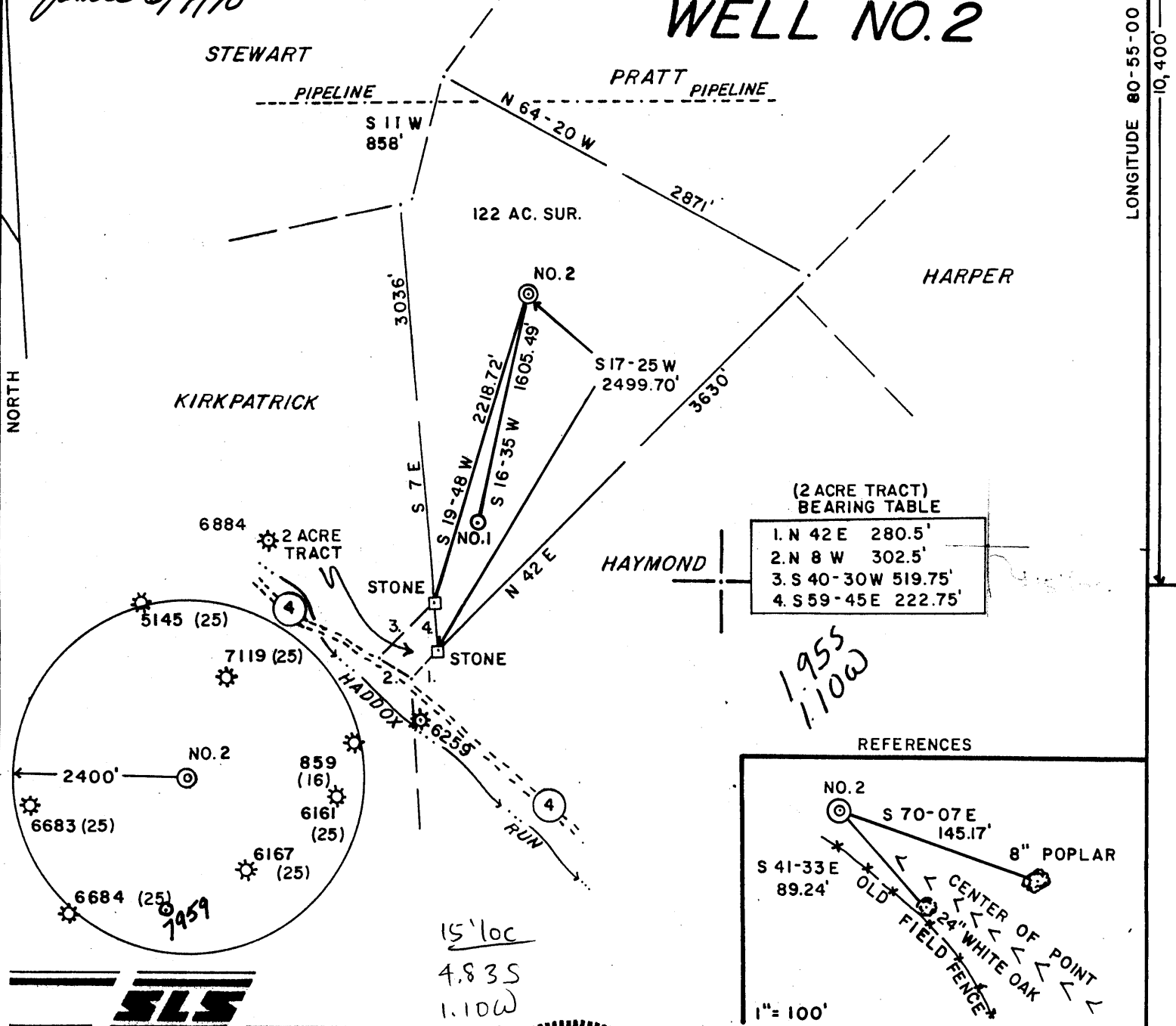


GRAY LEASE

124 ACRES±

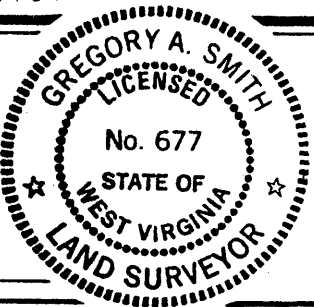
Jan 6/4/90

WELL NO. 2



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.

