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State of West Virginia **Division of Environmental Protection**

Section of Oil and Gas

Well Operator's Report of Well Work

Operator Well No.: 144151 **Rowland Land Company** Farm Name: (Rowland #107) Elevation: 1421' Quadrangle: Dorothy LOCATION: District: Clear Fork County: Raleigh **Minutes** Seconds 37 Deg. 57 30 Latitude: 11950 Feet South of 25 0 4950 Feet West of 81 Longitude: Deg. Casing Used Left Cement **Equitable Production Company** Company: P.O. Box 2347, 1710 Pennsylvania Avenue Charleston, WV 25328 Fill Up & Tubing ln in Drilling Well Cu. Ft. Size Stephen G. Perdue previously reporeted Agent: csg Inspector: **Rick Campbell** Recompletion Permit Issued: 9/15/2003 Well work commenced: 09/23/03 Well work completed: 10/16/03 Verbal Plugging Permission granted on: **Rotary Rig** X Cable Rig **Total Depth** Fresh water depths (ft) previously reported Office of O Salt water depths (ft) previously reported Is coal being mined in area? Million Control of the Control of th Coal Depths (ft): previously reported OPEN FLOW DATA Producing formation Middle Weir Pay Zone Depti Gas: Initial open flow MCF/d Oil: Initial open flow Bbl/d Final open flow: 133 MCF/d Final open flow Hours Time of open flow between initial and final tests Static rock pressure 552 psig (surface pressure) after Hours Second producing formation Pay Zone Depth (ft): Gas: Initial open flow MCF/d Oil: Initial open flow Bb/d Final open flow: MCF/d Final open flow: Time of open flow between initial and final tests Static rock pressure psig (surface pressure) after 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.

EQUITABLE PRODUCTION COMPANY WR-35 COMPLETION REPORT - Attachment Well Treatment Summary

Well: 144151 Rowland A-107 API# 47-081-00959F

| Date | 10/09/03 | | | | | |
|----------------------------|------------------------------|---|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------|
| | | | · | | | |
| Type Frac | Variable Q | | , | the second of th | | |
| Acid, N₂ , Foam , Water | Foam | , | · · | | 94 F. C. S. SHAMAN TO SEE | · |
| Zone Treated | Middle Weir | | | | | |
| # Perfs | 37 | | | | | - |
| From - To: | 2492' - 2538' | | | | | |
| BD Pressure @ psi | 1746 | | | | | · · · · · · · · · · · · · · · · · · · |
| ATP psi | 1755 | | | | | · · · · · · · · · · · · · · · · · · · |
| Avg. Rate, B=B/M, S= SCF/M | 32 B (foam) | | | | | · · · · · · · · · · · · · · · · · · · |
| Max. Treat Press psi | 1804 | | | | | <u> </u> |
| ISIP psi | 1218 | | | | | |
| Frac Gradient | .54 | | | | | |
| 10 mln S-I Pressure | 1097 | | | | | |
| Material Volume | | | 411,411 | | | • 100 |
| Sand-sks | 230 | | | | 96.30 mg 17 | |
| Water-bbl | 148 | | | | | |
| SCF N₂ | 339,000 | | | | | |
| Acid-gal | 250 gal 15% | | | | | |
| NOTES: | Job aborted | | | | | |
| | w/ 50% | | | | | * |
| | pumped, | | | | | |
| | blender could not control | | | ļ | | |
| | sand conc. | j | | | | |
| | Well circ after | | | | | l. |
| | SD. | | 1 | | | |

TOP BOTTOM FORMATION

REMARKS

Previously reported

James L. Stephens, Eng. Tech.



, WR-35

State of West Virginia Division of Environmental Protection Section of Oil and Gas

