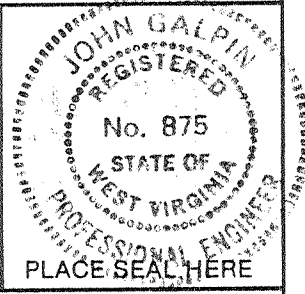


LOGGED: 12-21-86

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

FILE NO. 29
 DRAWING NO. 1
 SCALE 1 in. = 600 ft.
 MINIMUM DEGREE OF ACCURACY 1 in 200
 PROVEN SOURCE OF ELEVATION PUT-1140 Elev. 907.0 ft.

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 DEPARTMENT OF MINES.
 (SIGNED) John Galpin
 R.P.E. 875 L.L.S.



STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION



DATE NOVEMBER 10, 19 86
 OPERATOR'S WELL NO. C-29
 API WELL NO. 47-079-1145
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 901.26' WATERSHED LEFT FORK
 DISTRICT TEAYS VALLEY 5 COUNTY PUTNAM
 QUADRANGLE MOUNT OLIVE WV 490 051 SEq Glenwood
 SURFACE OWNER V. COURTLANDT SMITH II ACREAGE 90+-
 OIL & GAS ROYALTY OWNER V. COURTLANDT SMITH II LEASE ACREAGE 90+-
 LEASE NO.
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 PLUG AND ABANDON CLEAN OUT AND REPLUG
 TARGET FORMATION MARCELLUS SHALE ESTIMATED DEPTH 4400
 WELL OPERATOR TEAVEE OIL & GAS INC DESIGNATED AGENT DUANE BOWERS
 ADDRESS CHARLESTON WV 869 ADDRESS WINFIELD WV

COUNTY NAME
 PERMIT

NOV 17 1986

DEEP WELL G-2 Hurricane Creek (210)

WR-35

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28-Apr-88
API # 47- 79-01145

State of West Virginia
DEPARTMENT OF ENERGY
Division of Oil and Gas

DIVISION OF OIL & GAS Well Operator's Report of Well Work
DEPARTMENT OF ENERGY

Farm name: SMITH, COURTLANDT Operator Well No.: C-29

LOCATION: Elevation: 901.00 Quadrangle: MOUNT OLIVE

District: TEAYS VALLEY County: PUTNAM
Latitude: 4610 Feet South of 38 Deg. 32Min. 30 Sec.
Longitude 7250 Feet West of 82 Deg. 0 Min. 0 Sec.

Company: TEAVEE OIL & GAS, INC.
1901 KANAWHA VALLEY BLDG
CHARLESTON, WV

Agent: DUANE K. BOWERS

Inspector: JERRY TEPHABOCK
Permit Issued: 11/10/86
Well work Commenced: 12/15/86
Well work Completed: 12/21/86
Verbal Plugging _____
Permission granted on: _____
Rotary X Cable _____ Rig _____
Total Depth (feet) 4398
Fresh water depths (ft) 409
Salt water depths (ft) 1000

Is coal being mined in area (Y/N)? N
Coal Depths (ft): N/A

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft. To Surface
9 5/8	723	723	
7	2219	2219	185
3 1/2		4369	385

OPEN FLOW DATA

Producing formation Brown Shale Pay zone depth (ft) 3650
 Gas: Initial open flow None MCF/d Oil: Initial open flow None Bbl/d
 Final open flow 15 MCF/d Final open flow None Bbl/d
 Time of open flow between initial and final tests None Hours
 Static rock Pressure 810 psig (surface pressure) after 72 Hours

Second producing formation N/A 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: TEAVEE OIL & GAS, INC.
By: Duane Bowers Geologist
Date: 5/15/88

FEB 3 1989

Perforated 3056-3795 with 40 holes

Fractured with 500 gal. HCl 15% 90% foam 600 sacks 20/40 sand 150 sacks 10/20 sandy 2 1/4 barrel 3% KCl water, total N₂ - 826,000 mcf. Well broke down at 2880 psi, treated at 4200-4500 psi @ 60 barrel/minute. Well shut in at 1200 psi

