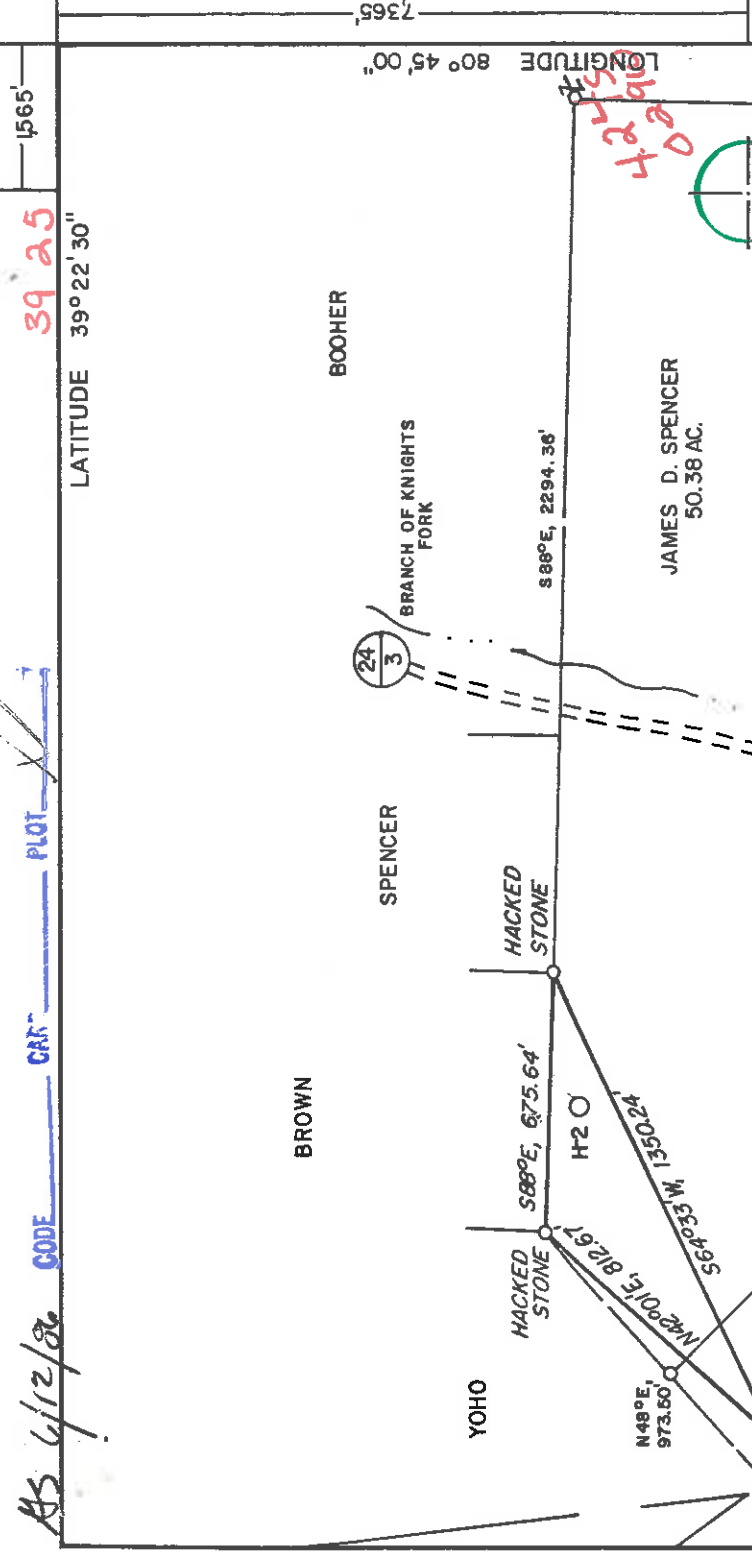


As 4/12/86 CODE CAR PLOT



LATITUDE 39°22'30" LONGITUDE 80°45'00"

WELL REFERENCES:

S43°30' W, 149' TO 15" RED OAK  
S89°E, 117.50' TO 14" POPLAR

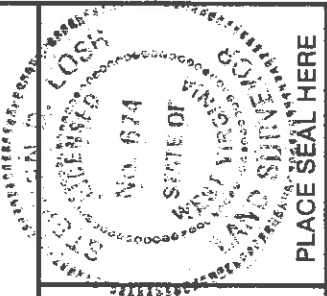
LAND SURVEYING SERVICES  
1412 NORTH 18 TH ST.  
CLARKSBURG, WV 26301  
PHONE: 304-623-1214

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

FILE NO. \_\_\_\_\_  
DRAWING NO. \_\_\_\_\_  
SCALE 1" = 500'  
MINIMUM DEGREE OF  
ACCURACY \_\_\_\_\_ IN 200  
PROVEN SOURCE OF  
ELEVATION TOP OF KNOB 299' EAST  
OF LOCATION AT ELEV. 1307

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 REGU-  
LATIONS ISSUED AND PRESCRIBED BY THE DEPART-  
MENT OF ENERGY.  
(SIGNED) *[Signature]*

R.P.E. \_\_\_\_\_ L.L.S. NO. 674  
STEPHEN D. LOSH



PLACE SEAL HERE

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY  
OIL AND GAS DIVISION



DATE MAY 21, 19 86  
OPERATOR'S WELL NO. C. SPENCER (H-3)  
API WELL NO. \_\_\_\_\_

47-017-3503  
STATE COUNTY PERMIT

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL \_\_\_\_\_  
(IF "GAS,") PRODUCTION X STORAGE DEEP SHALLOW X \_\_\_\_\_  
LOCATION: ELEVATION 1240' WATER SHED KNIGHTS FORK \_\_\_\_\_  
DISTRICT GRANT 3 COUNTY DODDRIDGE

QUADRANGLE WEST UNION 671 ACREAGE 51.625  
SURFACE OWNER CARLAS A. SPENCER LEASE ACREAGE 51.625  
OIL & GAS ROYALTY OWNER CARLAS A. SPENCER LEASE ACREAGE 51.625  
LEASE NO. \_\_\_\_\_

PROPOSED WORK: DRILL X 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 BIG INJUN ESTIMATED DEPTH 2450'  
WELL OPERATOR RANGER PETROLEUM, LTD. DESIGNATED AGENT KENNETH L. POPE  
ADDRESS 411 EAST MAIN ST., P.O. DRAWER 510 ADDRESS 411 EAST MAIN ST., P.O. DRAWER 510  
CLARKSBURG, WV 26301 CLARKSBURG, WV 26301

JUN 16 1986

Swiger-Flint Run (94)

IV-35  
(Rev 8-81)



State of West Virginia  
Department of Mines  
Oil and Gas Division

**RECEIVED**  
NOV 03 1986

Date October 29, 1986  
Operator's  
Well No. Spencer #H-3  
Farm Spencer  
API No. 47 - 017 - 3503

**DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY**

**WELL OPERATOR'S REPORT  
OF  
FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE**

WELL TYPE: Oil    / Gas X / Liquid Injection    / Waste Disposal    / Shallow X /  
(If "Gas," Production X / Underground Storage    / Deep    /

LOCATION: Elevation: 1240' Watershed Knights Fork  
District: Grant County Doddridge Quadrangle West Union 7 1/2'

COMPANY Ranger Petroleum, Ltd.  
ADDRESS P.O. Drawer 510, Clarksburg, WV 26302  
DESIGNATED AGENT Kenneth L. Pote  
ADDRESS P.O. Drawer 510, Clarksburg, WV 26302  
SURFACE OWNER Carlas A. Spencer  
ADDRESS Rt. 3, Box 313, New Cumberland, WV 26047  
MINERAL RIGHTS OWNER Carlas A. Spencer  
ADDRESS Rt. 3, Box 313, New Cumberland, WV 26047  
OIL AND GAS INSPECTOR FOR THIS WORK  
Route 2, Box 114  
Mike Underwood ADDRESS Salem, WV 26426  
PERMIT ISSUED June 12, 1986  
DRILLING COMMENCED June 24, 1986  
DRILLING COMPLETED June 29, 1986

