**STATE OF UTAH**
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐

## APPLICATION FOR PERMIT TO DRILL

**1. WELL NAME and NUMBER**
CWU 1474-15D

**2. TYPE OF WORK**
DRILL NEW WELL ■ REENTER P&A WELL ○ DEEPEN WELL ○

**3. FIELD OR WILDCAT**
NATURAL BUTTES

**4. TYPE OF WELL**
Gas Well Coalbed Methane Well: NO

**5. UNIT or COMMUNITIZATION AGREEMENT NAME**
CHAPITA WELLS

**6. NAME OF OPERATOR**
EOG Resources, Inc.

**7. OPERATOR PHONE**
435 781-9111

**8. ADDRESS OF OPERATOR**
1060 East Highway 40, Vernal, UT, 84078

**9. OPERATOR E-MAIL**
kaylene_gardner@eogresources.com

**10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)**
UTU0284A

**11. MINERAL OWNERSHIP**
FEDERAL ■ INDIAN ○ STATE ○ FEE ○

**12. SURFACE OWNERSHIP**
FEDERAL ■ INDIAN ○ STATE ○ FEE ○

**13. NAME OF SURFACE OWNER (if box 12 = 'fee')**

**14. SURFACE OWNER PHONE (if box 12 = 'fee')**

**15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')**

**16. SURFACE OWNER E-MAIL (if box 12 = 'fee')**

**17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')**

**18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS**
YES ○ (Submit Commingling Application) NO ■

**19. SLANT**
VERTICAL ○ DIRECTIONAL ■ HORIZONTAL ○

| 20. LOCATION OF WELL | FOOTAGES | QTR-QTR | SECTION | TOWNSHIP | RANGE | MERIDIAN |
|---|---|---|---|---|---|---|
| LOCATION AT SURFACE | 585 FSL 751 FWL | SWSW | 15 | 9.0 S | 22.0 E | S |
| Top of Uppermost Producing Zone | 2 FNL 709 FWL | NWNW | 22 | 9.0 S | 22.0 E | S |
| At Total Depth | 2 FNL 709 FWL | NWNW | 22 | 9.0 S | 22.0 E | S |

**21. COUNTY**
UINTAH

**22. DISTANCE TO NEAREST LEASE LINE (Feet)**
2

**23. NUMBER OF ACRES IN DRILLING UNIT**
1240

**25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)**
270

**26. PROPOSED DEPTH**
MD: 9738 TVD: 9675

**27. ELEVATION - GROUND LEVEL**
4876

**28. BOND NUMBER**
NM2308

**29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE**
49-225

## ATTACHMENTS

**VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**

- ☑ **WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER**
- ☑ **COMPLETE DRILLING PLAN**
- ☐ **AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)**
- ☐ **FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER**
- ☐ **DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)**
- ☑ **TOPOGRAPHICAL MAP**

| | | |
|---|---|---|
| **NAME** Mary Maestas | **TITLE** Regulatory Assistant | **PHONE** 303 824-5526 |
| **SIGNATURE** | **DATE** 11/23/2009 | **EMAIL** mary_maestas@eogresources.com |

**API NUMBER ASSIGNED**
43047508230000

**APPROVAL**

Permit Manager

| Proposed Hole, Casing, and Cement | | | | | | |
|---|---|---|---|---|---|---|
| **String** | **Hole Size** | **Casing Size** | **Top (MD)** | **Bottom (MD)** | | |
| Surf | 12.25 | 9.625 | 0 | 2300 | | |
| **Pipe** | **Grade** | **Length** | **Weight** | | | |
| | Grade J-55 ST&C | 2300 | 36.0 | | | |
| | | | | | | |

| Proposed Hole, Casing, and Cement | | | | | | |
|---|---|---|---|---|---|---|
| **String** | **Hole Size** | **Casing Size** | **Top (MD)** | **Bottom (MD)** | | |
| Prod | 7.875 | 4.5 | 0 | 9738 | | |
| **Pipe** | **Grade** | **Length** | **Weight** | | | |
| | Grade N-80 LT&C | 9738 | 11.6 | | | |
| | | | | | | |

# DRILLING PLAN

## MULTI-WELL PAD:
## CWU 1470-15D, CWU 1471-15D, CWU 1472-15D, CWU 1473-15D, CWU 1474-15D
**SW/SW, SEC. 15, T9S, R22E, S.L.B. &M.**
**UINTAH COUNTY, UTAH**

## 1. & 2. ESTIMATED TOPS & ANTICIPATED OIL, GAS, & WATER ZONES:

| | CWU 1470-15D | | CWU 1471-15D | | CWU 1472-15D | | CWU 1473-15D | |
|---|---|---|---|---|---|---|---|---|
| FORMATION | TVD | MD | TVD | MD | TVD | MD | TVD | MD |
| Green River | 1475 | 1489 | 1480 | 1494 | 1481 | 1496 | 1475 | 1493 |
| Birdsnest | 1848 | 1870 | 1849 | 1880 | 1850 | 1878 | 1851 | 1882 |
| Mahogany Oil Shale Bed | 2418 | 2454 | 2426 | 2484 | 2432 | 2480 | 2429 | 2481 |
| Wasatch | 4826 | 4875 | 4851 | 4947 | 4856 | 4934 | 4844 | 4918 |
| Chapita Wells | 5418 | 5467 | 5442 | 5539 | 5441 | 5520 | 5429 | 5504 |
| Buck Canyon | 6118 | 6166 | 6143 | 6239 | 6139 | 6218 | 6124 | 6198 |
| North Horn | 6788 | 6836 | 6808 | 6905 | 6815 | 6894 | 6806 | 6880 |
| KMV Price River | 7331 | 7379 | 7361 | 7457 | 7375 | 7454 | 7367 | 7442 |
| KMV Price River Middle | 8180 | 8229 | 8214 | 8311 | 8224 | 8303 | 8213 | 8288 |
| KMV Price River Lower | 8969 | 9017 | 9001 | 9098 | 9011 | 9090 | 9002 | 9076 |
| Sego | 9490 | 9538 | 9505 | 9601 | 9525 | 9604 | 9515 | 9589 |
| TD | 9690 | 9738 | 9705 | 9801 | 9725 | 9804 | 9715 | 9789 |
| ANTICIPATED BHP (PSI) | 5290 | | 5300 | | 5310 | | 5304 | |

| | CWU 1474-15D | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| FORMATION | TVD | MD | TVD | MD | TVD | MD | TVD | MD |
| Green River | 1465 | 1482 | | | | | | |
| Birdsnest | 1853 | 1884 | | | | | | |
| Mahogany Oil Shale Bed | 2401 | 2451 | | | | | | |
| Wasatch | 4805 | 4869 | | | | | | |
| Chapita Wells | 5393 | 5456 | | | | | | |
| Buck Canyon | 6090 | 6154 | | | | | | |
| North Horn | 6778 | 6841 | | | | | | |
| KMV Price River | 7318 | 7381 | | | | | | |
| KMV Price River Middle | 8155 | 8219 | | | | | | |
| KMV Price River Lower | 8947 | 9010 | | | | | | |
| Sego | 9475 | 9538 | | | | | | |
| TD | 9675 | 9738 | | | | | | |
| ANTICIPATED BHP (PSI) | 5283 | | | | | | | |

1. Fresh Waters may exist in the upper, approximately 1,000 ft ± of the Green River Formation, with top at about 2,000 ft ±.
2. Cement isolation is installed to surface of the well isolating all zones by cement.

# DRILLING PLAN

## MULTI-WELL PAD:
## CWU 1470-15D, CWU 1471-15D, CWU 1472-15D, CWU 1473-15D, CWU 1474-15D
**SW/SW, SEC. 15, T9S, R22E, S.L.B. &M.**
**UINTAH COUNTY, UTAH**

## 3. PRESSURE CONTROL EQUIPMENT:

Production Hole – 5000 Psig
BOP schematic diagrams attached.

