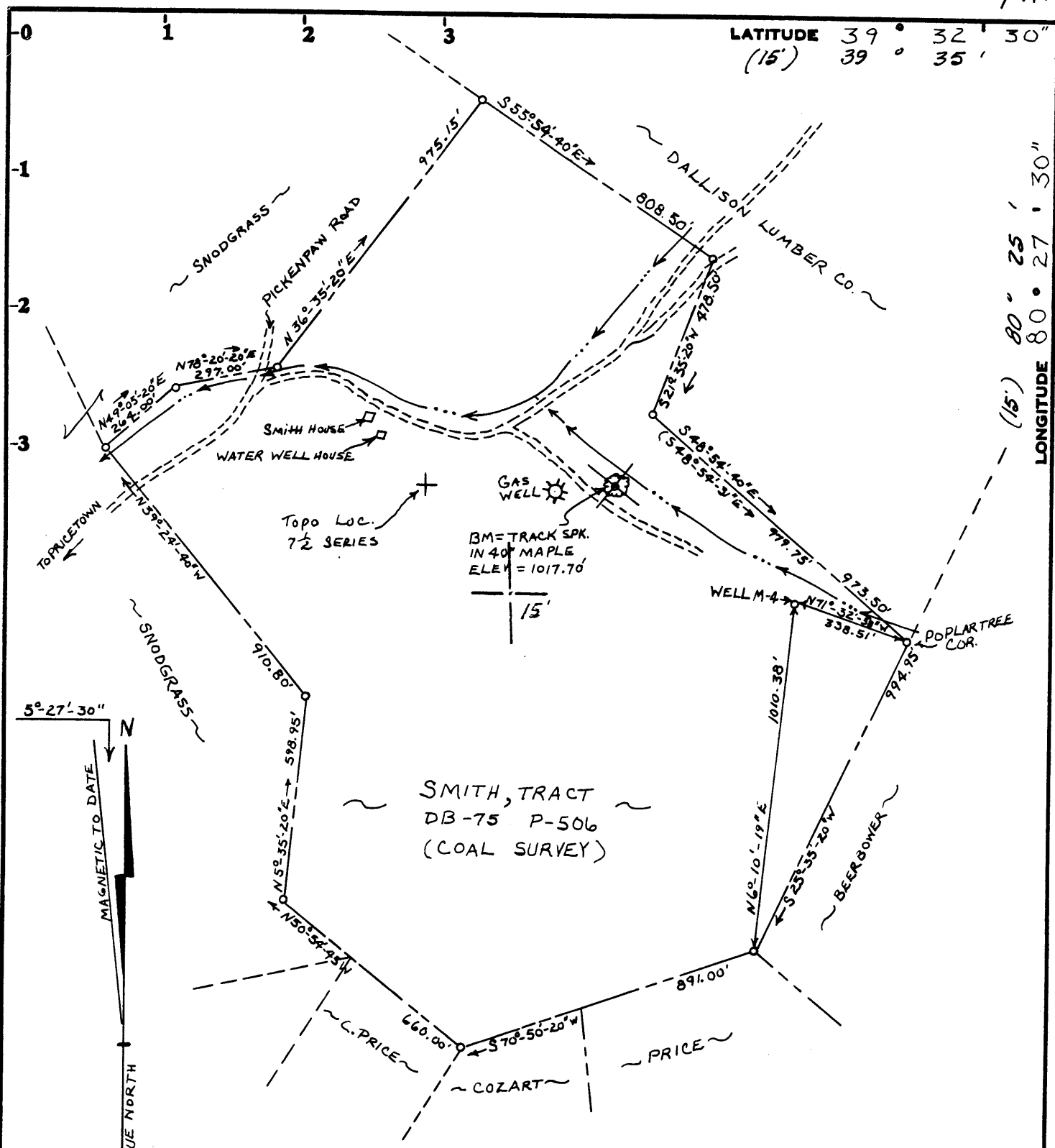


10/4/77



Minimum Error of Closure Less than 1 in 7,200

Source of Elevation U.S.G.S. BM#165 RHP on Pickenpaw Run Road
 Elev. = 980 (979.89)

- Fracture.....
- New Location.....
- Drill Deeper.....
- Abandonment.....

