



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
REGION V

MORGANTOWN RESEARCH CENTER

P. O. BOX 880
COLLINS FERRY ROAD
MORGANTOWN, WEST VIRGINIA

May 4, 1961

Memorandum

To: William E. Eckard, Assistant Chief, Morgantown
Petroleum Research Laboratory

From: William M. Nabors, Petroleum and Natural Gas Engineer,
Morgantown Petroleum Research Laboratory

Subject: Coring operation at the Eastern Interior Oil Company's
Well No. 2-A on the W. B. Wright farm in the Spruce
Creek Field near Newburn, West Virginia. (Reservoir
Evaluation Well No. 3)

The following information is for record:

Company - Eastern Interior Oil Company
Well location and number -
State - West Virginia
County - Ritchie
District - Union
Field - Spruce Creek
Farm - W. B. Wright
Well No. - 2-A
Rig floor elevation - 1130.7

Reference datum

Coring operation - rig floor
Logging operation - rig floor
Top of rig floor to ground level - 1.67'
Depth of 10-3/4 inch csg. - 245'
Depth of 8-5/8 inch csg. - 1125'
Interval cored (4" core)
2015.67 - 2128.02
2256.33 - 2351.62
2424.55 - 2444.20
T. D. 8 inch hole (reamed) - 2424.55
T. D. cored hole - 2444.20
T. D. when logged (after cave) - 2427

1975.19
1319.60
-
155.59

Interval cored:

Run	From	To	Total	Recovery	Percent
1	2015.67	2034.09	18.42	18.00	
2	2034.09	2052.55	18.46	18.02	
3	2052.55	2072.38	19.83	20.1	
4	2072.38	2091.25	18.87	18.74	
5	2091.25	2108.67	17.42	17.68	
6	2108.67	2128.02	19.35	19.0	
			<u>112.35</u>	<u>111.54</u>	<u>99.28</u>
7	2256.33	2275.53	19.20	17.4	
8	2275.53	2292.21	16.68	14.8	
9	2292.21	2309.45	17.24	19.16	
10	2309.45	2328.31	18.86	19.3	
11	2328.31	2347.62	19.31	20.0	
12	2347.62	2351.62	4.0	2.5	
			<u>95.29</u>	<u>93.16</u>	<u>97.77</u>
13	2424.55	2444.20	19.65	19.15	
14	2444.20	-----	-----	.50	
			<u>19.65</u>	<u>19.65</u>	<u>100</u>

Total cored - 226.29
 Total recovered - 224.35
 Total percent recovered - 99.14

Remarks:

Run made before No. 1 run, barrel partially plugged, circulation pressure too high (700-900 p.s.i.), pulled out to clean barrel.

- Run 1 - Rate of penetration slow time - 8 hrs., 40 min.
- Run 2 - Rate of penetration slow time - 6 hrs., 11 min.
- Run 3 - Rate of penetration moderate time - 4 hrs., 3 min.
- Run 4 - Rate of penetration slow time - 7 hrs., 15 min.
- Run 5 - Rate of penetration moderate time - 3 hrs., 23 min.
- Run 6 - Rate of penetration slow time - 6 hrs., 35 min.
- Run 7 - Rate of penetration slow time - 5 hrs., 54 min.
- Run 8 - Rate of penetration fast time - 2 hrs., 10 min.
- Run 9 - Rate of penetration fast time - 2 hrs., 30 min.
- Run 10 - Rate of penetration moderate time - 3 hrs., 5 min.
- Run 11 - Rate of penetration moderate time - 4 hrs., 23 min.
- Run 12 - Rate of penetration slow, pulled out after 4.0' as depth was below best interval of Weir ss. time - 2 hrs., 17 min.
- Run 13 - Rate of penetration in shale 30 min/ft
 Rate of penetration in sandstone 4-1/2 min/ft
 Time - 5 hrs., 22 min.



