

- New Location
- Drill Deeper
- Abandonment

Company M. E. ANDERSON

Address 311 MARKET ST. WARREN, PA.

Farm WOODROW W. MCBRIDE

Tract 1 Acres 99 Lease No. 1

Well (Farm) No. 1 Serial No.

Elevation (Spirit Level) 13430 *August 15 quad*

Quadrangle HANGING ROCK - 5C

County HAMPSHIRE District GORE

Engineer James J. Morris

Engineer's Registration No. 1739

File No. Drawing No.

Date MARCH 10, 1953 Scale 1" = 500'

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION
CHARLESTON

WELL LOCATION MAP
FILE NO. HAMP-3

+ Denotes location of well on United States Topographic Maps, scale 1 to 62,500, latitude and longitude lines being represented by border lines as shown.

- Denotes one inch spaces on border line of original tracing.

✓ Deep Well

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION 2

Quadrangle Hanging Rock
Permit No. HAM-3

WELL RECORD

Oil or Gas Well GAS
(KIND)

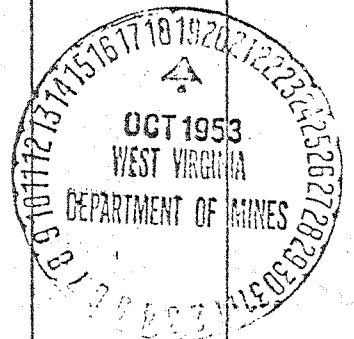
Company M. E. Anderson
Address WARREN, PA.
Farm W. McBride Acres 99
Location (waters) _____
Well No. 1 Elev. 1343'
District Gore County Hampshire
The surface of tract is owned in fee by William W. McBride
Address _____
Mineral rights are owned by McBride
Address _____
Drilling commenced Dec 20 1952
Drilling completed Sept 11 1953
Date Shot _____ From _____ To _____
With See Below
Open Flow 17 /10ths Water in _____ Inch
_____ /10ths Merc. in _____ Inch
Volume Approximately 32,000 Cu. Ft.
Rock Pressure 700 lbs. 81 hrs.
Oil _____ bbls., 1st 24 hrs.
Fresh water _____ feet _____ feet
Salt water _____ feet _____ feet

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
16			
13			
10	<u>420-7</u>	<u>420-7</u>	Size of
8 3/4	<u>1608-1</u>	<u>1608-1</u>	
6 3/4	<u>5600</u>	<u>5601</u>	Depth set
5 3/16			
3			Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

CASING CEMENTED 7" O.D. SIZE 800 No. Ft. 10-1-5 Data

COAL WAS ENCOUNTERED AT None FEET _____ INCHES
_____ FEET _____ INCHES
_____ FEET _____ INCHES

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Shale			0	110			
Lime			110	200			
Slate & Lime			200	265			
Gritty Lime			265	410	Water	245	5 bladders per hr
SAND			410	459			
Slate & Shells			459	485			
Gritty Lime			485	865	Water	573	1/2 bladders per hr
Broken Lime			865	981	Water	720	3 bladders per hr
Gritty Lime			981	1175	Water	970	hole full
Broken Lime			1175	1230			
Gritty Lime			1230	1346	Water	1340	3 bladders per hr
Broken Lime			1346	1727	Water	1575	2 " " " "
Slate & Shells			1727	1739			
Lime			1739	1845			
Slate			1845	1855			
Slate & Lime			1855	3260			
Lime			3260	3305			
Slate & Shells			3305	3336			
SAND			3336	3400			
Slate & Shells			3400	4610			



(Over)

Acidized R.P.
Before 32M After 90M 2100'

Formation	Color	Hard or Soft	Top Z	Bottom	Oil, Gas or Water	Depth Found	Remarks
LIME			4610	4640			
Slate Shells			4640	5109			
LIME			5109	5156			
Slate Shells			5156	5225			
LIME			5225	5375			
Slate Black			5375	5400			
LIME			5400	5414			
Slate Shells			5414	5480			
LIME			5480	5568			
Slate Shells			5568	5601			
SAND (OHINSKY)			5601	5749	GAS	5634 to 39	✓
SLATE			5749	5764			
LIME			5764	6030			

