

OIL AND GAS WELL
SUMMARY REPORT

API No. 45-051-20200-00-03 VDMR Well
Rep. No. W-4851
DMQ File No. DI-121

Operator PHILADELPHIA OIL COMPANY
Farm STEINMAN DEVELOPMENT CORPORATION
Co. Well No. P-39

County DICKENSON Quadrangle HAYSI - 7-1/2'
Location (UTM) N 4,112,470; E 381,740 UTM Zone 17
(Lat. and Long.) _____

Field _____ Province APPALACHIAN PLATEAUS

Elev. (specify) 1652.27' GR. TD 4640' Form. at TD DEVONIAN SHALE
INITIAL FLOW - 386,000 CU. FT. Age DEVONIAN

Date compl. or abandoned AUGUST 16, 1977
Result GAS WELL
Gas Shows _____
Gas Pays 3620'; 4482' to 4533'
Main Production _____ Prod. Form. BIG LIME AND BEREA
Age MISSISSIPPIAN

Treatment: WELL FRACTURED IN THE BEREA FORMATION WITH 15,000 POUNDS OF
80/100 SAND, 65,000 POUNDS OF 20/40 SAND, 15,000 POUNDS OF J-266 GEL,
30 GALLONS OF F-78, 500 GALLONS OF MUD ACID, FRACTURED BIG LIME WITH 25,000
POUNDS OF 20/40 SAND, 2,000 GALLONS OF 28% ACID; AND 600 POUNDS OF J-267.
Initial Production _____
FINAL FLOW 0 492,000 CU. FT.

Oil shows _____
Water FW X at 30' _____ at _____ at _____
SW _____ at _____ at _____ at _____

Coal 275' to 278'; 397' to 399'; 612' to 614'; 852' to 855'; 1180' to 1182';
1655' to 1657'
Plat X Plotted X Completion Report X
Drillers Log X Geologic Log _____
Samples X Interval Sheet X
Sample Interval 0' to 4610'
Remarks _____

Geophysical Logs S.P. _____ Res _____ Gamma X Neutron _____
Density X Sonic _____ Other TEMPERATURE; CALIPER

Stratigraphic Data Source _____

<u>Formation</u>	<u>Top</u>	<u>Datum (Subsea)</u>	<u>Thickness</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Remarks _____

References _____

Released to Open File: Completion NOVEMBER 14, 1977
Samples YES

(Note: UTM measurements in meters, all others in feet)

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF LABOR AND INDUSTRY
DIVISION OF MINES AND QUARRIES
BIG STONE GAP, VIRGINIA 24219

NOTICE OF INTENTION TO (DRILL) (REDRILL) (DEEPEN) OIL OR GAS WELL

(One copy of this report and three identical copies of a plat or map, on a scale not smaller than 400 feet to the inch, and showing information required by Section 45.1-114, Code of Virginia, 1950, 1954 and the 1966 Cumulative Supplement, must be submitted to the Division of Mines and Quarries, and copies sent by registered mail to all persons defined in above law, prior to obtaining a permit to drill.)

TO: Division of Mines and Quarries
Drawer V
Big Stone Gap, Virginia 24219

Box 431
Prestonsburg, Kentucky 41653

Place
December 20, 19 74

Date

Gentlemen:

The undersigned proposes to begin as soon as a permit therefor is obtained from the Division of Mines and Quarries, to drill, ~~redrill or deepen (strike out two)~~ a well for oil or gas on the Steinman Development Company Farm, comprising 1921.50 acres, in the Sand Lick District of Dickenson County, Virginia, having the fee title thereto, or as the case may be, under grant or lease dated June 15, 1973, made by Steinman Development Company to Philadelphia Oil Company and recorded on the 7th day of December, 19 73 in the office of the County Clerk for said County in Book 161 Page 161. The proposed location of the well, as shown on the attached plat or map, is about 1.70 (feet/miles) East of Clinchco, Virginia and about 2.18 (feet/miles) Northwest of Counts, Virginia.

