

WEST VIRGINIA DEPARTMENT OF MINES OIL & GAS DIVISION WELL RECORD

| Permit No. Log 173 | | | | Gas Well |
|----------------------------|-------------|--------------------|---------------------|-------------------------|
| Holden Quad. | | | | CASING & TUBING |
| Company | Columb | ian Carbon | 1 Company | |
| Address | Box 87 | 3, Charles | ston 23, W.Va. | |
| Farm | Island | Greek Coa | al Co. A.34,953.47 | 13 3/8 3012 Same |
| Location | Mud Fo | | • | 10% 367 6 " |
| Well No. | 44 (| GW-948) E | Elev. 781.85 G | 8 5/8 131034 0 |
| District | Logan | Logan Co | ounty | 7 1324'5 Same |
| Surface | Island | Creek Coa | d. Co. | 2 3/8 139232 Same |
| | Huntin | gton, W.Va | L or | |
| Mineral | | | | Coal at 1633 48" |
| Commenced | 5~10~4 | | | |
| Completed | 6-25-4 | 7 | | |
| Not shot | | | | |
| Volume | | 000 C.F. | | |
| Rock Pressure | | s. 95 hrs. | | |
| Fresh Water | 102'H. | | | |
| Salt Water | 382-30 | H.F.; 149 | 0 H.F. | |
| | | | | |
| Clay | 0 | 35 | CEMENT RECORD: | |
| Sand | 35 | 110 | | ing. Ran 200 sacks |
| Slate | 110 | 125 | | h l bag fibertex. |
| Sand | 125 | 129 | Pumped down with | plug to 356° SLM. |
| Slate | 129 | 145 | Good returns. P | |
| Sand | 145 | 163 | bottom. | |
| Goal | 163 | 167 | | |
| Sand | 167 | 185 | 6-5-47 8 5/8" cas | sing. Ran 15 bags |
| Slate | 1.85 | 249 | | Le fibertex. Pumped |
| Sand | 249 | 317 | down with plug to | o 1200° SLM. Good |
| Slate | 317 | 335 | returns. | |
| Sand | 335 | 374 | | |
| Slate | 374 | 380 | | g. Ran casing with |
| Sand | 380 | 434 | | sacks aquagel mixed |
| Slate | 434 | 490 | 6% with 1 bale Fi | ibertex, and 1 sack |
| Sand | 490 | 516 | | plug. Broke steel |
| Slate | 516 | 538 | line. Pumped unt | til aquagel circulated. |
| Sand Slate | 538 | 575 | | |
| | 575 | 610 | | |
| S _a nd Slate | 610 | 635 | | |
| Salt Sand | 635 | 642 | | |
| Slate | 642 | 753 755 | | |
| Sand | 753 765 | 765 | , , | |
| Slate | 84 7 | 8 47 896 | | |
| S. Sand | 896 | 1100 | | |
| Lime | 1100 | 1115 | | |
| Slate | 1115 | 1137 | | |
| Sand | 1137 | 1190 | | |
| Lime | 1190 | 1274 | | |
| Red Rock | 1274 | 1301 | | |
| Lime | 1301 | 1329 | | |
| Red Rock | 1329 | 1334 | | |
| Lime | 1384 | 1342 | | |
| Red Rock | 1342 | 1365 | | |
| Slate | 1365 | 1473 | | |
| Maxon Sand | 1473 | 1515 | | . 1 |
| Lime | 1515 | 1553 | | |
| Slate & Shells | 1553 | 1683 | | |
| Lime (45444 time) | 1683 | 1687 | | |
| Pencil | 1687 | 1690 | | |
| Big Lime | 1690 | 1892 | | |
| Total Depth | | 1892 | Pays: 1838; 1888-92 | |
| | | | • | |

