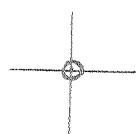


LATITUDE 37° 52' 30"

00° 51' 28" LONGITUDE



7'5 OGIS topo location

7.5' loc 279 S
1.52 W

15' loc 5.67 S
(calc.) 1.52 W

Company _____

Farm _____

Quad NAUGATUCK 7 1/2' 15' EC

County MINGO

District HARDEE

WELL LOCATION MAP

File No. 059-0028

Deep

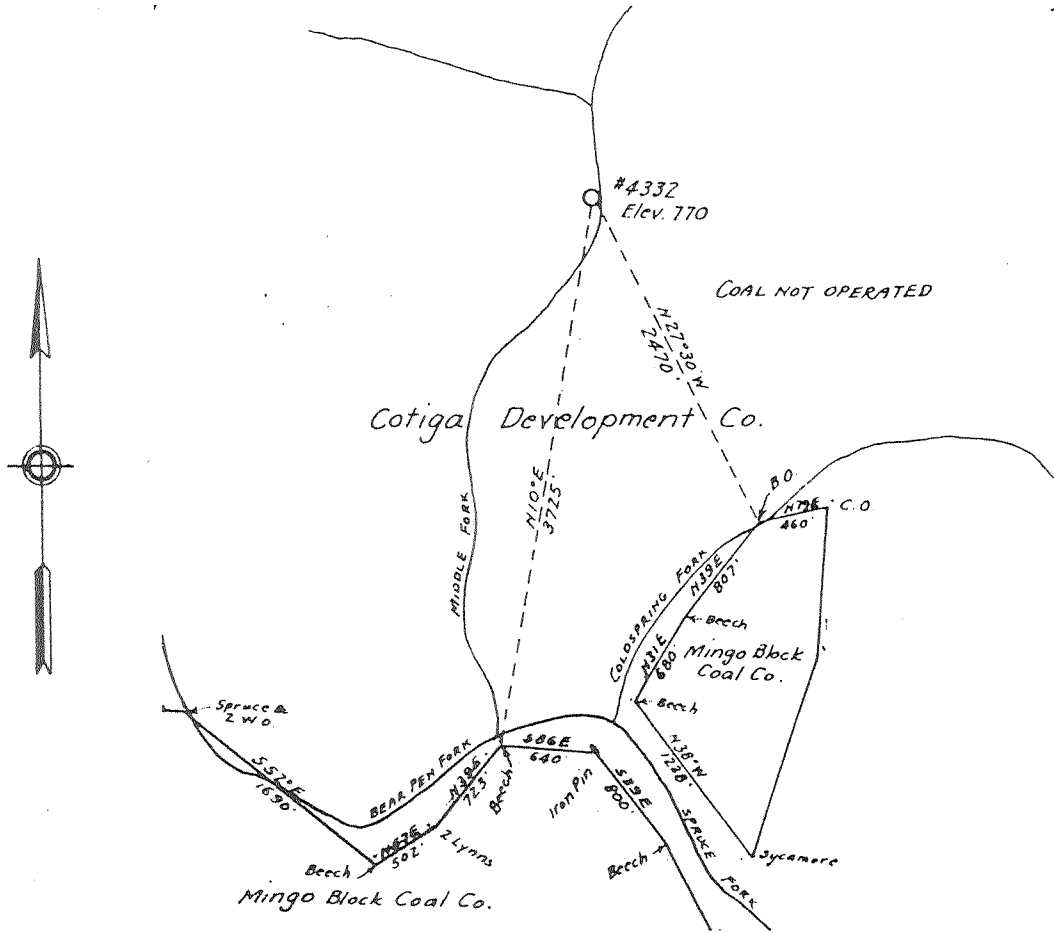
(243)

I, the undersigned hereby certify that this map is true and correct, and shows all the information required by Oil & Gas Act, Acts of 1929.

