

New Location
 Drill Deeper
 Abandonment

PARTIAL PLUG + FRAC 6/26/84

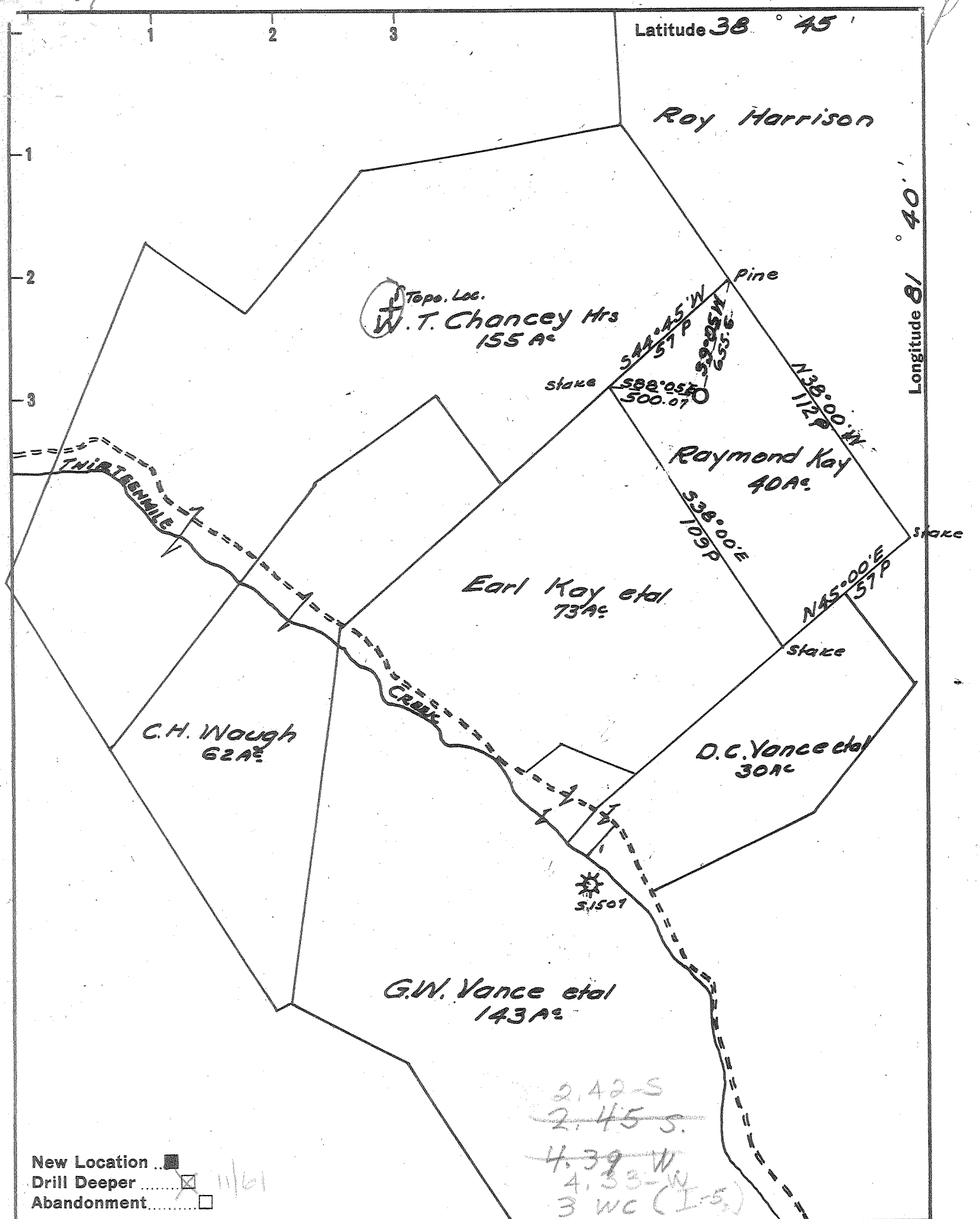
Company Cabot Oil + Gas Corp. of W.V.
 Address P.O. Box 628, Charleston W.V. 25322
 Farm Raymond Kay Unit
 Tract _____ Acres 40 Lease No. 3-1103
 Well (Farm) No. 1 Serial No. 1512
 Elevation (Spirit Level) 1033.56
 Quadrangle Kenna NW
 County Jackson District Ripley
 Engineer Ray Boston
 Engineer's Registration No. 3204
 File No. _____ Drawing No. _____
 Date 7-19-60 Scale 1" = 660'

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

WELL LOCATION MAP
 FILE NO. JAC-1012-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.