| • | William Co. | well Ope | rator's Report | of Well | Wor | k | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------------------------------|----------------|---------------|----------------|------------------------|-------------------|-------------------|---------------|
| Farm Name: | ROWLAND | LAND COMPA | NY C | perator) | Well | No.: 10 | 7-S-1441 | 51 | |
| Location: | Elevation: | 1,420.51 | C | ໃuadrang | gle: | DOROTH | Υ | | |
| • | Latitude: | CLEAR FORK 11900 Feet S 5000 Feet | South of 37 $$ | eg. 57 | Min | i. 30 Sei | c. ec. | | |
| Company: | P.O. BOX 39 | XPLORATION 91, AT-6 KY 41114-03 | | | · · | <u>-</u> | | | - |
| Agent: | B. E. Widen | er | | Cas 8 | | Used in | Left in | Cement Fill Up | |
| Darmit Incur | RODNEY DILL | 00 02 | 93 | Tub | | Drilling | Well | Cu. Ft. | - 11 |
| Well Work C | Commenced: Completed: | 11-18- 02-11- | -93 | 11 | Size 20" | 32' | 32' | Driver | |
| Permission (| granted on: Cable | 2. | | | 16" | 77' | 77' | 24 | |
| Total Depth | (feet) | 4863 | 201 | 8 | 5%" | 1156' | 1156' | 516 | <u>;</u> |
| <u>5-6" strea</u> | m @ 360' | 3" stream @ 1 | | 4 | 1/2 " | 4858' | 4858' | 495 | <u>.</u> |
| Salt water d | lepths (ft) | None Noted | | | 23/ | " @ 466 | 7' | | |
| Is coal being mined in area (Y/N)? N Coal Depths (ft): None Noted | | | | | | | | | |
| OPEN FLOW DATA Devonian Shale Producing formation Gordon Gas: Initial open flow Final open flow 960 Devonian Shale 3752-4742 Pay zone depth (ft) 3061-3171 MCF/d Oil: Initial open flow Bbl/d Final open flow Bbl/d Bbl/d | | | | | | | | | |
| Producii Gas: Init | ng formation tial open flow | Gordon O | MCF/ | d Oil: Ir | Pa nitial o | y zone ae open flow | ptn (π) <u>-3</u> | <u> </u> | bl/ |
| Fir Tir | nal open flow the of open flo | 960 w between in | MCF | i/d í ests | Final | open flow | | E | 3bl/d our: |
| Time of open flow between initial and final tests | | | | | | | | | |
| HIP. | INI ADAD TIAW | rmation No | IVIC.E | /a r | -ınaı | onen liow | - | - E | วเวเ/เ |
| NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOCK WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE. | | | | | | | | | |
| | | Earl Aablan | d Evoloration | Inc | | | | | Ja |

Date: _

02-14-94

| Formation or Rock Type | Top | <u>Base</u> |
|--------------------------------|------|-------------|
| Sand and Shale (base Lee Sand) | 0 | 1066 |
| Pennington | 1066 | 1956 |
| Princeton | 1161 | 1203 |
| M. Maxton | 1614 | 1630 |
| L. Maxton | 1861 | 1944 |
| Little Lime | 1956 | 2054 |
| Big Lime | 2054 | 2376 |
| Borden | 2376 | 2869 |
| M. Weir | 2484 | 2673 |
| Sunbury Shale | 2869 | 2877 |
| Berea | 2877 | 2921 |
| Devonian Shale | 2921 | T.D. |
| Gordon | 3082 | 3103 |

Drillers TD 4864 Loggers TD 4863 85/8 cmt'd to surface by grouting after primary job.

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Perf L. Devonian Shale using 3%" HCG .33 jets sf 1 spf @ 4742, 4727, 4711, 4700, 4671, 4664, 4638, 4588, 4570, 4548, 4537, 4493, 4461, 4445, 4417, 4407, 4397, 4373, 4357, 4355,... Dump 300 gal 10½% HCI-Fe acid, 90-75Q FF L. Dev. using 98,500# 20/40 sand, 700,000 scf N₂ @ 26200-23350 scf/min. BD 2357, ATP 3100 @ 40 BPM foam, MTP 3980, ISIP 2200, TF 178 Bbls.

Perf U. Dev. using .33 jets in 3½" HCG sf 1 spf @ 4151, 4145, 4123, 4110, 4097, 4072, 4055, 4026, 4004, 3995, 3985, 3963, 3931, 3905, 3891, 3852, 3839, 3797, 3789, 3752. Dowell pump 400 gal 10½% HCl-Fe acid and frac ball. 90-75Q FF U. Dev. Shale using 146,000# 20/40 sand, 631,000 scf N₂ @ 24233-20000 scf/min rate. BD 2636, ATP 2850@ 40 BPM foam, MTP 3100, ISIP 2050, TF 219 Bbls.

Perf Gordon w/3½" HCG .33 jets as follows; 2H/3171, 2H/3148, 29H/3086-3100, and 2H/3061. . 75Q FF Gordon using 500 gal 8½% HCl-Fe acid, 44,600# 20/40 sand ramped from 4-16 ppg, 189,000 scf N₂ @ 7,400 scf/min. BD 1102, ATP 1080 @ 20 BPM foam, MTP 1198, ISIP 1116, TF 142 BBIs.

