

Latitude

39 30

79 50

Longitude

0 → 0625
75' loc
bk 7/16/1999

2.305
1,96W

Topo Location

7.5' Loc. _____ 15' Loc. 2.305
_____ (calc.) 1,96W

Company _____

Farm _____

15' Quad Thornton NC
(sec.) _____

7.5' Quad Newburg

District _____

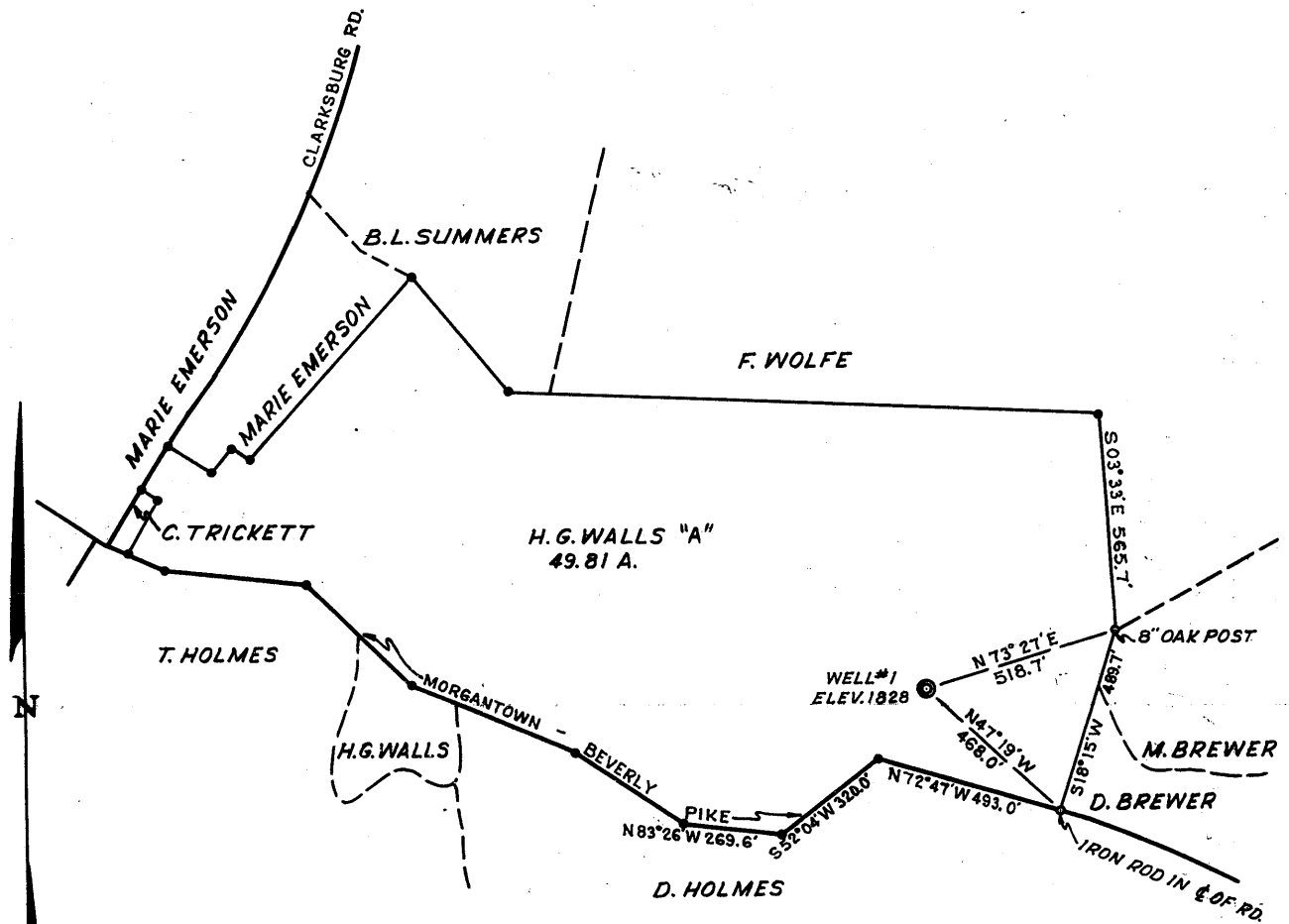
WELL LOCATION PLAT

County 077 Permit 86

DEEP WELL

Latitude 39°30'

Longitude 79°50'



NEW LOCATION...
 DRILL DEEPER.....
 ABANDONMENT.....

