



1) Date: _____, 19____
 2) Operator's Well No. Black Betsy #14
 3) API Well No. 47 - 079 - 1125
 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 X /
 B (If "Gas", Production _____ / Underground storage _____ / Deep _____ / Shallow X /)
- 5) LOCATION: Elevation: 912' Watershed: Manila Creek KP 1A
 District: Pocatalico County: Putnam Quadrangle: Bancroft
- 6) WELL OPERATOR Cabot Oil & Gas Corp. of WV 7) DESIGNATED AGENT Steven D. Turk
 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 Rural Rte. #1 - Box 28 Address _____
Hamlin, WV 25523 824-3337
- 10) PROPOSED WELL WORK: Drill X / Drill deeper _____ / Redrill _____ / Stimulate X /
 Plug off old formation _____ / Perforate new formation _____
 Other physical change in well (specify) _____
- 11) GEOLOGICAL TARGET FORMATION, Devonian Shale and any other potential producing zones penetrated
 12) Estimated depth of completed well, 4520 feet between intermediate casing seat and T.D.
 13) Approximate tratra depths: Fresh, _____ feet; salt, 1200, 2000 feet.
 14) Approximate coal seam depths: 612' (solid) Is coal being mined in the area? Yes _____ / No X /
- 15) CASING AND TUBING PROGRAM

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 OIL & GAS DIVISION
 DEPT. OF MINES

| 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 | 16 | | 65 | X | | 30 | 30 | 10 sks. | Kinds |
| Fresh water | 9-5/8 | | 36 | X | | 650 | 650 | 225 sks. | Neat CTS |
| Coal | | | | | | | | | Sizes |
| Intermediate | 7 | | 20 | X | | 2200 | 2200 | 350 sks. | Neat CTS |
| Production | 4-1/2 | | 10.50 | X | | 4500 | 4500 | 100 sks. | as req. |
| Tubing | | | | | | | | | by Rule 15.01 |
| Liners | | | | | | | | | Perforations: |
| | | | | | | | | | Top Bottom |

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-079-1125

October 4, 19 84
 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 October 4, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

| | | | | |
|-----------------------------------|------------------|-----------------|-------------------|---------------------|
| Bond: <u>30</u> BLANKET | Agent: <u>LS</u> | Plat: <u>MU</u> | Casing: <u>MU</u> | Fee: <u>013-661</u> |
|-----------------------------------|------------------|-----------------|-------------------|---------------------|

Margaret J. Hasse
 Administrator, Office of Oil and Gas

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

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.

File



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

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DEPT. OF MINES OIL & GAS DIVISION

| WELL NO. | WELL NAME | WELL TYPE | WELL STATUS | WELL DEPTH | WELL DIA. | WELL CLOSURE DATE | WELL CLOSURE REASON |
|----------|----------------------|-----------|-------------|------------|-----------|-------------------|---------------------|
| 10 | 10 sks. West CTS | 30 | 30 | 650 | 36 | X | |
| 225 | 225 sks. West CTS | 650 | 650 | | | X | |
| 350 | 350 sks. West CTS | 2200 | 2200 | | | X | |
| 100 | 100 sks. or ss. red. | 4500 | 4500 | | | X | |

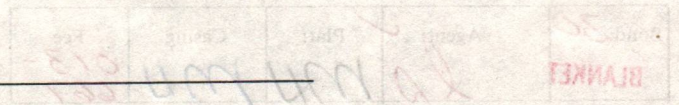
OFFICE USE ONLY

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

| | Date | Date(s) |
|------------------------------------|------|---------|
| Application received | | |
| Well work started | | |
| Completion of the drilling process | | |
| Well Record received | | |
| Reclamation completed | | |

OTHER INSPECTIONS

Reason: _____
Reason: _____





State of West Virginia
Department of Mines
Oil and Gas Division

Construction and Reclamation Plan

COMPANY NAME Cabot Oil & Gas Corporation
ADDRESS P.O. Box 628, Chas. WV 25322
TELEPHONE 304-347-1600
LANDOWNER P. Benjamin Grosscup Jr. & P. Benjamin Grosscup III

DESIGNATED AGENT Steven Turk
ADDRESS P.O. Box 628 Chas. WV 25322
TELEPHONE 304-347-1600
SOIL CONS. DISTRICT Western

Revegetation to be carried out by Company Contractor (Agent)

This plan has been reviewed by Western SCD. All corrections and additions have become a part of this plan.

8/16/84 (Date)
Steven B. Fesse (SCD Agent)

| ACCESS ROAD | LOCATION |
|---|--|
| STRUCTURE <u>Ditch Relief Cross Drain</u> (A) | STRUCTURE <u>RECEIVED</u> (1) |
| SPACING <u>Per Plan</u> | MATERIAL <u>AUG 29 1984</u> |
| PAGE REF. MANUAL <u>2-1, 2-2, 2-3, 2-4</u> | PAGE REF. MANUAL <u>OIL & GAS DIVISION</u> |
| STRUCTURE <u>Culvert</u> (B) | STRUCTURE <u>DEPT. OF MINES</u> (2) |
| SPACING <u>Per Plan</u> | MATERIAL <u></u> |
| PAGE REF. MANUAL <u>2:7, 2:8, 2:9</u> | PAGE REF. MANUAL <u></u> |
| STRUCTURE <u></u> (C) | STRUCTURE <u>Sediment Barrier</u> (3) |
| SPACING <u></u> | MATERIAL <u>Vegetated Strip</u> |
| PAGE REF. MANUAL <u></u> | PAGE REF. MANUAL <u>2:16, 2:17</u> |

All structures should be inspected regularly and repaired if necessary. All commercial timber is to be cut and stacked and all brush and small timber to be cut and removed from the site before earth work begins.