G.A. Cunningham

Acknowledged before me a _____ Notary Public of
Kanawha County, W.Va. this 16 day of April 1931

My Commission expires 2/28/35 _____
Notary Public



Mingo-28

Cotiga Development Co.
Well No. 4332
Hardee District
Mingo County, W.Va.
April 14, 1931

UNITED FUEL GAS CO.
MAP SHOWING
PROPOSED WELL LOCATION
SCALE:- 4 INCHES = 1 MILE

Cotiga Development Company No. 4332 Well.

Hardee District, Mingo County, W. Va.

By United Fuel Gas Company.

Permit No. Min-28.

Elevation, 738' B.

190 M. cu. ft. gas; R. P., 535 lbs.

Located 0.58 mi. S. of 37° 50' and 2.24 mi. W. of 82° 15'—SE—Nauga-tuck Quadrangle.

On west side of Bearpen Branch of Spruce Fork of Cool Spring Fork of Laurel Fork of Pigeon Creek.

1.75 mi. W. of Canterbury; 1.8 mi. S. W. of Lenore.

	Top.	Bottom.	Thickness.	Elevation (top)
Big Lime -----	1710	1880	170	— 972
Big Injun Sand-----	1880	1975	95	—1142
Berea Sand -----	2488	2544	56	—1750
Corniferous Lime-----	3882	4475	(693)	—3144
Oriskany Sand -----			0?	

Thickness, Devonian Shales, 1338 feet. Total depth, 4848'.
 Remarks: Completed Aug. 24, 1931. Shot at 3215-3505', 3789-3883',
 and 2465-2632'.

Hole full water, (22'+) and 1075'. Little water, 1425'. Hole full water, 1515'. Oil show in Big Injun. Show of oil and gas, 2488'. Gas show, 2593'. Shale gas, 3302'+. Gas show, 4019'. Water, 4063'. Drilled 373' into Clinton Series.

Hardee District, Mingo County, W. Va.

United Fuel Gas Co., Charleston, W. Va.

On 34,436 acres, surface and mineral rights owned by Cotiga Development Co., Provident Trust Bldg., 17th & Chestnut Sts., Philadelphia, Pa.

Drilled under permit (Mingo-28) issued April 28, 1931.

Elevation, ~~770' B.~~ *757.48' (C.M. 5/8/64)*

1 1/2" casing, 10'; 10", 244'.

Coal was encountered at 165-168'.

Preliminary report to Dept. of Mines Oct. 10, 1931.

Record to depth of 1255' only.

Completed August 24 1931

	Top.	Bottom.
Gravel	0	8
Sand	8	22
Slate	22	76
Sand	76	90
Slate	90	165
Coal	165	168
Slate	168	200
Sand	200	220
Slate	220	345
Sand	345	390
Slate	390	440
Sand	440	470
Slate	470	495
Sand	495	530
Slate	530	645
Sand	645	690
Slate	690	700
Sand	700	730
Slate	730	835
Salt Sand	835	1125
Slate	1125	1140
2nd Salt Sand	1140	1255

(RECORD INCOMPLETE)

*3882
755

3127*

Vol. 16 p. 625

*CRFR 3882
TD 4848*

555

WEST VIRGINIA DEPARTMENT OF MINES

Oil and Gas Section

PRELIMINARY DATA SHEET NO. 1

Mi-28

File No. Well No. **4332**

UNITED FUEL GAS Company, of **CHARLESTON, W. Va.**

on the **COTIGO DEVELOPMENT COMPANY** Farm

containing **34,456** acres. Location

Hardee District, in **Mingo** County, West Virginia.

The surface of the above tract is owned in fee by **Cotigo Development Company** of **Provident Trust Bldg., 17th & Chestnut Sts., Philadelphia, Pa.** address, and the mineral rights are owned by **Cotigo Development Company** of

The oil and gas privileges are held under lease by the above named company, and this well is drilled under permit No. **Mingo - 88** issued by the West Virginia Department of Mines, Oil and Gas Section. **April 28th, 1931.**

Elevation of surface at top of well, **770** ~~Spirit~~ Barometric.

The number of feet of the different sized casings used in the well.

