

STATE OF MARYLAND
DEPARTMENT OF GEOLOGY, MINES AND WATER RESOURCES

The Johns Hopkins University
BALTIMORE 18, MARYLAND

1 of 10

WELL COMPLETION REPORT

This report must be submitted within 30 days after completion of the well

#1 Pittsburgh Plate Glass
Works 7, Cumberland, Md.
Permit Number G-38

WELL DESCRIPTION

WELL LOG

State the kind of formations penetrated, their depth, their thickness, and if water-bearing

CASING AND SCREEN RECORD

State the kind and size of casing, liner, shoe, screen, and other accessories (if no casing used, give diameter of well)

Name of Owner

James V. Joyce
Joyce Pipe Lines
Andover Md.

PUMPING TEST

Hours Pumped

Type of Pump Used

Pumping Rate
Gallons per Minute

WATER LEVEL

Distance from land surface to water:

Before Pumping.....Ft.

When Pumping.....Ft.

APPEARANCE OF WATER

Clear

Cloudy

Taste

Odor

Height of Casing Above Land

Surface

PUMP INSTALLED

Type

Capacity

Gallons per Minute.....

Gallons per Hour.....

Pump Column Length.....Ft.

REMARKS

water at 37'-50'
S.W. at 800-850'
Show gas at 2230'
2-12-24 Acidized
with 17,000 gal. Acid
and 52,000 gal. of
N.rogen.
Final open flow 5,000 gal.
flow per 210# 89 Hr.
Well Was Completed
Date 2-27-24
Well Driller John Wightman

	FEEET			
	from 0 to 35			
Brown Mud & silt				
Grey shale	35-315			
Lime, light grey	315-429	10 3/4"		0-63'
slate & shale	429-539	8 5/8"		0-697
Lime & shale	539-697	7"		0-2230
Lime	697-782			
Grey shale	782-808			
Brown shale	808-902			
Grey shale	902-958			
Gritty Lime (very hard)	958-1018			
Grey shale	1018-1106			
Grey shale (Very hard)	1106-1287			
Shale & shells	1287-1340			
Brown shale	1340-1675			
Lime shells	1675-1797			
Light gritty Lime	1797-1901			
Lime shells	1901-1974			
Brown shale	1974-2227			
crickany sand	2227-2476			

T.D. 2476.

PITTSBURGH PLATE GLASS COMPANY
GAS DEPARTMENT
FORD CITY, PENNSYLVANIA

G-38

SAND SAMPLE EXAMINATION

Farm Name: P.P.G. Works #7
Date Well Completed: February 27, 1964

Township:

Map:

Operator: Joyce Pipe Line Company

Casing: 8 5/8" - 697'
7" 2230' - 35 sks.Loc. 25,900'S 39⁸ 40'
3,200'W 78° 45'

Well No.: P.P.G. #1

Elevation: 638 DF

County: Cumberland, Md.

Date Examined: When drilled

By: R. T. Wolfe, Jr.

Scope: 12X

Permit No.:
Frostburg Quad. Sec. F

<u>Top</u>	<u>Bottom</u>	<u>Formation</u>
0	20	No samples. Well started in Jennings Formation of Md., Beallier Formation of W. Va.
20	30	Medium grey shale, few large to very large sand fragments
30	50	Medium grey shale
50	65	Medium grey shale 25%, dark grey shale 50%, grey silt 25%
65	80	Grey silt 40%, shale 60%
80	95	Grey shale
95	115	Grey shale 90%, grey silt 10%
115	135	Grey shale 70%, grey silt 15%, dark grey shale 15%
135	155	Dark grey shale 75%, grey silt 25%
155	175	Grey silt 15%, dark grey shale 35%, grey shale 50%
175	187	Grey shale 60%, dark grey shale 30%, grey silt 10%
187	201	Grey silt 15%, dark grey shale 85%
201	221	Dark grey shale 50%, medium grey shale 50%
221	241	Grey shale 60%, grey silt 40%
241	260	Grey silt 30%, grey shale 70%
260	276	Grey shale 30%, grey silt 70%
276	295	Grey silt 15%, grey shale 25%, dark grey shale 60%
295	315	Dark grey shale 25%, grey shale 50%, grey silt 25%
315	336	Grey to green grey silt 85%, grey shale 15%
336	352	Grey to green grey silt 80%, grey shale 20%
352	362	Grey to green grey silt 85%, grey shale 15%
362	372	Grey to green grey silt 25%, grey shale 75%
372	395	Grey shale 25%, dark grey shale 25%, green grey silt 50%
395	406	Green grey silt 20%, grey shale 50%, dark grey shale 30%
406	422	Dark grey shale 50%, grey shale 35%, silt 15%
422	445	Silt 50%, grey shale 50%
445	458	Grey shale 50%, dark grey shale 20%, grey silt 30%
458	471	Grey silt 60%, grey shale 20%, dark grey shale 20%
471	497	Grey shale 25%, grey silt 75%
497	513	Grey silt 30%, dark grey shale 30%, grey shale 40%, fossil fragments