~~2.39 S 2.38 S~~
~~2.00 W, 1.95 W~~
 2 C (F-12)

Company	PHILLIPS PETROLEUM COMPANY
Address	BARTLESVILLE, OKLAHOMA
Farm	H.G. WALLS "A"
Tract	Acres 49.81 Lease No.
Well (Farm) No.	1
Elevation (Spirit Level)	1828
Quadrangle	THORNTON NC Newburg 7.5'
County	PRESTON District LYON
Engineer	George Down
Engineer's Registration No.	2027 OKLAHOMA
File No.	Drawing No.
Date	9-20-60 Scale 1"=500'

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON
 WELL LOCATION MAP
 FILE NO. PRES-86

Drilled Deeper 9-25-62

+ 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.

Deep Well

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

1-0
 Have electric log 1-0 0

Deep Well. Samples 19-J (20-650; 740-4350; 4400-8325)



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION 9

Quadrangle Thornton

Permit No. PRES, 86

WELL RECORD

Oil or Gas Well Gas show
(KIND)

Company Phillips Petroleum Company
Address Bartlesville, Oklahoma
Farm Walls "A" Acres 49.81
Location (waters) Brains Creek
Well No. One Elev. 1828' GL
District Lyon County Preston
The surface of tract is owned in fee by Harvey G. Walls & Rose Lee Walls - Wife Address RR#1, Independence West Virginia
Mineral rights are owned by Harvey G. Walls et ux Address RR#1, Independence West Virginia
Deepening commenced November 17, 1962
Deepening completed March 31, 1963
Date Shot - From - To -
With -
Open Flow - /10ths Water in - Inch
- /10ths Merc. in - Inch
Volume - Cu. Ft.
Rock Pressure - lbs. - hrs.
Oil - bbls. 1st 24 hrs.
WELL ACIDIZED See attachment
WELL FRACTURED See attachment

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
20"	31.50'	31.50'	
13-3/8"	1010.58'	1010.58'	
10			Size of
9-5/8"	7523.47'	7523.47'	
6 1/2			Depth set
5-1/2"	14,694.56'	8491.37'	
3			Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

CASING CEMENTED 20" SIZE 44.50' No. Ft. 10-1-60 Date 13-3/8" @ 1026.48' (10-14-60), 9-5/8" @ 7531' (11-8-60), 5 1/2" @ 14,594' (3-31-63)
COAL WAS ENCOUNTERED AT 55 FEET Strings INCHES
370 FEET 36 INCHES FEET INCHES
FEET INCHES FEET INCHES

RESULT AFTER TREATMENT -

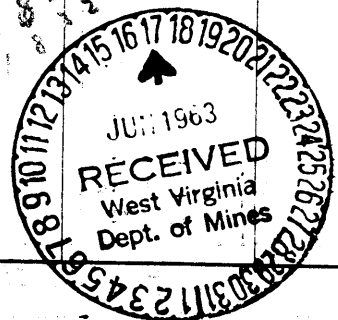
ROCK PRESSURE AFTER TREATMENT -

Fresh Water - Feet Salt Water - Feet

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Original total depth when originally drilled				8325'	Gas	7616'-19'	Small show
Plugged back total depth when originally drilled				7760'	Gas	7714'	Small show
Drilled out sand & cement to original total depth				8325'	Gas	7714'	Small show
Lime			8325'	8327'	Gas	7784'	Small show
Shale & lime			8327'	8399'	Gas	7815'	Small show
Shale	<i>siltstone 8407</i>		8399'	8447'	Gas	7825'	Small show
Shale & salt			8447'	8525'	Gas	7940'	Small show
Shale & lime			8525'	8949'	Gas	7980'	Small show
Lime			8949'	9012'	Gas	8163'	Small show
Shale & lime			9012'	9149'	Gas	8325'	Small show
Lime, shale & silt stone			9149'	9178'			
Lime & shale			9178'	9488'			
Shale			9488'	9530'			
Lime & shale			9530'	9573'			
Lime			9573'	9603'			
Lime & shale			9603'	9690'			
Lime			9690'	9697'			
Lime & shale			9697'	9905'			
Shale			9905'	9960'			
Lime & shale			9960'	9990'			
Shale			9990'	10,056'			
Shale & lime			10,056'	10,150'			
Shale			10,150'	10,274'			
Lime & shale			10,274'	10,357'			
Sand <i>Tuscarora</i>			10,357'	10,389'			
Sand & shale			10,389'	10,426'			
Sand, lime & shale			10,426'	10,439'			
Shale & lime			10,439'	10,458'			
Shale & sand			10,458'	10,467'			

williamsport 9508
McKenzie 9537
Clinton 10,356
9508-37 = Newburg
9829-56 = Keefer Keefer 9829
Rosehill 9856