AS

DRK - 5605 - 5749
H666 - 5749 -

6030 ft total depth

Well uncompleted - going to acidize ✓

See
Accompanying
sheet
for
Completion

5480
1343

4137

5601
1343

4258

Date _____, 19__

APPROVED _____, Owner

By _____ (Title)

HAM-3

March 4, 1954

Hanging Rock Quadrangle

Completion Record

W. Va. Department of Mines
Charleston, West Virginia

Gentlemen: Re: M. E. Anderson Well No. 1
Woodrow W. McBride Farm
Gore District, Hampshire Co., W. Va.
Permit HAM-3

I wish to make the following final completion report on the above well:

The well was drilled to the depth of 6030 feet.

Plugged back to 5700 feet.

Well acidized in two treatments. First treatment 1,000 gal.; second treatment 3,000 gal.

Volume increased from 34,000 to 89,903 cu. feet per day.

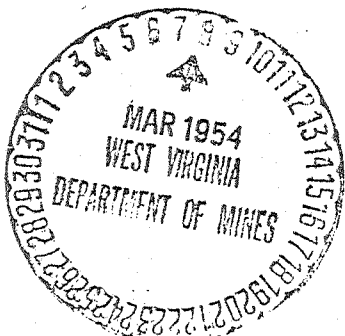
Rock pressure 2100 lbs.

Well is not in production. However, well is shut in by valve and will be kept until another well is drilled. If second well not successful, then both will be plugged.

Very truly yours,

Jack Brumage

Jack Brumage
Drilling contractor for Anderson
Well No. 1



5480	5601	5749
1343	1343	1343
4137	4258	4406

58

W. W. McBRIDE NO. 1 WELL

Core District, Hampshire County, W. Va.
 By E. M. Anderson, 311 Market St., Warren, Pa.
 Located 1.2 mi. S. of 39° and 2.92 mi. W. of 78° 35' - SC Hanging Rock
 Quadrangle.
 Elevation, 1340' L.
 Permit Hamp-3.
 Sample record from Flowers, Oct. 22, 1953.

Top.	Bottom.	Thick- ness	
533	540	7	Siltstone, medium dark gray to olive gray and brownish gray in the upper part to a medium-gray to olive-gray and brownish-gray to dusky-brown in the lower part; a very large amount of medium to dark gray siltstone and shale in the upper part.
540	561	21	Shale (silty) at the top to shale and siltstone (with calcified fossil fragments in the lower part) medium dark to dark-gray.
561	575	14	Siltstone, olive-gray to brownish-gray and medium dark gray to dark greenish gray, shaly, mostly dark-gray to dark greenish gray with calcified fossil fragments in the lower part, slightly calcareous.
575	582	7	Shale and siltstone, medium dark to dark-gray, some olive-gray to brownish gray.
582	614	32	Siltstone, medium dark gray, coarse, small amount is calcareous; some dark-gray shale.
614	618	4	Siltstone, olive-gray to medium dark gray, coarse, shaly.
618	625	7	Siltstone, medium dark gray, coarse, shaly
625	659	34	Siltstone and shale, medium to dark-gray; small amount of medium gray to olive-gray and brownish-gray siltstone at 647-653'.
659	670	11	Siltstone, medium dark to dark-gray; some dark-gray shale, calcareous, in the upper part (calcified fossil fragments).
670	681	11	Siltstone and shale, medium dark to dark-gray
681	694	13	Siltstone and shale, grayish-black to black and medium dark to dark-gray, mostly grayish-black to black in the upper part and mostly medium dark to dark-gray in the lower part; the dark siltstone and shale is dolomitic in part; some clear, glassy quartz.
694	734	40	Siltstone and silty shale, medium dark to dark-gray, some grayish-black in the upper part, slightly dolomitic at the bottom, small amount of clear, glassy quartz; some calcified fossil fragments-704-709'.
734	746	12	Shale and siltstone, medium dark to dark-gray
746	795	49	Siltstone and some silty shale, medium dark to dark-gray.
795	815	20	Siltstone, medium dark gray, shaly
815	847	32	Siltstone and some shale, medium dark to dark-gray
847	858	11	Siltstone, medium dark gray, shaly
858	900	42	Shale and siltstone, medium dark to dark-gray, mostly siltstone at 874-880', 894-900'.
900	921	21	No sample.
921	967	46	Siltstone and shale, medium dark to dark-gray, mostly siltstone at 929-932'; a large amount of grayish-black, shaly, dolomitic siltstone at 957-962'.