| TREATMENT AREA I | | Revegetation | TREATMENT AREA II | |
|-----------------------------------|-------------|-----------------------------------|-------------------|--|
| Lime | Tons/acre | Lime | Tons/acre | |
| or correct to pH <u>6.5</u> | | or correct to pH <u>6.5</u> | | |
| Fertilizer <u>500</u> | lbs/acre | Fertilizer <u>500</u> | lbs/acre | |
| (10-20-20 or equivalent) | | (10-20-20 or equivalent) | | |
| Mulch <u>Hay or Straw @ 1 1/2</u> | Tons/acre | Mulch <u>Hay or Straw @ 1 1/2</u> | Tons/acre | |
| Seed* <u>Ky 31 Tall Fescue</u> | 40 lbs/acre | Seed* <u>Ky 31 Tall Fescue</u> | 40 lbs/acre | |
| <u>Redtop</u> | 5 lbs/acre | <u>Redtop</u> | 5 lbs/acre | |
| | lbs/acre | | lbs/acre | |



*Inoculate all legumes such as vetch, trefoil and clovers with the proper bacterium. Inoculate with 3X the recommended amount.

PLAN PREPARED BY Steven Turk
Cabot Oil and Gas Corporation
ADDRESS P.O. Box 628
Charleston, WV 25322
PHONE NO. (304) 347-1600

Note: Please request landowner cooperation to protect new seedlings for one growing season. Attach separate sheets as necessary for comments.

LEGEND

ATTACH OR PHOTOCOPY SECTION OF INVOLVED TOPOGRAPHIC MAP. QUADRANGLE Bancroft






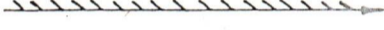

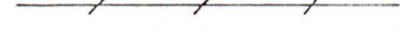










WELL SITE 
ACCESS ROAD 

PHOTOCOPY ATTACHED

WELL SITE PLAN

SKETCH TO INCLUDE WELL LOCATION, EXISTING ACCESS ROAD, ROADS TO BE CONSTRUCTED, WELLSITE, DRILLING PITS AND NECESSARY STRUCTURES NUMBERED OR LETTERED TO CORRESPOND WITH THE FIRST PART OF THIS PLAN. INCLUDE ALL NATURAL DRAINAGE.

LEGEND

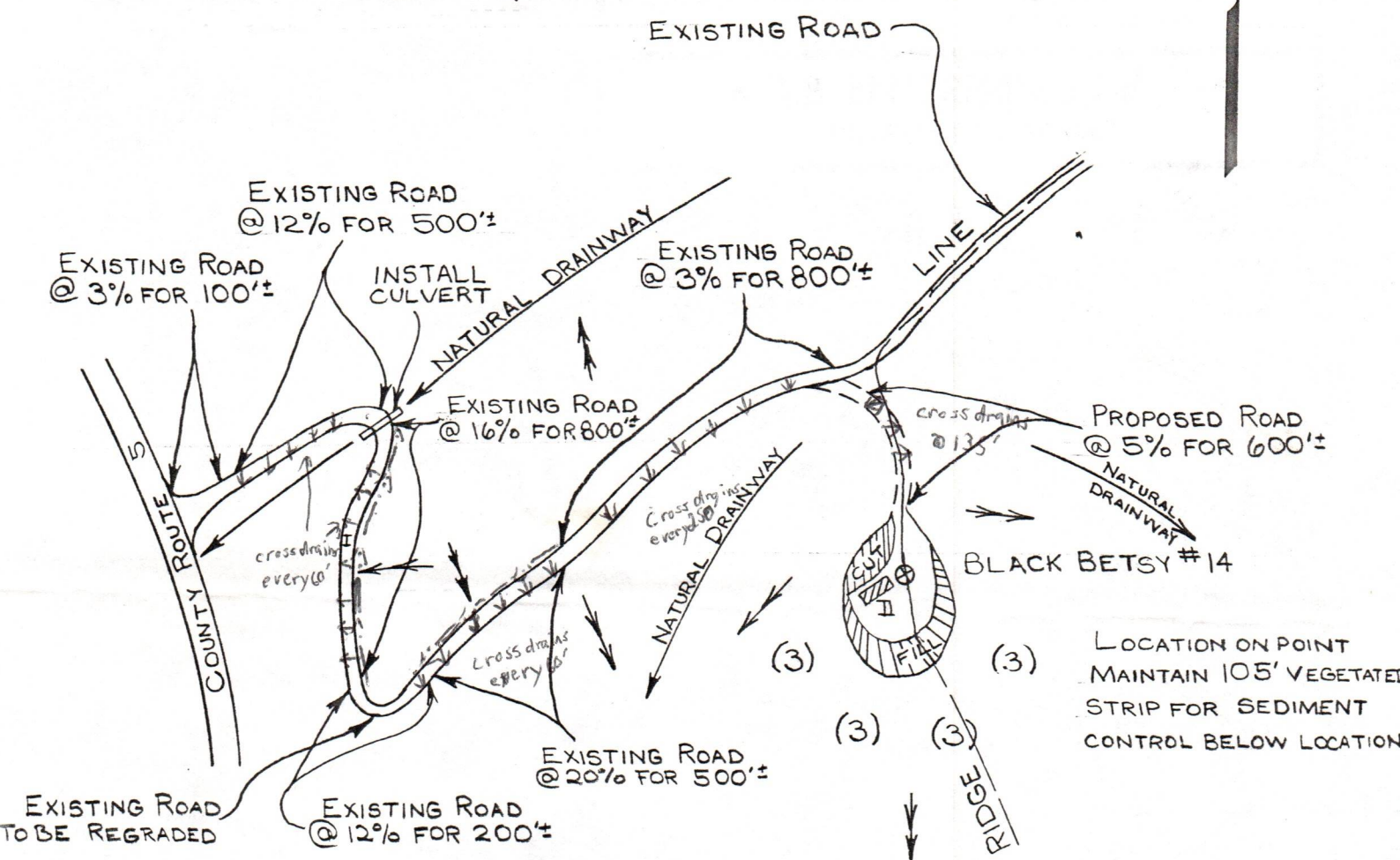
| | | | |
|-------------------|---|----------------|---|
| WELL LOCATION |  | DRILLING PIT |  |
| PROPOSED ROAD |  | EXISTING ROAD |  |
| PROPERTY BOUNDARY |  | DIVERSION |  |
| EXISTING FENCE |  | PROPOSED FENCE |  |
| STREAM |  | SPRING |  |
| WET SPOT |  | OPEN DITCH |  |
| DRAIN PIPE |  | BUILDING |  |
| WATERWAY |  | CULVERT |  |
| RIP RAP |  | SLOPE OF LAND |  |

SKETCH ATTACHED

COMMENTS: The existing road to site to be graded, ditches pulled and drains installed where required by field conditions.

