



IV-35 (Rev 8-81) JUL % 6 1988

DIVISION OF OIL & GAS DEPARTMENT OF ENERGY

State of West Wirginia

Bepartment of Mines Gil und Cas Bivision

| Date_ | July | 20, | 1988 | 3 | |
|--------|-------|-------|------|---------------|---------------------|
| Opera | tor's | | | | Turner was reliance |
| Well : | No | Jacl | cson | #4 | |
| Farm_ | Ja | cksoi | 1 | | |
| API N | 0. 47 | an- | 085 | - 7362 | Fr |

WELL OPERATOR'S REPORT

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

| WELL | TYPE: | Oil / ((If "Gas," | $\frac{X}{X}$ Light $\frac{X}{X}$ | iquid Inje n/ Unde | ction rgrow | n/Wa und Stor | ste Disposa age/ Dee | 1/ p/ Sha | ullow x /) |
|-------|--------------------|----------------------------|-----------------------------------|-----------------------|---------------------|--|-------------------------|---|---------------------------|
| LOCA | TION: | Elevation: | | | | | | | - According to Common Age |
| | | District: | | | | | | e Ellen | ooro |
| | | | | | | | | | |
| COMP. | ANY | RARE. EARTH E | NERGY, INC. | | | | | | |
| ADDR | ess_ _{P.} | O. Box 172, | Clarksburg | , WV 26302 | <u>-</u> | Casing | Used in | Task | Cement |
| DESI | CATED | AGENT_ Robe | rt Gary Hal | 1 | | Tubing | | | fill up |
| | | O. Box 172, | | | | Size | Drilling | In werr | Cu. ft. |
| | | NER Robert 1 | | | | 20-16 | | | |
| ADDRI | ESS | Rt. 1, Box 83 | , Harrisvil | le, WV 263 | 62 | Cond. | | RIGII | |
| MINE | RAL RIC | THIS OWNER RO | obert P. Ja | ckson | - | 13-10" | FOR C | ASINO | |
| ADDRI | SS Rt. | 1, Box 83, I | Harrisville | , WV 26362 | | 9 5/8 | DIAGI | A M | |
| OIL 2 | AND GAS | INSPECTOR F | OR THIS WO | RK Samuel | | 8 5/8 | | | |
| Hers | shman | ADDRESS 1 | P. O. Box 6 | 6, Smithvi | lle, | 7 | | | |
| PERM | T ISSU | JED5/30, | | | ™ WV | 5 1/2 | | | |
| REWO | | MMENCED_ | 6/6/86 | | *** | 4 1/2 | | | |
| | | MPLETED | | | **** | 3 | | | |
| IF AF | PLICAE | BLE: PLUGGIN | G OF DRY H | OLE ON | | 2 | | -7800011-0-700-1-1-1-1-1-1-1-1-1-1-1-1-1-1- | |
| CINCO | NUOUS | PROGRESSION VERBAL PERM | FROM DRILL | TNG OR | | Liners | | | |
| ON_ | | ATMORAL PERM | moston obt | ALNED | | used | | | • |
| | | TARGET FORMA | TION | Gordon | | Commence of the second contract of the second | Dept | h 2400 - | ²⁵⁰⁰ feet |
| | vepth | of completed | well 5 | 200 fee | t R | otary | | | |
| | Water | strata depth | : Fresh_ | 30 fe e | t; | Salt | feet | | |
| | Ccal s | eam depths:_ | none | | | Is coal | being mine | d in the | area? No |
| | FLOW D | | | | el-real managements | | | | |
| | | | n | | | 70- | | 8. | |
| | Gas: | ing formation | flow Show | w Maf/ | a (| | y zone dept | <u>n</u> | teet |
| | | Final open f | low (750) | Mcf/ | u (d | ri. | rai obei | I TOM 0 | BbL/d |
| | | Time of | open flow | between i | - nitia | al and f | inal tests_ | 0w0 | RDT\G |
| i | Static | rock pressu | re 450 | psig(sur | face | measure | mentl after | 4 dayskook | IDS |
| | (If ap | plicable due | to multip | le complet | ion | | marcy area. | TO HOUR | s snut in |
| | | producing fo | | | | | v zone danti | h | £ |
| (| Gas: | Initial open | flow | Mcf/ | | Dil: In | itial open | fla: | reet |
| | | Final open f | low | Mcf/c | 3 C | oile Fi | nal open fl | ~., | |
| | | Time of | open flow | between in | nitia | al and f | inal tests_ | | ppr/d |
| ; | Static | rock pressu | re | psig (surf | ace n | neasurem | ent) after | | e chut in |
| | | | | | | | (Contin | | |