(OVER)

W. W. McBRIDE NO. 1 WELL (CONTINUED)

2.

Top.	Bottom	Thick- ness	
967	981	14	Siltstone, medium dark gray
981	988	7	Siltstone, medium dark gray, some grayish-black (dolomitic)
988	994	6	Siltstone to sandstone (very fine), medium to medium dark gray, slightly dolomitic
994	1006	12	Siltstone, medium dark to dark-gray, some grayish-black at the top
1006	1045	39	Siltstone, dark-gray, shaly
1045	1067	22	Shale and siltstone, dark gray
1067	1078	11	Siltstone, medium dark gray, some dark-gray, dolomitic at the top, dolomitic in part in the middle and lower parts
1078	1098	20	Siltstone, medium dark gray to dark-gray, shaly, a very small amount is dolomitic; some grayish-black to black shale at the bottom
1098	1104	6	Shale, grayish-black, to black, silty, dolomitic in the lower part (black due to Fe?); some medium dark to dark-gray siltstone
1104	1144	40	Siltstone, medium dark to dark-gray, shaly; some grayish-black shale in the upper part and at 1130-34'; mostly medium dark gray at 1119-1130'
1144	1160	16	Siltstone, medium to medium dark gray, calcareous in part; shaly in the lower part; some grayish-black silty shale in the upper part
1160	1173	13	Siltstone, dark-gray to grayish-black, medium-gray to medium dark gray, calcareous in the lower part
1173	1192	19	Siltstone and some shale, medium dark to dark-gray
1192	1200	8	Limestone, brownish-black to black, dolomitic in part, shaly; shale, medium dark gray to dark-gray
1200	1220	20	Shale, medium dark gray to dark-gray, silty, very small amount is calcareous and dolomitic
1220	1233	13	Siltstone, medium dark gray to grayish-black, shaly
1233	1287	54	Siltstone, medium dark gray to dark-gray, shaly, very slightly dolomitic
1287	1330	43	Siltstone, dark-gray, small amount of grayish-black in the lower part
1330	1348	18	Siltstone, grayish-black to black, very shaly, dolomitic in part; a large amount of medium to medium dark gray, calcareous, highly dolomitic siltstone in the middle part and some in the lower part.
1348	1430	82	Shale, dark-gray, some grayish-black, highly calcareous shale at 1376-88' and 1393-1414'
1430	1450	20	Siltstone, dark-gray, very shaly
1450	1469	19	Siltstone, dark-gray, very shaly
1469	1532	73	Siltstone, and shale, medium dark to dark-gray
1532	1538	6	Siltstone, medium dark gray, dolomitic
1538	1555	17	Siltstone and shale, medium dark to dark-gray
1555	1575	20	Shale, dark-gray, silty
1575	1590	15	Siltstone, medium dark to dark-gray, shaly
1590	1621	31	Siltstone and shale, medium dark to dark-gray, mostly medium gray, siltstone at the top
1621	1649	28	Shale, medium dark to dark-gray
1649	1659	10	Siltstone, medium dark gray, some dark-gray, contains highly calcareous fossil fragments (occasional crinoid fragments), dolomitic in part.
1659	1664	5	Siltstone, brownish-gray to dusky-brown; shale, medium dark gray to dark greenish gray, silty
1664	1681	17	Siltstone, medium dark gray, some medium dark gray to dark greenish gray, some brownish-gray to dusky-brown siltstone at the bottom

(Continued on page 3)