..... feet size. Wood conductor
10 feet **13** size, csg. **844** feet **10** sized csg.
..... feet size, csg. feet sized csg.
..... feet size, csg. feet sized csg.

..... packer of size, set at
..... packer of size, set at

..... in casing perforated at feet to feet.
..... in casing perforated at feet to feet.

Coal was encountered at **165** feet; thickness **56"** inches, and at feet; thickness inches; and at feet; thickness inches.

Liners were used as follows: (Give details)

October 10, 1931. Date.

Approved **UNITED FUEL GAS COMPANY**, Owner.

By *J. W. Cunningham* (Title) **Engineer.**

211

Mi-28

UNITED FUEL GAS Company

COMPLETION DATA SHEET

Charleston, W. Va. Address

NO. 2

Well No. 4332

FORMATION RECORD

Name	Color	Character	Oil, Gas or Water	Top	Bottom	Thickness	Total Depth	Remarks
Gravel				0	8	8		
Sand				8	22	14		
Slate				22	76	54		
Sand				76	90	14		
Slate				90	165	75		
Coal				165	168	3		
Slate				168	200	32		
Sand				200	220	20		
Slate				220	345	125		
Sand				345	390	45		
Slate				390	440	50		
Sand				440	470	30		
Slate				470	495	25		
Sand				495	530	35		
Slate				530	645	115		
Sand				645	690	45		
Slate				690	700	10		
Sand				700	730	30		
Slate				730	835	105		
Salt Sand				835	1125	290		
Slate				1125	1140	15		
2nd Salt Sand				1140	1255	115		

Well was not shot at feet; well was shot at feet.

Fresh water at feet; salt water at feet.

Well was producing hole.
dry

October 10th, 1931.
Date

Approved

UNITED FUEL GAS COMPANY
Owner

NOTE: All bottom formations must be noted as indicated above and all key-rocks and oil and gas sands must be recorded under their proper geological names in the district as well as any local names commonly used in the district for such strata.

ma 28

SERIAL WELL NO. 4332

LEASE NO. 29840

MAP SQUARE 26-23

RECORD OF WELL No. 4332 on the
 Cotiga Devo. Co. Farm of 34436 Acres
 in Hardee District
Mingo County
 Branchland Field, State of W.Va.

Rig Commenced April 26, 1931 102
 Rig Completed April 20, 1931 102
 Drilling Commenced May 11, 1931 102
 Drilling Completed Aug. 24, 1931 102
 Drilling to cost _____ per foot
 Contractor is: J.W. Ramsey & Sons
 Address: Box #53 Charleston, W.Va.

Drillers' Names H.F. Ramsey
W.A. Shepherd

Elevation 770 Bar.
 (E. 738 Bar McClain)

CASING AND TUBING		
SIZE	USED IN DRILLING	LEFT IN WELL
10		
13	10	10
10	244	244
8 1-4	1338	1338
6 5-8	1744	1744
5 3-16		
4 7-8		
4		
3	3854	3854
2		

TEST BEFORE SHOT
12 of Water in 1 10ths
10ths of Merc. in _____ 10ths
 Volume _____ Cu.

TEST AFTER SHOT
16 of Water in 2 10ths
10ths of Merc. in _____ 10ths
 Volume 190,000 Cu.

Rock Pressure 535# 48hrs.
 Date Shot Aug. 28, 1931
 Size of Torpedo 4250# Gel.
 Oil Flowed _____ bbls. 1st 24 h
 Oil Pumped _____ bbls. 1st 24 h

SHUT IN
 Date Sept. 3, 1931
3 in _____ Tubing or _____ Rig
 Size of Packer 3x6 5/8x16
 Kind of Packer Hook Wall
 1st Perf. Set 3843 from 3854
 2nd Perf. Set 3778 from 3800

Well abandoned and
 Plugged _____ 10 _____
 Set at 1993'

