomitic, hard, tight. Trace of SHALE, gray-green to dark brick-red, fissile, silty to sandy, micro-micaceous, dolomitic.
5220'	SANDSTONE, very fine, as above.
5230'	SANDSTONE, light to dark reddish-brown, very fine to silty, as above.
5240'	As above.
5250'	SANDSTONE, dark to light reddish-brown, very argillaceous, as above.
5260'	SANDSTONE, reddish-brown, very fine to silty, argillaceous, as above. SHALE, dark gray-green, fissile, dolomitic, micro-micaceous, silty.
5270'	SANDSTONE, reddish-brown to gray-green, very fine to silty, very argillaceous, as above. SHALE, dark brick-red with minor dark gray-green, sandy to silty, as above.
5280'	SHALE, dark gray-green and dark brick-red, as above. Some SANDSTONE as above.
5290'	SANDSTONE, dark reddish-brown to dark greenish-gray, dolomitic, very argillaceous, red and green mica, poorly sorted, angular quartz, hard, tight. SHALE, dark gray-green and dark brick-red, fissile, sandy to silty, dolomitic.
5300'	As above.
5310'	SANDSTONE, as above. SHALE, dark gray-green and minor dark brick red, as above.
5320'	SHALE, dark gray-green, as above. SANDSTONE, greenish-gray, as above.
5330'	SHALE as above. SANDSTONE as above with a trace of dark reddish-brown.
5340'	As above.
5350'	SANDSTONE, greenish-gray, very fine, well sorted, angular quartz grains, argillaceous, dolomitic, micro-micaceous, hard, tight. Minor SHALE as above.
5360'	As above.
5370'	SANDSTONE as above. Trace of SHALE as above.
5380'	SANDSTONE, fair sorted, angular quartz and gray and pink feldspar, as above.
5390'	SANDSTONE, very fine to fine, slightly dolomitic, some argillaceous, clear mica, <u>trace poor porosity</u> , as above.
5400'	SANDSTONE as above with a <u>trace of poor intergranular porosity</u> .