It is proposed to drill this well to a depth of about 4603 feet. Samples or cutting therefrom will ~~or will not~~ be available for examination by a member of the staff of the Virginia Geological Survey. Cuttings will ~~or will not~~ be furnished the Survey., upon request.

A plat or map, in triplicate, on a scale not smaller than 400 feet to the inch, showing the proposed location of the well and other information, required in Section 45.1-114, Code of Virginia, 1950, 1954 and the 1966 Cumulative Supplement is attached hereto. Copies of the plat and notice of intention to drill, redrill or deepen the aforementioned well have been sent to all interested persons as required by Section 45.1-114, above cited, as follows (list names and mail address of each. Use back of sheet if additional space is required):

1. Steinman Development Company, 218 Lambert Building, Norton, Va. 24273,
2. _____ (Coal Owner)
3. _____
4. _____
5. _____
6. _____

Signature of ~~officer or~~ certifying party: Edward O. Ray
Edward O. Ray

Very truly yours,
PHILADELPHIA OIL COMPANY
Drilling Company or C perator
Box 431
Prestonsburg, Kentucky 41653
City or Town and State

File DI-121 Date Received 12-23-74 Well No. P-39

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF LABOR AND INDUSTRY
DIVISION OF MINES AND QUARRIES
BIG STONE GAP, VIRGINIA 24219
PHONE 703-523-0335

APPLICATION FOR PERMIT TO (DRILL) (REDRILL) (DEEPEN) OIL OR GAS WELL

(Required by Section 45.1-115, Code of Virginia, 1950, 1954 and the 1966 Cumulative Supplement. To be accompanied by Permit fee of twenty-five dollars and bond and surety therefor, as specified by Section cited. To be submitted in duplicate, one copy to be returned to applicant after action by Division of Mines and Quarries.

TO: Division of Mines and Quarries
Drawer V
Big Stone Gap, Virginia 24219

Box 431
Prestonsburg, Kentucky 41653

December 20, 1974

Date

Gentlemen:

The undersigned hereby makes application for a Permit to drill, ~~redrill, or deepen (strike out two)~~ a well for oil or gas on the Steinman Dev. Co Farm, comprising 1921.5 acres, in the Sand Lick District of Dickenson County, Virginia, having the fee title thereto, or as the case may be, under grant or lease dated June 15, 1973 made by Steinman Development Company to Philadelphia Oil Company

and recorded on the 7th day of December, 1973 in the office of the County Clerk for the said County in Book 161 page 161.

The proposed location of the well is shown on a location plat or map submitted to the Division of Mines and Quarries, by the undersigned, together with Notice of Intention to Drill, Redrill or Deepen a Well for Oil or Gas on the 20th day of December 1974.

The proposed well will be known as Well No. P-39 of Philadelphia Oil Company (company, etc.) It is proposed to drill this well to a depth of about 4603 feet.

The proposed location is about 820 feet distant from the nearest property or lease line; about 13,200 feet distant from the nearest mining opening, ~~or quarry (strike out words not applicable)~~ and/or about 6625 feet distant from the nearest ~~drilling abandoned, producing, or applied for (strike out words not applicable) oil or gas (strike out words not applicable)~~ well.

There is enclosed herewith a certified check or U.S. Postal Money Order, in the amount of twenty-five (\$25.), payable to the Treasurer of Virginia, covering fee for a Permit to Drill a Well for Oil or Gas, as required by Section 45.1-115, Code of Virginia, 1950, 1954 and the 1966 Cumulative Supplement. Bond and Surety therefor to insure compliance with the provisions of Chapter 8, Title 45, Code of Virginia, 1950 and the 1966 Supplement, for this well, in the amount of \$ 12,600. is submitted herewith of (give status of) Blanket Bond covering P-32 to P-55 inclusive.

