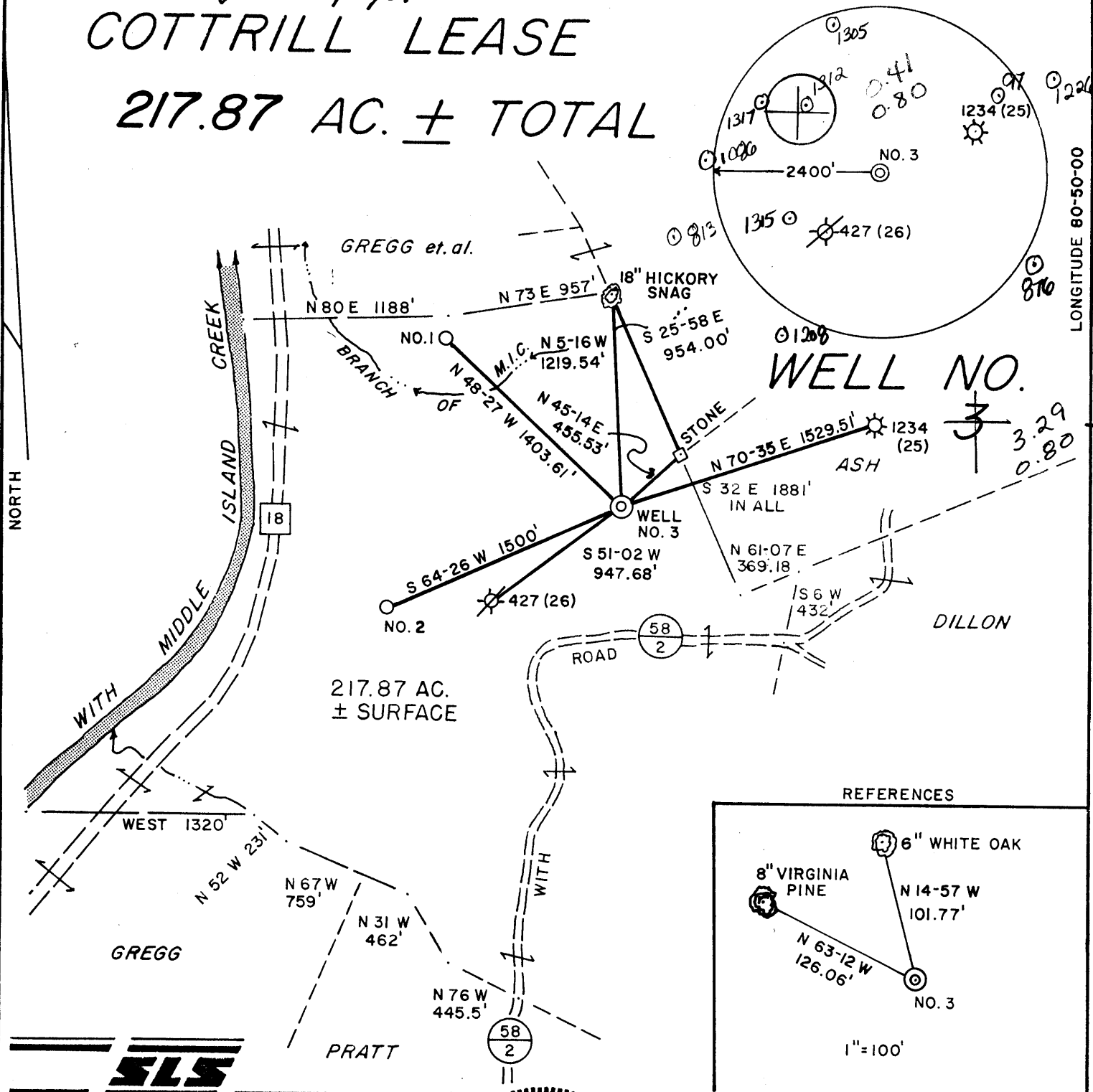
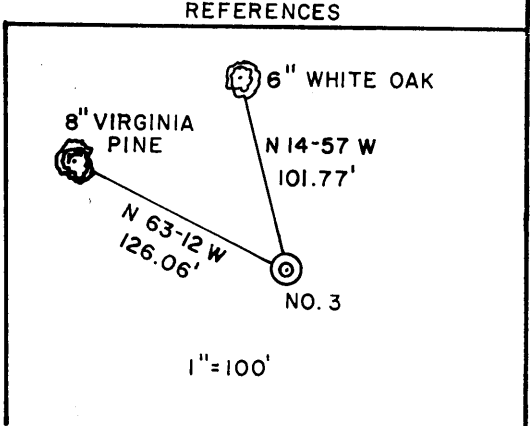


Jamie 7/15/89
COTTRILL LEASE
217.87 AC. ± TOTAL

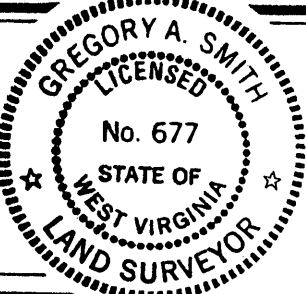


217.87 AC.
 ± SURFACE

WELL NO.
 3
 3.29
 0.80



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.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE JUNE 26, 19 89
 OPERATORS WELL NO. COTTRILL NO. 3
WVTYLO00903
 API WELL NO. 47 - 095 - 1316
 STATE COUNTY PERMIT

