

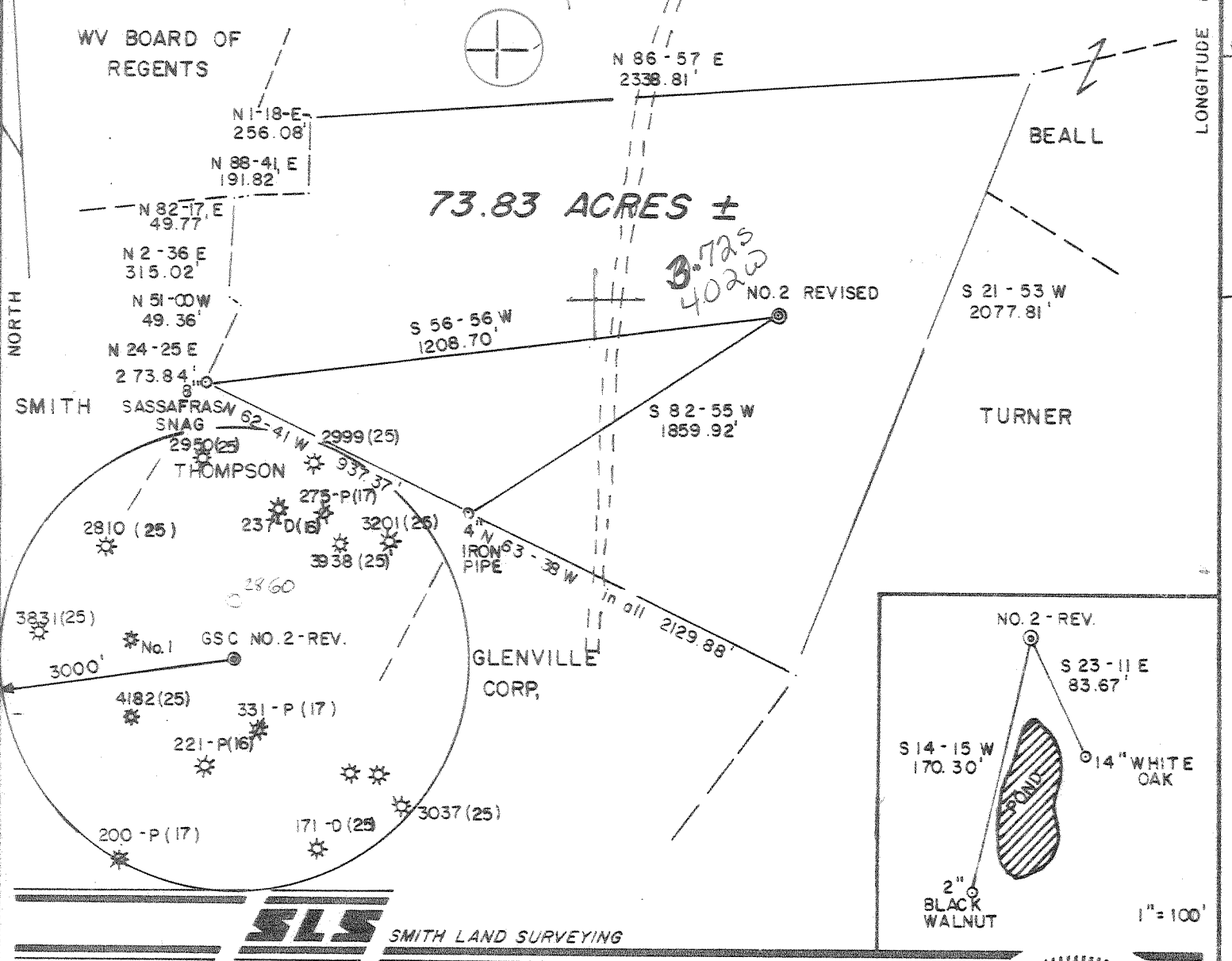
CODE \_\_\_\_\_ CARD \_\_\_\_\_ PLOT

LATITUDE 38-57-30

# GSC LEASE

# WELL NO. 2-REVISED

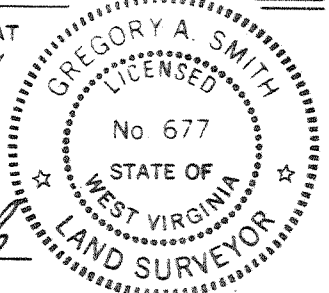
LONGITUDE 80-47-30  
4380



**SLS SMITH LAND SURVEYING**

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 DATE AUGUST 26, 1985  
 OPERATORS WELL NO. 2 REVISED  
 API WELL NO. 47-021-4442  
 STATE COUNTY PERMIT