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

GORDON, BEREA, WEIR, BIG INJUN (2000 - 2912) - 9 shots 12,000 lb. sand, 100 MCF N₂ 750 Gal. 15% Hcl

JUL 26 1988

DIVISION OF OIL & GAS DEPARTMENT OF ENERGY

WELL LOG

| | | | ~ | | |
|-----------|-------|--|--|--|--|
| FORMATION | COLOR | HARD OR SOFT | TOP FEET | BOTTOM FEET | REMARKS Including indication of all free and salt water, coal, oil and coals |
| | | | | | one control and |
| | | | | | SEE ORIGINAL FOR |
| | | | To de la constanta de la const | A | WELL |
| | | | | · OTGORNAMENTALISMAN · · | L O G |
| | | | | And the control of th | |
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| | | | A CONTRACTOR AND A CONT | | |
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| | | | occulum services and services are services and services are services and services are services and services and services are services a | | |
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| | | | | | |
| ** | | Seminology and the Company of the Co | | nd Political in the Control of the C | |
| | | | | | |

(Attach separate sheets as necessary)

RARE EARTH ENERGY, INC.

Well Operator

By:

Date: 7/20/88

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 that, encountered in the drilling of a well."



(Rev 8-81) C. CAS DIVISION
DEPT. OF MINES



State of Mest Airginia Bepartment of Mines

department of Allines
of United as Thursday

| Date | April 11, 1 | 1985 |
|-----------|---------------------|------|
| Operator' | 'S | |
| Well No. | Jackson #4 | |
| Farm_ | Jackson | |
| API No. 4 | 7 0 85 - | 7362 |

APR 29 1991

WELL OPERATOR'S REPORT OF DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

| WELL T | YPE: | Oil / Gas x / Lio | quid Inje / Unde | ergrou | / Wast | re Disposa ge/ Deep | l/ p/ Sha | llow_x_/) |
|---------|-------|---|--|----------|---|------------------------|---|-----------------|
| LOCATIO | ON: | Elevation: 1042 | Watershe | ed. | Stewart | s Run | | |
| | | District: Clay | | | | | = Ellenbo | oro |
| | | <u> </u> | | | | _x | | |
| | | | | | | | | |
| COMPAN! | Y Rat | re Earth Energy, Inc. | | | | | | |
| ADDRESS | S_P. | O. Box 172, Clarksburg, | WV 26301 | <u> </u> | Casing | Used in | Left | Cement |
| DESIGN | ATED | AGENT Bill Bowie | | | Tubing | Drilling | in Well | fill up Cu. ft. |
| ADDRESS | S_P. | O. Box 172, Clarksburg, | WV 2630 | 01 | Size | | | |
| SURFACI | E OW | NER <u>Robert P. Jack</u> | cson | | 20-16 | | | |
| ADDRESS | S_Rt | . 1, Box 83, Harrisville | e, W. Va. | 26362 | Cond. | | | |
| MINERAL | L RIO | GHIS OWNER Robert P. J | [ackson | | 13-10" | 20 | 30 | |
| ADDRES: | s_R | t. 1, Box 83, Harrisvill | le, WV 263 | 362 | 9 5/8 | 30 | | 20 -1 |
| OIL ANI | D GAS | S INSPECTOR FOR THIS WO | RK Samue1 | | 8 5/8 | 1220 | 1220 | 330 sks. |
| | | ADDRESS ^{P. O. Box 66} | | īlle, | _{JV} 7 | | | |
| | | UED 3/25/85 | | | 5 1/2 | | | |
| | | OMMENCED 3/26/85 | | | 4 1/2 | 4984 | 4984 | 375 sks. |
| | | MPLETED 3/30/85 | W. I. W. | | 3 | ļ | | |
| | | | OT 71 ON | | 2 | | | |
| CONTING | wus | BLE: PLUGGING OF DRY H PROGRESSION FROM DRILL VERBAL PERMISSION OBT | ING OR | | Liners useđ | | | |
| GEOLOG: | ICAL | TARGET FORMATION Ale | exander | | | Dept | th 5125 | feet |
| De | epth | of campleted well 5200 |) f∈ | et R | otary ^x | / Cable | | |
| Wa | ater | strata depth: Fresh | | | | | | • |
| | | seam depths: none | | · | *************************************** | being mine | ed in the | no |
| | | | | | | , | | |
| OPEN F | | cing formation Benson- | -Rilevs | | _ | _ | . 4350–49 | 00 |
| | | | | | | | | |
| G | as: | Initial open flow | | | | | | |
| | | Final open flow 498 | | | | | | |
| _ | | Time of open flow | | | | | | |
| | | c rock pressure 1200 | | | | ment) afte | rhou | ırs shut ir |
| | | oplicable due to multip | - | | | | 2500 / 2 | 2.2 |
| | | d producing formationBa | | | | | | |
| G | | Initial open flow 3 | | | | | *************************************** | |
| | | Final open flow 4 | 98 Mc | f/d | Oil: Fir | mal open f | low | 0 Bbl/c |
| | | Time of open flow | between | initi | al and fi | inal tests | 4 days h | tits |
| S | tati | c rock pressure 1200 | _psig(sw | rface | measurem | ent) after | 10 hou | urs shut i |
| | | | | | | (Conti | rue on re | everse side |