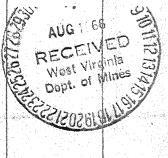


DEPARTMENT OF MINES

OIL AND GAS DIVISION

| Rotary | |
|-------------|----|
| Spudder | |
| Cable Tools | Ek |
| Storage | |

| Quadrangle HOL Permit No. LO | den 6 g-173 DD | na 4 o m in | Drilled WELL | Deeper RECORD | | Storage Oil or Gas | Well Gas (KIND) |
|--|---|--|---------------------------------------|--|--|--|--|
| an e | ies Service 873. Charle | **** | • | Casing and Tubing | Used in Drilling | Left in Well | Packers |
| FarmIsland C | Creek Coal C | 3 0 | Acres 34, 95 | 3 Size | | | Cind of Packer |
| Location (waters) | Ellis Brat 44, GW-948 | di ¹ ημο (4:16). 1 - του από διο που εκίνο απο « « εκτίσα απο μο μο απο απο | 781.85 | 13 3/8'' 48# | 30'2" | 301211 | M. B. H. |
| weii No | 2.D | C. Loga | n | 10 3/4" 40 | | 367'6" | ize of 7'' |
| | act is owned in fee | | | | ***************** | *************************************** | 7465 VI |
| lox 2187 | | Ares Hunting | on, W. Va. | ø≰7" 23# | 1724'5'' | 1724'5" | Depth set 1709'SLM |
| | e owned by | | | | | and the second of the second o | |
| | | | | 444 | | | |
| | ced DD 7-18 | | | 3 no add. | pipe run w | | Perf. top |
| | a DD 7-21. | | | | deepened | | Perf. bottom |
| | hot From | | | | < | | Perf. top |
| er in the first term of the first term of the contract of the | 9 m m m m m m m m m m m m m m m m m m m | | | 1 | | | Perf. bottom |
| | /10ths Water | and the following of the second | | | ementing record. | WAS CONTRACTOR OF THE SECOND | |
| | /i0ths Merc. | | | | ENTED S | SIZE No | . FtDate |
| A CONTRACTOR OF THE RESERVE OF THE R | | and the state of t | | | | | 7117 |
| | | | | | Co | | |
| | . ** ********************************* | | | | NCOUNTERED | | A PACKAGE STATE OF THE STATE OF |
| ******** | ********************** | ******************* | | | TINCE | iesF | EET INCHES BET INCHES |
| | | | | | | | |
| | | | | | | | |
| | | | | HOURS | | | |
| | | The second secon | | | | | |
| Producing Sand | Big Lime) | | ***************************** | | Depth 1690 | -19631 | |
| Formation | Color | Hard or Soft | Тор | Bottom | Oil, Gas or Water | Depth | Remarks |
| Old total de | 79 | nio ano anna 1866 anno apra anna 1866 anno anna | | 18921 | and the second s | | asure when |
| Top of Big | Lime 1690 | | | Name of the second seco | started to | deepen. | |
| | | | | | | | |
| | | | | | | | |
| Drilled Dee | Dez. | | | | | | |
| | | | | | | | |
| Big Lime | (top at 1696) | | 1892 | 1963 | Gas | 1922' | incr. to 127M |
| dig Injun | | | 1963 | 1968 | Gas | 1926-36' | incr. to 140M |
| | | | | 1000 | | | |
| Total depth | dang non the new tops are the top and the | a described describes and and and and and | was men une seen in- | 19681 | | | |
| | | | | The second secon | | | |
| | | | | | | | |
| | - F | | · · · · · · · · · · · · · · · · · · · | ■ 2 | ester in the control of the control | (編集) はちょう (金さま) かねがりを かっとり | · 医医囊性 1985年 1987年 1987 |



1200 Sx

Cmt



State of West Virginia DEPARTMENT OF ENERGY Division of Oil and Gas

DIVISION OF OIL & GAS Well Operator's Report of Well Work DEPARTMENT OF ENERGY

Farm name: MEEKS, HENRY

Operator Well No.: A-44, GW-948

LOCATION:

Elevation: 781.85 Quadrangle: HOLDEN

District: ISLAND CREEK

County: LOGAN

| Existing

367

Latitude: 9950 Feet South of 37 Des. 52Min. 20 Sec. Lonsitude 10725 Feet West of 82 Des. 0 Min. 0 Sec.

