

API NO. 45 - 051 - 21158
WELL NAME: Squire Smith No. PC-1
DATE October 17, 1988

10A-431

CONFIDENTIAL
10/17/90

Virginia Oil and Gas Inspector
P. O. Box 1416
Abingdon, VA 24210
703 628-8115

REPORT OF COMPLETION OF WELL WORK

Pursuant to Regulation 4.06 of the Regulations under the Virginia Oil and Gas Act, the undersigned well operator reports completion of the type(s) of well work specified below on the referenced well in Ervinton District Dickenson County, Virginia on 13 day, October month, 1988.

WELL TYPE: Oil / Gas / Enhanced Recovery / Waste Disposal
If Gas-Production / Underground Storage / Exempt by Code Section 45.1-300.B.1. from general Oil and Gas Conservation Law yes / no
WELL WORK: Drill / Deepen / Redrill / Stimulate / Plug Off Old Formation / Perforate New Formation / Plug / Replug / Other physical change in well (specify) _____
The well work was done as shown in the Appendix(es) applicable to the type(s) of well work involved.

CONFIDENTIALITY STATUS UNDER CODE OF VIRGINIA SECTION 45.1-332



_____ Ninety days from the filing of this report

OR

Two years from September 13, 1988, the date on which the referenced well was completed, the well being an exploratory well as defined in Code of Virginia, Section 45.1-288.21.

APPLICANT Equitable Resources Exploration, Inc.

BY Brint Camp

ITS District Geologist

ADDRESS 1989 E. Stone Drive, Kingsport, TN 37660

TELEPHONE 615-378-5101

COMPLETION REPORT

WELL TYPE: Oil () Gas Production (x) Gas-Underground Storage ()
Enhanced Recovery () Waste Disposal ()

LOCATION

COUNTY Dickenson DISTRICT Ervinton

SURFACE ELEVATION 2460.43' QUADRANGLE Caney Ridge

LATITUDE 14900 'S 37° 05 ' 00. " LONGITUDE 2725 'W 82° 22 ' 30 "

DRILLING DATA

DATE DRILLING COMMENCED 04/19/88 DRILLING CONTRACTOR Union Drilling
DATE DRILLING COMPLETED 04/23/88 ADDRESS PO Drawer 40, Buckhannon, WV 26201
DATE WELL COMPLETED 09/13/88 TELEPHONE NUMBER 304-472-4610
TOTAL DEPTH OF COMPLETED WELL 2750' RIG TYPE x ROTARY CABLE TOOL

GEOLOGICAL DATA

FRESH WATER AT (1) FEET GPM: (2) FEET GPM
SALT WATER AT (1) FEET GPM: (2) FEET GPM

COAL SEAMS:

NAME	TOP	BOTTOM	THICKNESS	MINING IN AREA	
				YES	NO
Poco #1	2637 -	2643		Warcreek	1988 - 1990
Poco #4	2492 -	2495		Upper Horsepen	1837 - 1840
Poco #8	2263 -	2265		Jawbone	1216 - 1219
Lower Horsepen	2109 -	2113			

OIL AND GAS SHOWS:

FORMATION	TOP	BOTTOM	THICKNESS	IPF (MCFD/BOPD)	PRESSURE	HOURS TESTED

STIMULATION RECORD

ZONE (1) Poco #1 FORMATION STIMULATED WITH a waterfrac 20
using 1029 BBL fluid and 25,000# of 20/40 sand
PERFORATED 2638 TO 2641 NO. OF PERFORATIONS 26 PERFORATION SIZE .36
FORMATION BROKE DOWN AT 1300 PSIG AVERAGE INJECTED RATE 22 BPM
INITIAL SHUT IN PRESSURE 1500 PSIG 15 MINUTE SHUT IN PRESSURE 1060 PSIG

STIMULATION RECORD

ZONE (2) Poco #4 FORMATION STIMULATED WITH water and sand frac
using 745 BBL water and 25,000# 20/40 sand.
PERFORATED 2492 TO 2494 NO. OF PERFORATIONS 16 PERFORATION SIZE .36
FORMATION BROKE DOWN AT 3619 PSIG AVERAGE INJECTED RATE 33 BPM
INITIAL SHUT IN PRESSURE 1220 PSIG 15 MINUTE SHUT IN PRESSURE 918 PSIG
FINAL PRODUCTION: () NATURAL (x) AFTER STIMULATION
BOD MCFD HOURS TESTED ROCK PRESSURE HOURS TESTED

ZONE (1) _____
ZONE (2) _____
FINAL PRODUCTION IF GAS ZONES ARE COMINGLED _____ MCFD _____ HOURS TESTED
_____ PSIG _____ HOURS TESTED