Ditch Relief Cross Drains to be spaced in accordance with Table 1 on Page 2-4 of the erosion and sediment control manual and shall be based upon the as-built slopes of the final road configuration.

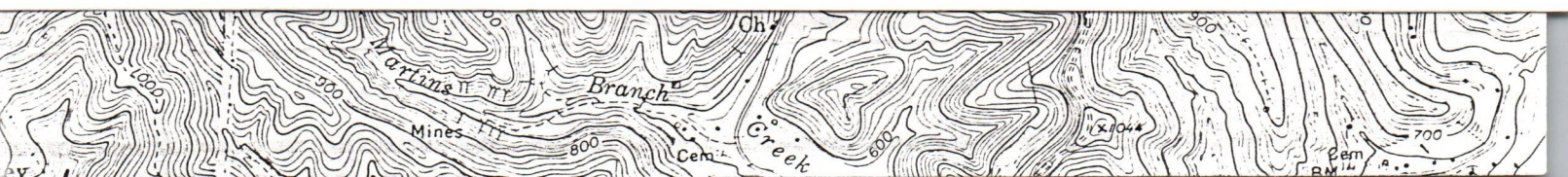
Topsoil shall be scalped from the disturbed area, stockpiled and utilized for topdressing after the site is regraded



CABOT OIL & GAS CORPORATION
CHARLESTON, W. VA.

BLACK BETSY #14

KOLB ENTERPRISES Ltd.
CHARLESTON, W. VA.



1) Date: _____, 19____
2) Operator's
Well No. Black Betsy #14
3) API Well No. 47 - 079 - 1125
State County Permit

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES, OFFICE OF OIL & GAS
NOTICE OF APPLICATION FOR A WELL WORK PERMIT

4) SURFACE OWNER(S) OF RECORD TO BE SERVED
(i) Name P. Benjamin Grosscup Jr. & P. Benjamin Grosscup III
Address 37 Woodland Avenue Greensburg, PA 15601
(ii) Name Amherst Industries
Address Port Amherst Charleston, WV 25306
(iii) Name _____
Address _____

5(i) COAL OPERATOR NOT OPERATED
Address _____
5(ii) COAL OWNER(S) WITH DECLARATION ON RECORD:
Name I.V. Cunningham
Address 431 McKinley Avenue Charleston, WV 25314
Name _____
Address _____
5(iii) COAL LESSEE WITH DECLARATION ON RECORD:
Name _____
Address _____

P339168860

RECEIPT FOR CERTIFIED MAIL

TO THE PERSON(S)

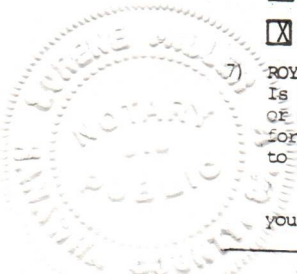
- (1) The Applicant to be cemented
- (2) The plug and reclamation
- (3) The construction of the well

THE REASON WHICH ARE SUMMARY ACTION AT ALL.

Take notice for a Well Work Department of Oil and Gas, West Virginia Construction and Reclamation by hand to the before the day

6) EXTRACTION
 Check and p
 Included
 I hold
 The requ

7) ROYALTY PROVISION
Is the right of other compensation to the volume of production? Yes No
If you may use



NO INSURANCE COVERAGE PROVIDED— NOT FOR INTERNATIONAL MAIL (See Reverse)

Mr. P. Benjamin Grosscup III
STREET AND NO. 37 Woodland Avenue
P.O. STATE AND ZIP CODE Greensburg, PA 15601

| | |
|---|-------------|
| POSTAGE | \$ |
| CERTIFIED FEE | 75¢ |
| SPECIAL DELIVERY | ¢ |
| RESTRICTED DELIVERY | ¢ |
| OPTIONAL SERVICES | |
| RETURN RECEIPT SERVICE | 60¢ |
| SHOW TO WHOM AND DATE DELIVERED | ¢ |
| SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY | ¢ |
| SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY | ¢ |
| SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY | ¢ |
| TOTAL POSTAGE AND FEES | |
| POSTMARK OR DATE | AUG 29 1984 |

Form and the following documents:

(B) (or Form IV-4 if the well is in the drilling or other work, applicable, the proposed casing and

on Form IV-6; and unless the well work is only to control sediment and for

RIGHTS REGARDING THE APPLICATION OF THE COPY OF THE APPLICATION ARE NOT REQUIRED TO TAKE ANY

Code, the undersigned well operator and accompanying documents of Oil and Gas, West Virginia described on attached Application, the Application, the plat, and the certified mail or delivered (certain circumstances) on or

tract or contracts by which (see reverse side for specifics.)

based upon a lease or leases royalty or any similar provision which is not inherently related? Yes No
needed. If the answer is Yes,

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DEPT. OF MINES

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AUG 29 1984

OIL & GAS DIVISION
DEPT. OF MINES

See the reverse side for line item instructions, and for instructions concerning the required copies of the Notice and Application, plat, and Construction and Reclamation Plan.

The truth of the information on the Notice and Application is verified and sworn to and the Notice is signed on behalf of the Well Operator in my County and State by Steven D. Turk

this _____ day of _____, 19____.
My commission expires _____, 19____.

