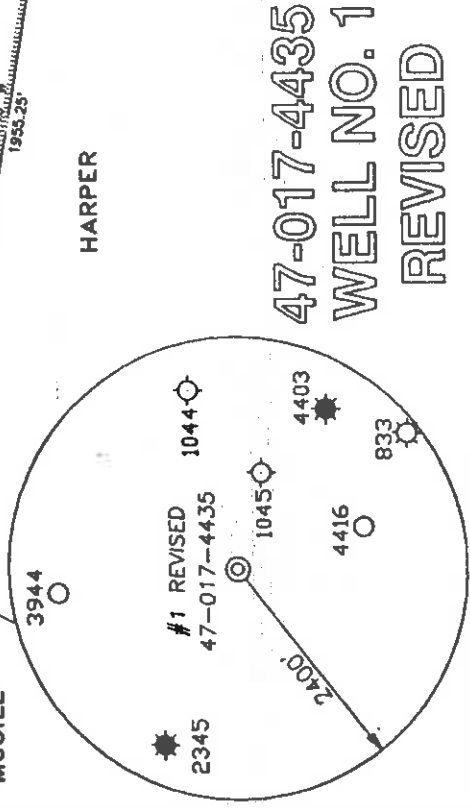
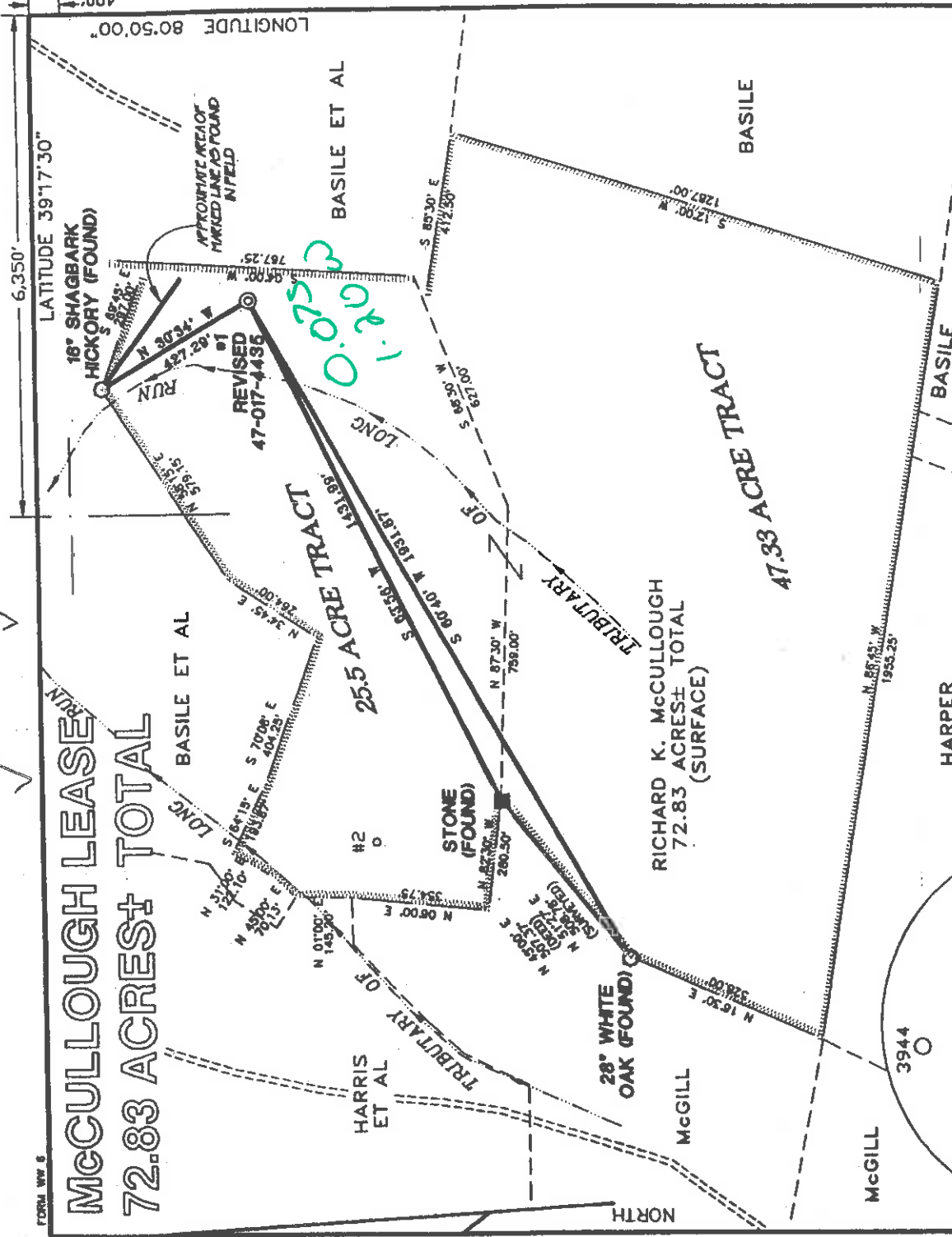