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
5410'	SANDSTONE, greenish-gray, fine to very fine, fair sorted, angular quartz with gray and pink feldspar grains, dolomitic to calcareous, argillaceous in part, red mica, tight. Minor SHALE, gray-green, fissile, sandy, slightly dolomitic.
5420'	SANDSTONE, reddish-brown to greenish-gray, argillaceous, as above. Some SHALE as above.
5430'	SANDSTONE as above. SHALE, gray-green to dark brick-red, fissile, red and green mica, sandy, dolomitic.
5440'	SANDSTONE, greenish-gray to reddish-brown, fine, fair sorted, angular quartz and gray and pink feldspar, red and green mica, argillaceous, calcareous, gritty, hard, tight. SHALE gray-green, as above.
5450'	SANDSTONE, dark gray-green, calcareous to dolomitic, argillaceous, increase in orthoclase, as above. SHALE, gray-green, as above.
5460'	SANDSTONE as above. SHALE, dark gray-green, fissile, dolomitic.
5470'	SANDSTONE, dark greenish-gray, fine to very fine, fair sorted, angular quartz with some gray and pink feldspar, red and green mica, dolomitic, argillaceous, hard, tight. Minor SHALE as above.
5480'	SANDSTONE and SHALE as above
5490'	SHALE, silty, as above. SANDSTONE as above.
5500'	SANDSTONE as above. Minor SHALE as above. Sample mostly dust.
5510'	SANDSTONE as above. Minor SHALE, dark gray-green with a trace of dark brick-red, as above.
5520'	SHALE dark brick-red and minor greenish-gray, as above. SANDSTONE as above.
5530'	As above.
5540'	SHALE as above. Some SANDSTONE as above.
5550'	SHALE as above. SANDSTONE brown to dark greenish-gray, very fine to fine, very argillaceous, dolomitic, red and green mica, hard, tight.
5560'	SHALE as above. SANDSTONE, dark greenish, very fine, as above.
5570'	SANDSTONE, dark gray-green, fine to very fine, poorly sorted, angular grains, green mica, dolomitic, tight. Minor SHALE, gray-green, fissile, sandy, dolomitic, micaceous, with a trace of dark brick-red as above.
5580'	SANDSTONE, very fine, as above. Trace SHALE as above.
5590'	As above.
5600'	SANDSTONE as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
5610'	SANDSTONE, dark gray-green, fine to very fine, poorly sorted, angular grains, green mica, very argillaceous, dolomitic, tight. SHALE, gray-green, fissile, sandy, dolomitic, micaceous.
5620'	SANDSTONE, very fine to fine, clear and green mica, as above. Minor SHALE as above.
5630'	SANDSTONE, gray-green to reddish-brown, very fine, fair sorted, angular grains, red and green mica, dolomitic, argillaceous, hard, tight. SHALE, dark brick-red to dark gray-green, fissile, dolomitic, micaceous.
5640'	SANDSTONE, light reddish-brown to greenish-gray, as above. SHALE, sandy, as above.
5650'	As above.
5660'	SANDSTONE, reddish-brown, very fine to silty, very argillaceous, as above. Minor SHALE, dark brick-red, as above.
5670'	SANDSTONE as above. Some SHALE as above.
5680'	As above.
5690'	As above.
5700'	SANDSTONE, greenish to reddish-gray, very fine to fine, fair sorted, angular quartz and a trace of pink feldspar grains, dolomitic, chloritic, argillaceous, green and clear mica, hard, tight. Trace of SHALE, gray-green, fissile, waxy luster, dolomitic, sandy.
5710'	SANDSTONE, reddish to greenish gray, very fine to fine, red and green mica, poorly sorted, angular grains, dolomitic, argillaceous, tight. SHALE as above.
5720'	SANDSTONE, very fine, as above. SHALE as above.
5730'	SHALE, gray-green to dark brick-red, sandy, dolomitic, fissile, waxy luster. Some SANDSTONE as above.
5740'	SHALE, dark brick-red to gray-green, as above. Trace of SANDSTONE as above.
5750'	SHALE, dark brick-red to dark gray-green, as above.
5760'	As above.
5770'	SHALE, dark brick-red with minor dark gray-green, abundant red and green mica, some sandy. Trace of SANDSTONE as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
5780'	SANDSTONE, reddish-gray, very fine, poorly sorted, angular grains, red and green mica, dolomitic, argillaceous, hard, tight. Minor SHALE, dark brick-red, fissile, sandy, micaceous.
5790'	SANDSTONE, very fine to fine, as above. Minor SHALE as above.
5800'	SANDSTONE, gray to reddish-gray, very fine, very argillaceous, dolomitic, as above. Minor SHALE as above.
5810'	SANDSTONE, very fine to silty, as above. Some SHALE as above.
5820'	SANDSTONE, reddish to greenish gray, very fine to fine, argillaceous, as above. Trace SHALE as above.
5830'	SANDSTONE, very fine, as above.
5840'	SANDSTONE, light brown to reddish-gray, very fine, as above. Minor SHALE, gray-green to dark brick-red, slightly dolomitic, fissile.
5850'	SANDSTONE, reddish to greenish gray, very fine, argillaceous, red and green mica, dolomitic, hard, tight. SHALE, dark gray-green to dark brick-red, fissile, dolomitic, sandy.
5860'	SANDSTONE, dark gray-green to reddish-brown, very fine, as above. Minor SHALE, dark gray-green with a trace of dark brick-red, as above.
5870'	As above.
5880'	SANDSTONE, dark greenish-gray, very fine to silty, green mica, as above. Minor SHALE, dark gray-green, fissile, micro-micaceous, dolomitic.
5890'	SANDSTONE, dark greenish-gray to reddish-brown, red and green mica, as above. Minor SHALE, dark brick-red, as above.
5900'	SANDSTONE as above. Trace SHALE as above.
5910'	SANDSTONE, very fine, as above. Trace SHALE as above.
5920'	SANDSTONE, dark greenish-gray to brown, green mica, as above. Minor SHALE, gray-green, fissile, slightly dolomitic.
5930'	SANDSTONE as above. Trace SHALE as above.
5940'	SANDSTONE, brown to dark gray-green, as above. Trace SHALE as above.
5950'	SANDSTONE, brown, very fine, angular quartz, green and red mica, dolomitic, slightly argillaceous, hard, tight, with a trace of dark gray-green as above.
5960'	As above.
5970'	SANDSTONE, brown with minor dark gray-green, as above. Trace of SHALE, dark gray-green, as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
5980'	SANDSTONE, brown to dark gray-green, very fine, angular quartz grains, green and red mica, dolomitic, argillaceous, hard, tight. Minor SHALE, dark gray-green, fissile, micro-micaceous, dolomitic, silty.
5990'	SANDSTONE, as above. SHALE, as above. Some SILTSTONE, dark gray-green, argillaceous, dolomitic, hard.
6000'	SHALE, dark gray-green to dark reddish-brown, fissile to blocky, silty, dolomitic. Some SILTSTONE as above. Trace of SANDSTONE as above.
6010'	SHALE as above.
6020'	SHALE, dark reddish-brown to dark gray-green, as above. Some SANDSTONE, as above.
6030'	SANDSTONE, greenish-gray, fine to very fine, fair sorted, angular quartz grains, red and green mica, dolomitic, hard, tight. SHALE, dark gray-green to dark brick-red, as above.
6043'	Core #1. 6030'-6043'(13'). Recovered 12.5' being SANDSTONE, greenish-gray, fine to very fine, fair sorted, subangular quartz grains with green and red mica, slightly argillaceous becoming very argillaceous in the basal 2', thin, very micaceous layers throughout. (See detailed description.)
6050'	SANDSTONE as above. SHALE, gray-green, fissile, slightly dolomitic.
6060'	SANDSTONE, very fine, argillaceous, as above. SHALE, gray-green to dark brick-red, silty, dolomitic, fissile.
6070'	SHALE, sandy to silty, as above. SANDSTONE, very argillaceous, as above.
6080'	SHALE, dark brick-red with minor gray-green, as above. SANDSTONE, greenish-gray to reddish-gray, very fine to fine, poorly sorted, subangular quartz grains, dolomitic, argillaceous, red and green mica, hard, tight.
6090'	SHALE, dark brick-red, blocky, sandy, dolomitic. SANDSTONE, reddish-gray, fine to very fine, poorly sorted, angular quartz grains, red and green mica, calcareous, argillaceous, hard, tight.
6100'	SHALE, pale brownish-red to dark brick-red, fissile, sandy, dolomitic. Some SANDSTONE, dolomitic, as above.
6110'	SHALE, dark brick-red to pale brownish-red and gray-green, fissile, dolomitic, micro-micaceous.
6120'	SHALE, gray-green with minor dark brick-red, sandy, as above. Minor SANDSTONE, greenish-gray, very fine, as above.
6130'	SHALE, gray-green to dark brick-red, fissile, dolomitic, sandy, micro-micaceous. Minor SANDSTONE as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
6140'	SANDSTONE, greenish-gray, very fine, angular, poorly sorted quartz grains, green mica, dolomitic, argillaceous, hard, tight. SHALE, gray-green, as above.
6150'	SANDSTONE, fine to very fine, as above. Minor SHALE as above.
6160'	SANDSTONE as above. Trace of SHALE as above.
6170'	SANDSTONE, greenish-gray to tan, very fine, as above.
6180'	SANDSTONE, very fine to fine, as above. Trace of SHALE as above.
6190'	SANDSTONE, light-brown to greenish-gray, as above.
6200'	SANDSTONE, as above with abundant white quartz and dolomite fracture filling material.
6210'	SANDSTONE, very fine, as above. Abundant fracture filling material as above.
6220'	SANDSTONE as above. Some fracture filling material as above.
6230'	SANDSTONE as above. Trace of SHALE, dark grayish-red, fissile, sandy, dolomitic, micro-micaceous.
6240'	SANDSTONE, very fine to fine, as above.
6250'	As above.
6260'	SANDSTONE, very fine, very argillaceous, slightly micaceous, dolomitic, hard, tight.
6270'	SANDSTONE, brown with minor gray-green, as above.
6280'	SANDSTONE, brown, as above.
6290'	As above.
6300'	SANDSTONE, as above.
6310'	SANDSTONE, gray-green to brown, fine to very fine, fair sorted, angular quartz and gray feldspar grains, red and green mica, hard, tight.
6320'	SANDSTONE, greenish-gray, as above. Poor sample, mostly dust.
6330'	As above.
6340'	SANDSTONE, as above. Minor SHALE, gray-green, fissile, slightly dolomitic, waxy luster. Poor sample, mostly dust.
6350'	SANDSTONE and SHALE as above. Poor sample, mostly dust.
6360'	No sample. Dust washed out of sample catching pail.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
6580'	SHALE, gray-green, fissile, dolomitic, waxy luster. SANDSTONE, greenish-gray, very fine to fine, poorly sorted, angular quartz and gray feldspar grains, red and green mica, dolomitic, argillaceous, hard, tight.
6590'	SANDSTONE, greenish to reddish gray, as above. SHALE as above.
6600'	SANDSTONE, greenish-gray, very fine, as above. Some SHALE as above.
6610'	SANDSTONE, very argillaceous, as above. SHALE, gray-green and minor gray, silty to sandy, as above.
6620'	SANDSTONE, fine to very fine, argillaceous, as above. SHALE, gray-green, sandy to silty, as above. Sample mostly dust.
