

ACCURACY: 1P/200P

Source of Elevation WELL #1 (697.11')

I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia.

- New Location
- Drill Deeper
- Abandonment
- Fracture  PARTIAL PLUG
- Redrill

*Chet Waterman*

Company LABOT OIL & GAS CORP OF W.V.  
 Address CHARLESTON, W.V.A. 25322  
 Farm J. M. NULL ET. AL.  
 Tract \_\_\_\_\_ Acres 131 Lease No. \_\_\_\_\_  
 Well (Farm) No. 2 Serial No. \_\_\_\_\_  
 Elevation (Spirit Level) 925.4'  
 Quadrangle CHARLESTON NW  
 County KANAWHA District UNION  
 Engineer CHET WATERMAN  
 Engineer's Registration No. 3788  
 File No. 68003-72 Drawing No. \_\_\_\_\_  
 Date 5/6/68 Scale 1" = 40P

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

WELL LOCATION MAP  
 FILE NO. KAN-2258-PP-Frac.

+ 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.

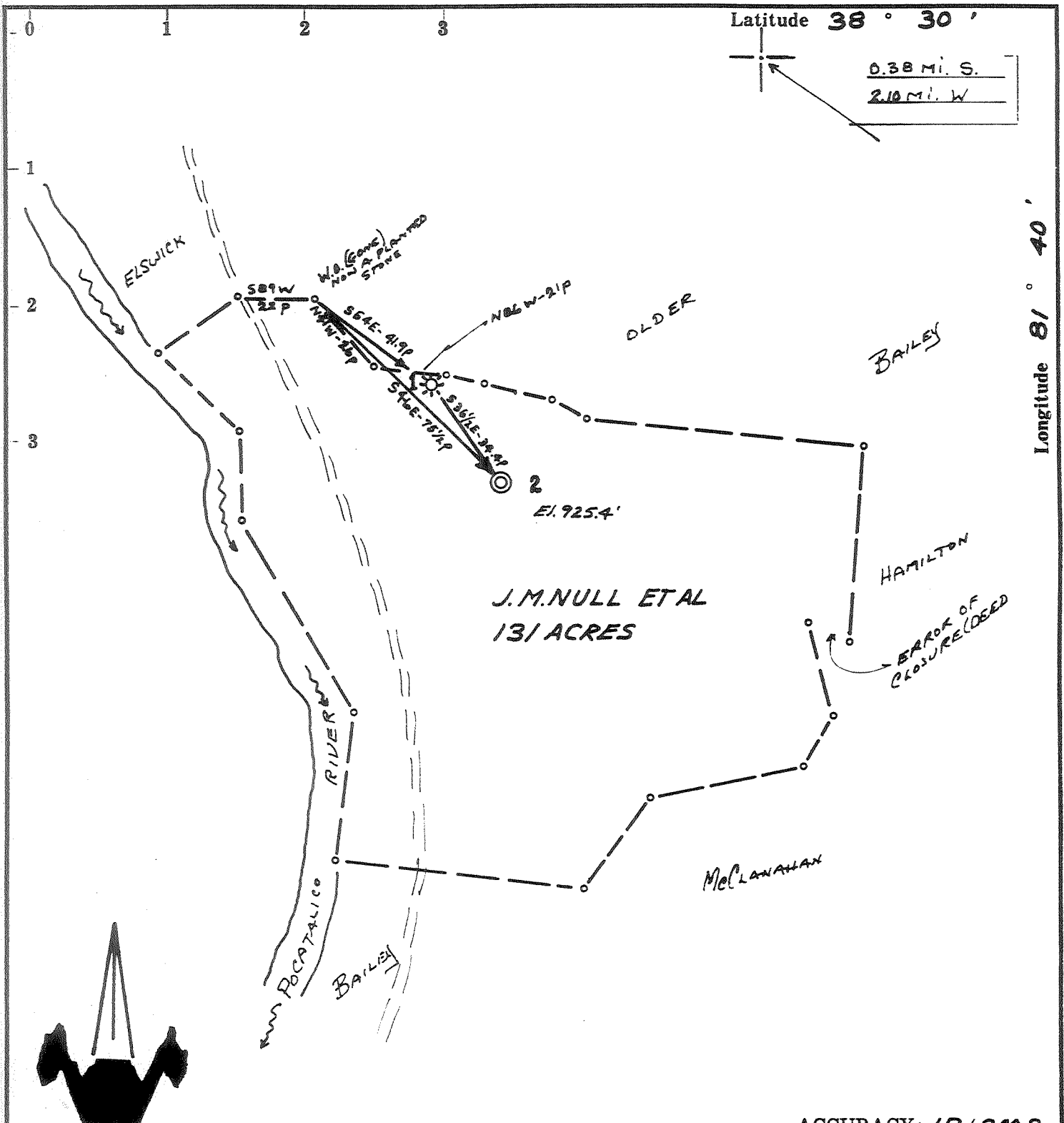
— Denotes one inch spaces on border line of original tracing.