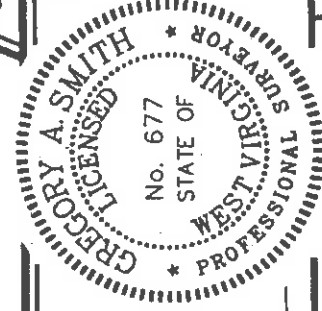
McCULLOUGH LEASE
72.83 ACRES± TOTAL



47-017-4435
WELL NO. 1
REVISED

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 ENERGY.

P.S. *Gregory A. Smith*
677



MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 3916PIR (59-60) SCALE 1" = 400'
PROVEN SOURCE OF ELEVATION JUNCTION OF ROADS ELEVATION 839'

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

LOCATION : ELEVATION 902' WATERSHED TRIBUTARY OF LONG RUN OF ARNOLD CREEK
DISTRICT CENTRAL COUNTY DODDRIDGE QUADRANGLE WEST UNION 7.5'

SURFACE OWNER RICHARD K. McCULLOUGH ACREAGE 72.83
ROYALTY OWNER LEE DAVISSON HEIRS ET AL LEASE ACREAGE 25.5 OF 72.83

PROPOSED WORK : LEASE NO. _____
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'

WELL OPERATOR KEY OIL COMPANY DESIGNATED AGENT JAN CHAPMAN ADDRESS 22 GARTON PLAZA WESTON, WV 26342

6-6 89

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE JUNE 4, 19 98
OPERATORS WELL NO. McCULLOUGH #1 REVISED 40
API WELL NO. 47-017-4435
STATE COUNTY PERMIT *revised*

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

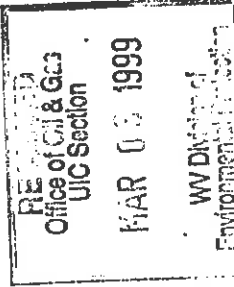
Dodd 4440

COUNTY NAME PERMIT

ADDRESS 22 GARTON PLAZA WESTON, WV 26342

WR-35

02 - Jun - 98
API # 47 - 17 - 04440



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

Reviewed: AS

Environmental Protection
MAR 03 1999

Well Operator's Report of Well Work

Farm name: McCULLOUGH, RICHARD K.