L.L.S. Gregory A. Smith
677



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE MAY 16, 19 90
 OPERATORS WELL NO. GRAY NO. 2
 API WELL NO. 47 - 085 - 7960
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 2320 (32-10)
 PROVEN SOURCE OF ELEVATION TOP OF KNOB ELEV. 1313' SCALE 1" = 1000'

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
OIL AND GAS DIVISION

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

LOCATION: ELEVATION 1165' WATERSHED HADDOX RUN DISTRICT CLAY COUNTY RITCHIE QUADRANGLE PENNSBORO 7.5'

SURFACE OWNER WALTER C. GRAY et al ACREAGE 122
 ROYALTY OWNER WALTER C. GRAY et al LEASE ACREAGE 122 OF 124

PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER ___

PHYSICAL CHANGE IN WELL (SPECIFY) ___ TARGET FORMATION ALEXANDER ESTIMATED DEPTH 5900'

WELL OPERATOR PARDEE GAS CO. 4568 DESIGNATED AGENT WILLIAM CARPENTER JUN 11 1990
 ADDRESS P.O. BOX 4119 PARKERSBURG, WV 26104 ADDRESS P.O. BOX 4119 PARKERSBURG, WV 26104

6-16 Deep Valley area (087)

LONGITUDE 80-55-00
10,400
COUNTY NAME PERMIT

RECEIVED
Department of Energy

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

AUG 27 90

Permitting Well Operator's Report of Well Work
Oil and Gas Section

Farm name: GRAY, WALTER C.

Operator Well No.: GRAY #2

LOCATION: Elevation: 1165.00 Quadrangle: PENNSBORO

District: CLAY County: RITCHIE
Latitude: 10400 Feet South of 39 Deg. 22Min. 30 Sec.
Longitude 5850 Feet West of 80 Deg. 55 Min. 0 Sec.

Company: PARDEE GAS COMPANY

4001 COLLEGE PKY. P.O. BX 4119 | Casing | Used in | Left | Cement

PARKERSBURG, WV 26104-4119

Agent: LINDA CARPENTER

Inspector: SAMUEL HERSMAN

Permit Issued: 06/04/90

Well work Commenced: 7/23/90

Well work Completed: 8/15/90

Verbal Plugging

Permission granted on:

Rotary X Cable _____ Rig

Total Depth (feet) 5131

Fresh water depths (ft) _____

170', 900'

Salt water depths (ft) _____

Is coal being mined in area (Y/N)? N

Coal Depths (ft): N/A

Size	Drilling	in Well	Fill Up Cu. Ft.
11 3/4	126'	126'	118 cuft
8 5/8	1954	1954	657 cuft
4 1/2	5096	5096	503 cuft

OPEN FLOW DATA

Producing formation Benson Pay zone depth (ft) 5040-5045

Gas: Initial open flow 600 MCF/d Oil: Initial open flow 0 Bbl/d

Final open flow 350 MCF/d Final open flow 0 Bbl/d

Time of open flow between initial and final tests 24 Hours

Static rock Pressure 1150 psig (surface pressure) after 24 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: PARDEE GAS COMPANY

By: Linda C. Carpenter

Date: 8/23/90

SEP 6 1990

Gray #2

Water/Sand Frac - Benson Formation

5 2 25

Shot 16, .39 holes from 5040 to 5045 and broke down formation using 500 gals of 15% FE Acid at a pressure of 1800 PSI. Ran 50 sacks of 80/100 mesh sand and 350 sacks of 20/40 mesh sand for a total volumn of 530 bbls. Average treating pressure was 2595 PSI at an average rate of 31.9 BPM. The ISIP was 1411 PSI a total of 78,000 scf of Nitrogen was used as an assist.

