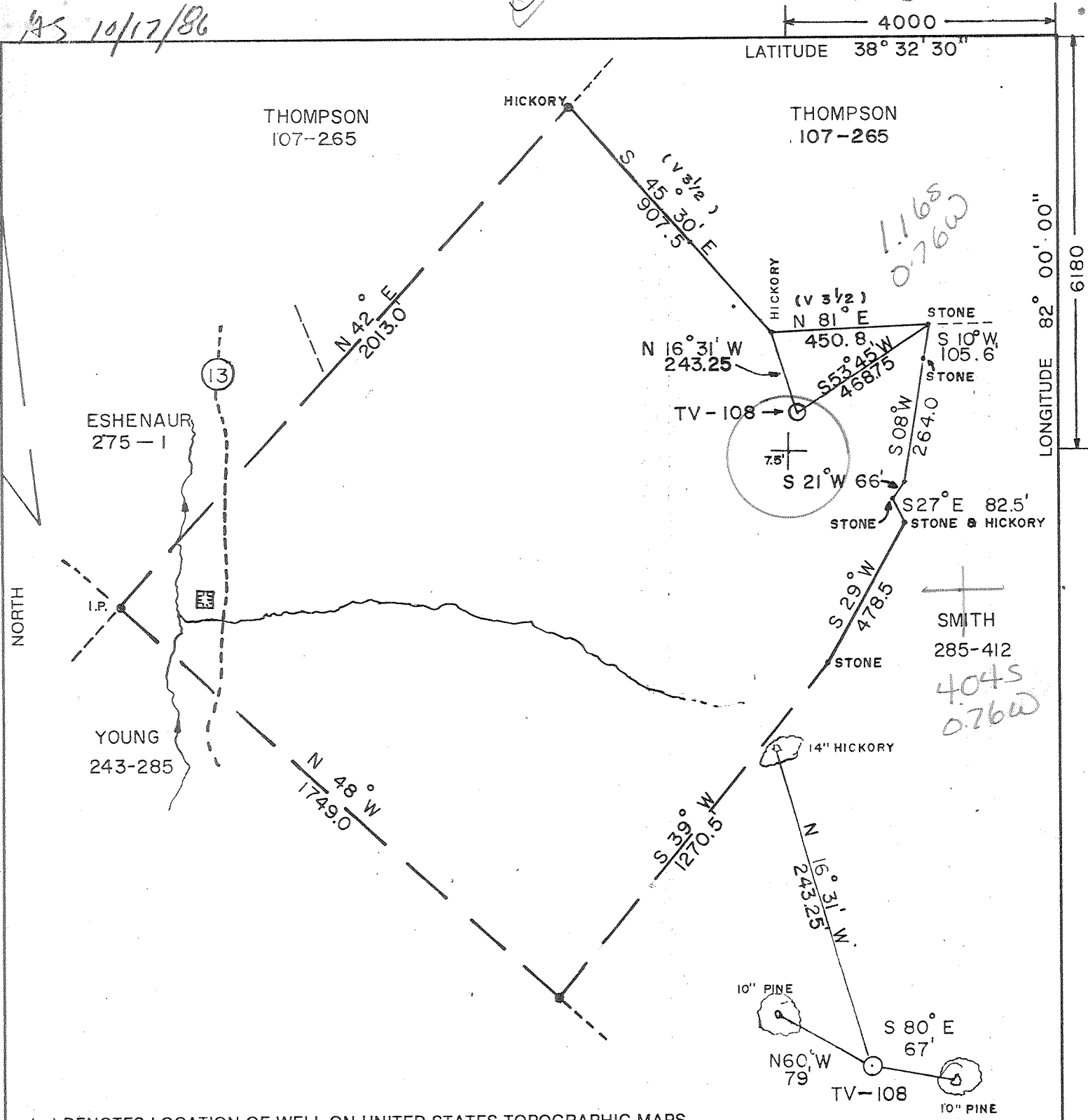


AS 10/17/86



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

FILE NO. TV - 108
 DRAWING NO. 1
 SCALE 1 in. = 400 ft.
 MINIMUM DEGREE OF ACCURACY 1 in 200
 PROVEN SOURCE OF ELEVATION PUT. 1139 elev. 978.81 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) [Signature]
 R.P.E. 875 L.L.S.

