

New Location
 Drill Deeper
 Abandonment **Recondition**

Company Cabot Oil & Gas Corp. of W.V. 149
 Address P.O. Box 628, Charleston, W.V. 25322
 Farm Black Betsey Land Corp
 Tract _____ Acres 2500 Lease No. J-468
 Well (Farm) No. 6 Serial No. 1402
 Elevation (Spirit Level) 843'
 Quadrangle Winfield 139 SE 15' Bancroft 230 17 1/2
 County Putnam District Pocatalico 3
 Engineer H.J. Simmons, Jr
 Engineer's Registration No. 1652
 File No. _____ Drawing No. _____
 Date JAN 26, 1953 Scale 1" = 1320'

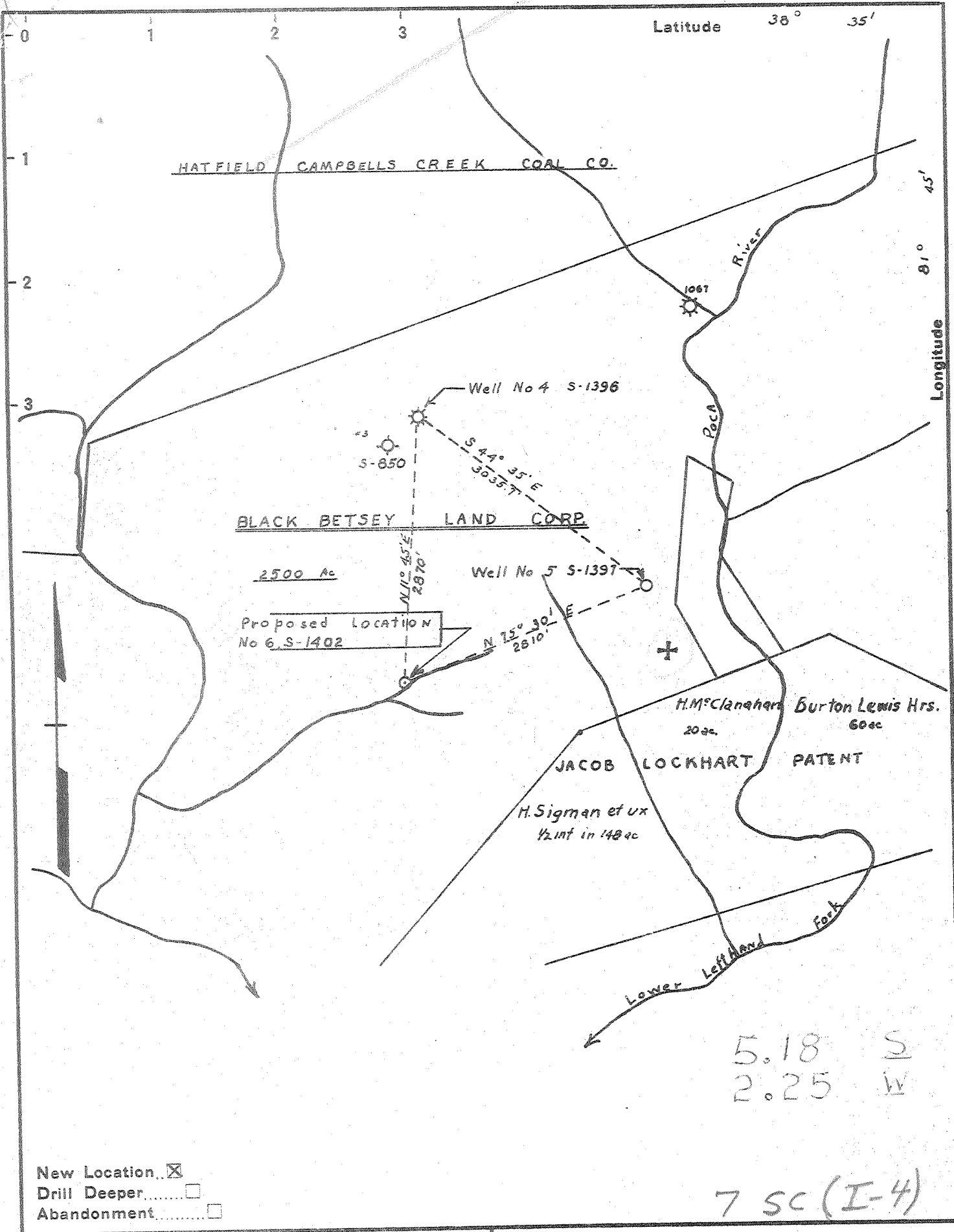
STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON

WELL LOCATION MAP
 FILE NO. PUT-541-Rec.