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. 677 *Gregory A. Smith*



MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. 11-64  
 PROVEN SOURCE JUNCT. OF RDS. 887' SCALE 1" = 500'



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

WELL TYPE: OIL \_\_\_\_\_ GAS  LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_ IF "GAS" PRODUCTION  STORAGE \_\_\_\_\_ DEEP \_\_\_\_\_ SHALLOW

LOCATION: ELEVATION 945' WATERSHED SYCAMORE RUN  
 DISTRICT GLENVILLE COUNTY GILMER QUADRANGLE GLENVILLE 7.5' 372  
 SURFACE OWNER WV BOARD OF REGENTS ACREAGE 73.93 050  
 OIL & GAS ROYALTY OWNER WV BOARD OF REGENTS LEASE ACREAGE 73.83 NE3

PROPOSED WORK: DRILL  CONVERT \_\_\_\_\_ DRILL DEEPER \_\_\_\_\_ REDRILL \_\_\_\_\_ FRACTURE OR STIMULATE  PLUG OFF \_\_\_\_\_  
 OLD FORMATION \_\_\_\_\_ PERFORATE NEW FORMATION \_\_\_\_\_ PLUG AND ABANDON \_\_\_\_\_ CLEAN OUT AND REPLUG \_\_\_\_\_  
 OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_ TARGET FORMATION ORISKANY  
 ESTIMATED DEPTH 6600' JAN 13 1986

WELL OPERATOR WV BOARD OF REGENTS DESIGNATED AGENT ROBERT K. GAINER  
 ADDRESS 950 KANAWHA BLVD. EAST ADDRESS c/o GLENVILLE STATE COLLEGE  
CHARLESTON, WV 25301 GLENVILLE, WV 26361

RECEIVED  
JUN 27 1986



DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

Date June 16, 1986

Operator's

Well No. #2

Farm GSC

API No. 47 - 021 - 4442

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 X / Underground Storage     / Deep X / Shallow     /)

LOCATION: Elevation: 945 Watershed Sycamore Run

District: Glenville County Gilmer Quadrangle Glenville 7.5

COMPANY WV BOARD OF REGENTS

ADDRESS 950 Kanawha Blvd. E., Charleston, WV

DESIGNATED AGENT Robert K. Gainer

ADDRESS c/o Glenville State College, Glenville WV

SURFACE OWNER WV Board of Regents

ADDRESS Charleston, WV

MINERAL RIGHTS OWNER WV Board of Regents

ADDRESS Charleston, WV

OIL AND GAS INSPECTOR FOR THIS WORK Deo

Mace ADDRESS Sandridge, WV

PERMIT ISSUED January 8, 1986

DRILLING COMMENCED January 27, 1986

DRILLING COMPLETED February 5, 1986

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.			
13-10"			
9 5/8			
8 5/8	810	810	Surf
7			
5 1/2			
4 1/2		6682	530 sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Oriskany Depth: 6600 feet

Depth of completed well 6721 feet Rotary X / Cable Tools    

Water strata depth: Fresh     feet; Salt 1673 feet

Coal seam depths: None Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Oriskany, Shale, Elk Pay zone depth see treat. feet

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

Final open flow 1021 Mcf/d Final open flow show Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 1750 psig (surface measurement) after 48 hours shut in

(If applicable due to multiple completion--)

Second producing formation Alexander, Benson Pay zone depth see treatment 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