I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia.

Signed: *C. D. Locke*

Map No. _____ Squares: N S E W

Company	U.S. Energy Research and Development Administration
Address	P.O. Box 880, Morgantown, WV 26505
Farm	Walter B. Smith
Tract	Acres 15 Lease No. _____
Well (Farm) No.	M-4 Serial No. _____
Elevation (Spirit Level)	1052.70', MANNINGTON 15
Quadrangle	Glover Gap, W.Va. (7.5')
County	Wetzel District Grant
Surveyor	C. D. Locke
Surveyor's Registration No.	6981 O. & G.E.
File No.	Drawing No. _____
Date	June 28, 1977 Scale 1" = 400'

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON

WELL LOCATION MAP
 FILE NO. WET-637-P

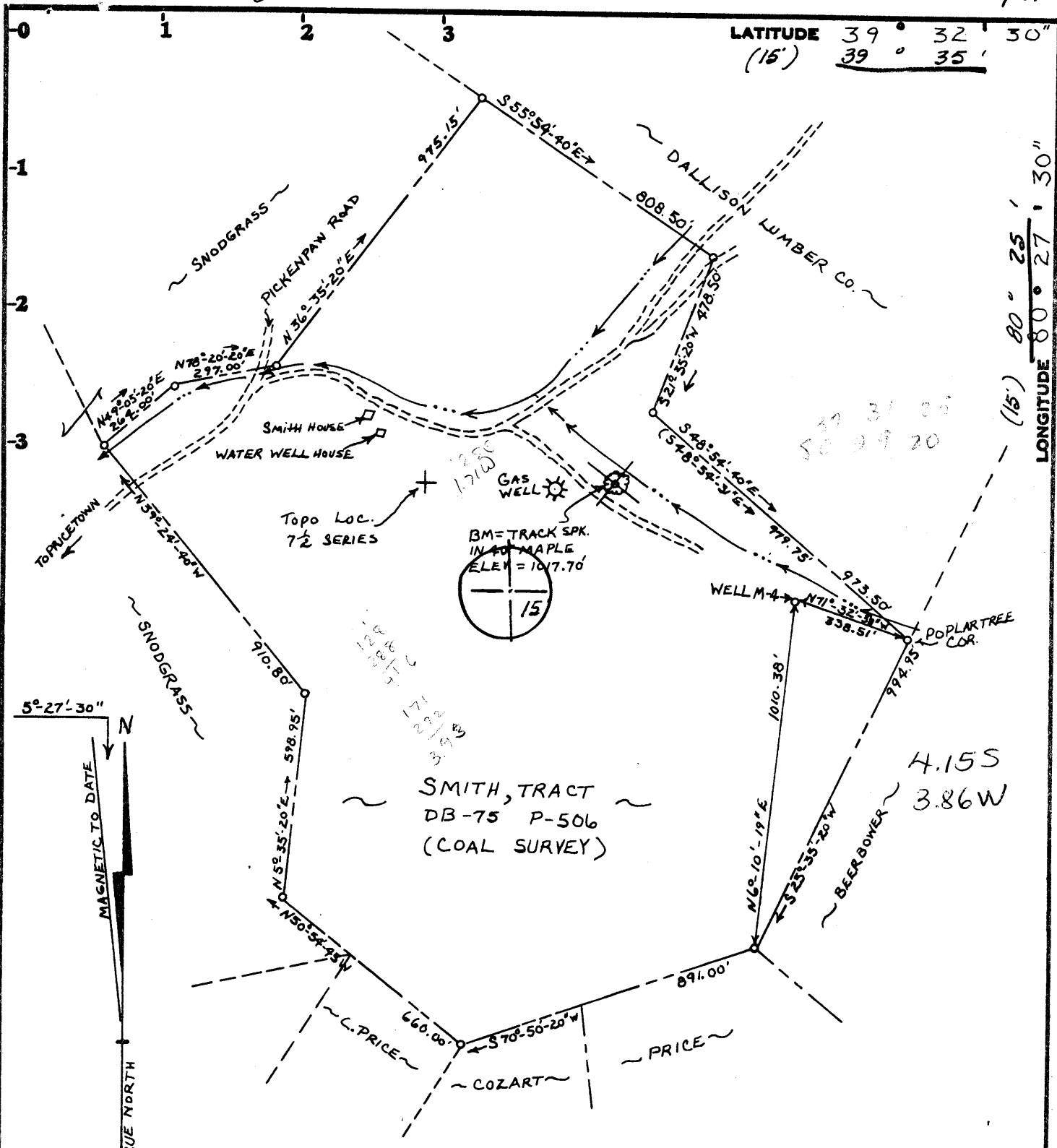
+ Denotes location of well on United States Topographic Maps, scale 1 to $\frac{62,500}{24,000}$, latitude and longitude lines being represented by border lines as shown.

