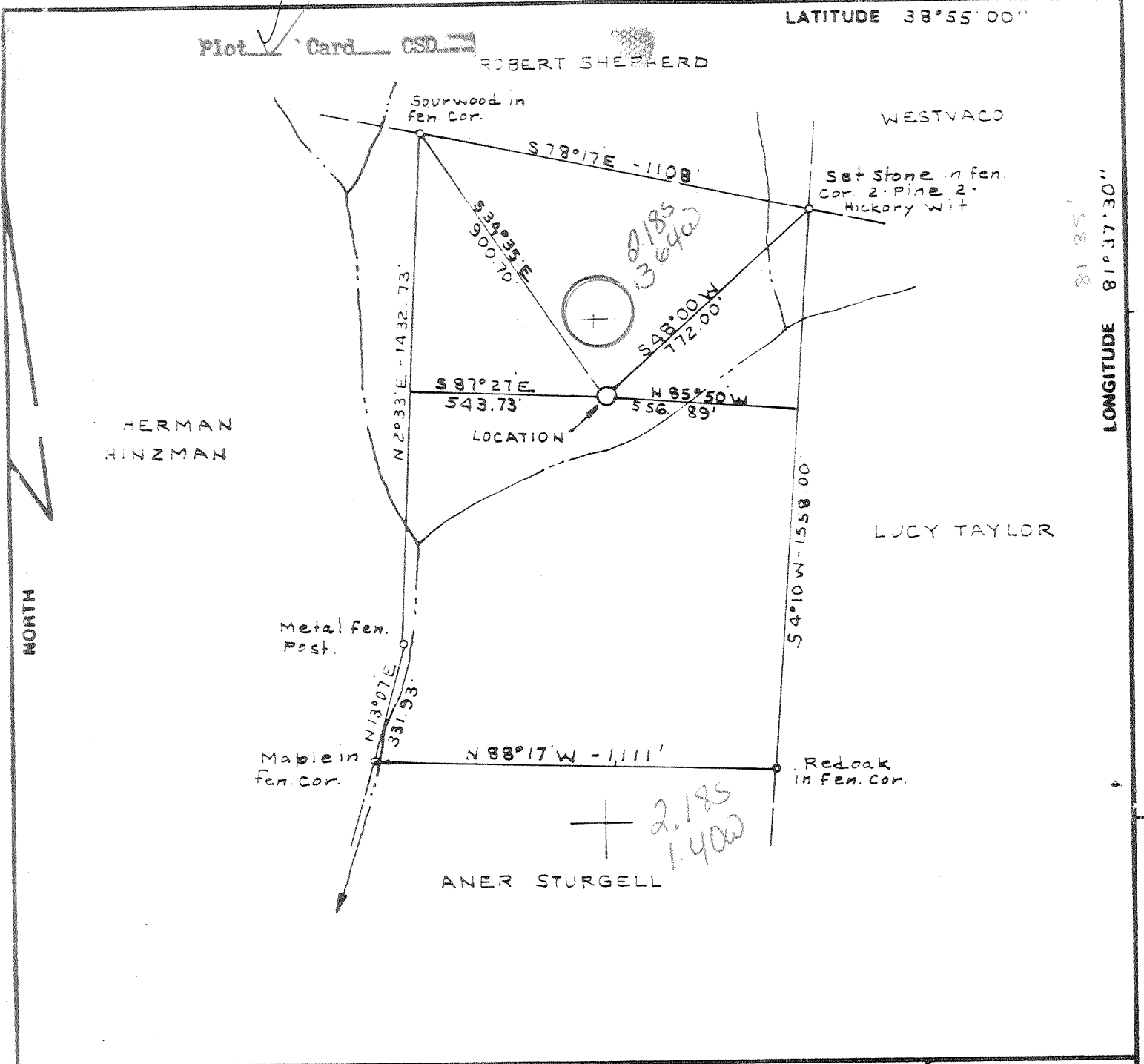


Plot Card CSD

ROBERT SHEPHERD



LONGITUDE 81°37'30"

11.450

FILE NO. 3K84 P11
 DRAWING NO. _____
 SCALE 1" = 400'
 MINIMUM DEGREE OF ACCURACY 1:200'
 PROVEN SOURCE OF ELEVATION Road Forks 3000'± south of loc. El 624.0'