Looney Miller
Notary Public, Kanawha County, State of West Virginia

WELL OPERATOR CABOT OIL & GAS CORPORATION OF WV

By [Signature]
Its District Drilling Superintendent
Address P.O. Box 628 Charleston, WV 25322
Telephone (304) 347-1600

P33 9168859

P33 9168858

RECEIPT FOR CERTIFIED MAIL

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO
Amherst Industries
STREET AND NO.
Port Amherst
P.O., STATE AND ZIP CODE
Charleston, WV 25306

POSTAGE \$ 75

CERTIFIED FEE 75

SPECIAL DELIVERY c

RESTRICTED DELIVERY c

OPTIONAL SERVICES

RETURN RECEIPT SERVICE
SHOW TO WHOM AND DATE DELIVERED 60

SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY c

SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY c

SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY c

TOTAL POSTAGE AND FEES \$

POSTMARK OR DATE
AUG 23 1984
AMHERST WV

SENT TO
Mr. I. V. Cunningham
STREET AND NO.
431 McKinley Avenue
P.O., STATE AND ZIP CODE
Charleston, WV 25314

POSTAGE \$ 75

CERTIFIED FEE 75

SPECIAL DELIVERY c

RESTRICTED DELIVERY c

OPTIONAL SERVICES

RETURN RECEIPT SERVICE
SHOW TO WHOM AND DATE DELIVERED 60

SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY c

SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY c

SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY c

TOTAL POSTAGE AND FEES \$

POSTMARK OR DATE
AUG 23 1984
AMHERST WV

INFORMATION SUPPLIED UNDER CODE § 22-4-11(d)

IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath required to make the verification on the obverse side of this Notice, I depose and say that I am the person who signed the Notice for the Applicant, and that--

- (1) the tract of land is the same tract described in the Application to which this Notice applies, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

| Grantor, lessor, etc. | Grantee, lessee, etc. | Royalty | Book | Page |
|-----------------------|--|---------|------|------|
| Black Betsy Land Co. | Godfrey L. Cabot, Inc. (COGC of WV) | 12.5% | 72 | 483 |

(Current Royalty Interests owned by COGC of WV)

SURFACE OWNERS

BLACK BETSY #14
(47-079-1125)

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FEB 6 - 1985

OIL & GAS DIVISION
DEPT. OF MINES

P. Benjamin Grosscup, Jr. &
P. Benjamin Grosscup, III
37 Woodland Avenue
Greensburg, PA 15601

Amherst Industries
Port Amherst
Charleston, WV 25306

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OFF. & GEN. DIVISION

DEPT. OF MINES

IV-35
(Rev 8-81)



Date February 4, 1985
 Operator's Well No. 14
 Farm Black Betsy
 API No. 47 - 079 - 1125

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 FEB 6 - 1985

State of West Virginia
 Department of Mines
 Oil and Gas Division

OIL & GAS DIVISION WELL OPERATOR'S REPORT
 DEPT. OF MINES 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: 912' Watershed Manila Creek
 District: Pocatalico County Putnam Quadrangle Bancroft

COMPANY Cabot Oil & Gas Corporation of WV
 ADDRESS Box 628, Charleston, WV 25322
 DESIGNATED AGENT David G. McCluskey
 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 10/4/84
 DRILLING COMMENCED 10/31/84
 DRILLING COMPLETED 11/9/84
 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. |
|-----------------|------------------|--------------|------------------------|
| 16" | 30.45 | 30.45 | 10 sks |
| 13-10" | | | |
| 9 5/8 | 667.02 | 667.02 | 230 sks |
| 8 5/8 | | | |
| 7 | | | |
| 5 1/2 | | | |
| 4 1/2 | 4512 | 4512 | 125 sks |
| 3 | | | |
| 1 1/2 | 4008 | 4008 | |
| Liners used | | | |

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 2503-4482 feet
 Depth of completed well 4556 feet Rotary XX / Cable Tools
 Water strata depth: Fresh feet; Salt 1200,2000 feet
 Coal seam depths: 612' (solid) Is coal being mined in the area? XX

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth 3710-4186 feet
 Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl/d
 4 hr. Final open flow 444 Mcf/d Final open flow Bbl/d
 Time of open flow between initial and final tests hours
 Static rock pressure 680 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

(Continue on reverse side)

POT 1125

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

Perforated Shale 3710-4186' (28 holes). Dumped 750 gals 15% HCL. BD w/15,000 SCF N₂ per minute. BD press 1560 psi. ISIP after BD 1200 psi. Treated w/1250 sks 20/40 sand. AIR 4 BPM w/14,300 SCF N₂/min for 90 quality foam. TF 264 bbls, SL 244 bbls. AIR 40 BPM foam. ATP 1467 psi. ISIP 1300 psi, 5 min 1200 psi, 10 min 1180 psi, 15 min 1180 psi.

DEPT. OF MINES
OIL & GAS DIVISION
FEB 6 - 1985

WELL LOG

| FORMATION | COLOR | HARD OR SOFT | TOP FEET | BOTTOM FEET | REMARKS Including indication of all fresh and salt water, coal, oil and gas |
|----------------|-------|--------------|----------|-------------|--|
| Sand & Shale | | | 0 | 998 | All measurements from KB. |
| Sand | | | 998 | 1092 | |
| Shale | | | 1092 | 1398 | |
| Sand | | | 1398 | 1450 | |
| Shale | | | 1450 | 1520 | |
| Sand | | | 1520 | 1755 | |
| Shale | | | 1755 | 1808 | |
| Sand | | | 1808 | 1900 | |
| Big Lime | | | 1900 | 2003 | |
| Shale | | | 2003 | 2017 | |
| Big Injun Sand | | | 2017 | 2069 | |
| Shaley Injun | | | 2069 | 2224 | |
| Shale | | | 2224 | 2471 | |
| Sunbury | | | 2471 | 2490 | |
| Berea | | | 2490 | 2503 | |
| Shale | | | 2503 | 3707 | |
| Huron | | | 3707 | 4194 | |
| Shale | | | 4194 | T.D. | Gas ck @ 4550 - 38 MCFD |
| LTD | | | 4556 | | |

(Attach separate sheets as necessary)

CABOT OIL & GAS CORPORATION OF WEST VIRGINIA

Well Operator

By: David H. McChuskey
Date: February 4, 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."

