

WEST

LATITUDE 39° 15' 00"

1600'

20" BL. WALNUT

S63°45'W, 280.50'

S27°15'E, 275.22'

WELL REFERENCES:
N20°30'W, 136.50' TO 8" HICKORY
S11°15'E, 103' TO 6" SUGAR

MORGAN

ARBOGAST

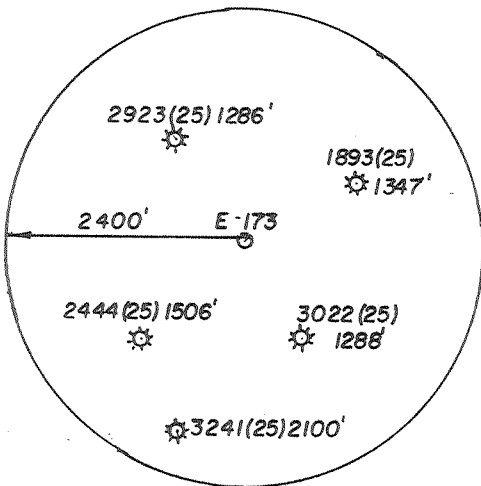
N18°05'W, 1470.21'

S17°12'E, 1450.29'

LONGITUDE 80° 32' 30"

14,400'

NORTH



LAND SURVEYING SERVICES
21 CEDAR LANE
BRIDGEPORT, WV 26330
PHONE: 304-842-2018

2.74 S
2.53 W

2.74 S
0.30 W

7.5

10" LOC. SNAG

S66°31'E, 30.28'

S34°45'E, 122.10'

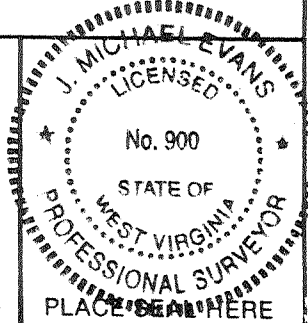
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. _____
 DRAWING NO. _____
 SCALE 1 INCH = 200 FT.
 MINIMUM DEGREE OF ACCURACY 1 IN 200
 PROVEN SOURCE OF ELEVATION TOP OF KNOB 1800'
NW. OF LOC. AT ELEV. 1548'

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.

(SIGNED) J. Michael Evans

R.P.E. _____ L.L.S. 900
 J. MICHAEL EVANS



STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION



DATE MAY 25, 19 91

OPERATOR'S WELL NO. E-173

API WELL NO. BETTY LYNCH

47-017-3914
STATE COUNTY PERMIT

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

LOCATION: ELEVATION 1362' WATER SHED LAUREL RUN

DISTRICT GREENBRIER COUNTY DODDRIDGE

QUADRANGLE BIG ISAAC Vadio NE

SURFACE OWNER ARLIT J. ARBOGAST, JR. ACREAGE 108.72

OIL & GAS ROYALTY OWNER BETTY LYNCH LEASE ACREAGE 5.3

LEASE NO. _____

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 BENSON/ALEXANDER ESTIMATED DEPTH 5800'

WELL OPERATOR EXCEL ENERGY, INC. DESIGNATED AGENT HARRY BARNETT

ADDRESS P. O. BOX 1020 ADDRESS P. O. BOX 1020

BRIDGEPORT, WV 26330 BRIDGEPORT, WV 26330

COUNTY NAME

PERMIT

6-6 Bio Isaac (147)

State of West Virginia
DEPARTMENT OF ENERGY
Division of Oil and Gas

Revised TMG
Recorded _____

Well Operator's Report of Well Work

Farm name: ARBOGAST, ARLET JR. ETUX Operator Well No.: B. LYNCH E-173

LOCATION: Elevation: 1362.00 Quadrangle: BIG ISAAC

District: GREENBRIER County: DODDRIDGE
Latitude: 14400 Feet South of 39 Deg. 15Min. 0 Sec.
Longitude 1600 Feet West of 80 Deg. 32 Min. 30 Sec.