AUG 23 1982

- Denotes one inch spaces on border line of original tracing.

47-103

915' Pittsbur. Coal



Minimum Error of Closure Less than 1 in 7,200

Source of Elevation U.S.G.S. BM#165 RHP on Pickenpaw Run Road
Elev. = 980 (979.89)

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- Fracture.....
- New Location.....
- Drill Deeper.....
- Abandonment.....

Map No. _____ Squares: N S E W

Company U.S. Energy Research and Development Administration
 Address P.O. Box 880, Morgantown, WV 26505
 Farm Walter B. Smith
 Tract Acres 15 Lease No.
 Well (Farm) No. M-4 Serial No. SW
 Elevation (Spirit Level) 1052.70', MANNINGTON 15
 Quadrangle Glover Gap, W.Va. (7.5')
 County Wetzel District Grant
 Surveyor C. D. Locke
 Surveyor's Registration No. 6981 O. & G.E.
 File No. Drawing No.
 Date CR June 28, 1977 Scale 1" = 400'

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION
CHARLESTON

WELL LOCATION MAP
FILE NO. WET-637

+ Denotes location of well on United States Topographic Maps, scale 1 to ^{62,500}/_{24,000}, latitude and longitude lines being represented by border lines as shown.

- Denotes one inch spaces on border line of original tracing.

47-103 OCT 7 1977



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STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION

Rotary
Spudder
Cable Tools
Storage

Quadrangle GLOVER GAP (7.5')

Permit No. WET - 637

WELL RECORD //

Oil or Gas Well RESEARCH (KIND)

Company U.S. D.O.E./Morgantown Energy Tech. Cntr.
Address P.O. Box 880, Morgantown, WV 26505
Farm Walter B. Smith Acres 15
Location (waters) Pickenpaw Run
Well No. SMITH-ERDA M-4 Elev. 1052.70'
District Grant County Wetzel
The surface of tract is owned in fee by Walter B. Smith
Address Smithfield, WV 26437
Mineral rights are owned by Mr. & Mrs. Rex Smith
Address Smithfield, WV 26437
Drilling commenced Rotary October 19-22, 1977
Drilling completed Cable Tools August 6, 1978
Date Shot From To
With
Open Flow /10ths Water in. Inch
/10ths Merc. in. Inch
Volume Cu. Ft.
Rock Pressure lbs. hrs.
Oil bbls., 1st 24 hrs.