W. W. McBRIDE NO. 1 WELL (CONTINUED)

Top.	Bottom	Thick- ness	
1681	1712	31	Siltstone and shale, medium dark to dark-gray
1712	1751	39	Shale and siltstone, brownish- to dark-greenish gray to medium dark gray
1751	1787	36	Siltstone, medium dark gray, some medium dark gray to dark greenish gray, small amount of dolomite and calc; some medium dark to dark-gray shale.
1787	1802	15	Siltstone and shale, medium dark to dark-gray, some brownish-gray to dusky-brown; some dark greenish gray to medium dark gray
1802	1950	148	Siltstone and shale, medium dark to dark-gray
1950	2002	52	Shale, dark-gray and medium dark to dark-gray
2002	2095	93	Shale, dark-gray; moderate amount of siltstone, medium dark to dark-gray
2095	2140	45	Shale and siltstone, medium dark to dark-gray, some grayish black
2140	2167	27	Shale and siltstone, medium dark to dark-gray, some grayish-black to black (carbonaceous) streaks in the lower part with a little dolomite
2167	2211	44	Shale, dark-gray
2211	2252	41	Shale, dark-gray to grayish-black, moderate amount of siltstone, medium dark gray
2252	2336	84	Shale and some siltstone, dark-gray; some medium dark gray siltstone
2336	2442	106	Shale, dark-gray, siltstone, medium dark to dark-gray
2442	2505	63	Shale and siltstone, medium dark to darkgray; some grayish black shale
2505	2957	452	Shale and siltstone, medium dark to dark-gray
2957	3010	53	Siltstone, medium dark to dark-gray; some shale, dark-gray
3010	3080	70	Siltstone, and some shale; medium dark gray to grayish-black
3080	3250	170	Siltstone and shale, medium dark to dark-gray
3250	3421	171	No Sample.
3421	3451	30	Siltstone, dark-gray
3451	3472	21	Siltstone, medium dark gray to dark-gray
3472	4613	1141	Shale, dark-gray, silty in the upper part, contains fossil fragments, somewhat pyritic in part, much of the shale is silty to a fine siltstone, contains small amounts of dolomite and quartz.
4613	4625	12	Siltstone, medium dark gray to dark-gray, somewhat dolomitic
4625	4668	43	Shale, dark-gray to grayish-black, silty
4668	4870	202	Shale, dark-gray
4870	4972	102	Shale, dark-gray to grayish-black
4972	5088	116	Shale, grayish-black to black, calcareous in part, pyritic in part
5088	5133	45	Shale, dark-gray, calcareous
5133	5323	190	Shale, grayish-black to black, calcareous, pyritic in part
5323	5474	151	Not described.
NEEDMORE SHALE, 109 FEET			
5474	5479	5	Trace of metabentonite; shale, grayish-black to black
5479	5488	9	Shale, dark-gray, calcareous
5488	5583	95	Not described
5583	DLM (corrected to 5605' - Halliburton line)		
5605	ORISKANY SANDSTONE ... FEET		
5605	5611	6	Sandstone, light to medium light gray, fine- to medium-grained, subrounded to rounded, calcareous, some dark

(CONTINUED ON PAGE 4)

