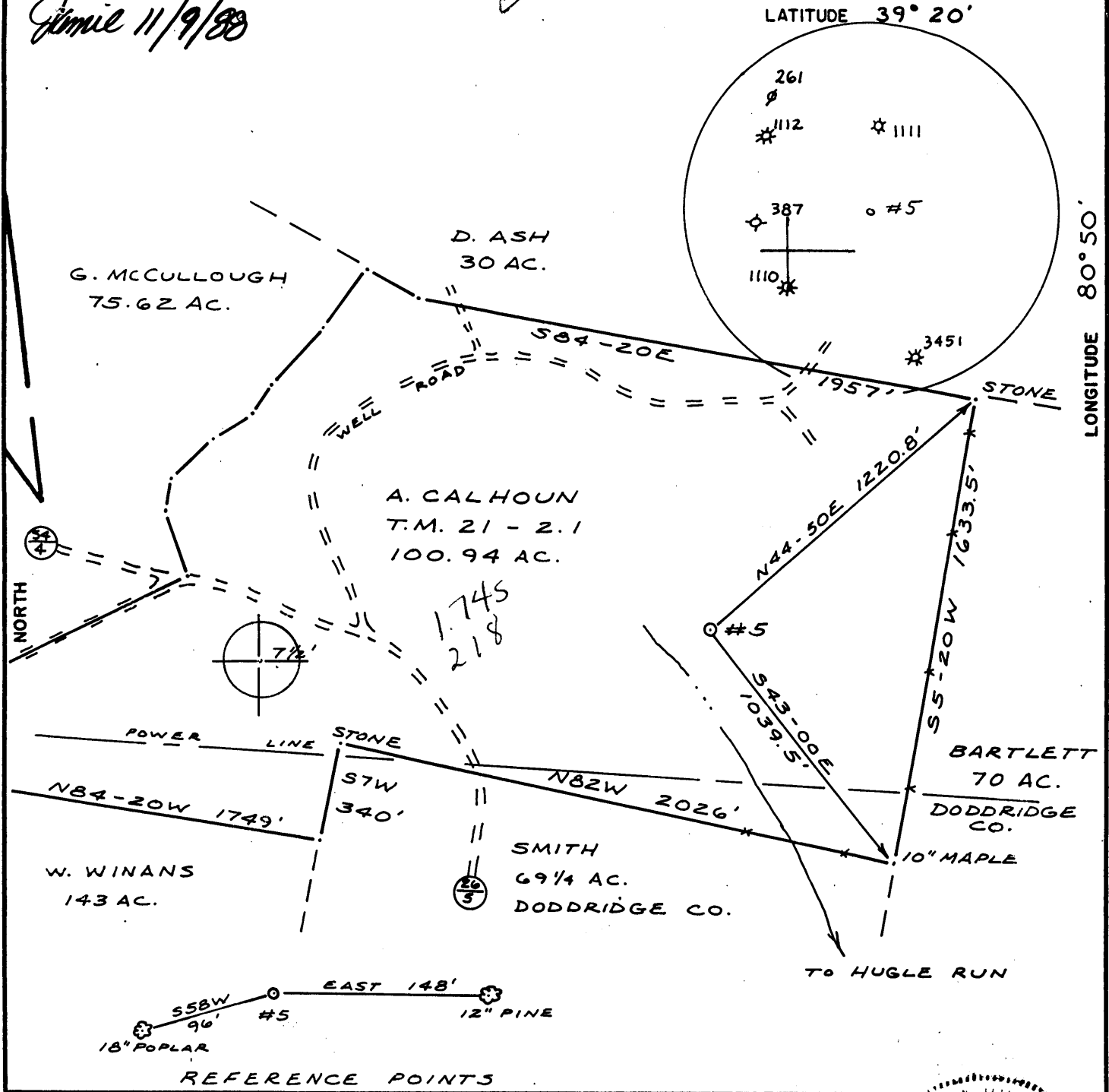


June 11/9/88

11,500'