JUL 7 1986

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

- First Stage - Oriskany (6625-6623) 1000 gal 15% Hcl, 30 ton CO<sub>2</sub>, 199 MCF N<sub>2</sub>
- Second Stage - Shale (6296-5390) 1000 gal 15% Hcl, 40 ton CO<sub>2</sub>, 221 MCF N<sub>2</sub>
- Third Stage - Lower Elk (5326-5005) 500 gal 15% Hcl, 30 ton CO<sub>2</sub>, 354 MCF N<sub>2</sub>
- Fourth Stage - Upper Elk, Alexander (4851-4695) 500 gal 15% Hcl, 28000# 20/40, 10,000# 80/100, 434 bbl H<sub>2</sub>O, 28 MCF N<sub>2</sub>
- Fifth Stage - Benson (4431-4422) 500 gal 15% Hcl, 33000# 20/40, 10,000# 80/100, 441 bbl H<sub>2</sub>O, 38 MCF N<sub>2</sub>

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Sandy Shale			0	65	
Sand & Shale			65	194	
Sand, Shale & Redrock			194	830	
Sand & Shale			830	1536	
Little Lime			1536	1562	
Shale			1562	1570	
Big Lime			1570	1722	Salt H <sub>2</sub> O @ 1673
Big Injun			1722	1742	
Shale			1742	!*@%	
Weir Sand			1825	1954	
Sand & Shale			1954	2860	
Speechly Section			2860	3118	
Shale			3118	3172	
Balltown Section			3172	3670	
Riley Section			3670	4292	
Shale			4292	4392	
Benson			4392	4416	
Shale			4416	4667	
Alexander			4667	4762	
Shale			4762	4836	
Elk Section			4836	5011	
Shale			5011	6310	
Marcellus			6310	6351	
Onondaga Lime			6341	6997 6497	
Huntersville Shert			6997 6497	6581	
Oriskany Sand			6581	6664	
Helderberg Lime			6664	6721	TD

411 1960 650  
 424 2610 2190  
 437 4820 750  
 438 5550 700  
 442 6250 60

(Attach separate sheets as necessary)

WV Board Of Regents

Well Operator

By: \_\_\_\_\_, Robert K. Gainer

Date: June 16, 1986

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 coal, encountered in the drilling of a well."



1) Date: January 6, 1986  
 2) Operator's Well No. GSC No. 2 revised  
 3) API Well No. 47 - 021 - 4442  
 State County Permit

**RECEIVED**  
JAN 7 1986

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

- 4) WELL TYPE: A Oil        / Gas X /  
 B (If "Gas", Production X / Underground storage        / Deep X / Shallow       )
- 5) LOCATION: Elevation: 945' Watershed: Sycamore Run  
 District: Glenville 965 County: Gilmer Quadrangle: Glenville 7.5'
- 6) WELL OPERATOR WV Board of Regen@DE: 7) DESIGNATED AGENT Robert K. Gainer  
 Address 950 Kanawha Blvd. East Address c/o Glenville State College  
Charleston, WV 25301 Glenville, WV 26351
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:  
 Name Deo Mace Name I.L. Morris Well Service, Inc.  
 Address Rt. 1, Box 5 Address P.O. Box 397  
Sandridge, WV 25274 Glenville, WV 26351
- 10) PROPOSED WELL WORK: Drill X / Drill deeper        / Redrill        / Stimulate X /  
 Plug off old formation        / Perforate new formation         
 Other physical change in well (specify)
- 11) GEOLOGICAL TARGET FORMATION, Oriskany 425
- 12) Estimated depth of completed well, 6600 feet  
 13) Approximate strata depths: Fresh, 245' feet; salt, None feet.  
 14) Approximate coal seam depths: None Is coal being mined in the area? Yes        / No 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	Left in well		
Conductor									Kinds
Fresh water									
Coal									Sizes
Intermediate	8 5/8	ERW	20#	X		800	800	<del>475 sks.</del>	CTB by rule 15.05 Depths set
Production	4 1/2	J-55	10.5#	X		6700	6700	650 sks.	
Tubing									
Lin...									Perforations:
									Top Bottom

OFFICE USE ONLY  
 DRILLING PERMIT

Permit number: 47-021-4442 Date: January 8 19 86

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 January 8, 1988 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u>NR</u>	Agent: <u>NR</u>	Plat: <u>MS MH</u>	Casing	Fee	WPCP	S&E	Other
				<u>2730</u>	<u>MS</u>	<u>MS</u>	

NOTE: Keep one copy of this permit posted at the drilling location.

[Signature]  
 Director, Division of Oil and Gas