W. W. McBRIDE NO. 1 WELL (CONCLUDED)

Top	Bottom	Thick- ness	
			shaly material, some secondary quartz crystal growth, quartzitic at top.
5611	5614	3	Sandstone, medium light gray, some medium to dark-gray (shaly), very fine grained, highly calcareous, some fine grains
5614	5618	4	Sandstone, light- to medium-gray, fine- to coarse-grained some very coarse grains to granules, highly calcareous, contains a little dark (shaly) material
5618	5620	2	No Sample
5620	5621 1/2	1 1/2	Sandstone, light-gray, very fine to fine-grained, some medium grains, highly calcareous
5621 1/2	5628	6 1/2	Sandstone, light-gray, very fine to medium-grained, some coarse grains, calcareous, subrounded to rounded, some secondary crystal facets
5628	5630	2	Sandstone, light-gray, very fine grained to fine-grained, calcareous at the top, somewhat calcareous in the lower part
5630	5636	6	Sandstone, very light to light-gray, moderately calcareous, very fine to medium-grained, subrounded, quartzitic in part, contains secondary crystal facets
5636	5648	12	Sandstone, very light to light-gray, very fine to fine-grained, somewhat to moderately calcareous, quartzitic in part
5648	5652	4	Sandstone, light-gray (top) to very light gray (bottom) very fine to medium-grained, mostly fine- to medium-grained and quartzitic in lower part, calcareous and slightly argillaceous at the top, some coarse grains
5652	5657	5	Sandstone, light-gray, fine-grained at top, very fine to fine grained at the bottom, somewhat calcareous, subrounded, quartzitic in part
5657	5663	6	Sandstone, very light gray, light-gray at the top, fine-grained, some medium to coarse grains at the bottom, very fine to fine-grained at the top, moderately calcareous quartzitic in part (lower), slightly shaly
5663	5669	6	Sandstone, light-gray, very fine grained, highly calcareous, shaly and dark-gray at the top
5669	5723	54	Sandstone, light- to medium-gray, with some grayish-black (shale) streaks, very fine grained, very highly calcareous, dark gray (shaly) at 5690-92', many samples contain fine to medium grains
5723	5740	17	Sandstone, very light gray, fine- to medium-grained, rounded to subrounded, moderately calcareous, subangular to subrounded in the lower part.
5740	5749	9	Sandstone, light-gray, very fine to medium-grained, subrounded to subangular, highly calcareous.
5749	5855	106	Limestone (very sandy, very fine), sandstone (very highly calcareous), medium to dark-gray shaly, some grayish-black (very shaly), very fine grained to coarse siltstone, top 3 feet is medium-gray.
5855	5883	28	Sandstone (very highly calcareous), to limestone (very sandy, silty), dark-gray to grayish-black, shaly, some medium gray, very fine grained to coarse silt; small amount of OH at the bottom
5883	5894	11	Shale (very highly calcareous) and some limestone (very shaly), grayish-black, cherty

5749
1343
4406

(concluded on Page 5)

W. W. McBRIDE NO. 1 WELL (CONCLUDED)

Top	Bottom	Thick- ness	
5894	5933	39	Shale, grayish-black to black, highly calcareous, moderately cherty, contains fine disseminated pyrite.
5933	5942	9	Shale, grayish-black, very highly calcareous, somewhat cherty.

WELL RECORDFarm McBride District Gore County Hampshire State W. Va.

Elevation: 1343'

<u>Formation</u>	<u>Top</u>	<u>Bottom</u>	<u>Oil, Gas or Water</u>	<u>Depth Found</u>	<u>Remarks</u>
Shale	0	110			
Lime	110	200			
Slate & Lime	200	265			
Gritty Lime	265	410	Water	245	5 bailers per hour
Sand	410	459			
Slate & Shells	459	485			
Gritty Lime	485	865	Water	573	1/2 bailer per hour
Broken Lime	865	981	Water	720	3 bailers per hour
Gritty Lime	981	1175	Water	970	Hole full
Broken Lime	1175	1230			
Gritty Lime	1230	1346	Water	1340	3 bailers per hour
Broken Lime	1346	1727	Water	1575	2 bailers per hour
Slate & Shells	1727	1739			
Lime	1739	1845			
Slate	1845	1855			
Slate & Lime	1855	3260			
Lime	3260	3305			
Slate & Shells	3305	3336			
Sand	3336	3400			
Slate & Shells	3400	4610			
Lime	4610	4640			
Slate & Shells	4640	5109			
Lime	5109	5156			

McBride Farm Well Record

<u>Formation</u>	<u>Top</u>	<u>Bottom</u>	<u>Oil, Gas or Water</u>	<u>Depth Found</u>	<u>Remarks</u>
Slate & Shells	5156	5225			
Lime	5225	5375			
Slate Black	5375	5400			
Lime	5400	5414			
Slate & Shells	5414	5480			
Lime	5480	5568			
Slate & Shells	5568	5601			
Sand (Oriskany)	5601	5749	Gas	5634-39	
Slate	5749	5764			
Lime	5764	6030			

6030 ft. Total Depth

Well uncompleted - going to acidize.