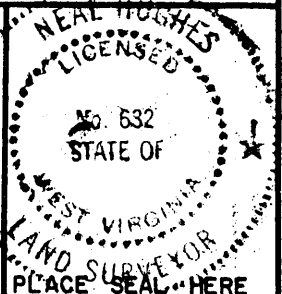


LONGITUDE 80° 50'

9,200'

FILE NO. 88-65  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 500'  
 MINIMUM DEGREE OF ACCURACY 1/200  
 PROVEN SOURCE OF ELEVATION KNOB 1310'

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 MINES.  
 (SIGNED) Neal Hughes  
 R.P.E. \_\_\_\_\_ L.L.S. 632



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



DATE OCTOBER 20, 1988  
 OPERATOR'S WELL NO. 5  
 API WELL NO. FERREBEE  
47-095-1267  
 STATE COUNTY PERMIT

Department of Mines  
 Oil & Gas Division

WELL TYPE: OIL  GAS  LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_  
 (IF "GAS", PRODUCTION  STORAGE \_\_\_\_\_ DEEP \_\_\_\_\_ SHALLOW \_\_\_\_\_  
 LOCATION: ELEVATION 970' WATER SHED HUGLE RUN  
 DISTRICT CENTERVILLE 1 COUNTY TYLER  
 QUADRANGLE WEST UNION 7 1/2' 671 1338 +15' 50  
 SURFACE OWNER ARTHUR CALHOUN ACREAGE 100.94  
 OIL & GAS ROYALTY OWNER BERTHA FERREBEE, ET AL LEASE ACREAGE 105  
 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 ALEXANDER ESTIMATED DEPTH 5,500' NOV 28 1988  
 WELL OPERATOR KEY OIL CO., INC. DESIGNATED AGENT JAN CHAPMAN  
 ADDRESS G GARTON PLAZA ADDRESS G GARTON PLAZA  
WESTON, WV 26452 WESTON, WV 26452

095-1267

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

Well Operator's Report of Well Work

Farm name: CALHOUN, ARTHUR L. Operator Well No.: FERREBEE 5

LOCATION: Elevation: 970.00 Quadrangle: WEST UNION

District: CENTERVILLE County: TYLER  
Latitude: 9200 Feet South of 39 Des. 20Min. 0 Sec.  
Longitude 11500 Feet West of 80 Des. 50 Min. 0 Sec.

Company: KEY OIL, INC.  
6 GARTON PLAZA  
WESTON, WV

Agent: JAN E. CHAPMAN

Inspector: GLEN P. ROBINSON  
Permit Issued: 11/21/88  
Well work Commenced: 12-2-88  
Well work Completed: 12-7-88  
Verbal Pluggings  
Permission granted on: \_\_\_\_\_  
Rotary  Cable \_\_\_\_\_ Ris  
Total Depth (feet) 5,238  
Fresh water depths (ft) 80  
Salt water depths (ft) 0

Casings & Tubing Size	Used in Drilling	Left in Well	Cement Fill Cu. Ft.
11-3/4	42	42	
8-5/8	1117	1117	270 sks.
4-1/2		5169	250 sks.
1-1/2		5093	

Is coal being mined in area (Y/N)? N  
Coal Depths (ft): \_\_\_\_\_



OPEN FLOW DATA

Alexander  
Benson  
Riley

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

5108-5120  
4815-4822  
4410-4445

Producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_  
Gas: Initial open flow 30 MCF/d Oil: Initial open flow 0 Bbl/d  
Final open flow 768 MCF/d Final open flow 0 Bbl/d  
Time of open flow between initial and final tests N/A Hours  
Static rock Pressure 1500 psig (surface pressure) after 96 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: KEY OIL, INC.

