

Janie 9/23/89

LATITUDE 38° 40' 00"

S. D. P. Co. NO. 1240

GLADA BOGGS LEASE 56.61 Acres±

EARL D. KEEN HRS. SURF. 56.61 Ac.

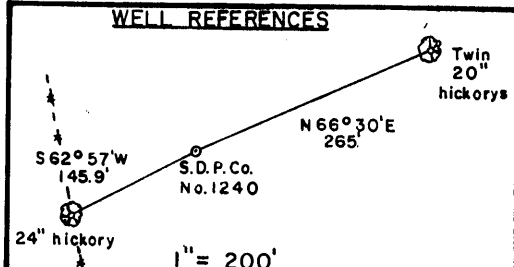
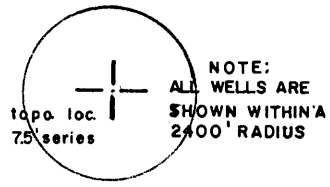
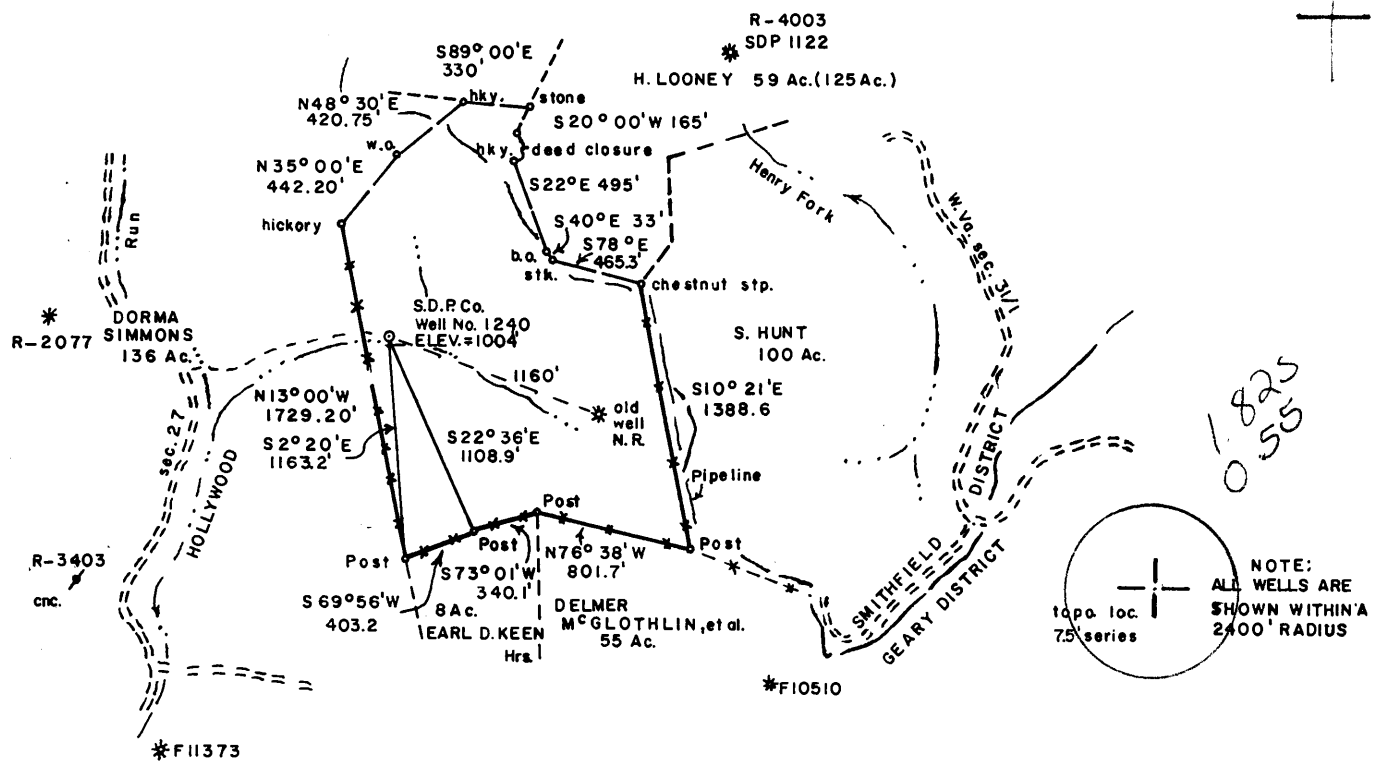
1.825  
0 55W

LONGITUDE 81° 10' 00"

