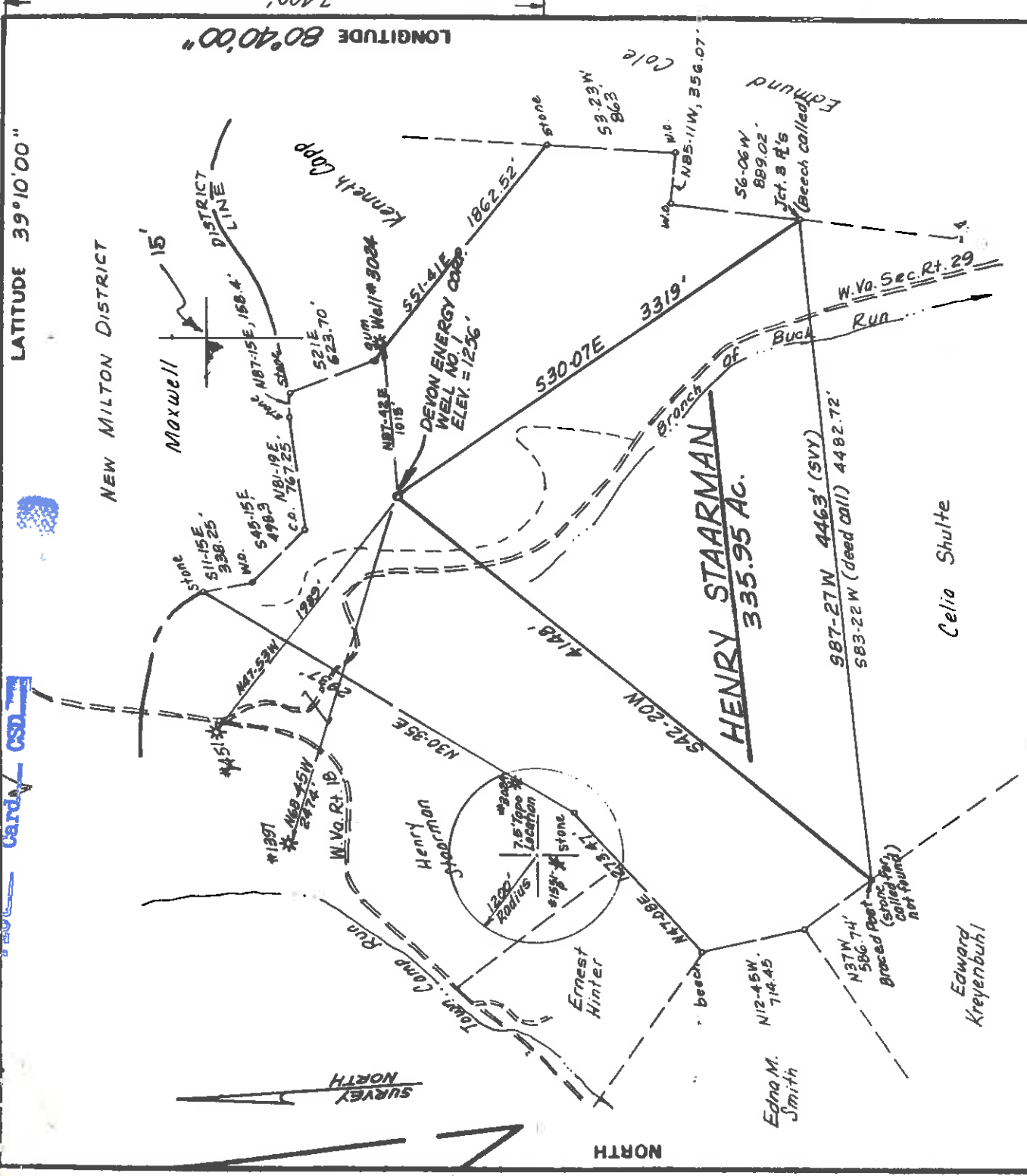


11,940' 10/14/82

LATITUDE 39°10'00"

LONGITUDE 80°40'00"

7,400'



FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION TOP OF KNOB 3430'
 SW OF LOCATION, ELEV. = 1364'

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.
 Mark C. Echard
 (SIGNED) MARK C. ECHARD
 R.P.E. L.L.S. 490

PLACE SEAL HERE

(*) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM IV-6 (8-78)



DATE SEPT. 17, 1982
 OPERATOR'S WELL NO. 2320
 API WELL NO. STAARMAN #1
 47-017-3163-P
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1256' WATER SHED BUCK RUN
 DISTRICT COVE COUNTY DODDRIDGE

QUADRANGLE NEW MILTON T.5.
 SURFACE OWNER HENRY STAARMAN ACREAGE 335.95'
 OIL & GAS ROYALTY OWNER HENRY STAARMAN LEASE ACREAGE 335.95'
 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 CLEANOUT AND REPLUG _____
 TARGET FORMATION BIG INJUN ESTIMATED DEPTH 2550
 WELL OPERATOR DEVON ENERGY CORP. DESIGNATED AGENT MR. ART YOUSE
 ADDRESS P.O. BOX 1433-1207 QUARRIER ST. CHARLESTON, W.VA. 25325
 FEB 28 1983