(over)



Formation	Color	Hard or Soft	Top ⁹	Bottom	Oil, Gas or Water	Depth Found	Remarks
Sand			10,467'	10,744'	Gas	10,555-570'	Small show
Sand & lime			10,744'	10,779'	Gas	10,634-681'	Small show
Sand			10,779'	10,785'	Gas	10,691-733'	Small show
Sand & lime			10,785'	10,796'			
Sand			10,796'	10,864'			
Sand & shale			10,864'	10,874'			
Red shale	<i>Juniper -</i>	<i>10,924'</i>	10,874'	10,876'			
Sand & shale			10,876'	10,884'			
Sand			10,884'	10,918'			
Sand & shale			10,918'	10,934'			
Shale			10,934'	10,960'			
Sandy shale			10,960'	10,970'			
Shale			10,970'	11,022'			
Sandy shale			11,022'	11,057'			
Shale			11,057'	11,189'			
Shale & lime			11,118'	11,255'			
Shale			11,255'	11,286'			
Shale w/lime streaks			11,286'	11,314'			
Shale			11,314'	11,358'			
Shale w/lime streaks			11,358'	11,375'			
Shale			11,375'	11,447'			
Shale w/lime streaks			11,447'	11,478'			
Shale			11,478'	11,511'			
Lime & shale			11,511'	11,562'			
Shale			11,562'	11,567'			
Shale & lime			11,567'	11,628'			
Shale			11,628'	11,640'			
Shale & lime			11,640'	11,653'			
Lime			11,653'	11,662'			
Lime & shale			11,662'	11,696'			
Lime			11,696'	11,699'			
Lime & shale			11,699'	11,721'			
Shale			11,721'	11,731'			
Lime & shale			11,731'	11,742'			
Sand			11,742'	11,748'			
Sand & shale			11,748'	11,760'			
Sandy lime & shale			11,760'	11,810'			
Shale & lime			11,810'	11,839'			
Shale			11,839'	11,865'			
Shale & sandy lime			11,865'	11,893'			
Shale			11,893'	11,910'			
Shale & lime streaks			11,910'	11,921'			
Sandy lime			11,921'	11,924'			
Shale			11,924'	12,053'			
Shale & sandy lime			12,053'	12,068'			
Shale		<i>Osweego 12076</i>	12,068'	12,166'			
Shale & lime streaks			12,166'	12,204'			
Shale & lime			12,204'	12,216'			
Shale & lime streaks			12,216'	12,234'			
Shale & lime		<i>Martinsburg 12242</i>	12,234'	12,325'			
Shale			12,325'	12,368'			
Lime			12,368'	12,373'			
Shale			12,373'	12,918'			
Shale & lime streaks			12,918'	12,972'			
Shale			12,972'	13,037'			
Shale & lime streaks			13,037'	13,069'			
Shale			13,069'	13,743'			
Shale w/lime			13,743'	13,770'			
Shale			13,770'	14,031'	Gas	13,829'	Small show
Shale & lime	<i>Trenton</i>	<i>12310</i>	14,031'	14,073'	Gas	14,016'	Small show
Gray silty lime stone			14,073'	14,101'	Gas	14,073'	Small show
Lime			14,101'	14,219'	Gas	14,120'	Small show
Shale & lime			14,219'	14,228'	Gas	14,144'-186'	Small show
Lime			14,228'	14,277'	Gas	14,210'-256'	Small show
Lime & shale			14,277'	14,331'	Gas	14,266'-328'	Small show
Lime		<i>River 12497</i>	14,331'	14,594'	Total Depth.		