(REVERSE)

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

1) 4782-4900 20 shots 1 million scf N₂ frac, 16 bbls. of 15% HCL. 2) 4578-4599 10 shots half million scf N₂ frac, 12 bbl. of 15% HCL. 3) 3874-4356 22 shots one million scf N₂ frac, 11 bbl. of 15% HCL. 4) 3528-3736 20 shots one million scf N₂ frac, 13 bbl. of 15% HCL.

WELL LOG

| FORMATION COLOR HARD OR SOFT | TOP FEET | BOTTOM | FEET | REMARKS Including indication of all fresh and salt water, coal, oil and gas |
|--|---|--|------|---|
| Soils Shales and RedRock Sandstone and Shales Shales and RedRock Sand and Shales Shales Big Lime Big Injun Shales Weir Shales Berea Shales Sandstone Shales Sandstones Shales Sandstones Shales Sandstones Shales Sandstones Shales Sandstones Shales The December of the state of the | 0 75 300 1000 1200 1800 1904 2000 2032 2075 2120 2244 2253 2435 2452 2500 2525 2620 2640 2908 2912 3508 3553 4348 4580 4780 4900 5125 5150 5200 | 75 300 1000 1200 1800 1904 2000 2032 2075 2120 2244 2253 2435 2452 2500 2640 2908 2912 3508 3553 4348 4580 4780 4900 5125 5150 T. D. | | Damp 30 5200 1042 4158 3790 |

(Attach separate sheets as necessary)

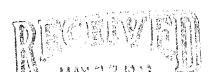
Color Z 4532

INC RARE EARTH ENERGY. Well Operator 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 chal, encountered in the drilling of a well."

7/85





| 1) | Date: May | 15 | 13. 86 |
|----|------------|----|--------|
| 2) | Operator's | | |