TRASCO

FEB 24 1983



OIL & GAS DIVISION

DEPT. OF MINE SHELVE OF West Virginia

Department of Mines

Oil and Gas Division

Date January 13, 1983

Operator's

Well No. 2320

Farm Staarman #1

API No. 47 - 017 - 3163

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 /)

LOCATION: Elevation: 1256 Watershed Buck Run

District: Cove County Doddridge Quadrangle New Milton

COMPANY Devon Energy Corporation

ADDRESS P.O. Box 1433 Charleston, WV 25325

DESIGNATED AGENT Arthur C. Youse

ADDRESS P.O. Box 1433 Charleston, WV 25325

SURFACE OWNER Henry Staarman

ADDRESS Rt. 1 New Milton, WV 26411

MINERAL RIGHTS OWNER same as above

ADDRESS

OIL AND GAS INSPECTOR FOR THIS WORK

Stephen Casey ADDRESS Jane Lew, WV 26378

PERMIT ISSUED October 12, 1982

DRILLING COMMENCED October 30, 1982

DRILLING COMPLETED November 2, 1982

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

Casing Tubing Size	Used in Drilling	Left in Well	Cement fill up Cu. ft.
20-16 Cond.			
13-10"			
9 5/8			
8 5/8	1258	1258	to surface
7			
5 1/2			
4 1/2		2542	200 sacks
3			
2		2443	
Liners used			

GEOLOGICAL TARGET FORMATION Injun Sand

Depth of completed well 2551 feet Rotary X / Cable Tools Depth 2550 feet

Water strata depth: Fresh feet; Salt feet

Coal seam depths: None reported

Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Injun Sand

Gas: Initial open flow (show) Mcf/d Oil: Initial open flow 2426 - 2432 feet Bbl/d

Final open flow DRY 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

(If applicable due to multiple completion--)

Second producing formation

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

FEB 28 1983

(Continue on reverse side)

0000 - 3163

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

Perforated 4 1/2" casing 2426' - 2432' with 22 shots. Fractured Injun Sand using 60,000# sand, 565 BLS water and 65,900 SCF nitrogen. Made water after treatment. Set bridge plug in 4 1/2" casing @ 2388' with 10' cement on top. Perforated Blue Monday Sand 2330 - 2333 w/13 shots. Fractured Blue Monday with 1000 gallons 15% HCL, 39,000# sand and 545 BLS water. No result after treatment. Will plug & abandon.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Soil			0	11	
Shale			11	56	
Sand			56	118	
Shale			118	182	
Sand			182	208	
Shale			208	316	
Sand			316	360	
Shale			360	663	
Sand			663	685	
Shale			685	738	
Sand			738	814	
Shale			814	917	
Sand			917	925	
Shale			925	976	
Sand			976	1022	
Shale			1022	1091	
Sand			1091	1104	
Shale			1104	1395	
Sand			1395	1404	
Shale			1404	1448	
Sand			1448	1456	
Shale			1456	1574	
Sand			1574	1578	
Shale			1578	1741	
Sand			1741	1822	
Shale			1822	2110	
Sand			2110	2124	
Shale			2124	2294	
Sand			2294	2324	
Shale			2324	2338	
Little Lime			2338	2354	
Blue Monday			2354	2396	
Pencil Cave			2396	2492	
Big Lime			2492	2550	
<u>Injun Sand</u>					
Shale					
Log Total Depth			2550		

(Attach separate sheets as necessary)

DEVON ENERGY CORPORATION
Well Operator

By: Art C. Davis
Date: January 13, 1983

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."



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

1) Date: October 6, 1982
2) Operator's Well No. 2320 Steamship B
3) API Well No. 47 State West Virginia County Putnam Permit 1982

DRILLING CONTRACTOR:
Putnam

OIL AND GAS WELL PERMIT APPLICATION

4) WELL TYPE: A Oil Gas Production Gas Production
B (If "Gas", Production Gas Production)
5) LOCATION: Elevation: 1550 Undergrnd storage Deep Shallow
District: Putnam Watershed: Putnam
6) WELL OPERATOR: Putnam Energy Corporation County: Putnam Quadrangle: 11111111111111111111
Address: 100 New Lane Putnam, W. Va. 25425
11) DESIGNATED AGENT: Arthur C. Moore
Address: PO Box 1196 Clarksburg, WV 25702

7) OIL & GAS ROYALTY OWNER: Putnam Energy Corporation Address: 100 New Lane
Putnam, W. Va. 25425
12) COAL OPERATOR: Putnam Energy Corporation Address: 100 New Lane
Putnam, W. Va. 25425

8) SURFACE OWNER: Putnam Energy Corporation Address: 100 New Lane
Putnam, W. Va. 25425
13) COAL OWNER(S) WITH DECLARATION ON RECORD:
Name Putnam Energy Corporation Address 100 New Lane
Putnam, W. Va. 25425

