

**Notes:**  
 This Map is For  
 Well Location Only &  
 Does Not Represent  
 A Complete Property Survey.  
 Location Determined By Differential GPS.

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS (7 1/2")

FILE NO. \_\_\_\_\_  
 DRAWING NO. 7317  
 SCALE 1" = 400'  
 MINIMUM DEGREE OF  
 ACCURACY 1/200  
 PROVEN SOURCE OF  
 ELEVATION EXISTING WELL  
GROUND

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) \_\_\_\_\_  
 R.P.E. 9936 L.L.S. 798

STATE OF WEST VIRGINIA  
 LICENSED SURVEYOR  
 NO. 703  
 PLACE SEAL HERE

**STATE OF WEST VIRGINIA**  
 DIVISION OF ENVIRONMENTAL  
**PROTECTION**  
 SECTION OF OIL & GAS

DATE October 7, 1998  
 OPERATOR'S WELL NO. 7317  
 API WELL NO. \_\_\_\_\_

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 (IF "GAS,") PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION: ELEVATION 1055.92' WATER SHED Waters Of Left Fork Of Sycamore  
 DISTRICT Revenswood COUNTY Jackson  
 QUADRANGLE Ripley, WV COORDINATES LAT: 38°51'52" LONG: 81°41'50"

SURFACE OWNER Clarinda Jo Harpold ACREAGE 48  
 OIL & GAS ROYALTY OWNER F. F. McIntosh, III, Et Al. LEASE ACREAGE 51  
 COAL OWNER F. F. McIntosh, III, Et Al. LEASE NO. 52317

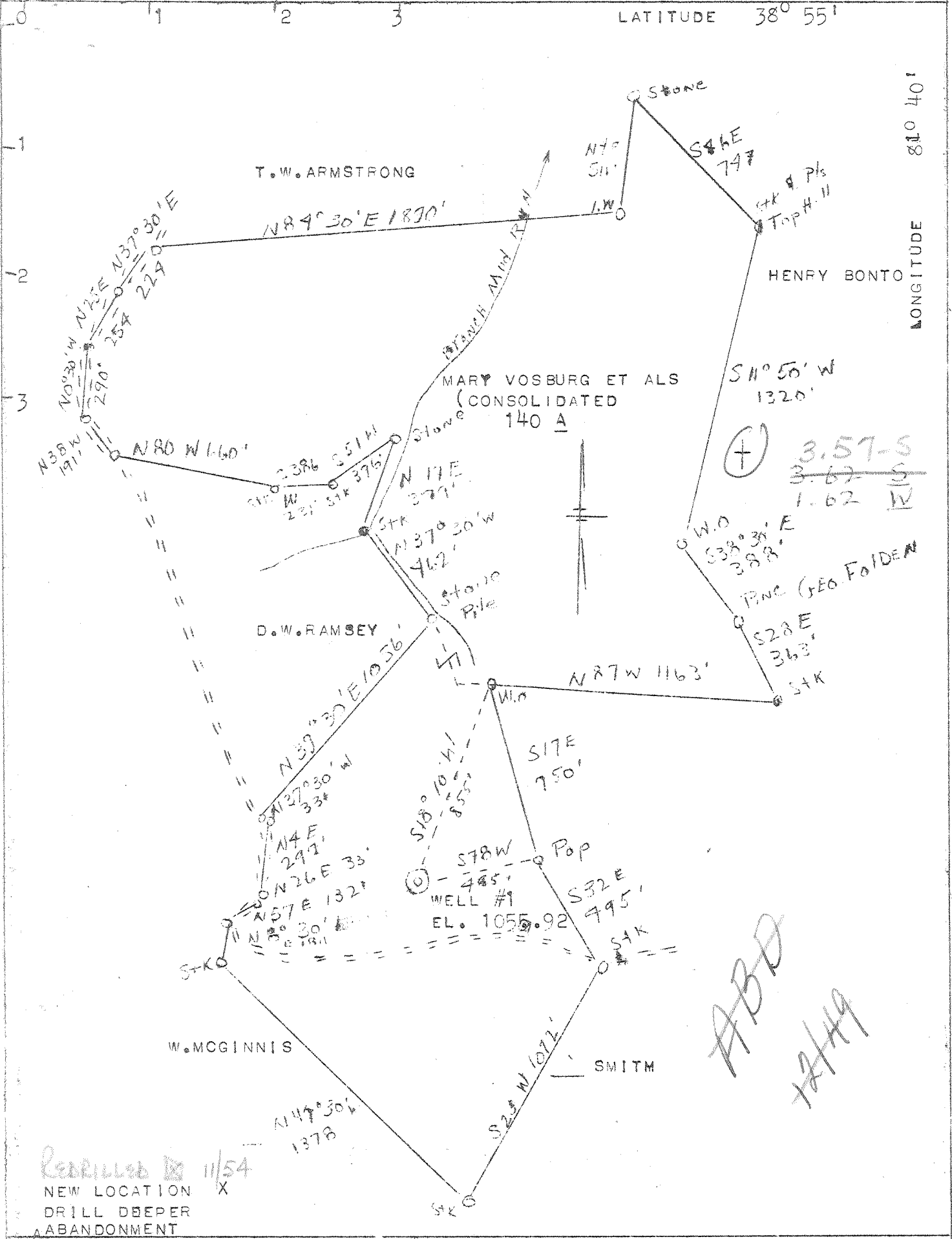
PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR  
 STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW  
 FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) Storage Remediation

