

NOTE:  
No houses or water wells  
are within 200'.

LATITUDE 38°57'30"  
7.5' Topo Location

LONGITUDE 78°52'30"

Funkhouser  
WB 17 Pg. 277

Lease  
Grover Funkhouser et al  
Lease No. 62656  
506 Acres

Surface Owner  
Pearl River Timber, LLC  
DB 280 Pg 202  
Tax Map 386 Parcel 8

Oil and Gas Owner  
Scotty Funkhouser  
DB 280 Pg 202  
Tax Map 386 Parcel 8

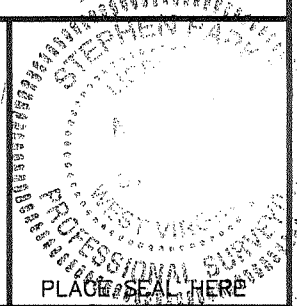
Coordinates Well No 9447  
WV-N Nad83 U.S. Feet  
N 167,472.15  
E 2,142,825.01

NOTE:  
This map is for well location  
only and does not represent  
a complete property survey. All wells within 1200' are as shown

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

FILE NO. \_\_\_\_\_  
DRAWING NO. \_\_\_\_\_  
SCALE 1" = 400'  
MINIMUM DEGREE OF  
ACCURACY 1 in 200  
PROVEN SOURCE OF  
ELEVATION \_\_\_\_\_  
GPS CP No. 21 Elevation 2241.23'

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 DIVISION OF ENVIRONMENTAL PROTECTION  
(SIGNED) Stephen Parks  
R.P.E. 8982 L.L.S. 1707



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



DATE August 30 20 04  
OPERATOR'S WELL NO. 9447  
API WELL NO.

47 - 031 - 00014F  
STATE COUNTY PERMIT

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
(IF "GAS,") PRODUCTION \_\_\_ STORAGE X DEEP \_\_\_ SHALLOW \_\_\_  
LOCATION: ELEVATION 2448.36' WATER SHED Dove Hollow of Kimsey Run  
DISTRICT Lost River COUNTY Hardy  
QUADRANGLE Lost River State Park  
SURFACE OWNER Pearl River Timber, LLC ACREAGE 336  
OIL & GAS ROYALTY OWNER Scotty Funkhouser LEASE ACREAGE 506  
LEASE NO. 62656  
PROPOSED WORK: DRILL \_\_\_ CONVERT X DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR  
STIMULATE \_\_\_ PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW  
FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) Storage Recondition

PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
TARGET FORMATION \_\_\_ ESTIMATED DEPTH \_\_\_  
WELL OPERATOR Columbia Gas Transmission Corp. DESIGNATED AGENT Paul Amick  
ADDRESS P.O. Box 1273 ADDRESS P.O. Box 1273  
Charleston, WV 25325-1273 Charleston, WV 25325-1273

DEC 16 2005

Lost River 90 (328)

FORM WW-6

COUNTY NAME HARDY PERMIT 0014F

2.93  
-2.24  
0.69

KENNA WHETZEL

C. C. WISE

GROVER FUNKHOUSER

GROVER FUNKHOUSER

BENCH MARK DESCRIPTION

U.S.G.S. Standard Disc Set In Foundation  
Of Holly Hill Church. Elev. 1526.00'

DEGREE OF ACCURACY

One Part In Two Hundred

Stake On N.E. Side Of Point, 40' East  
Of Large Rock. Chestnut Oak, 3 Maple &  
Locust Witness.

† 2.865  
2.93 W

529° E  
2268'

Set Stone & Hickory Cor. On Ridge  
532° 00' E - 273'

LOCATION

562° 00' W  
155'

Stake On Ridge. Hickory Witness.  
N 81° 23' E - 820'

560° 30' W  
1170'

Stake On Ridge. Chestnut Oak & Black  
Oak Pointer

7.5'  
2.865  
0.69 W

2.87 S.  
2.86 W

I, the undersigned, hereby certify that this map is correct to  
the best of my knowledge and belief and shows all the infor-  
mation required by Paragraph 6 of the rules and regulations of  
the oil and gas section of the mining laws of West Virginia.

2-C-(H-16) O. L. Sprink

- New Location...
- Drill Deeper.....
- Abandonment.....

Company SUN OIL COMPANY  
 Address P.O. BOX 5026 LAWDALE BRANCH  
EVANSVILLE, INDIANA 47715  
 Farm GROVER FUNKHOUSER ET AL.  
 Tract \_\_\_\_\_ Acres 506 Lease No. WV-519  
 Well (Farm) No. 1 Funkhouser - Wise Serial No. Unit #1  
 Elevation (Spirit Level) 2455.51'  
 Quadrangle ORKNEY SPRINGS - N  
 County HARDY District LOST RIVER  
 Engineer O. L. Sprink South Fork  
 Engineer's Registration No. 2712  
 File No. \_\_\_\_\_ Drawing No. \_\_\_\_\_  
 Date JAN. 12, 1965 Scale 1" = 800'

STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION  
CHARLESTON

**WELL LOCATION MAP**  
FILE NO. HARDY-14

+ Denotes location of well on United States  
Topographic Maps, scale 1 to 62,500, lat-  
titude and longitude lines being represented  
by border lines as shown.

- Denotes one inch spaces on border line  
of original tracing.