Size

10.75"

13.375" | 30"

|Fresh Wtr | Existing

Company: OXY USA; INC. P. O. BOX 873 CHARLESTON, WV Algan | Casing | Used in 1 Left IFill Upl Tubins | Drillins | in Well|Cu. Ft.

Asent: DELBERT G. OLIVER

Inspector: ARTHUR ST. CLAIR 07/05/88 Permit Issued: Well work Commenced: 9-30-88 Well work Completed! Verbal Plussins Pennission spanted on: Rotary___ Cable ____ Total Depth (feet), __4378 Fresh water deaths (ft) 102

Salt water depths (ft) 985-90'; 1490'

Intermediate Existing 113 Sx 1724 Aquagel 1 1724 Production, 1 TOC

367'

2224 4368 Tubing 3948 1 2.375"

Is coal being mined in area (Y/N)?Y

Coal Derths (ft): 163'

OPEN FLOW DATA

Producing formation L. Huron, Devonian, Berea Fas zone death (ft) 2491'-38 Gas: Initial open flow_300___MCF/d Oil: Initial open flow______Bbl/c Final open flow____Bbl/d Final open flow _____Bbl/d Time of open flow between initial and final tests 24 ____Hours Static rock Pressure 1 480 Psid (surface pressure) after 52 Hours

Second producing formation_____ Pay zone depth (ft)____ Gas: Initial open flow_____MCF/d Oil: Initial open flow_____Bbl/c

Final open flow_____Bbl/s Time of open flow between initial and final tests_____Hours

Static rock Pressure_____Psis (surface pressure) after ____Hour NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATE!

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 WENLBORE.

For: OXY USA, INC.

雪14 1989

By: Delbert G. Oliver Date: February 1, 1989

Island Creek A-44:

Details of perforated intervals, fracturing or stimulating, physical/change, etcl:

Lower Huron: 3524' to 3832' with 54 shots. Fracture stimulated with 50,000 lbs

of 20-40 sand in 134 BW and 497 MCF of N2.

Upper Devonian: 2618' to 3420' with 133 holes. Fracture stimulated with 52,016 lbs

of 20-40 sand in 137 BW and 411,000 SCF of N2.

Berea: 2491' to 2530' with 75 holes. Fracture stimulated with 20,000 lbs of

20-40 sand in 78 BW and 189 MCF of N2.

WELL LOG: (Note: Well was deepened from 1968' to 4378')

| Formation | Top (Ft) | Bottom (F | <u>t)</u> |
|--|----------------------|----------------------|----------------------|
| Big Injun Sandy Shale | 1968 2026 | 2026 2095 | PECETVEN |
| Weir Shale | 2095 2160 | 2160 2466 2498 | FEB 03 1989 |
| Sunbury Berea Upper Devonian Shale | 2466 2498 2512 | 2512 3521 | DIVISION OF OU |
| Lower Huron Java | 3521 3860 | 3860 4096 | DEPARTMENT OF ENERGY |
| Rhinestreet Marcellus Onondaga | 4096 4342 4368 | 4342 4368 4378 | TD = 4378' |
| | | | |

