

gfs 3/28/88

50

LATITUDE 37°47'30"

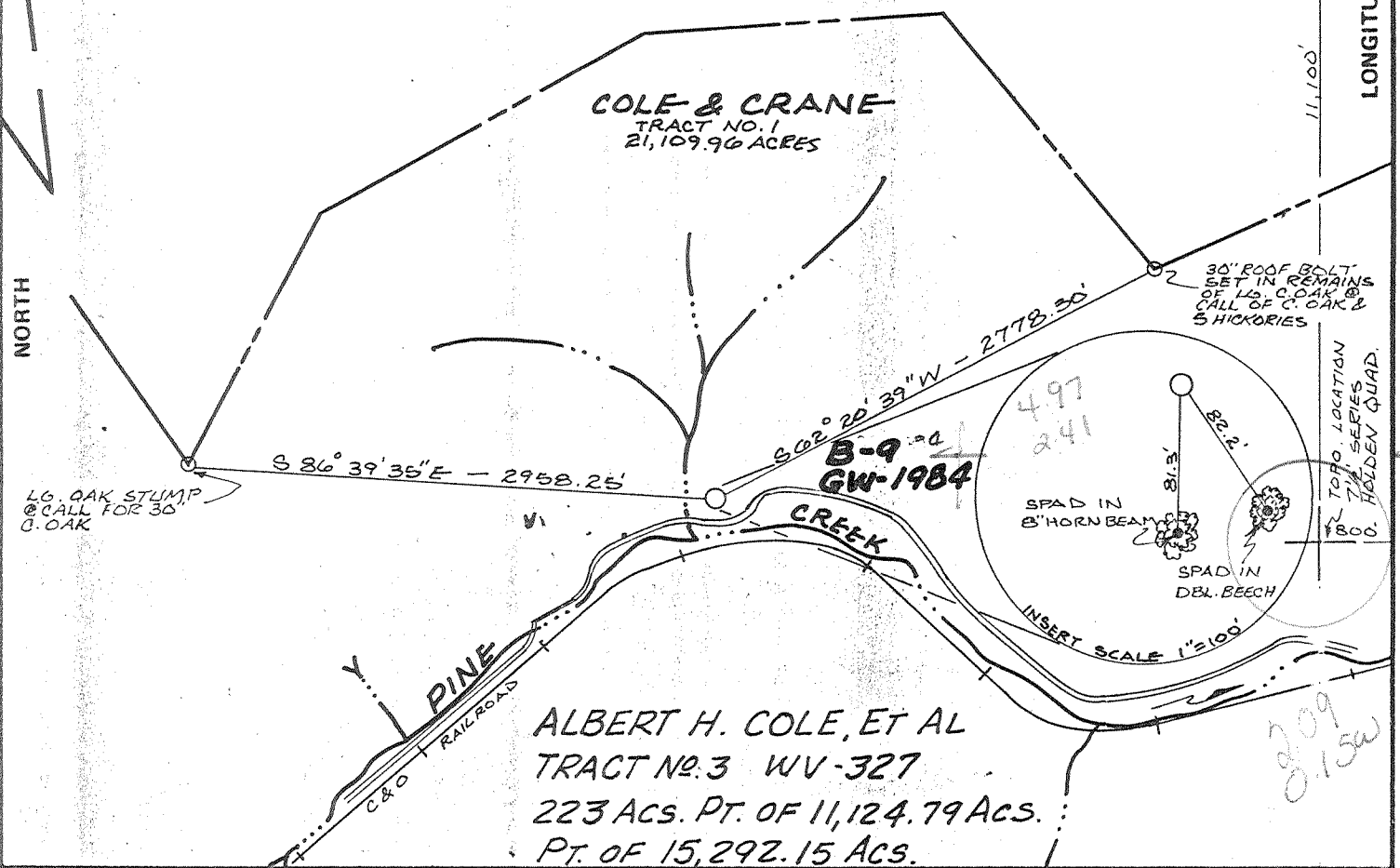
LONGITUDE 82°02'30"

GEORGIA-PACIFIC

SURFACE

ISLAND CREEK COAL CO.