PLUG AND ABANDON  CLEAN OUT AND REPLUG

TARGET FORMATION \_\_\_\_\_ ESTIMATED DEPTH \_\_\_\_\_

WELL OPERATOR COLUMBIA GAS TRANSMISSION CORP DESIGNATED AGENT RICHARD L COTY  
 ADDRESS PO Box 1273, Charleston, WV ADDRESS PO Box 1273, Charleston, WV  
25325-1273 25325-1273

JACKSON COUNTY NAME PERMIT 515



Re-drilled 11/54  
 NEW LOCATION X  
 DRILL DEEPER  
 ABANDONMENT

COMPANY	MC INTOSH & GRIMM
ADDRESS	SPENCER, W.VA.
FARM	MARY VOSBURG ET. ALS.
TRACT — ACRES	140 LEASE NO. —
WELL(FARM) NO.	1 SERIAL NO. —
ELEVATION (SPIRIT LEVEL)	1055.92
QUADRANGLE	RIPLEY-WC
COUNTY	JACKSON DISTRICT RAVENS- WOOD
ENGINEER	L. F. DYE
ENGINEER'S REGISTRATION NO.	804
FILE NO.	— DRAWING NO. —
DATE	2-6-46 SCALE 1" = 500'

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

WELL LOCATION MAP

FILE NO. JAC - 515 - W

+ DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS, SCALE 1 TO 62,500, LATITUDE AND LONGITUDE LINES BEING REPRESENTED BY BORDER LINES AS SHOWN.

- DENOTES ONE INCH SPACES ON BORDER LINE OF ORIGINAL TRACING.

Storage Well

9-0-142

Deep Well

WR-3500 Oil & Gas  
Mining

OCT 13 1999

Division of Environmental Protection

18-Nov-98

API # 47- 35-00515 F

Reviewed \_\_\_\_\_

State of West Virginia  
Division of Environmental Protection  
Section of Oil and Gas  
Well Operator's Report of Well Work

Farm name: HARPOLD, CLARINDA JO Operator Well No.: RIPLEY 7317

LOCATION: Elevation: 929.00 Quadrangle: RIPLEY

District: RAVENSWOOD County: JACKSON  
Latitude: 3950 Feet South of 38 Deg. 52Min. 30 Sec.  
Longitude 8800 Feet West of 81 Deg. 40 Min. 0 Sec.

Company: COLUMBIA GAS TRANSMISSION  
P. O. BOX 1273  
CHARLESTON, WV 25325-1273

Agent: RICHARD L. COTY

Inspector: HOMER DOUGHERTY  
Permit Issued: 11/18/98  
Well work Commenced: 07/23/99  
Well work Completed: 08/31/99  
Verbal Plugging  
Permission granted on: \_\_\_\_\_  
Rotary Cable X Rig  
Total Depth (feet) 5115'  
Fresh water depths (ft) 500' - 535'  
Salt water depths (ft) 1550'

Is coal being mined in area (Y/N)? No  
Coal Depths (ft): Not reported

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size			
7", 23 lb.		52'	
4-1/2", 12.6 lb.		5064'	400. sx

OPEN FLOW DATA \* Storage well - rates and pressures vary.

