



Minimum Error of Closure ONE PART IN 200

Source of Elevation USGS SPOT ELEVATION AT FARM ROAD & STATE ELEV. = 896' RE 18 INTERSECTION AT SMITH SCHOOL 2200' NE OF LOCATION

- Fracture.....
- New Location..... GAS-DRILL-SHALLOW ELK - TARGET FOR EST. DEPTH = 5200'
- Drill Deeper.....
- Abandonment.....

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

Signed: Marka Echard

Map No. _____ Squares: N S E W

WELL OPERATOR/ Company PALEO, INC.
 SUITE 205-MAY-EX-BLDG 3022 N.W. EXPRESSWAY
 Address OKLAHOMA CITY, OKLAHOMA 73112

Farm EDITH RILEY

Tract _____ Acres 100.96 Lease No. _____

Well (Farm) No. I-623 Serial No. _____

Elevation (Spirit Level) 1244' WC

Quadrangle NEW MILTON 7.5' (VADIS 15)

County DODDRIDGE District COVE

Surveyor MARK C. ECHARD

Surveyor's Registration No. 490

File No. _____ Drawing No. _____

Date JUNE 27, 1979 Scale 1" = 500'

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

WELL LOCATION MAP

FILE NO. 47-017-2459

+ Denotes location of well on United States Topographic Maps, scale 1 to 25,000, latitude and longitude lines being represented by border lines as shown. **AUG 10 1979**

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

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

Date September 19, 1979

FORM IV-35
(Obverse)

Operator's
Well No. Riley #I-623

[08-78]

WELL OPERATOR'S REPORT
OF

API Well No. 47 - 017 - 2459
State County Permit

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 1244' Watershed: Carter Camp Run
District: Cove County: Doddridge Quadrangle: New Milton 7.5

WELL OPERATOR Paleo, Inc. DESIGNATED AGENT Terry Bonnett
Address 3022 N.W. Expressway Address Troy, WV
Oklahoma City, OK 73112

PERMITTED WORK: Drill X / Convert ___ / Drill deeper ___ / Redrill ___ / Fracture or stimulate ___
Plug off old formation ___ / Perforate new formation ___
Other physical change in well (specify) _____

PERMIT ISSUED ON July 26, 19 79 OIL & GAS INSPECTOR FOR THIS WORK:
Name Paul Garrett
IF APPLICABLE: PLUGGING OF DRY HOLE OR CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED Address Clarksburg, WV
_____, 19 _____ 622-3871

GEOLOGICAL TARGET FORMATION: Elk Depth 5400 feet
Depth of completed well, 5586 feet Rotary X / Cable Tools ___
Water strata depth: Fresh, 108 feet; salt, _____ feet.
Coal seam depths: None Is coal being mined in the area? No
Work was commenced August 21, 19 79, and completed August 26, 19 79

HOUSING AND TUBING PROGRAM

HOUSING OR TUBING TYPE	SPECIFICATIONS				FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft	New	Used	For drilling		
Conductor								Kinds
Fresh water	<u>8 5/8</u>					<u>1218</u>	<u>1218</u>	<u>To surface</u>
Coal								Sizes
Intermediate								Depths set
Production	<u>4 1/2</u>	<u>Smls</u>	<u>9.5</u>	<u>X</u>			<u>5550</u>	Perforations:
Tubing								Top Bottom
Packers								

SEP 28 1979

OIL & GAS DIVISION
DEPT. OF MINES

OPEN FLOW DATA
Producing formation Leopold Pay zone depth 5220 feet
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 measurement) after _____ hours shut in

[If applicable due to multiple completion--]

Second producing formation Elk Alex Pay zone depth 5435 feet
Gas: Initial open flow, _____ Mcf/d Oil: Initial open flow, _____ Bbl/d
COMBINED Final open flow, 959 Mcf/d Final open flow, _____ Bbl/d
Time of open flow between initial and final tests, 4 hours
Static rock pressure 1800 psig (surface measurement) after 24 hours shut in

OCT 12 1979

[06-78]

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

Fractured

Elk - 20,00 lb. 80/100 sand
40,000 lb. 20/40 sand

Leopold - 20,000 lb. 80/100 sand
40,000 lb. 20/40 sand

alex.

Benson

Perforations - 5345, 5361, 5362, 5399,
5400, 5434, 5435, 1 hole each

Perforations - 5217, 5217.5, 5218,
5218.5, 5219, 5219.5,
5220, 1 hole each

WELL LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Remarks Including indication of all free and salt water, coal, oil and gas
Surface			0	100	
Shale			100	108	
Sand			108	112	Water
Red Rock			112	142	
Shale			142	209	
Red Rock			209	242	
Shale			242	608	
Red Rock			608	642	
Sand			642	663	
Shale			663	810	
Sand			810	826	
Red Rock			826	864	
Shale			864	1270	
Sand			1270	1285	
Shale			1285	1425	
Sand			1425	1478	
Shale			1478	1510	
Sand			1410	1520	
Sandy Shale			1520	1960	
Sand			1960	1990	Show of gas
Shale			1990	2145	
Lime			2145	2170	
Sand			2170	2192	Show of gas
Slate			2192	2200	
Lime			2200	2250	
Big Injun			2250	2340	3210 - 2330, show of gas
Sandy Shale			2340	2540	
Shale			2540	2620	
Sand			2620	2636	Show of gas
Shale			2636	2840	
Sand			2840	2850	Show of gas
Shale			2850	3120	
Sand			3120	3134	
Shale			3134	3470	
Sandy Shale			3470	3730	
Shale			3730	4180	
Sandy Shale			4180	4240	Show of gas
Shale			4240	5210	
Sandy Shale			5210	5224	Show of gas
Shale			5224	5340	
Sandy Shale			5340	5450	Show of gas
Shale			5450	5586	
Total Depth			5586		

alex.