S 10096

MAGNETIC 10/18/86

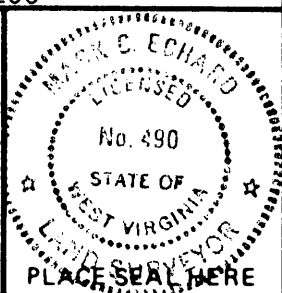
NORTH



FILE NO. 092-097  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY 1/200  
 PROVEN SOURCE OF ELEVATION JCT. of ROADS 3200' ± EAST of Location - ELEV. = 1172'

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) Mark C. Echard  
 MARK C. ECHARD  
 R.P.E. \_\_\_\_\_ L.L.S. 490



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



DATE FEBRUARY 25, 19 89  
 OPERATOR'S WELL NO. 1240  
 API WELL NO. 4094  
47-087 - 4094  
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 (IF "GAS,") PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION: ELEVATION 1004' WATER SHED HOLLYWOOD RUN  
 DISTRICT GEARY 2 COUNTY ROANE  
 QUADRANGLE TARIFF 7.5' 635 0964 Other WC  
 SURFACE OWNER EARL D. KEEN HEIRS ACREAGE 56.61  
 OIL & GAS ROYALTY OWNER GLADA BOGGS LEASE ACREAGE 56.61  
 LEASE NO. 092-097  
 PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

high angle directional well

PLUG AND ABANDON  CLEAN OUT AND REPLUG   
 TARGET FORMATION DEVONIAN SHALE ESTIMATED DEPTH 4500'  
 WELL OPERATOR STERLING DRILLING & PROD. CO. DESIGNATED AGENT WILLIAM E. STOVER  
 ADDRESS 150 GRAND ST. 4th FLOOR ADDRESS 710 VIRGINIA ST. EAST  
WHITE PLAINS, N.Y. 10601 838 CHARLESTON, W.V. 25301

APR 07 1989

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

**RECORDED**  
NOV 15 1990

Well Operator's Report of Well Work

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

Farm name: LOONEY, ALMETA

Operator Well No.: E. D. KEEN 1240

LOCATION: Elevation: 1004.00 Quadrangle: TARIFF

District: GEARY County: ROANE  
Latitude: 9600 Feet South of 38 Deg. 40Min. 0 Sec.  
Longitude 2960 Feet West of 81 Deg. 10 Min. 0 Sec.

Company: STERLING DRILLING PROD. C  
ONE LANDMARK SQUARE  
STAMFORD, CT 06901-0000

Agent: WILLIAM E. STOVER

Inspector: HOMER DOUGHERTY  
Permit Issued: 04/03/89  
Well work Commenced: 07/10/89  
Well work Completed: 07/30/89  
Verbal Plugging \_\_\_\_\_  
Permission granted on: \_\_\_\_\_  
Rotary x Cable \_\_\_\_\_ Rig \_\_\_\_\_  
Total Depth (feet) 4833'  
Fresh water depths (ft) 100

Salt water depths (ft) 1290'

Is coal being mined in area (Y/N)? \_\_\_\_\_  
Coal Depths (ft): N

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
13 3/8	371	371	260 sks
9 5/8	1988	1988	484 sks
N-80 5 1/2	4773	4773	605 sks
2 7/8	4675	4675	N/A

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth (ft) 4624  
Gas: Initial open flow 353 MCF/d Oil: Initial open flow show Bbl/d  
Final open flow 220 MCF/d Final open flow show Bbl/d  
Time of open flow between initial and final tests 3,864 Hours  
Static rock Pressure \_\_\_\_\_ psig (surface pressure) after 168 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: STERLING DRILLING PROD. CO., INC. 12/28/90  
NOW: PRIMEENERGY CORPORATION  
By: William E. Stover NOV 10 1990  
Date: November 14, 1990

1st Stage - Perforate 4618' to 4624' = 24 holes  
 N<sup>2</sup> Frac 500 gal 7½% acid - 1,338,000 scf N<sup>2</sup>  
 2nd Stage - Perforate 4416' to 4564' = 17 holes  
 N<sup>2</sup> Frac 500 gal 7½% acid - 1,546,000 scf N<sup>2</sup>  
 3rd Stage - Perforate 4158' to 4370' = 14 holes  
 N<sup>2</sup> Frac 500 gal 7½% acid - 1,122,000 scf N<sup>2</sup>  
 4th Stage - Perforate 3220' to 4050' = 20 holes  
 N<sup>2</sup> Frac 500 gal 7½% acid - 1,800,000 scf N<sup>2</sup>  
 Complete Test on Well 07/16/90