IF APPLICABLE: **PLUGGING OF DRY HOLE ON  
CONTINUOUS PROGRESSION FROM DRILLING OR  
REWORKING. VERBAL PERMISSION OBTAINED**  
ON \_\_\_\_\_

Casing Tubing	Used in Drilling in Well	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"	45'	45'	
9 5/8			
8 5/8			
7	504'	504'	130 Sks.
5 1/2			
4 1/2		2420'	50 Sks.
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Big Injun Depth 2450 feet  
Depth of completed well 2420 feet Rotary X / Cable Tools \_\_\_\_\_  
Water strata depth: Fresh 490 feet; Salt \_\_\_\_\_ feet  
Coal seam depths: \_\_\_\_\_ Is coal being mined in the area? No

**OPEN FLOW DATA**

Producing formation Lower Big Injun Pay zone depth 2305-2313 feet  
Gas: Initial open flow \_\_\_\_\_ Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow 35 Mcf/d Final open flow 3 Bbl/d

Time of open flow between initial and final tests \_\_\_\_\_ hours  
Time of open flow between initial and final tests after \_\_\_\_\_ hours shut in

Static rock pressure 125 psig (surface measurement) after \_\_\_\_\_ hours shut in  
(If applicable due to multiple completion--)  
Second producing formation Upper Big Injun Pay zone depth 2259-2274 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  
**NOV 10 1986**

(Continue on reverse side)

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

2-Stage Waterfrac: 1st Stage, Lower Big Injun perforated 2305-2313' with 6 Holes; 10,000# 10/20 Sand; 130 BBL. 5/L Fluid.  
 2nd Stage, Upper Big Injun and Keener perforated 2236-2244' with 4 Holes; and 2259-2274' with 8 Holes; 28,000# 20/40 Sand and 10,000# 10/20 Sand; 445 BBL. 5/L Fluid.

WELL LOG

FORMATION COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Shale and Red Rock	0'	527'	Hole damp @ 490'
Shale	527'	657'	Dusting
Sand	657'	700'	
Red Rock	700'	746'	
Shale	746'	754'	
Red Rock	754'	892'	
Shale	892'	909'	
Lime	909'	986'	
Shlae	986'	990'	
Lime	990'	1030'	
Shale	1030'	1038'	
Lime	1038'	1077'	
RedRock	1077'	1110'	
Shale	1110'	1125'	
RedRock	1125'	1155'	
Shale	1155'	1192'	
Sand	1192'	1204'	
Lime	1204'	1280'	Hole damp, went on soap for 46'
Shale	1280'	1294'	
Shale	1294'	1304'	
Shale	1304'	1320'	Dusting @ 1344', go to soap
Lime	1320'	1404'	Trip for bit @ 1455'
Shale	1404'	1440'	
Shale	1440'	1495'	
Sand (L)	1495'	1497'	
Shlae	1497'	1580'	
Big Sand	1580'	1640'	
Shale	1640'	1654'	
Sand	1654'	1686'	
Shale	1686'	1782'	Picked up water @ 1780'
Salt Sand	1782'	1789'	
Shale	1789'	1810'	
Sand	1810'	1870'	
Shale	1870'	1880'	
Sand & Shale	1880'	1950'	
Sand	1950'	1880'	
Shale	1950'	1980'	

(Continued)

(Attach separate sheets as necessary)

Well Operator \_\_\_\_\_

By: \_\_\_\_\_

Date: \_\_\_\_\_

Note: Regulation 2.02(i) provides as follows: "The term 'well' or 'well' shall mean a systematic detailed geologic log, including all, encountered in the drilling well."