Correspondence regarding this well should be addressed to Mr. Edward O. Ray, Box 431, Prestonsburg, Kentucky 41653

Very truly yours,

Signature of ~~officer or certifying~~ party:

PHILADELPHIA OIL COMPANY

Drilling Company or Operator

Edward O. Ray

Box 431

Street

Prestonsburg

City or Town

Kentucky 41653

State

Space below this line is for the use of the Board only.

ACTION OF DIVISION OF MINES AND QUARRIES

Received on 12-23-1974.

Approved and Permit (no. 200) granted on 1-7-1975

Denied

Reasons for denial

DIVISION OF MINES AND QUARRIES

By *[Signature]* State Oil & Gas Inspector
Title

File No. DI-121 Well No. P-39 Permit No. 200

(To be filled in by Division of Mines)

COMMONWEALTH OF VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

(To be filled in by Division of Mines)

DICKENSON County SAND LICK District HAYSI Map DI-121 File

DIVISION OF MINES BIG STONE GAP, VIRGINIA DEEPENED OIL AND GAS WELL COMPLETION REPORT ABANDONMENT

Well No. P-39 Permit No. 200 Office No. Location Plat

(This report and a copy of electrical log, if made, must be submitted to the Division of Mines within 30 days after abandonment or completion of well, as required by Section 45-113, Code of Virginia, 1950.)

Company Philadelphia Oil Company Address P. O. Box 313 Nora, Virginia 24272 Farm Steinman Development Corporation Acres 1921.50 County Dickenson District Sand Lick Well No. (Company) P-39 Elevation (ground surface) 1652.27 ft.

Location: (Give direction and distance in feet or tenths of a mile from two (2) location reference points or map coordinates shown on location plat or map previously filed with the Division of Mines or shown on quadrangle topographic map of area.)

4800 feet index South of Latitude 37° 10' 00" and 800 feet miles East of Longitude 82° 20' 00"

Surface of tract is owned in fee simple by Charlie Perry Detroit, Michigan

Mineral rights are owned by Steinman Development Company 218 Lambert Building, Norton, Virginia 24273

Location made by B. C. Spradlin Drilling commenced October 2, 1975 Drilling contractor Union Drilling Company, Inc. Drilling completed October 12, 1975 Address Buckhannon, West Virginia

Well completed as gas well on August 16, 1977

Well abandoned at feet on Reason Well plugged on 19 Affidavit filed 19 Total depth 4640 (KB) feet. Steel line measurement feet. Commenced producing on not connected to pipeline system, 19

Oil Well Initial production, oil: 1st 24 hours bbls.; 2nd 24 hours bbls. After shot on from feet to feet with lbs. qts. After shot on from feet to feet with lbs. qts. 1st 24 hours bbls.; 2nd 24 hours bbls. Settled production bbls. per day after producing days weeks

Gravity and grade of oil Oil pays at (1) feet to feet. Oil shows at (1) feet to feet. (2) feet to feet. (2) feet to feet. (3) feet to feet. (3) feet to feet. (4) feet to feet. (4) feet to feet. Main production at feet to feet. (5) feet to feet.

Gas Well Final Open Flow - 492 MCF Gaged /10ths. Water in inch. Initial open flow, gas: 386 MCF /10ths. Mercury in 2 inch. Volume 386 MCF cu. ft. After shot on from feet to feet with lbs. qts. After shot on from feet to feet with lbs. qts. 1st 24 hours cu ft., 2nd 24 hours cu ft. Rock pressure: Initial 725# lbs.; after 48 hours lbs. days Settled production cu. ft per day after producing weeks

Gas pays at (1) 3620 feet to feet. Gas shows at (1) feet to feet. (2) 4482 feet to 4533 feet. (2) feet to feet. (3) feet to feet. (3) feet to feet. (4) feet to feet. (4) feet to feet. Main production feet to feet. (5) feet to feet.

Fresh water at (1) 30 feet, 2" Stream GPM; (2) feet, GPM; (3) feet, GPM. Salt water at (1) See log feet; (2) feet; (3) feet; (4) feet. Coal: from See log feet inches to feet inches; from feet inches to feet inches. Well acidized from feet to feet with (quantity) of acid. from feet to feet with (quantity) of acid. from feet to feet with (quantity) of acid.