303, 460 E
346, 400 N

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<u>Top</u>	<u>Bottom</u>	<u>Formation</u>
513	531	Grey shale 50%, fossil fragments, silt 50%
531	541	Grey silt 30%, grey shale 70%
541	551	Grey shale
551	561	Grey shale 20%, dark grey shale 60%, silt 20%
561	583	Grey shale 85%, fossil fragments, dark grey shale 15%
583	604	Dark grey shale 20%, silt 80%, fossil fragments
604	614	Grey silt 25%, dark grey shale 50%, grey shale 25%
614	630	Grey shale 50%, silt 50%
630	650	Silt 20%, shale 80%
650	656	Shale 20%, silt 80%
656	674	Coarse white silt 25%, silt 25%, shale 50%
674	718	Light grey silt to coarse silt
718	735	Grey silt
735	754	Grey silt
754	766	Grey silt 85%, dark grey pyritic shale 15%
766	779	Dark grey shale 50%, silt 50%
779	789	Grey shale
789	808	Grey shale 85%, dark grey shale 15%, calcareous fossil fragments
<u>Top Genessee-Hurrell-Portage form.</u>		
808	829	Dark grey shale 25%, black shale (brown scr) 75%
829	848	Black shale 20%, dark grey shale slightly calcareous 75% Calcite in Fracture
848	856	Dark grey shale - calcite in fracture 75%, black shale (brown scr. 25%)
856	868	Dark grey shale slightly calcareous
868	877	Dark grey shale slightly calcareous
877	897	Very dark grey shale 75%, grey shale 25%
897	919	Very dark grey shale 10%, grey shale 90%, pyritic tr. calcite.
<u>Base Genessee (Portage - Top Romney Form. of Md. Hamilton of Penna. & W. Va.</u>		
919	930	Grey shale, pyritic & calcite & frag. of crystallized quartz
913	940	Grey shale, pyritic & fossil fragments 75%, light grey calcareous silt 25%
940	957	Light grey to grey slightly calcareous silt fossil fragments
951	960	Light grey to grey slightly calcareous silt
960	968	Light grey to grey slightly calcareous silt
968	973	Grey silt 60%, coarse light silt 40%, very slightly calcareous
<u>Chahanesywill sandstone of Bedford Co. Penna. 971-994</u>		
973	980	Coarse light grey to white silt, slightly calcareous
980	990	Coarse light grey to white silt, slightly calcareous
990	995	Coarse light grey to white silt, slightly calcareous 85%, dark grey to black silt 15%
995	1001	Dark grey silt 10%, light grey to white silt, very slightly calcareous 90%
1001	1006	Light grey silt trace of white silt & dark grey silt

