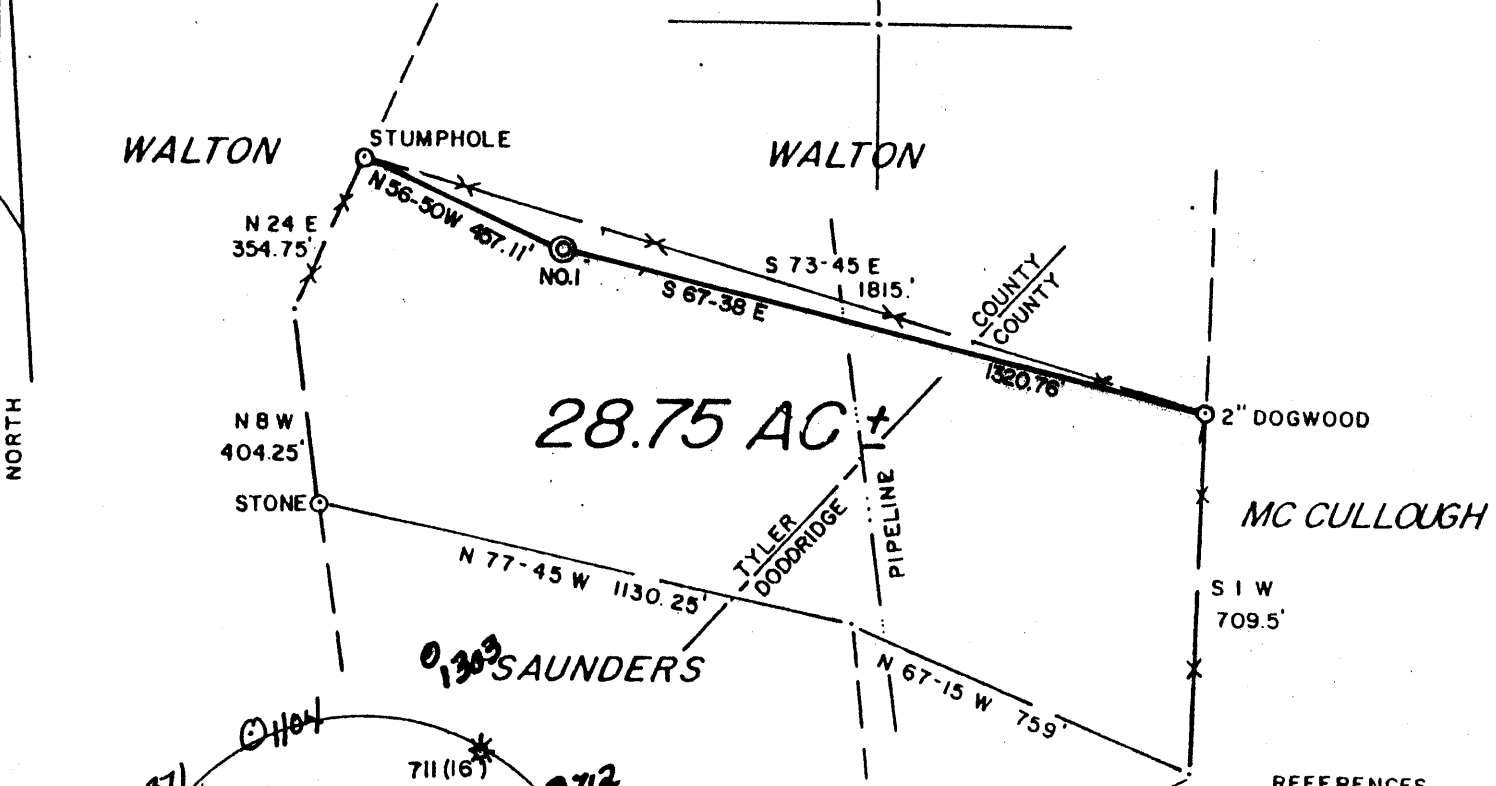


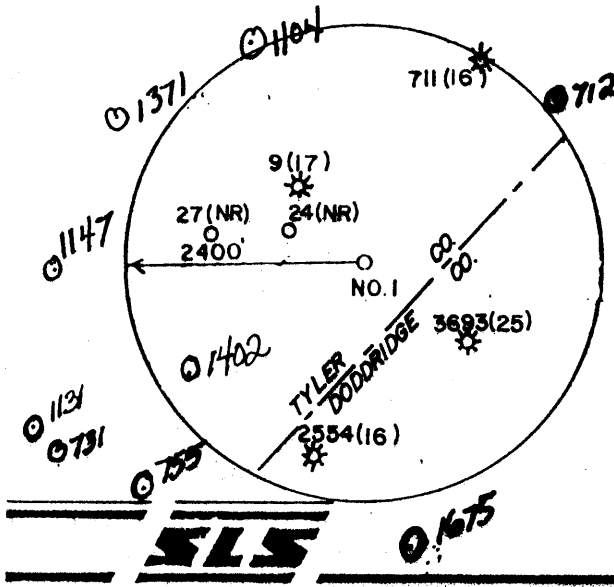
Janice 11/2/90

MC CULLOUGH LEASE WELL NO. 1

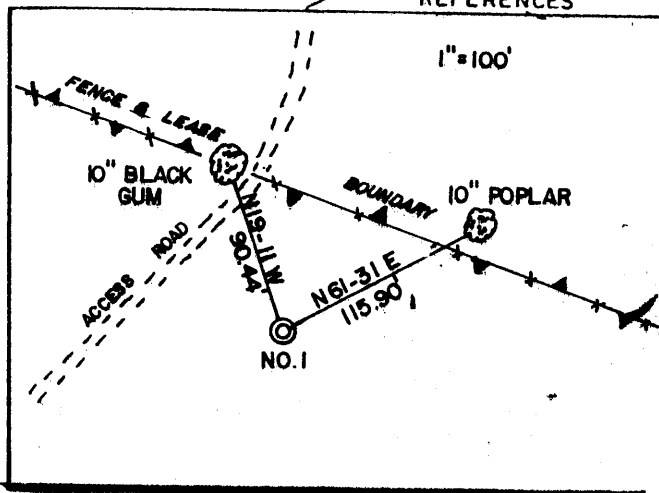
*0.66
1.27*



28.75 AC



*15' loc
0.665
127 W
West U. SC*

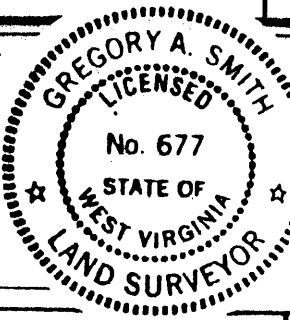


REFERENCES

1"=100'

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 AUGUST 20, 19 90
 OPERATORS WELL NO. McCULLOUGH NO. 1
 WVTYL001501
 API WELL NO. 47 - 095 - 1435
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 1906 (32-17)
 PROVEN SOURCE OF ELEVATION TOP OF KNOB 1130' SCALE 1" = 400'

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 1140' WATERSHED TRIBUTARY OF LONG RUN

DISTRICT CENTERVILLE 1 COUNTY TYLER QUADRANGLE WEST UNION 7.5'
 SURFACE OWNER RICHARD F. & SARAHLENE McCULLOUGH ACREAGE 28.75
 ROYALTY OWNER RICHARD F. & SARAHLENE McCULLOUGH LEASE ACREAGE 28.75

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 ALEXANDER
 ESTIMATED DEPTH 5475'

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

COUNTY NAME PERMIT

6-6 Stanley (090)

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

Well Operator's Report of Well Work

Farm name: MCCULLOUGH, RICHARD & SARA Operator Well No.: MCCULLOUGH

LOCATION: Elevation: 1140.00 Quadrangle: WEST UNION

District: CENTERVILLE County: TYLER
Latitude: 3610 Feet South of 39 Deg. 20Min. 0 Sec.
Longitude 6780 Feet West of 80 Deg. 50 Min. 0 Sec.