Remarks: Well fractured in the Berea formation with 15,000# of 80/100 sand, 65,000# 20/40 sand, 15,000# J-266 gel, 30 gals F-78, 500 gals. of Mud Acid. Fractured Big Lime with 25,000# 20/40 sand, 2000 gallons of 28% Acid, 600# J-267

Table with columns for CASING AND TUBING (SIZE, USED IN DRILLING, LEFT IN WELL, PERFORATED) and PACKERS (KIND, SIZE, SET AT). Includes rows for 11 3/4, 8 5/8, 4 1/2, and 2 3/8 inch casings, and a frac-over plug.

Casing Cemented: 11 3/4 inch, from 9 feet to surface Date October 7, 1975 8 5/8 inch, from 1874 feet to surface Date

LOG

Furnished by E. B. Jenkins Date 9-20-77

Compiled by Michael Wallen Date 9-16-77

SAMPLE No.	FORMATION	COLOR	HARD OR SOFT	TOP (feet)	BOTTOM (feet)	THICKNESS (feet)	REMARKS OIL, GAS, WATER DEPTHS SHUT DOWN FISHING, ETC.
	Sand			0	35	35	30' 2" stream water
	Sand & Shale			35	87	52	
	Sand			87	162	75	
	Sand & Shale			162	275	113	
	Coal			275	278	3	
	Sand & Shale			278	284	6	
	Sand			284	340	56	
	Sand & Shale			340	397	57	
	Coal			397	399	2	
	Sand & Shale			399	502	103	
	Sand			502	542	40	
	Shale			542	591	49	
	Sand			591	612	21	
	Coal			612	614	2	
	Sand & Shale			614	634	20	
	Sand			634	699	65	
	Shale			699	718	19	
	Sand & Shale			718	747	29	
	Shale			747	809	62	
	Sand			809	842	33	
	Sand & Shale			842	852	10	
	Coal			852	855	3	
	Sand & Shale			855	879	24	
	Sand			879	947	68	
	Sand & Shale			947	1000	53	
	Sand			1000	1045	45	
	Sand & Shale			1045	1180	125	
	Coal			1180	1182	2	
	Sand			1182	1295	113	
	Shale			1295	1313	18	
	Sand			1313	1375	62	
	Sand & Shale			1375	1555	130	
	Sand			1555	1655	100	
	Coal			1655	1657	2	
	Sand			1657	1721	64	
	Sand & Shale			1721	1749	28	
	Sand			1749	1868	18	
	Red Rock			1868	1896	18	
	Sand & Shale			1896	1936	40	
	Shale			1936	1966	30	
	Red Rock			1966	2015	49	
	Sand & Shale			2015	2070	55	
	Red Rock			2070	2160	90	
	Sand			2160	2187	27	
	Sand & Shale			2187	2328	41	Gas Ck. @ 2323
	Sand			2328	2340	12	0 MCF
	Ravenclyff			2340	2473	133	
	Sand & Shale			2473	2600	117	
	Sand			2600	2664	64	
	Shale & Sand			2664	2756	92	
	Shale			2756	2795	39	
	Sand & Shale			2795	2819	24	
	Red Rock			2819	2855	36	
	Shale			2855	2941	86	
	First Maxon			2941	2974	33	
	Sand & Shale			2974	3020	46	
	Second Maxon			3020	3038	18	
	Sand & Shale			3038	3142	104	
	Third Maxon			3142	3166	24	
	Shale			3166	33255	89	
	Sand			3255	3310	55	
	Sand & Shale			3310	3362	52	Gas Ck. @ 3312
	Little Lime			3362	3415	53	3 MCF
	Big Lime			3415	3873	458	Gas Ck. @ 3620'
	Injun			3873	3918	45	2,987 MCF
	Weir Shells			3918	4020	98	Gas Blew Down
	Shale			4020	4355	385	
	Coffee Shale			4355	4443	80	
	Berea Sand			4443	4551	8	
	Shale			4551	4637	86	
	Total Depth			4637			