2) Operator's Well No. Jackson #4

085-7362 FRAC
County Permit 3) API Well No. 47
State

MAY 22 1935 STATE OF WEST VIRGINIA

DEPARTMENT OF ENERGY, OIL AND GAS DIVISION

DEPARTMENT OF ENERGY

DEPARTMENT OF ENERGY

DEPARTMENT OF ENERGY

| 4) WELL TY | | | | ras | <u>x</u> / | | | | |
|--------------------------------------|------------------------------|---------------------------|---------------------------|------------------------|------------------------|-----------------------------------|---|---|--|
| E) 1004TI | | If "Gas", | 7/ | on 042 | X | | | | _/ Shallow <u>X</u> /) |
| 5) LOCATIO | | evation: _ strict: | ~ | lay | 747 | Watershed: L County: | Stewart Ru Ritchie | | Ellenboro 7.5 33 |
| 6) WELL OF | | | | | | | | Quadrangle: | W. Zickefoose, Jr. |
| Addres | ss | O. Bo | X | L72 | | | Address | P. O. Box | |
| | Cl | arksbu | rg, W | 7 26: | 301 | | | | . WV 26301 |
| 8) OIL & G | | | | | | | 9) DRILLING CO | | |
| Name | | amuel | | nan | | | Name | Clint Hur | |
| Addres | | . O. B mithvi | | 77.7 | | | Address | P. O. Box | |
| | | HIT CIIA T | ite, v | V V | | | | Midland, | |
| 10) PROPOS | ED WELL | WORK: | | | | | / Redrill | / Summate | <u>X</u> / |
| | | | _ | | | n/ Perfor | ate new formation_ | <u> </u> | |
| II) CEOLOG | ICAI TAD | OET FOR | | | change Sordo | in well (specify) n (2400 - 25 | 001 410 20 | into a diament | |
| 11) GEOLOG | ncal TAR | | | - Land |)00ª | feet | | A Sale State See Kill State See See See See See See See See See S | |
| • | oximate tra | - | | | 30 | | P | feet. | |
| | oximate coa | • | | | ne | • | | area? Yes | / NoX / |
| 15) CASING | | | • | | | | | arva. 103 | 140 |
| CASING OR | II | SPE | CIFICATION | 4S | | FOOTAGE I | NTERVALS | CEMENT FILLUP | PACKERS |
| TUBING TYPE | Size | Grade | Weight per ft. | New | Used | For drilling | Left in well | OR SACKS (Cubic feet) | |
| Conductor | 11 3/ | 4 | | х | | 3 0 | 7 50 | H | Kinds Surface neat |
| Fresh water | | | | | | | | | inno Bulluce Heat |
| Coal | | | | | | | | | Sizes |
| _{Intermediale} rfa | | 8 | | X | | 1142 1220 | 1142 220 | cts- neat | By Rule 15.05 |
| Production | 4½ | | - | X | ļ | -5900 4 984 | 5900 4984 | a s necessar y | Depths set By Rule 15.0 |
| Tubing | | ļ | | - | ļ | | | 3755KS | |
| Linc. s | | - | - | - | | | | | Perforations: |
| | | | | + | | | | | Top Bottom |
| | | | - | | - | | | | |
| | Ш | l | <u> </u> | | Ĺ | 11 | | II | |
| | | | | | | | | | |
| | ···· | | | | | OFFICE USE O |)NI V | | |
| | | | | | | DRILLING PE | | | |
| | 4 - | 7 005 | 7000 | | | | | | 4.0 |
| ermit number_ | 4. | 1-085 | -7362 | <u>-r</u> | | - | *************************************** | Ma Dat | y 30 1986 |
| his permit cov | ering the w | ell operate | or and we | ll locatio | on show | n below is evidence o | of permission grante | | ce with the pertinent legal re- |
| uirements subj | ect to the co | onditions | contained | herein a | nd on th | ne reverse hereof Not | ification must be giv | en to the District Oil | and Gas Inspector, (Refer to |
| o. 8) Prior to this strict oil and s | ie construct zas inspecto | tion of ros or 24 hour | ids, locati s before a | ons and ctual pe | pits for mitted | any permitted work. | In addition, the we | ll operator or his con | and Gas Inspector, (Refer to tractor shall notify the proper |
| | | | | | | | | | nd conditions specified on the |
| everse hereof. | OIK 13 43 41 | escribed ii | i the roth | cc and A | ррпсат | on, piat, and reciams | tion pian, subject to | any modifications at | nd conditions specified on the |
| ermit expires . | Ma | ay 30 | <u>, 198</u> | 8 | | unless well | work is commenced | prior to that date and | prosecuted with due diligence. |
| | | | | | ····· | | | _ | |
| Bond: | Agent | : F | Plat: | Caşi | no | Fee WPCP | 93.5 | Other | |
| | 1 | | 10 | PX | 70 | 1587 FOU. | 外尾 | other | |
| | 14-0 | | 7/-2 | 10 | 2 | 11:10 | -145)T | | 0 |
| | | | | | | | | | |
| OTE: Keep o | one copy of | this perm | nit posted | at the di | rilling lo | cation. | | | |
| | | | | | | Di | rector, Div | - | and Gas File |
| | | See | the revers | se side o | f the AF | PLICANT'S COPY | for instructions to t | he well operator. | |
| | | | | egalostojajaja vatjort | en englis en la recent | | | | an in mobile da Y men South metra saterjer professioner en en rouge, con programme |



| 1) | Date: | M | arch | 20 | | | . 19_85 | |
|----|--------------------|-----|-------|------|-------|-------------|---------|---|
| 2) | Operator' Well No. | | ackso | 2n_∄ | 4 | | | |
| 3) | API Well | No. | 47 | 0.00 | 085 | C ** | 7362 | |
| | | | State | | Count | у | Permit | • |

