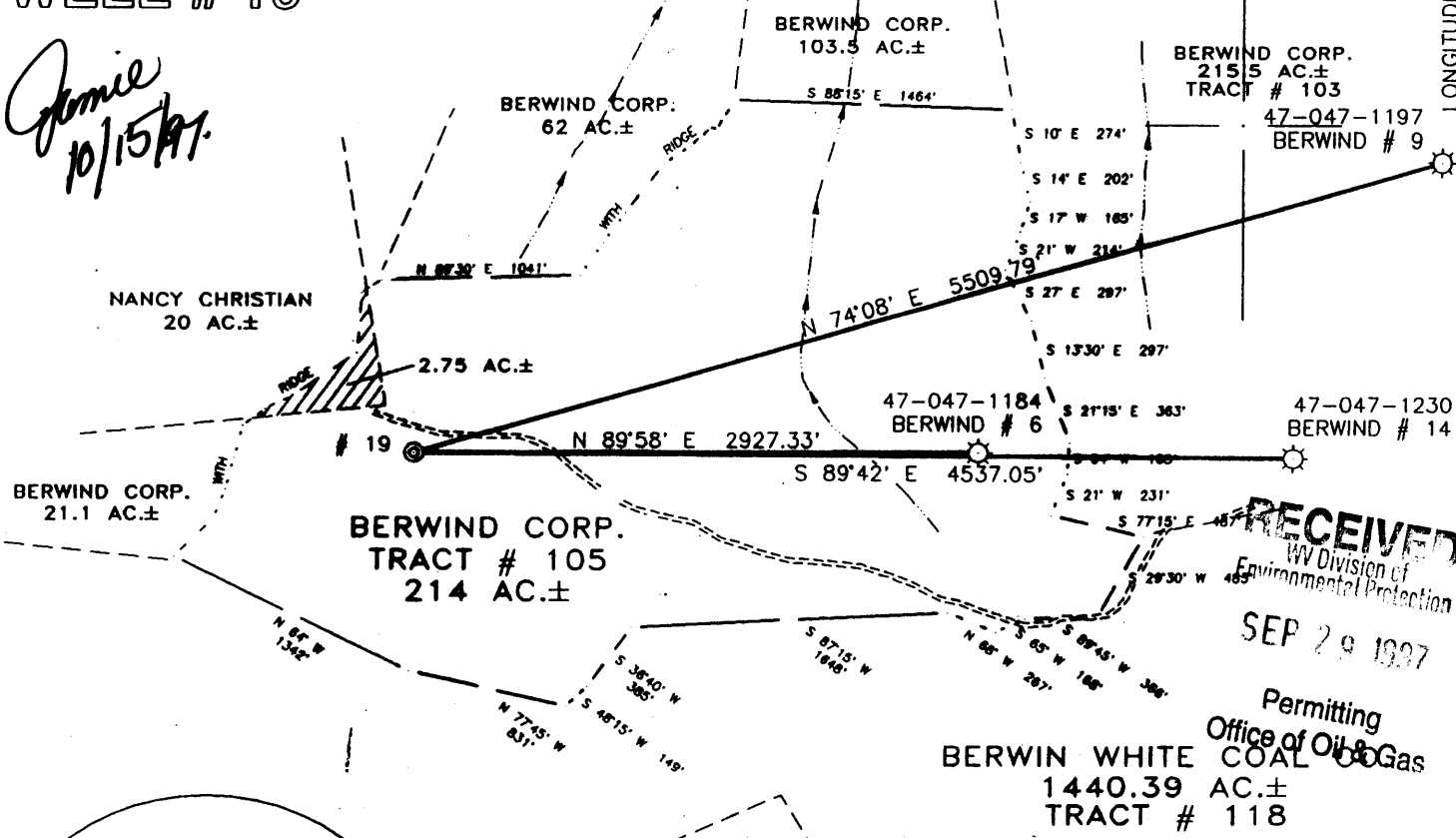


BERWIND LEASE 2164 ACRES± WELL # 19

*Janice
10/15/97*

70 S
44 W

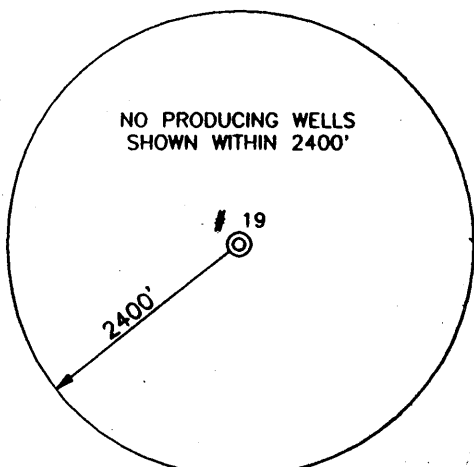
NORTH



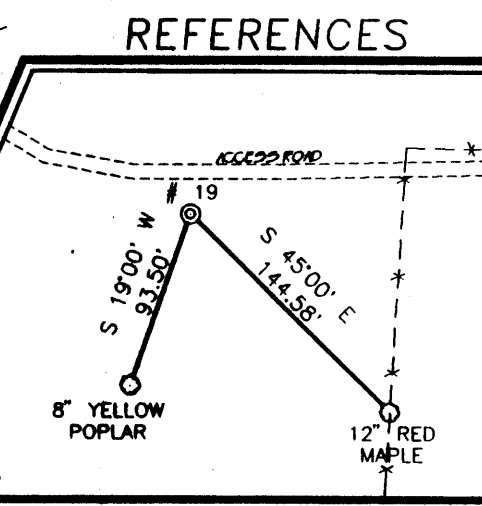
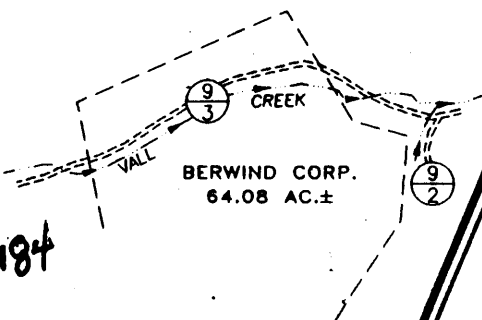
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BERWIN WHITE COAL
1440.39 AC±
TRACT # 118



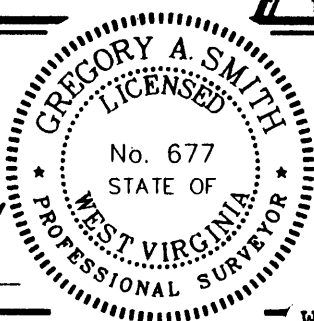
*1184



PLAT WAS UPDATED FOR CHANGE OF OPERATOR AND AGENT ON 9-17-97 BY SLS, INC.

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.

P.S. 677 *Gregory A. Smith*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE JULY 19, 19 96
 OPERATORS WELL NO. BERWIND # 19
 API WELL NO. 47-047-01320
 STATE WV COUNTY McDOWELL PERMIT 1320

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 2901P19 (58-19)
 PROVEN SOURCE OF ELEVATION TOP OF KNOB ELEVATION 2345' SCALE 1" = 1000'

WEST VIRGINIA
 DIVISION OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS
 #10 McJUNKIN ROAD
 NITRO, WEST VIRGINIA 25143-2506

WELL TYPE : OIL GAS LIQUID INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION : ELEVATION 2302' WATERSHED VALL CREEK
 DISTRICT BIG CREEK COUNTY McDOWELL QUADRANGLE AMONATE 7.5'

SURFACE OWNER BERWIND LAND Co. ACREAGE 2164 OF 24,625.33
 ROYALTY OWNER BERWIND LAND Co. LEASE ACREAGE 2164 OF 24,625.33

PROPOSED WORK : LEASE NO. _____
 DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER _____
 PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION BEREA
 ESTIMATED DEPTH 5000'