+ 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.

DEEPWELL 4874 *OWWD 66 Elk-Poca (Sissonville) (192)*

P



5.18 S
2.25 W

7 SC (I-4)

New Location
 Drill Deeper
 Abandonment

Company Godfrey L Cabot, Inc
 Address 900 Union Bldg Charleston W.Va.
 Farm Black Betsey Land Corp
 Tract _____ Acres 2500 Lease No. 3-468
 Well (Farm) No. 6 Serial No. 1402
 Elevation (Spirit Level) 843'
 Quadrangle Winfield - SE
 County Putnam District Pocatalico
 Engineer H.J. Simmons, Jr
 Engineer's Registration No. 1652
 File No. _____ Drawing No. _____
 Date JAN 26, 1953 Scale 1" = 1320'

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

WELL LOCATION MAP
 FILE NO. Put-541

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

Deep Well

GODFREY L. CABOT, INC.
WELL RECORD / 3

Winfield
But - 541

SERIAL NO. 1402
FARM Black Betsey Land Co.
COUNTY Putnam

OPERATING DISTRICT PN
No. 6
TAX DISTRICT
TOWNSHIP Pocatalico

Map Square
Lot No.
Warrant No. 41-29
LEASE NO.
STATE W. Va.

DRILLING COMMENCED March 12, 1953
CONTRACTOR W. L. Heeter

DRILLING COMPLETED May 21, 1953
ADDRESS Spencer, W. Va.

ROCK PRESSURE RECORD

Oriskany	Sand	1200 lbs., in	33 hrs.
	Sand	1190 lbs., in	38 hrs.
	Sand	lbs., in	hrs.

PRODUCING SAND RECORD

Oriskany	Sand, from 4859 to 4866	Init. Prod. 2,071	M. C. F. Gas
	Sand, from to	Init. Prod.	M. C. F. Gas
	Sand, from to	Init. Prod.	M. C. F. Gas

OPEN FLOW
Time, Condition: after shot

10ths	Water	Mercury in	inch opening
Volume 2,903	M. C. F.		

24 HOUR PRODUCTION TEST AFTER TUBING

M. C. F.	Line Pressure
Bbls. Oil	in 24 Hours

CASING RECORD

SIZE	WEIGHT	USED IN DRILLING	LEFT IN WELL	HOW CASING SET
13"	48#	182	182	Shoe
10"	35.75	906	906	Shoe
8-5/8"	24#	2054	2054	Packer
7"	24#	4794	4794	Packer