(To be filled in by
Division of Mines)

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF LABOR AND INDUSTRY

(To be filled in by
Division of Mines)

DICKENSON

County

SAND LICK

District

HAYSI

Map

DI-121

File

DIVISION OF MINES

BIG STONE GAP, VIRGINIA

DEEPENED
OIL AND GAS WELL COMPLETION REPORT
ABANDONMENT

Well No. P-39

Permit No. 200

Office No. _____

Location Plat _____

(This report and a copy of electrical log, if made, must
be submitted to the Division of Mines within 30 days after
abandonment or completion of well, as required by Section
45-113, Code of Virginia, 1950.)

Company Philadelphia Oil Company

Address P. O. Box 313
Nora, Virginia 24272

Farm Steinman Development Corporation

Acres 1921.50

County Dickenson

District Sand Lick

Well No. (Company) P-39

Elevation (ground surface) 1652.27 ft.

Location: (Give direction and distance in feet or tenths of a mile from two (2) location reference points or map coordinates shown on location plat or map previously filed with the Division of Mines or shown on quadrangle topographic map of area.)

4800 feet ~~miles~~ South of Latitude 37° 10' 00" and

800 feet ~~miles~~ East of Longitude 82° 20' 00"

Surface of tract is owned in fee simple by Charlie Perry

Address Detroit, Michigan

Mineral rights are owned by Steinman Development Company

Address 218 Lambert Building, Norton, Virginia 24273

Location made by B. C. Spradlin

Drilling commenced October 2, 1975 Drilling contractor Union Drilling Company, Inc.

Drilling completed October 12, 1975 Address Buckhannon, West Virginia

Well completed as ^{gas}~~oil~~ well on August 16, 1977

Well abandoned at _____ feet on _____: Reason _____

Well plugged on _____, 19____ Affidavit filed _____, 19____

Total depth 4640 (KB) feet. Steel line measurement _____ feet.

Commenced producing on not connected to pipeline system, 19____

Oil Well

Initial production, oil: 1st 24 hours _____ bbls.; 2nd 24 hours _____ bbls.

After shot on _____ from _____ feet to _____ feet with _____ lbs. qts.

After shot on _____ from _____ feet to _____ feet with _____ lbs. qts.

1st 24 hours _____ bbls.; 2nd 24 hours _____ bbls.

Settled production _____ bbls. per day after producing _____ days weeks

Gravity and grade of oil _____

Oil pays at (1) _____ feet to _____ feet. Oil shows at (1) _____ feet to _____ feet.

(2) _____ feet to _____ feet. (2) _____ feet to _____ feet.

(3) _____ feet to _____ feet. (3) _____ feet to _____ feet.

(4) _____ feet to _____ feet. (4) _____ feet to _____ feet.

Main production at _____ feet to _____ feet. (5) _____ feet to _____ feet.

Gas Well Final Open Flow - 492 MCF Gaged _____/10ths. Water in _____ inch.

Initial open flow, gas: _____/10ths. Mercury in 2 inch.

Volume 386 MCF cu. ft.

After shot on _____ from _____ feet to _____ feet with _____ lbs. qts.

After shot on _____ from _____ feet to _____ feet with _____ lbs. qts.

1st 24 hours _____ cu. ft. 2nd 24 hours _____ cu. ft.