6630'	SANDSTONE as above. Trace of SHALE as above.
6640'	SANDSTONE, greenish-gray, fine, fair sorted angular quartz and gray, white and pink feldspar grains, red and green mica, red clay flecks, argillaceous, dolomitic, hard, tight. Minor SHALE, gray-green, dolomitic, fissile.
6650'	SHALE as above. Trace of SANDSTONE as above.
6660'	SHALE as above, some silty.
6670'	As above.
6680'	SHALE as above. Minor SANDSTONE, greenish-gray, very fine, angular quartz grains, very argillaceous, dolomitic, hard, tight.
6690'	SILTSTONE, dark gray-green, very argillaceous, sandy, dolomitic. SHALE, dark gray-green, fissile, silty, dolomitic.
6700'	SANDSTONE, dark gray-green, very fine, red and green mica, dolomitic, very argillaceous, hard, tight. SILTSTONE and SHALE as above.
6710'	SHALE as above. SANDSTONE, as above.
6720'	SANDSTONE, dark gray-green and dark reddish-gray, very micaceous, very argillaceous, as above. SHALE as above.
6730'	SANDSTONE, very fine to fine, as above. Some SHALE as above.
6740'	SANDSTONE as above. Some SHALE, dark gray-green to dark reddish-brown, silty to sandy, micro-micaceous, as above.
6750'	SHALE as above. Some SANDSTONE as above.
6760'	SHALE and SANDSTONE as above.
6770'	SHALE as above. Some SANDSTONE as above.
6780'	SHALE as above. Trace of SANDSTONE as above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
6370'	SANDSTONE, reddish-brown to greenish-gray, fine to very fine, poorly sorted, angular quartz and gray feldspar grains, green and red mica, dolomitic, very argillaceous, hard, tight. SHALE, dark brick-red, dolomitic, sandy, blocky. Poor sample, mostly dust.
6380'	SANDSTONE, greenish-gray, argillaceous, as above. SHALE, gray-green to dark brick-red, fissile, waxy luster, dolomitic. Sample mostly dust.
6390'	SANDSTONE, greenish-gray, argillaceous, as above. Minor SHALE, gray-green, as above.
6400'	SANDSTONE, as above. SHALE as above, some sandy.
6410'	SHALE as above. SANDSTONE, greenish-gray to reddish-brown, very fine to fine, very argillaceous, as above.
6420'	SHALE as above. Some SANDSTONE as above.
6430'	As above.
6440'	SHALE, silty to sandy, as above. Minor SANDSTONE, greenish-gray, as above.
6450'	SHALE as above. Trace of SANDSTONE as above.
6460'	As above.
6470'	SHALE, some silty, as above.
6480'	SHALE as above, trace pyrite.
6490'	SHALE as above, trace pyrite. SANDSTONE, light gray, fine, fair sorted, angular quartz grains, dolomitic, hard, tight.
6500'	SHALE as above. SANDSTONE, fine to very fine, clear mica, poorly sorted, as above.
6510'	SANDSTONE as above. Minor SHALE as above. Sample mostly dust. Insufficient air to blow hole and unload water.
6520'	As above. Poor sample.
6530'	No sample due to water washing dust out of catching pail.
6540'	No sample, as above.
6550'	SANDSTONE, very fine to fine, as above. SHALE as above. Sample mostly dust.
6560'	SANDSTONE, greenish-gray, green and clear mica, as above. SHALE as above. Sample mostly dust.
6570'	As above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
6790'	SHALE, dark gray-green with a trace of dark reddish-brown, silty to sandy, micro-micaceous, fissile, dolomitic. Some SANDSTONE, greenish-gray, fine, fair sorted, angular quartz and gray feldspar grains, argillaceous, dolomitic, hard, tight.
6800'	SHALE, dark gray-green, as above. SANDSTONE as above. Abundant white dolomite and quartz crystal fracture filling material.
6810'	SANDSTONE and SHALE as above. Abundant fracture filling material.
6820'	SANDSTONE, poorly sorted, subangular quartz and gray feldspar grains, as above. Some SHALE as above.
6830'	SANDSTONE and some SHALE as above. Some white dolomite and quartz crystal fracture fill.
6840'	As above.
6850'	SANDSTONE, fine to very fine, very argillaceous, as above. SHALE as above.
6860'	SANDSTONE as above. Some SHALE as above.
6870'	SANDSTONE as above. Minor SHALE as above.
6880'	As above.
6890'	As above.
6900'	SANDSTONE, as above. Minor SHALE, gray-green, silty, dolomitic, micro-micaceous, fissile.
6910'	SANDSTONE, greenish to reddish gray, fine to very fine, angular, poorly sorted quartz and gray and pink feldspar grains, red and green mica, dolomitic, argillaceous, hard, tight. Trace of SHALE as above.
6920'	SANDSTONE, greenish-gray, as above. Minor SHALE, gray to gray-green, as above.
6930'	SANDSTONE, very fine to fine, as above. Some SHALE, gray-green to reddish-gray, as above.
6940'	As above.
6950'	SANDSTONE, gray to greenish-gray, as above. Some SHALE as above.
6960'	SANDSTONE, gray to brown, as above. Trace SHALE as above.
6970'	SANDSTONE, calcareous, gritty, as above. Some SHALE, gray to gray-green, silty to sandy, fissile, dolomitic, micro-micaceous.
6980'	As above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
6990'	SANDSTONE, brown to gray, very fine to fine, poorly sorted, angular quartz and gray and pink feldspar grains, red and green mica, dolomitic, argillaceous, hard, tight. Minor SHALE, gray to gray-green, silty to sandy, fissile, dolomitic, micro-micaceous.
7000'	SANDSTONE as above. Trace of SHALE as above.
7010'	SANDSTONE, dark reddish-brown to dark greenish-gray, very fine to fine, very micaceous, trace of hornblend, as above. Some SHALE as above.
7020'	SANDSTONE as above. Some SHALE, dark gray-green, as above.
7030'	SANDSTONE, dark greenish-gray to dark reddish-brown, fine to very fine, as above. Some SHALE, as above.
7040'	SANDSTONE, very argillaceous, micaceous, as above. SHALE, dark gray-green to dark brick-red, some sandy, as above.
7050'	As above.
7060'	SANDSTONE as above. Minor SHALE, dark gray-green, as above.
7070'	SANDSTONE, very fine to fine, as above. Minor SHALE as above.
7080'	SANDSTONE, dark greenish-gray, as above. SHALE, silty, as above.
7090'	SANDSTONE, dark greenish-gray, very fine to fine, poorly sorted, angular quartz and gray feldspar grains, green mica, dolomitic, very argillaceous, hard, tight. SHALE, dark gray-green, fissile, slightly dolomitic, micro-micaceous.
7100'	SHALE and SANDSTONE as above.
7110'	As above.
7120'	SANDSTONE and SHALE as above.
7130'	As above.
7140'	SANDSTONE, greenish-gray, as above. SHALE as above.
7150'	SANDSTONE, light greenish-gray, fine to very fine, poorly sorted, angular quartz and gray feldspar, green and clear mica, dolomitic, hard, tight. SHALE, dark gray-green, as above.
7160'	SANDSTONE as above. Minor SHALE as above.
7170'	SANDSTONE, gray, fine, as above.
7180'	As above.
7190'	As above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
7200'	SANDSTONE, gray, fine, poorly sorted, angular quartz and gray feldspar grains, green and clear mica, dolomitic, hard, tight. Trace of SHALE, dark gray-green, fissile, dolomitic, micro-micaceous.
7210'	SANDSTONE, fine to very fine, as above. Some SHALE as above.
7220'	SANDSTONE, gray to greenish-gray, very fine to fine, argillaceous, as above. SHALE, dark gray-green and a trace of dark brick-red, some sandy, as above.
7230'	SHALE, dark gray-green to dark brick-red, as above. SANDSTONE, greenish-gray to gray, as above.
7240'	SHALE, dark brick-red to dark gray-green, hard, brittle, as above. SANDSTONE, dark reddish-brown to dark greenish-gray, very fine to fine, dolomitic, very argillaceous, hard, tight.
7250'	SANDSTONE, dark brownish-gray to greenish-gray, very fine, dolomitic, argillaceous, red and green mica, hard, tight. SHALE, dark reddish-brown to dark gray-green, fissile, dolomitic, sandy.
7260'	SANDSTONE, very fine to fine, as above. SHALE, as above.
7270'	SANDSTONE, reddish to greenish gray to brown, fine to very fine, poorly sorted, angular quartz and gray and pink feldspar grains, red and green mica, argillaceous, dolomitic, hard, tight. SHALE, dark reddish-brown, as above.
7280'	SANDSTONE, gritty, as above. Minor SHALE as above.
7290'	SANDSTONE gray to greenish-gray, as above. Trace of SHALE as above.
7300'	As above.
7310'	SANDSTONE, greenish to reddish gray, fine to very fine, as above. SHALE, dark gray-green to dark reddish-brown, fissile, sandy, dolomitic, micro-micaceous.
7320'	SANDSTONE, very fine to fine, some very argillaceous, as above. SHALE, as above, some very sandy.
7330'	SHALE, dark reddish-brown to dark gray-green, sandy, as above. SANDSTONE, very fine, very argillaceous, as above.
7340'	SHALE, dark brick-red to dark gray-green, fissile, sandy in part, micro-micaceous, dolomitic. Trace of SANDSTONE as above.
7350'	SHALE as above. Trace of SANDSTONE, very fine to fine, as above.
7360'	SHALE as above. Some SANDSTONE as above.
7370'	As above.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
7380'	SANDSTONE, dark reddish-gray to dark greenish-gray, very fine to fine, very argillaceous, red and green mica, dolomitic, hard, tight. SHALE, dark brick-red to dark gray-green, fissile, sandy in part, micro-micaceous, dolomitic.
7390'	SHALE, dark gray-green to dark brick-red, some very sandy, as above. Some SANDSTONE, very fine, as above.
7400'	SHALE as above. SANDSTONE, very fine to fine, as above.
7410'	SHALE, dark gray-green with some dark brick-red, as above. SANDSTONE, as above.
7420'	SANDSTONE, dark greenish-gray to dark reddish-gray, fine to very fine, very argillaceous, green and red mica, dolomitic, hard, tight.
7430'	SANDSTONE, greenish-gray, fine, fair sorted, angular quartz and gray feldspar grains, green and a trace of red mica, dolomitic, chloritic, hard, tight. SHALE, dark gray-green, as above.
7440'	SANDSTONE, clear and green mica, trace of coarse red quartz grains, as above.
7450'	SANDSTONE, fine to medium, fair sorted, angular to sub round quartz grains and gray, white and pink feldspar grains, some quartzitic, as above.
7460'	As above.
7470'	SANDSTONE as above, some rust specks.
7480'	SANDSTONE, as above with abundant rust specks, trace loose quartz crystals with red staining.
7490'	As above.
7500'	As above.
7510'	As above.
7520'	SANDSTONE, red and green mica, trace rose quartz, abundant rust specks, trace quartzitic.
7530'	SANDSTONE, fine, as above.
7540'	SANDSTONE, dark greenish-gray with minor reddish-gray, fine, poorly sorted, angular quartz and gray feldspar grains, green mica, dolomitic, argillaceous, hard, tight. Minor SHALE, dark reddish-brown, fissile, sandy, dolomitic, red and green mica.