<u>FORMATIONS</u>	<u>DEPTH</u>		<u>REMARKS</u>
Surface	0	10	
Red Rock	10	100	
Sand shale	100	495	
Red rock	495	706	Fresh water 409
Sand and shale	706	1400	
Salt sand	1400	1691	Salt water 1000
Shale	1691	1704	
Sand	1704	1715	
Sandy Lime	1715	1739	
Little lime	1739	1798	
Slate and shells	1798	1833	
Pencil Cove	1833	1838	
Big lime	1838	2054	
Sand	2054	2074	
Shale	2074	2094	
Big Injun sand	2094	2180	
Shells and shale	2180	2492	
Coffee shale	2492	2505	
Berea sand	2505	2533	
Gray shale	2533	2724	
Gordon stray	2724	2740	
Gray shale	2740	3580	
Brown shale	3580	3943	
White slate	3943	4248	Show gas
Marcellus shale	4248	4398	Show gas
Corniferous lime	4398	4398	TD

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DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

4240

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W. VA. OIL & GAS CONSERVATION COMMISSION



State of West Virginia DEPARTMENT OF ENERGY Oil and Gas Division

Date September 9, 1987 Operator's Well No. G-29 Farm Eshenhaur-Smith API No. 47 - 079 - 1145

WELL OPERATOR'S REPORT OF 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: 901.26 Watershed Left Fork of 5 & 20 Mile Creek District: Teays Valley County Putnam Quadrangle Mount Olive

COMPANY Teavee Oil & Gas Inc. ADDRESS 1901 Kanawhavalley Bldg. Charleston, WV DESIGNATED AGENT Duane Bowers ADDRESS P. O. Box 27, Winfield, WV 25213 SURFACE OWNER V. Courtlandt Smith II ADDRESS P. O. Box 27, Winfield, WV MINERAL RIGHTS OWNER V. Courtlandt Smith II ADDRESS P. O. Box 27, Winfield, WV 25213 OIL AND GAS INSPECTOR FOR THIS WORK Jerry Tephabock ADDRESS Ripley, WV PERMIT ISSUED November 10, 1986 DRILLING COMMENCED 12/15/86 DRILLING COMPLETED 12/21/86 IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON

Table with 4 columns: Casing Tubing, Used in Drilling, Left in Well, Cement fill up Cu. ft. Rows include sizes 20-16 Cond., 13-10", 9 5/8, 8 5/8, 7, 5 1/2, 4 1/2, 3 1/2, 2, and Liners used.

GEOLOGICAL TARGET FORMATION Marcellus Shale Depth 4400 feet Depth of completed well 4388 feet Rotary X / Cable Tools Water strata depth: Fresh 409 feet; Salt 1000 feet Coal seam depths: N/A Is coal being mined in the area? No

OPEN FLOW DATA Producing formation Brown Shale Pay zone depth 3650 feet Gas: Initial open flow None Mcf/d Oil: Initial open flow N/A Bbl/d Final open flow 30 Mcf/d Final open flow N/A Bbl/d Time of open flow between initial and final tests hours Static rock pressure 810 psig (surface measurement) after 72 hours shut in (If applicable due to multiple completion--)

(Continue on reverse side)

