

James
4/24/97

LATITUDE 39°12'30"

4,100'

LONGITUDE 80°45'00"

11,100'

LATITUDE 39°12'30"

I.L. MORRIS
4.9 AC.

I.L. MORRIS
414 AC.

I.L. MORRIS
104.4 AC

I.L. MORRIS
54.3 AC.

I.L. MORRIS

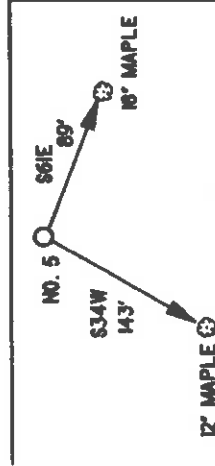
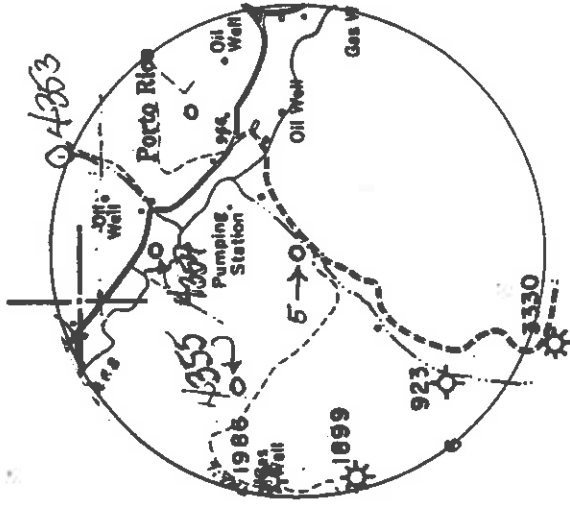
V. BARNETT
15 AC + 22 AC.

I.L. MORRIS
48.4 AC.

I.L. MORRIS
730 AC.

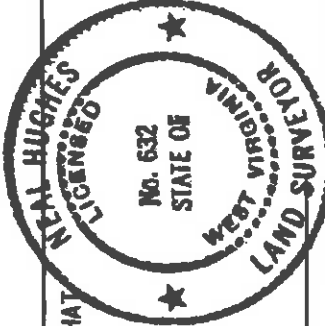
*2.10
Ecty*

NORTH



REFERENCE POINTS

I THE UNDERSIGNED, DO 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. *Neal Hughes*
632

(*) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

DATE MARCH 26 19 97

OPERATORS WELL NO. DRENNAN 5

API WELL NO. 47 - 017-04356

STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
OIL AND GAS DIVISION

MINIMUM DEGREE OF ACCURACY 1/200
PROVEN SOURCE OF ELEVATION ROAD INTER. 966'
FILE NO. 97-19
SCALE 1" = 800'

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL 'GAS' PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 945'
DISTRICT SOUTHWEST COUNTY DODDRIDGE WATERSHED SOUTH FORK HUGHES RIVER
SURFACE OWNER I. L. MORRIS QUADRANGLE OXFORD ACREAGE 730
ROYALTY OWNER SUSAN V. DRENNAN, ET AL LEASE ACREAGE 236

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 5600' 6-6-134

WELL OPERATOR KEY OIL COMPANY 22 GARTON PLAZA WESTON WV 26452
DESIGNATED AGENT JAN CHAPMAN 22 GARTON PLAZA WESTON, WV 26452
COUNTY NAME OXFORD
PERMIT APR 28 1997

RECEIVED
ENVIRONMENTAL
OCT 1 1997

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Permitting
Office

Well Operator's Report of Well Work

Farm name: MORRIS, I.L.

Operator Well No. : DRENNAN #5

LOCATION: Elevation: 945.00

Quadrangle: OXFORD

District: SOUTHWEST
Latitude: 11100 Feet South of 39 Deg. 12 Min. 30 Sec.
Longitude: 4100 Feet West of 80 Deg. 45 Min. 0 Sec.

County: DODDRIDGE

Company: KEY OIL COMPANY
22 Garton Plaza
WESTON, WV 26452-0000

Agent: JAN E. CHAPMAN

Inspector: MIKE UNDERWOOD
Permit Issued: 04/15/97
Well Work Commenced: 05/21/97
Well Work Completed: 06/04/97

Verbal Plugging
Permission granted on: _____
Rotary X Cable _____ Rig
Total Depth (feet) 5193'
Fresh water depths (ft) 20', 80'
Salt water depths (ft) 213'

Is coal being mined in area (Y / N)? N
Coal Depths (ft) : 1242' (4')

OPEN FLOW DATA

Warren
Speechley
Balltown
Riley
Benson

Producing formation Alexander
Gas: Initial open flow 5 MCF / d
Final open flow 1,602 MCF / d
Time of open flow between initial and final tests _____
Static rock pressure 1500 psig (surface pressure) after _____
Pay zone depth (ft) 4920' - 5047'
Oil: Initial open flow 0 Bbl / d
Oil: Final open flow show Bbl / d
Hours _____
Hours _____

Second producing formation Commingled
Gas: Initial open flow _____ MCF / d
Final open flow _____ MCF / d
Time of open flow between initial and final tests _____
Static rock pressure _____ psig (surface pressure) after _____

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: KEY OIL COMPANY

By: *[Signature]*

PRESIDENT

Date: OCTOBER 13, 1997

OCT 17 1997

Casing & Tubing Size	Used in Drilling	Left In Well	Cement Fill Up Cu. Ft.
11 3/4"	126.95	126.95	70 sks To Surface
8 5/8"	1684.75	1684.75	490 sks To Surface
4 1/2"	4090	5090	475 sks
2 3/8"		4944	

