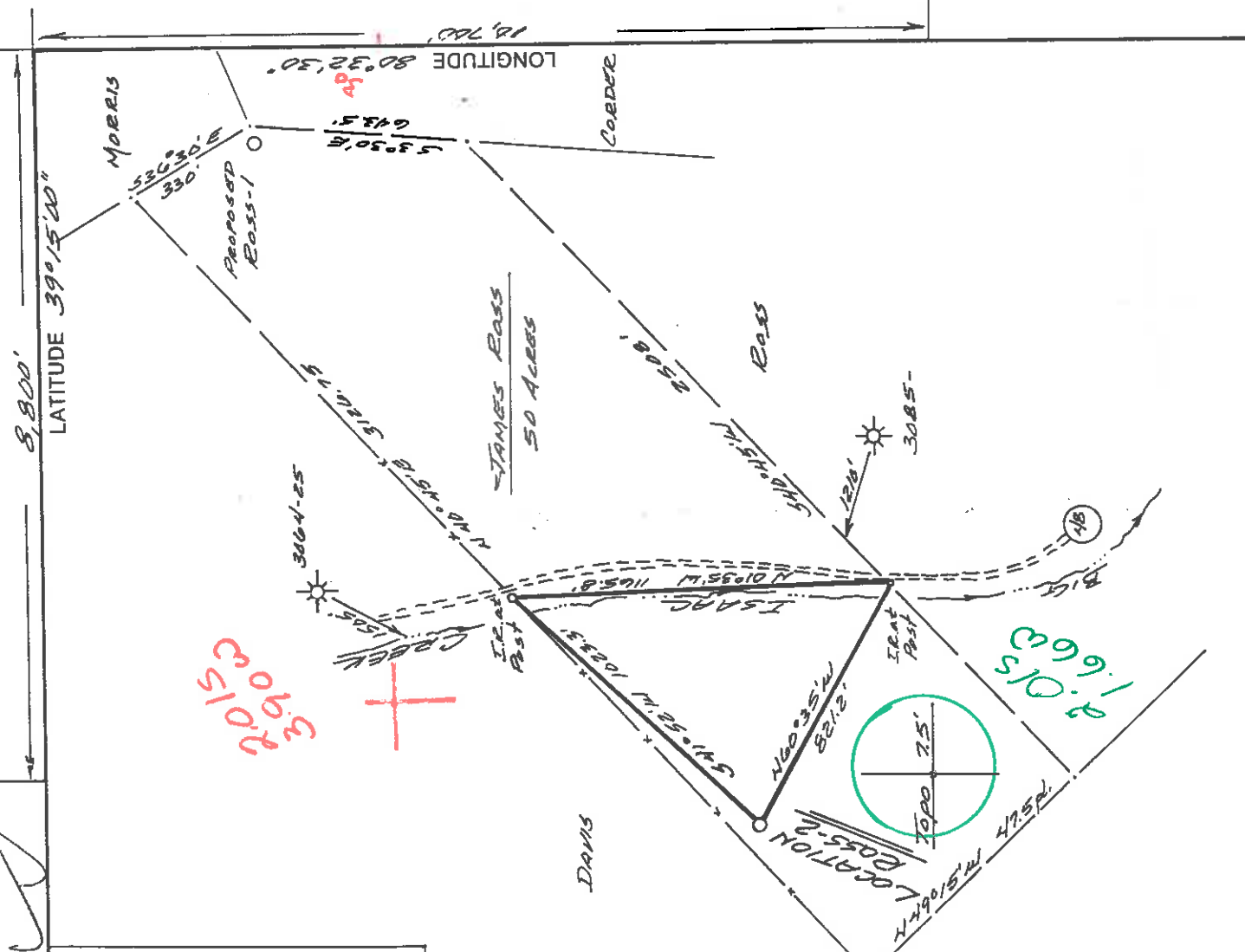
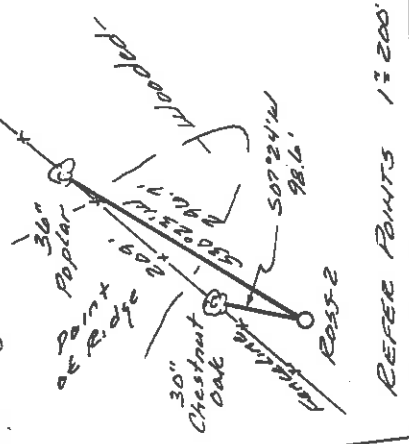