REC'D
Division of Energy
NOV 26 90
Permitting
Oil and Gas Section

Company: EASTERN AMERICAN ENERGY C
P. O. BOX N
GLENVILLE, WV 26351-0000

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
11-3/4"	128'	128'	C.T.S.
8-5/8"	1290'	1290'	C.T.S.
4-1/2"	5462.20'	5462.20'	323

Agent: DONALD C. SUPCOE

Inspector: MIKE UNDERWOOD
Permit Issued: 10/09/90
Well work Commenced: 10/24/90
Well work Completed: 11/05/90

Verbal Plugging
Permission granted on:
Rotary X Cable Rig
Total Depth (feet) 5507'
Fresh water depths (ft) 68', 615'

Salt water depths (ft) None

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

OPEN FLOW DATA

(Commingled)

Producing formation Alexander, Benson, Riley Pay zone depth (ft) 5314'=4603
Gas: Initial open flow 1186 MCF/d Oil: Initial open flow N/A Bbl/d
Final open flow 696 MCF/d Final open flow N/A Bbl/d
Time of open flow between initial and final tests 15 Hours
Static rock Pressure 1210 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: November 12, 1990

DEC 3 1990

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

3-STAGE FOAM FRAC

- Stage 1: Alexander - 13 holes (5314'-5303') Breakdown 2120 psi, 65 Quality foam, 20 lbs/1000 gals Gel, 70,000 lbs 20/40 sand, 500 gals 15% HCl, 567,300 scf of N₂
- Stage 2: Benson - 10 holes (5012'-5009.5') Breakdown 1810 psi, 65 Quality foam, 20 lbs/1000 gals Gel, 5,000 lbs 80/100 sand, 60,000 lbs/20/40 sand, 500 gals 15%; Cl, 665,500 scf of N₂
- Stage 3: Riley - 14 holes (4638'-4603') Breakdown 1320 psi, 65 Quality foam, 20 lbs/1000 gals Gel, 5,000 lbs/80/100 sand, 60,000 lbs 20/40 sand, 500 gals 15% HCl, 640,120 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
Shale (Soil)			0	15	3/4" water @ 68'
Red Rock			15	30	1/2" water @ 615'
Sand			65	320	
Sandy Shale			320	390	
Sand			390	540	<u>GAS CHECKS:</u>
Sandy Shale			540	615	1849' - No show
Sand			615	680	2005' - No show
Sandy Shale			680	750	2097' - No show
Sand			750	820	2195' - Gas Odor
Sandy Shale			820	1455	2283' - No show
Sand			1455	1525	2560' - 6/10 thru 1" w/water
Sandy Shale			1525	1905	3022' - 2/10 thru 1" w/water
Sand			1905	1960	3391' - 2/10 thru 1" w/water
Little Lime			1960	2000	3637' - 2/10 thru 1" w/water
Big Lime			2000	2055	4005' - 4/10 thru 1" w/water
Sand			2055	2180	4556' - 2/10 thru 1" w/water
Sandy Shale			2180	2325	4737' - 2/10 thru 1" w/water
Sand			2325	2455	4952' - 4/10 thru 1" w/water
Sandy Shale			2455	3435	5166' - 4/10 thru 1" w/water
Sand			3435	3485	5445' - 4/10 thru 1" w/water
Sandy Shale			3485	4600	Tbg. - 2/10 thru 1" w/water
Sand			4600	4650	D.C. - 2/10 thru 1" w/water
Sandy Shale			4650	5010	
Sand			5010	5020	
Sandy Shale			5020	5507 T.D.	

11299

(Attach separate sheets as necessary)



1) Date: August 27, 1990
2) Operator's well number
McCullough #1 - WVTYL001501
3) API Well No: 47 - 095 - 1435
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 Richard & Sarahlene McCullough
 - Address Rt. 1, Box 99
Greenwood, Wv 26360
 - (b) Name _____
 - Address _____
 - (c) Name _____
 - Address _____
- 5) (a) Coal Operator:
- Name None
 - Address _____
 - (b) Coal Owner(s) with Declaration
 - Name None
 - Address _____
 - Name _____
 - Address _____
 - (c) Coal Lessee with Declaration
 - Name None
 - Address _____
- 6) Inspector Glen P. Robinson
- Address Rt. 1, #6 Mt. Pleasant Est.
Mineralwells, WV 26150
 - Telephone (304)-489-8798

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
XX 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 10 on the above named parties, by:

- _____ Personal Service (Affidavit attached)
- XX 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 Eastern American Energy Corporation
By: John M. Paletti John M. Paletti
Its: _____ Designated Agent
Address P.O. Box N
Glenville, WV 26351

Telephone (304) 462-5781

Subscribed and sworn before me this 27th day of August, 1990

My commission expires July 2, 1996 _____ Notary Public