COMPLETION REPORT

WELL TYPE: Oil () Gas Production () Gas-Underground Storage ()
Enhanced Recovery () Waste Disposal ()

LOCATION

COUNTY _____ DISTRICT _____

SURFACE ELEVATION _____ QUADRANGLE _____

LATITUDE ____ 'S ____ ' ____ " LONGITUDE ____ 'W ____ ' ____ "

DRILLING DATA

DATE DRILLING COMMENCED _____ DRILLING CONTRACTOR _____

DATE DRILLING COMPLETED _____ ADDRESS _____

DATE WELL COMPLETED _____ TELEPHONE NUMBER _____

TOTAL DEPTH OF COMPLETED WELL _____ RIG TYPE _____ ROTARY _____ CABLE TOOL

GEOLOGICAL DATA

FRESH WATER AT (1) _____ FEET _____ GPM: (2) _____ FEET _____ GPM

SALT WATER AT (1) _____ FEET _____ GPM: (2) _____ FEET _____ GPM

COAL SEAMS:

NAME	TOP	BOTTOM	THICKNESS	MINING IN AREA		
				YES	NO	MINED OUT

OIL AND GAS SHOWS:

FORMATION	TOP	BOTTOM	THICKNESS	IPF (MCFD/BOPD)	PRESSURE	HOURS TESTED

STIMULATION RECORD

ZONE (3) Poco #8 FORMATION STIMULATED WITH water and sand using 720 BBL water and 25,000# 20/40 sand

PERFORATED 2262 TO 2264 NO. OF PERFORATIONS -- PERFORATION SIZE notched

FORMATION BROKE DOWN AT 700 PSIG AVERAGE INJECTED RATE 24 BPM

INITIAL SHUT IN PRESSURE 1666 PSIG 15 MINUTE SHUT IN PRESSURE 1272 PSIG

STIMULATION RECORD

ZONE (4) Lower Horsepen FORMATION STIMULATED WITH a waterfrac 15 using 876 BBL fluid and 30,000# 20/40 sand.

PERFORATED 2109 TO 2112 NO. OF PERFORATIONS -- PERFORATION SIZE notched

FORMATION BROKE DOWN AT 1748 PSIG AVERAGE INJECTED RATE 27 BPM

INITIAL SHUT IN PRESSURE 1250 PSIG 15 MINUTE SHUT IN PRESSURE 1110 PSIG

FINAL PRODUCTION: () NATURAL (X) AFTER STIMULATION
BOD MCFD HOURS TESTED ROCK PRESSURE HOURS TESTED

ZONE (1) _____

ZONE (2) _____

FINAL PRODUCTION IF GAS ZONES ARE COMINGLED _____ MCFD _____ HOURS TESTED
_____ PSIG _____ HOURS TESTED

COMPLETION REPORT

WELL TYPE: Oil () Gas Production () Gas-Underground Storage ()
Enhanced Recovery () Waste Disposal ()

LOCATION

COUNTY _____ DISTRICT _____

SURFACE ELEVATION _____ QUADRANGLE _____

LATITUDE ____ 'S ____ ' ____ " LONGITUDE ____ 'W ____ ' ____ "

DRILLING DATA

DATE DRILLING COMMENCED _____ DRILLING CONTRACTOR _____

DATE DRILLING COMPLETED _____ ADDRESS _____

DATE WELL COMPLETED _____ TELEPHONE NUMBER _____

TOTAL DEPTH OF COMPLETED WELL _____ RIG TYPE _____ ROTARY _____ CABLE TOOL _____

GEOLOGICAL DATA

FRESH WATER AT (1) _____ FEET _____ GPM: (2) _____ FEET _____ GPM

SALT WATER AT (1) _____ FEET _____ GPM: (2) _____ FEET _____ GPM

COAL SEAMS:

NAME	TOP	BOTTOM	THICKNESS	MINING IN AREA	
				YES	NO MINED OUT

OIL AND GAS SHOWS:

FORMATION	TOP	BOTTOM	THICKNESS	IPF (MCFD/BOPD)	PRESSURE	HOURS TESTED

STIMULATION RECORD

ZONE (5) Warcreek FORMATION STIMULATED WITH a waterfrac 15
using 542 BBL fluid and 15,000# 20/40 sand.

PERFORATED 1988 TO 1990 NO. OF PERFORATIONS 5 PERFORATION SIZE .36

FORMATION BROKE DOWN AT 3488 PSIG AVERAGE INJECTED RATE 20 BPM

INITIAL SHUT IN PRESSURE 960 PSIG 15 MINUTE SHUT IN PRESSURE 828 PSIG

STIMULATION RECORD

ZONE (6) Upper Horsepen FORMATION STIMULATED WITH a waterfrac 15
using 639 BBL fluid and 20,000# 20/40 sand.