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

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INSPECTOR'S WELL REPORT

OIL & GAS DIVISION
DEPT. OF MINES

Permit No. 079-1125

Oil or Gas Well _____
(KIND)

| Company <u>Cabot</u> | CASING AND TUBING | USED IN DRILLING | LEFT IN WELL | PACKERS |
|---|---|---------------------|--------------|----------------------|
| | Address _____ | Size | | |
| Farm _____ | 16 | | | |
| Well No. <u>Black Beauty # 14</u> | 13 | | | Size of _____ |
| District _____ County <u>PUTNAM</u> | 10 | | | |
| Drilling commenced _____ | 8 1/4 | | | Depth set _____ |
| Drilling completed <u>11-8-84</u> Total depth <u>4550</u> | 6 5/8 | | | |
| Date shot _____ Depth of shot _____ | 5 3/16 | <u>4 1/2 - 4512</u> | <u>4512</u> | <u>125 SAC - (N)</u> |
| Initial open flow _____ /10ths Water in _____ Inch | 3 | | | Perf. top _____ |
| Open flow after tubing _____ /10ths Merc. in _____ Inch | 2 | | | Perf. bottom _____ |
| Volume _____ Cu. Ft. | Liners Used | | | Perf. top _____ |
| Rock pressure _____ lbs. _____ hrs. | | | | Perf. bottom _____ |
| Oil _____ bbls., 1st 24 hrs. | CASING CEMENTED _____ SIZE _____ No. FT. _____ Date _____ | | | |
| Fresh water _____ feet _____ feet | NAME OF SERVICE COMPANY _____ | | | |
| Salt water _____ feet _____ feet | COAL WAS ENCOUNTERED AT _____ FEET _____ INCHES | | | |
| | _____ FEET _____ INCHES _____ FEET _____ INCHES | | | |
| | _____ FEET _____ INCHES _____ FEET _____ INCHES | | | |

Drillers' Names Lee Smith Rig # 10

Remarks: T.D. - Rig off

11/4/84
DATE

RG Beall
DISTRICT WELL INSPECTOR
with Jerry T

13-Feb-85

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OFFICE OF OIL AND GAS
CHARLESTON 25305
FINAL INSPECTION REPORT
INSPECTOR'S COMPLIANCE REPORT

RECEIVED
MAY 16 1985

Company: CABOT O & G CORP
Perm: GROSSCUP, P BEN ETAL Well: B BETSY 14

Permit No. 75-117
County: PUTNAM
**OIL & GAS DIVISION
DEPT. OF MINES**

| Code | Description | In Compliance | |
|-------|---|---------------|-------|
| | | Yes | No |
| 13.06 | Notification prior to starting work | ----- | ----- |
| 15.04 | Prepped before drilling to prevent waste | ----- | ----- |
| 15.03 | High pressure drilling | ----- | ----- |
| 16.01 | Required permits at wellsite | ----- | ----- |
| 15.03 | Adequate Fresh Water Casings | ----- | ----- |
| 15.02 | Adequate Coal Casings | ----- | ----- |
| 15.01 | Adequate Production Casings | ----- | ----- |
| 17.04 | Adequate Cement Strength | ----- | ----- |
| 15.05 | Cement Type | ----- | ----- |
| 18.02 | Maintained Access Roads | ----- | ----- |
| 18.01 | Necessary Equipment to Prevent Waste | ----- | ----- |
| 13.04 | Reclaimed Drilling Pits | ----- | ----- |
| 13.05 | No Surface or Underground Pollution | ----- | ----- |
| 13.07 | Requirements for Production & Gathering Pipelines | ----- | ----- |
| 7.01 | Well Records on Site | ----- | ----- |
| 7.02 | Well Records Filed | ----- | ----- |
| 7.05 | Identification Markings | ----- | ----- |

I HAVE INSPECTED THE ABOVE CAPTIONED WELL AND RECOMMEND THAT IT BE RELEASED:

SIGNED *Carlson Hirsch*

DATE 5-7-85

Your well record was received and reclamation requirements approved. In accordance with Chapter 12, Article 4, Section 2, the above well will remain under bond forever for the life of the well.