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<u>Top</u>	<u>Bottom</u>	<u>Formation</u>
1006	1016	Light grey to white silt, very slightly calcareous
1016	1031	Dark grey shale
1031	1050	Dark grey shale 75%, dark grey argillaceous lime 25%
1050	1060	Dark grey argillaceous lime 20%, fossil fragments, dark grey shale 80%
1060	1078	Dark grey shale, fossil fragments
1078	1090	Dark grey shale pyritic
1090	1099	Dark grey shale slightly pyritic
1099	1109	Dark grey shale, few pyritized fossil fragments
1109	1117	Dark grey shale fossil fragments
1117	1129	<u>Colite zone of Bedford Co., Pa., Five Forks Field</u> Dark grey shale 75%, dark grey to very dark grey eolitic lime 25%, fossil fragments
1129	1142	Grey to dark grey shale
1142	1154	Grey to dark grey shale with calcareous fossil fragments
1154	1165	Grey to dark grey shale with calcareous fossil fragments
1165	1175	Grey to dark grey shale 80%, grey silt 20%, fossil fragments
1175	1193	Grey to dark grey shale
1193	1200	Grey to dark grey shale 15%, grey silt 85%
1200	1216	Grey to dark grey silt 50%, shale 50%
1216	1226	Grey shale fossil fragments 25%, silt 75%
1226	1235	Grey to light grey silt, few fossil fragments
1235	1244	Grey silt 85%, few fossil fragments, shale 15%
1244	1251	Grey silt 70%, dark grey shale 30%
1251	1257	Dark grey shale 75%, silt 25%
1257	1266	Grey silt 85%, dark grey shale 15%
1266	1276	Dark grey shale
1276	1290	Dark grey shale, few calcareous fossil fragments
1290	1301	Dark grey shale, few pyritic fossil fragments
1301	1315	Dark grey shale few pyritic fossil fragments
1315	1331	Dark grey shale
1331	1342	Dark grey shale
1342	1352	Dark grey shale
1352	1362	Dark grey shale, few slightly calcareous fossil fragments
1362	1372	Dark grey shale, few slightly calcareous fossil fragments
1372	1387	Dark grey shale, few slightly calcareous fossil fragments and very fine pyritic crystals
1387	1404	Dark grey shale, few slightly calcareous fossil fragments and very fine pyritic crystals
1404	1421	Dark grey shale, few slightly calcareous fossil fragments and very fine pyritic crystals
1421	1437	Dark grey shale with disseminated pyrite
1437	1448	Dark grey shale with disseminated pyrite
1448	1458	Dark grey shale with disseminated pyrite
1458	1468	Dark grey shale with disseminated pyrite
1468	1478	Dark grey shale with disseminated pyrite
1478	1491	Dark grey shale with disseminated pyrite
1491	1506	Dark grey shale with disseminated pyrite

<u>Top</u>	<u>Bottom</u>	<u>Formation</u>
1506	1520	Dark grey shale with finely disseminated pyrite
1520	1530	Dark grey shale with finely disseminated pyrite and fossil fragments
1530	1540	Dark grey shale with finely disseminated pyrite
1540	1548	Dark grey shale with finely disseminated pyrite
1548	1559	Dark grey shale
1559	1576	Dark grey shale
1576	1586	Dark grey shale
1586	1610	Dark grey shale with some medium grey shale
1610	1622	Dark grey shale
1622	1633	Dark grey shale finely disseminated pyrite
1633	1645	Dark grey shale
1645	1657	Dark grey shale
1657	1667	Dark grey shale, few very slightly calcareous fossil fragments and some pyrite
1667	1680	Dark grey shale
1680	1694	Dark grey shale 90%, silt 10%
1694	1705	Grey silt 30%, very slightly calcareous, dark grey 70%
1705	1711	Dark grey shale
1711	1727	Dark grey shale with disseminated pyrite
1727	1745	Dark grey shale very slightly calcareous
1745	1755	Dark grey shale very slightly calcareous
1755	1765	Dark grey shale very slightly calcareous
1765	1779	Dark grey shale 85%, grey silt 15% slightly calcareous
1779	1790	Dark grey shale slightly calcareous
1790	1805	Dark grey shale 85%, medium grey silt 15% slightly calcareous
1805	1814	Grey silt 25% slightly calcareous, shale 75%
1814	1820	Grey silt very slightly calcareous
1820	1829	Grey silt very slightly calcareous
1829	1836	Grey silt very slightly calcareous 85%, dark grey shale 15%
1836	1846	Grey silt very slightly calcareous
1846	1857	Grey silt very slightly calcareous 70%, dark grey shale 30%
1857	1865	Grey silt very slightly calcareous 70%, dark grey shale 30%
1865	1875	Grey to light silt 85% slightly calcareous, dark grey shale 15%
1875	1882	Grey silt slightly calcareous
1882	1894	Grey silt 25%, slightly calcareous, dark grey shale 75%
1894	1901	Dark grey shale 75%, very fine silty interbeds 25%
1901	1921	Dark grey shale 60%, grey silt 40%
1921	1936	Dark grey shale 85%, silt 15%
1936	1949	Dark grey shale slightly calcareous
1949	1959	Dark grey shale slightly calcareous
1959	1974	Dark grey shale slightly calcareous, some calcite and coarse silt (crystallized in a fracture zone?) <u>Top of Marcellus shale</u>
1974	1990	Coarse silt as above 25%, very dark grey to black shale
1990	2007	Very dark grey to black shale, pyritic
2007	2016	Very dark grey to black shale calcite in fracture zone

