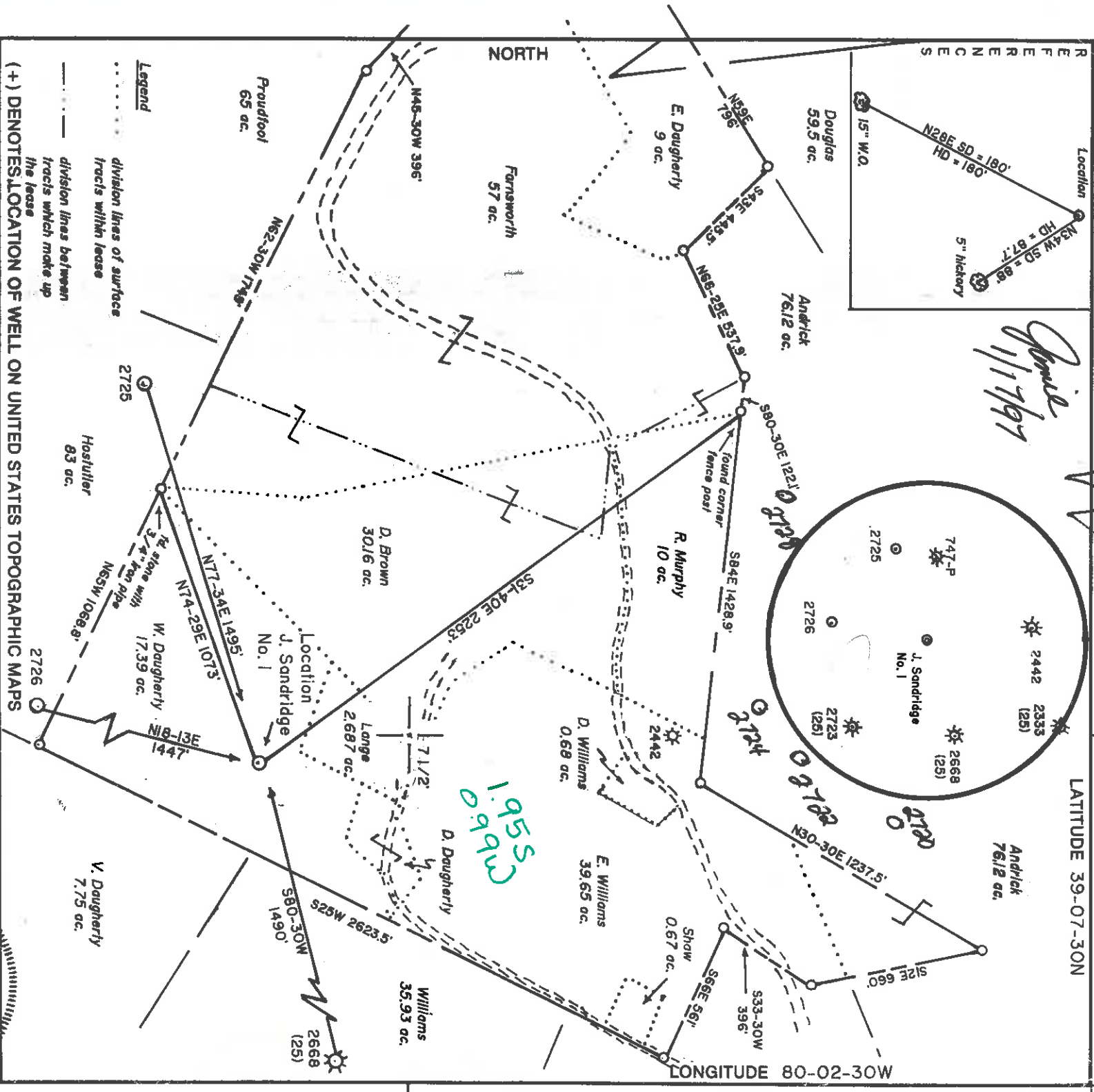
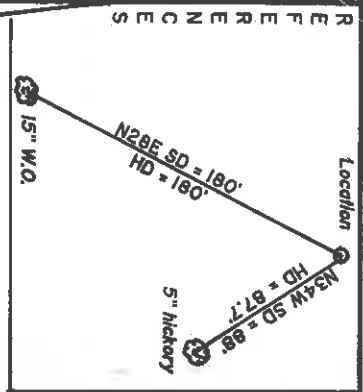


