



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

FILE NO. <u>1</u> DRAWING NO. <u>106</u> SCALE <u>1 in = 500 ft</u> MINIMUM DEGREE OF ACCURACY <u>1 in 200</u> PROVEN SOURCE OF ELEVATION <u>Well no. PUT 1139</u> <u>978.81'</u>	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) <u>[Signature]</u> R.P.E. <u>875</u> L.L.S. _____	PLACE SEAL HERE
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STATE OF WEST VIRGINIA DEPARTMENT OF MINES OIL AND GAS DIVISION		DATE <u>DECEMBER 09</u> , 19 <u>85</u> OPERATOR'S WELL NO. <u>TV-106</u> API WELL NO. _____ <u>47</u> - <u>079</u> - <u>1140</u> STATE COUNTY PERMIT
WELL TYPE: OIL ___ GAS <u>X</u> LIQUID INJECTION ___ WASTE DISPOSAL ___ (IF "GAS,") PRODUCTION <u>X</u> STORAGE ___ DEEP ___ SHALLOW <u>X</u>		
LOCATION: ELEVATION <u>907.01</u> WATERSHED <u>FIVE & TWENTY MILE CREEK</u> DISTRICT <u>TEAYS VALLEY S</u> COUNTY <u>POTNOM</u> QUADRANGLE <u>MOUNT OLIVE 490 051 SE 9 Glenwood</u>		
SURFACE OWNER <u>V. C. SMITH II</u> ACREAGE <u>61</u> OIL & GAS ROYALTY OWNER " " " LEASE ACREAGE <u>61</u> LEASE NO. _____		
PROPOSED WORK: DRILL <u>X</u> CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE <u>X</u> PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____		
PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ TARGET FORMATION <u>MARCELLUS SHALE</u> ESTIMATED DEPTH <u>4500'</u> WELL OPERATOR <u>TEAYEE OIL & GAS INC.</u> DESIGNATED AGENT <u>D. K. BOWERS</u> ADDRESS <u>CHARLESTON WV 469</u> ADDRESS <u>CHARLESTON WV</u>		

DEC 16 1985

DEEP WELL b-0 Hurricane Creek (210)

FORM IV (8-78)

COUNTY NAME PERMIT



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DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

State of West Virginia
DEPARTMENT OF ENERGY
Oil and Gas Division

Date January 30, 1987
Operator's Well No. TV-106
Farm Chapman-Smith
API No. 47 - 079 - 1140

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: 907.01 Watershed Five and Twenty Mile Creek
District: Teays Valley County Putnam Quadrangle Mount Olive

COMPANY Teavee Oil & Gas Inc.
ADDRESS 1901 Kanawha Valley Bldg.
Charleston, Wv 25301

DESIGNATED AGENT Duane Bowers
ADDRESS P. O. Box 27, Winfield, WV 25213

SURFACE OWNER V. C. Smith II
ADDRESS P. O. Box 27, Winfield, WV 25213

MINERAL RIGHTS OWNER Same as above
ADDRESS Same as above

OIL AND GAS INSPECTOR FOR THIS WORK Jerry
Tephabock ADDRESS Ripley, WV

PERMIT ISSUED 12/10/85

DRILLING COMMENCED 12/13/85

DRILLING COMPLETED 12/18/85

IF APPLICABLE: PLUGGING OF DRY HOLE ON
CONTINUOUS PROGRESSION FROM DRILLING OR
REWORKING. VERBAL PERMISSION OBTAINED
ON

Casing Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"			
9 5/8	503	503	To surface
8 5/8			
7	2379	2379	150 sks.
5 1/2			
4 1/2			
3 1/2		4002	290 cu. ft.
2			
Liners used			