TUBED AND SHUT IN

Packer, Size	Kind
Set, Depth	Size Anchor
Perf. Top	Bottom
Perf. Top	Bottom

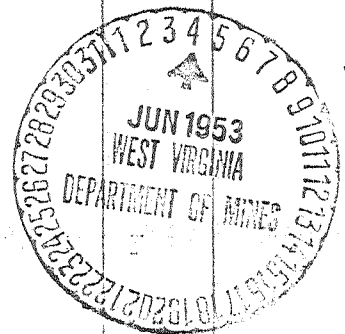
SHOOTING RECORD

Acid Shot with 20 qts. from 4858 to 4872 Date 5/28/53

Gauge Before { Acid Shot } 2,071 Mcf Gauge 45 Min. After { Acid Shot } 2,903 M

ELEVATION: 843

FORMATION	COLOR	TOP	BOTTOM	STEEL LINE MEASUREMENTS	HARD OR SOFT	OIL, GAS OR WATER	DEPTH FOUND	REMARKS
Surface		0	17					
Sand		17	49					
Slate		49	125					
Sand		125	171					
Coal		171	175					
Slate		175	202					
Red Rock		202	218					
Slate	white	218	231					
Red Rock		231	263					
Slate	white	263	292					
Red Rock		292	360					
Lime Shell		360	375					
Red Rock		375	393					
Slate & Shell		393	405					
Red Rock		405	422					
Slate	white	422	430					
Sand		430	460					
Slate & Shell		460	490					
Red Rock		490	504					
Slate & Shell		504	582					
Sand		582	697					
Coal		697	700					
Slate & Shell		700	722					
Sand		722	740					
Slate & Shell		740	837					
Sand		837	847					
Slate	Black	847	858					
Slate & Shell		858	865					
Sand		865	967					
Slate & Shell	Black	967	995					
Slate & Shell	Grey	995	1010					
Lime		1010	1025					
Slate & Shell		1025	1065					
Sand		1065	1094					
Slate & Shell		1094	1250					
Lime		1250	1267					



FORMATION	COLOR	TOP	BOTTOM	STEEL LINE MEASUREMENTS	HARD OR SOFT	OIL, GAS OR WATER	DEPTH FOUND	REMARKS
Sand		1267	1320					
Slate & Shell		1320	1370					
Lime		1370	1390					
Salt Sand		1390	1635			water	1480	hole full
Slate		1635	1690					
Little Lime		1690	1714					
Pencil		1714	1717					
Big Lime		1717	1885					
Slate & Shell		1885	1897					
Big Injun		1897	1954					
Slate & Shell		1954	1995					
Lime		1995	2005					
Slate & Shell		2005	2038					
Lime		2038	2068					
Slate & Shell		2068	2105					
Sand		2105	2180					
Slate & Shell		2180	2365					
Brown Shale		2365	2385					
Berea		2385	2400			(gas	2860	show
Slate & Shell		2400	3355			(oil	3220	show
Brown Shale	WON	3355	3440			gas	3430-3760	207 Mcf
Slate & Shell		3440	3590					
Brown Shale	WON	3590	4080					
Slate & Shell	WON	4080	4270					
Brown Shale		4270	4395					
Slate & Shell	WON	4395	4445					
Brown Shale		4445	4756					
Fossiliferous		4756	4858					
Oriskany		4858				gas	4859-66	2,071 Mcf
Total Depth			4874					

from nearby wells

WON 2400
 WON 3590
 WON 4080
 WON 4270
 WON 4445
 WON 4600
 WON 4700
 WON 4725

TOTAL DEPTH

DATE _____

APPROVED _____



1) Date: March 26, 19 84
 2) Operator's Well No. Black Betsy #6
 3) API Well No. 47 - 079 - 0541 - REC
 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: 843' Watershed: Manila Creek
 District: Pocatalico County: Putnam Quadrangle: Bancroft 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 Jerry Holcomb Name UNKNOWN
 Address Box 5B Address _____
Indore, WV 25311 587-7299
 10) PROPOSED WELL WORK: Drill / Drill deeper / Redrill / Stimulate
 Plug off old formation / Perforate new formation /
 Other physical change in well (specify) Isolate Oriskany with tubing & packer
 11) GEOLOGICAL TARGET FORMATION, Huron Shale
 12) Estimated depth of completed well, 4874 feet
 13) Approximate trata depths: Fresh, _____ feet; salt, _____ feet.
 14) Approximate coal seam depths: 171, 697 Is coal being mined in the area? Yes _____ / No

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 MAR 29 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		
Conductor	13					PRESENT	182		Kinds Baker Model D
Fresh water	10					PRESENT	906		
Coal	8-5/8					PRESENT	2054		Sizes 7 x 2-2 1/2 1 1/2 ✓
Intermediate	7					PRESENT	4794		proposed @
Production									Depths set 4125
Tubing									
Liners									Perforations:
TUBING	1-7/8		4.6	X		PROPOSED	4125		Top Bottom
	1-7/8		4.6	X		PROPOSED	4850		

SEE PROPOSED WORK ORDER ON REVERSE

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-079-0541-REC Date April 26, 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 April 26, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond	Agent: <u>LP</u>	Plat: <u>MHMM</u>	Casing	Fee <u>012-686</u>
------	------------------	-------------------	--------	--------------------

T. L. ...
 Administrator, Office of Oil and Gas

OFFICE USE ONLY

PERMIT MODIFICATIONS AND CONDITIONS (IF ANY) TO THE PROPOSED WELL WORK

Proposed Work Order

- 1) Log Well
- 2) Squeeze cement 7" through Huron Shale (50' below to 200' above)
- 3) Perforate and Stimulate Huron
- 4) Run Tubing & Packer
- 5) Produce Otiskany & Huron separately

OFFICE USE ONLY

This part of Form IV-2(b) is to record the dates of certain occurrences and any follow-up inspections.