By: Jan E. Chapman

Date: February 22, 1989

MAR 10 1989

*Jan E. Chapman*

12-16-88	Halliburton	
Alexander	(5113.75-5116)	30,000# 20/40 Sand, 363,000 SCF N <sub>2</sub> , and 500 ga. acid
Benson	(4818-4820.25)	20,000# 20/40 Sand, 366,000 SCF N <sub>2</sub> , and 750 ga. acid
Riley	(4222-4443)	30,000# 20/40 Sand, 382,000 SCF N <sub>2</sub> , and 750 ga. acid

<u>FORMATION</u>	<u>TOP FEET</u>	<u>BOTTOM FEET</u>
Shale	0	140
Sand & Shale	140	380
Sand	380	440
Sand & Shale	440	910
Sand	910	950
Sand & Shale	950	1290
Sand	1290	1360
Sand & Shale	1360	1610
Sand	1610	1670
Shale	1670	1750
Maxton	1750	1770
Shale	1770	1780
Little Lime	1780	1820
Big Lime	1820	1880
Injun	1880	2000
Sand & Shale	2000	2337
Berea	2337	2340
Sand & Shale	2340	4410
Riley	4410	4450
Sand & Shale	4450	4815
Benson	4815	4820
Sand & Shale	4820	5100
Alexander	5100	5120
Sand & Shale	5120	5238
RTD	5238	

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MAR 09 1989

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

MAR 10 1989

7949

095-1267

19

Issued 11/21/88 095 12  
Expires 11/21/90 Page of

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

- 1) Well Operator: KEY OIL COMPANY INC. 25655, 1, 670
- 2) Operator's Well Number: Ferrebee #5 3) Elevation: 970
- 4) Well type: (a) Oil X/ or Gas X/  
(b) If Gas: Production X/ Underground Storage   /  
Deep   / Shallow X/
- 5) Proposed Target Formation(s): Alexander 409
- 6) Proposed Total Depth: 5500 feet
- 7) Approximate fresh water strata depths: 125' 90, 143'
- 8) Approximate salt water depths: -0- 1335 1400'
- 9) Approximate coal seam depths: -0- possible 155-158'
- 10) Does land contain coal seams tributary to active mine? Yes   / No X/
- 11) Proposed Well Work: Drill, Stimulate, Produce New Well
- 12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor	11-3/4		42	42	-0-	380 CSR 18-11.3
Fresh Water	8-5/8	ERW	23	1120	1120	275 sacks to surface
Coal						380 CSR 18-11.2
Intermediate						380 CSR 18-11.1
Production	4-1/2	J-55	10.5	5500	5500	225 sks.
Tubing						
Liners						

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PACKERS Kind             
Sizes             
Depths set           

For Division of Oil and Gas Use Only

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

1944 102 37

Fee(s) paid:    Well Work Permit    Reclamation Fund    WPCP     
 Plat    WW-9    WW-2B    Bond 50 Blanket Agent     
 (Type)

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Page 1 of  
Form WW2-A  
(09/87)  
File Copy

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

1) Date: October 26, 1988  
2) Operator's well number  
Ferrebee #5  
3) API Well No: 47 - 095 - 1267  
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 Arthur L. Calhoun  
Address Box 6  
Smithburg, WV 26346  
(b) Name \_\_\_\_\_  
Address \_\_\_\_\_  
(c) Name \_\_\_\_\_  
Address \_\_\_\_\_  
6) Inspector Glen Robinson  
Address Rt 1 Mt. Pleasant Est.  
Mineral Wells, WV 26150  
Telephone (304)- 489-9162

5) (a) Coal Operator:  
Name None  
Address \_\_\_\_\_  
(b) Coal Owner(s) with Declaration  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
(c) Coal Lessee with Declaration  
Name \_\_\_\_\_  
Address \_\_\_\_\_

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 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 \_\_\_\_\_ 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 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 Key Oil Company  
By: Jan E. Chapman Jan E. Chapman  
Its: Vice President  
Address 6 Garton Plaza, Weston, WV 26452  
Telephone (304)-269-7102

Subscribed and sworn before me this 26th day of October, 19 88

Jewell Lee Butcher Notary Public  
My commission expires Nov. 15, 1992