9/29/87



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

FILE NO. 8605  
 DRAWING NO. 87-4  
 SCALE 1" = 500'  
 MINIMUM DEGREE OF ACCURACY 1 in 200  
 PROVEN SOURCE OF ELEVATION Spot Elev - 1051  
South 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 ENERGY.  
 (SIGNED) Raymond L. Doherty  
 R.P.E. Brookhaven, WV I.L.S. 555



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

DATE September 22, 1987  
 OPERATOR'S WELL NO. Ross-2  
 API WELL NO. 47 017 STATE 47 COUNTY  Boone PERMIT 3599

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 (IF "GAS,") PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION: ELEVATION 1300' WATER SHED Big Isaac Creek  
 DISTRICT Green River 4 COUNTY  Boone  
 QUADRANGLE Big Isaac 252 123 1045.06  
 SURFACE OWNER James Ross & Mildred A. Ross ACREAGE 50  
 OIL & GAS ROYALTY OWNER James Ross, et al LEASE ACREAGE 50

PROPOSED WORK: DRILL  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 ALEXANDER ESTIMATED DEPTH 5700'  
 WELL OPERATOR EXCEL ENERGY, INC. DESIGNATED AGENT HARRY L. BARRETT  
 ADDRESS 901 W. Main St., Suite 201 ADDRESS \_\_\_\_\_

Bridgeport, WV 26330 1028  
6-4 Meathouse Fork - Bristol (146)

COUNTY NAME \_\_\_\_\_ PERMIT OCT 5 1987

PLACE SEAL HERE



FEW

WR-35

Date October 19, 1987  
Operator's Well No. E-42  
Farm Ross # 2  
API No. 47 - 017 - 3599

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

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 / Underground Storage / Deep / Shallow X /)

LOCATION: Elevation: 1300' Watershed Big Isaac Creek  
District: Greenbrier County Doddridge Quadrangle Big Isaac 252

COMPANY Excel Energy, Inc.

ADDRESS P.O. Box 1020, Bridgeport, WV 26330

DESIGNATED AGENT H. L. Barnett

ADDRESS P.O. Box 1020, Bridgeport, WV 26330

SURFACE OWNER James Ross & Mildred A. Ross

ADDRESS \_\_\_\_\_

MINERAL RIGHTS OWNER James Ross, etal.

ADDRESS \_\_\_\_\_

OIL AND GAS INSPECTOR FOR THIS WORK

Rt. 2 Box 114

Mike Underwood ADDRESS Salem, WV 26426

PERMIT ISSUED September 29, 1987

DRILLING COMMENCED October 6th, 1987

DRILLING COMPLETED October 10, 1987

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.
Size 20-16			
Cond. 11 3/4 20			
13-10"			
9 5/8			
8 5/8	1128	1128	275 -sks
7			
5 1/2			
4 1/2	5538	5538	500 sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Alexander Depth 5680 feet

Depth of completed well 5538 feet Rotary X / Cable Tools \_\_\_\_\_

Water strata depth: Fresh 80 feet; Salt 0 feet

Coal seam depths: \_\_\_\_\_ none \_\_\_\_\_ Is coal being mined in the area? No.

