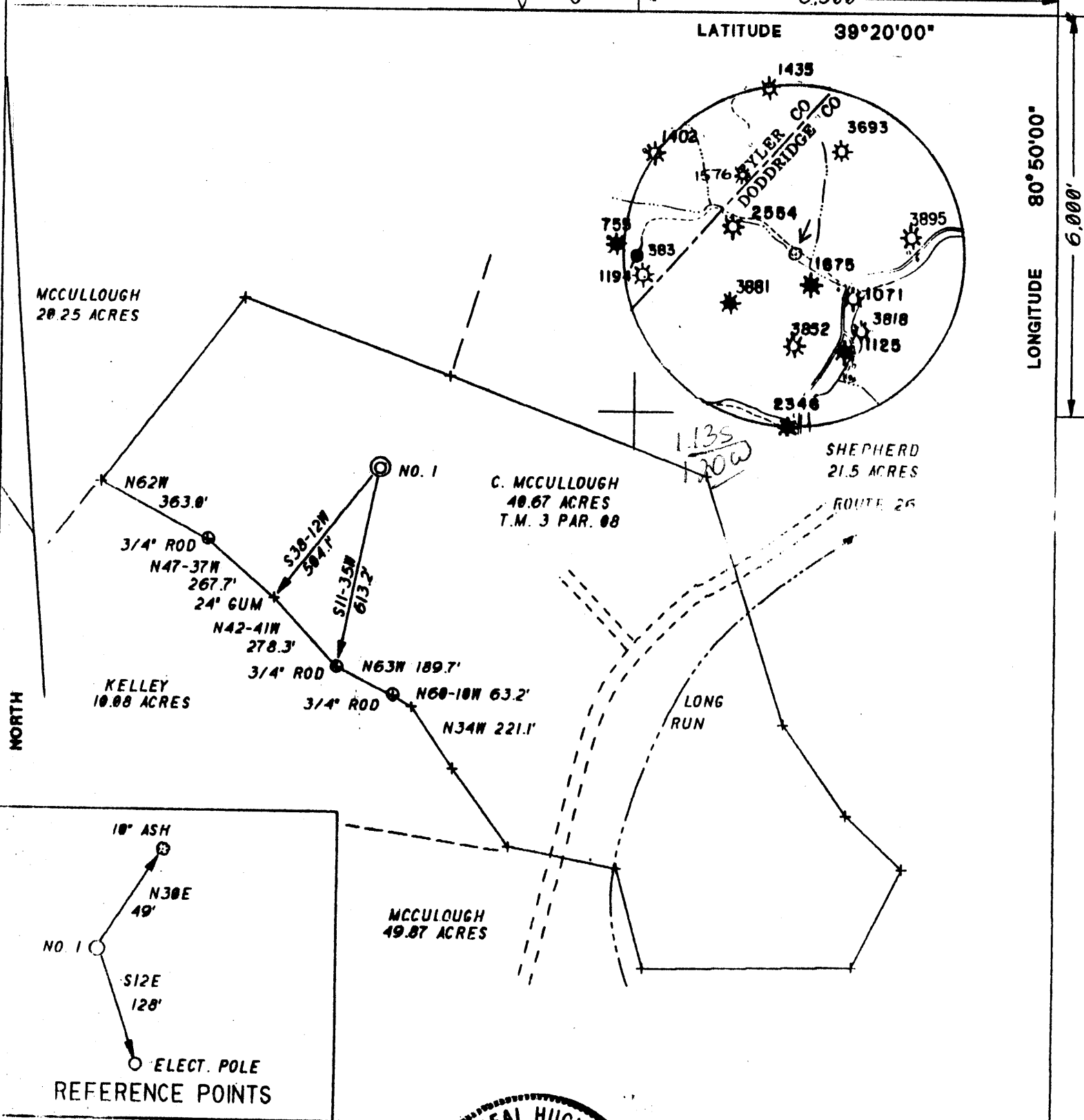
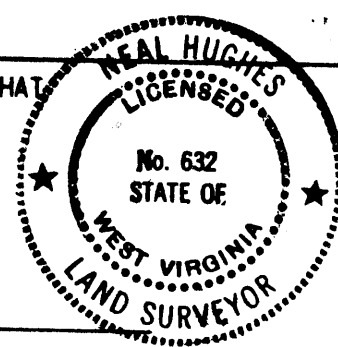


LATITUDE 39°20'00"
 LONGITUDE 80°50'08"
 6.300'
 6.000'



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.