JUL 2 1984

DEEP WELL

OWWO- 6-6 Elk-Poca (Sissonville) (192)

KAN. 2258-P



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 Tract \_\_\_\_\_ Acres 131 Lease No. \_\_\_\_\_  
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 Date 5/6/68 Scale 1" = 40P

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

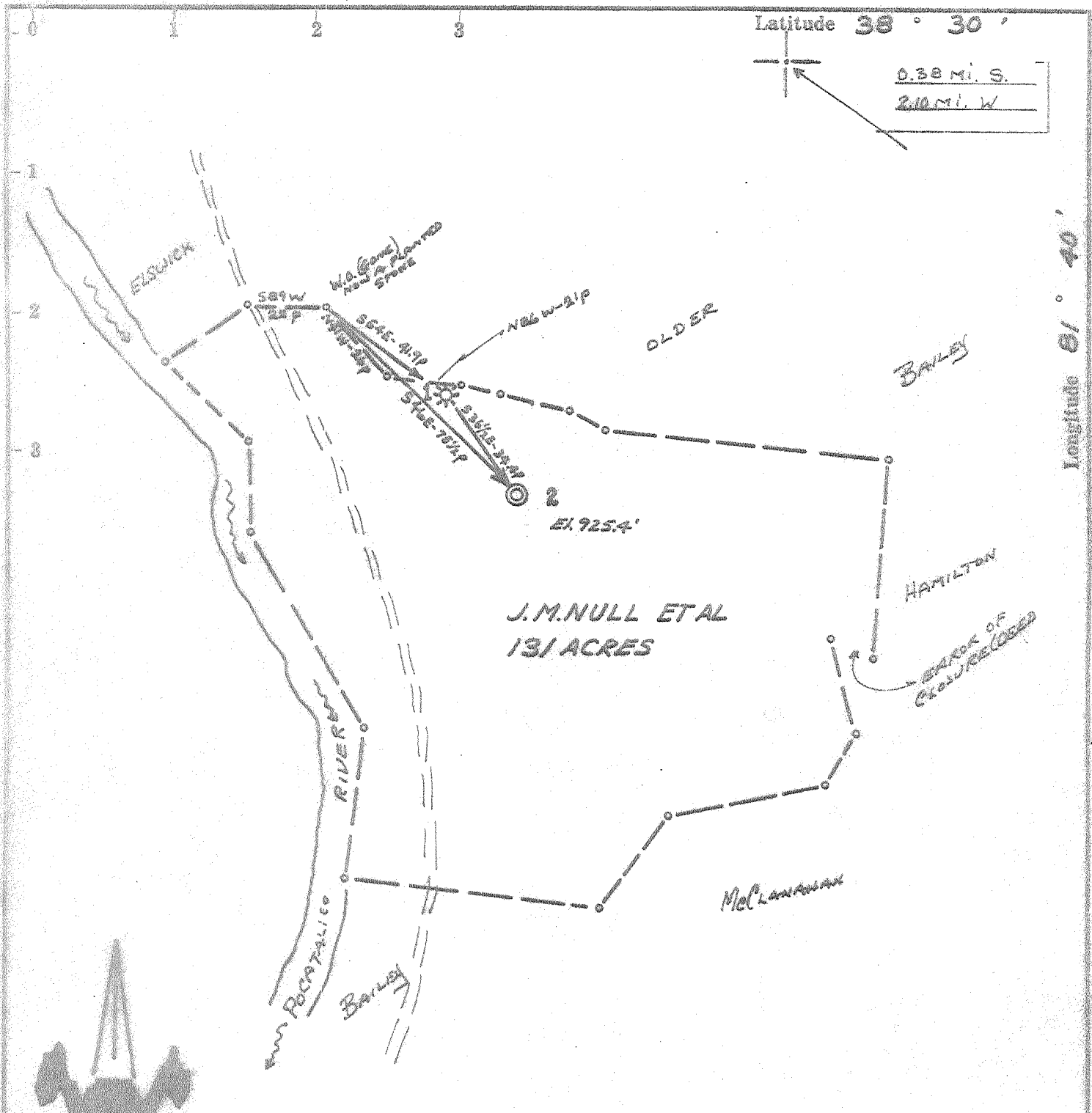
WELL LOCATION MAP

FILE NO. KAN-2258-P

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KAN. 2258-P



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*Chet Waterman*

- New Location
- Drill Deeper
- Abandonment
- Fracture
- Redrill

Company <u>APPALACHIAN EXPLORATION &amp; DEVELOPMENT, INC.</u>	
Address <u>CHARLESTON, W. VA.</u>	
Farm <u>J.M. NULL ET AL.</u>	
Tract	Acres <u>13</u> Lease No. _____
Well (Farm) No. <u>2</u>	Serial No. _____
Elevation (Spirit Level) <u>925.4'</u>	
Quadrangle <u>CHARLESTON</u>	<u>NW</u>
County <u>KANAWHA</u>	District <u>UNION</u>
Engineer <u>CHET WATERMAN</u>	
Engineer's Registration No. <u>3788</u>	
File No. <u>68002-72</u>	Drawing No. _____
Date <u>5/16/68</u>	Scale <u>1" = 40P</u>

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

**WELL LOCATION MAP**

FILE NO. KAN-2252

+ 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.

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



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION 10

Rotary   
Spudder   
Cable Tools   
Storage

Quadrangle Charleston N.W.

WELL RECORD

Permit No. Kanawha -2258

Oil or Gas Well. Gas  
(KIND)

Company Appalachian Exploration & Development, Inc  