Company Godfrey L. Cabot Inc.
 Address Box 1473 Charleston W. Va.
 Farm Raymond Kay Unit W. Va.
 Tract _____ Acres 40 Lease No. 3-1103
 Well (Farm) No. 1 Serial No. 1512
 Elevation (Spirit Level) 1033.56
 Quadrangle Kenna - NW
 County Jackson District Ripley
 Engineer Ray Boston
 Engineer's Registration No. 3204
 File No. _____ Drawing No. _____
 Date 7-19-60 Scale 1" = 660'

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

WELL LOCATION MAP
 FILE NO. JAC-1012-D

+ 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.

No samples 6-6 ~~1161~~ (192) Deep Well
 Elk Park (Sissonville)

RECEIVED



W-35
(Rev 2-81) AUG - 9 1984

OIL & GAS DIVISION
DEPT. OF MINES

State of West Virginia
Department of Mines
Oil and Gas Division

Date August 6, 1984
Operator's
Well No. #1
Farm Raymond Kay #1
API No. 47 - 035 - 1012

WELL OPERATOR'S REPORT
OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 1033.56' Watershed Squash Hollow of Wolf Creek
District: Ripley County Jackson Quadrangle Kenna/Elmwood 7-1/2

COMPANY Cabot Oil & Gas Corp. of WV
ADDRESS P.O. Box 628
Charleston, WV 25322
DESIGNATED AGENT Robert E. Horrell
ADDRESS P.O. Box 628
Charleston, WV 25322
SURFACE OWNER Jeannie Brotherton
ADDRESS Rt. 1, Box 900
Given, West Virginia 25245
MINERAL RIGHTS OWNER Jeannie Brotherton
ADDRESS Rt. 1, Box 900
Given, West Virginia 25245
OIL AND GAS INSPECTOR FOR THIS WORK Jerry
Tephabock ADDRESS Rt. 1 - Box 101-A
Ripley, WV 25271
PERMIT ISSUED June 26, 1984
WORKOVER
DRILLING COMMENCED July 8, 1984
WORKOVER
DRILLING COMPLETED July 19, 1984

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cord.			
13- 10	EXISTED	311	
9- 5/8 10	EXISTED	1614	
8 5/8	EXISTED	2368	
7			
5 1/2	EXISTED	5145	50 sks.
4 1/2			squeezed w/150 sks.
3			
2- 3/8	RAN	4423.70	
Liners used		Seating collar @ 4393'	

GEOLOGICAL TARGET FORMATION Huron Shale Depth 4214-4452 feet
Depth of completed well 4558 feet Rotary / Cable Tools
Water strata depth: Fresh 1306, 1516 feet; Salt feet
Coal seam depths: N/R Is coal being mined in the area?

OPEN FLOW DATA

Producing formation Huron Shale 429 Pay zone depth 4214-4452 feet
Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl/d
4 hr. Final open flow 133 Mcf/d Final open flow Bbl/d
Time of open flow between initial and final tests hours

Static rock pressure 760 psig (surface measurement) after 72 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

SEP 4 1984

DETAILS OF PERFORATED INTERNALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.
 7/10/84 - R.U. B.J. Hughes to plug back Oriskany. Spotted class A neat cement plug from 5187-5077'. Gell from 5077-4577'. Perforated squeeze perms from 4600-4601'. 7/12/84 - HOWCO 5-1/2" EZSV cement retainer set @ 4558'. R/U B.J. Squeezed 5-1/2" w/150 sks. 50/50 poz, 2% CaCl₂, 3/4 of 1% D-31 from 4601-4130'. 7/13/84 - Top of cement 4130', good bond. 7/14/84 - Perforated Huron Shale w/ 3-1/8" from 4214-4452 (15 holes) Perfs: 4214', 4216', 4284', 4308', 4310', 4342', 4354', 4360', 4392', 4412', 4422', 4428', 4432', 4444', 4452'. R/U B.J. Hughes. Dumped 500 gals. HCL. Displaced w/60,000 Scf N₂. B/D @ 1610 psi. ISIP 1500 psi. Pumped 80 bbls. foam pad. Treated w/755 sks. 20/40 sand. 2#/gal. 10,000 Scf N₂ for 75 quality foam. AIR 20 bbls./min, foam. ATP 3490#. Total fluid 418 BBLs, S/L 385 bbls. - Total N₂ 760,000 Scf. ISIP 1540#, 15 min. - 880#. Released thru 1/8" choke. 8/1/84 - 760#, 4¹/₂ hr. open flow 133 MCFD.

