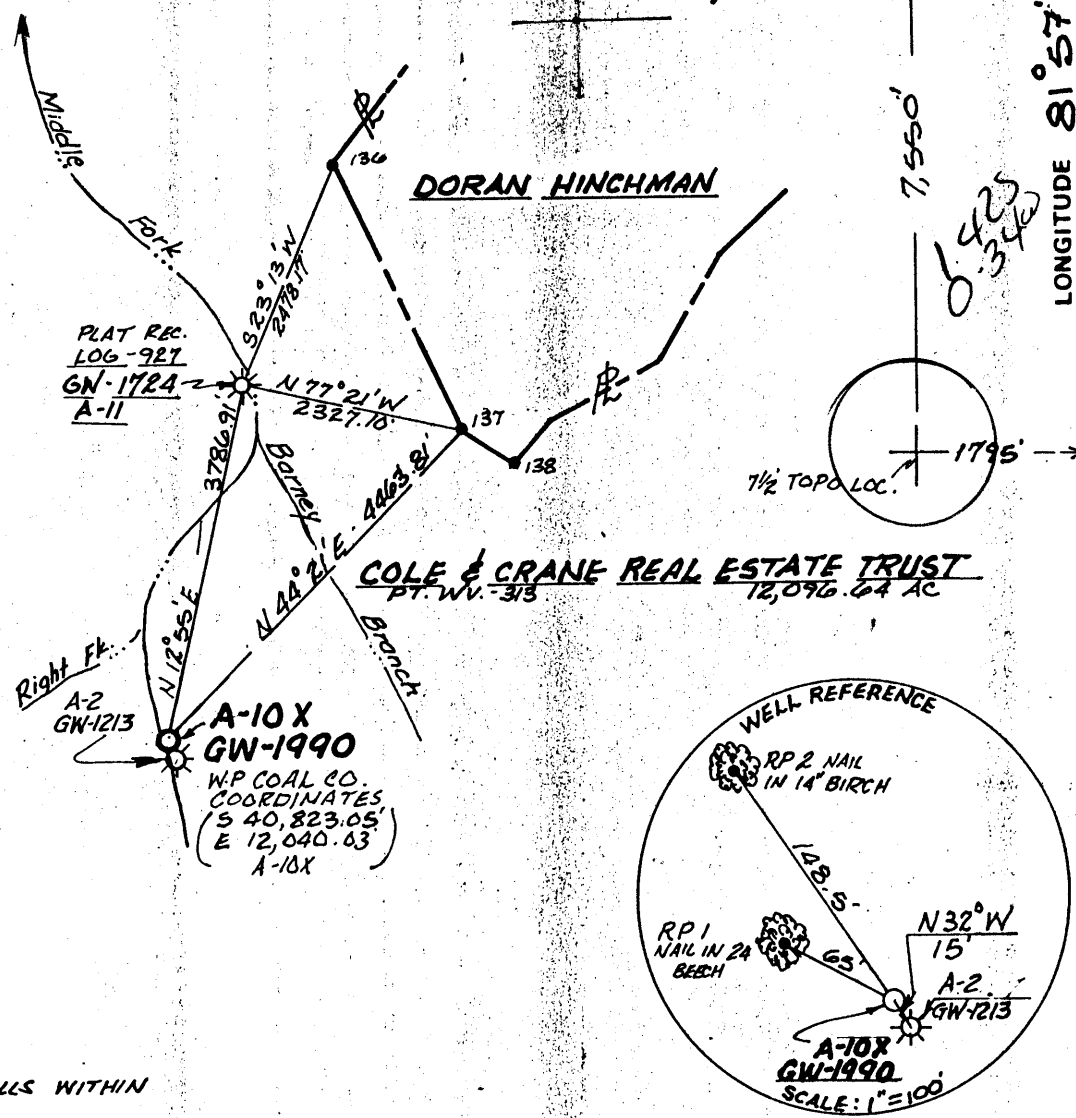


LATITUDE 37°45'00"

LONGITUDE 81°57'30"

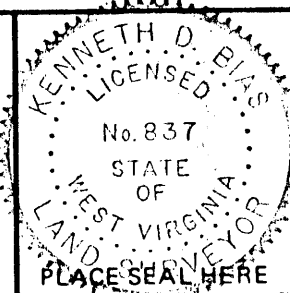
142
2.60



NO OTHER KNOWN GAS WELLS WITHIN 2400' OF THIS LOCATION.

