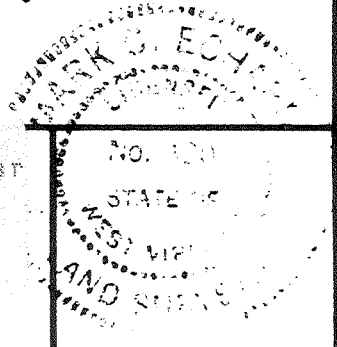


Cool Owner:
 Lois A. Cleland, et. vir.
 2410 Kanawha Blvd. E.
 Charleston, W.Va. 25301

FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION CT. RT. 54 & RT. 23
1250' ± SE OF LOCATION, ELEV. = 1187

CO: 087 PMT: 3564
 Loc Digitized from OGIS 7.5' Meter
 QUAD: 300 DATE: 25-MAY-90
 LAT: 38 37.5 Miles South: 0.55
 LONG: 81 17.5 Miles West: 0.54
 MENT OF MINES. mark c. Echard
 (SIGNED) MARK C. ECHARD
 R.P.E. _____ L.L.S. 490



PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM IV-6 (8-78)



DATE MARCH 4, 19 82
 OPERATOR'S WELL NO. ONE
 API WELL NO. 47 - 087 - 3564
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1182' WATER SHED JOHNSON CREEK
 DISTRICT SMITHFIELD COUNTY ROANE
 QUADRANGLE CLIO 7.5' Walton 15' EC
 SURFACE OWNER ERSHAL B. SMITH ACREAGE 50
 OIL & GAS ROYALTY OWNER LOIS A. & DAVID H. CLELAND LEASE ACREAGE 100
 LEASE NO. _____

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____
 PLUG AND ABANDON CLEAN OUT AND REPLUG
 TARGET FORMATION BROWN SHALE ESTIMATED DEPTH 5525'
 WELL OPERATOR DELTA DRILLING CO. DESIGNATED AGENT MR. ROBERT E. FOX
 ADDRESS 200 FLEET ST., SUITE 4005 ADDRESS P.O. BOX 129
PITTSBURGH, PA. 15220 GLENVILLE, W.VA 26351

APR 2 1982



Date: 10 March, 19 82

Operator's Well No. 1

API Well No. 47 087-3564

State County Permit

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

WELL TYPE: Oil / Gas XXX /
(If "Gas", Production XXXXX / Underground storage / Deep / Shallow XXXX /)

LOCATION: Elevation: 1182' Watershed: Johnson creek
District: Smithfield County: Roane Quadrangle: Glio 7.5

WELL OPERATOR Delta Drilling Co.
Address 200 Fleet St. Suite 4005
Pittsburgh, Pa. 15220

DESIGNATED AGENT Robert E. Fox
Address P.O. Box 129
Glennville, WV. 26351

OIL & GAS ROYALTY OWNER Lois A and David H Cleland
Address 2410 Kanawha Blvd E
Charleston, WV. 25301

COAL OPERATOR
Address

Acreage 100

COAL OWNER(S) WITH DECLARATION ON RECORD:

SURFACE OWNER Ershal B. Smith
Address 404 Knotts Ave.
Dunbar, WV. 25064

Name None of Record

Address RECEIVED

Acreage 50

Name MAR 16 1982

Address OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

FIELD SALE (IF MADE) TO:
Address Columbia Gas
Charleston WV.

COAL LESSEE WITH DECLARATION ON RECORD:

OIL & GAS INSPECTOR TO BE NOTIFIED
Name Richard Morris
Address P.O. Box 372
Grantsville, WV 26147

Name

Address

The undersigned well operator is entitled to operate for oil or gas purposes at the above location under a deed / lease
other contract XXXX / dated 10 15, 19 81, to the undersigned well operator from EXXON

(If said deed, lease, or other contract has been recorded:) Not Recorded
Recorded on, 19, in the office of the Clerk of the County Commission of County, West
Va., in Book at page. A permit is requested as follows:

PROPOSED WORK: Drill XXXX / Drill deeper / Redrill / Fracture or stimulate /
Plug off old formation / Perforate new formation /
Other physical change in well (specify)
—planned as shown on the work order on the reverse side hereof.

The above named coal operator, coal owner(s), and coal lessee are hereby notified that any objection they wish to make or are required to
make by Code §22-4-3 must be filed with the Department of Mines within fifteen (15) days after the receipt of this Application by the
Department.

Copies of this Permit Application and the enclosed plat and reclamation plan have been mailed by registered mail or delivered by hand to
the above named coal operator, coal owner(s), and coal lessee on or before the day of the mailing or delivery of this Permit Application to
the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL
GEOPHYSICAL LOGS DIRECTLY
TO:
WEST VIRGINIA OIL AND GAS
CONSERVATION COMMIS-
SION
1615 WASHINGTON STREET EAST
CHARLESTON, WV 25311
TELEPHONE: (304) 348-3092

BLANKET BOND

Delta Drilling Co.
Well Operator
By Robert E. Fox
Its DESIGNATED AGENT

(12-81)

PROPOSED WORK ORDER

THIS IS AN ESTIMATE ONLY:
ACTUAL INFORMATION MUST BE SUBMITTED ON FORM IV-35 UPON COMPLETION

DRILLING CONTRACTOR (IF KNOWN) Fox Drilling Co. Inc.

Address P.O. Box 129

Glenville, WV. 26351

GEOLOGICAL TARGET FORMATION, Brown Shale

Estimated depth of completed well, 5525' feet Rotary XXXX / Cable tools /

Approximate water strata depths: Fresh, 80'/350' feet; salt, feet.