## 4. CASING PROGRAM:

| Casing | Hole Size | Length | Size | Weight | Grade | Thread | Rating Collapse | Rating Burst | Tensile |
|---|---|---|---|---|---|---|---|---|---|
| Conductor | 20" | 0 – 60' | 14" | 32.5# | A252 | | | 1800 PSI | 10,000# |
| Surface | 12 ¼" | 0 – 2,300'± | 9 ⅝" | 36.0# | J-55 | STC | 2020 PSI | 3520 PSI | 394,000# |
| Production | 7 7/8" | Surface – TD | 4 ½" | 11.6# | N-80 | LTC | 6350 PSI | 7780 PSI | 223,000# |

**Note: 12 ¼" surface hole will be drilled to a total depth of 200'± below the base of the Green River lost circulation zone and cased w/9-⅝" as shown to that depth. Drilled depth may be shallower or deeper than the 2300' shown above depending on the actual depth of the loss zone.**

**All casing will be new or inspected.**

## 5. Float Equipment:

### Surface Hole Procedure (0'- 2300'±)

Guide Shoe
Insert Float Collar (PDC drillable)
Centralizers: 1-5' above shoe, top of jts. #2 and #3 then every 5th joint to surface. (15 total)

### Production Hole Procedure (2300'± - TD):

Float shoe, 1 joint casing, float collar and balance of casing to surface. 4-½", 11.6#, N-80 or equivalent marker collars or short casing joints to be placed at top of Price River and 400' above top of Wasatch. Centralizers to be placed 5' above shoe on joint #1, top of joint #2, and every 3rd joint to 400' above the top of primary objective. Thread lock float shoe, top and bottom of float collar, and top of 2nd joint.

## 6. MUD PROGRAM

### Surface Hole Procedure (Surface - 2300'±):

**0' - 2300'±** Air/Air mist/Aerated water
or
A closed mud system will be utilized with a gelled bentonite system. LCM sweeps, additions, etc. will be utilized as necessary.

# DRILLING PLAN

## MULTI-WELL PAD:
## CWU 1470-15D, CWU 1471-15D, CWU 1472-15D, CWU 1473-15D, CWU 1474-15D
**SW/SW, SEC. 15, T9S, R22E, S.L.B. &M.**
**UINTAH COUNTY, UTAH**

### Production Hole Procedure (2300'± - TD):

Anticipated mud weight 9.5-10.5 ppg depending on actul wellbore conditions encountered while drilling.

**2300'± - TD** A closed mud system will be utilized. A bentonite gelled water mud system will be used to control viscosity w/PHPA polymer used for supplemental viscosity and clay encapsulation/inhibition. Water loss will be maintained at <15cc's using white starch or PAC. Bactericides will be used as needed. Anticipated pH will range from 9.0-10.0. Mud weight will be adjusted as necessary for well control. Deflocculants/thinners will be used as necessary to maintain mud quality. LCM sweeps will be utilized as necessary to control lost circulation and mud loss. $CO_2$ contamination, if encountered, will be treated with lime and gypsum.

## 7. VARIANCE REQUESTS:

**Reference:** **Onshore Oil and Gas Order No. 1**
**Onshore Oil and Gas Order No. 2 – Section E: Special Drilling Operations**

- EOG Resources, Inc. requests a variance to regulations requiring a straight run blooie line to be 100' in length. (Where possible, a straight run blooie line will be used).
- EOG Resources, Inc. requests a variance to regulations requiring the blooie line to be 100' in length. To reduce location excavation, the blooie line will be approximately 75' in length.
- EOG Resources, Inc. requests a variance to regulations, during air drilling operations only, requiring dedusting equipment. Dust during air drilling operations is controlled by water mist.
- EOG Resources, Inc. requests a variance to regulations, during air drilling operations only, requiring an automatic igniter or continuous pilot light on the blooie line. (Not required on aerated water system).
- EOG Resources, Inc. requests a variance that compressors are located in the opposite direction from the blooie line a minimum of 100 feet from the well bore. (Air Compressors are rig mounted).

## 8. EVALUATION PROGRAM:

**Logs:** None
**Cased-hole Logs**: Cased-hole logs will be run in lieu of open-hole logs consisting of the following:
**CBL/CCL/VDL/GR**

# DRILLING PLAN

## MULTI-WELL PAD:
## CWU 1470-15D, CWU 1471-15D, CWU 1472-15D, CWU 1473-15D, CWU 1474-15D
**SW/SW, SEC. 15, T9S, R22E, S.L.B. &M.**
**UINTAH COUNTY, UTAH**

## 9. CEMENT PROGRAM:

### Surface Hole Procedure (Surface - 2300'±):

**Lead:** **150 sks** Class "G" cement with 16% Gel, 10 #/sx Gilsonite, 3% Salt, 2% $CaCl_2$, 3 lb/sx GR3 ¼ #/sx Flocele mixed at 11 ppg, 3.82 $ft^3$/sk. yield, 23 gps water.

**Tail:** **135 sks** Class "G" cement with 2% $CaCl_2$, ¼#/sk Flocele mixed at 15.6 ppg, 1.18 $ft^3$/sk., 5.2 gps water.

**Top Out**: As necessary with Class "G" cement with 2% $CaCl_2$, ¼#/sk Flocele mixed at 15.6 ppg, 1.18 $ft^3$/sk., 5.2 gps water.

**Note**: The above number of sacks is based on gauge-hole calculation
Lead volume to be calculated to bring cement to surface.
Tail volume to be calculated to bring cement to 500' above the shoe.

### Production Hole Procedure (2300'± - TD)

**Lead:** **145 sks:** Hi-Lift "G" w/12% D20 (Bentonite), 1% D79 (Extender), 5% D44 (Salt),0.2% D46 (Antifoam), 0.25% D112 (Fluid Loss Additive), 0.25 pps D29 (cello flakes) mixed at 11.0 ppg, 3.91 $ft^3$/sk., 24.5 gps water.

**Tail:** **940 sks**: 50:50 Poz "G" w/ 2% D20 (Bentonite), 0.1% D46 (Antifoam), 0.075% D13 (Retarder), 0.2% D167 (Fluid Loss Additive), 0.2% D65 (Dispersant), mixed at 14.1 ppg, 1.28 $ft^3$/sk., 5.9gps water.

**Note**: The above number of sacks is based on gauge-hole calculation.
Lead volume to be calculated to bring cement to 200'± above 9-5/8" casing shoe.
Tail volume to be calculated to bring cement to 400'± above top of Wasatch.

**Final Cement volumes will be based upon gauge-hole plus 45% excess.**

# DRILLING PLAN

## MULTI-WELL PAD:
## CWU 1470-15D, CWU 1471-15D, CWU 1472-15D, CWU 1473-15D, CWU 1474-15D
## SW/SW, SEC. 15, T9S, R22E, S.L.B. &M.
## UINTAH COUNTY, UTAH

## 10. ABNORMAL CONDITIONS:

### Surface Hole (Surface - 2300'±):

Lost circulation

### Production Hole (2300'± - TD):

Sloughing shales, lost circulation and key seat development are possible in the Wasatch Formation.

## 11. STANDARD REQUIRED EQUIPMENT:

A. Choke Manifold
B. Upper and Lower Kelly Cock
C. Stabbing Valve
D. Visual Mud Monitoring

## 12. HAZARDOUS CHEMICALS:

No chemicals subject to reporting under SARA title III in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