Date 6-14, 1963

APPROVED *A. T. Hoyle* Owner
 By *District Superintendent*
 (Title)



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION 12

Quadrangle Thornton

Permit No. Pres. 86

WELL RECORD

Oil or Gas Well Gas
(KIND)

Company Phillips Petroleum Company
Address Bartlesville, Oklahoma
Farm Walls "A" Acres 49.81
Location (waters) Brains Creek
Well No. One Elev. 1828 G.L.
District Lyon County Preston
The surface of tract is owned in fee by Harvey G. Walls & Rose Lee Walls - Wife Address RR#1, Independence, W. VA.
Mineral rights are owned by Harvey G. Walls et ux Address RR#1, Independence, W. VA.
Drilling commenced 9-26-60
Drilling completed 12-13-60
Date Shot - From - To -
With -
Open Flow /10ths Water in Inch
/10ths Merc. in Inch
Volume 24,000 Cu. Ft.
Rock Pressure 185 lbs. 36 hrs.
Oil None bbls., 1st 24 hrs.
WELL ACIDIZED -

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
XX 20"	31.50'	31.50'	Kind of Packer
XX 13-3/8"	1010.58'	1010.58'	
XX 9-5/8"	7523.47'	7523.47'	Size of
6%			Depth set
5 3/16			
3			Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

CASING CEMENTED 20" SIZE 4450' No. Ft. 10-1-60 Date
13-3/8" @ 1026.48' (10-14-60) 9-5/8" @ 7531' (11-8-60)
COAL WAS ENCOUNTERED AT 55 FEET Stringers INCHES
370 FEET 36 INCHES FEET INCHES
FEET INCHES FEET INCHES

WELL FRACTURED 11-20-60 with 60,000# 20-40 mesh sand, 48,200 gals. gelled wtr 7531' to 7825'.
12-21-60 Frac with 30,000# sand, 42,700 gals. gelled wtr 7531' to 7637'.
RESULT AFTER TREATMENT 77,660 Cu. Ft.
ROCK PRESSURE AFTER TREATMENT 350# - 12 Hrs. 625# - 36 Hrs. 770# - 60 Hrs. 1450# After 11 Days.
Fresh Water Feet Salt Water Feet

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Sandy Clay			0'	44'			
Sandstone			44'	55'	Small Amt Wtr	70'	20" 94# Csg @ 44.50' w/60 Sx.
Coal Stringers			55'	65'			
Sand			65'	124'			
Sand & Shale			124'	180'			
Sand			180'	348'			
Sand & Pyrite			348'	370'			
Coal			370'	373'			
Sand & Pyrite			373'	380'			
Sand & Shale			380'	430'			
Sand	White	Hard	430'	445'			
Sand & Shale			430'	445'			
Sand w/Shale Streaks			445'	508'			
Sand & Shale	Red	Black Chunk	508'	564'			
Sand & Shale	Red & Gray		564'	625'			
Sandy Shale			625'	630'			
Sand & Sandy Lime			630'	916'			
Sandy Lime			916'	949'			
Sandy Lime & Red Shale			949'	1030'			
Sandy Shale & Lime			1030'	1044'			
Sand & Lime			1044'	1102'			
Shale			1102'	1295'			
Silty Shale			1295'	1305'			
Sandy Shale			1305'	1334'			
Sandy Lime & Shale	Gray		1334'	1465'			
Silty Shale			1465'	1630'			
Shale	Red		1630'	1811'			
Sandy Lime & Gray Shale			1811'	2055'			
Silty Shale	Gray		2055'	2207'			
			2207'	2715'			

13-3/8" 54.5# Csg @ 1026.48' w/200 Sx.

De ren 1595

Sandy lime and gray shale	2715	3138
Shale and lime	3138	3339
Silty shale and lime	3339	3579
Shale and lime	3579	3615
Siltstone	3615	3630
Sand	3630	3685
Siltstone	3685	3845
Silty shale	3845	4216
Silty shale and lime	4216	4369
Silty shale	4369	6652
Shale, dark	6652	6900
Shale; limy, dark	6900	6965
Shale, black	6965	7119
Lime	7119	7180
7450 Lime and shale	7180	7205
Shale, black	7205	7524
Shale and chert	7524	7550
Lime	7550	7711
Sand	7711	7783
Oriskany	7711	7781
Lime	7781	8325
Plugged back to 7760'		