STATE OF WEST VIRGINIA
GEOLOGICAL AND ECONOMIC SURVEY
P. O. BOX 879
MORGANTOWN

PAUL H. PRICE, DIRECTOR
AND STATE GEOLOGIST

December 19, 1962

LITHOLOGIC DESCRIPTION

W. P. WRIGHT HILL NO. 2-A
Ritchie County Permit No. 2330

Depth in feet
Top Bottom Thickness
in feet

Rock Character

X 0.00 1935.00 1935.00 Drilled with cable tools; samples discarded at well site.

MISSISSIPPIAN SYSTEM

GREENBRIER FORMATION - 181.77'

Big Lime - 120.50'

1935.00	2016.67	80.67	Limestone; cable toolled samples discarded at well site, top of Big Lime estimated from nuclear well logs.
2015.67	2128.02	112.35	Bored with rotary tools.
2015.67	2316.85	1.18	Limestone; medium light-gray, microcrystalline matrix, highly fragmental and oolitic (very fine- to coarse-sized); fossiliferous (crinoid plates, sponge spicules, brachiopods), numerous partings and laminations of medium dark-gray, highly argillaceous limestone.
2016.85	2017.10	0.25	Core analysis sample.
2017.10	2023.75	6.65	Limestone; medium-gray, microcrystalline matrix, highly fragmental and oolitic (very fine- to coarse-sized), slightly argillaceous, fossiliferous (crinoid plates and stems, sponge spicules, brachiopods), numerous partings and thin beds of medium dark- to dark-gray, highly argillaceous, shaly limestone.
2023.75	2024.20	0.45	Core analysis sample.

<u>Depth in feet</u>		<u>Thickness in feet</u>	<u>Rock Character</u>
<u>Top</u>	<u>Bottom</u>		
2024.20	2025.65	1.45	Limestone; medium light-gray to light brownish-gray, microcrystalline to fine-crystalline, moderately fragmental and oolitic (very fine- to coarse-sized), slightly to moderately sandy, fossiliferous (crinoid plates, few sponge spicules), lower most 0.20' is very sandy with fine- to coarse-sized, highly angular grains of quartz and contains streaks of carbonaceous material.
2025.56	2029.35	3.70	Sandstone; white to very light-gray, very fine- to medium-grained, angular to sub-rounded, glassy to moderately frosted, tightly cemented, highly calcareous, abundant very fine- to coarse-sized elastic fragments of greenish-gray to medium dark-gray limestone (approx. 5% of rock mass).
2029.35	2029.90	0.55	Core analysis sample.
2029.90	2032.57	2.67	Limestone; medium light greenish-gray, microcrystalline matrix, moderately to highly fragmental and oolitic (very fine- to medium-sized), many calcite crystals, slightly silty, fossiliferous (crinoid plates, few sponge spicules), stylolitic, lower most 0.67' consists of medium light-gray, microcrystalline, slightly argillaceous limestone with small patches of pyrite and streaks of carbonaceous material.
2032.57	2032.90	0.33	Core analysis sample.
2032.90	2036.40	3.50	Limestone; light-gray, microcrystalline matrix, fragmental and oolitic (very fine- to medium-sized), slightly silty, fossiliferous (crinoid plates, few sponge spicules), stylolitic, few specks of pyrite, contains several partings of greenish-gray, argillaceous limestone.
2036.40	2036.95	0.55	Core analysis sample.
2036.95	2052.95	16.00	Limestone; light brownish-gray to medium light greenish-gray, microcrystalline to fine-crystalline, slightly to moderately fragmental (fragments very fine- to coarse-sized), many calcite crystals, slightly oolitic, silty to sandy, few specks of pyrite, fossiliferous (crinoid plates, brachiopods, few sponge spicules), contains several highly irregular stylolitic-like partings of dark-gray, carbonaceous shale, slight, dark-brown oil bleed from 2037.65 to 2043.00, dark-brown oil bleed from 2043.75 to 2044.10'.