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) C. S. Valley Jr.
 R.P.E. _____ L.L.S. 92

PLACE SEAL HERE

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

FORM IV-8 (8-78)



DATE MARCH 20, 1984
 OPERATOR'S WELL NO. SHEPHERD C #1
 API WELL NO. _____
47 - 035 - 1944
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION X STORAGE ___ DEEP X SHALLOW ___
 LOCATION: ELEVATION 796.55 WATERSHED TRACE FORK OF SANDY CREEK
 DISTRICT RAVENSWOOD 2 COUNTY JACKSON
 QUADRANGLE SANDYVILLE 598 Ripley 15' C.S.
 SURFACE OWNER ROBERT SHEPHERD 150 ACREAGE 31
 OIL & GAS ROYALTY OWNER ROBERT SHEPHERD LEASE ACREAGE 31
 LEASE NO. 125004-000
 PROPOSED WORK: DRILL X 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 ORISKANY 889 ESTIMATED DEPTH 5400'
 WELL OPERATOR IXO PRODUCTION CORP DESIGNATED AGENT LARRY M. ALBRECHT
 ADDRESS 900 CHARLESTON NATIONAL PLAZA ADDRESS 900 CHARLESTON NATIONAL PLAZA
CHARLESTON WVA 25301 CHARLESTON WVA 25301

APR 23 1984



Date July 31, 1985
 Operator's Shepherd "C" #1
 Well No. Shepherd "C" #1
 Farm _____
 API No. 47 - 035 - 1944

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 AUG 6 - 1985

State of West Virginia
 Department of ~~MINES~~ ENERGY
 Oil and Gas Division
 DIVISION OF OIL & GAS
 DEPARTMENT OF ENERGY

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 X / Shallow ___ /)

LOCATION: Elevation: 796.55' Watershed Trace Fork of Sandy Creek
 District: Ravenswood County Jackson Quadrangle Sandyville

COMPANY TXO Production Corp.
 ADDRESS 900 Charleston National Plaza
Charleston, WV 25301
 DESIGNATED AGENT Kenneth W. Tatarzyn
 ADDRESS same
 SURFACE OWNER Robert Shepherd
 ADDRESS Rt. 2, Box 188, Sandyville, WV 25275
 MINERAL RIGHTS OWNER _____
 ADDRESS _____
 OIL AND GAS INSPECTOR FOR THIS WORK Jerry
Tephabock ADDRESS Ripley, WV
 PERMIT ISSUED 4-12-84
 DRILLING COMMENCED 5-21-85
 DRILLING COMPLETED 5-30-85
 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 | 730' KBM | 730' KBM | 250 sx |
| 8 5/8 | | | |
| 7 | 2410' KBM | 2410' KBM | 180 sx |
| 5 1/2 | | | |
| 4 1/2 | 5171' KBM | 5171' KBM | 290 sx |
| 3 | | | |
| 2 | | | |
| Liners used | | | |

GEOLOGICAL TARGET FORMATION Oriskany Depth 5400' feet
 Depth of completed well 5201' feet Rotary X / Cable Tools _____
 Water strata depth: Fresh _____ feet; Salt _____ feet
 Coal seam depths: _____ Is coal being mined in the area? _____

OPEN FLOW DATA

Producing formation Berea Pay zone depth 2455-2460' feet
 Gas: Initial open flow 200 Mcf/d Oil: Initial open flow _____ Bbl/d
 Final open flow 200 Mcf/d Oil: Final open flow _____ Bbl/d
 Time of open flow between initial and final tests 24 hours
 Static rock pressure 550 psig (surface measurement) after 24 hours shut in
 (If applicable due to multiple completion--)
 Second producing formation Devonian Shale Pay zone depth 3969-2527' feet
 Gas: Initial open flow 100 Mcf/d Oil: Initial open flow _____ Bbl/d
 Final open flow 100 Mcf/d Oil: Final open flow _____ Bbl/d
 Time of open flow between initial and final tests 24 hours
 Static rock pressure 800 psig (surface measurement) after 24 hours shut in

300 mcf
 for
 well

AUG 19 1985
 (Continue on reverse side)

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

Perf Oriskany w/3-1/8" csg gun, 10 gm chg, 2 SPF @ 5085-90' Total 117 shots.
 Frac Oriskany w/84 bbls 2% KCl.
 Perf 1st stg Dev. Sh. w/27 shots from 3969-4763'.
 Frac 1st stg Dev. Sh. w/1.1 mmscf N2.
 Perf 2nd stg Dev. Sh. w/19 shots from 2527-3722'.
 Frac 2nd stg Dev. Sh. w/900 mscf N2 + 9 bbls 15% HCl.
 Perf Berea w/3-1/8" csg gun, 10 gm chg @ 4 SPF @ 2455-60'.
 Frac Berea w/24M gal 75% Q foam + 38M# 12-20 sd.