GEOLOGICAL TARGET FORMATION Marcellus shale Depth 4400 feet

Depth of completed well 4412 feet Rotary X / Cable Tools

Water strata depth: Fresh 305 feet; Salt 1000 feet

Coal seam depths: N/A Is coal being mined in the area? No

OPEN FLOW DATA Production comingled from Berea & Brown Shale

Producing formation Brown Shale Pay zone depth 3600 feet

Gas: Initial open flow 20 Mcf/d Oil: Initial open flow N/A Bbl/d

Final open flow (9) Mcf/d Final open flow N/A Bbl/d

Time of open flow between initial and final tests 72 hours

Static rock pressure 685 psig (surface measurement) after 48 hours shut in

(If applicable due to multiple completion--)

Second producing formation Berea Sand Pay zone depth 2525 feet

Gas: Initial open flow N/A Mcf/d Oil: Initial open flow N/A Bbl/d

Final open flow N/A Mcf/d Oil: Final open flow N/A Bbl/d

Time of open flow between initial and final tests 72 hours

Static rock pressure 685 psig (surface measurement) after 48 hours shut in

(Continue on reverse side)

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

Brown shale - perforated 3430-3900 w/ 38 shots (0.39 inches) Breakdown w/750 gallons HCl 15% Pumped 90% intensified foam at 40 barrel/min carrying 365 sacks of 20/40 sand and 50 sacks 10/20 mesh sand with 651,850 scf of N₂ in 129 barrel of 2% KCl water. Breakdown 2100 psig pumped 1/2 frac sand away, dropped 15 perf ball, pumped remaining sand away, set frac plug, shot 10 holes at 2511-2518 BEREA SAND, Breakdown w/500 gallons HCl 15% breakdown 3250 psig. Pumped 75% foam at 16 barrel/min pressured to 4000 psig screened off, foam flushed for 5 min, tried to pump into again, same results. Shut in well at 2200 psig. Blowback through 1/4" choke 8 hours, 3/4" choke 12 hrs., 2" 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 305'
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 & 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	2490	
Coffee sand			2490	2508	
Berea sand			2508	2538	Gas
Gray shale			2538	2727	
Gordan stray			2727	2742	Show gas
Gray shale			2742	3587	Gas
Brown shale			3587	3950	Gas
White slate			3950	4270	
Marcellus shale			4270	4400	
Onondaga limestone			4400	4412	TD

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DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

(Attach separate sheets as necessary)

Teavee Oil & Gas Inc.

Well Operator

By: James Bonner Designated Agent

Date: 2/2/87

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."

7/85

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1) Date: December 09, 1985
 2) Operator's Well No. TV-106
 3) API Well No. 47 079-1140
 State County 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: 907.01 Watershed: Five & Twenty Mile Creek
 District: Teays Valley 869 County: Putnam Quadrangle: Mount Olive
 6) WELL OPERATOR Teavee Oil & Gas Inc CODE: 48900 7) DESIGNATED AGENT D. K. Bowers
 Address 1901 Kanawha Valley Bldg. Address 1901 Kanawha Valley Bldg.
Charleston WV 25301 Charleston WV 25301
 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:
 Name Carlos Hively Name Clint Hurt & Associates
 Address Elkview WV Address P.O. Box 1973
Midland Tx 79702
 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, 4500 feet
 13) Approximate strata depths: Fresh, 500 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									Kings
Fresh water	<u>9 5/8</u>		<u>32</u>	<u>X</u>		<u>500</u>	<u>500</u>	<u>To surface</u>	<u>by rule 15.05</u>
Coal									Sizes
Intermediate	<u>7</u>		<u>20</u>	<u>X</u>		<u>2300</u>	<u>2300</u>	<u>150 SKS</u>	
Production	<u>3 1/2</u>		<u>9.2</u>	<u>X</u>			<u>4500</u>	<u>200 SKS, as required</u>	<u>by rule 15.01</u>
Tubing									Perforations:
Lin...									Top Bottom

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47-079-1140

December 10 1985
Date

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 December 10, 1987 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond:	Agent:	Plat:	Casing	Fee	WPCP	S&E	Other
	<u>ALB</u>	<u>mw</u>	<u>mw</u>	<u>8945-</u>	<u>mw</u>	<u>mw</u>	

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

[Signature]
Director, Division of Oil and Gas

File

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