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: August 6, 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 all encountered in the drilling of a well."



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

Quadrangle Kenna

Permit No. JAC-1012

WELL RECORD

Oil or Gas Well Gas
(KIND)

Company Godfrey L. Cabot, Inc.
Address Charleston, W. Va.
Farm Raymond Kay Acres 40
Location (waters) _____
Well No. 1, serial 1512 Elev. 1034
District Ripley County Jackson
The surface of tract is owned in fee by _____
Address _____
Mineral rights are owned by Raymond L. Kay
Address Given, W. Va.

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
16			Anchor
13	311	311	Size of
10	1614	1614	3x10x16
8 1/4			Depth set
6 3/8			
5 3/16			
3	1852	1852	Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

Drilling commenced August 9, 1960
Drilling completed September 6, 1960
Date Shot _____ From _____ To _____
With _____
Open Flow /10ths Water in _____ Inch
/10ths Merc. in _____ Inch
Volume 1,641,000 Cu. Ft.
Rock Pressure 470 lbs. 10 min. (after tubing)
Oil _____ bbls., 1st 24 hrs.
WELL ACIDIZED _____
WELL FRACTURED _____

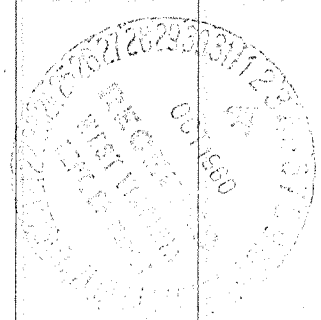
CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____
COAL WAS ENCOUNTERED AT _____ FEET _____ INCHES
_____ FEET _____ INCHES
_____ FEET _____ INCHES

RESULT AFTER TREATMENT

ROCK PRESSURE AFTER TREATMENT

Fresh Water 925, 1306-12, 1516 Feet Salt Water _____ Feet

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Soil & Gravel			0	15			
Red Rock			15	25			
Sand			25	35			
Red Rock			35	47			
Shale			47	70			
Red Rock			70	90			
Shale			90	100			
Red Rock			100	150			
Slate & Shell			150	195			
Red Rock			195	221			
Sand			221	250			
Red Rock			250	308			
Lime			308	315			
Red Rock			315	350			
Slate & Shell			350	366			
Sand			366	391			
Red Rock			391	440			
Shale			440	467			
Sand			467	477			
Shale			477	517			
Sand			517	546			
Red Rock			546	586			
Lime			586	603			
Red Rock			603	730			
Shale			730	757			
Slate & Shell			757	828			
Sand			828	838			
Red Rock			838	908			
Slate & Shell			908	915			



Formation	Color	Hard or Soft	Top <i>?</i>	Bottom	Oil, Gas or Water	Depth Found	Remarks
Sand			915	943	Water	925	1/2 blr/hr
Red Rock			943	1020			
Shale			1020	1036			
Sand			1036	1051			
Shale			1051	1075			
Red Rock			1075	1090			
Lime			1090	1106			
Shale			1106	1206			
Sand			1206	1226			
Shale			1226	1240			
Sand			1240	1257			
Shale			1257	1288			
Sand			1288	1406	Water	1306-12	2 blrs/hr
Shale			1406	1448			
Sand			1448	1502			
Shale			1502	1516			
Sand			1516	1571	Water	1516	1 blr/hr
Shale			1571	1574			
Sand			1574	1587			
Slate & Shell			1587	1706			
Sand			1706	1721			
Slate & Shell			1721	1765			
Sand			1765	1791			
Shale			1791	1796			
Sand			1796	1817			
Slate & Shell			1817	1830			
SALT SAND			1830	1847	Gas Oil	1841-47 1830-38	1,641 Mcf Show.
TOTAL DEPTH				1847			

Date September 26, 19 60

APPROVED GODFREY L. CABOT, INC., Owner

By _____
General Supt. (Title)



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

Quadrangle Kenna

Permit No. Jac-1012 - A

WELL RECORD
DEEPENING

Oil or Gas Well Gas
(KIND)