Neal Hughes
 L.L.S. 632



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 DATE APRIL 28, 19 94
 OPERATORS WELL NO. MCCULLOUGH 1
 API WELL NO. 47 - 017 - 4135
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200
 FILE NO. 93-106
 PROVEN SOURCE OF ELEVATION NOB 1165'
 SCALE 1"=1000'

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 803' WATERSHED LONG RUN

DISTRICT CENTRAL COUNTY DODDRIDGE QUADRANGLE WEST UNION 415
 SURFACE OWNER C. MCCULLOUGH ACREAGE 40.67 SC
 ROYALTY OWNER R. MCCULLOUGH LEASE ACREAGE 56

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) 6-6 89 TARGET FORMATION ALEXANDER
 ESTIMATED DEPTH 5500'

WELL OPERATOR KEY OIL CO. 475 DESIGNATED AGENT JAN CHAPMAN JUN 17 1994
 ADDRESS 22 GARTON PLAZA ADDRESS 22 GARTON PLAZA

COUNTY NAME PERMIT

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

Well Operator's Report of Well Work

Farm name: McCULLOUGH, C.K. Operator Well No.: McCULLOUGH #1

LOCATION: Elevation: 803.00 Quadrangle: WEST UNION

District: CENTRAL County: DODDRIDGE
Latitude: 6000 Feet South of 39 Deg. 20Min. 0 Sec.
Longitude 6300 Feet West of 80 Deg. 50 Min. 0 Sec.

Company: KEY OIL COMPANY
22 GARTON PLAZA
WESTON, WV 26452-0000

Agent: JAN E. CHAPMAN

Inspector: MIKE UNDERWOOD
Permit Issued: 06/13/94
Well work Commenced: 6-28-94
Well work Completed: 7-4-94
Verbal Plugging _____
Permission granted on: _____
Rotary X Cable _____ Rig _____
Total Depth (feet) 5152
Fresh water depths (ft) 60', 259'

Salt water depths (ft) None

Is coal being mined in area (Y/N)? N
Coal Depths (ft): 185' to 189'

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
11 3/4	132	132	70 sks. to surface
8 5/8	1319	1319	355 sks. to surface
4 1/2		5067	255 sks.
1 1/2		4944	

OPEN FLOW DATA
 Riley 4274-4325
 Benson 4682-4691
 Producing formation Alexander Pay zone depth (ft) 4972-5006
 Gas: Initial open flow 60 MCF/d Oil: Initial open flow 0 Bbl/d
 Final open flow 822 MCF/d Final open flow Show Bbl/d
 Time of open flow between initial and final tests N/A Hours
 Static rock Pressure 1600 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 COMPANY

By: Jan Chapman, President
Date: July 19, 1994

1000
1135

McCullough #1 47-017-4135
3 Stage Foam Frac - Halliburton

Stage 1: Alexander (10 holes) (4976.50-5000.50) 60 Quality Foam, 750 gal. 15% HCl, 30,000 lbs. 20-40 sand, 358,000 SCF N₂, 520 bbls. Foam.

Stage 2: Benson (10 holes) (4684-4686.25) 75 Quality Foam, 750 gal. 15% HCl, 25,000 lbs. 20-40 sand, 397,000 SCF N₂, 467 bbls. Foam.

Stage 3: Riley (12 holes) (4278-4303.75) 60 Quality Foam, 1250 gal. 15% HCl, 10,000 lbs. 80-100 sand, 40,000 lbs. 20-40 sand, 481,000 SCF N₂, 749 bbls. Foam.