T. 44 7113

Hamilton 7185

7520 Oriskany

7715

Helderberg 7780

45

00101

Lyon District, Preston County, W. Va.
 By Phillips Petroleum Co., Bartlesville, Oklahoma
 Drilled under Pres-86; Thornton Quad.
 On 49.81 aced on Brains Creek. Elevation 1828' G.L. 1841' RKB
 Surface owned by Harvey G. Walls and Rose Lee Walls, wife, Rt. 1,
 Independence, W. Va., minerals owned by same.
 Drilling commenced 9/26/60; completed 12/13/60
 Volume 24,000 cu. ft. Rock pressure 185 lbs. 36 hrs.
 Well fractured, 11/20/60, with 60,000 lb. 20-40 mesh sand, 48,200 gals.
 gelled water 7531' to 7825'; 12/21/60, frac with 30,000 lb. sand,
 42,700 gals. gelled water, 7531-7637'.
 Result after treatment, 77,660 cu. ft.
 Rock pressure after treatment, 350 lb. 12 hrs.; 625 lb. 36 hrs.; 770 lb.
 60 hrs. 1450 lb. after 11 days.
 20" casing 31.50' left in; 13 3/8" 1010.58' left in; 9 5/8" 7523.47'
 left in.
 20" casing cemented 4450', 10/1/60; 13 3/8" at 1026.48' (10/14/60);
 9 5/8" at 7531' (11/8/60).
 Coal encountered at 55', strings; 370', 36".
 Small amount water, 70', 20" 94# casing at 44.50' with 60 Sx.; 13 3/8"
 54.5# csg. at 1026.48' w/200 Sx.; 9 5/8" 47# csg. 7531' w/200 Sx.;
 plugged back with cement to 7760.
 Record to Dept. of Mines Jan. 13/61
 Record from Allen January 31/61

	Top	Bottom
Sandy clay	0	44
Sandstone	44	55
Coal stringers	55	65
Sand	65	124
Sand and shale	124	180
Sand	180	348
Sand and pyrite	348	370
Coal	370	373
Sand and pyrite	373	380
Sand and shale	380	430
Sand, white, hard	430	445
Sand and shale	445	508
Sand with shale streaks	508	564
Sand and shale, red	564	625
Sand and shale, red & gray	625	630
Sandy shale	630	916
Sand and sandy lime	916	949
Sandy lime	949	1030
Sandy lime and red shale	1030	1044
Sandy shale and lime	1044	1102
Sand and lime	1102	1295
Shale	1295	1305
Silty shale	1305	1334
Sandy shale	1334	1465
Sandy lime and shale, gray	1465	1630
Silty shale	1630	1811
Shale, red	1811	2055
Sandy lime and gray shale	2055	2207
Silty shale, gray	2207	2715
Sandy lime and gray shale	2715	3138
Shale and lime	3138	3339
Silty shale and lime	3339	3579
Shale and lime	3579	3615

(Over P. 2)

	Top	Bottom
Siltstone	3615	3630
Sand	3630	3685
Siltstone	3685	3845
Silty shale	3845	4216
Silty shale and lime	4216	4369
Silty shale	4369	6652
Shale, dark	6652	6900
Shale; limy, dark	6900	6965
Shale, black	6965	7119
Lime	7119	7180
Lime and shale	7180	7205
Shale, black	7205	7524
Shale and Chert	7524	7550
Lime	7550	7711
Sand	7711	7783
Sand, Oriskany	7711	7783
Lime	7781	8325
Plugged back to		7760

11-28-62 McCullough went in hole w/35 Cream Super casing jet gun. Perforated 9-5/8" casing from 6824' to 6825' w/4 - 1/2" jet holes. Baker Oil Tool made up 9-5/8" Model "C" full bore retrievable packer. Ran packer in hole on 4 1/2" drill pipe. Set packer @ 6832'. Pumped in and broke circulation thru perforations. Circulated 12 1/2" hole outside of 9-5/8" casing @ 1800# w/rig pumps using drilling mud. Came out of hole w/packer. Went back in hole w/Baker 9-5/8" Model "K" magnesium cement retainer. Set retainer @ 6834'. Dowell cemented 9-5/8" casing thru perforations w/865 sx reg bulk cement 648 sx Pemix. Followed w/100 sx heat cement. Had returns on cement to surface.

12-4-62 Shut well in @ 10:30 AM. SI pressure for 2 1/2 hrs 320#. Took gas test @ 3:00 PM on 2" X 1" orifice. Tested 463,000 CF.