9) FIELD SALE (IF MADE) TO: Putnam Energy Corporation Name Putnam Energy Corporation
Address 100 New Lane Address 100 New Lane
Putnam, W. Va. 25425 Address 100 New Lane
Putnam, W. Va. 25425

10) OIL & GAS INSPECTOR TO BE NOTIFIED: Putnam Energy Corporation Name Putnam Energy Corporation
Address 100 New Lane Address 100 New Lane
Putnam, W. Va. 25425 Address 100 New Lane
Putnam, W. Va. 25425

15) PROPOSED WORK: Drill / Redrill / Fracture or stimulate
Plug off old formation / Perforate new formation
Other physical change in well (specify) None

16) GEOLOGICAL TARGET FORMATION, Putnam
17) Estimated depth of completed well, 2320 feet
18) Approximate water strata depths: Fresh, 200 feet; salt, 1100 feet.
19) Approximate coal seam depths: Putnam Is coal being mined in the area? Yes No

20) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT-FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	For drilling	Left in well		
Conductor							
Fresh water	8-5/8		20	1250	1250		Kinda
Coal							Sizes
Intermediate							Depths set
Production	5-1/2		20	2320	2320		Perforations:
Tubing	3-1/2		20	2320	2320		Top
Liners							Bottom

21) EXTRACTION RIGHTS
Check and provide one of the following:
 Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil or gas.
 The requirement of Code 22-4-1-(c) (1) through (4). (See reverse side for specifics.)

22) ROYALTY PROVISIONS
Is the right to extract, produce or market the oil or gas based upon a lease or other continuing contract or contracts providing for flat well royalty or any similar provision for compensation to the owner of the oil or gas in place which is not inherently related to the volume of oil or gas so extracted, produced or marketed? Yes No
If the answer above is No, nothing additional is needed. If the answer is Yes, you may use Affidavit Form IV-60.

23) Required Copies (See reverse side.)
24) 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.

Notary: Putnam Energy Corporation Signed: Arthur C. Moore
My Commission Expires: 10/6/82 By: Arthur C. Moore

OFFICE USE ONLY
DRILLING PERMIT
Permit number 1982 Date 10/6/82

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. 10) 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.)

Permit expires June 16, 1983 unless drilling is commenced prior to that date and prosecuted with due diligence.
Bond: Putnam Agent: Putnam Plat: Putnam Casing Fee Putnam Fee Putnam

NOTE: Keep one copy of this permit posted at the drilling location.
Administrator, Office of Oil and Gas

Line Item Explanation

- 1) Date of Application
- 2) Your well name and number
- 3) To be filled out by office of oil & gas
- 4A) "Oil" means natural crude oil or petroleum and other hydrocarbons, regardless of gravity, which are produced at the well in liquid form by ordinary production methods and which are not the result of condensation of gas after it leaves underground reservoirs: "Gas" means all natural gas and all other fluid hydrocarbons not defined as oil.
- 4B) "Shallow well" means any well drilled and completed in a formation above the top of the uppermost member of the "Onondaga Group" or a depth less than six thousand feet, whichever is shallower.
"Deep well" means any well drilled and completed in a formation at or below the top of the uppermost member of the "Onondaga Group" or at a depth less than six thousand feet, whatever is shallower.
- 5) Where well is located
- 6) Before a permit can be issued in a corporation, company partnership, or fictitious name, the name must be registered with the Secretary of State Office
- 7) Use separate sheet if necessary
- 8) Present surface owner at time application is filed.
- 9) Optional
- 11) See Reg. 7.01 relating to code §22-4-1k
- 12) "Coal Operator" means any persons, firm, partnership, partnership association or corporation that proposes to or does operate a coal mine. See Note 24
- 13 & 14) As per §22-4-20; See Note 24
- 15) Work that will be attempted—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.
- 16) Anticipated formation for which well will be completed
- 17) Self explanatory
- 18) Depth to deepest freshwater, and shallowest salt water, taken from nearby wells corrected for differences in elevation
- 19) All coal seam depths
- 20) Proposed casing program and cementing refer to Code 22-4-5, 22-4-6, 22-4-7, 22-4-8, 22-4-8a, 22-4-8a Reg 9.01, 15.01, 15.02, 15.03, 15.04, 25.01, 25.02, 25.03, 25.04
- 21) Code 22-4-11(c) - In lieu of filing the lease or leases or other continuing contract or contracts, the applicant for a permit described herein may file the following:
(1) A brief description of the tract of land including the district and county wherein the tract is located;
(2) The identification of all parties to all leases or other continuing contractual agreements by which the right to extract, produce or market the oil or gas is claimed;
(3) The book and page number wherein each such lease or contract by which the right to extract, produce or market the oil or gas is recorded;
(4) A brief description of the royalty provisions of each such lease or contract.
- 22) Code 22-4-11(g) and 22-4-11(e).
- 23) 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.
- 24) **The above named coal operator, coal owner(s), and coal lessee are hereby notified that any objection 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.**

.....
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.

WAIVER

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 _____