Well No. P-39 File No. DI-121 Permit No. 300

LOG

Furnished by E. B. Jenkins Date 9-20-77

Compiled by Michael Wallen Date 9-16-77

SAMPLE No.	FORMATION	COLOR	HARD OR SOFT	TOP (feet)	BOTTOM (feet)	THICKNESS (feet)	REMARKS OIL, GAS, WATER DEPTHS SHUT DOWN FISHING, ETC.
	Sand			0	35	35	30' 2" stream w
	Sand & Shale			35	87	52	
	Sand			87	162	75	
	Sand & Shale			162	275	113	
	Coal			275	278	3	
	Sand & Shale			278	284	6	
	Sand			284	340	56	
	Sand & Shale			340	397	57	
	Coal			397	399	2	
	Sand & Shale			399	502	103	
	Sand			502	542	40	
	Shale			542	591	49	
	Sand			591	612	21	
	Coal			612	614	2	
	Sand & Shale			614	634	20	
	Sand			634	699	65	
	Shale			699	718	19	
	Sand & Shale			718	747	29	
	Shale			747	809	62	
	Sand			809	842	33	
	Sand & Shale			842	852	10	
	Coal			852	855	3	
	Sand & Shale			855	879	24	
	Sand			879	947	68	
	Sand & Shale			947	1000	53	
	Sand			1000	1045	45	
	Sand & Shale			1045	1180	125	
	Coal			1180	1182	2	
	Sand			1182	1295	113	
	Shale			1295	1313	18	
	Sand			1313	1375	62	
	Sand & Shale			1375	1555	130	
	Sand			1555	1655	100	
	Coal			1655	1657	2	
	Sand			1657	1721	64	
	Sand & Shale			1721	1749	28	
	Sand			1749	1868	18	
	Red Rock			1868	1896	18	
	Sand & Shale			1896	1936	40	
	Shale			1936	1966	30	
	Red Rock			1966	2015	49	
	Sand & Shale			2015	2070	55	
	Red Rock			2070	2160	90	
	Sand			2160	2187	27	
	Sand & Shale			2187	2328	41	
	Sand			2328	2340	12	
	Ravencliff			2340	2473	133	
	Sand & Shale			2473	2600	117	
	Sand			2600	2664	64	
	Shale & Sand			2664	2756	92	
	Shale			2756	2795	39	
	Sand & Shale			2795	2819	24	
	Red Rock			2819	2855	36	