Trenton 4-7-63 McCullough Tool made up Dyna-charge jet. Perforated 5 1/2" casing 14,460' to 14,461' w/4 - 3/8" holes per ft. Baker Tool made up 5 1/2" Model "K" cement retainer. Set retainer @ 14,430'. Dowell pumped into formation w/7 bbls drilling mud @ 6800#. Mixed 50 sx of common cement w/25# Dical L/L. Squeezed perforation 14,460' to 14,461' and bottom of 5 1/2" casing. Max squeeze pressure 8000#. Holding pressure 8000#. Picked up out of Baker retainer. Backmashed 1/2 bbl of cement.

Trenton 4-8-63 McCullough went in hole & perforated 5 1/2" casing 14,402' to 14,416', 14,397' to 14,402', 14,361' to 14,370', 14,354' to 14,358', 14,346' to 14,349', 14,322' to 14,332' w/4 - 3/8" jet holes per ft.

4-9-63 McCullough ran 1 - 5 1/2" X 3' Baker Model "D" wire line production packer. Set @ 14,304'.

4-10-63 Dowell pumped in and spotted 500 gallons or 12 bbls of msa acid on casing perforations 14,322' to 14,416'. Spotted acid w/57 bbls of salt water. Set seal nipples back down in packer @ 14,304'. Acid on formation @ 2500#. Pumped acid in formation @ 9600#. Pressure on annulus 6500#. Max treating pressure 9600#, Min 9600#. Shut in pressure for 30 minutes 8600#. Injection rate on acid 3.25 BPM. Well flowed back to pit for 5 1/2 hrs approximately 10 bbls of salt water load. Shabbed down to 6800'. Recovered approximately 25 bbls of salt water load. No show of gas.

4-11-63 Acidized Trenton line thru casing perforations under packer 14,322' to 14,316' w/5000 gals reg 15% acid. Max treating pressure w/acid 12,000#, Min 12,000#. Flushed acid w/81 bbls of 10% salt water. Over-flushed perforations w/11 bbls salt water. Injection pump rate on acid 7.4 BPM. Injection rate on flush water 7.95 BPM. Shut in pressure after 55 minutes 8600#. Flowed back 58 bbls flush water. Shabbed 32 bbls salt water flush and 80 bbls acid water. Started snubbing once every hour from 7100'. Shabbed back 36 bbls acid. No show of gas in 9 hours of snubbing time.

4-13-63 McCullough ran one 5 1/2" Baker Model 2-A cast iron wire line bridge plug. Set plug @ 14,302'. Perforated 5 1/2" casing in No. 2 section of Trenton line from 14,278' to 14,285', 14,252' to 14,262', 14,207' to 14,220' w/4 - 3/8" jet holes per ft.

4-14-63 Perforated Trenton 14,198' to 14,204' w/4 - 3/8" jet holes per ft. Ran one 5 1/2" X 3' Baker Model "D" wire line production packer. Set packer @ 14,190'. Installed well head equipment.

10874	14594
1841	1811
-9033	-12753

9A
1083 - 1722
1541 1541
1083 1724

4-15-63 Shabbed down to 7100'. Shabbed 5 bbls salt water. No show of gas. Dowell acidized Trenton lime thru casing perforations under packer w/5000 gals regular mud acid, causing perforations 14,198' to 14,285'. Max treating pressure 11,200#, Min 10,200#. Flushed behind acid w/75 bbls salt water. Overflushed w/5 bbls salt water. Injection rate on acid 3 BPM. Shut in pressure 8650#. Shabbed salt water & acid down to 7100'. No show of gas.

4-16-63 Set Baker Model "D" wire line production packer @ 14,187'.

4-17-63 Acidized No. 2 Trenton zone thru perforations 14,285' to 14,198' under packer @ 14,187' w/5000 gals 15% reg acid. Max treating pressure w/acid 12,400#, Min 12,400#, end of flush 13,400#. Flushed behind acid w/85 bbls salt water. Overflushed perforations w/10 bbls. Injection rate on acid 8 BPM. Salt water flush 7 1/2 BPM. Shut in pressure for 35 minutes 8600#.

4-18-63 Flowed to pit for 2 1/2 hrs. Shabbed down to 7100'. Recovered 40 bbls acid water. No show of gas.

4-20-63 Ran one 5/8" X 2' Baker Model "K" cast iron wire line bridge plug. Set @ 14,060' to 14,062'. Mixed 3 ex cement cement w/Diacal LML. Set cement plug w/wire line dump bailer from 14,060' to 14,060'. Perforated 5/8" casing in Martinsburg shale from 14,026' to 14,026' w/3 - 1/8" jet holes per ft.