SAMPLE DESCRIPTIONS

<u>DEPTH</u>	<u>DESCRIPTION</u>
7550'	SANDSTONE, dark greenish to reddish gray, fine to very fine, poorly sorted, angular quartz and gray feldspar grains, red and green mica, dolomitic, argillaceous with some very argillaceous, hard, tight. Some SHALE, silty, as above.
7560'	SANDSTONE as above. Minor SHALE as above.
7570'	SANDSTONE, very fine to fine, as above. Minor SHALE as above.
7581'	CORE #2. 7570'-7581'. (11') Recovered approximately 10' (core shattered) being SANDSTONE, reddish to greenish gray, very fine, poorly sorted, angular quartz grains, red and green mica, very argillaceous to argillaceous, calcareous to dolomitic, hard, tight, with thin laminations of SHALE, reddish-brown to gray-green, fissile, dolomitic, silty, red and green micaceous planes. (See detailed description on following page.)
7581'	<u>TOTAL DEPTH.</u>

UNION BRINEX ANGUILLE H-98

CORE DESCRIPTIONS

CORE #1. 6030'-6043' (13'). Recovered 12.5' being:

6030.0'-42.5'(12.5) SANDSTONE, greenish-gray, fine grading downward to very fine, fair sorted, subangular quartz grains with green and red mica, slightly argillaceous becoming very argillaceous in the basal 2' with a 1" bed of gray-green SHALE with a waxy luster at 6041'. Thin, mostly non-parallel micaceous layers throughout core dip from 5° to 90° with dips above 45° predominant. From 6032' to 6035' parallel micaceous layers dip from 45° to 60° and appear to represent structural attitude of the formation. Bedding in the remainder of the core is irregular and appears to indicate intraformational folding. The core is highly fractured with mostly open fractures dipping from 45° to 70° roughly transverse to the indicated bedding. Some fractures are lined with gray-green, micaceous clay or with white dolomite crystals.

CORE #2. 7570'-7581' (11'). Recovered approximately 10' (core shattered) being:

7570.0'-80.0'(10.0') SANDSTONE, reddish to greenish gray, very fine, poorly sorted, angular quartz grains, red and green mica, very argillaceous to argillaceous, calcareous to dolomitic, hard, tight, indistinct cross-bedding, with thin laminations of SHALE, reddish-brown to gray-green, fissile, silty to sandy, dolomitic, red and green micaceous planes. Beds are dipping at approximately 75° with abundant fracturing along bedding planes and minor transverse fracturing. Fractures are lined with slickenside and some white dolomite crystals and some red staining.

DESC. BY J.W. HARRIS

DATE 9-24-73

LOCATION 47° 57' 25" N 59° 12' 30" W

ELEV.

DEPTH	DOLOMITE %	LIMESTONE %	SHALE %	SILTSTONE %	SANDSTONE %	OTHER	POROSITY	STAIN	REMARKS								
	COLOUR	COLOUR	GR.	RED	BULK.	GRN.	% COLOUR	LITH.	%	COLOUR	TR.	P.	FR.	C.	IR.	FR.	SAT.
1090 - 1100			sty	20				80	54	uf							ss, angular, f, silted, gry & pk field, on & varna, dolc, bd
1110			-	50				30	rbn.	uf-f							ss, & f, r bn, gry a.a. / sh dolc, bd red.
1120			~	50				50	rbn	uf-sty							ss, dolc, v arg, angular, psrltd, go mica, bd, fi
1130			~	40				40	rbd	uf							ss, dolc, mica, rd & on mica, f, silted angular grs / sh dolc, bd, a.a.
1140			~	50				50	rbn	uf-sty							a. a.
1150			~	30				70	~	~							g. g.
1160			~	10				90	~	--							g. g.
1170			~	50				50	~	~							g. g.
1180			~	90				10	~	uf-f							g. g.
1190			~	4r				20	gray	uf-f							ss, arg, aca. / sh a.a.
1200								100	rbn	uf-sty							ss, arg, dolc, mica, bd, t.
1210				50				40	dt rbn	10	~						sh, fis, sh dolc, mica, / sh dolc, arg, mica, mica
1220			sty	70	hr	2	30	90	9y	uf							sh a.a, sm sty / ss dolc, red for mica, bd, t.
1230			~	30				70	~	~							ss & sh a.a. / sm dolc xtal / fine f.t.
1240			~	1r				100	~	uf-sty							ss a.a / traces of rd & on sty sh a.a.
1250			~	10				90	~	uf-sty + f							c. a.
1260			~	tr	sty	20	40	90	40	~	~						sh / sh, arg, dolc / ss a.a. / sh dolc, fis, sty, mic-mica
1270			~	hr	60	~	40	~	uf-sty								sh, a.a, sm sh / ss of-sty a.a. / tr on sh a.a.
1280								10	70	~	20	~					sh / sh a.a, sm sh a.a. / sh dolc, dolc filled faces
1290								10	~	tr	~	~					sh / sh a.a, to ss a.a, dolc wth dolc stylx xtal fine f.t.
1300											100	angry	uf				ss, angry, f, stylx, sl. arg, dolc, mic mica, bd, fi
1310									100	~	~						ss, angular, f, stylx, sl. arg-pk field, sm mica, dolc, sl. arg.
1320			sty	90				10	~	~							sh dolc, mic mica, fis / ss a.a.
1330			sty	100				10	rbn	~							sh a.a, tr sdv
1340			~	80													sh a.a, sm sh, very-dull / ss, amel qz & feld, feld dolc, bd
1350			~	10													ss a.a, / sh a.a
1360			~	50													sh a.a, fis, blk, sl. t. / sh a.a, bd, t.
1370			sty	10	10												ss dolc, arg, dolc, mic mica, bd, t. / sh a.a, sty