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
16			
13			
10			Size of
8-5/8"	198.6'	198.6'	Depth set
6-5/8"			
5-1/2"	898.5'	898.5'	
4-1/2"			
3			Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom
Attach copy of cementing record.			8-5/8" - 198.6' - 10-19-77
CASING CEMENTED			5-1/2" - 898.5' - 10-22-77
Amount of cement used (bags)			8-5/8" - 105 sacks
Name of Service Co.			5-1/2" - 150 sacks
COAL WAS ENCOUNTERED AT			395 FEET INCH
			473 FEET INCHES 532 FEET INCH
			795 FEET INCHES 900 FEET INCH

WELL ACIDIZED (DETAILS)
WELL FRACTURED (DETAILS)

RESULT AFTER TREATMENT (Initial open Flow or bbls.)

ROCK PRESSURE AFTER TREATMENT HOURS

Fresh Water Feet Salt Water Feet

Producing Sand Pittsburgh Coal Seam Depth 900-908

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
UNCONSOLIDATED SEDIMENTS			0	10			
SILTSTONES AND SHALES			10	66			
SANDSTONE			66	71			
SILTSTONES			71	145			
SANDSTONE			145	157			
SILTSTONES AND SHALES			157	205			
SANDSTONE			205	213			
SHALE AND SILTSTONE			213	356			
SANDSTONE			356	371			
SHALE			371	395			
WASHINGTON COAL			395	399			
SHALE AND LIMESTONE			399	473			
WAYNESBURG "A" COAL			473	476			
SHALE AND LIMESTONE			476	516			
WAYNESBURG SANDSTONE			516	530			
SHALE			530	532			
WAYNESBURG COAL			532	534			
SILTSTONE AND SHALE			534	609			
SANDSTONE			609	613			
SHALE AND LIMESTONE			613	795			
SEWICKLEY COAL			795	798			
SHALE			798	802			

(over)

SEP 12 1978

Formation	Color	Hard or Soft	Top Feet //	Bottom Feet	Oil, Gas or Water	* Remarks
SILTSTONE			802	827		
LIMESTONE AND						
SHALE			837	900		
PITTSBURGH COAL			900	908		
SHALE			908	926		

Date AUGUST 30 19 78

APPROVED U.S. D.O.E./Morgantown Energy Owner
Technology Center

By G. E. Rennick
 (Title)

G. E. RENNICK, PETROLEUM ENGINEER



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

RECEIVED

OCT - 4 1977

Oil and Gas Division OIL & GAS DIVISION
DEPT. OF MINES

OIL AND GAS WELL PERMIT APPLICATION

TO THE DEPARTMENT OF MINES,
Charleston, W. Va.

Surface Owner Mr. Walter B. Smith
Address Smithfield, WV 26437
Mineral Owner Mr. & Mrs. Rex Smith
Address Smithfield, WV 26437
Coal Owner Consolidation Coal Company
Address P.O. Box 1632, Fairmont, WV 26554
Coal Operator _____
Address _____

DATE September 29, 1977
Company U.S. Energy Research and Development Administration
Address P.O. Box 880, Morgantown, WV 26505
Farm Walter B. Smith Acres 15
Location (waters) Pickenpaw Run
Well No. Smith-ERDA-M-4 Elevation 1052.70'
District Grant County Wetzel
Quadrangle Glover Gap (7.5')

THIS PERMIT MUST BE POSTED AT THE WELL SITE

All provisions being in accordance with Chapter 22, of the W. Va. Code, the location is hereby approved for drilling. This permit shall expire if operations have not commenced by 2-4-78.

[Signature]
Deputy Director - Oil & Gas Division

INSPECTOR TO BE NOTIFIED Phillip Tracy
PH: 758-4573 ADDRESS Middlebourn, W. Va.

GENTLEMEN:

The undersigned well operator is entitled to drill upon the above named farm or tract of land for research purposes title thereto, (or as the case may be) cooperative agreement dated 14 June 19 74 by Consolidation Co. made to The U.S. of America and recorded on the Fourth day of March 19 77, in Wetzel County, Book Miscellaneous #45 Page 173.