Formation	Color	Hard/soft	Top	Bottom
Shale	red	soft	0	30
Sand	gray	hard	30	60
Shale	red	med	60	70
Shale	gray	med	70	130
Sand	gray	hard	130	180
Sand/shale	red	med	180	300
RR		soft	300	350
Shale	gray	med	350	475
RR		soft	475	520
Sand	gray	med	520	580
RR	red	med	580	660
Shale	blue gray	soft	660	810
Sandy	white	hard	810	830
Sandy/shale	gray	med	830	950
Sand	gray	hard	950	990
Sandy/shale	gray	med	990	1220
Sand	white	med	1220	1380
Sandy/shale	gray	med	1380	1880
Lime	white	hard	1880	1910
Sand	white	hard	1910	2030
B. Lime	white	hard	2030	2080
Sand/shale	gray	med	2080	2340
Sand/shale	gray	med	2340	2816
Sand/shale	gray	med	2816	3000
Shale	gray	med	3000	3160
Sand/shale	gray	med	3160	3780
Shale	gray	med	3780	4110
Shale	brown	med	4110	4240
Shale	brown		4240	5230

*100 sacks of cement

10743

085-7960
 Issued 06/04/90
 Expires 06/04/92
 Page ___ of ___

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

- 1) Well Operator: Pardee Gas Company
- 2) Operator's Well Number: Gray #2 3) Elevation: 1165
- 4) Well type: (a) Oil ___ / or Gas X /
 (b) If Gas: Production ___ / Underground Storage ___ /
 Deep ___ / Shallow X /
- 5) Proposed Target Formation(s): Benson, Alexander
- 6) Proposed Total Depth: 5900 feet
- 7) Approximate fresh water strata depths: 130' & 295' OK
- 8) Approximate salt water depths: 1650 OK
- 9) Approximate coal seam depths: N/A OK
- 10) Does land contain coal seams tributary to active mine? Yes ___ / No ___
- 11) Proposed Well Work: Drill and 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	11 3/4	ERW		120'	120'	CTS
Fresh Water						
Coal						38 CSR, 18 1/2
Intermediate	8 5/8	ERW	24#	1995'	1995'	By rule 38 CSR 18.11.2.2
Production	4 1/2	ERW	10.5#	5900'	5900'	By rule 38 CSR 18.11-1
Tubing						
Liners						

PACKERS : Kind _____
 Sizes _____
 Depths, set _____

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 JUN 01 1990

For Division of Oil and Gas Use Only DIVISION OF OIL & GAS
 DEPARTMENT OF ENERGY

Fee(s) paid: 1 Well Work Permit 1 Reclamation Fund 2 WPCP

RECEIVED
JUN 01 1990

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

1) Date: 5/25/90
2) Operator's well number
Gray #2
3) API Well No: 47 - 085 - 7960
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:
(a) Name Walter C. Gray
Address 202 Greenbriar Dr
Greenville, North Carolina 27834
(b) Name _____
Address _____
(c) Name _____
Address _____

5) (a) Coal Operator:
Name N/A
Address _____
(b) Coal Owner(s) with Declaration
Name _____
Address N/A
Name _____
Address _____

6) Inspector Samuel Hersman
Address Rt. 1 Box 240
Harrisville, WV 26362
Telephone (304)- 628-3185

(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
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)
_____ 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, Pardee Gas Company
By: Edsel N. Davis, Jr.
Its: Operations Supervisor
Address P. O. Box 4119
Parkersburg, WV 26104
Telephone 304-428-3471

Subscribed and sworn before me this 25th day of May, 1990

Dale Ann Moxley
My commission expires May 24, 1999 Notary Public