WELL OPERATOR CABOT OIL AND GAS CORPORATION DESIGNATED AGENT JOHN ABSHIRE OCT 17 1997
 ADDRESS P.O. BOX 454 GLASGOW, WV 25086 ADDRESS P.O. BOX 454 GLASGOW, WV 25086

COUNTY NAME
PERMIT

WR-35

Date: 8-Aug-98
API # 47047-01320

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas
Well Operator's Report of Well Work

Farm name: Berwind Land Co. Operator Well No.: Berwind #19

LOCATION: Elevation: 2,302' Quadrangle: Amonate
District: Big Creek County: McDowell
Latitude: 3,680 feet South of 37 DEG. 15 MIN. 0 SEC.
Longitude: 2,280 feet West of 81 DEG. 40 MIN. 0 SEC.

Company: Cabot Oil & Gas Corporation
400 Fairway Drive: Suite 400
Coraopolis, PA 15108-4308

Agent: John Abshire
Inspector: Ofie Helmick
Permit Issued: 10/15/97
Well Work Commenced: 11/13/97
Well Work Completed: 12/17/97
Verbal Plugging
Permission granted on:
Rotary X Cable Rig
Total Depth (feet) 5171'
Fresh Water Depths (ft) --
Salt Water Depths (ft) --

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill up Cu. Ft.
16"	21'	21'	
8-5/8"	1247'	1247'	526 sks Class "A"
4-1/2"	5119'	5119'	75 sks RFC

Is coal being mined in area (Y / N)? Y
Coal Depths (ft) 275'-278', 555'-557', 615'-617'

OPEN FLOW DATA

Producing formation Gordon Pay zone depth (ft) 4996' - 5002'
Gas: Initial open flow -- MCF/d Oil: Initial open flow N/A Bbl/d
Final open flow 260 comm MCF/d Final open flow N/A Bbl/d
Time of open flow between initial and final tests 4 Hours
Static rock pressure 336 psig (surface pressure after 72 Hours)

Second producing formation Berea Pay zone depth (ft) 4890' - 4898'
Gas: Initial open flow 47 MCF/d Oil: Initial open flow N/A Bbl/d
Final open flow 260 comm MCF/d Final open flow N/A Bbl/d
Time of open flow between initial and final tests 4 Hours
Static rock pressure 336 psig (surface pressure after 72 Hours)

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: CABOT OIL & GAS CORPORATION

By: Ray Prudnick Jr.
Date: 8-9-98

MCDOW 1320

OPEN FLOW DATA

Perf'd Gordon @ 4996' - 5002'. Broke down with 250 gals 15% HCl acid and treated water. BDP: 1633 psi. ISIP: 2200 psi. Frac'd with 30,700# 20/40 mesh sand and 173,000 scf N₂. ATP: 1365 psi. MTP: 1542 psi. AIR: 18 bpm. ISIP: 290 psi.

Perf'd Berea @ 4890' - 4898'. Broke down with 250 gals 15% HCl acid and treated water. BDP: 2609 psi. ISIP: 2508 psi. Frac'd with 47,130# 20/40 mesh sand and 183,000 scf N₂. ATP: 1700 psi. MTP: 2392 psi. AIR: 18.5 bpm. ISIP: 958 psi.