4378 NEW TO 1968 013 TD 2410-NEW Stg

La Salar

045-0173-DD Osseed 7/5/88 Expires 7/5/97 Page 3 0£ 4

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

36205

| 1) Well Ope | erator: | OXY USA IN | | 4-2-,- | TU/ | |
|-------------------------------|--|--------------|-------------------|---------------------|--------------------------|-------------------|
| 2) Operato: | r's Well | Number: | Island Creek | A-44, GW-948 | 3) Ele | vation: 781.85 |
| 4) Well ty | pe: (a) | 0il_/ | or Gas | 5 <u>X</u> / | | |
| | (b) | If Gas: | | n <u>X</u> / Underg | cound Storage Shallow | Z X |
| 5) Proposed | Proposed Target Formation(s): Devonian Shale | | | | | |
| 6) Proposed | Proposed Total Depth: 4520 feet | | | | | |
| 7) Approxi | mate fres | h water s | trata dep | hs: 102' | | |
| 8) Approxi | mate salt | water de | pths: | 985-90', 1 | 490 ° | |
| 9) Approxi | mate coal | seam dep | oths: | 163' | | - |
| 10) Does la | nd contai | n coal se | ams tribu | tary to act | ive mine? Ye | es_X No/ |
| 11) Propose | d Well Wo | rk: DEVON | IAN SHALE DE | EPENING | | |
| 12) *NEW TUBUI **TUBING TO | | CASIN | G AND TUB | ING PROGRAM | | |
| TYPE | S | PECIFICAT | CIONS | FOOTAGE II | NTERVALS | CEMENT |
| | Size | Grade | Weight per ft. | For drilling | Left in well | Fill-up (cu. ft.) |
| Conductor | 13 3/8 | | 48 | 30 | 30 . <i>H</i> | û/S |
| Fresh Water | 10 3/4 | | 40 | 367 | 367 9MP | 200 sx cmt |
| Coal | 8 5/8 | | 26 | 1310 | 0 (| 15 sx Aquagel |
| Intermediate | 7 | | 23 | 1724 | 1724 | 13 sx Aquagel |
| * Production | 4 1/2 | K55 | 11.6 | 4520 | 4520 | 300 cu ft |
| * Tubing | 2 3/8 | NUE | 4.6 | 4520 | 4520 | |
| ** IXKNOUSTUBING | 2 3/8 | | 4.6 | 1892 | 1892 | |
| PACKERS : Ki | zes | MBH 7" | | | | JUL 0 1 1988 |
| 7508 De | pths set | <u>1709'</u> | | | DIVI | SION OF OIL & GAS |
| 20 | /- | DO. | | and Gas Use | DEPA DEPA | RTMENT OF ENERGY |
| Fee(s) | paid: Y | - Pl | Vork Permit | | lamation Fund | CA. |
| 1772í Plat | #W-9 | Jay I WW- | -2B 1 1 | Bond 5084 | (Type) | A Agent |

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



DIVISION OF OIL & GAS DEPARTMENT OF ENERGY 3)

| Date: J | une 1, | 1988 | | |
|-----------|--------|-------|---------|------------|
| Operator | 's we | ll nu | ımber | |
| Island Cr | eek A- | 44, G | W 948 | |
| API Well | | | | 01:73-DD |
| | 0+ | + | Country | Darmit |

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

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

| 4) | | wner(s) to be served: | 5) (a) Coal Operator: | |
|-------|------------|--------------------------------------|--------------------------------|----------------------------|
| | | Henry Meeks | Name N/A | |
| · | Address _ | | Address | |
| | | Mt. Gay, WV 25637 | (b) Coal Owner(s) wit | h Declaration |
| | | Noah Perry, Jr. | Name Island Creek Cor | |
| | Address _ | Box 121 | Address <u>Island Creek Di</u> | |
| | (-) N | Verdunville, WV 25649 | P. O. Box 840, H | |
| | (C) Name | | Name Attn: Jerry Work | |
| | Address _ | | Address | 11,001 |
| | | | FIGURE | |
| 6) | Inchector | Arthur St. Clair | (c) Coal Lessee with | Declaration |
| 0 / | | P. O. Box 468 | Name N/A | |
| | | Benton, WV 24818 | Address | |
| | | 2 (304) - <u>732-6227 (436-4507)</u> | | |
| | rerephone | | | |
| | | TO THE PERSON(S) NAMED A | BOVE TAKE NOTICE THAT: | • |
| | | | | |
| | Included | is the lease or leases of | r other continuing cont | ract or |
| conti | acts by v | which I hold the right to | extract oil and gas OR | <u> </u> |
| Y | Included | is the information requi: | red by Chapter 22B, Art | cicle 1, |
| Sect | ion 8(d) (| of the Code of West Virgin | nia (see page 2) | |
| | I certify | that as required under | Chapter 22B of the West | : Virginia Code |
| T hav | ze served | copies of this notice and | d application, a locati | on plat, and |
| accor | npanying o | locuments pages 1 through | 4 on the above named | l parties, by: |
| | Pers | sonal Service (Affidavit | attached) | |
| | x Ceri | cified Mail (Postmarked p | ostal receipt attached) |) · |
| | Pub | lication (Notice of Public | cation attached) | |
| | | | | |
| | I have re | ead and understand Chapte | r 22B and 38 CSR 11-18, | , and I agree |
| to th | ne terms a | and conditions of any per | mit issued under this a | application. |
| | I certify | y under penalty of law th | at I have personally ex | camined and am |
| fami | liar with | the information submitted | d on this application f | form and all |
| attac | chments, a | and that based on my inqu | iry of those individual | ls immediately |
| respo | onsible fo | or obtaining the informat | ion, I believe that the | e information |
| is t | rue, accu | rate, and complete. | | |
| | I am awa: | re that there are signifi | cant penalties for subr | nitting false |
| info | rmation, | including the possibility | of fine and imprisonme | ent. |
| | · | Well Operator | OXY USA Inc. | |
| | | By: <u>Delbert G</u> | oliver flether S. | Muir |
| | | Its: Project M | ianager - (| |
| | | Address <u>P.O.</u> | Box 873 | |
| | | Charlesto | n, WV 25323 | |
| | | Telephone <u>(</u> 3 | | |
| Subs | cribed and | d sworn before me this Z | a day of June | , 19 <u><i>8</i>8</u> |
| | \bigcirc | 1 January | | Commissioner |
| | | mald Hours | (5.0) | N otary Publ ic |
| Му с | ommission | expires fine 11,1 | 789 | |
| | | | / | · |