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

| and the same | OIL & 0 | GAS DIV | ISIC:1 | A | PPLICAT | TION FOR A WE | LL WORK PERMI | T | | |
|-----------------------|---------------|---------------|--|---|-------------|---|-------------------------------|----------------------------|---|--|
| 4) WELL T | YPE: A O | PF N | INE | S x | / | | | | | |
| , | | f ''Gas'',] | | | | / Underground | storage | / Deep | _/ ShallowX/) | |
| 5) LOCATI | | vation: | | *************************************** | | Watershed: | Stewart Ru | in | | |
| | Dis | strict: | Clay | | | County: R | itchie | Quadranala. | Ellenboro 7.5 | |
| 6) WELLO | PERATOR_ | Rare | Earth | Ene | rgy, I | Inc. 909. | 7) DESIGNATE | DAGENT Bill B | owie | |
| Addre | ss P. | 0. Bo | x 172 | - | | | Address | P. O. Box 17. | 2 | |
| | C1 | <u>arksbu</u> | rg, W. | Va. | 2630 | 01 | | Clarksburg, | | |
| 8) OIL & G | AS INSPEC | TOR TO | BE NOTI | FIED | | | 9) DRILLING C | | | |
| Name _ | Samue | | | - | | <u> </u> | | int Hurt | | |
| Addre | | 0. Bo | | | | | Address | PO Box 197 | 3 | |
| | <u>Sm</u> | <u>ithvil</u> | le, W. | Va. | | *************************************** | | Midland, To | exas 79702 | |
| 0) PROPOS | ED WELL | WORK: | Drill | X | _/ Drill | deeper | / Redrill | / Stimulate_X | | |
| | | | Plug of | ff old f | formation | | rate new formation | | attivismin kartini markani markani d | |
| | | | | | | | | | | |
| 1) GEOLOG | GICAL TAR | GET FOR | | , | Alexar | | | | | |
| 12) Estir | nated depth (| of complet | ed well, | | 5900' | feet | | | | |
| 13) App | roximate trat | a depths: | Fresh. | | 80 | feet: sal | t, | feet | | |
| | roximate coa | | | | none | | | | / No/ | |
| 5) CASING | AND TUBI | NG PRO | GRAM | | | | | 2 40 | 140 | |
| CASING OR | I | SPEC | IFICATION | §. | 9. | FOOTAGE | INTERVALS | T CEMENT FILL-UP | PACKERS | |
| TUBING TYPE | Size | Grade | Weight per ft. | New | Used | | ı | OR SACKS | FACRERS | |
| Conductor | 11 3/ | | per it. | † | Used | For drilling 40 | Left in well | (Cubic feet) | | |
| Fresh water | # 1 3/ | * | | X | | 40 | 40 | circ. cement | Domisurface neat | |
| Coal | | | | <u> </u> | | | | | | |
| surfa Intermediate | ce 8 5/ | b | | | | 11/0 | + | | Sizes | |
| Production | 43 | <u> </u> | | X | | 1142 | 1142 | cts. neat | By Rule 15.05 | |
| Tubing | 42 | | - | X_ | | 5900 | 5900 | as necessary | Bypthastile 15.01 | |
| | | | | | | | | | | |
| Liners | | | | | | | | _ | Perforations: | |
| | | | ļ | | | | | | Top Bottom | |
| | | | | | | | | | | |
| | II | L | L | | | | <u> </u> | | | |
| | | " | | | | | e en i | | | |
| | | | **** | | | | | | | |
| | | | | | | OFFICE USE | | | | |
| | | | | | | DRILLING PE | RMIT | | | |
| ermit number | | 47-085 | 5-7362 | | | | | Marc | h 25, 19 85 | |
| | | | | | | | | Date | | |
| his permit co | vering the w | ell operato | or and wel | llocatio | n shown | below is evidence | of permission gran | ted to drill in accordance | ce with the pertinent legal re- | |
| | | | | | | | | | | |
| istrict oil and | gas inspecto | or 24 hours | before a | tual pe | rmitted w | ork has commence | *• in addition, the v •d i | vell operator or his cont | and Gas inspector, (Refer to ractor shall notify the proper | |
| | | | | | | | | | | |
| everse hereof. | WOIR IS AS U | escribed in | the Motic | t and A | гррисано | n, piat, and reciam | iation plan, subject | to any modifications an | d conditions specified on the | |
| Permit expires | Marc | h 25, | 1987 | | | unless wel | l work is commence | d prior to that date and r | prosecuted with due diligence. | |
| - | | | | | | | | | with due differee. | |
| Bond: | Agen | | Dlat. | C:- | | Foo | | | | |
| . 9 1 | ABCII | ", I/\ | 101 | Casin | - Al | Fee | | _ | 1 0 | |
| 121 | 36 | / 4 | Mal | ym | 7, 1 | 017 | 1 | 10 | // // | |
| | | | í | 7 | | / | 1 5 / | 1 /solo | lan | |
| | | | | | | - | Adn | ninistrator, Office of O | and Gas | |
| OTE: Keep | one copy of | this perm | it posted a | at the d | rilling loc | ation. | V | , | | |
| | | | 4E | | B 43 1 5 | | • | | File | |
| | | See | ine revers | e si de o | i ine AP | PLICANT'S COP! | for instructions to | the well operator. | | |