SOUTHWESTERN OIL AND GAS CORPORATION SAMPLES

Hagan No. 2 Well on Corder Creek,
Wise County, Virginia

Lithology

Interval	(Unless otherwise indicated, only one (1) sample was available for each interval.)
0- 21	Gravel
21- 50	Sandstone, dark gray, very fine-grained.
50- 51	Coal - excellent sample.
51- 65	Sandstone, white, fine- to medium-grained, calcareous.
65- 80	Siltstone, white, sandy -- or extremely fine-grained sandstone.
80- 82	Coal - excellent sample.
82- 97	Shale, medium gray, fissile.
97-128	Sandstone, white, medium-grained, scattered black mineral.
128-138	Shale, dark gray, very slightly calcareous.
138-192	Sandstone, white, medium-grained, very slightly calcareous, some scattered black mineral.
192-194	Coal - excellent sample.
194-233	Sandstone, as 138-192.
233-250	Siltstone, black, sandy and shaly.
250-282	Siltstone and shale, black, sandy; scattered fine-grained white sandstone.
282-285	Coal - excellent sample.
285-300	Sandstone, white, medium-grained, scattered black miner
300-333	Siltstone, black and gray-black, shaly; and shale.
333-420	Sandstone, white, medium-grained, abundant black miner

Hagan No. 2 Well on Corder Creek

Interval	
420-435	Sandstone, light gray, fine-grained, calcareous, silty.
435-474	Siltstone, medium gray, sandy.
474-478	Coal, slightly shaly. Good sample.
478-520	Sandstone, very white, fine- to medium-grained, some scattered black mineral.
520-570	Shale and siltstone, medium gray, gritty.
570-587	Sandstone, white, fine-grained, calcareous, fine black mineral scattered through rock.
587-602	Shale, deep hematitic red; and greenish-gray siltstone.
602-612	Sandstone, light gray, fine-grained, scattered black mineral, micaceous; and black sandy siltstone. Scattered coal fragments.
612-637	Sandstone, gray white, medium subangular and subrounded grains, calcareous. Black siltstone cavings.
637-646	Shale, red.
646-675	Sandstone, light greenish-gray, fine-grained, scattered black mineral, micaceous, very calcareous. Scattered red shale (cavings?).
675-685	Shale, red, and red limestone.
685-700	Siltstone, grayish-black, sandy. Abundant red shale and calcareous sandstone (as 646-675) cavings (thus the effervescence).
700-720	Impossible to determine lithology. Sample consists of mixture of 3 previous lithologies.
720-765	Sandstone, gray-white, medium subangular to subrounded grains, slightly calcareous.
765-820	Sandstone, white, medium-grained, subangular grains, very calcareous, drills hard.
820-865	Shale, medium gray, silty.
865-960	Siltstone, medium gray, sandy, shaly, abundant calcareous sandstone cavings.
960-1020	Sandstone, white, fine to medium subangular grains, very calcareous, scattered coal fragments (cavings?).

Hagan No. 2 Well on Corder Creek

Interval	
1020-1082	Shale, medium gray.
1082-1115	Shale, medium gray, silty; calcareous sandstone cavings (?).
1115-1188	Composite sample: Sandstone, white and medium gray, medium subangular grains, very calcareous, some scattered black mineral, some limonitic stains. Special sample 1170-1172 (gas show): Sandstone, transparent and white grains, pure, most of the grains have been broken, but a few clusters indicated poor sorting (fine to medium subangular grains), very calcareous, some limonitic stains; noted a few larger pieces of white quartz which may be parts of pebbles.
1188-1191	Shale, black, carbonaceous, coaly.
1191-1272	One sample taken at 1200: Sandstone, white, pure, fine angular grains, very slightly calcareous. Sample at 1260: Sandstone, as 1200 but contains scattered black mineral which weathers to resinous red residue mineral. The weathering stains the grains with abundant brown stains (aggregates have yellow-brown color). Sample at 1262: Sandstone, as 1200, non-calcareous.
1272-1280	Siltstone, black, shaly.
1280-1315	Sandstone, white, hard, medium and coarse subangular grains, slightly calcareous, small amounts scattered black mineral. Princeton?
Tallery 1315-1340 LSS	Limestone, dark gray, subcrystalline, has the sugary and scaly texture of limestone, effervesces very freely (more so than any other sample).
1340-1407	Shale, red with some green. Abundant white calcareous sandstone and limestone cavings (?).

DRILLING NOTES

Southwestern Oil and Gas Corporation Hagan No. 2 Well
On Corder Creek, Wise County, Virginia

Remarks:

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Started drilling December 12, 1940.
Gas from Hagan No. 1 used for fuel. (Pressure 400 lbs. of Hagan No. 1)

Dec. 16, 1940 - Water was encountered at 25'.

Dec. 23 - Total feet to date, 327'.

Dec. 30 - " " " " 380. (Gas pressure at Hagan No. 1 still 400 lbs.)

Jan. 20, 1941 - Total feet to date 1208'. Drilling for last 5 days has been in a very hard sandstone. Small show of gas encountered at 1172'. Gas pressure at Hagan No. 1 well, 375 lbs.

Jan. 27 - Total feet, 1306. Drilling during entire week in very hard sandstone. Top of this formation encountered at 1115'. Only break in this formation was 8-foot layer of black limestone from 1272'-1280'. Gas pressure at Hagan, No. 1, 375 lbs.

Feb. 3 - T.D., 1407'. The top of the sandstone which was the formation in No. 1 well in which most of the gas was found was encountered at 1115' and was penetrated at a depth of 1315'. Total thickness of 200'. Black limestone was encountered from 1315' to 1340'. Red and green shale from 1340' to 1407'. The black limestone and red and green shales were encountered below the gas-bearing sandstone in Hagan Well No. 1 at 1455' and 1487', respectively. 200' of sand shot with no results. Gas pressure in Hagan Well No. 1, 435 lbs. inside the 6-inch casing and 500 lbs. inside the 2-inch casing.

The black limestone mentioned in last week's report as a break in the sandstone from 1272' to 1280' was reported as limestone by driller. Showed no trace of lime when tested with acid. Formation appears identical with the best gray gas sand encountered in Hagan Well No. 1, where it measured 10' thick.