L.L.S. Gregory A. Smith
 677

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 2092 (28-24)
 PROVEN SOURCE OF ELEVATION TOP OF KNOB ELEV. 996' SCALE 1"=800'

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 839' WATERSHED MIDDLE ISLAND CREEK QUADRANGLE WEST UNION 7.5671
 DISTRICT CENTERVILLE COUNTY TYLER ACREAGE 217.87
 SURFACE OWNER MARY E. ROBERTS & MARY J. KAHLER LEASE ACREAGE 217.87
 ROYALTY OWNER JACOB C. COTTRILL et. al. LEASE NO. WVOI784-#
 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 BENSON
 ESTIMATED DEPTH 490'

WELL OPERATOR EASTERN AMERICAN ENERGY CORP. DESIGNATED AGENT JOHN M. PALETTI
 ADDRESS BOX N GLENVILLE, WV. 26351 ADDRESS 501 56th. ST. CHARLESTON, WV. 25304

WR-**RECEIVED**
SEP 19 1989

20-Jul-89
API # 47- 95-01316

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

DIVISION OF OIL & GAS
DEPT. OF ENERGY

Well Operator's Report of Well Work

Farm name: ROBERTS, MARY E. ETAL. Operator Well No.: COTTRILL #3

LOCATION: Elevation: 839.00 Quadrangle: WEST UNION

District: CENTERVILLE County: TYLER
Latitude: 2220 Feet South of 39 Deg. 22Min. 30 Sec.
Longitude 4280 Feet West of 80 Deg. 50 Min. 0 Sec.

Company: EASTERN AMERICAN ENERGY C
501 56TH ST.
CHARLESTON, WV 25304-0000

Agent: DONALD C. SUPCOE

Inspector: GLEN P. ROBINSON
Permit Issued: 07/20/89
Well work Commenced: 08/16/89
Well work Completed: 08/31/89
Verbal Plugging _____
Permission granted on: _____
Rotary Cable _____ Rig _____
Total Depth (feet) 4954'
Fresh water depths (ft) 60', 179'

Salt water depths (ft) 1240'

Is coal being mined in area (Y/N)? N
Coal Depths (ft): None

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
11-3/4"	122'	122'	C.T.S.
8-5/8"	1032.75'	1032.75'	C.T.S.
4-1/2"	4850.05'	4850.05'	560
1-1/2"	----	4732.70'	---

OPEN FLOW DATA

(Commingled)

Producing formation Benson, Riley, Warren Pay zone depth (ft) 4741'-3172.5'
Gas: Initial open flow 531 MCF/d Oil: Initial open flow N/A Bbl/d
Final open flow 400 MCF/d Final open flow N/A Bbl/d
Time of open flow between initial and final tests 15 Hours
Static rock Pressure 1280 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: Rich Heffelfinger
EASTERN AMERICAN ENERGY CORP.
Rich Heffelfinger
By: Vice President - Regional Operations
Date: September 15, 1989

(REVERSE)

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

3 STAGE FOAM FRAC:

STAGE 1: Benson: 8 holes (4741'-4738') Breakdown 1615' psi, 60 Quality foam, 30 lbs/1000 gals Gel, 5,000 lbs 80/100 sand, 30,000 lbs 20/40 sand, 500 gals 15% HCl, 535,000 scf of N₂

STAGE 2: Riley: 12 holes (4358.5'-4329') Breakdown 1800 psi, 60 Quality foam, 30 lbs/1000 gals Gel, 5,000 lbs 80/100 sand, 30,000 lbs 20/40 sand, 500 gals 15% HCl, 590,000 scf of N₂

STAGE 3: Warren: 13 holes (3204'-3172.5') Breakdown 1330 psi, 60 Quality foam, 30 lbs/1000 gals Gel, 5,000 lbs 80/100 sand, 20,000 lbs 20/40 sand, 650 gals 28% HCl, 397,000 scf of 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
Fill and Clay			0	15	
Shale			15	40	
Sand, Shale and Red Rock			40	105	1/4" stream water @ 60'
Sand and Shale			105	500	Damp @ 178'
Shale and Red Rock			500	890	
Sand and Shale			890	944	
Shale and Red Rock			944	1220	
Sand and Shale			1220	1644	Damp @ 1240'
Little Lime			1644	1659	
Shale			1659	1684	<u>GAS CHECKS:</u>
Big Lime			1684	1738	
Big Injun			1738	1872	1792' - 8/10 thru 1/2" w/water
Shale			1872	2050	1918' - 8/10 thru 1/2" w/water
Weir			2050	2160	2045' - 20/10 thru 1/2" w/water
Sand and Shale			2160	3160	2171' - 10/10 thru 1/2" w/water
Warren			3160	3206	3248' - 10/10 thru 1/2" w/water
Sand and Shale			3206	4310	3818' - 10/10 thru 2" w/water
Riley			4310	4376	4322' - 10/10 thru 2" w/water
Sand and Shale			4376	4734	4671' - 10/10 thru 2" w/water
Benson			4734	4744	4797' - 10/10 thru 2" w/water
Sand and Shale			4744	4954 T.D.	T.D. - 4/10 thru 2" w/water D.C. - 4/10 thru 2" w/water

(Attach separate sheets as necessary)

0951316