MINERAL



FILE NO. CS 88-4
 DRAWING NO. 4
 SCALE 1"=1,000'
 MINIMUM DEGREE OF ACCURACY 1'-2500'
 PROVEN SOURCE OF ELEVATION USGS BM Z-143 EL. 971.33'

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) [Signature]
 R.P.E. _____ L.L.S. 257.511

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM IV-6 (8-78)



DATE February 25, 19 88
 OPERATOR'S WELL NO. B-9, GW-1984
 API WELL NO. _____
47 - 045 - 1120
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
 LOCATION: ELEVATION 1001.92' WATERSHED PINE CREEK OF ISLAND CREEK OF GUYANDOT
 DISTRICT ISLAND CREEK COUNTY LOGAN
 QUADRANGLE HOLDEN 7.5' 401 059 9 SE
 SURFACE OWNER ALBERT H. COLE ET AL ACREAGE 223 TRACT NO. 3
 OIL & GAS ROYALTY OWNER ALBERT H. COLE ET AL LEASE ACREAGE 223 AC. PT. OF 11,124.79 AC.
 LEASE NO. WV 327
 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 4880' APR 1 1988
 WELL OPERATOR CITIES SERVICE DESIGNATED AGENT PAUL D. PHILLIPS
 ADDRESS OIL & GAS CORP. 169 ADDRESS P.O. Box 873, CHARLESTON WV 25323
P.O. Box 873, CHARLESTON WV 25323

DEEP WELL 3-3 unnamed (0) DPD to Logan 770

WR-35

RECEIVED
JAN 30 1989

28-Mar-88
API # 47- 45-01120

State of West Virginia
DEPARTMENT OF ENERGY
Division of Oil and Gas
DEPARTMENT OF ENERGY
Well Operator's Report of Well Work.

Farm name: COLE & CRANE REAL ESTATE Operator Well No.: B-9, GW-1984

LOCATION: Elevation: 1001.92 Quadrangle: HOLDEN

District: ISLAND CREEK County: LOGAN
Latitude: 11100 Feet South of 37 Des. 47Min. 30 Sec.
Longitude: 800 Feet West of 82 Des. 2 Min. 30 Sec.

Company: CITIES SERVICE OIL & GAS CORP.
P. O. BOX 873
CHARLESTON, WV

Agent: PAUL D. PHILLIPS

Inspector: ARTHUR ST. CLAIR
Permit Issued: 03/28/88
Well work Commenced: 5-3-88
Well work Completed: 12-16-88
Verbal Plussings
Permission granted on:
Rotary Cable Ris
Total Depth (feet) 4919'
Fresh water depths (ft)
Salt water depths (ft)
Is coal being mined in area (Y/N) Y
Coal Depths (ft):

Casings & Tubings	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size Conductor			
16"	42' KB	42' KB	Surface
Coal			TOC
11.75"	448' KB	448' KB	15'
Intermediate			TOC
8.625"	2203' KB	2203' KB	1420'
Production Tubing			TOC
4.5"	4855' KB	4855' KB	1200'
2.375"		4753'	

OPEN FLOW DATA

Producing formation Rhinestreet, Java, Huron Lower Pay zone depth (ft) 4028' to 4779.5'

Gas: Initial open flow 639 MCF/d Oil: Initial open flow _____ Bbl/d
 Final open flow 177 MCF/d Final open flow _____ Bbl/d
 Time of open flow between initial and final tests 24 Hours
 Static rock Pressure 710 psig (surface pressure) after 550 Hours

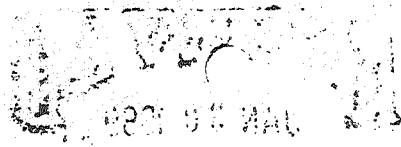
Second producing formation Big Lime Pay zone depth (ft) _____

Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
 Final open flow 104 MCF/d Final open flow _____ Bbl/d
 Time of open flow between initial and final tests 7 Hours
 Static rock Pressure 730 psig (surface pressure) after 1656 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.

Delbert G. Oliver, Appalachian Project Manager
For: CITIES SERVICE OIL & GAS CORP.
By: Delbert G. Oliver
Date: Jan 24, 1989

FEB 3 1989



Albert Cole B-9:

249 110 10 100
1989 01 30

Details of perforated intervals, fracturing or stimulating, physical change, etc.:

Rhinestreet, Java: 4478.5' to 4779.5' with 96 holes. Pumped 2000 gal 2% KCLW with 192 ball sealers. Fracture stimulated with 260,000 lbs 20-40 sand in 703 BW and 1,547,109 SCF of N2.

Lower Huron: 4028' to 4334.5' with 262 holes. Pumped 3125 gal 2% KCLW with 468 ball sealers. Fracture stimulated with 240,000 lbs 20-40 sand in 675 BW and 1,335,494 SCF of N2.