RANGER PETROLEUM, LTD.  
 Spenther #H-3  
 Grant Dist., Doddridge Co., WV  
 Permit No. 47-017-3503

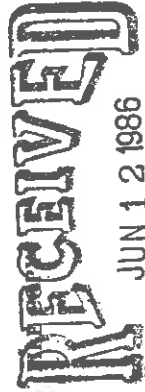
Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	Remarks
Sand		White/Hard	1980'	1997'		
Shale		Gray/Soft	1997'	2010'		
Sand		White/Hard	2010'	2070'		
Shale		Gray/Soft	2070'	2092'		
Shale		Lt.Gray/Hard	2092'	2105'		
Shale		Gray/Soft	2105'	2126'		
Lime		Gray/Hard	2126'	2140'		
G. Shale		Gray/Hard	2140'	2160'		
Lime		Dark/Hard	2160'	2238'		
G. Shale		Lt.Gray/Soft	2238'	2248'		
Injun Sand		White/Hard	2248'	2360'		Gas @ 2271', Show of Oil
Sand & Shale		Gray/Hard	2360'	2433'		
Shale		Gray/Soft	2433'	2500'		
TD			2500'			

LOG TOPS: ✓  
 Big Lime 2165'  
 Keener 2232'  
 Big Injun 2247'  
 TD 2496'

Date October 29, 19 86  
 RANGER PETROLEUM, LTD.  
 APPROVED *[Signature]*, Owner  
 NOV 10 1986

10/10/10

10/10/10



JUN 12 1986

1) Date: May 28, 1986  
 2) Operator's Well No. Spencer #H-3  
 3) API Well No. 47 017 -3503  
 State \_\_\_\_\_ County \_\_\_\_\_ Permit \_\_\_\_\_



DIVISION OF OIL & GAS STATE OF WEST VIRGINIA  
 DEPT. OF ENERGY OF ENERGY, OIL AND GAS DIVISION  
 APPLICATION FOR A WELL WORK PERMIT

4) WELL TYPE: A Oil  Gas  / Production  / Underground storage  / Knights Fork  / Deep  / Shallow  /  
 B (if "Gas", Production  /  
 5) LOCATION: Elevation: 1240' Watershed: \_\_\_\_\_ County: \_\_\_\_\_ Quadrangle: West Union 7 1/2' 670  
 District: Grant 7323  
 6) WELL OPERATOR: Ranger Petroleum, Ltd. CODE: 40825 7) DESIGNATED AGENT: Kenneth L. Pote  
 Address: P.O. Drawer 510  
 \_\_\_\_\_  
 Clarksburg, WV 26301

8) OIL & GAS INSPECTOR TO BE NOTIFIED  
 Name: Mike Underwood  
 Address: Route 2, Box 114  
 Salem, WV 26426

10) PROPOSED WELL WORK: Drill  / deeper  / Redrill  / Stimulate  /  
 Plug off old formation  / Perforate new formation  /  
 Other physical change in well (specify) \_\_\_\_\_

11) GEOLOGICAL TARGET FORMATION, Big Injun 371  
 12) Estimated depth of completed well, 2500 feet  
 13) Approximate trata depths: Fresh, 110 feet; salt, 21695 feet.  
 14) Approximate coal seam depths: \_\_\_\_\_ Is coal being mined in the area? Yes  No

15) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used		
Conductor	11 3/4"	H	42#		X		
Fresh water						20'	
Coal							
Intermediate	7"	H	17#	X		500'	CTS PER Rule 15.05
Production	4 1/2"	J	9.5#	X		2400'	200 SKS DEPTHS SET
Tubing							OR AS REQUIRED BY Rule
Lin.							Perforations: 1501
							Top _____ Bottom _____

OFFICE USE ONLY  
 DRILLING PERMIT

Permit number 47-017-3503 Date June 12 1986

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector. (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.  
 Permit expires June 12, 1988 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond:	Agent: AE B	Plat: AS	Casing: AS	Fee: 1417	WPCP: AS	S&E: AS	Other:
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NOTE: Keep one copy of this permit posted at the drilling location.  
 See the reverse side of the APPLICANT'S COPY for instructions to the well operator.  
 John D. Johnston  
 Director, Division of Oil and Gas