DESC. BY J.W. Harris		DATE 9/25/73		LOCATION 47°57'25" N & 59°12'30" W		ELEV.			
DEPTH	DOLOMITE %	LIMESTONE %	SHALE %	SILTSTONE %	SANDSTONE %	OTHER	POROSITY	STAIN	REMARKS
	COLOUR	COLOUR	COLOUR	COLOUR	COLOUR	LITH.	TR.	P.	G. TR. FR. G. FR. SAT.
1370'-1380'			sl. br	70		30	loamy	vf-sty	
1390'			tr			100	angry	f-vf	Sh dk blkrd, fis, sl. dolc, str / ss, dolc, mic-mica, arg, bd ss a.a.
1400'		40				50	gy	10	~
1410'		10				90	~		Sh stn, dolc, mic-mica, arg / Sh, fis-blky, sty in p.t, dolc ss / ss a.a, sm sty / sh a.g
1420'						100	angry	vt	ss, sl. dolc, cl. mica, f sttd, angr g t2, hd.
1430'			tr			100	~	~	ss a.a, tr gy sh pgs, abd lsse sh g t2 xtal / cl. mica
1440'						100	gy	~	ss a.a
1450'			tr			100	~		a.a
1460'		tr				100	gy-bl.	vt-sty	a.a
1470'						50	angry	vt-g	ss, dolc, angr, p sttd grs, sl. mica, dol / sh dk blkr, fis- sty, dolc, ss a.a, sdy
1480'						30	rd bn	vt-g	ss, dolc, red mica, arg, a.a. / sh a.a, sdy
1490'						60	angry	vt-f	ss a.a
1500'						70	rd bn	vt	a.a
1510'			sl. y	60		40	~	~	Sh a.a. / ss a.a. calc
1520'			tr	40		30	angry	vt-g	ss, calc, p sttd, anglo g t2 & gypk feld, rgnmica / dolc
1530'						30	angry	vt	ss, calc, angr, p sttd g t2 & gypk feld, rgnmica / dolc
1540'						90	gy	vt-g	ss, dolc, angr, a.a. / sh brkr a.a.
1550'						100	angry	vt	ss, calc, angr, f sttd g t2 & dolc feld, few c xts
1560'						100	gy	~	ss, dolc, a.a. / abd orthoclase
1570'						80	gy-gm	f-vf	ss p sttd, angr g t2 w/ wh dolc-pk feld, rd gpmica,
1580'						10	~		a.a.
1590'			sl. y	60		90	vt	vt	a.a.
1600'						40	angry	vt-f	a.a.
10'						30	~	vt-f	a.a.
20'						30	~	vt-f	a.a.
30'						60	angry	~	a.a. ss, calc
40'						40	rd bn	~	a.a. ss, arg
50'						20	rd bn	f-vf	shao / ss a.a, dolc

DESC. BY Joe W. Harris DATE 9/27/73 LOCATION 47°57'25" N & 59°12'30" W ELEV.

DEPTH	DOLOMITE %	LIMESTONE %	SHALE %	SILTSTONE %	SANDSTONE %	OTHER %	POROSITY	STAIN	REMARKS
	COLOUR	COLOUR	GR. RED	BLK.	GRN.	COLOUR	LITH.	IR.	P. FR. G. IR. FR. SAT.
1650 - 1660			Sly	90			10 rdbn	f-uf	
1670			~ 70			30 gngy	f-m		Sh, dk blkrd, sly, dolc, firs, mic-mica / Ss, dolc, org, psbt anglr gtr & wht feld, bd, t.
1680			~ 60			40	~		Ss a.a. / Ss, f std, anglr gtr & abd wh-pk feld, rtmica, dolc, t.
1690			~ 30			70 gngy	f		a.a.
1700			~ 60			40 rdbn	angry	~	a.a.
1710			~ 70			30	~	f-m	a.a.
1720			~ 20			80 gr-angry	f-uf-m		Ss p. stt, ang gtr & wtpk feld, lignica, calc, blkt, sh str, rcky, blkt, firs
1730			~ 30			70 gr-angry	f-uf		a.a.
1740			~ 80			80 gngy	t	f-m-uf	Ss p. std, sbanal & t gypk feld, dolc, sly, fri, t; / Sh blkrca gtr, mic
1750			~ 10			90 angry	~		Ssaa + t
1760	Sh-sly	10	20			70 gr-angry	uf-f		Ss anol gtr & feld, psbt, arg, sm soft, fri / Sh a.a.
1770		10	30	20		40	~		Ss, anol gtr & feld, dolc, rd & gypk, blkt, yslm soft, a.a. / Sh sly wh dryst
1780	sly	10				40 gngy	f-m		Ss, dolc, t, smic, gtr, sly, fri, t; / Sh a.a.
1790	sly	10	10			10 gngy	~		Ss, calc, mic-mica, arg, bd / Sh blky, mic, dolc
1800	sly	10	10			20 rdbn	uf		Ss dolc - calc, a.a.
1810	sly	50				50 rdbn	~		Ss a.a. sm w/ wh clay cont / Sh dk blkr, blky, sly, dolc
1820	sly	10				90 Hbrn-rbn	uf		Ss, anol gtr & feld, sh dryst, dolc, t.
1830		~	~			100	~	~	Ss aa, t
1840		~	10			90 Hbrn- rdbn- gr	uf		Ss aa / Sh a.a
1850	sly	~	~			100 gngy	~		Ss, dolc, t, smic, gtr, dolc, bd, t.
1860		~	~			100 in gngy	uf		a.a.
1870		~	10	~		90 gngy	uf-f		Ss aa / Sh a.a
1880	sly	10	20			40 gngy	uf-f- angry		Ss smic, a.a. / Sh sly, dolc, sly, mic, org, bd / Sh dk blkr, blky, t
1890		~	~			30	~		Ss dolc, mic, org, bd / Sh gngy a.a.
1900		~	~	30	10				Ss aa / Sh blkr-90 a.a.
1910		~	~	40					a.a.
1920		~	~	50					Q Q
1930		~	~	20	~				Ss anol, f std, gtr & wht feld, sh sly, dolc, dolc, t

DESC. BY *J. W. Harris* DATE *9/30/73* LOCATION *47° 57' 40" N E 59° 14' 00"*

DEPTH	DOLOMITE %	LIMESTONE %	SHALE %	SILTSTONE %	SANDSTONE %	OTHER	POROSITY %	LITH.	TR. P.	FR.	G.	TR.	FR.	SAT.	STAIN	REMARKS
2200' - 2210																
2220																
2230																
2240																
2250																
2260																
2270																
2280																
2290																
2300																
2310																
2320																
2330																
2340																
2350																
2360																
2370																
2380																
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2440																
2450																
2460																
2470																
2480																

*Sh dk gray, a.a.**Ss dk gray, a.a.**a.a.**Sh dk gray, a.a.**Ss dk gray, a.a.*

ELEV.

DESC. BY J.W. HARRIS	DEPTH	DOLOMITE %	LIMESTONE %	SHALE %	SILTSTONE %	SANDSTONE %	OTHER %	POROSITY %	STAIN	REMARKS				
	DEPTH	COLOUR	COLOUR	GR.	RED	BLK.	GRN.	LITH.	TR. P.	FR.	G.	TR.	FR.	SAT.
2480-2490'		Sly	50	50										
2500	~			tr										
2510	~	30		tr				100	gray-gr	uf				
2520	~	10						70	gray-gr	sf				
2530	~	tr						90	gray-	f				
2540								100	tr					
2550								100	tr					
2560								100	tr					
2570								100	tr					
2580								100	tr					
2590								100	tr					
2600		Sly	10					90	gray-gr	uf				
2610		~	10					90	gray	pf				
2620		~		tr				100	~	~				
2630								100	~	f				
2640								100	~	f-m				
2650								100	~	arkose				
2660								100	~	f-m				
2670								90	~	~				
2680								90	~	~				
2690								60	~	~				
2700								30	~	~				
2710								100	~	~				
2720								100	~	~				
2730								100	~	~				
2740								100	~	~				
2750								100	~	~				
2760								100	~	~				

DATE Oct. 3, 1973 LOCATION 47°0'57" 40" N 59°0'14" W

ELEV.