Big Lime: 2407'-2415' with 32 holes. Acidized with 16,000 gal 75 quality 15% HCl.

WELL LOG:

<u>Formation</u>	<u>Top (Ft)</u>	<u>Bottom (ft)</u>
Sand	0	625
Shale	625	1298
Sand	1298	1668
Shale	1668	2175
Little Lime	2175	2228
Big Lime	2228	2475
Sand & Shale	2475	2997
Sunbury	2997	3028
Berea	3028	3048
Devonian	3048	4026
Lower Huron	4026	4358
Java	4358	4660
Rhinestreet	4660	4844
Marcellus	4844	4872
Onondaga	4872	4919

RECEIVED
JAN 30 1989

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

2175
2475 - 2175
Op/ftg

6792

045-1120

Issued 3/28/88
expired 3/28/90
Page 3 of 4

FORM WW-2B

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS
WELL WORK PERMIT APPLICATION

- 1) Well Operator: ¹⁶⁹ Cities Service Oil and Gas Corporation 9800, 5, 401
- 2) Operator's Well Number: Albert H. Cole B-9, GW-1984 3) Elevation: 1001.92
- 4) Well type: (a) Oil / or Gas x /
(b) If Gas: Production x / Underground Storage /
Deep / Shallow x /
40T
- 5) Proposed Target Formation(s): Devonian Shale
- 6) Proposed Total Depth: 4880 feet
- 7) Approximate fresh water strata depths: None
- 8) Approximate salt water depths: None
- 9) Approximate coal seam depths: 167
- 10) Does land contain coal seams tributary to active mine? Yes x / No /
No well within area.
- 11) Proposed Well Work: DEVONIAN SHALE DRILLING WELL
- 12)

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	H-40	52	40	40	Surface
Fresh Water						38CSR19-11.3
Coal	13-3/8	H-40	48	250	250	Surface
Intermediate	7	J-55	23	2120	2120	Surface
Production	4-1/2	J-55	11.6	4880	4880	38CSR10-11.1 300 cu ft
Tubing	2-3/8	NUE	4.6	4880	4880	
Liners						

PACKERS : Kind _____
Sizes _____
Depths set _____

RECEIVED
MAR 23 1988

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

For Division of Oil and Gas Use Only

30060
 [] Fee(s) paid: [] Well Work Permit [] Reclamation Fund [] WPCP
 [] Plat [] WW-9 [] WW-2B [] Bond Blanket [] Agent
 (Type)

Page 1 of 4
Form WW2-A
(09/87)
File Copy

RECEIVED
MAR 23 1988
DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

Date: March 15, 1988
Operator's well number
Albert H. Cole B-9, GW-1984
API Well No: 47 - 045 - 1120
State - County - Permit

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

- | | |
|---|--|
| <p>4) Surface Owner(s) to be served:</p> <p>(a) Name <u>Cole & Crane Real Estate Trust</u>
Address <u>215 Frederick Bldg.</u>
<u>Huntington, WV 25701</u></p> <p>(b) Name <u>Attn: Bill Stark</u>
Address _____</p> <p>(c) Name _____
Address _____</p> | <p>5) (a) Coal Operator:</p> <p>Name <u>W & P Coal Company</u>
Address <u>P. O. Box 570</u>
<u>Omar, WV 25638, Attn: John Clark</u></p> <p>(b) Coal Owner(s) with Declaration</p> <p>Name <u>W & P Coal Company</u>
Address <u>P. O. Box 570</u>
<u>Omar, WV 25638, Attn: John Clark</u></p> <p>Name _____
Address _____</p> |
| <p>6) Inspector <u>Arthur St. Clair</u>
Address <u>P. O. Box 468</u>
<u>Brenton, WV 24818</u>
Telephone (304)- <u>732-6227</u></p> | <p>(c) Coal Lessee with Declaration</p> <p>Name <u>W & P Coal Company</u>
Address <u>P. O. Box 570</u>
<u>Omar, WV 25638, Attn: John Clark</u></p> |

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

 x Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through 4 on the above named parties, by:

 x Personal Service (Affidavit attached)

 Certified Mail (Postmarked postal receipt attached)

 Publication (Notice of Publication attached)

I have read and understand Chapter 22B 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 Cities Service Oil and Gas Corporation
BY: Paul D. Phillips
Its: Operations Manager
Address P. O. Box 873
Charleston, WV 25323
Telephone (304) 344-8383

Subscribed and sworn before me this 15 day of MARCH, 1988

Donald J. Gray Notary Public
My commission expires June 1, 1989