TH v AB

Administrator

May 20, 1985

Date

FERC-121

| | | | | | | | | | | | | | | | | |
|--|---|--|---|---|--|--|--|--|--|--|-----|-----|-----|------------------|--|--|
| <p>1.0 API well number: (If not available, leave blank. 14 digits.)</p> | <p><u>47- 079 - 1125</u></p> | | | | | | | | | | | | | | | |
| <p>2.0 Type of determination being sought: (Use the codes found on the front of this form.)</p> | <p><u>107DV</u> Section of NGPA</p> | | <p><u>N/A</u> Category Code</p> | | | | | | | | | | | | | |
| <p>3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.)</p> | <p><u>4556</u> feet</p> | | | | | | | | | | | | | | | |
| <p>4.0 Name, address and code number of applicant: (35 letters per line maximum. If code number not available, leave blank.)</p> | <p><u>Cabot Oil & Gas Corporation of W.Va.</u> Name</p> <p><u>P. O. Box 628</u> Street</p> <p><u>Charleston</u> <u>WV</u> <u>25322</u> City State Zip Code</p> | | | <p><u>000728</u> Seller Code</p> | | | | | | | | | | | | |
| <p>5.0 Location of this well: [Complete (a) or (b).] (a) For onshore wells (35 letters maximum for field name.)</p> | <p><u>Pocatalico</u> Field Name</p> <p><u>Putnam</u> <u>WV</u> County State</p> | | | | | | | | | | | | | | | |
| <p>(b) For OCS wells:</p> | <p style="text-align: center;"><u>N/A</u></p> <p>Area Name Block Number</p> <p style="text-align: center;">Date of Lease:</p> <p style="text-align: center;"> <table style="margin: auto; border: none;"> <tr> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> </tr> <tr> <td style="border: none;">Mo.</td> <td style="border: none;">Day</td> <td style="border: none;">Yr.</td> <td colspan="3" style="border: none;">OCS Lease Number</td> </tr> </table> </p> | | | | | | | | | | Mo. | Day | Yr. | OCS Lease Number | | |
| | | | | | | | | | | | | | | | | |
| Mo. | Day | Yr. | OCS Lease Number | | | | | | | | | | | | | |
| <p>(c) Name and identification number of this well: (35 letters and digits maximum.)</p> | <p><u>Black Betsy #14</u></p> | | | | | | | | | | | | | | | |
| <p>(d) If code 4 or 5 in 2.0 above, name of the reservoir: (35 letters maximum.)</p> | <p><u>N/A</u></p> | | | | | | | | | | | | | | | |
| <p>6.0 (a) Name and code number of the purchaser: (35 letters and digits maximum. If code number not available, leave blank.)</p> | <p><u>Tennessee Gas Pipeline Company</u> Name</p> | | | <p><u>018629</u> Buyer Code</p> | | | | | | | | | | | | |
| <p>(b) Date of the contract:</p> | <p><u>1 0 0 2 8 0</u> Mo. Day Yr.</p> | | | | | | | | | | | | | | | |
| <p>(c) Estimated annual production:</p> | <p><u>18.5</u> MMcf.</p> | | | | | | | | | | | | | | | |
| <p>7.0 Contract price: (As of filing date. Complete to 3 decimal places.)</p> | <p>(a) Base Price (\$/MMBTU)</p> <p>-----</p> | <p>(b) Tax</p> <p>-----</p> | <p>(c) All Other Prices (Indicate (+) or (-).)</p> <p>-----</p> | <p>(d) Total of (a), (b) and (c)</p> <p>-----</p> | | | | | | | | | | | | |
| <p>8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)</p> | <p>-----</p> | <p>-----</p> | <p>-----</p> | <p>-----</p> | | | | | | | | | | | | |
| <p>9.0 Person responsible for this application:</p> | <p><u>H. Baird Whitehead</u> <u>Regional Manager</u> Name Title</p> <p><u>H. Baird Whitehead</u> Signature</p> <p><u>February 12, 1985</u> Date Application is Completed</p> <p style="text-align: right;"><u>(304) 347-1600</u> Phone Number</p> | | | | | | | | | | | | | | | |
| <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Agency Use Only</td> </tr> <tr> <td style="text-align: center;">Date Received by Juris. Agency FEB 12 1985</td> </tr> <tr> <td style="text-align: center;">Date Received by FERC</td> </tr> </table> | Agency Use Only | Date Received by Juris. Agency FEB 12 1985 | Date Received by FERC | | | | | | | | | | | | | |
| Agency Use Only | | | | | | | | | | | | | | | | |
| Date Received by Juris. Agency FEB 12 1985 | | | | | | | | | | | | | | | | |
| Date Received by FERC | | | | | | | | | | | | | | | | |

STATE OF WEST VIRGINIA

DEPARTMENT OF MINES, OIL AND GAS DIVISION

COVER SHEET, STATE APPLICATION FOR WELL CLASSIFICATION

Date: February 12, 19 85

AGENCY USE ONLY *Dev*

Applicant's Name: Cabot Oil & Gas Corporation of WV

Address: P. O. Box 628
Charleston, WV 25322

Gas Purchaser Contract No. GSC151

Date of Contract 10/2/80
(Month, day and year)

WELL DETERMINATION FILE NUMBER
850212-107-079-1125
Use Above File Number on all
Communications Relating to This Well

First Purchaser: Tennessee Gas Pipeline Company

Address: P. O. Box 2511
(Street or P.O. Box)
Houston, TX 77001
(City) (State) (Zip Code)

Designated Agent: H. Baird Whitehead

Address: P. O. Box 628
Charleston, WV 25322

FERC Seller Code 000728

FERC Buyer Code 018629

NAME AND TITLE OF PERSON TO WHOM QUESTIONS CONCERNING THIS APPLICATION SHALL BE ADDRESSED:

Name: Ed Hindman (Print) Regulatory Assistant (Title)

Signature: *Ed Hindman*

Address: P. O. Box 628
(Street or P.O. Box)
Charleston WV 25322
(City) (State) (Zip Code)

Telephone: (304) 347-1600
(Area Code) (Phone Number)

(Certificate of Proof of Service to Purchaser)

Copy sent to Purchaser by Certified Mail P753 224 513 on February 12, 1985
NGPA Category Applied For

NGPA SECTION/SUBSECTION

- 102 New Natural Gas
- 102-2 2.5 Mile Test
- 102-3 1000 Foot Deeper Test
- 102-4 New Onshore Reservoir

- 108 Stripper Well Natural Gas
- 108- Stripper Well
- 108-1 Seasonally Affected
- 108-2 Enhanced Recovery
- 108-3 Temporary Pressure Buildup

- 103 New Onshore Production Well
- 103 New Onshore Production Well

- 107 High Cost Natural Gas
- 107-0 Deep (more than 15,000 feet)
- 107-1 Geopressured Brine
- 107-2 Coal Seams
- X 107-3 Devonian Shale
- 107-5 Production enhancement
- 107-6 New Tight Formation
- 107-7 Recompletion Tight Formation

AGENCY USE ONLY

QUALIFIED

RECEIVED

FEB 12 1985

OIL & GAS DIV.
DEPT. OF MINES

Date Received

FEB 28 1985

Determination Date

DEPARTMENT OF MINES OIL AND GAS DIVISION

Operator's
Well No. Black Betsy #14

API Well No.
47 - 079 - 1125
State County Permit

WELL CLASSIFICATION FORM
HIGH COST GAS WELL - DEVONIAN SHALE
NGPA Section 107

DESIGNATED AGENT H. Baird Whitehead

ADDRESS P. O. Box 628
Charleston, WV 25322

LOCATION Elevation 912'

WELL OPERATOR Cabot Oil & Gas Corp. of W.Va.