Address P.O. Box 628, Charleston, W.Va. 25322  
Farm J. M. Null Acres 131  
Location (waters) Pocatalico  
Well No. 2 Elev. 925.4  
District Union County Kanawha  
The surface of tract is owned in fee by J.M. Null  
Route 4 Address Charleston, W.Va.  
Mineral rights are owned by J.M. Null  
Route 4 Address Charleston, W.Va.  
Drilling commenced 5-17-68  
Drilling completed 5-29-68  
Date Shot None From None To None  
With None

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer <u>None</u>
16			
13-3/8	64	64	
10			Size of
<del>10</del> 5/8	2025	2025	
<del>7</del> 7	5700	5700	Depth set <u>None</u>
5 3/16			
4 1/2			
3			Perf. top <u>None</u>
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

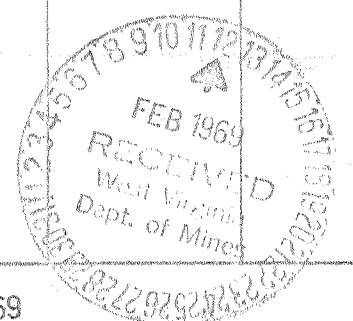
Open Flow /10ths Water in \_\_\_\_\_ Inch  
/10ths Merc. in \_\_\_\_\_ Inch  
Volume 10,000 Cu. Ft.  
Rock Pressure 1,900 lbs. \_\_\_\_\_ hrs.  
Oil None bbls., 1st 24 hrs.  
WELL ACIDIZED (DETAILS) None  
WELL FRACTURED (DETAILS) Water 503 barrels, 15,000# sand, 1500 gallons acid

Attach copy of cementing record. (See back of sheet.)  
CASING CEMENTED \_\_\_\_\_ SIZE \_\_\_\_\_ No. Ft. \_\_\_\_\_ Date \_\_\_\_\_  
Amount of cement used (bags) \_\_\_\_\_  
Name of Service Co. \_\_\_\_\_  
COAL WAS ENCOUNTERED AT None FEET \_\_\_\_\_ INCHES  
FEET \_\_\_\_\_ INCHES FBET \_\_\_\_\_ INCHES  
FEET \_\_\_\_\_ INCHES FEET \_\_\_\_\_ INCHES

RESULT AFTER TREATMENT (Initial open Flow or bbls.) 6,800 Mcf.  
ROCK PRESSURE AFTER TREATMENT 1642 HOURS  
Fresh Water None Feet \_\_\_\_\_ Salt Water \_\_\_\_\_ Feet \_\_\_\_\_  
Producing Sand Newburg Depth 5732