Operator Well No.: McCULLOUGH #1

LOCATION: Elevation: 900.00

Quadrangle: West Union

District: Central
Latitude: 380'
Longitude: 6380'

County: Doddridge

Feet South of 39 Deg. 17 Min. 30 Sec.
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: 05/22/98
Well Work Commenced: 06/03/98
Well Work Completed: 06/08/98

Verbal Plugging

Permission granted on:

Rotary X Cable _____ Rig

Total Depth (feet) 5263'

Fresh water depths (ft) 335', 50', 460'

Salt water depths (ft) None Reported

Is coal being mined in area (Y / N)? Y

Coal Depths (ft): None Reported

Casing & Tubing Size	Used in Drilling	Left In Well	Cement Fill Up Cu. Ft.
11 3/4"	124'	124'	90 sks To Surface
8 5/8"	1535'	1535'	450 sks To Surface
4 1/2"	5125'	5125'	250 sks
2 3/8"		5021'	

OPEN FLOW DATA

Rileys
Benson
Alexander

Producing formation _____
 Gas: Initial open flow No Show MCF / d Pay zone depth (ft) 4311' - 4709'
 Final open flow 1,443 MCF / d Oil: Initial open flow 0 Bbl / d 4746' - 4760'
 Time of open flow between initial and final tests _____ N/A Oil: Final open flow show Bbl / d 4996' - 5078'
 Static rock pressure 1850 psig (surface pressure) after 96 Hours

Second producing formation _____
 Gas: Initial open flow _____ MCF / d Pay zone depth (ft) _____
 Final open flow _____ MCF / d Oil: Initial open flow _____ Bbl / d
 Time of open flow between initial and final tests _____ Oil: Final open flow _____ Bbl / d
 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

Date: February 11, 1999

PRESIDENT

MAR 16 1999

DODD 4440

McCullough #1 (47-017-04440)
 Threeer Stage Foam Frac - Halliburton

1st Stage: Alexander (14 holes) (5019.25' to 5058.50') 60 Quality Foam. 500 gal. 15% HCL.
 60,000# 20/40 sand, 550,000 SCF N2,
 808 bbis foam.

2nd Stage: Benson (7 holes) (4753.25' to 4754.75') 60 Quality Foam. 750 gal 15% HCL.
 Third Riley (7 holes) (4675.25' to 4676.75') 40,000# 20/40 sand, 417,000 SCF N2,
 617 bbis foam.

3rd Stage: Riley (12 holes) (4352' to 4374.25') 60 Quality Foam. 1,000 gal 15% HCL.
 5,000# 80/100 sand, 45,000# 20/40 sand,
 502,000 SCF N2, 740 bbis foam.

WELL LOG

Fill	0	3	
Sand	3	16	
Red Rock & Sand & Shale	16	140	1/4" H ₂ O @ 35'
Sand & Shale	140	570	1/2" H ₂ O @ 50'
Red Rock	570	585	1/4" H ₂ O @ 460'
Sand & Shale	585	650	
Red Rock & Sand & Shale	650	800	
Sand & Shale	800	1170	
Sand	1170	1190	
Sand & Shale	1190	1342	
Sand	1342	1426	
Sand & shale	1426	1675	
Sand	1675	1765	
Little Lime	1765	1791	
Shale	1791	1799	
Big Lime	1799	1858	
Big Injun	1858	1933	
Shale	1933	2100	
Weir	2100	2223	
Sand & Shale	2223	2702	
Gordon	2702	2711	1827' - No Show
Sand & Shale	2711	3180	2533' - No Show
Warren	3180	3234	3057' - No Show
Shale	3234	3250	3617' - No Show
Speechley	3250	3370	4361' - No Show
Shale	3370	3496	4699' - No show
Balltown	3496	4056	5008' - No Show
Shale	4056	4311	TD - No Show
Riley	4311	4380	
Sand & Shale	4380	4667	
Third Riley	4667	4709	
Shale	4709	4746	
Benson	4746	4760	
Shale	4760	4996	
Alexander	4996	5078	
Sand & Shale	5078	5263	
T.D.	5263		

GAS CHECKS

1827' - No Show
 2533' - No Show
 3057' - No Show
 3617' - No Show
 4361' - No Show
 4699' - No show
 5008' - No Show
 TD - No Show