OPEN FLOW DATA

Producing formation Alexander & Benson Alex 5423-49  
Pay zone depth Ben.5085-97 feet

Gas: Initial open flow 84 Mcf/d Oil: Initial open flow 0 Bbl/d

Final open flow ? Mcf/d Final open flow ? Bbl/d

Time of open flow between initial and final tests \_\_\_\_\_ hours

Static rock pressure 1540 psig (surface measurement) after 22 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

MAR 4 1988

(Continue on reverse side)



017 3599

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

Alexander - Perforated 5423 - 5449 - 14 .39 holes

Frac Using 190bbis H2O, 5,000 # 80-100 sand, 500 gal. acid, 597,000 s.c.f. N2

Benson - Perforated 5085 - 5097 - 15 .39 holes

Frac Using 282bbis H2O, 10,000 # 80-100 sand, 40,000 # 20-40 sand 500 gal. acid 734,000 s.c.f. 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
Top Soil	yellow	soft	0	15	
Clay	Red	Soft	15	25	
Shale	Gray	Soft	25	80	
Sand	White	Hard	80	120	H2O 80'
Shale&Sand	Gray	Medium	120	520	
Red Rock	Red	Soft	520	560	
Sand&Shale	Gray	Soft	560	2180	
		Log Top ✓			
Big Lime	Gray	Medium	2180	2255	
Big Injun	Gray	Medium	2255	2337	
Shale&Sand	Gray	Soft	2337	2873	
Gordon	Gray	Soft	2873	2940	
Shale	Gray	Soft	2940	3508	
Speechley	Gray	Soft	3508	3650	
Balltown	Gray	Soft	3650	3965	
Shale	Gray	Soft	3965	5082	
Benson	Brown	Soft	5082	5100	
Shale	Gray	Soft	5100	5420	
✓ Alex Sand	Gray	Soft	5420	5483	
Shale	Gray	Soft	5483	5680	
			5680	T.D. ✓	

(Attach separate sheets as necessary)

Excel Energy, Inc.  
Well Operator

By: *[Signature]*

Date: October 19, 1987

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 ... encountered in the drilling of a well."  
*[Handwritten initials]*

MAR 4 1988



1) Date: September 23, 1987  
 2) Operator's Well No. E-42  
 3) API Well No. 47 017 3599 State County Permit



**RECEIVED**  
 SEP 29 1987

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

DIVISION OF OIL & GAS  
 DEPARTMENT OF ENERGY

4) WELL TYPE: A Oil  Gas   
 B (If "Gas", Production  / Underground storage  / Deep  / Shallow   
 5) LOCATION: Elevation: 1300' Watershed: Big Isaac Creek  
 District: Greenbrier County: Doddridge Quadrangle: Big Isaac  
 6) WELL OPERATOR: Excel Energy, Inc DESIGNATED AGENT: H.L. Barnett  
 Address: P. O. Box 1020 Address: P.O. Box 1020  
Bridgeport, WV 26330 Bridgeport, WV 26330

8) OIL & GAS INSPECTOR TO BE NOTIFIED  
 Name Mike Underwood 9) DRILLING CONTRACTOR:  
 Address Rt. 2 Box 114 Name Unknown  
Salem, WV 26426 Address \_\_\_\_\_

10) PROPOSED WELL WORK: Drill  / deeper  / Redrill  / Stimulate   
 Plug off old formation  / Perforate new formation   
 Other physical change in well (specify) \_\_\_\_\_

11) GEOLOGICAL TARGET FORMATION: Alexander  
 12) Estimated depth of completed well, 5850' feet  
 13) Approximate true depths: Fresh, 100', 250' feet; salt, \_\_\_\_\_ feet.  
 14) Approximate coal seam depths: 80', 150', 280', 900' Is coal being mined in the area? Yes  No

15) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS	
	Size	Grade	Weight per ft.	New	Used			For drilling
Conductor	11 3/4		42		X	40'	NONE	
Fresh water								
Coal								
Intermediate	8 5/8	ERW	20	X		1100'	275 sks-to	Sizes <u>38CR18-11.3</u> Surface <u>38CR18-11.22</u>
Production	4 1/2	J55	10.5	X		5700'	500 sks	Depths set <u>38CR18-11.1</u>
Tubing								
Links								

Permit number 47-017-3599 Date September 29, 1987  
 OFFICE USE ONLY  
 DRILLING PERMIT

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 September 29, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: Agent: [Signature] Plat: [Signature] Fee 232 Other 1005  
10407

NOTE: Keep one copy of this permit posted at the drilling location. Director, Division of Oil and Gas File

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