or e cas sivision Del 10 of Mires

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

| TO THE DEPARTMENT OF MINES, | | | | | |
|--|--|---|---|--|--|
| Charleston, W. Va. | DATE | DATE October 19, 1976 | | | |
| Surface Owner Island Creek Coal Co. | Comp | any Cities Service | Oil Company | | |
| Address Box 1275, Paintsville, KY | | ss Box 873, Charle | | | |
| Mineral Owner | Farm. | Island Creek Coal | Co. Acres 34,953 | | |
| Address | | | of Island Creek | | |
| Coal Owner | | • | Elevation 782 | | |
| Address | | | County Logan | | |
| Coal Operator | | | | | |
| Address | A 19 C 19 | 411810 | | | |
| IS PERMIT MUST BE POSTED AT THE WELL SIT | Ž. | | | | |
| provisions being in accordance with Chapter 2 the W. Va. Code, the location is hereby approve | | מר | | | |
| fracturing . This permit shall expire | ma 111 31 | P. O. Box 157 | St. Clair | | |
| erations have not commenced by 2-26-77 | ADDRESS | | 4818 | | |
| Deputy Director - Oil & Gas Division | PHONE _ | 732-6227 | | | |
| GENTLEMEN: | | | | | |
| NEW WELL DRILL DE X OIL AND GAS WELL ORIGINALL The enclosed plat was prepared by a registered have been notified as of the above date. The above named coal owners and/or operator to make by Section 3 of the Code, must be received. | Y DRILLED BEFOR d engineer or license are hereby notified wed by, or filed with | te JUNE 5, 1969. d land surveyor and all that any objection they the Department of Mine | coal owners and/or operators wish to make, or are required s within ten (10) days. * | | |
| Copies of this notice and the enclosed plat wer or coal owners at their above shown respective a same day with the mailing or delivery of this copy | ddresssame_ | day | before, or on the | | |
| PLEASE SUBMIT COPIES OF ALL GEOPHYSICAL LOGS DIRECTLY TO: | Very tru (Sign Na | me) | ervice 0il Company vator Sam J. Matthews | | |
| WEST VIRGINIA GEOLOGICAL AND | | Box 873 | Region Prod. Manage | | |
| ECONOMIC SURVEY | Address | Street | | | |
| P. O. BOX 879 MORGANTOWN, WEST VIRGINIA 26505 | of Well Operator | Charleston City or Tov | | | |
| AC-304 - 292-6331 | | | Au . | | |
| | | W. Va. 25323 State | | | |
| | | | | | |
| *SECTION 3 If no objections are filed or for notice and plat by the department of mines, to said propthe filing of such plat, that no objections have been made and the well operator authorized to proceed. | osed location, the depart | ment shall forthwith issue to | the well operator a permit reciting | | |
| | | LOG-173DD_F | PERMIT NUMBER | | |
| "I have read and understand the reclamation requirem Chapter 22, Article 4, Section 12-b and will carry out the s | | 47 045 | Described and section of | | |
| Signed by | | | ø | | |