PERFORATED 1837 TO 1838 NO. OF PERFORATIONS 7 PERFORATION SIZE .36

FORMATION BROKE DOWN AT 1570 PSIG AVERAGE INJECTED RATE 22 BPM

INITIAL SHUT IN PRESSURE 1325 PSIG 10 MINUTE SHUT IN PRESSURE 990 PSIG

FINAL PRODUCTION: () NATURAL (X) AFTER STIMULATION
BOD MCFD HOURS TESTED ROCK PRESSURE HOURS TESTED

ZONE (1) _____

ZONE (2) _____

FINAL PRODUCTION IF GAS ZONES ARE COMINGLED _____ MCFD HOURS TESTED
_____ PSIG HOURS TESTED

COMPLETION REPORT

WELL TYPE: Oil () Gas Production () Gas-Underground Storage ()
Enhanced Recovery () Waste Disposal ()

LOCATION

COUNTY _____ DISTRICT _____

SURFACE ELEVATION _____ QUADRANGLE _____

LATITUDE ____ 'S ____ ' ____ " LONGITUDE ____ 'W ____ ' ____ "

DRILLING DATA

DATE DRILLING COMMENCED _____ DRILLING CONTRACTOR _____

DATE DRILLING COMPLETED _____ ADDRESS _____

DATE WELL COMPLETED _____ TELEPHONE NUMBER _____

TOTAL DEPTH OF COMPLETED WELL _____ RIG TYPE _____ ROTARY _____ CABLE TOOL

GEOLOGICAL DATA

FRESH WATER AT (1) _____ FEET _____ GPM: (2) _____ FEET _____ GPM

SALT WATER AT (1) _____ FEET _____ GPM: (2) _____ FEET _____ GPM

COAL SEAMS:

NAME	TOP	BOTTOM	THICKNESS	MINING IN AREA		
				YES	NO	MINED OUT

OIL AND GAS SHOWS:

FORMATION	TOP	BOTTOM	THICKNESS	IPF (MCFD/BOPD)	PRESSURE	HOURS TESTED

STIMULATION RECORD

ZONE (7) Jawbone FORMATION STIMULATED WITH a waterfrac 20
using 485 BBI fluid and 20,000# 20/40 sand.

PERFORATED 1216 TO 1218 NO. OF PERFORATIONS 9 PERFORATION SIZE .36

FORMATION BROKE DOWN AT 2143 PSIG AVERAGE INJECTED RATE 23 BPM

INITIAL SHUT IN PRESSURE 760 PSIG 15 MINUTE SHUT IN PRESSURE 680 PSIG

STIMULATION RECORD

ZONE () _____ FORMATION STIMULATED WITH _____

PERFORATED _____ TO _____ NO. OF PERFORATIONS _____ PERFORATION SIZE _____

FORMATION BROKE DOWN AT _____ PSIG AVERAGE INJECTED RATE _____ BPM

INITIAL SHUT IN PRESSURE _____ PSIG _____ MINUTE SHUT IN PRESSURE _____ PSIG

FINAL PRODUCTION: () NATURAL (X) AFTER STIMULATION

BOD MCFD HOURS TESTED ROCK PRESSURE HOURS TESTED

ZONE (1) _____

ZONE (2) _____

FINAL PRODUCTION IF GAS ZONES ARE COMINGLED 27 MCFD N/A HOURS TESTED

PSIG _____ HOURS TESTED

CASING AND TUBING

	SIZE	TOP	BOTTOM	LENGTH	PACKERS OR	
					PERFORATIONS FEET TO FEET	BRIDGE PLUGS KIND SIZE SET AT
CONDUCTOR	11 3/4"		38'			

CASING

Circulated and Cemented to Surface	4 1/2"		2728'			
	8 5/8"		527'			

WATER PROTECTION

(Casing Set According to Section 45.1-334)

COAL PROTECTION

(Casing Set According to Section 45.1-334)

OTHER CASING &

Tubing Left In Well	2 3/8"		2680'			
Rods			2680'			

LINERS

Remaining In Well

OTHER used and not left

Is the well underlain by Red Shale Yes ___ No, If Yes, was coal protection string set to Red Shales? Yes ___ No

REMARKS: Shut down, fishing jobs, depths and dates, caving, etc.