<u>Depth in feet</u>		<u>Thickness</u>	<u>Rock Description</u>
<u>Top</u>	<u>Bottom</u>	<u>in feet</u>	
2052.95	2055.50	2.55	Limestone; medium light-gray to medium light greenish-gray, microcrystalline to very fine-crystalline, fragmental (fragments very fine- to very coarse-sized, 15-25% of rock mass), silty to moderately sandy, few specks of pyrite, fossiliferous (crinoid plates, colites, paleocypeds, few brachiopods), contains several partings of medium dark-gray shale.
	2055.50		Base of Big Lims.
2055.50	2056.48	0.95	Kooser sand - 24.70'
			Sandstone; white to very light-gray, very fine- to medium-grained, angular to subangular, glassy to frosted, highly calcareous, many very fine- to medium-sized elastic fragments of medium light-gray limestone, numerous streaks of greenish-gray shale.
2056.45	2059.30	3.05	Limestone; light-gray to light olive-gray, microcrystalline to fine-crystalline, highly fragmental (fragments very fine- to coarse-sized), oolitic, highly sandy with silt to fine-sized, angular quartz grains, moderately argillaceous and pyritic, massive, fossiliferous (few crinoid plates and brachiopods).
2059.30	2060.95	1.45	Limestone; medium light-gray to greenish-gray, microcrystalline to very fine-crystalline, fragmental, highly silty and sandy, argillaceous, slightly pyritic, few streaks of carbonaceous shale, fossiliferous (few colites and crinoid plates).
2060.95	2070.70	9.75	Sandstone; very light- to light-gray, very fine- to fine-grained, angular to subrounded, glassy to frosted, abundant silt-sized fines, highly calcareous, very slightly pyritic and micaceous, many fine-sized elastic fragments of medium light-gray to light olive-gray limestone, lower most 1.20' contain very thin beds of light-gray, medium-grained sandstone.
2070.70	2071.80	1.10	Sandstone; light- to medium light-gray, very fine- to fine-grained, angular to sub-angular, silty, highly calcareous, slightly dolomitic and pyritic, many fine-sized elastic fragments of light olive-gray limestone.
2071.80	2078.50	6.70	Sandstone; very light- to light-gray, very fine- to medium-grained, angular to sub-angular, glassy to moderately frosted, highly calcareous, dolomitic, (abundant dolomitic silt-sized fines), slightly pyritic, light-yellow oil show from 2072.30 to 2078.50'.

<u>Depth in feet</u>		<u>Thickness in feet</u>	<u>Rock Character</u>
<u>Top</u>	<u>Bottom</u>		
2078.50	2080.20	1.70	Sandstone, light-gray, very fine- to medium-grained, angular to sub-rounded, glassy to moderately frosted, highly calcareous, slightly silty and pyritic, abundant (approx. 15% of rock mass) very fine- to coarse-sized elastic fragments of light olive-gray to medium-gray, argillaceous limestone, light-yellow oil show from 2078.50 to 2080.20'.
	2080.20		Base of Houser sand.
2080.20	2082.30	2.10	Shale; greenish-gray to medium-gray, silty, slightly calcareous, micaceous, pyritic.
			2082.30 Big Injun - 34.47'
2082.30	2085.00	2.70	Sandstone; very light- to light-gray, very fine- to medium-grained, angular to sub-angular, glassy to moderately frosted, highly calcareous, abundant silt-sized fines, slightly pyritic, many specks of carbonaceous material and streaks of greenish-gray shale.
2085.00	2086.37	0.77	Sandstone; white to very light-gray, very fine- to coarse-grained, poorly sorted, angular to sub-rounded, glassy to moderately frosted, highly calcareous, few specks of pyrite, abundant very fine- to coarse-sized elastic fragments of argillaceous limestone (approx. 15% of rock mass).
2086.37	2087.00	1.23	Limestone; light- to medium light-gray, micro-crystalline to very fine-crystalline, slightly sandy, few specks of pyrite, stylolitic (stylolites partially filled with carbonaceous shaly material), contains a two-inch bed of medium-gray, highly sandy limestone.
2087.00	2092.00	5.00	Limestone; very light yellowish-gray to yellowish-gray, saccharoidal-lined texture, dolomitic, abundant dolomitic silt-sized fines, highly sandy with very fine- to medium-sized, angular to sub-rounded grains of quartz (approx. 25% of rock mass), few specks of pyrite, some low-angle inclined bedding, slight, light-yellow oil bleed from 2092.50 to 2092.00'.
2092.00	2109.00	17.00	Limestone; light yellowish-gray to yellowish-gray, saccharoidal-lined texture, dolomitic, abundant dolomitic silt-sized fines, highly sandy with very fine- to coarse-sized, angular to sub-rounded grains of quartz (approx. 30% of rock mass), few specks of pyrite, lower most two-feet contain very thin beds of very fine- to coarse-