Company Cabot Corporation
Address Charleston, West Virginia
Farm Raymond Kay Acres 40
Location (waters) _____
Well No. 1, Serial 1512 Elev. 1034
District Ripley County Jackson
The surface of tract is owned in fee by _____
Address _____
Mineral rights are owned by Raymond Kay
Address Given, W. Va.
Deepening commenced 9-6-61
Deepening completed 11-23-61
Date Shot _____ From _____ To _____
With _____
Open Flow _____ /10ths Water in _____ Inch
_____ /10ths Merc. in _____ Inch
Volume _____ Cu. Ft.
Rock Pressure 1350 lbs. 72 hrs.
Oil _____ bbls., 1st 24 hrs.
WELL ACIDIZED _____

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
16			
18	311	311	
10	1614	1614	Size of
8 1/4	2368	2368	
6 3/4			Depth set
5-1/2	5145	5145	
3	See Note		Perf. top
2	5232	5232	Perf. bottom
Liners Used			Perf. top
			Perf. bottom

CASING CEMENTED 5-1/2" SIZE No. Ft. _____ Date _____
with 50 sacks cement

COAL WAS ENCOUNTERED AT _____ FEET _____ INCHES
_____ FEET _____ INCHES _____ FEET _____ INCHES
_____ FEET _____ INCHES _____ FEET _____ INCHES

WELL FRACTURED November 26, 1961, with 27,500# sand and 38,000 gallons of gelled water.

RESULT AFTER TREATMENT Open flow not taken. Produced 1,120 Mcf--148# line pressure.

ROCK PRESSURE AFTER TREATMENT

Fresh Water _____ Feet Salt Water 1916' Feet

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Old total depth 1847							
Salt sand			1830	2066	Water	1916	H.F. salt water
Big Lime			2066	2214			
Injun			2214	2370	Gas	2249	Est. 500 Mcf & S.W.
Lime			2370	2410			
Slate & Shell			2410	2698			
Lime			2698	2752			
Slate & Shell			2752	3912			
Brown Shale	-441		3912	3929			
Slate & Shell			3929	4038			
Lime			4038	4171			
Brown Shale			4171	4303	Gas	4215	Show
Slate & Shell			4303	4335	Gas	4310	21 Mcf
Brown Shale			4335	4442	Gas	4413	28 Mcf
Slate & Shell			4442	4516			
Shale			4516	4567			
Brown Shale			4567	4580			
Shale			4580	4792			
Brown Shale			4792	5081			
Corniferous	463		5081	5173 SLM			
Oriskany			5187	5200	Gas	5191-5195	585 Mcf

(over)



1) Date: May 31, 19 84
 2) Operator's Well No. Raymond Kay #1
 3) API Well No. 47 - 035 - 1012 -PP-
 State County Permit FRAC

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

- 4) WELL TYPE: A Oil / Gas X /
 B (If "Gas", Production / Underground storage / Deep / Shallow X)
- 5) LOCATION: Elevation: 1033.56 Watershed: Squash Hollow of Wolf Creek (032H)
 District: Ripley County: Jackson Quadrangle: Kenna/ETMwood 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 Tephabock Name UNKNOWN
 Address Rt. 1 - Box 101-A Address
Ripley, WV 25271
- 10) PROPOSED WELL WORK: Drill / Drill deeper / Redrill / Stimulate /
 Plug off old formation X / Perforate new formation X /
 Other physical change in well (specify) PLUG BACK ORISKANY JUN 1 - 1984
- 11) GEOLOGICAL TARGET FORMATION, Huron Shale OIL & GAS DIVISION
 12) Estimated depth of completed well, 4600 feet DEPT. OF MINES
 13) Approximate trata depths: Fresh, 925, 1306, 1516 feet; salt, feet.
 14) Approximate coal seam depths: N/R Is coal being mined in the area? Yes / No X /

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	Sizes
Conductor	13		48			EXISTING	311	ON SHOE		
Fresh water	10		32.75			EXISTING	1614	ON SHOE		
Coal										
Intermediate	8		32			EXISTING	2368	ON SHOE		
Production	5-1/2		17			EXISTING	5145	50 sks.		Depths set
Tubing										
Liners	1-1/2		2.75	X		PROPOSED	4450			Perforations: Top Bottom

(1) Spot cement plug 5200-5130' and gel to 4600'. (3) Squeeze cement 5-1/2" csg. 4550-3900'.
 (2) Set permanent bridge plug @ 4600'.

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-035-1012-PP-FRAC

June 26, 1984
 Date

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 26, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: BLANKET	Agent: <u>Lo</u>	Plat: <u>MN</u>	Casing: <u>MH</u>	Fee: <u>013-033</u>
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T. L. ...
 Administrator, Office of Oil and Gas

NOTE: Keep one copy of this permit posted at the drilling location.

File