Producing formation Oriskany Pay zone depth (ft) 5100' - 5115'  
Gas: Initial open flow N/A MCF/d Oil: Initial open flow N/A Bbl/d  
Final open flow N/A MCF/d N/A Final open flow N/A Bbl/d  
Time of open flow between initial and final tests N/A Hours  
Static rock Pressure N/A psig (surface pressure) after N/A 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: COLUMBIA GAS TRANSMISSION CORP.  
By: Paul Amick Paul Amick, Sr. Storage Eng.  
Date: October 11, 1999

OCT 25 1999

JAC 0515 F

Cleaned out to TD with coiled tubing, replaced top joint of 4-1/2" casing and installed new API 7" x 4-1/2" 5M wellhead and pumped an N2-Assist Deltafrac Treatment using 500 gallons of 28% HCL, 400 bbls of water, 138 MSCF of N2 and 26,100 lbs of 20/40 sand.

WEST VIRGINIA DEPARTMENT OF MINES  
OIL & GAS DIVISION  
W E L L R E C O R D

Permit No. Jac 515

Ripley Quad.

Company

Address

Farm

Location

Well No.

District

Surface

Mineral

Commenced

Completed

Open flow

Volume

Rock Pressure

Fresh Water

Salt Water

McIntosh & Grimm

Spencer, W.Va.

Mary Vosburg et al A 140

Mud Run

1 Elev. 929

Ravenswood Jackson County

Mary Vosburg et al, Ripley, W.Va.

Mary Vosburg et al, Ripley, W.Va.

April 3, 1946

July 21, 1946

84/10ths M in 5 3/16

10,140,000 C.F.

1280 lbs. 24 hrs.

500 to 535

1550 H.F.

Gas Well  
CASING & TUBING

	13	18	18
	10	850	Pulled out
	8 1/2	1400	"
	6 5/8	2233	2233
	5 1/2	5009	5009
	2		5100
		Casing cemented 5 1/2 at 200'	

Red Rock R	E	0	18	Borea Sand Dk gr H	2600	2620
Lime Bl	S	18	50	Lime & Slate Gr & Bk H&S	2620	3845
Red Rock	S	50	72	Brown Shale Br. H&S	3845	3885
Lime Bl	S	72	95	Slate & Shells Gr & Bk S&H	3885	4090
Red Rock	S	95	120	Brown Shale Br S&H	4090	4370
Lime Bl	S	120	145	Slate & Shells Gr S&H	4370	4700
Red Rock	S	145	175	Shale Gr S&H	4700	4805
Lime Bl	S	175	215	Brown Shale Br S&H	4805	4970
Red Rock	S	215	245	Black Shale Bk S	4970	4997 - MARSELL
Lime Bl	S	245	260	Corniferous Lime H#403	4997	5100
Red Rock	S	260	300	Criskany Sand Wh H	5100	5115
Slate & Shells	Wh H&S	300	320			
Red Rock	S	320	340	Gas 2605		
Lime Bl	S	340	355	(475)		
Red Rock	S	355	410	Gas 5103 to 5110		
Lime Bl	H	410	435			
Red Rock	S	435	475			
Sand Bl	H	475	540			
Slate & Shells Gr	H&S	540	560			
Red Rock	S	560	566			
Slate & Shells Gr	H&S	566	600			
Lime Bl	H	600	635			
Red Rock	S	635	660			
Lime Bl	H	660	700			
Slate & Shells	H&S	700	750			
Sand Gr	H	750	812			
Slate-Shells	Bk & Gr H&S	812	893			
Sand Gr	S	893	933			
Slate Bl	S	933	950			
Red Rock	S	950	975			
Slate-Shells	Bl S&H	975	995			
Sand Bl	S	995	1015			
Slate & Shells	S&H	1015	1040			
Red Rock	S	1040	1060			
Slate & Shells Gr	S&H	1060	1340			
Sand Gr	S	1340	1360			
Slate Gr	S	1360	1445			
Sand Gr	S	1445	1480			
Slate & Shells Gr & Bk	S&H	1480	1540			
Sand Gr - <del>S&amp;H</del>	S&H	1540	1642			
Lime Wh	H	1642	1666			
Sand Gr	H	1666	1696			
Lime & Slate Gr	H&S	1696	1750			
Sand Gr	S	1750	1786			
Slate & Shells Bk & Bl	S&H	1786	1870			
Sand Gr	H	1870	1970			
Slate Bk	S	1970	1972			
Lime Gr	H	1972	1990			
Brake Cave Bl&Red	S	1990	1995	- P. Cave?		
Big Lime Gr	H	1995	2125			
Injun Sand Gr	H	2125	2187			
Lime Gr	H	2187	2192			
Sand Gr - <del>W&amp;H</del>	H	2192	2265			
Lime & Shells Bk	H&S	2265	2600			



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION / 0

Quadrangle Ripley

WELL RECORD

Permit No. Jac.-515-R

Oil or Gas Well Storage  
(KIND)

Company United Fuel Gas  
Address Box 1273, Charleston, W. Va.  
Farm Mary Vosburg, et al Acres 51  
Location (waters) Mud Run 929  
Well No. X59-7317 Elev. 1055.92  
District Ravenswood County Jackson  
The surface of tract is owned in fee by \_\_\_\_\_  
Address \_\_\_\_\_  
Mineral rights are owned by Mary Vosburgh  
Address Ripley, W. Va.