R E F E R E N C E S



David J Jackson
1/17/97

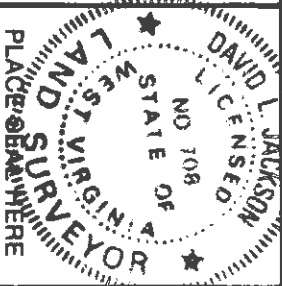
LATITUDE 39-07-30N
5225

LONGITUDE 80-02-30W

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

FILE NO. _____
DRAWING NO. 1
SCALE 1" = 500'
MINIMUM DEGREE OF ACCURACY 1 in 200
PROVEN SOURCE OF ELEVATION Road Junction 3550'
NE of Location: elev. 1746'

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) David J Jackson
R.P.E. _____ L.L.S. 708



STATE OF WEST VIRGINIA
Division of Environmental Protection
OFFICE OF OIL AND GAS

DATE December 30, 19 96
OPERATOR'S WELL NO. J. Sandridge No. 1
API WELL NO. 47 001 02730

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW
LOCATION: ELEVATION 1737 WATERSHED Tygart Valley River STATE _____ COUNTY _____ PERMIT _____
DISTRICT Phillipi COUNTY Barbour

QUADRANGLE Audra 7 1/2' COUNTY Barbour
SURFACE OWNER William Daugherty et ux ACREAGE 17.39
OIL & GAS ROYALTY OWNER J. Sandridge heirs LEASE ACREAGE 170

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 ESTIMATED DEPTH 5200' PERMIT _____
TARGET FORMATION Benson DESIGNATED AGENT Eric R. Stearns
WELL OPERATOR Petroleum Development Corp. ADDRESS P.O. Box 26, Bridgeport, WV 26330
ADDRESS P.O. Box 26, Bridgeport, WV 26330 ADDRESS P.O. Box 26, Bridgeport, WV 26330

6-6 857

JAN 21 1997

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Well Operator's Report of Well Work

Farm name: WILLIAM & WILMA DAUGHERTY Operator Well No.: J.SANDRIDGE #1

LOCATION: Elevation: 1,737.00 Quadrangle: AUDRA

District: PHILIPPI County: BARBOUR
Latitude: 10225 Feet South of 39 Deg. 7 Min. 30 Sec.
Longitude 5225 Feet West of 80 Deg. 2 Min. 30 Sec.

Company: PETROLEUM DEVELOPMENT COR.
103 E. MAIN ST. - P.O. BOX 26
BRIDGEPORT, WV 26330-0026

Agent: ERIC STEARNS

Inspector: PHILLIP TRACY
Permit Issued: 01/17/97
Well work Completed: 01/22/97
Verbal Plugging: 01/29/97
Permission granted on: _____
Rotary Cable Rig
Total Depth (feet) 4059'
Fresh water depths (ft) _____
206; 665
Salt water depths (ft) _____
Is coal being mined in area (Y/N)? N
Coal Depths (ft): 127-129; 308-314

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
11 3/4"	30'	30'	
8 5/8"	978'	978'	240 sks
4 1/2"	4045'	4045'	460 sks

OPEN FLOW DATA

Producing formation: Benson Pay zone depth (ft) 3702-3707

Gas: Initial open flow 39 MCF/d Oil: Initial open flow 0 Bbl/d
 Final open flow 557 MCF/d Final open flow 0 Bbl/d
 Time of open flow between initial and final tests 4 Hours
 Static rock Pressure 1100 psig (surface pressure) after 72 Hours

Second producing formation: Pay zone depth (ft)

Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ 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 _____ psig (surface pressure) after _____ 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: PETROLEUM DEVELOPMENT CORP.

By: Eric R. Stearns
Date: February 10, 1997

FEB 14 1997

SANDRIDGE #1

STAGE	FORMATION	PERFS	80/100 SKS	20/40 SKS	ACID GAL	N2 (MCF)
1st	Benson	20 (3702' - 3707')	50	400	500	58

W E L L L O G

FORMATION	TOP FEET	BOTTOM FEET	REMARKS: FRESH & SALT WATER, COAL, OIL & GAS
KB - GL	0	10	
sand, shale, RR	10	1088	1/4" Stream H2O @ 206'
Little Lime	1088	1105	1/2" Stream H2O @ 665'
sand, shale	1105	1137	
Big Lime	1137	1275	
sand, shale	1275	1282	
Keener	1282	1280	Coal @ 127' - 129'
sand, shale	1280	1288	Coal @ 308' - 314'
Big Injun	1288	1359	gas chk @ 1365' No Show
sand, shale	1359	1398	gas chk @ 1552' No Show
Weir	1398	1420	gas chk @ 1889' No Show
sand, shale	1420	1445	gas chk @ 2076' No Show
Gantz	1445	1470	gas chk @ 2139' No Show
sand, shale	1470	1500	gas chk @ 2417' No Show
50 ft	1500	1558	gas chk @ 2665' No Show
sand, shale	1558	1570	gas chk @ 3440' No Show
30 ft	1570	1612	gas chk @ 3900' No Show
sand, shale	1612	1870	gas chk @ TD 14/10 thru 1" w/w
Gordon	1870	1910	gas chk @ DC 16/10 thru 1" w/w
sand, shale	1910	1925	
4th	1925	2112	
sand, shale	2112	2145	
5th	2145	2168	
sand, shale	2168	2170	
Bayard	2170	2202	
sand, shale	2202	2440	
Elizabeth	2202	2442	
sand, shale	2440	2495	
Speechley	2442	2842	
sand, shale	2495	2860	
Balltown	2842	3182	
sand, shale	2860	3205	
Bradford	3182	3345	
sand, shale	3205	3550	
Riley	3345	3850	
sand, shale	3550	3900	
Benson	3850	3965	
sand, shale	3900	4059	