	<u>Date</u>	<u>Date(s)</u>
Application received		
Well work started	"	"
Completion of the drilling process	"	"
Well Record received	"	"
Reclamation completed	"	"

OTHER INSPECTIONS

Reason: _____

Reason: _____

IV-35
(Rev 8-81)

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JAN 16 1985

OIL & GAS DIVISION
DEPT. OF MINES



State of West Virginia
Department of Mines
Oil and Gas Division

Date January 10, 1985
Operator's Well No. #6
Farm Black Betsy
API No. 47 - 079 - 0541

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: 843' Watershed Manila Creek
District: Pocatalico County Putnam Quadrangle Bancroft 7-1/2

COMPANY Cabot Oil & Gas Corporation of West Virginia

ADDRESS Box 628, Charleston, WV 25322

DESIGNATED AGENT Robert E. Horrell

ADDRESS Box 628, Charleston, WV 25322

SURFACE OWNER See Attached List

ADDRESS _____

MINERAL RIGHTS OWNER Cabot Oil & Gas Corp. of WV

ADDRESS Box 628, Charleston, WV 25322

OIL AND GAS INSPECTOR FOR THIS WORK Russell Beall
ADDRESS Box 160, Philippi, WV 26416

PERMIT ISSUED 4/26/84

WORKOVER DRILLING COMMENCED 5/23/84

WORKOVER DRILLING COMPLETED 6/14/84

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 Cond.			
13-10"			
9 5/8			
8 5/8			
7	Squeezed from	4200-3500'	(130 sks)
5 1/2			
4 1/2			
3			
1-1/2		4043'	w/seat nipple & perf. it.
Liners used			

GEOLOGICAL TARGET FORMATION Huron Shale Depth 3895-4062 feet

Depth of completed well PBTD 4600 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 3895-4062 feet

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

4 hr. Final open flow (178) Mcf/d Final open flow _____ Bbl/d

Time of open flow between initial and final tests _____ hours

Static rock pressure 530 psig (surface measurement) after 48 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

JAN 28 1985

(Continue on reverse side)

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

rigged up Pool Well Service. Ran Baker Model D packer set @ 4400'. Perforated 7" (4 holes) 200'. Ran 3-1/2" tbg. w/EZ drill cement retainer. Squeeze cemented 7" w/130 sks 50/50 poz, 10% salt 3/4 of 1% CFR₂. Ran Gamma Ray Cement bond log. Top of cement 3500'. Drilled out cement and retainer. Perforated Huron Shale 3895', 3915', 3965', 3974', 3986', 3993', 4007', 4012', 4047', 4062'. Set HOWCO Bridge plug @ 4087.80'. Set RTTS packer @ 3653.55'. R/U B. J. Pumped 500 gals. 15% HCL. No clean breakdown. Pressure leveled off @ 2230# @ 28 BPM foam. Ran 600 sks. 20/40 sand w/550,000 SCF N₂. AIR 3.75 BPM w/6,400 SCF/min N₂. Total AIR 15 BPM, 75 quality foam. Total fluid 371 bbls. S/L 204 bbls. ATP 1500#. ISIP 1620#, 15 min - 300#. Opened thru 1/8" choke. Tripped out of hole w/bridge plug. RIH w/1-1/2" tbg. and Model D seal assembly. Knocked plug out of Model D packer and ran tbg. to 4800'. Stung into packer w/seal assembly. Swabbed Oriskany and recovered no fluid and no gas. R/U HOWCO. Plugged Oriskany w/45 sks. Class A w/3% CaCl₂ and cement plug from 4600-4860'. Model D packer @ 4400' without plug. RIH w/122 jts. of 1-1/2", 2.75# tbg. 4043' w/perforated mud anchor and seating nipple.

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. Hamell

Date: January 10, 1985

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 coal, encountered in the drilling of a well."