NOTE: Regulation 1.02(i) provides as follows:
"The term 'log' or 'well log' shall mean a systematic, detailed geological record of all formations, including coal, encountered in the drilling of a well."

Paleo, Inc.
Well Operator
By *Mark R. Wood*
Its *Agent*

[08-78]

COPY

OIL AND GAS WELL PERMIT APPLICATION

Operator's Well No. Riley #I-623

API Well No. 47 - 017 - 2459
State County Permit

WELL TYPE: Oil ___ / Gas X /
(If "Gas", Production X / Underground storage ___ / Deep ___ / Shallow X /)

LOCATION: Elevation: 1244' Watershed: Carter Camp Run
District: Cove County: Doddridge Quadrangle: New Milton 7.5'

WELL OPERATOR Paleo, Inc.
Address Suite 205, May-Ex Building
3022 N.W. Expressway
Oklahoma City, OK 73112

DESIGNATED AGENT Terry Bonnett
Address Troy, WV

OIL & GAS
ROYALTY OWNER Edith Riley, et al
Address Leopold, WV

COAL OPERATOR -----
Address -----

ACREAGE 100.96

COAL OWNER(S) WITH DECLARATION ON RECORD:

SURFACE OWNER Edith Riley
Address Leopold, WV

Name -----
Address -----

ACREAGE 100.96

Name -----

DEED SALE (IF MADE) TO:

Address -----

Name -----
Address -----

COAL LESSEE WITH DECLARATION ON RECORD:

OIL & GAS INSPECTOR TO BE NOTIFIED
Name Paul Garrett
Address Clarksburg, WV
622-3871

Name -----
Address -----

RECEIVED
JUL 26 1979

OIL & GAS DIVISION
DEPT. OF MINES

The undersigned well operator is entitled to operate for oil or gas purposes at the above location under a deed ___ / lease X / other contract ___ / dated July 6, 1976, to the undersigned well operator from Edith Riley, et al of said deed, lease, or other contract has been recorded:]

Recorded on _____, 19____, in the office of the Clerk of the County Commission of Doddridge County, West Virginia, in Lease Book 101 at page 575. A permit is requested as follows:

PROPOSED WORK: Drill X / Drill deeper ___ / Redrill ___ / Fracture or stimulate ___ /
Plug off old formation ___ / Perforate new formation ___ /
Other physical change in well (specify) _____

--planned as shown on the work order on the reverse side hereof.

The above named coal operator, coal owner(s), and coal lessee are hereby notified that any action they wish to make or are required to make by Code § 22-4-3 must be filed with the Department of Mines within fifteen (15) days after the receipt of this Application by the Department.

Copies of this Permit Application and the enclosed plat and reclamation plan have been mailed by registered mail or delivered by hand to the above named coal operator, coal owner(s), and coal lessee on or before the day of the mailing or delivery of this Permit Application to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL
PHYSICAL LOGS DIRECTLY TO:
WEST VIRGINIA OIL AND GAS
CONSERVATION COMMISSION
55 WASHINGTON STREET EAST
CHARLESTON, WV 25311
TELEPHONE: (304) 348-3092

BLANKET BOND

Paleo, Inc.
Well Operator
By Mark R. Worl
Its Agent

COPY

PROPOSED WORK ORDER

THIS IS AN ESTIMATE ONLY:
ACTUAL INFORMATION MUST BE SUBMITTED ON FORM IV-35 UPON COMPLETION

DRILLING CONTRACTOR (IF KNOWN) Union Drilling, Inc.
Address Drawer 40
Buckhannon, WV 26201

GEOLOGICAL TARGET FORMATION, Elk

Estimated depth of completed well, 5400 feet Rotary X / Cable tools /

Approximate water strata depths: Fresh, 130 feet; salt, feet.

Approximate coal seam depths: Is coal being mined in the area? Yes / No X /

FRASING AND TUBING PROGRAM

FRASING OR TUBING TYPE	SPECIFICATIONS				FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft	New	Used	For drilling		
Conductor								Kinds
Fresh water	8 5/8					850'	850'	To surface
Coal								Sizes
Intermediate								
Production	4 1/2						5400	160 sks
Tubing								Depths set
Liners								Perforations:
								Top Bottom

NOTE: Regulation 7.02 of the Department of Mines provides that the original and four copies of Form IV-2 must be filed with the Department, accompanied by (i) a plat in the form prescribed by Regulation 11, (ii) a bond in one of the forms prescribed by Regulation 12, or in lieu thereof the other security allowed by Code § 22-4-2, (iii) Form IV-9, "Reclamation Plan", applicable to the reclamation required by Code § 22-4-12b and Regulation 23, (iv) unless previously paid on the same well, the fee required by Code § 22-4-12a, and (v) if applicable, the consent required by Code § 22-4-8a from the owner of any water well or dwelling within 200 feet of the proposed well.

A separate Form IV-2 shall not be required for fracturing or stimulating a well where fracturing or stimulating is to be part of the work for which a permit is sought and is noted as such on the Form IV-2 filed in connection therewith.

THIS PERMIT MUST BE POSTED AT THE WELL SITE

All provisions being in accordance with Chapter 22, of the W. Va. Code, the location is hereby approved for drilling. This permit shall expire if operations have not commenced by 3-27-80.


Deputy Director - Oil & Gas Division

The following waiver must be completed by the coal operator and by any coal owner or coal lessee who has recorded a declaration under Code § 22-4-20, if the permit is to be issued within fifteen (15) days of receipt thereof:

W A I V E R

The undersigned coal operator / owner / lessee / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of the well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: , 19

By
Its