DESC. BY	DEPTH	SILTSTONE						SANDSTONE						OTHER	POROSITY	STAIN	REMARKS			
		DOLOMITE	LIMESTONE	SHALE	% COLOUR	% COLOUR	GR.	RED	BLK.	GRN.	% COLOUR	LITH.	%	LITH.	TR.	P.	FR.	G. TR.	FR.	SAT.
3040-3050		shy	20								30	angry	SD	1/4y	uf					
3060		shy	20								30	angry	SD	1/4y	uf					
3070		shy	10	40							10	~	40	~	~					
3080		shy	10	60							tr	~	30	angry	uf-f					
3090		shy	2	20							20	angry	SD	1/4y	uf					
3100		shy	2	20							20	angry	SD	1/4y	uf					
3110		shy	10	10							10	angry	SD	1/4y	uf-f					
3120		shy	20	20							20	angry	SD	1/4y	uf					
3130		shy	10	10							10	angry	SD	1/4y	uf-f					
3140		shy	10	40							40	angry	SD	1/4y	uf					
3150		shy	10	40							40	angry	SD	1/4y	uf					
3160		shy	30	10							10	angry	SD	1/4y	uf					
3170		shy	10	20	10						20	angry	SD	1/4y	uf					
3180		shy	60	30	10						60	angry	SD	1/4y	uf					
3190		shy	20	30	30						20	angry	SD	1/4y	uf					
3200		shy	30	20	20						20	angry	SD	1/4y	uf					
3210		shy	10	40	10						40	angry	SD	1/4y	uf					
3220		shy	10	10	10						10	angry	SD	1/4y	uf					
3230		shy	10	10	10						10	angry	SD	1/4y	uf					
3240		shy	10	10	10						10	angry	SD	1/4y	uf-f					
3250		shy	10	10	10						10	angry	SD	1/4y	uf					
3260		shy	40	40	40						40	angry	SD	1/4y	uf					
3270		shy	60	60	60						60	angry	SD	1/4y	uf					
3280		shy	60	60	60						60	angry	SD	1/4y	uf					
3290		shy	60	60	60						60	angry	SD	1/4y	uf-f					
3300		shy	30	30	30						30	angry	SD	1/4y	uf					
3310		shy	40	40	40						40	angry	SD	1/4y	uf					
3320		shy	20	20	20						20	angry	SD	1/4y	uf					

PROVINCE NEW BRUNSWICK

13

ELEV.

DESC. BY J.W. HARRIS DATE Oct 4/73 LOCATION 47° 57' 40" N 59° 14' 00" W

WELL No. 14-98

ELEV.

REMARKS

DEPTH	DOLOMITE %	LIMESTONE %	SHALE %	SILTSTONE %	SANDSTONE %	OTHER	POROSITY %	STAIN	REMARKS
	COLOUR	COLOUR	GR.	RED	BLK.	GRN.	LITH.	TR. P.	G. TR. F. SAT.
3320-3330				10			9% 61% 30%	bf-p	
3340				20			40% 20%	f-vf	
3350				10	10		60%	~	Ss, f-srf, anglr & fz, rd & gry mica, calc, org, hd / Sh dk etc, n, mic-mica, f.s.
3360				20			20%	~	Ss, rd & gry mica
3370				30	10	30	30%	~	Ss, ang. - shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3380				20	50	50	30%	~	Ss, ang. - shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3390				10	80		20%	~	Ss, shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3400	sh-slf	tr	10				tr	~	Ss, ang. - shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3410		tr	40				50% 90% 100%	~	Ss, ang. - shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3420		tr							Ss, shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3430							100%		Ss, ang. - shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3440				20			80%	~	Ss, ang. - shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3450				20			80% 90% 100%	f-vf	Ss, ang. - shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3460				4			100%	~	Ss, ang. - shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3470				20			80%	~	Ss, ang. - shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3480				90			10%	~	Ss, ang. - shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3490				60	20	40% 10%	90%	f-vf	Ss, ang. - shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3500				40	20	~	100%	~	Ss, ang. - shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3510				4	10	~	90%	~	Ss, ang. - shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3520				10			90%	f-vf	Ss, ang. - shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3530				10			100%	~	Ss, ang. - shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3540	sdg		70	10			20%	rd-brown-pur	Ss, shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3550	c		90	10			~	~	Ss, shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3560	c		50	10			40%	~	Ss, shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3570	c		40	10			60%	~	Ss, shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3580	c		40				60%	~	Ss, shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3590	c		30				70%	~	Ss, shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica
3600	c		20				80%	~	Ss, shangrl gry, f-p Sh dk & Sh dk & n, f.s. mic-mica

DESC. BY J.W. MERRIS DATE Oct 5/73 LOCATION 47° 57' 40" N & 59° 14' 00" W ELEV.

DEPTH	DOLOMITE			LIMESTONE			SHALE			SILTSTONE			SANDSTONE			OTHER			POROSITY			STAIN			REMARKS				
	% COLOUR	% COLOUR	% COLOUR	GR.	RED	BLK.	GRN.	% COLOUR	% COLOUR	LITH.	%	LITH.	%	LITH.	%	TR.	P.	FR.	G.	TR.	FR.	SAT.							
3600'-3610'	slg			50	20			30	prod	lf.													Sh dolbkr. - gray, sh, dol, firs, mic-mica / ss arg, sl. mica	calc, no					
3620'	l	30	50					20	arg	lf.														Sh arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3630'	l	10	10					80	arg	lf.														Sh arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3640'	l	10	40					50	arg	lf.														a. a.					
3650'	l	10	40					90	arg	lf.														Sh dol, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3660'								100	arg	lf.														Sh dolc, a. a.					
3670'		10						90	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3680'		40						90	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3690'								100	arg	lf.														Sh dolc, a. a.					
3700'								100	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3710'								100	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3720'								100	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3730'								100	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3740'	slg	10	10					80	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3750'	slg	10	10					80	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3760	l	20						80	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3770	l	40	30					60	arg	lf.														a. a.					
3780	-	10	40					50	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3790	slg	40	30					30	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3800	slg	80	20					20	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3810		70	20					10	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3820		40	30					10	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3830	slg	10	30					10	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3840	l	20						30	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3850		30	4					4																	Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica				
3860	slg	20						20	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3870	l	10						10	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					
3880	l	40						40	arg	lf.														Sh dolc, arg, dol, firs, dol, firs, mic-mica / ss arg, sl. mica					

DESC. BY **J. W. Harris**

ELEV.

DATE **Oct 6/73** LOCATION **47° 57' 40" N & 59° 14' 00" W**

SAND/land

DEPTH	DOLOMITE		LIMESTONE		SHALE		SILTSTONE		SANDSTONE		OTHER		POROSITY		STAIN		REMARKS		
	% COLOUR	% COLOUR	GR.	RED	BLK.	GRN.	% COLOUR	% COLOUR	LITH	%	LITH	TR.	P.	FR.	G.	TR.	FR.	SAT	
3880'-3890'									100	94-98	lf-f								SS, f srhf, anglo qtz feld, dolc, ch. mica, bd
3900'	sly		30	10			60	94-98	lf-sly	20	94-98- rbn	lf							ss a.a. / Sh dk bkr - qz qz, fis, mic-mica, dolc, sly
3910'	l	80								rd bkr- angl	b-vf								Sh a.a. / Ss, arg, a.a.
3920'	l	50					50		10	l	l								Sh aa / Ss, p.srf, anglo qtz feld, dolc, sly
3930'		50	40						10	l	l								Sh dk bkr - qzn, fis, mic-mica, dolc / Ss a.a.
3940'		90	10						4	l	l								Sh a.a.
3950'	sly	80	lv						10	rgy	f								Sh sly, a.a. / Ss rd gry, rd gry, mic-mica, dolc, arg, bd
3960'	lv	40							80	94	f								ss gngy - rd gy, a.a.
3970'									20	94	f								ss gngy - rd gy, a.a.
3980'									60	l	l								f. a.
3990'									80	l	l								ss gngy, f, srhf, anglo qtz qz feld, mic-mica, dolc, bd
4000'									100	94	vf-f								ss ff gy a.a.
4010'									100	94	l								a.a.
4020'									100	l	l								a.b.
4030'									100	l	l								a.a.
4040'									100	94-98	l								sm. best ch. muscovite
4050'									10	90	l								ss & gy arg, a.a. / Sh qz ap, fis, mic-mica, dolc
4060'		4	20						80	l	l								ss a.a., hyperk / Sm Sh a.a., t bkr
4070'	sly	10	10						20	100-98	vf								Sh gngy - dk bkr, fis, tan-mica, sl. dolc, sly / rd gngy, mic-mica, dolc
4080'	sly	60	40							100	94	vf							Sh a.a.
4090'	sly-sly	30	30						40	94	vf								Sh gy qz dk bkr, sm. tan-mica, sly, dolc, sly-sly / Ss a.a.
4100'		40	30						30	l	vf-f								l. a.
4110'		40	60							100	94	vf							Sh gy qz dk bkr, vary lsd, mic-mica, fis, sl dolc, sly-sly
4120'		50	30						20	94	lf								Sh dolc, a.a. / Ss rd bkr - qngy, arg dolc, micc, dolc, bd
4130'		50	30						20	l	l								a.a.
4140'		60	10						30	l	l								Sh qz ap min gy qn, aa. / Ss a.a.
4150'		20							80	l	l								ss, rd bkr, gngy, v-mica, dolc, varg, sm. Sh dk bkr, a.a.
4160'		20							80	rd bkr	vf-f								ss, a.a. / Sh c.c.