DANKAT ZON

THIS IS AN ESTIMATE ONLY ACTUAL INFORMATION WILL BE SUBMITTED ON OG-10 UPON COMPLETION

| PROPOSED WORK ORDER T | ODRILL | DEEPEN X FRACTURE-STIMULATE | | | |
|---|--|--|--|--|--|
| DRILLING CONTRACTOR: (| If Known) | RESPONSIBLE AGENT: NAME Sam J. Matthews ADDRESS Box 873, Charleston, WV 25323 | | | |
| NAME | | | | | |
| ADDRESS | | | | | |
| TELEPHONE | | TELEPHONE 304-344-8383 | | | |
| ESTIMATED DEPTH OF COM | PLETED WELL: | ROTARY | CABLE TOOLS | | |
| PROPOSED GEOLOGICAL FO | RMATION: | | | | |
| TYPE OF WELL: OII | GAS X CO | | | | |
| | RECYCLIN | G WATER FLO | ODOTHER | | |
| TENTATIVE CASING PROGRA | ΔM· | | | | |
| TEMINITY CADING TROOTS | Medical Constant of the Consta | | | | |
| CASING AND TUBING. SIZE | USED FOR DRILLING | LEFT IN WELL | CEMENT FILL UP OR SACKS - CUBIC FT. | | |
| 20 - 16 | 30' | 30' | Tar. | | |
| 13 . *** 3/8" 48# H-40 | | | None | | |
| 9-5/8-10-3/4 48# K-55 | 368' | 368' | 200 sacks to surface | | |
| 8 - 5/8 | 1705 | | | | |
| 7" 23# K-55 5 ½ | 1725 ' | 1725 ' | None | | |
| 4 ½ | The state of the s | | | | |
| 3 | | | Perf. Top | | |
| 2 | | | Perf. Bottom | | |
| Liners | | | Perf. Top | | |
| | • | | Perf. Bottom | | |
| | | | 985 | | |
| APPROXIMATE FRESH WATE | R DEPTHS 102 FEET | SALT WATER | | | |
| APPROXIMATE COAL DEPTH | | DADI WAIDIC_ | FIET | | |
| · | | 7 | ** | | |
| IS COAL BEING MINED IN T | HE AREA? NO | BY WHOM? | | | |
| TO DRILL: | | | | | |
| SUBMIT FIVE (5) COPIE OF PLAT. | S OF OG - 1, \$100,00 PERMIT | | | | |
| TO DRILL DEEPER OR REDR | Hale | • | | | |
| SUBMIT FIVE (5) COPIE | S OF OG - 1, SHOWING ORIGIN TO 1929, A PERMANENT CO | | | | |
| | | | | | |
| | ORIGINALLY DRILLED BEFOR | | COPIES OG - 1, PERFORMANCE | | |
| | AT AND ORIGINAL WELL RECO | | | | |
| | ORIGINALLY DRILLED ON AN IUMBER, AND PERFORMANCE | | 9, FIVE COPIES OG - 1, SHOW- | | |
| Required forms must be fi four (24) hours in advance | led within ninety (90) days of co | ompletion for bond release. | Inspector to be notified twenty- | | |
| | | | | | |
| · . | | | | | |
| • | | | | | |
| | | | | | |
| The following waiver must hereof. | t be completed by the coal oper | ator if the permit is to be | issued within ten days of receipt | | |
| | gent forined and place on our mine ma | • | | | |
| | Coal Company h | | | | |
| providing operator ha | s complied with all rules and regu | | | | |
| Code. | | to the second se | en e | | |
| | | | Co.1.Co. | | |
| | • • | F | or Coal Company | | |

Official Title