FORMATION	TOP	BOTTOM	COMMENTS:
Soil, Sand, Shale	0	371	
Sand	371	500	Freshwater @100'
Sand & Shale	500	800	
Sand	800	1000	
Sand & Shale	1000	1270	
Salt Sand	1270	1290	
Shale	1290	1400	Saltwater @1290'
Maxon Sand	1400	1500	
Sand & Shale	1500	1600	
Sand & Lime	1600	1700	
Lime & Siltstone	1700	1750	
Lime	1750	1850	
Injun Sand	1850	1890	
Shale	1890	1980	
Sand & Shale	1980	2230	
Shale	2230	2234	
Berea Sand	2234	2236	
Sand & Shale	2236	2700	
Siltstone, Shale, Sand	2700	2800	
Shale Sand	2800	3570	
Shale	3570	3900	
Siltstone, Shale	3900	4120	
Sand	4120	4132	
Shale	4132	4300	
Siltstone, Shale	4300	4550	
Shale	4550	4704	
Sand	4704	4722	
Shale	4722	4833 TD	

REC-111  
 NOV 15 1989

DIVISION OF OIL & GAS  
 DEPARTMENT OF ENERGY

UD V  
 2236 ~ 2236  
 3336 ~ 4220

*Directional well  
 extension on completion  
 Reported was granted  
 by Ted Stout in or  
 around Feb. 1989.*

MEASURED DEPTH FEET	DRIFT ANGLE DEGREES	DRIFT AZIMUTH DEGREES	COURSE LENGTH FEET	TRUE VERTICAL DEPTH	RECTANGULAR COORDINATES		CLOSURE DISTANCE FEET	CLOSURE AZIMUTH DEGREES	DOGLEG SEVERITY DEG/100'
					NORTH	EAST			
0.00	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2097.00	1.00	60.00	2097.00	2096.89	9.15	15.85	18.30	60.00	0.05
2128.00	1.30	104.75	31.00	2127.89	9.23	16.45	18.86	60.70	2.96
2160.00	3.20	104.75	32.00	2159.86	8.91	17.66	19.78	63.23	5.94
2190.00	6.30	109.75	30.00	2189.75	8.17	20.04	21.64	67.81	10.42
2220.00	9.80	109.75	30.00	2219.45	6.75	23.99	24.92	74.27	11.67
2251.00	13.20	109.75	31.00	2249.83	4.67	29.80	30.17	81.10	10.97
2282.00	16.30	113.75	31.00	2279.80	1.74	37.13	37.17	87.31	10.52
2304.00	18.40	114.75	22.00	2300.80	-0.95	43.11	43.12	91.26	9.64
2348.00	22.70	117.75	44.00	2341.99	-7.78	56.96	57.49	97.78	10.06
2378.00	25.00	121.75	30.00	2369.43	-13.80	67.49	68.89	101.55	9.37
2411.00	27.30	126.75	33.00	2399.05	-21.98	79.51	82.49	105.43	9.65
2440.00	28.50	132.75	29.00	2424.68	-30.65	89.94	95.02	108.82	10.52
2471.00	30.90	134.75	31.00	2451.60	-41.27	101.03	109.13	112.22	8.37
2490.00	33.50	133.75	19.00	2467.68	-48.34	108.28	118.58	114.06	13.97
2553.00	32.50	134.00	63.00	2520.51	-72.12	133.01	151.31	118.47	1.60
2615.00	32.75	133.00	62.00	2572.73	-95.13	157.26	183.79	121.17	0.96
2677.00	33.75	133.00	62.00	2624.58	-118.31	182.12	217.18	123.01	1.61
2738.00	35.00	134.00	61.00	2674.93	-142.02	207.10	251.12	124.44	2.25
2799.00	35.80	134.75	61.00	2724.65	-166.73	232.36	285.99	125.66	1.49
2830.00	37.00	133.75	31.00	2749.60	-179.57	245.54	304.19	126.18	4.32
2861.00	39.80	134.75	31.00	2773.89	-193.00	259.33	323.27	126.66	9.25
2890.00	42.00	133.75	29.00	2795.81	-206.25	272.93	342.10	127.08	7.91
2921.00	44.80	133.75	31.00	2818.33	-220.98	288.31	363.26	127.47	9.03
2950.00	47.40	132.75	29.00	2838.44	-235.29	303.53	384.05	127.78	9.30
3012.00	53.00	130.75	62.00	2878.11	-267.00	339.05	431.56	128.22	9.37
3074.00	58.90	132.00	62.00	2912.81	-300.94	377.58	482.84	128.56	9.66
3187.00	67.25	132.00	113.00	2963.93	-368.29	452.39	583.35	129.15	7.39
3249.00	68.00	132.00	62.00	2987.53	-406.66	495.00	640.62	129.40	1.21
3310.00	68.50	132.00	61.00	3010.14	-444.57	537.10	697.22	129.62	0.82
3497.00	70.00	130.00	187.00	3076.39	-559.28	669.07	872.04	129.89	1.28
3620.00	71.50	128.00	123.00	3116.94	-632.36	759.30	988.14	129.79	1.96
3744.00	72.00	127.00	124.00	3155.77	-704.04	852.73	1105.81	129.54	0.87
3751.00	72.20	127.00	7.00	3157.92	-708.05	858.05	1112.47	129.53	2.86
3804.00	69.40	129.00	53.00	3175.35	-738.86	897.48	1162.50	129.46	6.37
3897.00	65.25	132.00	93.00	3211.19	-794.58	962.72	1248.27	129.53	5.36
4117.00	66.25	130.00	220.00	3301.55	-926.16	1114.09	1448.79	129.74	0.95
4321.00	67.25	128.00	204.00	3382.08	-1044.11	1259.75	1636.19	129.65	1.03
4544.00	68.25	127.00	223.00	3466.52	-1169.76	1423.49	1842.45	129.41	0.61
4789.00	69.25	124.00	245.00	3555.31	-1302.34	1609.36	2070.29	128.98	1.21
4833.00	69.25	124.00	44.00	3570.90	-1325.35	1643.47	2111.29	128.88	0.00