DESC: BY J.W. HARRIS DATE 10/12/73 LOCATION

WELL No. 11 - 10

三

DESC. BY <u>J.W. Morris</u>	DEPTH	DOLOMITE %	LIMESTONE %	SHALE %	SILTSTONE %	SANDSTONE %	OTHER	POROSITY	STAIN	REMARKS									
		COLOUR	COLOUR	GR.	RED	BLK.	GRN.	% COLOUR	% COLOUR	LITH.	%	LITH.	TR.	P.	FR.	G.	TR.	FR.	SAT.
5380'-5390'		sd-sly	20	20				40	10	dk gray	sf	dk brn							
5390'	l	2	30	20				50	10	dk gray	sf	dk brn	✓						
5390'	l	2	10	40				50	10	dk gray	sf	dk brn	✓						
5390'	l	2	tr	40				40	40	dk gray	sf	dk brn	✓						
5390'	l	2	70					30	70	dk gray	sf	dk brn	✓						
5390'	l	2	60					40	60	dk gray	sf	dk brn	✓						
5390'	l	2	10					90	10	dk gray	sf	dk brn	✓						
5390'	l	2	10					90	10	dk gray	sf	dk brn	✓						
5390'	l	2	tr	40				60	20	dk gray	sf	dk brn	✓						
5390'	l	2	tr	40				100	20	dk gray	sf	dk brn	✓						
5390'	l	2	tr	40				100	20	dk gray	sf	dk brn	✓						
5390'	l	2	tr	40				100	20	dk gray	sf	dk brn	✓						
5400'		sd	10					90	10	dk gray	sf	dk brn	✓						
5400'		sd	20					80	20	dk gray	sf	dk brn	✓						
5420'	sd	tr	10	40				50	40	dk gray	sf	dk brn	✓						
5430'	l	2	30					70	30	dk gray	sf	dk brn	✓						
5440'	l	2	tr	40				100	40	dk gray	sf	dk brn	✓						
5450'	l	2	tr	40				100	40	dk gray	sf	dk brn	✓						
5460'		30						70	20	dk gray	sf	dk brn	✓						
5470'	l	10						90	10	dk gray	sf	dk brn	✓						
5480'	l	40						60	40	dk gray	sf	dk brn	✓						
5490'	sty	60						100	40	dk gray	sf	dk brn	✓						
5500'	l	10						90	10	dk gray	sf	dk brn	✓						
5510'	tr	50						90	10	dk gray	sf	dk brn	✓						
5520'	l	10						40	10	dk gray	sf	dk brn	✓						
5530'	l	10						40	10	dk gray	sf	dk brn	✓						
5540'	l	10						30	10	dk gray	sf	dk brn	✓						
5550'	l	10						40	10	dk gray	sf	dk brn	✓						
5560'	l	10						40	10	dk gray	sf	dk brn	✓						

LEASE *ANGUILL* LOCATION *470 57' 40" N 59° 14' 00" W* ELEV.

DESC. BY <i>J.W. MARCUS</i>	DATE <i>Oct 16/73</i>	DEPTH	DOLOMITE %	LIMESTONE %	SHALE %	SILTSTONE %	SANDSTONE %	OTHER	POROSITY %	LITH.	TR.	P.	FR.	G.	TR.	FR.	SAT.	REMARKS
5840'-5850'			sdy	10	10		80	rst-pst	uf									Ss, arg, rgn mica, dolk, dolk, sh gyan dolk br, s.s., sh dolk.
5860'			✓	tr	10		90	dkgny	uf	✓	✓							Ss & sh as abu.
5870'			✓	tr	10		90	✓	✓	✓								As abu
5880'			✓	tr	10		90	dkgny	uf-sy									Ss, go mica, a.a./sh dolgny, f.s., dolc, mic-micac
5890'			tr	tr	10		90	-rbx	✓	✓								Ss, rgn mica, a.a./sh dolk br, a.a.
5900'			tr	tr	10		100	✓	✓	✓								Ss & sh a.a.
5910'			tr	tr	10		100	✓	uf									PA
5920'			tr	tr	10		90	tr	tr									AA
5930'			tr	tr	10		100	✓	✓									AA
5940'			tr	tr	10		100	dkgny	tr									AA
5950'			tr	tr	10		100	tr	tr	✓								Ss, arg, sh gr mica, sh arg, dolc, br
5960'			tr	tr	10		100	tr	tr	✓								AA
5970'			tr	tr	10		100	tr	tr	✓								AA
5980'			tr	tr	10		90	tr	tr	✓	tr							Ss a.a./sh dolgny, sh dolc, mic-micac
5990'			tr	tr	10		90	tr	tr	✓	✓							Ss a.a./sh arg/sh dolgny, arg, dolc
6000'			tr	tr	10		90	tr	tr	✓	✓							Sh gny - dol dol, f.s.-b, sh dolc, sh dolc, sh dolc
6010			tr	tr	10		90	tr	tr	✓	✓							sh dolc, sh dolc, sh dolc
6020			tr	tr	10		90	tr	tr	✓	✓							Sh dolc, sh dolc, sh dolc
6030			tr	tr	10		90	tr	tr	✓	✓							Sh dolc, sh dolc, sh dolc
6043	CORE #1. <i>6030 - 6043</i>		tr	tr	10		90	tr	tr	✓	✓							Sh dolc, sh dolc, sh dolc
6050			tr	tr	10		90	tr	tr	✓	✓							Sh dolc, sh dolc, sh dolc
6060			tr	tr	10		90	tr	tr	✓	uf							Sh dolc, sh dolc, sh dolc
6070			tr	tr	10		90	tr	tr	✓	tr							Sh dolc, sh dolc, sh dolc
6080			tr	tr	10		90	tr	tr	✓	tr							Sh dolc, sh dolc, sh dolc
6090			tr	tr	10		90	tr	tr	✓	tr							Sh dolc, sh dolc, sh dolc
6100			tr	tr	10		90	tr	tr	✓	tr							Sh dolc, sh dolc, sh dolc
6110			tr	tr	10		90	tr	tr	✓	tr							Sh dolc, sh dolc, sh dolc
6120			tr	tr	10		90	tr	tr	✓	tr							Sh dolc, sh dolc, sh dolc

DESC. BY	J. W. Morris	DATE	Oct 21, 1973	LOCATION	47° 57' 40" N & 59° 14' 00" W	ELEV.							
DEPTH	DOLOMITE %	LIMESTONE %	SHALE %	SILTSTONE %	SANDSTONE %	OTHER	POROSITY %	STAIN	REMARKS				
	COLOUR	COLOUR	COLOUR	COLOUR	COLOUR	LITH.	TR.	P.	FR.	G.	TR.	FR.	SAT.
6130' - 6150'	slg	30	60	10	90	uf							
6140'	✓	40	60	✓	✓	✓							
6150'	✓	10	90	✓	✓	uf- f-uf							
6160'	✓	40	60	✓	✓	✓							
6170'	tr	100	90	✓	✓	uf							
6180'	tr	100	90	✓	✓	uf-p							
6190'	tr	100	90	10	90	✓							
6200'	tr	100	90	✓	✓	uf							
6210'	tr	100	90	✓	✓	uf							
6220	tr	100	90	✓	✓	uf							
6230	slg	tr	100	✓	✓	uf							
6240	tr	100	90	✓	✓	uf-p							
6250	tr	100	90	✓	✓	uf							
6260	tr	100	90	✓	✓	uf							
6270	tr	100	90	✓	✓	uf							
6280	tr	100	90	✓	✓	uf							
6290	tr	100	90	✓	✓	uf							
6300	tr	100	90	✓	✓	uf							
6310	tr	100	90	✓	✓	uf							
6320	tr	100	90	✓	✓	uf							
6330	tr	100	90	✓	✓	uf							
6340	tr	100	90	✓	✓	uf							
6350	tr	100	90	✓	✓	uf							
6360	tr	100	90	✓	✓	uf							
6370	tr	100	90	✓	✓	uf							
6380	tr	100	90	✓	✓	uf							
6390	tr	100	90	✓	✓	uf							
6400	tr	100	90	✓	✓	uf							