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<u>Top</u>	<u>Bottom</u>	<u>Formation</u>
2016	2026	Very dark grey to black shale, some pyrite
2026	2036	Very dark grey to black shale, some pyrite and calcite
2036	2044	Very dark grey to black shale, some pyrite, calcite in fracture zone, 1 large clear quartz frag.
2044	2056	Dark grey to black shale, some calcite
2056	2076	Dark grey to black shale, few pieces of brown to dark brown micaceous shale Tioga Metabenonite
2076	2086	Onodago Lime Horizon - Need more shale facies. Dark brown Micaceous shale 10%, dark grey to black shale very calcareous 90%
2086	2104	Black shale 20%, dark grey shale slightly calcareous 80%
2104	2122	Dark grey calcareous shale
2122	2137	Dark grey shale, very slightly calcareous
2137	2160	Dark grey shale, in part calcareous with few fossil fragments
2160	2170	Dark grey to grey shale in part calcareous
2170	2187	Dark grey shale 60%, grey shale 40% very slightly calcareous
2187	2196	Dark grey shale 50%, grey shale 50%
2196	2209	Dark grey shale (1 frag. of dark grey chert.)
2209	2224	Dark grey shale several pieces very pyritic and several others show sand grains
Top Oriskany 2224, Base Romney Form.		
2224	2227	Dark grey shale 25%, medium sand grain Some are sub rounded, quite calcareous with black residue in pores between grains
2227	2230	Fine to medium sand with black residue in pores and slightly calcareous
2230	2232	Fine sand, few medium grains with black residue and slightly calcareous
2232	2233	Fine sand, few medium grains with black residue and slightly calcareous
2233	2235	Fine to medium sand, few coarse with black residue slightly calcareous
2235	2236	Fine to medium sand, black residue in pores slightly calcareous
2236	2237	Fine white sand, quite calcareous
2237	2238	Fine white sand, quite calcareous
2238	2239	Fine white sand, few medium grains, quite calcareous
2239	2240	Fine white sand, few medium grains, very calcareous
2240	2242	Fine white sand, very light grey and very calcareous
2242	2244	Very fine light grey sand, very calcareous
2244	2245	Very fine light grey sand, very calcareous
2245	2247	Very fine light grey sand, very calcareous
2247	2248	Very fine light grey sand 80%, very calcareous, coarse grey calcareous silt, few fragments of white chert
2248	2251	Fine sand 75%, grey silt, limey, 25%, quite calcareous
2251	2252	Dark grey silt, quite calcareous 85%, fine to medium sand 15%, some chert, quite calcareous
2252	2253	Fine light grey sand, few medium grains, quite calcareous