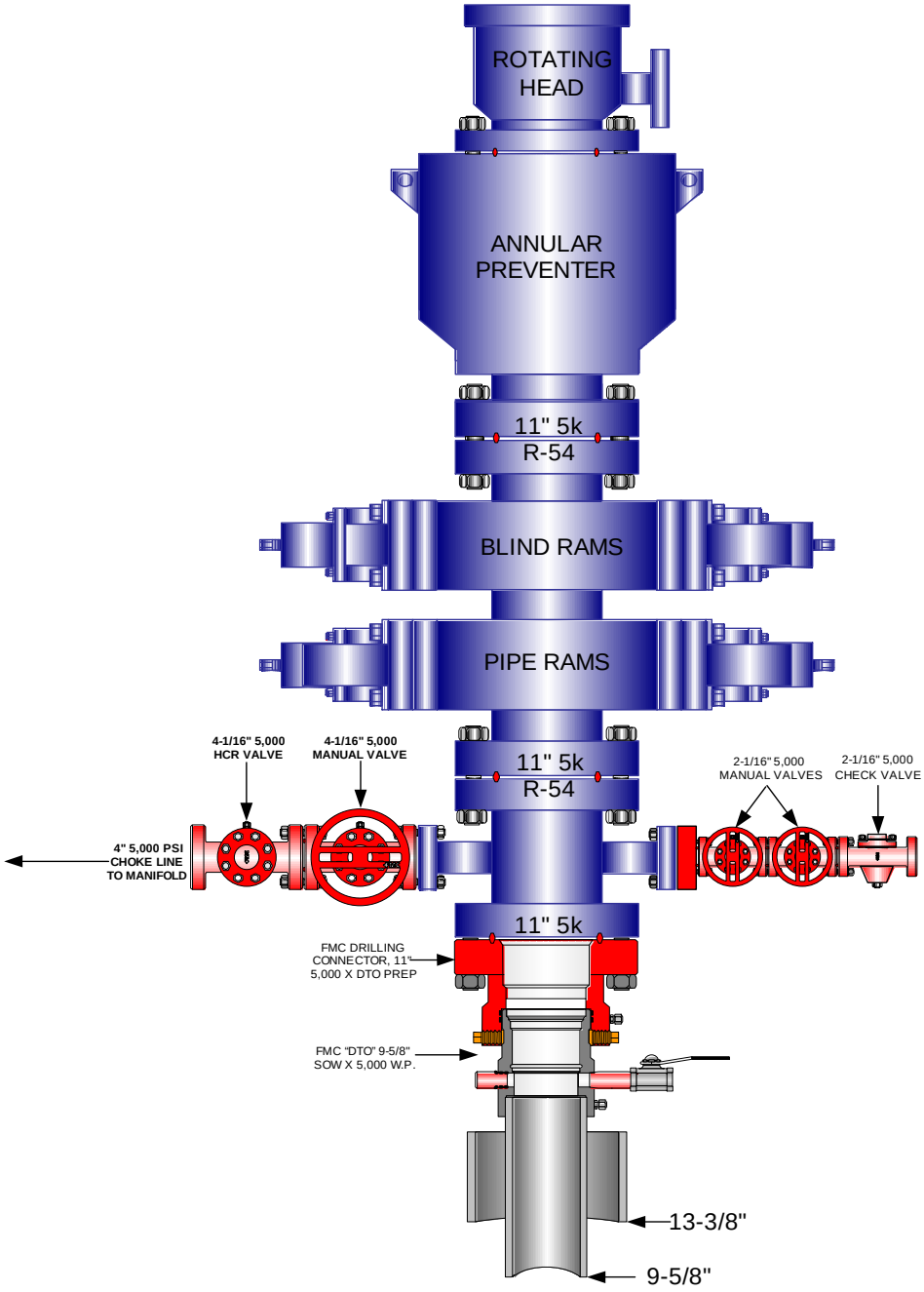
## 13. Air Drilling Operations:

1. Main Air Compressors are 1250 CFM 350 psi with 2000 psi Boosters and are rig mounted.
2. Secondary Air Compressors are 1170 CFM 350 psi with 2000 psi Boosters and are rig mounted.
3. Minimum setting depth of conductor casing will be 60' GL or 10'± into competent formation, whichever is deeper, as determined by the EOG person in charge. Exceptions must be approved by an EOG drilling superintendent or manager.
4. The diameter of the diverter flow line will be a minimum of 10" to help reduce back pressure on the well bore during uncontrolled flow.
5. Rat and Mouse hole drilling will occur only after surface casing has been set and cemented.
6. EOG Resources, Inc. will use a properly maintained and lubricated stripper head.

**(Attachment: BOP Schematic Diagram)**

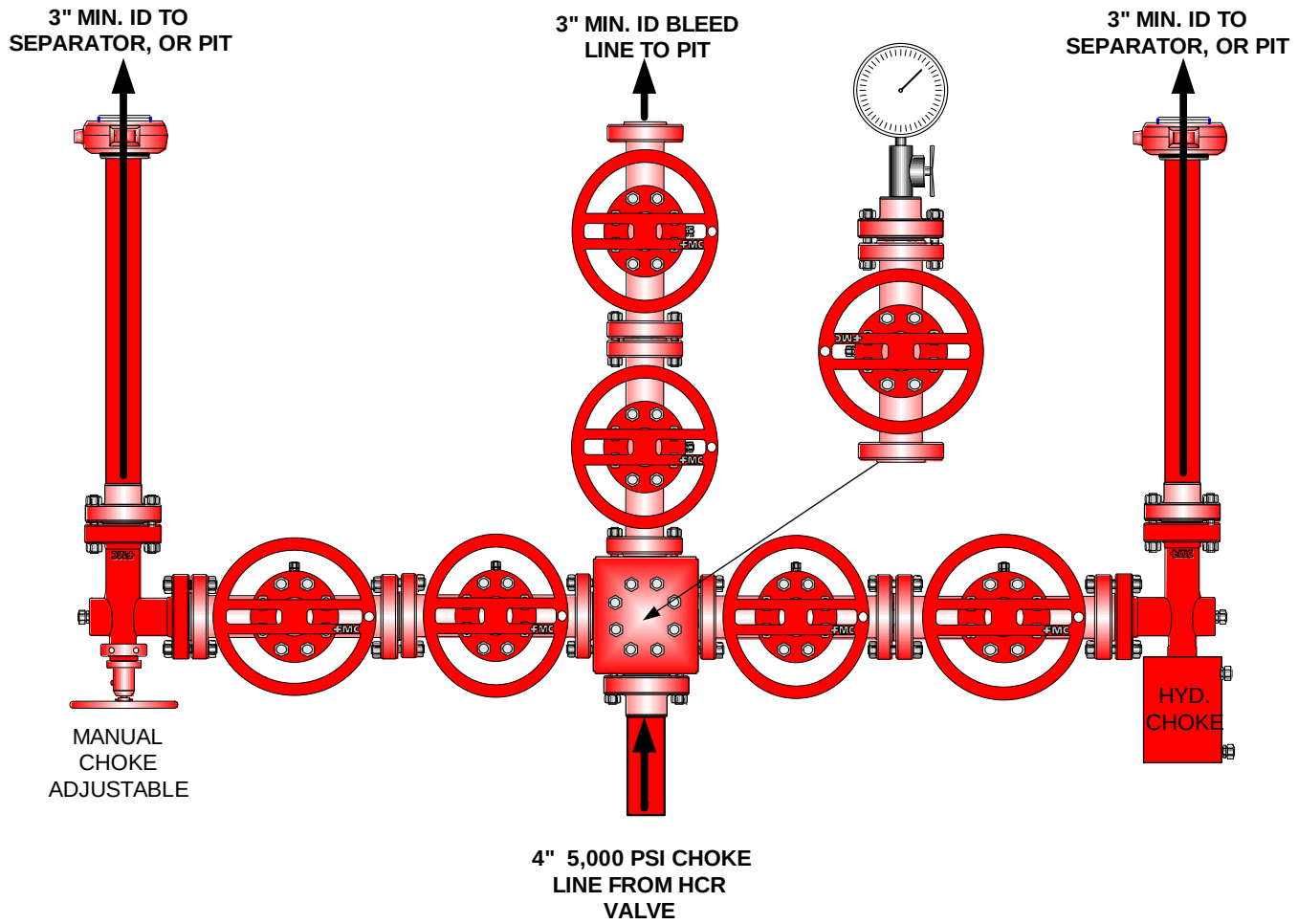
**EOG RESOURCES 11" 5,000 PSI W.P. BOP CONFIGURATION**





# EOG RESOURCES CHOKE MANIFOLD CONFIGURATION W/ 5,000 PSI WP VALVES






Testing Procedure:

1. BOP will be tested with a professional tester to conform to Onshore Order #2.
2. Blind and Pipe rams will be tested to rated working pressure, 5,000 psi.
3. Annular Preventer will be tested to 50% working pressure, 2,500 psi.
   Casing will be tested to 0.22 psi / ft. or 1,500 psi. Not to exceed 70% of burst strength, whichever is greater.
4. All lines subject to well pressure will be tested to the same pressure as blind and pipe rams.
5. All BOPE specifications and configurations will meet Onshore Order #2 requirements.