<u>Depth in feet</u>		<u>Thickness</u>
<u>Top</u>	<u>Bottom</u>	<u>in feet</u>

Rock Character

grained, highly calcareous sandstone and is cross-bedded, slight, light yellow oil show from 2092.60 to 2100.67', good, yellow oil show from 2100.62 to 2109.60'.

2109.60	2116.77	7.17	Limestone; light yellowish-gray to yellowish-gray, saccharoidal-like texture, dolomitic, abundant dolomitic silt-sized fines, highly sandy with very fine to coarse-sized, angular to rounded grains of quartz (30 to 40% of rock mass), few specks of pyrite, lower most three-feet is inter-bedded with thin beds of fine- to coarse-grained, highly calcareous sandstone and is cross-bedded, good light yellow oil show from 2109.60 to 2116.65'.
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2116.77

Base of Driller's Big Injun.

POCINO FORMATION - 330.23'

2116.77	2117.15	0.38	Shale; medium-gray to dark-gray, silty to slightly sandy, very slightly calcareous, slightly micaceous, and pyritic.
2117.15	2128.02	10.87	Shale; dark-gray, slightly silty, fairly soft, cores discarded at well site.
2128.02	2256.33	128.31	Drilled with cable tools; samples discarded at well site.
2256.33	2351.62	95.29	Cored with rotary tools.
2256.33	2273.00	16.67	Shale; medium- to dark-gray, silty, micaceous, cores discarded at well site.

Weir Head - 76.00'

2273.00	2274.80	1.80	Siltstone; medium-gray, highly argillaceous, micaceous, cores discarded at well site, top of Weir sand estimated from nuclear logs.
2274.80	2276.72	1.92	Shale; medium-gray to dark greenish-gray, silty, slightly pyritic, highly micaceous (muscovite mica with small quantities of biotite mica).
2276.72	2293.55	16.83	Siltstone; light-gray, highly sandy (15-25% of rock mass), argillaceous, slightly micaceous, some beds very slightly calcareous, numerous partings and thin beds of medium-gray to dark-greenish-gray, micaceous, silty shale, oil and gas shows from 2277.00' to 2292.00'.
2293.55	2307.40	13.85	Siltstone; light- to medium light-gray, highly sandy (30-40% of rock mass), argillaceous, slightly calcareous, micaceous, numerous streaks and partings of micaceous and carbonaceous material, few thin beds of medium dark-gray, silty shale.