WELL LOG

| FORMATION | COLOR | HARD OR SOFT | TOP FEET | BOTTOM FEET | REMARKS |
|------------------------|-------|--------------|----------|-------------|---|
| | | | | | Including indication of all fresh and salt water, coal, oil and gas |
| Sand & Shale | | | 0 | 1341' | |
| 1st Salt Sand | | | 1341' | 1403' | |
| 2nd Salt Sand | | | 1403' | 1516' | |
| 3rd Salt Sand | | | 1516' | 1638' | |
| Shale | | | 1638' | 1736' | |
| Maxton | | | 1736' | 1858' | |
| Big Lime | | | 1858' | 1974' | |
| Shale | | | 1974' | 1998' | |
| Big Injun | | | 1998' | 2086' | |
| Shale & Siltstone | | | 2086' | 2430' | |
| Sunbury | | | 2430' | 2455' | |
| Berea | | | 2455' | 2459' | |
| Devonian Shale undiff. | | | 2459' | 4936' | |
| Onondaga/Huntersville | | | 4936' | 5048' | |
| Oriskany | | | 5048' | 5090' | |
| Helderberg | | | 5090' | 5201' | |
| | | | | TD | |

~ top from Mark's & Ray log.
 up dev undiff 2459' 1221'
 Helderberg 3620 600
 Lower 4280 340
 Angola 4620 250
 Rhinecliff 4870

(Attach separate sheets as necessary)

TXO Production Corp.
 Well Operator

By: Kenneth W. Tatarzyn

Date: July 31, 1985

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."



1) Date: 26 March, 19 84
 2) Operator's Well No. Shepherd # 1
 3) API Well No. 47 - 035 - 1944
 State _____ County _____ Permit _____

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

- 4) WELL TYPE: A Oil _____ / Gas X /
 B (If "Gas", Production _____ / Underground storage _____ / Deep X / Shallow _____)
- 5) LOCATION: Elevation: 796.55' Watershed: Trace Fork of Sandy Creek
 District: Ravenswood County: Jackson Quadrangle: Sandyville
- 6) WELL OPERATOR TXO Production Corp 7) DESIGNATED AGENT Mr Larry Albrecht
 Address 900 Charleston Nat Plaza Address 900 Charleston Nat Plaza
Charleston, WV 25301. Charleston, WV 25301.
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:
 Name Mr Jerry Tephabock Name Unknown
 Address Rt 1, Box 101-A Address _____
Ripley, WV 25271
- 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, Oriskany
- 12) Estimated depth of completed well, 5400' feet
 13) Approximate trata depths: Fresh, 120' feet; salt, _____ feet.
 14) Approximate coal seam depths: 1000' Is coal being mined in the area? Yes _____ / No X

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 DEPT. OF MINES

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 | 9 5/8" | | | X | | 300' | 300' | CTS by rule | Size .05 |
| Fresh water | | | | | | | | | |
| Coal | 7" | | | X | | 2200' | 2200' | 320 sacks | Size as required |
| Intermediate | | | | | | | | by Reg. 15.01 | |
| Production | 4.5" | | | X | | | 5400' | | Depths set |
| Tubing | | | | | | | | | |
| Liners | | | | | | | | | Perforations: Top Bottom |

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-035-1944 Date April 12, 19 84

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 April 12, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

| | | | | |
|--------|------------------|-----------------|-------------------|-----------------|
| BOOKET | Agent: <u>LA</u> | Plat: <u>MH</u> | Casing: <u>MH</u> | Fee: <u>210</u> |
|--------|------------------|-----------------|-------------------|-----------------|

Margaret J. Hase
 Administrator, Office of Oil and Gas

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