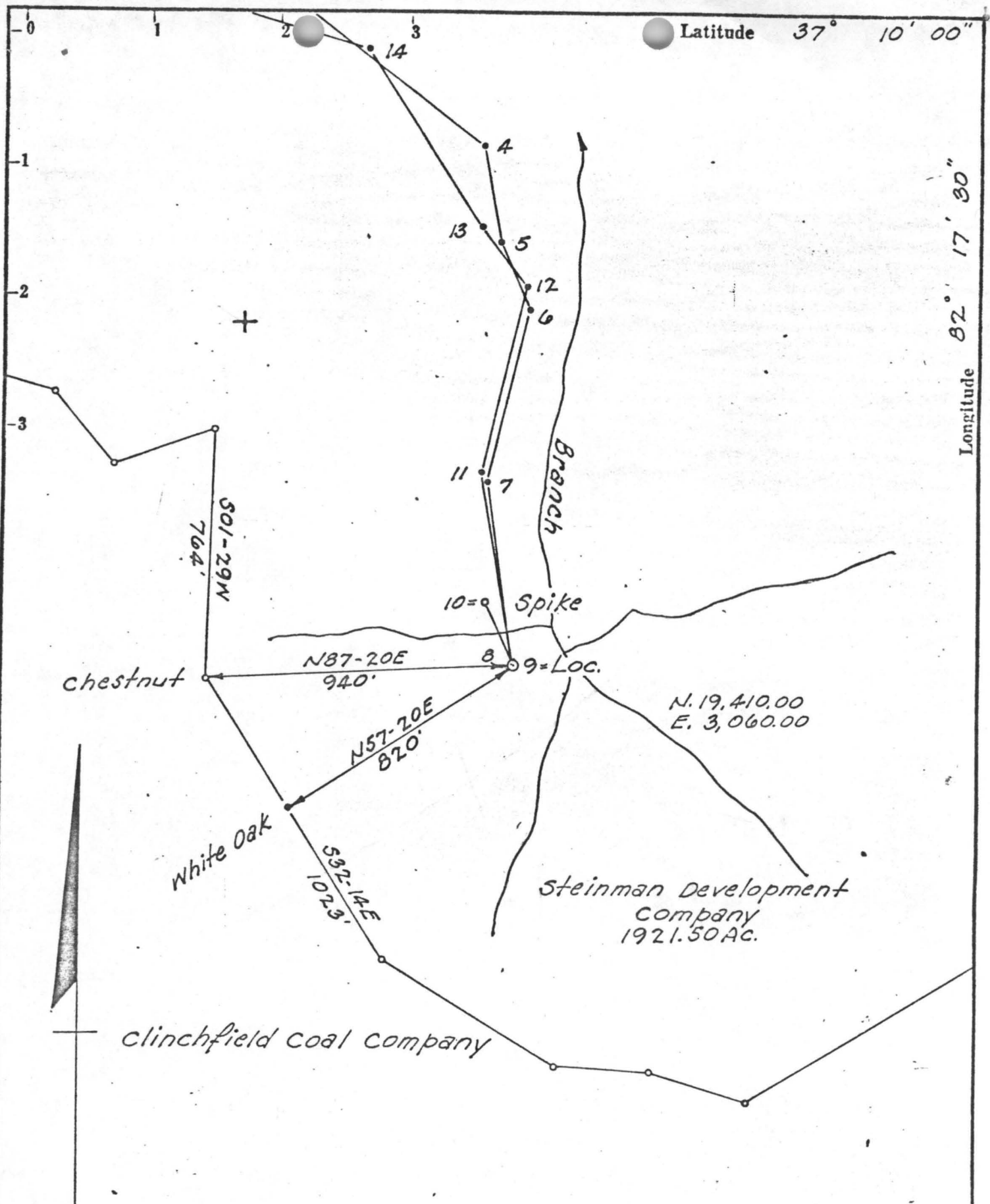
Gas Ck. @ 2323
0 MCF

Shale	2855	2941	86	
First Maxon	2941	2974	33	
Sand & Shale	2974	3020	46	
Second Maxon	3020	3038	18	
Sand & Shale	3038	3142	104	
Third Maxon	3142	3166	24	
Shale	3166	3255	89	
Sand	3255	3310	55	
Sand & Shale	3310	3362	52	Gas Ck. @ 3312
Little Lime	3362	3415	53	3 MCF
Big Lime	3415	3873	458	Gas Ck. @ 3620'
Injun	3873	3918	45	2,987 MCF
Weir Shells	3918	4020	98	Gas Blew Down
Shale	4020	4355	385	
Coffee Shale	4355	4443	80	
Berea Sand	4443	4551	8	
Shale	4551	4637	86	Gas Ck. @ 4637
Total Depth	4637			298 MCF
				Gas Ck. @ T.D.
				386 MCF

NOTE: Drillers Log adjusted to Electric Logs

THIS FORM MUST BE SIGNED BY AUTHORIZED PERSON:

E. B. Jenkins



New Location.
 Drill Deeper.....
 Abandonment.....

Block No. 892 Map No. 3

Company Philadelphia Oil Company
 Address Nora, Virginia
 Farm Steinman Development Company
 Tract Tr. No. 6 Acres 1921.50 Lease No. PO-153 Tr. #6
 Well (Farm) No. _____ Serial No. P-39
 Elevation (Spirit Level) 1652.67'
 Quadrangle Haysi, Virginia
 County Dickenson District Sand Lick
 Engineer Edward Owen Ray S.
 Engineer's Registration No. 3084 L.S. 534 Ky.
 File No. _____ Drawing No. _____
 Date 12-5-74 Scale 1" = 400'

Commonwealth of Virginia
 Department of Labor & Industry
 Division of Mines
 Big Stone Gap

WELL LOCATION MAP
 FILE NO. DI-121

PERMIT NO. 200
 + Denotes location of well on United States Topographic Maps, scale 1 to 24,000, latitude and longitude lines being represented by border lines as shown.