# *Chapita Wells Unit 1470-15D, 1471-15D, 1472-15D, 1473-15D, 1474-15D*
# *SWSW, Section 15, T9S, R22E*
# *Uintah County, Utah*

## *SURFACE USE PLAN*

**The well pad is approximately 350 feet long with a 260-foot width, containing 2.09 acres more or less. New surface disturbance associated with the well pad is estimated to be approximately 2.09 acres.**

### *1. EXISTING ROADS:*

A. See attached Plats showing directional reference stakes on location, and attached TOPO Map "B" showing access to location from existing roads.

B. The proposed well site is located approximately 48.4 miles south of Vernal, Utah – See attached TOPO Map "A".

C. Refer to attached Topographic Map "A" showing labeled access route to location.

D. Existing roads will be maintained and repaired as necessary.

### *2. PLANNED ACCESS ROAD:*

A. The existing access road for the CWU 35-15 and CWU 844-15 will be used to access the proposed location.

B. No additional storage areas will be needed for storing equipment, stockpiling, or vehicle parking.

All travel will be confined to existing access road rights-of-way.

Traveling off the 30-foot right-of-way will not be allowed. The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, Third Edition, and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction. During the drilling and production phase of operations, the road surface and shoulders will be kept in a safe and useable condition and drainage ditches and culverts will be kept clear and free flowing.

### *3. LOCATION OF EXISTING WELLS WITHIN A ONE-MILE RADIUS:*

See attached TOPO map "C" for the location of wells within a one-mile radius.

## 4. LOCATION OF EXISTING AND/OR PROPOSED PRODUCTION FACILITIES:

### A. On Well Pad

1. Production facilities will be set on location if the well is successfully completed for production. Facilities will consist of wellhead valves, combo separator-dehy unit with meter, six (6) to ten (10) 400-bbl vertical tanks and attaching piping.

2. Gas gathering lines – A 4" gathering line will be buried from dehy to the edge of the location.

### B. Off Well Pad

1. Proposed pipeline will transport natural gas.

2. The pipeline will be a permanent feeder line.

3. No off well pad pipeline will be required. The existing pipeline for producing Chapita Wells Unit 35-15 and Chapita Wells Unit 844-15 will be used.

4. Proposed pipeline will be a 4" OD steel, zap-lok line laid on the surface

5. Proposed pipeline will be laid on surface.

6. Pipeline will be coupled using the Zap lock method. No additional off-pad facilities will be required.

All permanent (on site for six months or longer) structures constructed or installed (including pumping units) will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the Rocky Mountain Five State Interagency Committee. All facilities will be painted within 6 months of installation. **All facilities will be painted with Carlsbad Canyon.** Facilities required to comply with O.S.H.A. (Occupational Safety and Health Act) will be excluded.

## 5. LOCATION AND TYPE OF WATER SUPPLY:

A. Water supply will be from Ouray Municipal Water Plant at Ouray, Utah, and/or Bonanza Power Plant water source in Sec 26, T8S, R23E, Uintah County, UT (State Water Right # 49-225(A31368)). Water will be hauled by a licensed trucking company.

B. Water will be hauled by a licensed trucking company.

C. No water well will be drilled on lease.

## *6. SOURCE OF CONSTRUCTION MATERIALS:*

A. All construction material for this pipeline will be of native borrow and soil accumulated during the construction of the location.

B. No mineral materials will be required.

## *7. METHODS OF HANDLING WASTE DISPOSAL:*

### *A. METHODS AND LOCATION*

1. Cuttings will be confined and dried in a cuttings pit. Dried cuttings shall be spread on the access road.

2. A portable toilet will be provided for human waste during the drilling and completion of the well. Disposal will be at the Vernal sewage disposal plant.

3. Burning will not be allowed. Trash and other waste material will be contained in a wire mesh cage and disposed of at the Uintah County Landfill.

4. Produced wastewater will be confined to a storage tank for a period not to exceed 90 days after initial production. After the 90 day period, the produced water will be contained in a tank on location and then disposed of at one of the following locations: Natural Buttes Unit 21-20B SWD, Ace Disposal, CWU 550-30N SWD CWU 2-29 SWD, Red Wash Evaporation Ponds 1, 2, 3, 4, 5, 6, or 7, or Coyote Evaporation Ponds 1, 2,3, or 4, or White River Evaporation Ponds 1, or 2, or Hoss SWD Facility, right-of-way UTU 86010, UTU 897093 or EOG Resources, Inc. drilling operations (Chapita Wells Unit, Natural Buttes Unit & Stagecoach Unit).

5. All chemicals will be disposed of at an authorized disposal site. Drip pans and absorbent pads will be used on the drilling rig to avoid leakage of oil to the pit.

B. Water from drilling fluids and recovered during testing operations will be disposed of by either natural or artificial evaporation methods, or by removed and disposed of at an authorized disposal site. Introduction of well bore hydrocarbons to the closed loop system will be avoided by flaring them off in the flare pit at the time of recovery.

The referenced well will be drilling utilizing a closed loop system. The closed loop system will be installed in a manner that preventing leaks, breaks, or discharge. Drill cutting will be contained in an area approximately 50' x 100'. The surface drill cuttings pile will be bermed and lined with bentonite. Drill cuttings will be dried and spread on the location and access road. More stringent protective requirements may be deemed necessary by the A.O.

EOG Resources, Inc. maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances which are used during the course of construction, drilling, completion, and production operations for this project. Hazardous materials (substances) which may be found at

the site may include drilling mud and cementing products which are primarily inhalation hazards, fuels (flammable and/or combustible), materials that may be necessary for well completion/ stimulation activities such as flammable or combustible substances and acids/gels (corrosives). The opportunity for Superfund Amendments and Reauthorization Act (SARA) listed Extremely Hazardous Substances (EHS) at the site is generally limited to proprietary treating chemicals. All hazardous and EHS and commercial preparations will be handled in an appropriate manner to minimize the potential for leaks or spills to the environment.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completion of the well. Furthermore, extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will not be used, produced, stored, transported, or disposed of in association with the drilling, testing or completion of the well.

## *8. ANCILLARY FACILITIES:*

None anticipated.

## *9. WELL SITE LAYOUT:*

A. Refer to attached well site plat for related topography cuts and fills and cross sections.

B. Refer to attached well site plat for rig layout and soil material stockpile location as approved on On-site.

C. Refer to attached well site plat for rig orientation, parking areas, and access road.

The proposed location will be drilled utilizing a closed loop system.

The stockpiled location topsoil will be stored in a location providing easy access for interim reclamation and protect of the topsoil. Upon completion of construction, the stockpiled topsoil from the location will be seeded with the approved seed mixture from this.

Access to the well pad will be from the east.

## *10. PLANS FOR RECLAMATION OF THE SURFACE:*

### A. *Interim Reclamation (Producing Location)*

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, equipment, debris, materials, trash, and junk not required for production.

Immediately upon well completion, any hydrocarbons on the pit shall be removed in accordance with CFR 3162.7-1.

If a plastic nylon reinforced liner is used, it shall be torn and perforated before backfilling of the reserve pit.

The portion of the location not needed for production facilities/operations will be reclaimed – See attached Figure #3. The reserve pit will be reclaimed within 90 days from the date of the well completion, or as soon as environmental conditions allow. Before any dirt takes place, the reserve pit must be completely dry and free of all foreign obstacles.

The stockpiled topsoil will then be spread over the pit area (See Figure #4) and broadcast seeded with the prescribed seed mixture for this location as authorized within EOG's reclamation plan filed September 29, 2009.

### *B. Dry Hole/Abandoned Location*

At such time as the well is plugged and abandoned, the operator will submit a subsequent report of abandonment and the BLM will attach the appropriated surface rehabilitation conditions of approval.

## *11. SURFACE OWNERSHIP:*

Surface ownership of the proposed well site, access road, and pipeline route is as follows:

Bureau of Land Management

## *12. OTHER INFORMATION:*

A. EOG Resources, Inc. will inform all persons in the area who are associated with this project that they are subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator will immediately stop work that might further disturb such materials, and contact the Authorized Officer. Within five working days the Authorized Officer will inform the operator as to:

- Whether the materials appear eligible for the National Register of Historic Places;
- The mitigation measures the operator will likely have to undertake before the site can be used.
- A time frame for the Authorized Officer to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the Authorized Officer are correct and that mitigation is appropriate.