PLACE SEAL HERE

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION



DATE OCTOBER 7, 19 86
 OPERATOR'S WELL NO. TV - 108
 API WELL NO. 47-079-1143
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 993.53 WATERSHED LEFT FORK
 DISTRICT TEAYS VALLEY 5 COUNTY POTNAM
 QUADRANGLE MOUNT OLIVE WV 490 051 SE 9 Glenwood
 SURFACE OWNER EDWARD H. CRUM & KATHRYN A. CRUM ACREAGE 84+-
 OIL & GAS ROYALTY OWNER FORREST GRANT LEASE ACREAGE 84+-
 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 ESTIMATED DEPTH 4450'
 WELL OPERATOR TEAVEE OIL & GAS INC. DESIGNATED AGENT DUANE BOWERS
 ADDRESS 1901 KANAWHA VALLEY BLDG. CHARLESTON WV ADDRESS P.O. B. 27 WINFIELD WV

COUNTY NAME
 PERMIT

OCT 20 1986

FORM IV-6 (8-78)
 H.T. HALL



R-35

Date April 13, 1987
Operator's Well No. TV-108
Farm Crum
API No. 47 - 079 - 1143

State of West Virginia
DEPARTMENT OF ENERGY
Oil and Gas Division

W. VA. OIL & GAS
CONSERVATION COMMISSION

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: 993.53 Watershed Left Fork
District: Teays Valley County Putnam Quadrangle Mount Olive

COMPANY Teavee Oil & Gas, Inc.
ADDRESS 1901 Kanawha Valley Bldg. Charleston, WV 25301
DESIGNATED AGENT Duang Bowers
ADDRESS P.O. Box 27, Winfield, WV 25213
SURFACE OWNER Edward and Kathryn Crum
ADDRESS P.O. Box 117, Charlton Heights, WV
MINERAL RIGHTS OWNER Forest Grant Etal
ADDRESS Winfield, WV
OIL AND GAS INSPECTOR FOR THIS WORK Jerry Tephabock ADDRESS Ripley, WV
PERMIT ISSUED October 17, 1986
DRILLING COMMENCED 11/17/86
DRILLING COMPLETED 11/23/86
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	776	776	275 sk
8 5/8			
7	2208	2208	175 sk
5 1/2			
4 1/2			
3 1/2		4438	215 sks.
2			
Liners used			

GEOLOGICAL TARGET FORMATION Marcellus shale Depth 4450 feet
Depth of completed well 4454 feet Rotary X / Cable Tools ___
Water strata depth: Fresh 740 feet; Salt 1100 feet
Coal seam depths: N/A Is coal being mined in the area? No

OPEN FLOW DATA
Producing formation Brown Shale Pay zone depth 3700 feet
Gas: Initial open flow Show Mcf/d Oil: Initial open flow N/A Bbl/d
Final open flow (35) Mcf/d Final open flow N/A Bbl/d
Time of open flow between initial and final tests 72 hours
Static rock pressure 825 psig (surface measurement) after 72 hours shut in
(If applicable due to multiple completion--)
Second producing formation N/A Pay zone depth ___ feet
Gas: Initial open flow ___ Mcf/d Oil: Initial open flow ___ Bbl/d
Final open flow ___ Mcf/d Oil: 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

(Continue on reverse side)