WELL LOG

FORMATION	TOP FEET	BOTTOM FEET	REMARKS
Shale	0	20	1" Stream H ₂ O @ 60'
Sand and Shale	20	60	1/2" Stream H ₂ O @ 259'
Red Rock	60	80	
Sand and Shale	80	125	
Shale and Red Rock	125	140	Gas Checks:
Sand	140	185	
Coal	185	189	1602 N/S
Red Rock and Shale	189	390	2010 N/S
Red Rock	390	395	2507 N/S
Sand and Shale	395	565	3006 N/S
Shale and Red Rock	565	680	3502 N/S
Sand and Shale	680	750	4020 N/S
Shale and Red Rock	750	1103	4527 N/S
Sand	1103	1599	4809 N/S
Maxton	1599	1630	5152 (T.D.) 2/10 thru 2" w/water
Sand and Shale	1630	1648	
Little Lime	1648	1662	
Sand and Shale	1662	1682	
Big Lime	1682	1810	
Big Injun	1810	1858	
Sand and Shale	1858	2010	
Weir	2010	2128	
Sand and Shale	2128	4274	
Riley	4274	4325	
Sand and Shale	4325	4682	
Benson	4682	4691	
Sand and Shale	4691	4972	
Alexander	4972	5006	
Shale	5006	5152 T.D.	

RECEIVED
OFFICE OF OIL AND GAS

JUL 21 1994

WV Division of
Environmental Protection

19331

Environmental Protection

STATE OF WEST VIRGINIA

Issued 06/13/94

DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS

WELL WORK PERMIT APPLICATION

Expires 06/13/96

JUN 9

Permitting

Well Operator: 475 Key Oil Company 25655 (1) 671

19331

Operator's Well Number: McCullough #1 3) Elevation: 803'

Well type: (a) Oil X/ or Gas X/

(b) If Gas: Production X/ Underground Storage /
Deep X/ Shallow X/

5) Proposed Target Formation(s): 439 Alexander

6) Proposed Total Depth: 5200 feet

7) Approximate fresh water strata depths: 50'

8) Approximate salt water depths: -0-

9) Approximate coal seam depths: None

10) Does land contain coal seams tributary to active mine? Yes / No /

11) Proposed Well Work: Drill, Stimulate, Produce.

12)

New Well

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEM Fill-u (cu. f)
	Size	Grade	Weight per ft.	For drilling	Left in well	
Conductor	16"	Used		20	0	
Fresh Water	11 3/4"	ERW	42	132	132	70 sks. to surface
Coal						0.1 Mc
Intermediate	8 5/8"	ERW	23	1340	1340	365 sks. to surface
Production	4 1/2"	J-55	10.5		5100	260 sks.
Tubing	1.5"					
Liners						

PACKERS : Kind _____
Sizes _____
Depths set _____

For Division of Oil and Gas Use Only

Fee(s) paid 12/19 Well Work Permit 12/19 Reclamation Fund 12/19

Dist 12/19 WW-2 12/19 WW-25 12/19 Bond 12/19

12/19

WV
Environmental Protection
JUN 5 2004
Permitting
Office of Oil & Gas

1) Date: May 4, 1994
2) Operator's well number
McCullough #1
3) API Well No: 47 - 017 - 4135
State - County - Permit

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

<p>4) Surface Owner(s) to be served:</p> <p>(a) Name <u>C. K. McCullough</u> Address <u>Rt. 1 Box 98</u> <u>Greenwood, WV 26360</u></p> <p>(b) Name _____ Address _____</p> <p>(c) Name _____ Address _____</p>	<p>5) (a) Coal Operator:</p> <p>Name <u>None</u> Address _____</p> <p>(b) Coal Owner(s) with Declaration</p> <p>Name _____ Address _____</p> <p>(c) Coal Lessee with Declaration</p> <p>Name _____ Address _____</p>
<p>6) Inspector <u>Mike Underwood</u> Address <u>Rt. 2 Box 135</u> <u>Salem, WV 26426</u> Telephone (304)- <u>782-1043</u></p>	

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
X 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:

- X Personal Service (Affidavit attached)
- _____ Certified Mail (Postmarked postal receipt attached)
- _____ Publication (Notice of Publication attached)

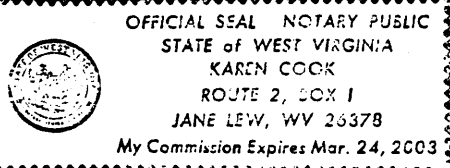
I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

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: [Signature]
 Its: President
 Address 22 Garton Plaza
Weston, WV 26452
 Telephone 304-269-7102

Subscribed and sworn before me this 4th day of May, 19 94



Karen Cook Notary Public
My commission expires March 24, 2003