If the operator wished, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the Authorized Officer will assume responsibility for whatever recordation and stabilization of the exposed

materials that may be required. Otherwise, the operator will be responsible for mitigation costs. The Authorized Officer will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the Authorized Officer that required mitigation has been completed, the operator will then be allowed to resume construction.

B. As operator, EOG Resources, Inc. will control noxious weeds along Right-of-Ways for roads, pipelines, well sites, or other applicable facilities. A list of noxious weeds will be obtained from the BLM administered land, a Pesticide Use proposal shall be submitted, and given approval, prior to the application or herbicides or other pesticides or possible hazardous chemicals.

C. Drilling rigs and/or equipment used during drilling operations on this well site will not be stacked or stored on BLM lands after the conclusion of drilling operations or at any other time without BLM authorization. However, if BLM authorization is obtained, it is only a temporary measure to allow time to make arrangements for permanent storage on commercial facilities. (The BLM does not seek to compete with private industry. There are commercial facilities available for stacking and storing drilling rigs.)

D. The drilling rig and ancillary equipment will be removed from the location prior to commencement of completion operations. Completion operations will be conducted utilizing a completion/workover rig.

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice of Lessees. The operator is fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Construction activity will not be conducted using frozen or saturated soils material or during periods when watershed damage is likely to occur.

If the existing access road, proposed access road, and proposed pad are dry during construction, drilling, and completion activities, water will be applied, as needed, to help facilitate compaction during construction and to minimize soil loss as a result of wind erosion.

A block cultural resources survey for Sec. 15, T9S, R22E was conducted and submitted by Montgomery Archaeological Consultants, MOAC Report # 06-611, on March 15, 2007. A paleontological survey was conducted and will be submitted by Intermountain Paleo.

**Additional Surface Stipulations:**

None

### *LESSEE OR OPERATOR'S REPRESENTATIVE AND CERTIFICATION:*

**PERMITTING AGENT**
Mary A. Maestas
EOG Resources, Inc.
1060 East Highway 40
Vernal, UT 84078
(435) 781-9111

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved plan of operations, and any applicable Notice to Lessees. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to insure compliance.

The operator or his/her contractor shall contact the BLM office at (435) 781-4400 forty-eight (48) hours prior to construction activities.

**CERTIFICATION:**

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by EOG Resources, Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Please be advised that EOG Resources, Inc. is considered to be the operator of the Chapita Wells Unit 1470-15D, 1471-15D, 1472-15D, 1473-15D, 1474-15D Wells, located in the SWSW, of Section 15, T9S, R22E, Uintah County, Utah; Federal land and minerals; and is responsible under the terms and conditions of the lease for the operations conducted upon the leased lands. Bond Coverage is under Bond # NM 2308.

November 16, 2009
Date

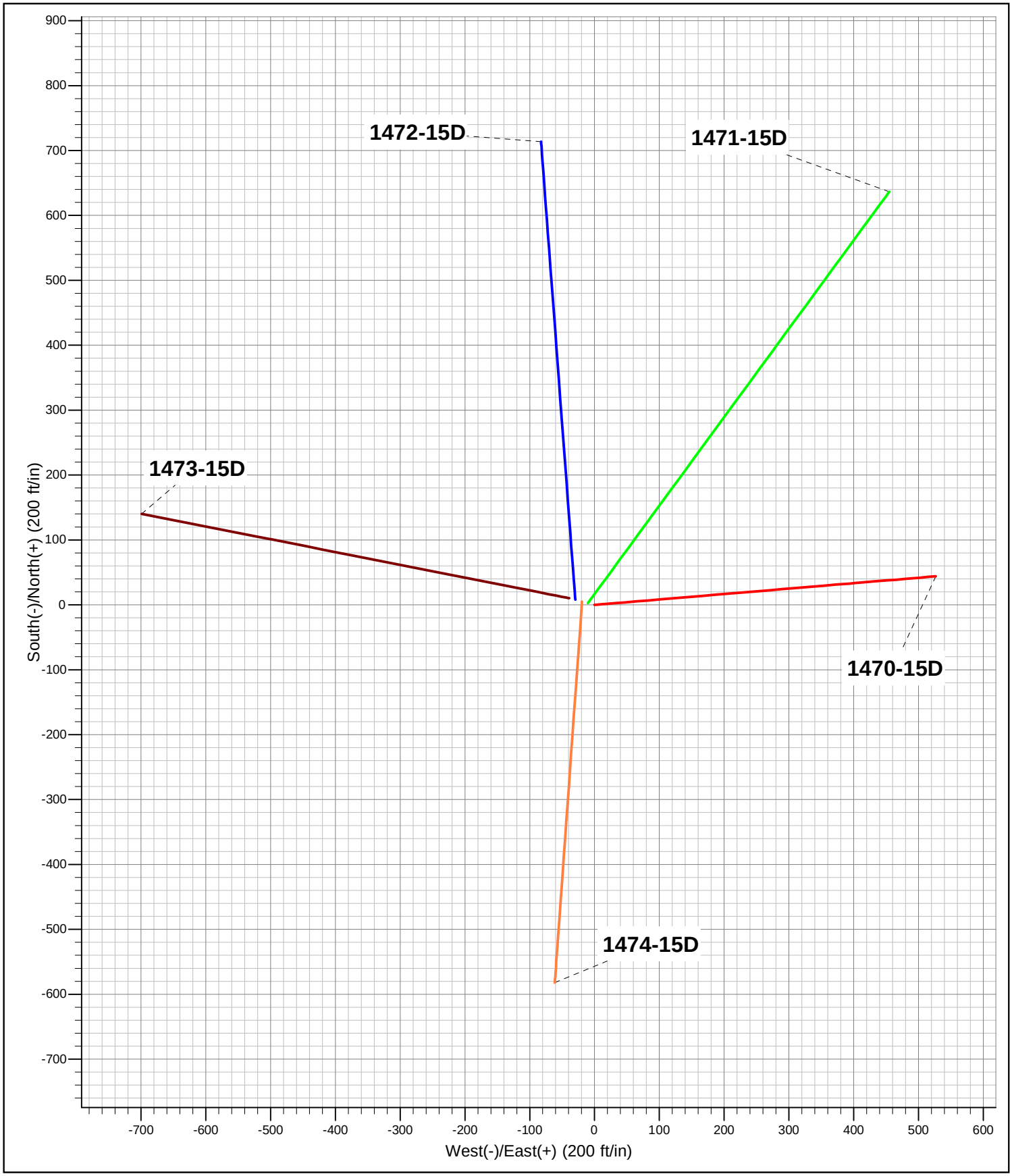
Mary A. Maestas, Regulatory Assistant

’APIWellNo:43047508230000’

**CWU 1470-15D, CWU 1471-15D, CWU 1472-15D, CWU 1473-15D, CWU 1474-15D**

**SW/SW, SEC. 15 T9S, R22E, S.L.B. & M.**

**UINTAH COUNTY, UTAH**



# Denver Division - Utah

**T9S-R22E Sec 15**
**CWU 1470-1474 15D (Pad A4_CWU 844-15)**
**1470-15D**

**Wellbore #1**

**Plan: APD Plan**

# Standard Survey Report

**27 August, 2009**

# EOG Resources

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | Denver Division - Utah | **Local Co-ordinate Reference:** | Well 1470-15D |
| **Project:** | T9S-R22E Sec 15 | **TVD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Site:** | CWU 1470-1474 15D (Pad A4_CWU 844-15) | **MD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Well:** | 1470-15D | **North Reference:** | True |
| **Wellbore:** | Wellbore #1 | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | APD Plan | **Database:** | EDM 2003.21 Single User Db |

**Project** T9S-R22E Sec 15

| | | | |
|---|---|---|---|
| **Map System:** | US State Plane 1927 (Exact solution) | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 (NADCON CONUS) | | |
| **Map Zone:** | Utah North 4301 | | |