4-21-63 Continued perforating from 14,026' to 13,936'.

4-22-63 Perforated from 13,936' to 13,908' w/2 - 1/8" jet holes per ft.

4-23-63 Acidized Martinsburg shale under Baker packer @ 13,850' thru perforations from 14,026' back to 13,908' w/500 gals 15% mud acid. Max treating pressure 11,400#, Min 11,300#. Flushed w/75 bbls 10% salt water. Overflushed w/7 bbls salt water. Injection rate 5.6 BPM. Shut in pressure for 30 minutes 8000#. Opened well to pit. Flowed back 7 bbls of salt water flush. Shabbed down to 7000'. No show of gas. Treatment No. 2, acidized Martinsburg shale w/5000 gals 15% mud acid under Baker packer @ 13,850 thru perforations 14,026' back to 13,908'. Max treating pressure on acid 13,000#, Min 13,000#. Flushed behind acid w/75 bbls 10% salt water. Overflushed w/7 bbls salt water. Injection rate 7 bbls per minute. SI pressure for 25 minutes 8200#. Opened well to pit. Flowed back 17 bbls salt water flush. Shabbed from 4400'. Shabbed back flush water with no show of gas.

4-26-63 Ran one 5/8" X 2' Baker 2-A cast iron wire line bridge plug. Set plug @ 10,920'. Mixed 3 ex cement cement w/Diacal LML added. Set cement plug w/wire line bailer from 10,920' to 10,910'.

4-27-63 Perforated bottom section of Tuscarora sand w/Zumco glass jets 10,849' to 10,843', 10,837' to 10,829', 10,823' to 10,821', 10,817' to 10,813', 10,811' to 10,803', 10,795' to 10,789', 10,786' to 10,783', 10,779' to 10,770', 10,762' to 10,748', 10,741' to 10,710', 10,708' to 10,706', 10,700' to 10,697', 10,690' to 10,680'. Total of 225 holes. Installed well head equipment.

4-28-63 Shabbed down to 6200'. Shabbed back salt water lead. No show of gas.

4-29-63 Pumped into Tuscarora sand @ 6800# w/case pump truck. Pumped in formation @ 12,000#. Pump injection rate on salt water 10 BPM. Pumped in 18 bbls.

Tusc. 4-30-63 Gelled 1000 bbls of salt water w/2000# J-98. Pumped 20 bbls of salt water in front of 1000 gals of gelled salt water. Fraced lower Tuscarora w/22,500 gals of gelled salt water and 1900# of 12-20 walnut shells. Max treating pressure on frac 12,000#, Min 9000#. Pump injection rate Max 13 1/2 BPH, Min 10 BPH. Used 535 bbls of salt water gel. Opened well to pit. Flowed back gelled water and walnut shells. Swabbed from 3400'. No show of gas.

Tusc. 5-2-63 Ran one 5 1/2" X 2" Baker Model "A" cast iron bridge plug. Set plug @ 10,654'. Perforated 5 1/2" casing in Upper Tuscarora w/2 - 7/16" Zince glass jets per ft from 10,653' to 10,623', 10,617' to 10,610', 10,608' to 10,596', 10,589' to 10,594', 10,596' to 10,578', 10,574' to 10,567', 10,564' to 10,561', 10,559' to 10,554', 10,554' to 10,551', 10,549' to 10,544', 10,542' to 10,540', 10,523' to 10,520', 10,516' to 10,514', 10,512' to 10,505', 10,503' to 10,500'. Total perforations 100', total holes 215!

5-4-63 Gelled 1000 bbls of 9# salt water w/1100# J-98 gel. Loaded tubing w/37 bbls of 9# salt water. Pumped into Upper Tuscarora sand under Baker packer @ 10,456'. Pumped into formation @ 11,400#. Pumped in 30 bbls of 9# salt water @ 10 BPH. Followed up w/3000 gals of gelled salt water. Pumped into formation @ 9400#, 12 BPH. Sand fraced Upper Tuscarora sand w/5000# of 20-40 sand, 7870 gals gelled salt water. Followed up behind frac w/3250# of 20-40 rounded walnut shells, 32,760 gals of gelled salt water & flushed behind walnut shells w/50 bbls of 9# salt water. Max pressure on frac job 9400#, Min 9400#. Pump injection rate 12 BPH. Shut in pressure for 30 minutes 6800#.