Approximate coal seam depths: N/A Is coal being mined in the area? Yes / No XXXX /

CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS			New	Used	FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS	
	Size	Grade	Weight per ft			For drilling	Left in well			
Conductor	13 3/8"					20'	20'		Kinds	
Fresh Water	11 3/4"					480'	480'	to surface		
Coal									Sizes	
Intermediate	8 5/8"					2050'	2050'	to surface		
Production	4 1/2"					5525'	5525'	1000 sks	Depths set	
Tubing										
Liners									Perforations:	
									Top	Bottom

NOTE: Regulation 7.02 of the Department of Mines provides that the original and four copies of Form IV-2 must be filed with the Department, accompanied by (i) a plat in the form prescribed by Regulation 11, (ii) a bond in one of the forms prescribed by Regulation 12, or in lieu thereof the other security allowed by Code § 22-4-2, (iii) Form IV-9, "Reclamation Plan", applicable to the reclamation required by Code § 22-4-12b and Regulation 23, (iv) unless previously paid on the same well, the fee required by Code § 22-4-12a, and (v) if applicable, the consent required by Code § 22-4-8a from the owner of any water well or dwelling within 200 feet of the proposed well.

A separate Form IV-2 shall not be required for fracturing or stimulating a well where fracturing or stimulating is to be part of the work for which a permit is sought and is noted as such on the Form IV-2 filed in connection therewith.

THIS PERMIT MUST BE POSTED AT THE WELL SITE.
ALL PROVISIONS BEING IN ACCORDANCE WITH CHAPTER 22,
ARTICLE 4 OF THE W. VA. CODE, THE LOCATION IS HEREBY
APPROVED FOR drilling. THIS PERMIT SHALL EXPIRE
IF OPERATIONS HAVE NOT COMMENCED BY 11-17-82.
BY [Signature]

Sumner

The following waiver must be completed by the coal operator and by any coal owner or coal lessee who has recorded a declaration under Code 22-4-20, if the permit is to be issued within fifteen (15) days of receipt thereof.

WAIVER

The undersigned coal operator / owner / lessee / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of the well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: , 19

By
Its



IV-35
(Rev 8-81)

RECEIVED

State of West Virginia

MAY 24 1982

OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

Department of Mines
Oil and Gas Division

Date 5-17-82

Operator's Well No. #1

Farm CLELAND/WESTFALL

API No. 47 - 087 - 3564

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 ___ / Shallow ___ /)

LOCATION: Elevation: 1182 Watershed JOHNSON CREEK

District: SMITHFIELD County ROANE Quadrangle CLIO 7.5

COMPANY DELTA DRILLING COMPANY N.E. PROD.

ADDRESS 200 FLEET ST. SUITE 4005 PGH., PA

DESIGNATED AGENT JOHN O. KIZER

ADDRESS c/o LOVE, WISE, ROBINSON, WOODROW
P.O. BOX 951 CHARLESTON, WV 25323

SURFACE OWNER ERSAL B. SMITH

ADDRESS 404 KNOTTS AVE. DUNBAR WV 25064

MINERAL RIGHTS OWNER DAVID H. CLELAND

ADDRESS 2410 KANAWHA BLVD. W. CHARLESTON, WV 25301

OIL AND GAS INSPECTOR FOR THIS WORK RICHARD MORRIS

ADDRESS P.O. BOX 372 GRANTSVILLE WV

PERMIT ISSUED MARCH 10, 1982

DRILLING COMMENCED MARCH 29, 1982

DRILLING COMPLETED APRIL 6, 1982

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"	276	276	200 sks
9 5/8			
8 5/8	2103	2103	410 sks
7			
5 1/2			
4 1/2	5672	5672	480 sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION BROWN SHALE Depth 2468-5676 feet

Depth of completed well 5672 feet Rotary x / Cable Tools

Water strata depth: Fresh - feet; Salt 1637 feet

Coal seam depths: NONE Is coal being mined in the area? NO

OPEN FLOW DATA

Producing formation BROWN SHALE Pay zone depth 3490-5650 feet

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

Final open flow 407 Mcf/d Final open flow - Bbl/d

Time of open flow between initial and final tests 24 hours

Static rock pressure 1145 psig (surface measurement) after 72 hours shut in

(If applicable due to multiple completion--)

Second producing formation Pay zone depth 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

JUN 2 1982

(Continue on reverse side)

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

PERFORATIONS	FOAM VOL.	SAND VOL.	AVERAGE INJECTION RATE
<i>marcellus</i> 5317-5650 (15)	38,000 gal.	64,000#	40 BPM
<i>won</i> 4346-5260 (13)	29,000 gal.	50,000#	40 BPM
<i>Chenestee</i> <i>won</i> 3490-3792 (10)	29,000 gal.	50,000#	30 BPM

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
SAND SHALE			0	77	
RED ROCK			77	86	
SAND			86	194	
SHALE			194	209	
SAND			209	283	
SHALE			283	335	
SAND			335	358	
SHALE			358	389	
RED ROCK & SHALE			389	715	
SAND			715	730	
RED ROCK & SHALE			730	1600	
SAND			1600	1618	
SHALE			1618	1637	1/2" stream salt H ₂ O @ 1637
SAND			1637	1837	
SHALE			1837	1874	
LITTLE LIME			1874	1903	
PENCIL CAVE			1903	1925	
BIG LIME			1925	2028	
BIG INJUN			2028	2040	
SHALE			2040	2462	
BEREA			2462	2468	
BROWN SHALE			2468	5676	
			LOGGERS TD	5676	

marcellus
5676
2468
3208

(Attach separate sheets as necessary)

DELTA DRILLING COMPANY

Well Operator

By: *[Signature]*

Date: *7/20/82*

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."