**Site** CWU 1470-1474 15D (Pad A4_CWU 844-15)

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | -103,537.13 ft | **Latitude:** | 40° 1' 48.860 N |
| **From:** | Lat/Long | **Easting:** | 2,579,174.79 ft | **Longitude:** | 109° 25' 55.358 W |
| **Position Uncertainty:** | 0.0 ft | **Slot Radius:** | " | **Grid Convergence:** | 1.36 ° |

**Well** 1470-15D

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.0 ft | **Northing:** | -103,492.91 ft | **Latitude:** | 40° 1' 49.299 N |
| | **+E/-W** | 0.0 ft | **Easting:** | 2,579,165.05 ft | **Longitude:** | 109° 25' 55.470 W |
| **Position Uncertainty** | | 0.0 ft | **Wellhead Elevation:** | ft | **Ground Level:** | 4,877.0 ft |

**Wellbore** Wellbore #1

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | IGRF200510 | 5/4/2009 | 11.31 | 65.97 | 52,594 |

**Design** APD Plan

**Audit Notes:**

| | | | | |
|---|---|---|---|---|
| **Version:** | **Phase:** | PROTOTYPE | **Tie On Depth:** | 0.0 |

| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
|---|---|---|---|---|
| | 0.0 | 0.0 | 0.0 | 85.22 |

**Survey Tool Program** **Date** 8/27/2009

| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
|---|---|---|---|---|
| 0.0 | 9,738.2 | APD Plan (Wellbore #1) | MWD | MWD - Standard |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 400.0 | 1.50 | 85.22 | 400.0 | 0.1 | 1.3 | 1.3 | 1.50 | 1.50 | 0.00 |
| 500.0 | 3.00 | 85.22 | 499.9 | 0.4 | 5.2 | 5.2 | 1.50 | 1.50 | 0.00 |
| 600.0 | 4.50 | 85.22 | 599.7 | 1.0 | 11.7 | 11.8 | 1.50 | 1.50 | 0.00 |
| 700.0 | 6.00 | 85.22 | 699.3 | 1.7 | 20.9 | 20.9 | 1.50 | 1.50 | 0.00 |
| 800.0 | 7.50 | 85.22 | 798.6 | 2.7 | 32.6 | 32.7 | 1.50 | 1.50 | 0.00 |
| 900.0 | 9.00 | 85.22 | 897.5 | 3.9 | 46.9 | 47.0 | 1.50 | 1.50 | 0.00 |
| 1,000.0 | 10.50 | 85.22 | 996.1 | 5.3 | 63.7 | 64.0 | 1.50 | 1.50 | 0.00 |
| 1,100.0 | 12.00 | 85.22 | 1,094.2 | 7.0 | 83.2 | 83.5 | 1.50 | 1.50 | 0.00 |
| 1,200.0 | 12.00 | 85.22 | 1,192.0 | 8.7 | 103.9 | 104.3 | 0.00 | 0.00 | 0.00 |

# EOG Resources

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | Denver Division - Utah | **Local Co-ordinate Reference:** | Well 1470-15D |
| **Project:** | T9S-R22E Sec 15 | **TVD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Site:** | CWU 1470-1474 15D (Pad A4_CWU 844-15) | **MD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Well:** | 1470-15D | **North Reference:** | True |
| **Wellbore:** | Wellbore #1 | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | APD Plan | **Database:** | EDM 2003.21 Single User Db |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 1,300.0 | 12.00 | 85.22 | 1,289.8 | 10.4 | 124.6 | 125.1 | 0.00 | 0.00 | 0.00 |
| 1,400.0 | 12.00 | 85.22 | 1,387.6 | 12.2 | 145.3 | 145.8 | 0.00 | 0.00 | 0.00 |
| 1,500.0 | 12.00 | 85.22 | 1,485.4 | 13.9 | 166.1 | 166.6 | 0.00 | 0.00 | 0.00 |
| 1,600.0 | 12.00 | 85.22 | 1,583.2 | 15.6 | 186.8 | 187.4 | 0.00 | 0.00 | 0.00 |
| 1,700.0 | 12.00 | 85.22 | 1,681.1 | 17.4 | 207.5 | 208.2 | 0.00 | 0.00 | 0.00 |
| 1,800.0 | 12.00 | 85.22 | 1,778.9 | 19.1 | 228.2 | 229.0 | 0.00 | 0.00 | 0.00 |
| 1,900.0 | 12.00 | 85.22 | 1,876.7 | 20.8 | 248.9 | 249.8 | 0.00 | 0.00 | 0.00 |
| 2,000.0 | 12.00 | 85.22 | 1,974.5 | 22.6 | 269.6 | 270.6 | 0.00 | 0.00 | 0.00 |
| 2,100.0 | 12.00 | 85.22 | 2,072.3 | 24.3 | 290.4 | 291.4 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 12.00 | 85.22 | 2,170.1 | 26.0 | 311.1 | 312.2 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 12.00 | 85.22 | 2,267.9 | 27.8 | 331.8 | 333.0 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 12.00 | 85.22 | 2,365.8 | 29.5 | 352.5 | 353.8 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 12.00 | 85.22 | 2,463.6 | 31.2 | 373.2 | 374.5 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 12.00 | 85.22 | 2,561.4 | 33.0 | 394.0 | 395.3 | 0.00 | 0.00 | 0.00 |
| 2,639.0 | 12.00 | 85.22 | 2,599.5 | 33.6 | 402.0 | 403.4 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 11.39 | 85.22 | 2,659.3 | 34.7 | 414.4 | 415.8 | 1.00 | -1.00 | 0.00 |
| 2,800.0 | 10.39 | 85.22 | 2,757.5 | 36.2 | 433.2 | 434.7 | 1.00 | -1.00 | 0.00 |
| 2,900.0 | 9.39 | 85.22 | 2,856.0 | 37.7 | 450.3 | 451.9 | 1.00 | -1.00 | 0.00 |
| 3,000.0 | 8.39 | 85.22 | 2,954.8 | 39.0 | 465.7 | 467.3 | 1.00 | -1.00 | 0.00 |
| 3,100.0 | 7.39 | 85.22 | 3,053.8 | 40.1 | 479.4 | 481.1 | 1.00 | -1.00 | 0.00 |
| 3,200.0 | 6.39 | 85.22 | 3,153.1 | 41.1 | 491.3 | 493.1 | 1.00 | -1.00 | 0.00 |
| 3,300.0 | 5.39 | 85.22 | 3,252.6 | 42.0 | 501.6 | 503.3 | 1.00 | -1.00 | 0.00 |
| 3,400.0 | 4.39 | 85.22 | 3,352.2 | 42.7 | 510.1 | 511.8 | 1.00 | -1.00 | 0.00 |
| 3,500.0 | 3.39 | 85.22 | 3,452.0 | 43.2 | 516.8 | 518.6 | 1.00 | -1.00 | 0.00 |
| 3,600.0 | 2.39 | 85.22 | 3,551.8 | 43.7 | 521.8 | 523.7 | 1.00 | -1.00 | 0.00 |
| 3,700.0 | 1.39 | 85.22 | 3,651.8 | 43.9 | 525.1 | 527.0 | 1.00 | -1.00 | 0.00 |
| 3,800.0 | 0.39 | 85.22 | 3,751.8 | 44.1 | 526.7 | 528.5 | 1.00 | -1.00 | 0.00 |
| 3,839.0 | 0.00 | 0.00 | 3,790.8 | 44.1 | 526.8 | 528.6 | 1.00 | -1.00 | 0.00 |
| 3,900.0 | 0.00 | 0.00 | 3,851.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 0.00 | 0.00 | 3,951.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 0.00 | 0.00 | 4,051.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 0.00 | 0.00 | 4,151.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 0.00 | 0.00 | 4,251.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 0.00 | 0.00 | 4,351.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 0.00 | 0.00 | 4,451.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 0.00 | 0.00 | 4,551.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 0.00 | 0.00 | 4,651.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 0.00 | 0.00 | 4,751.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 4,874.2 | 0.00 | 0.00 | 4,826.0 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 0.00 | 0.00 | 4,851.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 0.00 | 0.00 | 4,951.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 0.00 | 0.00 | 5,051.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 0.00 | 0.00 | 5,151.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 0.00 | 0.00 | 5,251.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 0.00 | 0.00 | 5,351.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 0.00 | 0.00 | 5,451.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 0.00 | 0.00 | 5,551.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 0.00 | 0.00 | 5,651.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 0.00 | 0.00 | 5,751.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 0.00 | 0.00 | 5,851.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 0.00 | 0.00 | 5,951.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 0.00 | 0.00 | 6,051.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 0.00 | 0.00 | 6,151.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 0.00 | 0.00 | 6,251.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |

# EOG Resources

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | Denver Division - Utah | **Local Co-ordinate Reference:** | Well 1470-15D |
| **Project:** | T9S-R22E Sec 15 | **TVD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Site:** | CWU 1470-1474 15D (Pad A4_CWU 844-15) | **MD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Well:** | 1470-15D | **North Reference:** | True |
| **Wellbore:** | Wellbore #1 | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | APD Plan | **Database:** | EDM 2003.21 Single User Db |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 6,400.0 | 0.00 | 0.00 | 6,351.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 0.00 | 0.00 | 6,451.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 0.00 | 0.00 | 6,551.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 0.00 | 0.00 | 6,651.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 0.00 | 0.00 | 6,751.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 0.00 | 0.00 | 6,851.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 0.00 | 0.00 | 6,951.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 0.00 | 0.00 | 7,051.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 0.00 | 0.00 | 7,151.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 0.00 | 0.00 | 7,251.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 0.00 | 0.00 | 7,351.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 0.00 | 0.00 | 7,451.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 0.00 | 0.00 | 7,551.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 0.00 | 0.00 | 7,651.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 0.00 | 0.00 | 7,751.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 0.00 | 0.00 | 7,851.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 0.00 | 0.00 | 7,951.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 0.00 | 0.00 | 8,051.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 0.00 | 0.00 | 8,151.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 0.00 | 0.00 | 8,251.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 0.00 | 0.00 | 8,351.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 0.00 | 0.00 | 8,451.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 0.00 | 0.00 | 8,551.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 0.00 | 0.00 | 8,651.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 0.00 | 0.00 | 8,751.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 0.00 | 0.00 | 8,851.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 0.00 | 0.00 | 8,951.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 0.00 | 0.00 | 9,051.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 0.00 | 0.00 | 9,151.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 0.00 | 0.00 | 9,251.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 0.00 | 0.00 | 9,351.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 0.00 | 0.00 | 9,451.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 0.00 | 0.00 | 9,551.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 0.00 | 0.00 | 9,651.8 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |
| 9,738.2 | 0.00 | 0.00 | 9,690.0 | 44.1 | 526.8 | 528.6 | 0.00 | 0.00 | 0.00 |

**Design Targets**

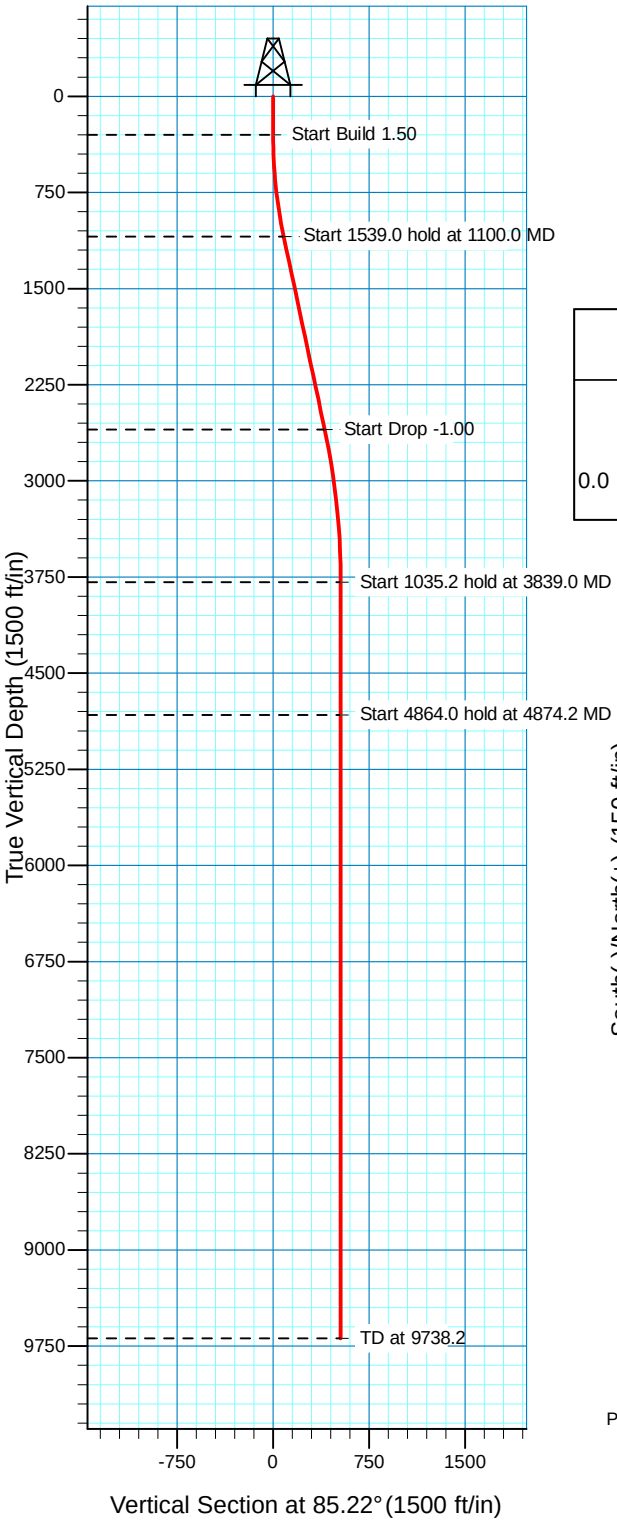
| Target Name<br>- hit/miss target<br>- Shape | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| CWU 1470-15D<br>- plan hits target center<br>- Circle (radius 50.0) | 0.00 | 0.00 | 4,826.0 | 44.1 | 526.8 | -103,436.32 | 2,579,690.66 | 40° 1' 49.735 N | 109° 25' 48.699 W |

Checked By: _____ Approved By: _____ Date: _____

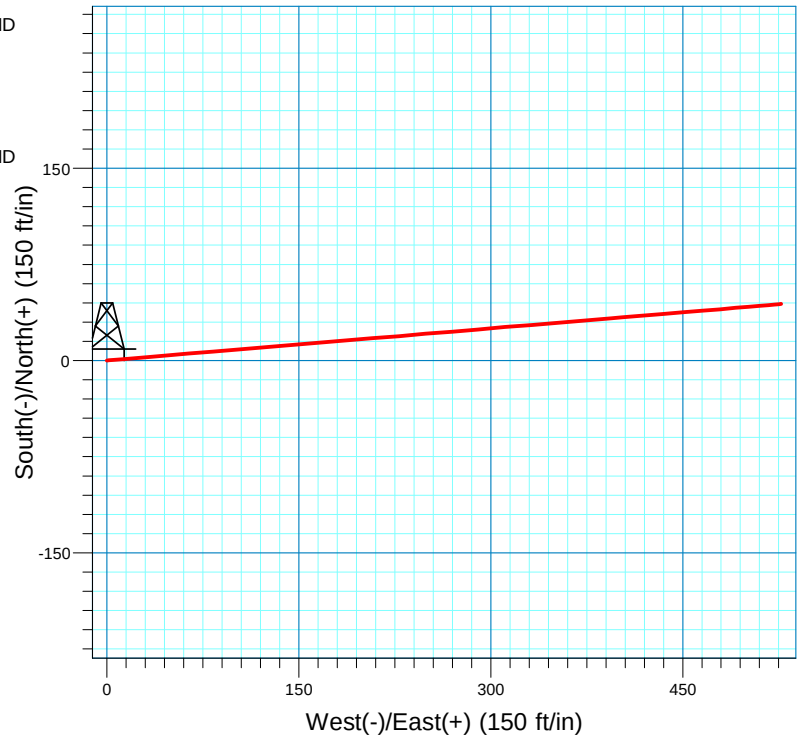
’APIWellNo:43047508230000’