W. W. McBride No. 1 Well

By E. M. Anderson, 311 Market Street, Warren, Pa.
Cora District - Hampshire County, W. Va.
Located 1.2 mi. S. of 39°20' and 2.92 mi. W. of 78°35'
Elevation 1340' L.
Permit, Hampshire - 3.
Hanging Rock Quadrangle - S. C.

Top	Bottom	Thickness	
533	540	7	Siltstone, medium dark gray to olive gray and brownish gray in the upper part to a medium gray to olive gray and brownish gray to dusky brown in the lower part; a very large amount of medium dark to dark gray siltstone and shale in the upper part.
540	561	21	Shale (silty) at the top to shale and siltstone (with calcified fossil fragments in the lower part) medium dark to dark gray.
561	575	14	Siltstone, olive gray to brownish gray and medium dark gray to dark greenish gray, shaly, mostly dark gray to dark greenish gray with calcified fossil fragments in the lower part, slightly calcareous.
575	582	7	Shale and siltstone, medium dark to dark gray, some olive gray to brownish gray.
582	614	32	Siltstone, medium dark gray, coarse, small amount is calcareous; some dark gray shale.
614	618	4	Siltstone, olive gray to medium dark gray, coarse, shaly.
618	625	7	Siltstone, medium dark gray, coarse, shaly.
625	659	34	Siltstone and shale, medium to dark gray; small amount of medium gray to olive gray and brownish gray siltstone at 647-653.
659	670	11	Siltstone, medium dark to dark gray; some dark gray shale, calcareous in the upper part (calcified fossil fragments).
670	681	11	Siltstone and shale, medium dark to dark gray.
681	694	13	Siltstone and shale, grayish black to black and medium dark to dark gray, mostly grayish black to black in the upper part and mostly medium dark to dark gray in the lower part; the dark siltstone and shale is dolomitic in part; some clear, glassy quartz.
694	734	40	Siltstone and silty shale, medium dark to dark gray, some grayish black in the upper part, slightly dolomitic at the bottom, small amount of clear, glassy quartz; some calcified fossil fragments at 704-709.
734	746	12	Shale and siltstone, medium dark to dark gray.
746	795	49	Siltstone and some silty shale, medium dark to dark gray.

795	815	20	Siltstone, medium dark gray, shaly
815	847	32	Siltstone and some shale, medium dark to dark gray.
847	858	11	Siltstone, medium dark gray, shaly.
858	900	42	Shale and siltstone, medium dark to dark gray, mostly siltstone at 874-880, 894-900.
900	921	21	No sample.
921	967	46	Siltstone and shale, medium dark to dark gray, mostly siltstone at 929-932; a large amount of grayish black, shaly, dolomitic siltstone at 957-962.
967	981	14	Siltstone, medium dark gray.
981	988	7	Siltstone, medium dark gray, some grayish black (dolomitic).
988	994	6	Siltstone to sandstone (very fine), medium to medium dark gray, slightly dolomitic.
994	1006	12	Siltstone, medium dark to dark gray, some grayish black at the top.
1006	1045	39	Siltstone, dark gray, shaly.
1045	1067	22	Shale and siltstone, dark gray.
1067	1078	11	Siltstone, medium dark gray, some dark gray, dolomitic at the top, dolomitic in part in the middle and lower part.
1078	1098	20	Siltstone, medium dark gray to dark gray, shaly, a very small amount is dolomitic; some grayish black to black shale at the bottom.
1098	1104	6	Shale, grayish black to black, silty, dolomitic in the lower part (black due to FE)?; some medium dark to dark gray siltstone.
1104	1144	40	Siltstone, medium dark to dark gray shaly; some grayish black shale in the upper part and at 1130-34; mostly medium dark gray at 1119-1130.
1144	1160	16	Siltstone, medium to medium dark gray, calcareous in part; shaly in the lower part; some grayish black silty shale in the upper part.
1160	1173	13	Siltstone, dark gray to grayish black, medium gray to medium dark gray, calcareous in the lower part, shaly.
1173	1192	19	Siltstone and some shale, medium dark to dark gray.
1192	1200	8	Limestone, brownish black to black, dolomitic in part, shaly; Shale, medium dark gray to dark gray.
1200	1220	20	Shale, medium dark gray to dark gray, silty, very small amount is calcareous and dolomitic.
1220	1233	13	Siltstone, medium dark gray to grayish black, shaly.