Drilling commenced 6-29-54  
Drilling completed 11-30-54  
Date Shot \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_  
With \_\_\_\_\_

Open Flow \_\_\_\_\_ /10ths Water in \_\_\_\_\_ Inch  
\_\_\_\_\_ /10ths Merc. in \_\_\_\_\_ Inch

Volume \_\_\_\_\_ Cu. Ft.

Rock Pressure \_\_\_\_\_ lbs. \_\_\_\_\_ hrs.

Oil \_\_\_\_\_ bbls., 1st 24 hrs.

Fresh water 500-535' feet 1550' feet

Salt water \_\_\_\_\_ feet \_\_\_\_\_ feet

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
16			
13			
10			Size of
8 1/4			
6 3/4			Depth set
5 3/16			
4 1/2"	5059'	5059'	Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

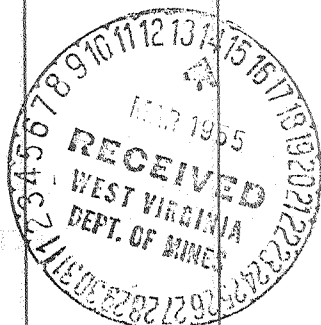
CASING CEMENTED \_\_\_\_\_ SIZE \_\_\_\_\_ No. Ft. \_\_\_\_\_ Date \_\_\_\_\_

COAL WAS ENCOUNTERED AT \_\_\_\_\_ FEET \_\_\_\_\_ INCHES

\_\_\_\_\_ FEET \_\_\_\_\_ INCHES \_\_\_\_\_ FEET \_\_\_\_\_ INCHES

\_\_\_\_\_ FEET \_\_\_\_\_ INCHES \_\_\_\_\_ FEET \_\_\_\_\_ INCHES

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Red Rock			0	18			
Lime			18	50			
Red Rock			50	72			
Lime			72	95			
Red Rock			95	120			
Lime			120	145			
Red Rock			145	175			
Lime			175	215			
Red Rock			215	245			
Lime			245	260			
Red Rock			260	300			
Slate & Shells			300	320			
Red Rock			320	340			
Lime			340	355			
Red Rock			355	410			
Lime			410	435			
Red Rock			435	475			
Sand			475	540			
Slate & Shells			540	560			
Red Rock			560	566			
Slate & Shells			566	600			
Lime			600	635			
Red Rock			635	660			
Lime			660	700			
Slate & Shells			700	750			
Sand			750	812			
Slate & Shells			812	893			
Sand			893	933			
Slate			933	950			
Red Rock			950	975			
Slate & Shells			975	995			
Sand			995	1015			
Slate & Shells			1015	1040			
Red Rock			1040	1060			
Slate & Shells			1060	1340			
Sand			1340	1360			
Slate			1360	1445			
Sand			1445	1480			
Slate & Shells			1480	1540			



(Over)

Formation	Color	Hard or Soft	Top 10	Bottom	Oil, Gas or Water	Depth Found	Remarks
Sand			1540	1642			
Lime			1642	1666			
Sand			1666	1696			
Lime & Slate			1696	1750	Gas 2605'		
Sand			1750	1786			
Slate & Shells			1786	1870	Gas 5103-5110'		
Sand			1870	1970			
Slate			1970	1972			
Lime			1972	1990			
Cave			1990	1995			
Big Lime			1995	2125			
Injun Sand			2125	2187			
Lime			2187	2192			
Sand			2192	2265			
Lime & Shells			2265	2600			
Berea Sand			2600	2620			
Lime & Slate			2620	3845			
Brown Shale			3845	3885			
Slate & Shells			3885	4090			
Brown Shale			4090	4370			
Slate & Shells			4370	4700			
Shale			4700	4805			
Brown Shale			4805	4970			
Black Shale			4970	4997			
Corniferous Lime			4997	5100			
Oriskany			5100	5115			
Total Depth				5127'	SLM		

WELL RECORD

Date March 11, 19 55

APPROVED UNITED FUEL GAS CO. Owner  
 By A. K. Farrell  
 (Title)