Company: EXCEL ENERGY, INC
P. O. BOX 1020
BRIDGEPORT, WV 26330-1020

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
11 3/4"	Conductor	-	-
8 5/8"	1416'	1416'	cts
4 1/2"	5512'	5512'	300sks

Agent: HARRY L. BARNETT

Inspector: MIKE UNDERWOOD
Permit Issued: 09/26/91
Well work Commenced: 10/10/91
Well work Completed: 10/16/91
Verbal Plugging
Permission granted on: _____
Rotary Cable _____ Rig
Total Depth (feet) 5685 dtd
Fresh water depths (ft) 90,260
Salt water depths (ft) n/a
Is coal being mined in area (Y/N)?
Coal Depths (ft): 1060+65

OPEN FLOW DATA

Producing formation Alexander Pay zone depth (ft) 5433-39
Gas: Initial open flow show MCF/d Oil: Initial open flow n/a Bbl/d
Final open flow 1690 MCF/d Final open flow show Bbl/d
Time of open flow between initial and final tests 6 Hours
Static rock Pressure 1600 psig (surface pressure) after 24 Hours

Second producing formation Benson Pay zone depth (ft) 5088-5106
Gas: Initial open flow show MCF/d Oil: Initial open flow n/a Bbl/d
Final open flow commingle MCF/d Final open flow show Bbl/d
Time of open flow between initial and final tests 6 Hours
Static rock Pressure commingle psig (surface pressure) after 24 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: EXCEL ENERGY, INC

By: H. L. Barnett
Date: November 26, 1991

DEC 1 8 1991

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

- I. (5433-5439) 18 holes, 500 gal 15% HCL, 350 sks sand, 473 bbl gelled
H₂O, 60 mcf N₂
- II. (5088-5106) 36 holes, 750 gal 15% HCL, 550 sks sand, 648 bbl. gelled
H₂O, 80 mcf N₂

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			0	15	
SAND & SHALE			15	420	
SAND			420	455	H ₂ O @ 90', 260'
SNAD & SHALE			455	1060	
COAL			1060	1065	
SAND & SHALE			1065	2134	
LITTLE LIME			2134	2150	
SHALE			2150	2174	
BIG LIME			2174	2250	1/2" oil @ 2230
INJUN SAND			2250	2332	
SHALE			2332	2912	
SAND			2912	2930	
SHALE			2930	5085	
BENSON SAND			5085	5110	gas show
SHALE			5110	5430	
SAND (ALEXANDER)			5430	5470	gas show
SHALE			5470	5686	DTD

2777

RECEIVED
SEP 19 1991

017-3914
Issued 09/26/91
Page ___ of ___
Expires 09/26/93

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

- 1) Well Operator: EXCEL ENERGY, INC. ¹⁰²⁸ 16570 (14) 252
- 2) Operator's Well Number: E-173 3) Elevation: 1362'
- 4) Well type: (a) Oil ___ / or Gas X /
(b) If Gas: Production X / Underground Storage ___ /
Deep ___ / Shallow X /
- 5) Proposed Target Formation(s): Benson/Alexander ⁴³⁹
- 6) Proposed Total Depth: 5800 feet
- 7) Approximate fresh water strata depths: 129'
- 8) Approximate salt water depths: None
- 9) Approximate coal seam depths: None
- 10) Does land contain coal seams tributary to active mine? Yes ___ / No X /
- 11) Proposed Well Work: Drill and stimulate a new 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	9 5/8"			30'	30'	
Fresh Water						38CSRB-11.3
Coal						
Intermediate	7"		17#	1350'	1350'	to surface
Production	4 1/2"	J-55	10.50#	5780'	5780'	500 sks
Tubing						38CSRB-11.1
Liners						

PACKERS : Kind _____
 Sizes _____
 Depths set _____

For Division of Oil and Gas Use Only

1649-
 Fee(s) paid: Well Work Permit Reclamation Fund WPCP
 Plat WW-9 WW-2B Bond Security Blanket Agent



1) Date: August 1, 1991
2) Operator's well number
Betty Lynch E-173
3) API Well No: 47 - 017 - 3914
State - County - Permit

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- 4) Surface Owner(s) to be served: 5) (a) Coal Operator:
- (a) Name Arlet J. & Debra M. Arbogast, Jr. Name _____
 c/o Barbara Arbogast Address _____
 Address Rt. 3, Box 92 _____
Salem, W. Va. 26426 _____
- (b) Name _____ (b) Coal Owner(s) with Declaration
 Address _____ Name Willis O. Tetrick
 _____ Address PO Box 267
 _____ Clarksburg, WV 26301
 (c) Name _____ Name _____
 Address _____ Address _____
- 6) Inspector Mike Underwood (c) Coal Lessee with Declaration
 Address Rt. 2, Box 135 Name _____
Salem, WV 26426 Address _____
 Telephone (304)- 782-1043

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 _____ on the above named parties, by:

- _____ Personal Service (Affidavit attached)
X 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 EXCEL ENERGY, INC.
By: H. L. Barnett H. L. BARNETT
Its: PRESIDENT
Address PO Box 1020
Bridgeport, WV 26330
Telephone (304) 842-6927

Subscribed and sworn before me this 2nd day of August, 1991

Cathy A. Ball

Notary Public

My commission expires 3/21/94