Watershed Manila Creek

ADDRESS P. O. Box 628
Charleston, WV 25322

Dist. Pocatalico County Putnam Quad. Bancroft

GAS PURCHASER Tennessee Gas Pipeline Company

Gas Purchase
Contract No. GSC151

ADDRESS P. O. Box 2511
Houston, TX 77001

Meter Chart Code WOPL

Date of Contract _____

* * * * *

Date surface drilling began: 10/31/84

Indicate the bottom hole pressure of the well and explain how this was calculated.

$$BHP = P_1 + P_1(eGL/53.34T_{-1})$$

$P_1 = 695$ PSIA
 $T = 99$
 $G = 0.69$
 $L = 3948$

BHP = 770 PSIA

AFFIDAVIT

I, Paul L. Gebhard, having been first sworn according to law, state that I have calculated the percentage of footage of the producing interval which is not Devonian Shale as indicated by a Gamma Ray index of less than 0.7 if a Gamma Ray log described in subparagraph (3)(i) or (3)(ii)(A) has been filed, or as indicated by the report described in subparagraph (3)(ii)(B); I have demonstrated that the percentage of potentially disqualifying non-shale footage is equal to or less than five (5) percent of the gross Devonian age interval; and I have no knowledge of any information not described in the application which is inconsistent with a conclusion that the well qualifies as a high-cost natural gas well.

Paul L Gebhard

STATE OF WEST VIRGINIA

COUNTY OF Kanawha, TO-WIT:

I, Lorene Miller, a Notary Public in and for the state and county aforesaid, do certify that Paul L. Gebhard, whose name is signed to the writing above, bearing date the 12th day of February, 19 85, has acknowledged the same before me, in my county aforesaid.

Given under my hand and official seal this 12th day of February, 1985.
My term of office expires on the 5th day of March, 19 89.

Lorene Miller
Notary Public

(NOTARIAL SEAL)

DEVONIAN SHALE GAMMA RAY LOG ANALYSIS
APPLICATION FOR DETERMINATION OF THE MAXIMUM LAWFUL
PRICE UNDER THE NATURAL GAS POLICY ACT

Operator: Cabot Oil and Gas Corp. Agent: H. Baird Whitehead

Type Determination being sought - 107 (Devonian Shale)

API Well No.: 47-079-1125 Well Name: Black Betsy #14

West Virginia Office of Oil & Gas County: Putnam
References: SJA File No.

Vol. _____ Page _____ Line _____

I. NOTE: A Gamma Ray Log has been marked with the (a) Shale Base Line, (b) a line representing 0.7 x (Shale Base Line), (c) intervals with Gamma Ray units less than 0.7 x (Shale Base Line) and that log is included with this analysis.

II. Gamma Ray elevation indices:

A. Shale Base Line (API Units)

1. GR Value at Base Line = 140 * API Units
2. Remarks:

B. Gamma Ray Log Value at 0.7 x Value at Base Line

1. GR Value = 140 * API Units
2. Calculation: $\frac{0.7}{0.7} \text{ (GR Value at Base Line)}$
 $0.7 \text{ (} \underline{140} \text{ *)} = \underline{98}$ API Units

III. Intervals with GR index less than 0.7 x (Value at Base Line):

| Interval | | Thickness of Interval Feet | Feet of less than * 0.7 (Shale Base Line) Feet |
|-------------|-------------|----------------------------------|--|
| From** | To*** | | |
| <u>2503</u> | <u>4556</u> | | |

Total Devonian Interval

2053

Total Less Than 0.7 (Shale Base)

0

% Less than 0.7 (Shale Base Line) = $\frac{\underline{0}}{\underline{2053}} \times 100 = \underline{0.0} \%$

*Marked on log included with analysis.
**Top of Devonian Section Recorded on First Interval in this column.
***Lesser of TD or Bottom of Devonian Section Recorded as last Interval in this Column.

AMHERST INDUSTRIES INC.

T.M. 176 / 1
5917.67 AC.

LATITUDE 38°-32'-30"

NORTH

LONGITUDE 81°-45'-00"

7 1/2' TOPO LOCATION

MANILA CREEK

PROPOSED BLACK BETSY NO. 14

N69-30E 9368.70'

9368.70'

N60-53E 2095.35'

EXISTING NO. 4 (S1936)

S50-28E 3109.73'

N77-11W 4336.09'

EXISTING S1397

CHARLIE CHANCY, ETALS

T.M. 187/5
D.B. 51/124
14.17 AC.

BENJAMIN P. CROSSUP, ETALS

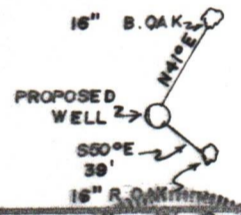
T.M. 187/6
D.B. 221/161
2500 AC.

S74-00W 19272'

OTTO MARMET COAL & MINING

3064 AC.

REFERENCES



FILE NO. _____

DRAWING NO. _____

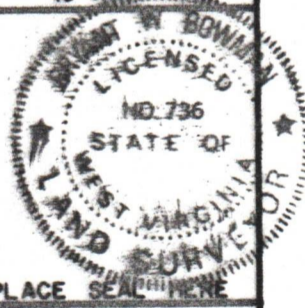
SCALE 1" = 2000'

MINIMUM DEGREE OF ACCURACY 1 IN 1000

PROVEN SOURCE OF ELEVATION EXISTING WELL NO. 4 N.E. OF LOCATION

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 MINES.