Drillers TD

4060

Logger TD

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

1) Well Operator: PETROLEUM DEVELOPMENT CORPORATION ⁶⁸⁷ 38200 5 228

2) Operator's Well Number: J. Sandridge #1 3) Elevation: 1737'

4) Well type: (a) Oil / or GASX / Produced 01/17/97
 (b) If Gas: Production X / Underground Storage Exposed 01/17/97
 Deep / / Shallow X /

Proposed Target Formation(s): Flk Sands ⁴³⁶
 Proposed Total Depth: 5200 feet

Approximate fresh water strata depths: 135'; 285'; 315'

Approximate salt water depths: 1375' (if present)

Approximate coal seam depths: 110'; 485'

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

11) Proposed Well Work: Drill & Stimulate New Well

12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS	FOOTAGE INTERVALS	CEMENT			
	Size	Grade	Weight per ft. drilling	For drilling	Left in well	Fill-up (cu. ft.)
Conductor	11-3/4"	H-40	42#	30'		
Fresh Water						
Coal						
Intermediate	8-5/8"	H-40	20/23#	950'	950'	38CSR18-11.3 38CSR18-11.2.2
Production	4-1/2"	J-55	10.5#	5200'	5200'	38CSR18-11.1 450 sks
Tubing						
Liners						

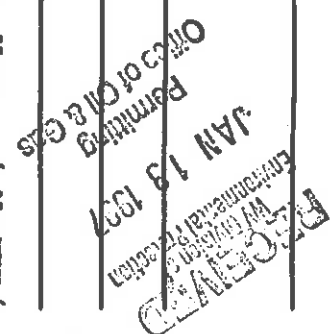
PACKERS : Kind _____

Sizes _____
 Depths set _____

For Office of Oil and Gas Use Only

Fee(s) paid: 171 Well Work Permit 171 Reclamation Fund 171 WPCP Agent
 Plat 171 WW-9 171 WW-2B 171 Bond Blanket (Type)

023492
 N



1) Date: January 3, 1997
2) Operator's well number J. Sandridge #1
3) API Well No: 47 - 001 - 2730
State County Permit

STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE 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 William F. and Wilma Daugherty
Address Rt. 1, Box 281
Phillippi, WV 26416
- (b) Name _____
Address _____
- (b) Coal Owner(s) with Declaration
Name _____
Address _____
- (c) Name _____
Address _____
- 6) Inspector Phillip Tracy
Address Rt. 2, Box 37-A
Montrose, WV 26283
Telephone (304)- 636-8798
- (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 XXX Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)

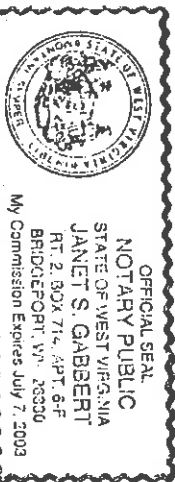
I certify that as required under Chapter 22 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through ___ on the above named parties, by:

- _____ 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 PETROLEUM DEVELOPMENT CORPORATION
By: Eric R. Stearns
Its: VP, Exploration & Development
Address P O Box 26
Bridgeport, WV 26330
Telephone 304-842-6256

Subscribed and sworn before me this 30th day of JANUARY, 1997
Janet S. Gabbert Notary Public
My commission expires July 7, 2003

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

1) Well Operator: PETROLEUM DEVELOPMENT CORPORATION ⁶⁸⁷ 38200 B 228

2) Operator's Well Number: J. Sandridge #1 3) Elevation: 1737'

4) Well type: (a) Oil / or Gas XX / 3) Elevation: 1737'
 (b) If Gas: Production XX / Issued 01/17/99
 Undergrnd Storage / Expires 01/17/99
 Deep / Shallow XX /

23107

Proposed Target Formation(s): Elk Sands ⁴³⁶
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Liners						

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Sizes _____
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For Office of Oil and Gas Use Only

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 Plat 121 WW-9 121 WW-2B 121 Bond Blanket (Type)

023492
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