5-5-63 Opened well to pit. Well flowed back for 12 hrs. Flowed down to very small stream w/a small show of gas. - *Tusc.*

5-9-63 Ran one 5 1/2" X 2", 2-A cast iron wire line bridge plug. Set @ 10,450'. Set 2 ex cement plug @ 10,450' to 10,440'. Perforated w/2 - 7/16" Zince jet holes @ 7900'.

5-9-63 Cemented 5 1/2" casing w/200 ex reg bulk cement under cement retainer thru casing perforations @ 7900'. Full returns on drilling and while cementing.

Orisk. 5-13-63 Perforated the Oriskany sand from 7724' to 7736', w/4 - 7/16" Zince jet holes per ft. Flowed well to pit. Flowed casing salt water lead with no show of gas.

5-14-63 Mixed 700 bbls of fresh water w/400# of J-98 gel. Pumped into formation w/ 60 bbls of gelled water behind 172 bbls of salt water casing lead. Pumped into formation @ 5800#. Fraced Oriskany sand thru 5 1/2" casing perforations 7724' to 7736' w/20,000# of 20-40 Ottawa sand and 20,000 gals of gelled water and 151,000 standard cu. ft. of nitrogen 254 cu. ft per bbl. Flushed behind frac w/172 bbls gelled water. Max treating pressure 5700#, Min 5300#. Pumping injection rate 15.8 BPH. Shut in pressure for 35 minutes 4000#. Flowed treating fluid to pit. No show of gas.

5-16-63 Ran one 5 1/2" X 2" Baker Model "K" cast iron wire line cement retainer. Squeezed casing perforations from 7724' to 7736'. Mixed 100 ex cement bulk cement. Pumped into formation @ 3800#. Max squeeze pressure 6200#. Pumped 14 bbls into formation of 15# slurry @ 70 ex cement.

Huntersville
 5-17-63 Perforated 5 $\frac{1}{2}$ " in Onondaga Chert @ 7661' w/2 - $\frac{1}{8}$ " Super casing glass jets. Perforated 7629' w/2 - $\frac{1}{8}$ " glass jets. Perforated @ 7620' w/2 - $\frac{1}{8}$ " glass jets. Left well open to pit for 16 hrs. No show of gas.

Hunt
 5-18-63 Mixed 1200 bbls gelled water. Pumped into formation thru perforations 7661', 7629', and 7620' @ 6200#. Pumped in 40 bbls gelled water. Sand fraced Onondaga w/373 bbls gelled water, 6500# of 20-40 sand, 190 standard cu. ft. per bbl nitrogen. Treating pressure 6500#. Pump injection rate 15 $\frac{1}{2}$ BPM. Opened well. Bl down pressure. Flowed 60 bbls flush water. Perforated 5 $\frac{1}{2}$ " casing in Onondaga 7659', 7627', 7630', 7631' w/4 - $\frac{1}{8}$ " jet holes. Perforated 7618', 7621', 7622', w/4 - $\frac{1}{8}$ " jet holes. Loaded 5 $\frac{1}{2}$ " casing w/20 bbls of gelled water. Pumped into formation @ 6100#. Pumped in 40 bbls of gelled water. Continued sand frac. Used 17,000# of 20-40 sand, 425 bbls gelled water, 345 cu. ft. of nitrogen per bbl. Max treating pressure 6400#, Min 6000#. Pump injection rate 9 $\frac{1}{2}$ BPM. Total fluid used in treatment 170 bbls salt water casing load in front of frac, 1068 bbls gelled treating fluid. Opened well to pit. Flowed back sand and gelled water treating fluid. No show of gas.

5-22-63 Loaded hole w/drilling mud. Ran one 5 $\frac{1}{2}$ " X 2' Baker Model "A" cast iron bridge plug. Set plug @ 6225'. Mixed 2 sz of common cement. Set cement plug from 6225' to 6215'. Pulled 6203.19' of 5 $\frac{1}{2}$ " casing. Set cement plug in 9- $\frac{5}{8}$ " casing from 25' back to base of cellar w/35 sz common cement. Plugged & abandoned
 5-24-63. Set marker reading: Phillips Petroleum Company Wells "A" No. 1. Set marker 5-24-63.