Sampler: 4400 - 5500 8.20 - 7010 Deep Well 16-6 328



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION 5

Rotary   
Spudder   
Cable Tools   
Storage

Quadrangle Orkney Springs

WELL RECORD

Permit No. HARDY-14

Oil or Gas Well Gas  
(XIND)

Company Sun Oil Company  
Address Box 5026-Lawdale Br. Evansville, Ind.  
Farm Grover Funkhouser et al Acres 506  
Location (waters) Dove Hollow of Kinsey Run  
Well No. 1 Elev. 2455.51  
District South Fork County Hardy  
The surface of tract is owned in fee by Grover Funkhouser et al  
Address Mathias, West Va.  
Mineral rights are owned by Grover Funkhouser et al  
Address Mathias, West Va.  
Drilling commenced 3-3-65  
Drilling completed 6-22-65  
Date Shot From To  
With  
Open Flow /10ths Water in Inch  
/10ths Merc. in Inch  
Volume 2.3 MM 2,300 Cu. Ft.  
Rock Pressure Calculated 2352 lbs. BHP  
at 1965 psi gage at surface  
WELL ACIDIZED 6-11-65 (Over)

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
20"	42	42	
3/8"	206	206	
9 5/8"	1987	1987	Size of
7"	7024	7024	
2"	7315	7315	Depth set
5 3/16			
3			Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

CASING CEMENTED Over SIZE No. Ft. Date

COAL WAS ENCOUNTERED AT None FEET INCHES  
FEET INCHES FEET INCHES  
FEET INCHES FEET INCHES

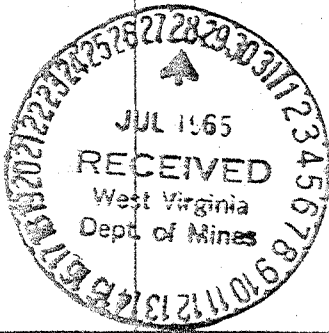
WELL FRACTURED

RESULT AFTER TREATMENT

ROCK PRESSURE AFTER TREATMENT

Fresh Water Feet Salt Water Feet

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Chemung-Brallier			0	4754'			
Marrell Sh			4754	5620'			
Marcellus Sh			5620	6907'			
Metabentonite	lt. brown		-	6665'			
Needmore Sh			6907	7020			
Criskany Sd			7020	7315'	Gas	7196-98	
Helderburg Lm.			7315	7349' TD			
			6665	7020	7315		
			2468	2468	2468		
			4197	4552	4847		



Geology

Formation	Color	Hard or Soft	Top 5	Bottom	Oil, Gas or Water	Depth Found	Remarks
<u>Casing</u>							
20" @ 42'	3-4-65						
13 3/8" 223'	3-7-65						
9 5/8" 2002'	3-27-65						
7" @ 7024'	6-1-65						
2" @ 7315'	6-10-65						
TD @ 7349'							
<u>Stimulation</u>							
6-8-65	Tested 1.5 MMCF/Day natural open flow						
6-11-65	Acidized w/30,000 gal. 15% HCL Acid						
7-8-65	Tested 2.3 MMCF/Day rate against 800 psi surface pressure						

Date 7-23, 19 65

APPROVED Sun Oil Co., Owner

By R. E. Dobkins  
 R. E. Dobkins (Title) Asst. Operating Superintendent

WR-35  
Rev (5-01)

DATE: 9/12/2007  
API #: 47-031-00014 W

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas

Well Operator's Report of Well Work

Farm name: Pearl River Timber, LLC Operator Well No.: 9447

LOCATION: Elevation: 2448.36' Quadrangle: Lost River State Park

District: Lost River County: Hardy  
Latitude: 102 Feet South of 38 Deg. 57 Min. 30 Sec.  
Longitude 3,481 Feet West of 78 Deg. 52 Min. 30 Sec.

Company: Columbia Gas Transmission Corp

	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: 1700 MacCorkle Ave SE Charleston, WV 25325-1273	4-1/2"	6977 ft	6972 ft	270 cu ft
Agent: Paul Amick	All other existing casing left in well.			
Inspector: Craig Duckworth				
Date Permit Issued: 12/14/05				
Date Well Work Commenced: 4/12/07				
Date Well Work Completed: 9/5/07				
Verbal Plugging:				
Date Permission granted on:				
Rotary X Cable Rig				
Total Depth (feet): 7349				
Fresh Water Depth (ft.): not applicable				
Salt Water Depth (ft.): not applicable				
Is coal being mined in area (N/Y)? no				
Coal Depths (ft.):				

OPEN FLOW DATA

Producing formation Oriskany Sand Pay zone depth (ft) 7196 - 7276  
Gas: Initial open flow not applicable MCF/d Oil: Initial open flow not applicable Bbl/d  
Final open flow 1500 MCF/d Final open flow 0 Bbl/d  
Time of open flow between initial and final tests not applicable Hours  
Static rock Pressure 1150 psig (surface pressure) after 72 Hours

Second Producing formation not applicable Pay zone depth (ft) not applicable  
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.

Signed: James E. Amos  
By: James E. Amos - Senior Storage Engineer - Columbia Gas Transmission Corp  
Date: 9/12/07

NOV 21 2007

HAR 0014W

This is an existing production well that was converted to a natural gas storage well. Below is a summary of work performed.

- 1) Well was killed, tubing pulled, pipe inspected and cement bond logs ran, 4-1/2" casing ran and cemented, new API wellhead installed, and acid stimulation.
- 2) Schlumberger ran GR-LDen-CNL-Induction
- 3) Baker Atlas ran Segmented Bond Log and MicroVertilog.

\* Note that no earthen pit was utilized. Workover and flowback treatment fluids recovered via steel tanks and transported to LAD in Wheeling, WV for disposal/processing.