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<u>Top</u>	<u>Bottom</u>	<u>Formation</u>
2253	2254	Very fine grey sand calcareous 25%, medium sand few coarse 75%
2254	2256	Very fine light grey sand, very calcareous
2256	2257	Very fine light grey sand, very calcareous 50%, coarse grey calcareous silt 50%
2257	2258	Coarse grey silt to very fine sand, very calcareous
2258	2261	Coarse grey silt, very very calcareous, almost a silty lime, some white chert
2261	2264	Coarse grey silt, very very calcareous 75%, fine to medium sand 25%, some white chert
2264	2267	Coarse grey silt, very very calcareous 75%, fine to medium sand 25%, some white chert
2267	2270	Coarse grey silt or silty lime, some chert
2270	2273	Coarse grey silt with fine sand, very calcareous, light grey some chert
2273	2276	Medium to coarse sand with chert and lime cement very calcareous
2276	2279	Fine to coarse sand with chert, light grey and very very calcareous, all intermixed with coarse silt
2279	2282	Very fine sand with black and milky chery, few coarse sand grains, very very calcareous and silty
2282	2285	Very fine sand with black and milky chery, few coarse sand grains, very very calcareous and silty
2285	2287	Very fine sand with black and milky chery, few coarse sand grains, very very calcareous and silty
2287	2289	Very fine sand with black and milky chery, few coarse sand grains, very very calcareous and silty
2289	2292	Light grey silty lime appears more limey than silty. Residue: 50% total. Silt to coarse silt with chert.
2292	2296	Grey silty lime with chert. Residue: 50% total. Light to grey silt with chert.
2296	2301	Light grey to white silty lime. Some chert Residue 40%. Dark grey silt to coarse silt with milky chert.
2301	2306	Light grey to white silty lime. Some chert Residue: 40% total. Dark grey silt to coarse silt with milky chert.
2306	2309	Very fine very calcareous sand, grey to light grey Residue: 80%. Very fine sand to coarse silt Some chert
2309	2311	Very fine sand with few medium grains, very calcareous Residue 85% - very fine sand few medium grains
2311	2312	Very fine to fine sand, very calcareous, few medium grains. Residue - 95%-98%
2312	2314	Very fine to fine sand, some medium sand - mostly fine, very calcareous. Residue: 95-98%
2314	2315	Very fine sand. Few fine and medium grain, very calcareous. Residue: 95-98%
2315	2316	Very fine sand, few fine and medium grains, very calcareous. Residue: 95-98%

<u>Top</u>	<u>Bottom</u>	<u>Formation</u>
2316	2317	Very fine sand, few medium grains, very calcareous Residue: 95-98%
2317	2320	Very fine sand, few medium grains, very calcareous Residue: 95-98%
2320	2324	Very fine to fine sand, few medium grains, very calcareous, Residue: 95%
2324	2325	Very fine to coarse sand intermixed, very calcareous Residue: 98-99%
2325	2328	Very fine to coarse sand intermixed, very calcareous mostly very fine sand. Residue: 98-99%
2328	2331	Very fine sand, few coarse grains, very calcareous Residue: 98-99%
2331	2333	Very fine to fine sand, few medium grains, very calcareous. Residue: 98-99%
2333	2336	Very fine to fine mostly very fine light grey very calcareous sand, few medium grains. Residue: 98-99%
2336	2337	Very fine to fine sand, mostly very fine light grey and very calcareous, few medium and coarse grains. Residue: 99%
2337	2338	Fine sand, few medium and coarse grains, very calcareous. Residue: 99%, +
2338	2339	Very fine sand, few medium and coarse grains, very calcareous. Residue: 99%
2339	2342	Very fine light grey sand, few medium grains, very calcareous. Residue: 99% +
2342	2343	Very fine light grey sand. Very calcareous. Residue: 99%
2343	2344	Very fine light grey sand to very coarse silt, very calcareous. Residue: 99%+
2344	2346	Very fine medium grey sand to very coarse silt, few large grains; very very calcareous. Residue: 99%+
2346	2348	Very coarse grey silt to very fine sand, very calcareous, few medium and coarse grains. Residue: 99%
2348	2350	Very coarse grey silt 70%, fine to medium sand 30%, very calcareous. Residue: 99%+
2350	2351	Very fine to fine sand, some silt, very calcareous Residue: 99%+
2351	2353	Very fine sand, some fine and medium sand, very calcareous. Residue: 99%+
2353	2355	Very fine to fine sand, some medium, very calcareous. Residue: 99%
2355	2357	Very coarse grey silt with medium sand grains, very calcareous. Residue: 99%+. Mostly very coarse silt, & very fine sand.
2357	2359	Very coarse grey silt, very calcareous. Residue 90%+
2359	2361	Very coarse light silt to very very fine sand, very calcareous. Residue: 98%+
2361	2363	Very coarse light silt to very very fine sand 75%, coarse sand 25%, very calcareous. Residue: 98%+
2363	2365	Very fine to medium sand, very calcareous and silty. Residue: 99%. Very fine sand 75%, fine to medium 25%
2365	2366	Very fine to medium sand, very calcareous and silty. Residue: 99%+, very fine sand 60%, fine to medium 40%
2366	2367	Very fine to medium sand, very calcareous and silty. Residue: 99%+
2367	2368	Very fine sand, very calcareous