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64400	6410'	Sfy	60	30	ringy	uf	f
6420'	2		70	30	uf	uf	uf
6430'	2		80	20	uf	uf	uf
6440'	1		90	10	ringy	uf	
6450'			100	40	uf	uf	
6460'			110	40	uf	uf	
6470'		sky	120	40	uf	uf	
6480'			130	40	uf	uf	
6490			140	30	uf	uf	
6500'			150	50	uf	uf	
6510'			160	90	uf	uf	
6520'			170	80	uf	uf	
6530'		N/0	50/				
6540'		N/0	50/				
6550'			30	70	uf	uf	
6560'			40	60	ringy	uf	
6570'			40	60	uf	uf	
6580'			70	30	uf	uf	
6590'			30	70	ringy	uf	
6600'			30	80	ringy	uf	
6610'		sky	10	40	uf	uf	
6620'		sky	10	90	uf	uf	
6630'			10	100	uf	uf	
6640'			10	90	uf	uf	
6650'			100	100	uf	uf	
6660'		sky	100	100	uf	uf	
6670'			100	100	uf	uf	
6680'			100	100	uf	uf	

ELEV.

LOCATION 470 57' 40" N 59° 14' 00"

WELL NO. H-98

LEASE ANGUS

ELEV.

DESC. BY	SEC	W.	DEPTH	DATE	10/28/73	REMARKS	REMARKS									
DEPTH	DOLOMITE	LIMESTONE	SHALE	SILTSTONE	SANDSTONE	OTHER	POROSITY	STAIN	REMARKS							
DEPTH	% COLOUR	% COLOUR	GR.	RED	BLK.	GRN.	% COLOUR	% COLOUR	LITH	TR. %	P.	FR.	G.	TR.	FR.	SAT.
6960' - 6970'			Sty	70		10		70	9y-ym	uf-f						
6980'			Sty	70		10		70	2	c-c						
6990'			c-c	10		4r		90	6m-5y	c-c						
7000'			c-c	4r		4r		102	c-c	c-c						
7010'			c-c	10		10		80	grey	c-c						
7020'			c-c	4r		20		80	2	c-c						
7030'			c-c	20		20		80	dk grey	f-uf						
7040'			sky	4r		30		70	2	c-c						
7050'			c	10		2		70	2	c-c						
7060'			c	10		10		90	2	c-c						
7070'			c	10		10		90	2	uf-f						
7080'			sky					70	4y-9y	c-c						
7090'								40	dk grey	c-c						
7100'								70	30	c-c						
7110'								50	20	c-c						
7120'								60	2	c-c						
7130'								50	50	c-c						
7140'								30	20	4y-9y	c-c					
7150'								30	20	c	f-uf					
7160'								10	90	2	c-c					
7170'								4	100	9y	fine					
7180'								100	2	c						
7190'								100	2	c						
7200'								4r	100	c	f-uf					
7210'								20	80	c						
7220'								50	9y	uf-f						
7230'								40	9y	c-c						
7240'								30	20	dk grey	c-c					

Ss ang, p.srid, gl. styl. field, rég. mica, org, calc, hd, Sh, 9y-
ct
sty-sbs, f.sis, d/c, m/c, m/c

As abv

As abv.

As abv, Ss v.mica, sm hornblnd, as abv / Sh or abv
Ss as abv / Sh as abv

Ss as abv / Sh as abv

Ss v.org, mica, as abv / Sh dk gray dk blv, as abv
As abvAs abv, Ss as abv / Sh sty as abv
Ss dk gray, p.srid, org, gl. styl. field, go min, dol, org, shd, /
Sh & Ss as abvAs abv, Ss as abv / Sh sty as abv
As abvAs abv, Ss as abv / Sh as abv
As abvAs abv, Ss as abv / Sh as abv
Ss as abv / Sh dk gray, org, dol, org, mica, /
Sh dk gray, dol, vang, hd, rem, mica

Sh hd, benth, sh, as abv / Ss, dol, vang, hd, rem, mica

DESC. BY J.W. HARRIS DATE Oct. 29, 1973 LOCATION $47^{\circ}57'40''N$ $5^{\circ}59'14''W$

DEPTH	DOLOMITE			LIMESTONE			SHALE			SILTSTONE			SANDSTONE			OTHER			POROSITY			STAIN			REMARKS		
	% COLOUR	% COLOUR	% COLOUR	GR.	RED	BLK.	GRN.	% COLOUR	% COLOUR	LITH	%	LITH	TR.	P.	F.R.	G.	TR.	F.R.	SAT								
7240 - 7250'	Sly	dk r.brown	dk r.brown	10	30			70	10	brn	0f									Ss, arg, rgen mica, dolc, bl/dk, sdy, mica, dolc, fis							
7260'	~	10	20					70	30	brn	0f-f									Ss & Sh as abu.							
7270'	~	10	20					80	20	brn	0f-f									Ss & srtd, anal q/z & gry p feld, rgen mica, dolc, arg, t;							
7280'	~	10	10					90	~	brn	~									Ss & Sh as abu.							
7290'	~	~	tr					100	90	brn	0f									As abu							
7300'	~	~	tr					110	90	brn	0f									As abu							
7310'	~	20	10					110	~	brn	~									Ss as abu / Sh dk gry mica, dolc, sdy, fist, mica, dolc							
7320'	-	30	20					50	~	brn	0f-f									Ss as abu, sm org. / Sh as abu, sm v. sdy.							
7330'	~	20	dkbrn	50				30	~	brn	~									Sh as abu, sdy / ss v. arg, abu							
7340'	sly	50	70					40	~	~	~									Sh dkbrn - dk gry, sdy, fis, dolc, mic-mic							
7350'	sly	10	90					40	~	~	0f-f									Sh as abu / tr ss long, v. mica, as abu							
7360'	~	30	60					30	~	~	~									Sh & ss as abu							
7370'	~	30	60					70	~	~	~									As abu							
7380'	~	20	30					60	dkbrn	~	~									Ss as abu / Sh as abu							
7390'	~	40	40					70	~	~	0f									As abu							
7400'	~	50	30					20	~	~	0f-f									As abu							
7410'	~	80	20					10	~	~	~									As abu							
7420'	~	30	20					50	dkbrn	~	0f-f									As abu							
7430'	~	20	20					50	90	dkbrn	~									Ss, first, ang dk gry feld, grt & v. mica, dolc, chlorite, dol/sk brn.							
7440'	~	10	20					100	~	~	~									Se, dk gry mica, tr qz grt as							
7450'	~	10	20					100	~	~	f-m									Ss, dk brn, dk gry dolc, dk gry qz, dolc, feld, sm glate							
7460'	~	10	20					100	~	~	~									As abu, dk brn sm rust specks							
7470'	~	10	20					100	~	~	~									Ss as abu, abd, rust specks, tr qz as dk brn, dk gry							
7480'	~	10	20					100	~	~	~									As abu							
7490'	~	10	20					100	~	~	~									As abu							
7500'	~	10	20					100	~	~	~									Ss, rgen mica, tr rose qtz grys, dk rust specks, tr glate							
7510'	~	10	20					100	~	~	~																
7520'	~	10	20					100	~	~	~																