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

3 1/2 holes from ^{WDD-Huron} 2696-11005. Treated with 90% quality foam, 1000 gallon HCl 15%, 500 sks. 20/40 sand, 100 sks. 16/30 sand. 19 1/2 bbl 3% KCl water. Breakdown 2740 psig treated at 80 bbl/min to initiate fracture slowed rate to 70 bbl/min to put 20/40 sand away slowed rate to 50 bbl/min. to put 16/30 sand away. Total N₂ 645,000 scf shut in psi 1100 psig Blew well back through 1/4 inch choke 6 hours 3/8 inch choke 6 hours 1/2 inch choke 6 hours, 1 inch choke 3 hours, 2 inch - 2 1/2 hours

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	20	<u>Log Available</u>
Red rock			20	350	
Sand and slate			350	400	
Red rock			400	450	
Sand and slate			450	800	
Redrock			800	900	
Sand and slate			900	1390	
Slate			1390	1486	
Salt sand			1486	1804	
Slate			1804	1842	
Big Lime			1842	2057	
Shale			2057	2083	
Big injun sand			2083	2153	
Siltstone			2153	2394	
Shale			2394	2520	
Coffee shale			2520	2532	
Berea sand			2532	2560	
Gray shale			2560	2710	
Gordon sand			2710	2770	
Gray shale			2770	3626	Show gas
Brown shale H			3626	4000	Show gas
White slate JIA			4000	4320	
Marcellus shale Rh			4320	4454	Show gas
Top corniferous lime			4454	<u>4454TD</u>	

(Attach separate sheets as necessary)

Teavee Oil & Gas, Inc.

Well Operator

By: Donald Bowen Geologist

Date: 4/13/97

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 and, encountered in the drilling of a well."

7/85

RECEIVED
OCT 17 1986



1) Date: October 7, 1986
 2) Operator's Well No. TV-108
 3) API Well No. 47 079-1143
 State County Permit

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

APPLICATION FOR A WELL WORK PERMIT

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

Oil Gas

5) LOCATION: B (If "Gas", Production / Underground storage / Deep / Shallow
 Elevation: 993.53 Watershed: Left Fork

6) WELL OPERATOR Travel Oil & Gas Inc CODE: 48900 District: Teays Valley 8695 County: Putnam Quadrangle: Mount Olive 489

Address 1901 Kanawha Valley Bldg
Charleston WV 25301

7) DESIGNATED AGENT Dwane Prowers
 Address P.O. Box 27
Winfield WV 25213

8) OIL & GAS INSPECTOR TO BE NOTIFIED
 Name Jerry Teplak
 Address Rt 1 Box 101-A
Ripon WV

9) DRILLING CONTRACTOR:
 Name _____
 Address _____

10) PROPOSED WELL WORK: Drill / Drill deeper _____ / Redrill _____ / Stimulate
 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, 4450 feet

13) Approximate strata depths: Fresh, 350, 748 feet; salt, 1000 feet.

14) Approximate coal seam depths: N/A Is coal being mined in the area? Yes _____ / No

15) CASING AND TUBING PROGRAM Permit # 340

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>31.0</u>	<input checked="" type="checkbox"/>		<u>510 778</u>	<u>510 778</u>	<u>To Surface</u>	<u>Per Rule 15.05</u>
Coal									Sizes
Intermediate	<u>7</u>		<u>20</u>	<input checked="" type="checkbox"/>		<u>2200</u>	<u>2200</u>	<u>175 sks.</u>	
Production									Depths set
Tubing	<u>3 1/2</u>	<u>smk</u>	<u>9.2</u>	<input checked="" type="checkbox"/>			<u>4450</u>	<u>350 sks</u>	
Lin...									<u>DR AS Required by Rule 15.01</u>
									Top Bottom

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47-079-1143 Date October 17, 1986

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 October 17, 1988 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <u>AB</u>	Plat: <u>AS</u>	Casing: <u>AS</u>	Fee: <u>2495-2497</u>	WPOP: <u>AS</u>	S&E: <u>AS</u>	Other: _____
-------------------------------------------	------------------	-----------------	-------------------	-----------------------	-----------------	----------------	--------------

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

[Signature]
Director, Division of Oil and Gas
File