DRILLER'S RECORD

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Level	0	8	8	Hole filled with sand and stone and mud from 4848 to 3907. Wood plug at 3907. Filled hole with clay on top of plug from 3904 to 3895. Lead wool put in hole from 3895 to 3891. Clay from 3891 to 3883. Well shot from 3883 to 3789 with 720#. Shot from 3505 to 3215 with 2240#. Shot from 2465 to 2632 with 1290#. Well producing gas in shale and Berea Sands. Gas in shale at 2593 and 3305. Gas in Berea sand 2/10 water 1" Open All gas pays Casing points, Bottom and top of shots, and total depth all SIM. No casing shoe or packer used on bottom of 13 1/2" or 10" casings. 8 1/2"x10"x13" B.H. Packer used on bottom of 8 1/2" Casing (pulled). 6 5/8"x8 1/2" x10" B.H. Packer used on bottom of 6 5/8" casing. 3x 6 5/8"x10" Parmaco Hook Wall packer used on 3" tubing. Hook wall packer set at 1993'
	8	22	14	
	22	76	54	
	76	90	14	
	90	165	75	
	165	168	3	
	168	200	32	
	200	220	20	
	220	345	125	
	345	390	45	
	390	440	50	
	440	470	30	
	470	495	25	
	495	530	35	
	530	645	115	
	645	690	45	
	690	700	10	
	700	730	30	
	730	835	105	
Sand	835	1125	290	
	1125	1140	15	
Salt Sand	1140	1255	115	
	1255	1310	55	
	1310	1380	70	
	1380	1545	165	
	1545	1545	0	

W. H. Ramsey

SERIAL WELL NO. 4332

LEASE NO. 29840

MAP SQUARE 26-23

RECORD OF WELL No. **4332**

on the

Farm of

Acres

In

District

County

Field, State of

Rig Commenced 192

Rig Completed 192

Drilling Commenced 192

Drilling Completed 192

Drilling to cost per foot

Contractor is:

Address:

Drillers' Names

CASING AND TUBING

TEST BEFORE SHOT

SIZE	USED IN DRILLING	LEFT IN WELL
10		
13		
10		
8 1-4		
6 5-8		
5 3-10		
4 7-8		
4		
3		
2		

.....of Water in..... Inc
10ths
.....of Merc. in..... Inc
10ths
Volume..... Cu. f

TEST AFTER SHOT

.....of Water in..... Inc
10ths
.....of Merc. in..... Inc
10ths
Volume..... Cu. f

Rock Pressure.....

Date Shot.....

Size of Torpedo.....

Oil Flowed..... bbla. 1st 24 hr

Oil Pumped..... bbls. 1st 24 hr

SHUT IN

Date.....

.....in Tubing or Casing

Size of Packer.....

Kind of Packer.....

1st Perf. Set..... from.....

2nd Perf. Set..... from.....

Well abandoned and

Plugged..... 19.....

DRILLER'S RECORD

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Slate & Shells	1548	1635	87	
Lime	1635	1705	70	
Slate	1705	1710	5	
Big Lime	1710	1880	170	
Sand	1880	1975	95	
Slate	1975	2090	115	
Shells (Lime)	2090	2210	120	
Slate	2210	2465	255	
Brown Shale	2465	2488	23	
Berea Sand	2488	2544	56	Gas in Berea? No record of dept
Slate	2544	2565	21	
Brown Shale	2565	2630	65	Gas at 2593'
Slate	2630	3215	585	
Brown Shale	3215	3225	10	
Slate	3225	3298	73	
Brown Shale	3298	3505	207	Gas at 3305'
Slate	3505	3788	283	
Brown Shale	3788	3820	32	
Black Shale	3820	3882	62	
Corniferous Lime	3882	4475	593	Water in Lime?
White Slate	4475	4498	23	
Red Rock	4498	4535	37	
Lime	4535	4625	90	
White Slate	4625	4663	38	
Lime	4663	4668	5	
Red Rock	4668	4735	67	
Slate	4735	4755	20	
Lime	4755	4776	21	
Slate	4776	4848	72	

"TOTAL DEPTH" ----- 4848

Filed to → 3854

4848
4475
373

Meigs 28

[Handwritten signature]