6,800,000

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Sand and soil		Soft	0	73			
Sand		Soft	73	170			
Shale & sand		Soft	170	1286			
Sand		Soft	1286	1724			
Lime - Little Lime		Hard	1724	1734			
Sand - Blue Horizon		Soft	1734	1781			
Big Lime 7		Hard	1781	1933			
Shale 33 340		Soft	1933	1940			
Sand - Injun		Soft	1940	1991			
Siltstone & shale		Soft	1991	2124			
Shale		Soft	2124	2403			
Berea		Soft	2403	2413			
Shale		Soft	2413	4886			
Onondaga		Hard	4886	4972			
Oriskany		Hard	4972	5006			
Dolomite		Hard	5006	5732			
Newburg		Soft	5732	5747			
Dolomite	McKenzie	Hard	5747	5759			



Formation	Color	Hard or Soft	Top 10	Bottom	Oil, Gas or Water	Depth Found	Remarks
<u>CEMENT</u>							
Casing	No. of Sx.	Date	Company				
13-3/8	60	5-18-68	Halliburton				
9-5/8	625	5-22-68	Halliburton				
7	200	5-28-68	Halliburton				
4-1/2	450 gallons	9-19-68	Halliburton				

Date, February 11, 1969  
 APPALACHIAN EXPLORATION & DEVELOPMENT, INC.  
 APPROVED *[Signature]*, Owner  
 By *[Signature]* District Production Superintendent  
 (Title)



1) Date: June 8, 19 84  
 2) Operator's Well No. J.M. Null #2  
 3) API Well No. 47 - 039 - 2258 PP-FI  
 State County Permit

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES, OIL AND GAS DIVISION  
 APPLICATION FOR A WELL WORK PERMIT

- 4) WELL TYPE: A Oil  / Gas  /  
 B (If "Gas", Production  / Underground storage  / Deep  / Shallow  )  
 5) LOCATION: Elevation: 925.4' / Watershed: Pocatalico River (K-29)  
 District: Union / County: Kanawha / Quadrangle: Pocatalico (7-1/2)  
 6) WELL OPERATOR Cabot Oil & Gas Corp. of WV / 7) DESIGNATED AGENT Robert E. Horrell  
 Address P.O. Box 628 / Address P.O. Box 628  
Charleston, WV 25322 / Charleston, WV 25322  
 8) OIL & GAS INSPECTOR TO BE NOTIFIED / 9) DRILLING CONTRACTOR:  
 Name Rodney G. Dillon / Name UNKNOWN  
 Address P.O. Box 7 / Address \_\_\_\_\_  
Williamstown, WV 26187 375-3747  
 10) PROPOSED WELL WORK: Drill  / Drill deeper  / Redrill  / Stimulate  /  
 Plug off old formation  / Perforate new formation  /  
 Other physical change in well (specify) Squeeze cement 7" casing  
 11) GEOLOGICAL TARGET FORMATION, HURON SHALE

**RECEIVED**  
 JUN 11 1984

OIL & GAS DIVISION  
 DEPT. OF MINES

15) CASING AND TUBING PROGRAM **WORKOVER**

CASING OR TUBING TYPE	SPECIFICATIONS				FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS		
	Size	Grade	Weight per ft.	New	Used	For drilling		Left in well	Kinds	
Conductor	13		48			EXISTING	64'	100 sks.		
Fresh water										
Coal	9-5/8		32			EXISTING	2025'	625 sks.		Sizes
Intermediate	7"		23			EXISTING	5700'	200 sks.		
Production	4-1/2		11.6				5250-5705	60 sks.		Depths set
Tubing	2-3/8		4.7			PULL	5690			
Liners										Perforations:
	2-3/8		4.7			RE-RUN	4175			Top Bottom

Newburg was plugged back on 4/17/84 thru verbal approval. Cement plug 5700-5000' Baker Model S Bridge Plug @ 4980'

OFFICE USE ONLY  
 DRILLING PERMIT

Permit number 47-039-2258-PP-FRAC / Date June 27, 19 84

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector, (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.  
 Permit expires June 27, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u>ANKET</u>	Agent: <u>LO</u>	Plat: <u>MH</u>	Casing: <u>MH</u>	Fee: <u>013-184</u>
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Margaret J. Wass  
 Administrator, Office of Oil and Gas

RECEIVED

AUG - 1 1984



F-35  
(Rev 8-81)