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



VIRGINIA DIVISION OF
RECEIVED
JAN 10 1975
RECEIVED
MINERAL RESOURCES

VIRGINIA DIVISION OF MINERAL RESOURCES
 Box 3667, Charlottesville, VA 22903

INTERVAL SHEET

Page 1 of Well Repository No: W-4851
 Date rec'd: Date Processed: Aug. 19/77 Sample Interval: from: 0 to: 4610'
 PROPERTY: Steinman Development Company No. P-39 Number of samples: 162
 COMPANY: Philadelphia Oil Company Total Depth: 4640' KB
 COUNTY: Dickenson Oil or Gas: X Water: Exploratory:

From-To	From-To	From-To	From-To
0-30	740-770	1470-1500	2150-2180
30-60	770-800	1500-1530	-
60-90	800-830	1530-1560	2110-2140
90-120	830-860	1560-1590	2140-2170
120-150	860-890	1590-1610	-
150-180	890-910	1610-1640	2360-2390
180-210	910-940	-	-
210-240	940-970	1670-1700	2420-2450
240-270	970-1000	1700-1730	2450-2480
270-300	1000-1030	1730-1760	-
300-330	1030-1060	1760-1790	2540-2570
330-360	1060-1090	1790-1820	2570-2600
360-390	1090-1120	1820-1850	2600-2630
390-410	1120-1150	1850-1880	-
410-440	1150-1180	-	2660-2690
440-470	1180-1210	1896-1900	2690-2720
470-500	1210-1240	-	2720-2750
500-530	1240-1270	1910-1940	2750-2780
530-560	1270-1300	1940-1970	2780-2810
560-590	1300-1330	1970-2000	2810-2840
590-620	1330-1360	2000-2030	2840-2870
620-650	1360-1390	2030-2060	2870-2900
650-680	1390-1410	2060-2090	2900-2930
680-710	1410-1440	2090-2120	2930-2960
710-740	1440-1470	-	2960-2990

VIRGINIA DIVISION OF MINERAL RESOURCES
 Box 3667, Charlottesville, VA 22903

INTERVAL SHEET
 Continued

Page 2 of 2

Well Repository No.: W- 4851

From-To	From-To	From-To	From-To	From-To
2990-3020	3580 3590	4160-4190	-	-
3020-3050	3590 3600	4190-4220	-	-
3050-3080	-	4220-4250	-	-
-	3610 3620	4250-4280	-	-
3110-3140	3620 3630	4280-4310	-	-
-	3630 3640	4310-4340	-	-
3170-3200	-	4340-4370	-	-
-	-	4370-4400	-	-
-	3660 3670	4400-4430	-	-
-	3670 3680	4430-4440	-	-
3290-3320	-	4440-4450	-	-
3320-3350	3690 3700	4450-4460	-	-
3350-3360	3700 3710	4460-4470	-	-
-	-	4470-4480	-	-
3370-3380	3720 3730	4480-4490	-	-
-	-	4490-4500	-	-
3380-3390	3750 3760	4500-4510	-	-
3390-3400	3760 3770	4510-4520	-	-
-	-	4520-4530	-	-
-	-	4530-4440	-	-
3410-3420	3780 3790	4440-4450	-	-
3420-3430	3790 3800	4450-4480	-	-
-	-	4480-4610	-	-
-	3810 3820	-	-	-
-	3820 3830	-	-	-
-	3830 3840	-	-	-
3440-3450	3840 3850	-	-	-
3450-3460	3850 3860	-	-	-
3460-3470	3860 3870	-	-	-
-	3870 3880	-	-	-
-	3880 3890	-	-	-
3490-3500	3890 3920	-	-	-
3500-3510	3920 3950	-	-	-
3510-3520	3950 3980	-	-	-
3520-3530	3980 4010	-	-	-
3530-3540	4010 4040	-	-	-
-	4040 4070	-	-	-
-	4070 4100	-	-	-
3560-3570	4100 4130	-	-	-
-	4130 4160	-	-	-