1233	1287	54	Siltstone, medium dark gray to dark gray, shaly, very slightly dolomitic.
1287	1330	43	Siltstone, dark gray, small amount of grayish black in the lower part.
1330	1348	18	Siltstone, grayish black to black, very shaly, dolomitic in part; a large amount of medium to medium dark gray, calcareous, highly dolomitic siltstone in the middle part and some in the lower part.
1348	1430	82	Shale, dark gray, some grayish black, highly calcareous shale at 1376-88 and 1393-1414.
1430	1450	20	Siltstone, dark gray, very shaly.
1450	1469	19	Siltstone, dark gray, very shaly.
1469	1532	73	Siltstone and shale, medium dark to dark gray.
1532	1538	6	Siltstone, medium dark gray, dolomitic.
1538	1555	17	Siltstone and shale, medium dark to dark gray.
1555	1575	20	Shale, dark gray, silty.
1575	1590	15	Siltstone, medium dark to dark gray, shaly.
1590	1621	31	Siltstone and shale, medium dark to dark gray, mostly medium gray, siltstone at the top.
1621	1649	28	Shale, medium dark to dark gray.
1649	1659	10	Siltstone, medium dark gray, some dark gray, contains highly calcareous fossil fragments (occasional crinoid fragments), dolomitic in part.
1659	1664	5	Siltstone, brownish gray to dusky brown; shale medium dark gray to dark greenish gray, silty.
1664	1681	17	Siltstone, medium dark gray, some medium dark gray to dark greenish gray, some brownish gray to dusky brown siltstone at the bottom.
1681	1712	31	Siltstone and shale, medium dark to dark gray.
1712	1751	39	Shale and siltstone, brownish to dark greenish gray to medium dark gray.
1751	1787	36	Siltstone, medium dark gray, some medium dark gray to dark greenish gray, small amount of dolomite and Calc; some medium dark to dark gray shale.
1787	1802	15	Siltstone and shale, medium dark to dark gray, some brownish gray to dusky brown; some dark greenish gray to medium dark gray.
1802	1950	148	Siltstone and shale, medium dark to dark gray.
1950	2002	52	Shale, dark gray and medium dark to dark gray.

2002	2095	93	Shale, dark gray; moderate amount of siltstone, medium dark to dark gray.
2095	2140	45	Shale and siltstone, medium dark to dark gray, some grayish black.
2140	2167	27	Shale and siltstone, medium dark to dark gray, some grayish black to black (carbonaceous) streaks in the lower part with a little dolomite.
2167	2211	44	Shale, dark gray.
2211	2252	41	Shale, dark gray to grayish black, moderate amount of siltstone, medium dark gray.
2252	2336	84	Shale and some siltstone, dark gray; some medium dark gray siltstone
2336	2442	106	Shale, dark gray; siltstone, medium dark to dark gray.
2442	2505	63	Shale and siltstone, medium dark to dark gray; some grayish black shale.
2505	2957	452	Shale and siltstone, medium dark to dark gray.
2957	3010	53	Siltstone, medium dark to dark gray; some shale, dark gray.
3010	3080	70	Siltstone and some shale, medium dark gray to grayish black.
3080	3250	170	Siltstone and shale, medium dark to dark gray.
3250	3421	171	No sample.
3421	3451	30	Siltstone, dark gray.
3451	3472	21	Siltstone, medium dark gray, to dark gray.
3472	4613	1141	Shale, dark gray, silty in the upper part, contains fossil fragments, somewhat pyritic in part, much of the shale is silty to a fine siltstone, contains small amounts of dolomite and quartz.
4613	4625	12	Siltstone, medium dark gray to dark gray, somewhat dolomitic.
4625	4668	43	Shale, dark gray to grayish black, silty.
4668	4870	202	Shale, dark gray.
4870	4972	102	Shale, dark gray to grayish black.
4972	5088	116	Shale, grayish black to black, calcareous in part, pyritic in part.
5088	5133	45	Shale, dark gray, calcareous.
5133	5323	190	Shale, grayish black to black, calcareous, pyritic in part.
5323	5474	151	Not Described.