(SIGNED) *Dwight W. Bowman*
R.P.E. _____ L.L.S. 736



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FORM IV-6 (8-78)



DATE JULY 3, 1984
OPERATOR'S WELL NO. BLACK BETSY 14
API WELL NO. 47-079-1125
STATE COUNTY PERMIT

Department of Mines
Oil & Gas Division

WELL TYPE: OIL _____ GAS X LIQUID INJECTION _____ WASTE DISPOSAL _____
(IF "GAS", PRODUCTION _____ STORAGE _____ DEEP _____ SHALLOW X)

LOCATION: ELEVATION 912' WATER SHED: MANILA CREEK
DISTRICT POCATALICO COUNTY PUTNAM
QUADRANGLE BANCROFT (7 1/2')

SURFACE OWNER BENJAMIN P. CROSSUP, ETALS ACREAGE 2500
OIL & GAS ROYALTY OWNER CABOT OIL AND GAS CORP. OF W.V. LEASE ACREAGE 2500
LEASE NO. 47-9124

PROPOSED WORK: DRILL X CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE _____ PLUG OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____
TARGET FORMATION DEVONIAN SHALE ESTIMATED DEPTH 4200'
WELL OPERATOR CABOT OIL & GAS CORP. OF W.V. DESIGNATED AGENT STEVE TURK
ADDRESS P.O. BOX 628 ADDRESS P.O. BOX 628
CHARLESTON, WY. CHARLESTON, W.V.

CABOT OIL & GAS CORPORATION

CHARLESTON, W. VA.

BLACK BETSY #14

QUADRANGLE

Bancroft

COUNTY: Putman

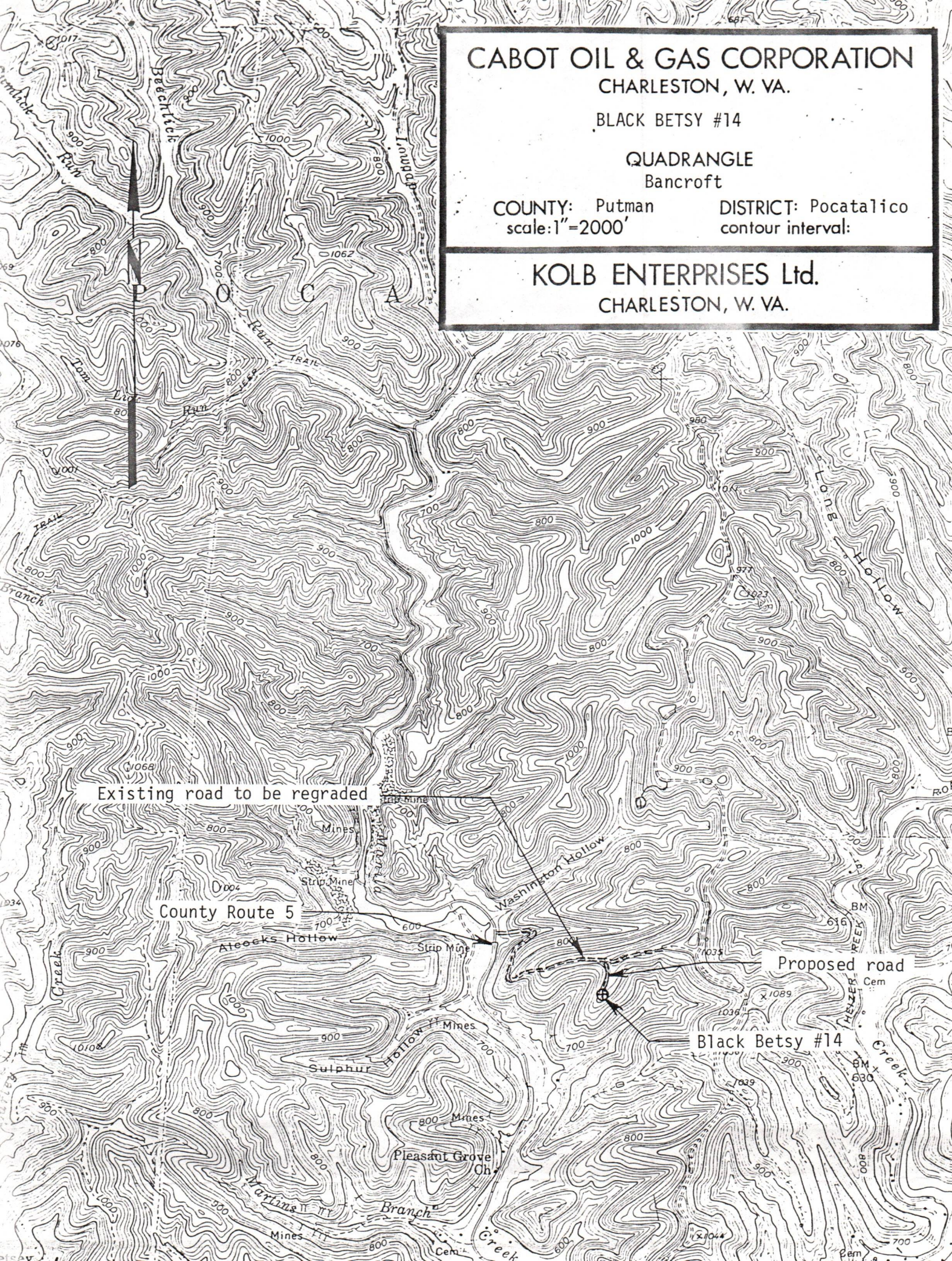
DISTRICT: Pocatalico

scale: 1"=2000'

contour interval:

KOLB ENTERPRISES Ltd.

CHARLESTON, W. VA.



Existing road to be regraded

County Route 5

Proposed road

Black Betsy #14