Drennan #5 (47-017-04356)
Four Stage Foam Frac - Halliburton

1st Stage:	Alexander (12 holes) (4964.25' to 5020.5')	60 Quality Foam. 500 gal. 15% HCL. 40,000# 20/40 sand, 421,000 SCF N2, 617 bbls foam.
2nd Stage:	Benson (10 holes) (4678' to 4680.25')	60 Quality Foam. 750 gal 15% HCL. 40,000# 20/40 sand, 417,000 SCF N2, 611 bbls foam.
3rd Stage:	Riley (7 holes) (4251.5' to 4265.5') Balltown (3 holes) (3823.5' to 3824')	60 Quality Foam. 1000 gal 15% HCL. 5,000# 80/100 sand, 35,000# 20/40 sand, 438,000 SCF N2, 642 bbls foam.
4th Stage:	Speechley (8 holes) (3122' to 3174.75') Warren (4 holes) (3070.75' to 3071.5')	60 Quality Foam, 1,000 gal 15% HCL. 80/100 sand, 55,000# 20/40 sand, 522,000 SCF N2, 815 bbls foam.

WELL LOG

Muck	0	13	
Red Rock & Shale	13	177	1" H ₂ O & 20'
Sand & Shale	177	265	2 1/2" H ₂ O & 80'
Red Rock & Sand & Shale	265	812	1/2" H ₂ O & 213'
White Sand	812	1019	
Black Shale	1019	1027	
Sand & Shale	1027	1225	
White Sand	1225	1242	
Coal	1242	1246	
Sand & Shale	1246	1394	
Lime	1394	1396	
Sand & Shale	1396	1645	
Lime & Shale	1645	1665	
Little Lime	1665	1677	
Sand & Shale	1677	1723	
Big Lime	1723	1770	
Big Injun	1770	1850	
Shale	1850	1986	
Weir	1986	2094	
Shale	2094	2186	
Berea	2186	2197	
Sand & Shale	2197	3040	
Warren	3040	3092	
Shale	3092	3100	
Speechley	3100	3330	
Shale	3330	3670	
Balltown	3670	4142	
Shale & Sand	4142	4205	
Riley	4205	4286	
Shale	4286	4673	
Benson	4673	4687	
Sand & Shale	4687	4799	
Elk	4799	4842	
Shale	4842	4920	
Alexander	4920	5047	
Sand & Shale	5047	5193	
T.D.	5193		

Gas Checks

2502	12/10ths 1" w/H ₂ O
3027	2/10ths 1" w/H ₂ O
3522	2/10ths 1" w/H ₂ O
4015	4/10ths 1" w/H ₂ O
4509	4/10ths 1" w/H ₂ O
4820	10/10ths 1" w/H ₂ O
TD'	6/10ths 1" w/H ₂ O
Collars	4/10ths 1/2" w/H ₂ O

STATE OF WEST VIRGINIA
 DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
 WELL WORK PERMIT APPLICATION

- 1) Well Operator: KEY OIL COMPANY (7) 25655 3) Elevation: 945'
- 2) Operator's Well Number: DRENNAN #5
- 4) Well type: (a) Oil X / or Gas X / Assesd 04/15/97
 (b) If Gas: Production X / Underground Storage / Shallow X / Expires 04/15/99
- Proposed Target Formation(s): ALEXANDER 409
- Proposed Total Depth: 5600 feet
- Approximate fresh water strata depths: 85'
- Approximate salt water depths: 1305'
- Approximate coal seam depths: NONE REPORTED
- 10) Does land contain coal seams tributary to active mine? Yes / No X /
- 11) Proposed Well Work: DRILL, STIMULATE, PRODUCE APR 16, 1999
- 12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS	FOOTAGE INTERVALS	CEMENT		
	Size	Grade	Weight per ft. drilling	Left in well	Fill-up (cu. ft.)
Conductor					
Fresh Water	11 3/4	ERW	42	132	3858/BA-1.3
Coal					70 SKS. TO SURFACE
Intermediate	8 5/8	ERW	23	1815	3858/BA-2.2
Production	4 1/2	J-55	10.5	5275	490 SKS. TO SURFACE
Tubing	1.5				460 SKS.
Liners					3858/BA-1

PACKERS : Kind _____
 Sizes _____
 Depths sec _____

For Office of Oil and Gas Use Only

Fee(s) paid: Well Work Permit Reclamation Fund WPC2

Plat WW-9 WW-2B Bond _____ Agents _____ (Type)

1) Date: APRIL 5, 1997
2) Operator's well number
DRENNAN #5
3) API Well No: 47 - 017 - 4356
State County Permit

STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

4) Surface Owner(s) to be served: 5) (a) Coal Operator:
(a) Name I. L. MORRIS Name NONE
Address P. O. BOX 397 Address _____
GLENVILLE, WV 26351
(b) Name _____ (b) Coal Owner(s) with Declaration
Address _____ Name _____
(c) Name _____ Name _____
Address _____ Address _____
6) Inspector MIKE UNDERWOOD (c) Coal Lessee with Declaration
Address RT. 2 BOX 135 Name _____
SALEM, WV 26426 Address _____
Telephone (304)- 782-1043

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
 Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)
I certify that as required under Chapter 22 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through ___ on the above named parties, by:
 Personal Service (Affidavit attached)
 Certified Mail (Postmarked postal receipt attached)
 Publication (Notice of Publication attached)

I have read and understand Chapter 22-6 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 KEY OIL COMPANY

By: *Karen Cook*
Its: PRESIDENT
Address 22 GARIION PLAZA
WESTON, WV 26452
Telephone 304-269-7102

Subscribed and sworn before me this 7TH day of APRIL, 19 97
My commission expires MARCH 24 2003