DRILLER'S LOG

Compiled by Brint Camp

<u>Geological</u> <u>Age</u>	<u>Formation</u>	<u>General</u> <u>Lithology</u>	<u>Color</u>	<u>Depth</u>		<u>Thickness</u>	<u>Remarks</u>
				<u>Top</u>	<u>Bottom</u>		
Pennsylvanian	Sand, Shale, Coal			0	2750	2750	

Samples and Cuttings

Will Will not be available for examination by a member of the Virginia Division of Mineral Resources

Will Will not be furnished to the Virginia Division of Mineral Resources upon request

Will Will not require sacks to be furnished by the Virginia Division of Mineral Resources

Electric Logs and Surveys:

Type of Electric Log(s) Ran: FDC, LDT, TEMP

Did log disclose vertical location of a coal seam? Yes No

Was log made at request of a coal owner according to Section 45.1-333.B.1 of the Virginia Code? Yes No

Note: If a coal seam was located, the part of the survey from the surface through the coal is attached in accordance with Section 45.1-333.B.3 of the Virginia Code

Deviation Surveys

Deviation surveys were were not required under Section 45.1-333.C of the Virginia Code "to the bottom of the lowers published coal seam depth."

Note: If a deviation survey(s) was/were required, the survey results are as follows:

<u>Depth of Survey</u>	<u>Feet/Degree Deviated From True Vertical</u>	<u>Depth of Survey</u>	<u>Feet/Degree Deviated From True Vertical</u>
	See Attachment		

A continuous survey was was not required, under Section 45.1-333.C of the Virginia Code.

Note: If a continuous survey was required, the survey results are attached.

Changes in the Permitted Well Work:

The well operator did did not make any change(s) in the permitted well work, verbally approved by the Inspector or Assistant Inspector under Regulation 4.03 of the Regulations under the Virginia Oil and Gas Act, for the purpose of insuring successful completion of the well work.

NOTE: The nature and purpose of each such change, if any, is set out below or on additional sheets if such are required.

Confidentiality Status:

Confidentiality status under Section 45.1-332 of the Virginia Code:

The operator requests that information herein and log(s) be kept confidential (after COMPLETION DATE of the well) for a period of

Ninety (90) days

two (2) years, if the well is exploratory

DIRECTIONAL SURVEYS

PC-1

DEPTH	DEGREES
200'	1°
420'	3/4°
639'	1 1/2°
796'	1 1/4°
1015'	1 1/2°
1204'	1 1/2°
1422'	1 1/4°
1642'	1 1/2°
1859'	1 1/2°
2047'	1 1/4°
2263'	1 1/4°
2484'	1°
2702'	1°

COMPLETION REPORT

WELL TYPE: Oil () Gas Production (x) Gas-Underground Storage ()
 Enhanced Recovery () Waste Disposal ()

LOCATION

COUNTY Dickenson DISTRICT Ervinton

SURFACE ELEVATION 2460.43' QUADRANGLE Caney Ridge

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Poco #8	2263 - 2265			Jawbone	1216 - 1219
Lower Horsepen	2109 - 2113				

OIL AND GAS SHOWS:

FORMATION	TOP	BOTTOM	THICKNESS	IPF (MCFD/BOPD)	PRESSURE	HOURS TESTED

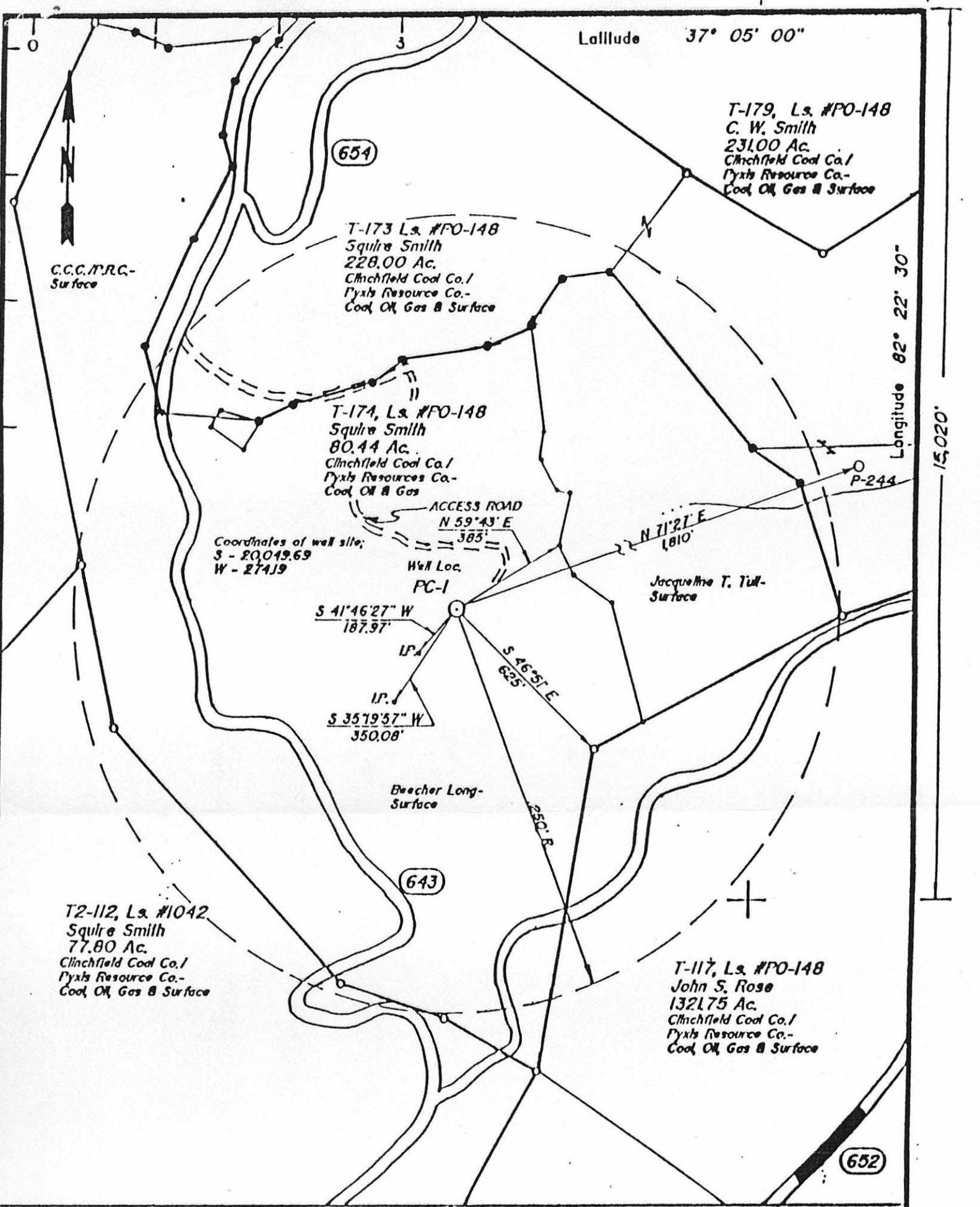
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 FORMATION BROKE DOWN AT 1300 PSIG AVERAGE INJECTED RATE 22 BPM
 INITIAL SHUT IN PRESSURE 1500 PSIG 15 MINUTE SHUT IN PRESSURE 1060 PSIG

STIMULATION RECORD

ZONE (2) Poco #4 FORMATION STIMULATED WITH water and sand frac
using 745 BBL water and 25,000# 20/40 sand.
 PERFORATED 2492 TO 2494 NO. OF PERFORATIONS 16 PERFORATION SIZE .36
 FORMATION BROKE DOWN AT 3619 PSIG AVERAGE INJECTED RATE 33 BPM
 INITIAL SHUT IN PRESSURE 1220 PSIG 15 MINUTE SHUT IN PRESSURE 918 PSIG
 FINAL PRODUCTION: () NATURAL (x) AFTER STIMULATION
 BOD MCFD HOURS TESTED ROCK PRESSURE HOURS TESTED

ZONE (1)
 ZONE (2)
 FINAL PRODUCTION IF GAS ZONES ARE COMINGLED MCFD HOURS TESTED
 PSIG HOURS TESTED



COMPANY EREX
 1989 East Stone Drive, 2 Executive
 ADDRESS Park Place, Kingsport, TN 37660
 WELL NAME PC-1
 FARM Squire Smith TRACT T-174
 LEASE NO. FO-148 ELEVATION 2460.43
 ACRES 80.44 QUADRANGLE Caney Ridge
 COUNTY Dickenson DISTRICT Ervinon
 REG. ENGINEER X REG. NO. 6992
 CERT. LAND SURVEYOR _____ CERT. NO. _____
 FILE NO. _____ DRAWING NO. 1896
 DATE 2-22-88 SCALE 1" = 400'

This plat is X new _____ updated
 This plat X is _____ is not based on a mine coordinate
 system established for the areas of the well location.

WELL LOCATION MAP
 WELL NO. PC-1

+ Denotes location of well on United States
 Topographic Maps, scale 1 to 24,000, lat-
 itude and longitude lines being represented
 by border lines as shown.

CERTIFICATION OF WELL PLAT

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 of the
 Va. Well Review Board.

Sheld L. Baldwin
 Registered Engineer or Certified
 Land Surveyor in Charge