<u>Top</u>	<u>Bottom</u>	<u>Formation</u>
2368	2370	Very fine sand, some fine, very calcareous
2370	2371	Very fine sand, some fine and medium, very calcareous
2371	2374	Very fine sand to very coarse silt, very calcareous
2374	2377	Very fine sand to very coarse silt, very calcareous + chert.
2377	2379	Light grey to white, very calcareous, very coarse silt. Almost a silty lime, Residue: 99%+ Very coarse silt
2379	2382	Very coarse silt to very fine sand with coarse grains, very calcareous
2382	2384	Very fine to fine sand, very calcareous and silty, with few medium grains
2384	2385	Very fine to fine sand, few medium grains, very calcareous
2385	2387	Very fine to fine sand, few medium grains, very calcareous
2387	2389	Very fine to fine sand, few medium grains, very calcareous, some chert.
2389	2390	Very fine sand, very calcareous, some chert
2390	2392	Very fine sand, very calcareous
2392	2394	Very fine sand, very calcareous, some chert
2394	2396	Very fine sand, very calcareous, some chert
2396	2398	Coarse light grey silt to very fine sand, very calcareous
2398	2402	Light grey to medium grey very calcareous silt. Has limey appearance. Some chert. Residue: 95% - 98% total. Light brown silt with some milky chert
2402	2405	Light grey to medium grey very calcareous silt. Has limey appearance. Some chert. Residue: 95% - 98% total. Light brown silt with some milky chert
2405	2408	Light grey to medium grey very calcareous silt. Has limey appearance. Some chert. Residue: 95% - 98% total. Light brown silt with some milky chert
2408	2410	Light grey to medium grey very calcareous silt (limey appearance) with few coarse (conglomerated) sand grains. Residue: 98% - light brown silt 85%, coarse sand 15%. Some chert.
2410	2412	Coarse silt to very fine sand, light grey with chert, very calcareous
2412	2414	Very fine sand to coarse silt with chert, very calcareous
2414	2416	Very fine to fine, very calcareous light grey to white sand, some chert. Residue: 99% + very fine to fine sand 50%, silt 50%
2416	2419	Very to fine sand with silt, very calcareous, few medium and coarse sand grains. Residue: 99%+. Silt 50%, sand 50%
2419	2421	Light grey to grey very coarse silt with medium sand grains and chert. Residue: 90%-95%. Light brown silt 90%, medium sand grains 10%
2421	2425	Medium sand 25%, grey calcareous silt 75%. Residue 95%+
2425	2528	Dark grey argillaceous silty lime (drills coarser than above). Residue: 90%-95%. Dark brown silt with chert

<u>Top</u>	<u>Bottom</u>	<u>Formation</u>
2428	2433	Dark grey silty lime. Residue: 90-95%. Dark brown silt and silty chert. Original chunks did not break down
2433	2438	Dark grey to light grey silty lime. Residue: 90-95% Dark brown silt and silty chert. Original chunks did not break down
2438	2443	Dark grey silty lime. Residue: 95%+ Dark brown silt and silty chert. Original chunks did not break down
2443	2447	Dark grey silty and argillaceous lime. Residue: 95%+ Dark brown silt and silty chert. Original chunks did not break down.
2447	2452	Dark grey silty and argillaceous lime. Not as silty as above. Residue: 95%+. Dark brown silt and silty chert. Original chunks did not break down.
2452	2456	Dark grey silty and argillaceous lime. Residue: 95%+ Dark brown silt and silty chert. Original chunks did not break down.
2456	2462	Dark grey argillaceous lime. Residue: 95%+. Dark brown silt and silty chert. Original chunks did not break down.
2462	2466	Dark grey argillaceous lime. Residue: 95%+. Dark brown silt and silty chert. Original chunks did not break down.
2466	2471	Dark grey argillaceous lime. Residue: 95%+. Dark brown silt and silty chert. Original chunks did not break down.
	2471	Driller's T.D.
	2476	Log T.D.

Plugged back to 2251'. Acidized with 17,000 gal. 7½% HCl. - 52,000 cu. ft. Nitrogen. On 2/12/64 O.F. 2/13/64 17,000 & shut in for R.P. R.P. 210# 89 hr. Took gas sample, Analysis shows approx. 33% N₂, 33% CO₂ and 33% CH₄.

S.B.
3/27/64