XXX NEW WELL _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE
_____ OIL AND GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1969.

The enclosed plat was prepared by a registered engineer or licensed land surveyor and all coal owners and/or operators have been notified as of the above date.

The above named coal owners and/or operator are hereby notified that any objection they wish to make, or are required to make by Section 3 of the Code, must be received by, or filed with the Department of Mines within ten (10) days. *

Copies of this notice and the enclosed plat were mailed by registered mail, or delivered to the above named coal operators or coal owners at their above shown respective address _____ day _____ before, or on the same day with the mailing or delivery of this copy to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL
GEOPHYSICAL LOGS DIRECTLY TO:

West Virginia Geological and Economic Survey
P. O. Box 879
Morgantown, W. Va. 26505

Address
of
Well Operator

Very truly yours,
(Sign Name) L. D. Strickland
Well Operator L. D. Strickland
Morgantown Energy Research Center
P.O. Box 880 Street
Morgantown,
City or Town
West Virginia 26505
State

*SECTION 3 If no objections are filed or found by the Department of mines, within said period of ten days from the receipt of notice and plat by the department of mines, to said proposed location, the department shall forthwith issue to the well operator a permit reciting the filing of such plat, that no objections have been made by the coal operators or found thereto by the department and that the same is approved and the well operator authorized to proceed.

Wet-637 PERMIT NUMBER
47-103

THIS IS AN ESTIMATE ONLY
ACTUAL INFORMATION WILL BE SUBMITTED ON OG-10 UPON COMPLETION

PROPOSED WORK ORDER TO XXX DRILL _____ DEEPEN _____ FRACTURE-STIMULATE _____
 DRILLING CONTRACTOR: (If Known) RESPONSIBLE AGENT:
 NAME Paramount Exploration, Inc. NAME L. D. Strickland
 ADDRESS P.O. Box 551 ADDRESS P.O. Box 880
Waynesburg, PA 15370 ADDRESS Morgantown, WV 26505
 TELEPHONE 412/627-6144 TELEPHONE 599-7494
 ESTIMATED DEPTH OF COMPLETED WELL: 915 ft. ROTARY X CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Pittsburgh coal
 TYPE OF WELL: OIL _____ GAS _____ COMB. _____ STORAGE _____ DISPOSAL _____
 RECYCLING _____ WATER FLOOD _____ OTHER *

TENTATIVE CASING PROGRAM: * Underground Coal Gasification Research

CASING AND TUBING SIZE	USED FOR DRILLING	LEFT IN WELL	CEMENT FILL UP OR SACKS - CUBIC FT.
20 - 16			
13 - 10			
9 - 5/8			
<u>8 - 5/8</u>	200 ft.	200 ft.	Surface to 200 ft.
7			
<u>5 1/2</u>	897 ft.	897 ft.	Surface to 897 ft.
4 1/2			
3	Well (M-4) will be an instrumentation well.		Perf. Top
2	Drilling will commence soon; however, it will be 10-12 months before completion.		Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 40 FEET SALT WATER _____ FEET
 APPROXIMATE COAL DEPTHS 900 ft.
 IS COAL BEING MINED IN THE AREA? No BY WHOM? _____

TO DRILL:

SUBMIT FIVE (5) COPIES OF OG - 1, \$100.00 PERMIT FEE, PERFORMANCE BOND AND PERMANENT COPY OF PLAT.

TO DRILL DEEPER OR REDRILL:

SUBMIT FIVE (5) COPIES OF OG - 1, SHOWING ORIGINAL PERMIT NUMBER AND PERFORMANCE BOND. ON WELLS DRILLED PRIOR TO 1929, A PERMANENT COPY OF THE PLAT AND THE ORIGINAL WELL RECORD MUST ALSO BE SUBMITTED.