FILE NO. KDB-1-6
 DRAWING NO. 14-88
 SCALE 1"=2,000'
 MINIMUM DEGREE OF ACCURACY 1':2500'
 PROVEN SOURCE OF ELEVATION U.S.G.S. BM E-35 LINE 104 (756.777)

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) Kenneth D. Bias
 R.P.E. _____ L.L.S. 837



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



DATE (REV. 7-1-88) 4-26 19 88
 OPERATOR'S WELL NO. A-10X, GW-1990
 API WELL NO. 47-045-1125
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

DIRECTIONAL WELL

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW ___
 LOCATION: ELEVATION 1,261.76' WATER SHED MIDDLE FK. - ISLAND CK. - GUYANDOTTE RIVER
 DISTRICT ISLAND CREEK 4 COUNTY LOGAN
 QUADRANGLE MAN. WV. 7 1/2 456 049 Gilbert NW
 SURFACE OWNER COLE & CRANE REAL ESTATE TR. ACREAGE 10,096.64
 OIL & GAS ROYALTY OWNER COLE & CRANE REAL ESTATE TR. LEASE ACREAGE 12,096.64
 LEASE NO. WV-313
 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 DEVONIAN SHALE ESTIMATED DEPTH 4770' **AUG 01 1988**
 WELL OPERATOR OXY U.S.A., Inc. DESIGNATED AGENT DELBERT G. OLIVER
 ADDRESS P.O. Box 873 ADDRESS P.O. Box 873
CHARLESTON WV 25323 3076 CHARLESTON WV 25323

Well Operator's Report of Well Work

Farm name: COLE & CRANE REAL ESTATE Operator Well No.: A-10X, GW-1990

LOCATION: Elevation: 1261.76 Quadrangle: MAN

District: ISLAND CREEK County: LOGAN
Latitude: 7580 Feet South of 37 Deg. 45Min. 0 Sec.
Longitude 1810 Feet West of 81 Deg. 57 Min. 30 Sec.

Company: OXY USA, INC.
P. O. BOX 873
CHARLESTON, WV

Agent: DELBERT G. OLIVER

Inspector: ARTHUR ST. CLAIR
Permit Issued: 07/25/88
Well work Commenced: 8/06/88
Well work Completed: 1/12/89
Verbal Plussins: Def. TD reached?
Permission granted on: _____
Rotary Cable _____ Rig _____
Total Depth (feet) 6610' MD; 5181' TMD
Fresh water depths (ft) _____

Casings & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
16"	24'	24'	Surface
11.75"	479'	479'	Surface
Intermediate	2712'	2712'	Surface
5.5"	6610'	6610'	
2.375"		5639'	

Salt water depths (ft) _____
Is coal being mined in area (Y/N)? N
Coal Depths (ft): _____

OPEN FLOW DATA

Producing formation: Devonian, Lower Huron Pay zone depth (ft) 5000-5666'
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow 129 MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests 24 Hours
Static rock Pressure 660 psig (surface pressure) after 59 Hours

Second producing formation: Upper Devonian Pay zone depth (ft) 3686-4272'
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow 23 MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure 80 psig (surface pressure) after 24 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.

Chas., WV 25304

DELBERT G. OLIVER, APPALACHIAN PROJECT MANAGER

For: OXY USA, INC.

By: Delbert G. Oliver
Date: April 11, 1989

APR 12 1989

COLE CRANE TRUST A-10X

Details of Perforated Intervals, Fracturing or Stimulating, Physical Change, etc.

Lower Huron 5412.5' to 5666' with 293 holes. Fracture stimulated with 141,000 lbs. of 20-40 sand in 510 BW in a 75% foam system.

Devonian L.H. 5000 to 5262' with 153 holes. Fracture stimulated with 200,000 lbs. 20-40 sand in 468 BW and 1,879,218 SCF of N₂.

Upper Devonian: Perforated 3686-4272' (70 holes). Fractured w/ 30,513# 20-40 sand, 67 BW foamed with 375 MSCF of nitrogen.