			NEEDMORE SHALE, 109 feet
5474	5479	5	Trace of metabentonite; shale, grayish black to black.
5479	5488	9	Shale, dark gray, calcareous.
5488	5583	95	Not Described.
5583			DLM (corrected to 5605 - Haliburton Line)
5605			ORISKANY SANDSTONE, feet.
5605	5611	6	Sandstone, light to medium light gray, fine to medium grained, subrounded to rounded, calcareous, some dark shaly material, some secondary quartz crystal growth, quartzitic at top.
5611	5614	3	Sandstone, medium light gray, some medium to dark gray (shaly), very fine grained, highly calcareous, some fine grains.
5614	5618	4	Sandstone, light to medium gray, fine to coarse grained, some very coarse grains to granules, highly calcareous, contains a little dark (shaly) material.
5618	5620	2	No Sample.
5620	5621.5	1.5	Sandstone, light gray, very fine to fine grained, some medium grains, highly calcareous.
5621.5	5628	6.5	Sandstone, light gray, very fine to medium grained, some coarse grains, calcareous, subrounded to rounded, some secondary crystal facets.
5628	5630	2	Sandstone, light gray, very fine grained to fine grained, calcareous at the top, somewhat calcareous in the lower part.
5630	5636	6	Sandstone, very light to light gray, moderately calcareous, very fine to medium grained, subrounded, quartzitic in part, contains secondary crystal facets.
5636	5648	12	Sandstone, very light to light gray, very fine to fine grained, somewhat to moderately calcareous, quartzitic in part.
5648	5652	4	Sandstone, light gray (top) to very light gray (bottom), very fine to medium grained, mostly fine to medium grained and quartzitic in lower part, calcareous and slightly argillaceous at the top, some coarse grains.
5652	5657	5	Sandstone, light gray, fine grained at top, very fine to fine grained at the bottom, somewhat calcareous, subrounded, quartzitic in part.
5657	5663	6	Sandstone, very light gray, light gray at the top, fine grained, some medium to coarse grains at the bottom, very fine to fine grained at the top, moderately calcareous, quartzitic in part (lower), slightly shaly.

5663	5669	6	Sandstone, light gray, very fine grained, highly calcareous, shaly and dark gray at the top.
5669	5723	54	Sandstone, light to medium gray, with some grayish black (shale) streaks, very fine grained, very highly calcareous, dark gray (shaly) at 5690-92, many samples contain fine to medium grains.
5723	5740	17	Sandstone, very light gray, fine to medium grained, rounded to subrounded, moderately calcareous, subangular to subrounded in the lower part.
5740	5749	9	Sandstone, light gray, very fine to medium grained, subrounded to subangular, highly calcareous.
5749	5855	106	Limestone (very sandy, very fine), sandstone (very highly calcareous), medium to dark gray, shaly, some grayish black (very shaly), very fine grained to coarse siltstone, top 3 feet is medium gray.
5855	5883	28	Sandstone (very highly calcareous) to limestone (very sandy, silty), dark gray to grayish black, shaly, some medium gray, very fine grained to coarse silt; small amount of CH at the bottom.
5883	5894	11	Shale (very highly calcareous) and some limestone (very shaly), grayish black, cherty.
5894	5933	39	Shale, grayish black to black, highly calcareous, moderately cherty, contains fine disseminated pyrite.
5933	5942	11	Shale, grayish black, very highly calcareous, somewhat cherty.