Page 1 of 1 FORM WW-2B **STATE OF WEST VIRGINIA** DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS EXPUSE permitting WELL WORK PERMIT APPLICATION 1) Avel Operator: ... 0043 Ashland Exploration, Inc. **Rowland Land Company** 3) Elevation: 1420.5) Operator's Well Number: 107 Serial No. 144151 (a) Oil___/) Well type: Gas X / or (b) If Gas: Production X / Underground Storage_ Shallow X / Deep__ Proposed Target Formation(s): Devonian Shale 441 Proposed Total Depth: 5100'KB feet Approximate fresh water strata depths: 140' 7) Approximate salt water depths: _____None Reported 8) 9) Approximate coal seam depths: _____Solid - No Mineable Seams 10) Does land contain coal seams tributary to active mine? Yes___/ No_X_/ 11) Proposed Well Work: Drill and Stimulate New Well **CASING AND TUBING PROGRAM** 12) CEMENT **TYPE SPECIFICATIONS** FOOTAGE INTERVALS Left in Fill-up Weight For Size Grade well (cu.ft.) drilling per ft. LS 37 30 30 CTS Conductor 16 190 Fresh Water H-40 42 190 11 3/4 Coal CŤS 1186 J-55 24 1186 Intermediate 8 5/8 **AS NEEDED Production** 5100 5100-4 1/2 J-55 10.5 **SIPHON** 5000 4.7 Tubing 2 3/8 J-55 Liners

Sizes

Depths set

For Division of Oil and Gas Use Only

Fee(s) paid:

Plat

WW-9

WW-2B

Bond

(Type)

PACKERS:

Kind.

| Page | 1 | of | 2 |
|-------|---|------|---|
| Form | W | 12-A | |
| (10-9 | 1 |) | |

of 2 2-A 2) Operator's well number Rowland Land Company #107. Serial #144151 3) API Well No: 47 - 081 - 0959 State - County - Permit ON STATE OF WEST VIRGINIA DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

| 4) | Surface Owner(s) to be served: | 5) (a) Coal Operator: Name N/A |
|--------|---------------------------------------------------------------------------|-----------------------------------------------|
| | (a) Name Rowland Land Company Address 1033 Quarrier St., Room 301 | Address |
| | Charleston, WV 25301 | Add C38 |
| | (b) Name | (b) Coal Owner(s) with Declaration |
| | Address | Name Same as No. 4(a) |
| | | Address |
| | (c) Name | |
| | Address | Name |
| | | Address |
| 6) | Inspector Rodney Dillon | (c) Coal Lessee with Declaration |
| | Address P.O. Box 131 | Name Consolidation Coal Company |
| | Bradley, WV 25818 | Address 898 Workman Creek Road |
| | Telephone (304)-877-2912 | Beckley, WV 25801 |
| | TO THE PERSON(S) NAMED AB | OVE TAKE NOTICE THAT: |
| | Included is the lease or leases or | other continuing contract or |
| | acts by which I hold the right to e | |
| | Included is the information require | |
| Secti | on 8(d) of the Code of West Virgini | |
| | I certify that as required under Ch | hapter 22B of the West Virginia Code |
| I hav | e served copies of this notice and | application, a location plat, and |
| accom | panying documents pages 1 through Personal Service (Affidavit at | $\frac{2}{1}$ on the above named parties, by: |
| | x Certified Mail (Postmarked pos | |
| | Publication (Notice of Publication) | |
| | T have word and understand should | 22D and 20 GGD 11 10 and T among |
| | I have read and understand Chapter e terms and conditions of any permi | |
| | | t I have personally examined and am |
| | iar with the information submitted | |
| attac | hments and that based on my inquir | ry of those individuals immediately |
| respo | nsible for obtaining the information | on I believe that the information |
| | ue, accurate, and complete. | on, i believe chat the infolmation |
| | I am aware that there are significa | ent menalties for submitting false |
| infor | mation, including the possibility of | of fine and imprisonment |
| TT.O.T | Wall Operator | Ashland Exploration, Inc. |
| | | |
| | By: <u>Don K. Cunn</u> | |
| | Its: Profession | al Surveyor |
| | Address P.O. Bo | |
| | Ashland Telephone 606-3 | KY 41114 |
| Subsc | ribed and sworn before me this $\frac{606-3}{23rd}$ | day of, 19_93 |
| | 11: B. 11 11 + | |
| Mar oc | mmission expires November 23, 1994 | Notary Public |
| MY CO | mmission expires November 23, 1994 | |