<u>Depth in feet</u>		<u>Thickness in feet</u>	<u>Rock Character</u>
<u>Top</u>	<u>Bottom</u>		
2307.40	2318.60	11.20	Siltstone; light- to medium dark-gray, highly sandy (15-25% of rock mass), highly argillaceous, some thin beds very slightly calcareous, highly micaceous, abundant carbonaceous material, very shaly.
2318.60	2319.80	1.20	Sandstone; very light- to light-gray, very fine-grained, highly angular, tightly cemented, very silty, slightly calcareous and micaceous.
2319.80	2320.70	0.90	Siltstone; light- to medium-gray, highly sandy (15-30% of rock mass), highly argillaceous, micaceous, abundant carbonaceous material, shaly.
2320.70	2321.65	0.95	Shale; medium dark-gray, very silty and micaceous, slightly carbonaceous.
2321.65	2326.10	4.45	Siltstone; light- to medium-gray, highly sandy (15-35% of rock mass), highly argillaceous, micaceous, some thin beds very slightly calcareous, abundant carbonaceous material, numerous partings of medium dark-gray, highly micaceous, silty shale.
2326.10	2329.27	3.17	Sandstone; light-gray, very fine-grained, highly angular, tightly cemented, very silty, slightly calcareous, micaceous, many specks of carbonaceous material.
2329.27	2332.50	3.23	Siltstone; light- to medium-gray, highly sandy (25-40% of rock mass), argillaceous, calcareous, micaceous, pyritic, abundant carbonaceous material, shaly, fossiliferous with brachiopods (mostly Orbiculoidea with several pyritiferous replacements).
2332.50	2336.64	4.14	Sandstone; light-gray, very fine-grained, highly angular, tightly cemented, very silty, very slightly calcareous, micaceous, many specks of carbonaceous material, few partings of highly micaceous, carbonaceous shale.
2336.64	2338.05	1.41	Core analysis sample.
2338.05	2345.35	7.30	Siltstone; light- to medium light-gray, highly sandy, (25-40% of rock mass), argillaceous, very slightly calcareous, micaceous, many specks of carbonaceous material, numerous partings and thin beds of medium dark-gray fossiliferous shale (fossils, mostly Orbiculoidea brachiopods with pyritiferous replacements).
2345.35	2346.45	1.10	Shale; medium dark- to dark-gray, very silty, micaceous, abundant carbonaceous material, fossiliferous with brachiopods (mostly Orbiculoidea with pyritiferous replacements).
2346.45	2347.18	0.75	Siltstone; light-gray to light olive-gray, very sandy (25 to 35 pct of rock mass), tightly cemented, very slightly calcareous, slightly micaceous and carbonaceous.

<u>Depth in feet</u>		<u>Thickness in feet</u>	<u>Rock Character</u>
<u>Top</u>	<u>Bottom</u>		
2347.18	2349.00	1.82	Shale; medium dark-gray, very silty, micaceous, cores discarded at well site.
	2349.00		Base of Weir sand; estimated from nuclear ^{well} logs.
2349.00	2351.62	2.62	Shale; dark-gray, slightly micaceous, dense, fairly soft, cores discarded at well site.
2351.62	2424.55	72.93	Drilled with cable tools; samples discarded at well site.
2424.55	2444.20	19.65	Cored with rotary tools.
2424.55	2433.25	8.70	Shale; dark-gray, slightly micaceous and carbonaceous, fairly soft, cores discarded at well site.
2433.25	2433.47	0.22	Shale; medium dark-gray, slightly micaceous and carbonaceous, fairly soft.
			Berea sand - 13.33'
2433.47	2434.30	0.83	Sandstone; light- to medium light-gray, very fine- to fine-grained, angular to sub-angular, glassy to slightly frosted, silty, very slightly calcareous, slightly micaceous, many specks of carbonaceous material, numerous large fragments of medium dark-gray, carbonaceous shale, oil show from 2433.50' to 2434.30'.
2434.30	2436.80	2.50	Sandstone; very light- to light-gray, very fine- to fine-grained, angular to sub-angular, glassy to moderately frosted, some thin beds very slightly calcareous, many specks of carbonaceous material, numerous streaks and partings of highly micaceous, carbonaceous shale, oil shows from 2434.30' to 2436.40' and 2436.20' to 2436.80'.
2436.80	2444.17	7.37	Sandstone; light- to medium light-gray, very fine- to fine-grained (slightly medium-grained in lower most 3.70'), angular to sub-angular, glassy to slightly frosted, silty, slightly calcareous and micaceous, many specks of carbonaceous material, numerous fragments and partings of highly micaceous, carbonaceous shale, oil shows from 2436.80' to 2439.50' and 2440.00' to 2444.17'.
2444.17	2444.20	0.03	Core analysis sample with oil show.
2444.20	2447.00	2.80	Drilled with cable tools; samples discarded at well site.
	2447.00		Base of Berea sand; taken from the driller's log.
	2554.00		Total depth.