204

204  
81

Table 2.1 - Survey data

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

47550, 2, 034

- 1) Well Operator: Sterling Drilling and Production Co., Inc.
- 2) Operator's Well Number: 1240 3) Elevation: 1004'
- 4) Well type: (a) Oil   / or Gas x/  
(b) If Gas: Production x/ Underground Storage   /  
Deep   / Shallow x/
- 5) Proposed Target Formation(s): Riley-Benson
- 6) Proposed Total Depth: 3600 feet
- 7) Approximate fresh water strata depths: 100'
- 8) Approximate salt water depths: 1500'
- 9) Approximate coal seam depths: 0'
- 10) Does land contain coal seams tributary to active mine? Yes   / No x/
- 11) Proposed Well Work: Drill & Stimulate 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						
Fresh Water	13 3/8"	LS	54.5#	350'	350'	210 sks.
Coal						
Intermediate	9 5/8"	J-55	36#	1930'	1930'	350 sks
Production	5 1/2"	J-55	17#		3700'	280 sks
Tubing						
Liners						

*Correct to surface*  
 30CSR18-11.3  
 30CSR18-11.2.2  
 30CSR18-11.1

**RECEIVED**  
MAR 17 1989

PACKERS : Kind \_\_\_\_\_  
Sizes \_\_\_\_\_  
Depths set \_\_\_\_\_

For Division of Oil and Gas Use Only

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

11046  
3  
Fee(s) paid:    Well Work Permit    Reclamation Fund    WPCP  
   Plat    WW-9    WW-2B    Bond    Agent  
 (Type)

**RECEIVED**  
MAR 17 1989

1) Date: March 7, 1989  
2) Operator's well number  
1240 (Earl D. Keen)  
3) API Well No: 47 - 087 - 4094  
State - County - Permit

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY  
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:
- (a) Name Almeta Looney for Keen Est.  
Address Route 3 Box 2  
Newton, WV 25266
- (b) Name \_\_\_\_\_  
Address \_\_\_\_\_
- (c) Name \_\_\_\_\_  
Address \_\_\_\_\_
- 5) (a) Coal Operator:  
Name Unoperated  
Address \_\_\_\_\_
- (b) Coal Owner(s) with Declaration  
Name \_\_\_\_\_  
Address \_\_\_\_\_
- Name \_\_\_\_\_  
Address \_\_\_\_\_
- (c) Coal Lessee with Declaration  
Name \_\_\_\_\_  
Address \_\_\_\_\_
- 6) Inspector Homer Dougherty  
Address Linden Route Box 3-A  
Looneyville, WV 25259  
Telephone (304)- 927-4591

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:

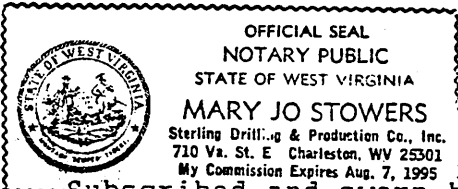
- \_\_\_\_\_ Personal Service (Affidavit attached)
- x Certified Mail (Postmarked postal receipt attached)
- \_\_\_\_\_ Publication (Notice of Publication attached)

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 Sterling Drilling & Production Co., Inc.  
By: William Earl Stowers  
Its: Designated Agent  
Address 710 Virginia Street East/Arcade Bldg.  
Charleston, WV 25301  
Telephone (304) 342-0121



Subscribed and sworn before me this 7th day of March, 19 89

Mary Jo Stowers

Notary Public

My commission expires August 7, 1995