OIL & GAS DIVISION  
DEPT. OF MINES

Date July 27, 1984

Operator's

Well No. #2

Farm J. M. Null

API No. 47 - 039 - 2258-PP-FR

State of West Virginia

Department of Mines

Oil and Gas Division

WELL OPERATOR'S REPORT

OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil \_\_\_ / Gas XX / Liquid Injection \_\_\_ / Waste Disposal \_\_\_ /  
(If "Gas," Production XX / Underground Storage \_\_\_ / Deep \_\_\_ / Shallow XX /)

LOCATION: Elevation: 925.4' Watershed Pocatalico River  
District: Union County Kanawha Quadrangle Pocatalico (7-1/2)

COMPANY Cabot Oil & Gas Corporation of WV

ADDRESS Box 628, Charleston, WV 25322

DESIGNATED AGENT Robert E. Horrell

ADDRESS Box 628, Charleston, WV 25322

SURFACE OWNER Dennis L. Null

ADDRESS Rt. 4, Box 155, Charleston, WV 25312

MINERAL RIGHTS OWNER See attached sheet

ADDRESS

OIL AND GAS INSPECTOR FOR THIS WORK Rodney G.

Dillon ADDRESS Box 7, Williamstown, WV 26187

PERMIT ISSUED 6/27/84

WORKOVER DRILLING COMMENCED 4/18/84

WORKOVER DRILLING COMPLETED 7/9/84

IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON

Casing Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cord.			
13-10"			
9 5/8			
8 5/8			
7			
5 1/2			
Liner 4 1/2	existing	455' (5250-5705')	
2-3/8	pulled	5690'	
1-1/2	4168.35	4168.35	
Liners used			

GEOLOGICAL TARGET FORMATION Huron Shale Depth 3970-4180 feet

Depth of completed well \_\_\_ feet Rotary \_\_\_ / Cable Tools \_\_\_

Water strata depth: Fresh \_\_\_ feet; Salt \_\_\_ feet

Coal seam depths: \_\_\_ Is coal being mined in the area? \_\_\_

OPEN FLOW DATA

Producing formation Huron Shale Pay zone depth 4000-4001, 3974-3957, 3989-4173 feet

Gas: Initial open flow - - Mcf/d Oil: Initial open flow - - Bbl/d

4 hr. Final open flow 180 Mcf/d Final open flow - - Bbl/d

Time of open flow between initial and final tests \_\_\_ hours

Static rock pressure 510 psig (surface measurement) after - - hours shut in

(If applicable due to multiple completion--)

Second producing formation \_\_\_ Pay zone depth \_\_\_ feet

Gas: Initial open flow \_\_\_ Mcf/d Oil: Initial open flow \_\_\_ Bbl/d

Final open flow \_\_\_ Mcf/d Oil: Final open flow \_\_\_ Bbl/d

Time of open flow between initial and final tests \_\_\_ hours

Static rock pressure \_\_\_ psig (surface measurement) after \_\_\_ hours shut in

AUG 27 1984

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

4/18/84 - R/U HOWCO to plug back Newburg. 35 sks. Neat 3% CaCl<sub>2</sub>. Cement plug 5700-5250'.  
 4/19/84 - Set Model S bridge plug @ 4980' w/2 sks. calseal.  
 7/03/84 - Set Baker Model S 7" permanent plug @ 4,300'. Perforated Huron Shale from 4000-4001' (2 holes); 3974-3957' (2 holes); 3989-4173' (16 holes). R/U Halliburton. Dumped 500 gals. 15% HCL acid. Displaced w/112,000 SCF N<sub>2</sub>. B/D press. 1690#. Treated w/708 sks. 20/40 Sand. Max. conc. 2#/gal. 17,000 SCF/min. N<sub>2</sub> for 75 Quality foam. AIR 40 bpm foam. ATP 1717#. Total fluid 371 bbls., S/L 321 bbls. Total N<sub>2</sub> 625,000 SCF. ISIP 2,930#; 15 min. 2290#.  
 7/8/84 - Ran 123 jts. of 1-1/2" - 4168.35'. Seating nipple @ 4168'.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
See attached original well record.					

(Attach separate sheets as necessary)

CABOT OIL & GAS CORPORATION OF WEST VIRGINIA

Well Operator

By: Robert E. Howell

Date: July 27, 1984

Note: Regulation 2.02(i) provides as follows:  
 "The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including