FORMATION	TOP	BOTTOM	REMARKS
Fill	0	8	
Sandstone	8	245	
Sand/Shale	245	275	
Coal	275	278	
Sandstone	278	450	
Sand/Shale	450	555	
Coal	555	557	
Sand/Shale	557	615	
Coal	615	617	
Sand/Shale	617	950	
Sandstone	950	1650	
Sand/Shale	1650	1750	
Ravenclyff	1750	2000	
Sand/Shale	2000	2630	
Maxton	2630	2700	
Sand/Shale	2700	2940	
Middle Maxton	2940	2990	
Sand/Shale	2990	3295	
Lime	3295	3418	
Shaley Lime	3418	3500	
Lime	3500	4315	
Sand/Shale	4315	4340	
Sandstone	4340	4400	
Sandstone/Shale	4400	4525	
Weir	4525	4550	
Sand/Shale	4550	4900	
Berea	4900	4950	
Shale	4950	5000	
Gordon	5000	5040	
Shale	5040	5171 - TD	

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator: Cabot Oil & Gas Corporation 8145 (2) 210

2) Operator's Well Number: Berwind Land #19 3) Elevation: 2302'

4) Well Type: a) Oil / or Gas X /

*Issued 10/15/97
Expires 10/15/99*

b) If Gas: Production X / Underground Storage /
Deep / Shallow X /

5) Proposed Target Formation(s): Berea 395

6) Proposed Total Depth: 5100 feet

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7) Approximate fresh water strata depths: 11', 170', 257'

SEP 29 1997

8) Approximate salt water depths: 1290'

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Office of Oil & Gas

9) Approximate coal seam depths: 102', 787' (open), 937'

10) Does land contain coal seams tributary to active mine? Yes X / No /

11) Proposed Well Work: Drill and complete a gas well

12) Based on McDowell 536, 1184, 1197, 1230 and coal company maps

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For Drilling	Left in Well	Fill-up (cu. ft.)
Conductor	16"	L.S.	65#	30'	30'	10 sks (GFS)
Fresh Water						<i>38(SB) 11.3</i>
Coal	8-5/8"	L.S.	20#	1250'	1250'	350 sks (CTS)
Intermediate						<i>38(SB) 11.2.2</i>
Production	4-1/2"	J-55	10.5#	5050'	5050'	50 sks
Tubing						<i>38(SB) 11.1</i>
Liners						

PACKERS: Kind Liner on 8-5/8" casing across open mine (767'-807')
Sizes _____
Depths set _____

190000 3246

For Office of Oil and Gas Use Only

Fee(s) paid: Well Work Permit Reclamation Fund WPCP
 Plat WW-9 WW-2B Bond _____ Agent
(Type)

1) Date September 25, 1997
2) Operator's well number
Berwind Land #19
3) API Well No 47 - 047 - 1320
State County Permit

**STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS**

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Environmental Protection

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

SEP 29 1997

4) Surface Owner(s) to be served
(a) Name Berwind Land Co.
Address 1050 One Valley Square
Charleston, WV 25301
(b) Name _____
Address _____
(c) Name _____
Address _____

5) (a) Coal Operator
Name CONSOL
Address P.O. Box 947
Bluefield, VA 24605 **Permitting**
Office of Oil & Gas

(b) Coal Owner(s) with Declaration
Name Berwind Land Co.
Address 1050 One Valley Square
Charleston, WV 25301
Name _____
Address _____

6) Inspector Ofie Helmick
Address P.O. Box 398
Brenton, WV 24818
Telephone (304)- 543-0764

(c) Coal Lessee with Declaration
Name _____
Address _____

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas **OR**
 Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)
I certify that as required under Chapter 22 of the West Virginia Code I have served copies of this notice and application,
a location plat, and accompanying documents pages 1 through _____ on the above named parties, by:
 Personal Service (Affidavit attached)
 Certified Mail (Postmarked postal receipt attached)
 Publication (Notice of Publication attached)

I have read and understand Chapter 22-6 and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator Cabot Oil & Gas Corporation
By [Signature]
Its Geologist
Address 400 Fairway Drive Suite 400
Coraopolis, PA 15108
Telephone (412)299-7000

Subscribed and sworn before me this 25th day of September 19 97

[Signature] Notary Public
My commission expires April 30, 2001

Notarial Seal
Susan K. Hayden, Notary Public
Moon Twp., Allegheny County
My Commission Expires April 30, 2001
Member, Pennsylvania Association of Notaries