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

Perforated 3056-3795 with 40 holes (.39) Broke well down with 500 gal. HCL 15% foam fractured with 90% foam, 600 sks 20/40 sand, 150 sks 10/20, 214 barrel 3% KCL water total N₂ 826,200 scf. Started frac at 50 barrel/min. increase rate to 75 barrel/min. Displace 20/40 sand, start 10/20 sand @ 55 barrel/min. Well broke down at 2800 psi, treated @ 4200-4500 psi. Well shut in @ 1200 psi. Blew well back through 1/4" choke 12 hrs, 1" 12 hrs, 2" open blow off 48 hrs.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Surface			0	10	
Red Rock			10	100	
Sand and shale			100	495	Fresh water 409'
Red rock			495	706	
Sand and shale			706	1405	Salt water 1000'
Salt sand			1405	1691	
Sandy shale			1691	1704	
Maxton sand			1704	1715	
Sandy shale			1715	1739	
Little lime			1739	1798	
Slate and shells			1798	1833	
Pencil cave			1833	1838	
Big lime			1838	2058	
Keener sand			2058	2075	
Shale			2075	2099	
Big injun sand			2099	2180	
Silty shale			2180	2492	
*Coffee shale			2492	2505	
*Berea sandstone			2505	2533	
*Gray shale			2533	2724	
*Gordan stray			2724	2740	
*Gray shale			2740	3580	
*Brown shale			3580	3943	Show gas
*White slate			3943	4248	
*Marcellus shale			4248	4398	Show gas
*Onondaga limestone			4398	4398	TD
*Depth taken from electric log					

(Attach separate sheets as necessary)

TEAVERE OIL & GAS, INC.

Well Operator

By: Dwain Bowen Designated Agent

Date: 9/9/87

Note: Regulation 2.02(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."

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1) Date: November 10, 1986
 2) Operator's Well No. C-29
 3) API Well No. 47 State 079 County -1145 Permit

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY, OIL AND GAS DIVISION
 DIVISION OF OIL & GAS
 DEPARTMENT OF ENERGY
APPLICATION FOR A WELL WORK PERMIT

- 4) WELL TYPE: A Oil / Gas X
 B (If "Gas", Production X / Underground storage / Deep / Shallow X)
- 5) LOCATION: Elevation: 901.26 Watershed: Left Fork
 District: Teays Valley County: Putnam Quadrangle: Mt. Olive WV489
- 6) WELL OPERATOR Teavee Oil & Gas Inc CODE: 48900
 Address: 1901 Kanawha Valley Bldg
Charleston WV 25307
- 7) DESIGNATED AGENT Dwane Bowers
 Address: P. O. Box 27
Winfield WV 25213
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED
 Name: Jerry Topfbeck
 Address: RT 1 Box 101-A
Ripley WV 25271
- 9) DRILLING CONTRACTOR:
 Name: Clint Hurt Asraci Inc
 Address: P. O. Box 388
Elkview WV 25071
- 10) PROPOSED WELL WORK: Drill X / Drill deeper / Redrill / Stimulate X
 Plug off old formation / Perforate new formation
 Other physical change in well (specify)
- 11) GEOLOGICAL TARGET FORMATION, Marcellus Shale 401
- 12) Estimated depth of completed well, 4400 feet
- 13) Approximate trata depths: Fresh, 650 feet; salt, 1000 feet.
- 14) Approximate coal seam depths: N/A Is coal being mined in the area? Yes / No X
- 15) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well		
Conductor									Kinds
Fresh water	<u>9 5/8</u>	<u>50</u>	<u>36</u>	<u>X</u>		<u>700</u>	<u>700</u>	<u>To Surface</u>	<u>Per Rule 15.05</u>
Coal									Sizes
Intermediate	<u>7</u>		<u>20</u>	<u>X</u>		<u>2200</u>	<u>2200</u>	<u>175 sks</u>	
Production									Depths set
Tubing	<u>3 1/2</u>	<u>5.11s</u>	<u>9.2</u>	<u>X</u>		<u>4400</u>		<u>300 sks</u>	
Lin...								<u>DR AS requ</u>	<u>Conditions by Rule 15.01</u>
									Top Bottom

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-079-1145 Date November 10 19 86

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector. (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.

Permit expires November 10, 1988 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u>✓</u>	Agent: <u>ACP</u>	Plat: <u>AS</u>	Casing: <u>AS</u>	Fee: <u>2919</u> <u>152</u>	WPP: <u>AS</u>	S&E: <u>AS</u>	Other: <u> </u>
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John H. Johnston
 Director, Division of Oil and Gas
Margaret J. Haste
 File

NOTE: Keep one copy of this permit posted at the drilling location.

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.