<u>Formation</u>	<u>WELL LOG</u>	
	<u>Top (ft)</u>	<u>Bottom (ft)</u>
Sand	0	590
Shaley Sand	590	800
Sand	800	835
Shaley Sand	835	900
Sand	900	990
Shaley Sand	990	1140
Sand	1140	1700
Shaley Sand	1700	2289
Maxton	2289	2326
Shaley Sand	2326	2497
Little Lime	2497	2566
Big Lime	2566	2810
Sandy Shale	2810	2984
Weir	2984	3152
Shale	3152	3565
Sunbury	3565	3604
Berea	3604	3619
Devonian Shale	3619	6610

Directional well

7141

THE INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE
 DATE 08-14-2013 BY 60322 UCBAW/STP/STP

045-1125
 Issued 7/25/88 Expires 7/25/90
 Page 3 of 4

**STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS
 WELL WORK PERMIT APPLICATION**

- 1) Well Operator: OXY USA Inc. 36205, 5, 456
- 2) Operator's Well Number: Cole Crane Trust A-10X, GW 1990 3) Elevation: 1261.76'
- 4) Well type: (a) Oil / or Gas /
 (b) If Gas: Production / Underground Storage /
 Deep / Shallow /
- 5) Proposed Target Formation(s): Devonian Shale
- 6) Proposed Total Depth: 5310 feet
- 7) Approximate fresh water strata depths: 360'
- 8) Approximate salt water depths: 1320', 1348'
- 9) Approximate coal seam depths: 38', 118', 360'
- 10) Does land contain coal seams tributary to active mine? Yes / No /

11) Proposed Well Work: Drill & Stimulate New Well

HIGH ANGLE DEVIATION WELL

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor	16	H40	52	45	45	15 cu ft
Fresh Water	11-3/4	H40	42	400	400	38CSR18-11.3 38CSR18-11.22
Coal						
Intermediate	8-5/8	K55	24	2704 MD 2525 TVD	2704 MD 2525 TVD	
Production	5-1/2	K55	17	6713 MD 5310 TVD	6713 MD 5310 TVD	38CSR18-11.1
Tubing	2-7/8	J55	6.5	6713 MD 5310 TVD	6713 MD 5310 TVD	
Liners						

PACKERS : Kind _____
 Sizes _____
 Depths set _____

30069

For Division of Oil and Gas Use Only

Fee(s) paid: Well Work Permit Reclamation Fund WPCP
 Plat WW-9 WW-2B Bond 50 Blanket Agent
 (Type)

RECEIVED
JUN 01 1988

Page 1 of 4
Form WW2-A
(09/87)
File Copy

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

Date: May 27, 1988
Operator's well number
Cole Crane Trust A-10X, GW 1990
API Well No: 47 - 045 - 1125
State - County - Permit

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

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- 4) Surface Owner(s) to be served:
- (a) Name Cole & Crane Real Estate Trust
Address 215 Frederick Bldg.
Huntington, WV 25701
 - (b) Name _____
Address _____
 - (c) Name _____
Address _____
- 5) (a) Coal Operator:
Name W. P. Coal Co., Attn: John Clark
Address P. O. Box 570
Omar, WV 25638
- (b) Coal Owner(s) with Declaration
Name Cole & Crane Real Estate Trust
Address 215 Frederick Bldg.
Huntington, WV 25701
- Name _____
Address _____
- 6) Inspector Mr. Arthur St. Clair
Address P. O. Box 468
Brenton, WV 24818
Telephone (304) - 732-6227
- (c) Coal Lessee with Declaration
Name Chafin Coal Company
Address P. O. Box 2195, Huntington, WV 25722
W.P. Coal Co., Attn: John Clark, P. O. Box 570
Omar, WV 25638

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

_____ Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR

X Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through 4 on the above named parties, by:

- _____ Personal Service (Affidavit attached)
- X Certified Mail (Postmarked postal receipt attached)
- _____ Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator OXY USA Inc.
By: Delbert G. Oliver *Delbert G. Oliver*
Its: Project Manager
Address P. O. Box 873
Charleston, WV 25323
Telephone (304) 344-8383

Subscribed and sworn before me this 27th day of May, 1988

Robert P. Chandler, Jr. Commissioner Notary Public
My commission expires September 10, 1992