TO FRACTURE - STIMULATE:

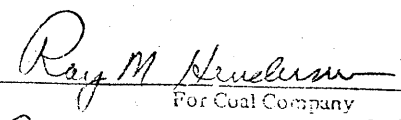
OIL AND/OR GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1929, FIVE (5) COPIES OG - 1, PERFORMANCE BOND, PERMANENT PLAT AND ORIGINAL WELL RECORD.

OIL AND/OR GAS WELL ORIGINALLY DRILLED ON AND/OR AFTER JUNE 5, 1929, FIVE COPIES OG - 1, SHOWING ORIGINAL PERMIT NUMBER, AND PERFORMANCE BOND.

Required forms must be filed within ninety (90) days of completion for bond release. Inspector to be notified twenty-four (24) hours in advance.

The following waiver must be completed by the coal operator if the permit is to be issued within ten days of receipt thereof.

WAIVER: I the undersigned, Agent for Consolidation Coal Company, Owner or Operator of the coal under this lease have examined and place on our mine maps this proposed well location.
 We the Consolidation Coal Company have no objections to said well being drilled at this location, providing operator has complied with all rules and regulations in Articles 4, 5, and 7, Chapter 22 of the West Virginia Code.



 Regional Manager of Engineering
 Official Title

**STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION**

RECEIVED

OCT 23 1982

OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

AFFIDAVIT OF PLUGGING AND FILLING WELL

AFFIDAVIT SHOULD BE MADE IN TRIPLICATE. ONE COPY MAILED TO THE DEPARTMENT. ONE COPY TO BE RETAINED BY THE WELL OPERATOR AND THE THIRD COPY (AND EXTRA COPIES IF REQUIRED) SHOULD BE MAILED TO EACH COAL OPERATOR AT THEIR RESPECTIVE ADDRESSES.

Consolidation Coal Company
COAL OPERATOR OR OWNER
 Northern West Virginia Region
 P.O. Box 1314, Morgantown, WV 26505
ADDRESS

U.S. Department of Energy
NAME OF WELL OPERATOR
 P.O. Box 880, Morgantown, WV 26505
COMPLETE ADDRESS

COAL OPERATOR OR OWNER
ADDRESS

September 29 19 82
WELL AND LOCATION

Mr. Walter B. Smith
LEASE OR PROPERTY OWNER
 Smithfield, WV 26437
ADDRESS

Grant District
Wetzel County

Well No. Smith-ERDA-M-4
Walter B. Smith Farm

STATE INSPECTOR SUPERVISING PLUGGING Robert A. Lowther

AFFIDAVIT

STATE OF WEST VIRGINIA,
 County of Wetzel } **SS:**

Chisler Brothers and _____
 being first duly sworn according to law depose and say that they are experienced in the work of plugging and filling oil and gas wells and were employed by U.S. Department of Energy, well operator, and participated in the work of plugging and filling the above well, that said work was commenced on the 22 day of September, 19 82, and that the well was plugged and filled in the following manner:

SAND OR ZONE RECORD FORMATION	FILLING MATERIAL	PLUGS USED SIZE & KING	CASING	
			CCC PULLED	CCC LEFT IN
	This monitor well is filled from the Pittsburgh Coal (900') to the surface with cement containing monitor wires and 1/2" s.s. tubing			8 5/8" - 199'
				5 1/2" - 899'
	Plugging entailed cutting off the casing 2 feet below the surface and welding a steel plate on top of the casing.			
COAL SEAMS			DESCRIPTION OF MONUMENT	
(NAME)			Well location is referenced from monument erected on Well M-3	
(NAME)			103-0636-P	
(NAME)				
(NAME)				

and that the work of plugging and filling said well was completed on the 22 day of September, 19 82

And further deponents saith not.

Sworn to and subscribed before me this 6th day of October, 19 82

My commission expires:
3-4-87

Bob P. Chisler
Leandra J. Mallett
Doris Ferguson
 Notary Public.
 Permit No. 103-0637-P

WET-637 P