# CWU 1470-15D

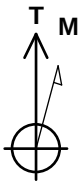
**Section 15 T9S R22E**
**Uintah County, UT**




| Surface Location | | | |
|---|---|---|---|
| NAD 1927 (NADCON CONUS) | | Utah North 4301 | |
| Ground Elevation: 4877.0 | | RIG @ 4896.0ft (TRUE 34) | |
| Northing | Easting | Latitude | Longitude |
| 0.0 -103492.91 | 2579165.05 | 40° 1' 49.299 N | 109° 25' 55.470 W |




Project: T9S-R22E Sec 15
Site: CWU 1470-1474 15D (Pad A4_CWU 844-15)
Well: 1470-15D
Plan: APD Plan




Azimuths to True North
Magnetic North: 11.31°

Magnetic Field
Strength: 52594.1snT
Dip Angle: 65.97°
Date: 5/4/2009
Model: IGRF200510

SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSec | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 2 | 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 3 | 1100.0 | 12.00 | 85.22 | 1094.2 | 7.0 | 83.2 | 1.50 | 85.22 | 83.5 | |
| 4 | 2639.0 | 12.00 | 85.22 | 2599.5 | 33.6 | 402.0 | 0.00 | 0.00 | 403.4 | |
| 5 | 3839.0 | 0.00 | 0.00 | 3790.8 | 44.1 | 526.8 | 1.00 | 180.00 | 528.6 | |
| 6 | 4874.2 | 0.00 | 0.00 | 4826.0 | 44.1 | 526.8 | 0.00 | 0.00 | 528.6 | CWU 1470-15D |
| 7 | 9738.2 | 0.00 | 0.00 | 9690.0 | 44.1 | 526.8 | 0.00 | 0.00 | 528.6 | |

TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
|---|---|---|---|---|---|---|---|---|
| CWU 1470-15D | 4826.0 | 44.1 | 526.8 | -103436.32 | 2579690.66 | 40° 1' 49.735 N | 109° 25' 48.699 W | Circle (Radius: 50.0) |

’APIWellNo:43047508230000’

# Denver Division - Utah

**T9S-R22E Sec 15**
**CWU 1470-1474 15D (Pad A4_CWU 844-15)**
**1471-15D**

**Wellbore #1**

**Plan: APD Plan**

# Standard Survey Report

**27 August, 2009**

# EOG Resources

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | Denver Division - Utah | **Local Co-ordinate Reference:** | Well 1471-15D |
| **Project:** | T9S-R22E Sec 15 | **TVD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Site:** | CWU 1470-1474 15D (Pad A4_CWU 844-15) | **MD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Well:** | 1471-15D | **North Reference:** | True |
| **Wellbore:** | Wellbore #1 | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | APD Plan | **Database:** | EDM 2003.21 Single User Db |

**Project** T9S-R22E Sec 15

| | | | |
|---|---|---|---|
| **Map System:** | US State Plane 1927 (Exact solution) | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 (NADCON CONUS) | | |
| **Map Zone:** | Utah North 4301 | | |

**Site** CWU 1470-1474 15D (Pad A4_CWU 844-15)

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | -103,537.13 ft | **Latitude:** | 40° 1' 48.860 N |
| **From:** | Lat/Long | **Easting:** | 2,579,174.79 ft | **Longitude:** | 109° 25' 55.358 W |
| **Position Uncertainty:** | 0.0 ft | **Slot Radius:** | " | **Grid Convergence:** | 1.36 ° |

**Well** 1471-15D

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.0 ft | **Northing:** | -103,490.25 ft | **Latitude:** | 40° 1' 49.328 N |
| | **+E/-W** | 0.0 ft | **Easting:** | 2,579,154.90 ft | **Longitude:** | 109° 25' 55.600 W |
| **Position Uncertainty** | | 0.0 ft | **Wellhead Elevation:** | ft | **Ground Level:** | 4,877.0 ft |

**Wellbore** Wellbore #1

| **Magnetics** | **Model Name** | **Sample Date** | **Declination (°)** | **Dip Angle (°)** | **Field Strength (nT)** |
|---|---|---|---|---|---|
| | IGRF200510 | 5/4/2009 | 11.31 | 65.97 | 52,594 |

**Design** APD Plan

**Audit Notes:**

| | | | | |
|---|---|---|---|---|
| **Version:** | **Phase:** | PROTOTYPE | **Tie On Depth:** | 0.0 |

| **Vertical Section:** | **Depth From (TVD) (ft)** | **+N/-S (ft)** | **+E/-W (ft)** | **Direction (°)** |
|---|---|---|---|---|
| | 0.0 | 0.0 | 0.0 | 36.27 |

**Survey Tool Program** **Date** 8/27/2009

| **From (ft)** | **To (ft)** | **Survey (Wellbore)** | **Tool Name** | **Description** |
|---|---|---|---|---|
| 0.0 | 9,801.5 | APD Plan (Wellbore #1) | MWD | MWD - Standard |

**Planned Survey**

| **Measured Depth (ft)** | **Inclination (°)** | **Azimuth (°)** | **Vertical Depth (ft)** | **+N/-S (ft)** | **+E/-W (ft)** | **Vertical Section (ft)** | **Dogleg Rate (°/100ft)** | **Build Rate (°/100ft)** | **Turn Rate (°/100ft)** |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 400.0 | 0.00 | 0.00 | 400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 500.0 | 1.50 | 36.27 | 500.0 | 1.1 | 0.8 | 1.3 | 1.50 | 1.50 | 0.00 |
| 600.0 | 3.00 | 36.27 | 599.9 | 4.2 | 3.1 | 5.2 | 1.50 | 1.50 | 0.00 |
| 700.0 | 4.50 | 36.27 | 699.7 | 9.5 | 7.0 | 11.8 | 1.50 | 1.50 | 0.00 |
| 800.0 | 6.00 | 36.27 | 799.3 | 16.9 | 12.4 | 20.9 | 1.50 | 1.50 | 0.00 |
| 900.0 | 7.50 | 36.27 | 898.6 | 26.3 | 19.3 | 32.7 | 1.50 | 1.50 | 0.00 |
| 1,000.0 | 9.00 | 36.27 | 997.5 | 37.9 | 27.8 | 47.0 | 1.50 | 1.50 | 0.00 |
| 1,100.0 | 10.50 | 36.27 | 1,096.1 | 51.6 | 37.8 | 64.0 | 1.50 | 1.50 | 0.00 |
| 1,200.0 | 12.00 | 36.27 | 1,194.2 | 67.3 | 49.4 | 83.5 | 1.50 | 1.50 | 0.00 |

# EOG Resources

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | Denver Division - Utah | **Local Co-ordinate Reference:** | Well 1471-15D |
| **Project:** | T9S-R22E Sec 15 | **TVD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Site:** | CWU 1470-1474 15D (Pad A4_CWU 844-15) | **MD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Well:** | 1471-15D | **North Reference:** | True |
| **Wellbore:** | Wellbore #1 | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | APD Plan | **Database:** | EDM 2003.21 Single User Db |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 1,300.0 | 13.50 | 36.27 | 1,291.7 | 85.1 | 62.4 | 105.5 | 1.50 | 1.50 | 0.00 |
| 1,400.0 | 15.00 | 36.27 | 1,388.6 | 104.9 | 77.0 | 130.2 | 1.50 | 1.50 | 0.00 |
| 1,500.0 | 16.50 | 36.27 | 1,484.9 | 126.8 | 93.1 | 157.3 | 1.50 | 1.50 | 0.00 |
| 1,533.3 | 17.00 | 36.27 | 1,516.8 | 134.6 | 98.7 | 166.9 | 1.50 | 1.50 | 0.00 |
| 1,600.0 | 17.00 | 36.27 | 1,580.5 | 150.3 | 110.3 | 186.4 | 0.00 | 0.00 | 0.00 |
| 1,700.0 | 17.00 | 36.27 | 1,676.2 | 173.8 | 127.6 | 215.6 | 0.00 | 0.00 | 0.00 |
| 1,800.0 | 17.00 | 36.27 | 1,771.8 | 197.4 | 144.9 | 244.9 | 0.00 | 0.00 | 0.00 |
| 1,900.0 | 17.00 | 36.27 | 1,867.4 | 221.0 | 162.2 | 274.1 | 0.00 | 0.00 | 0.00 |
| 2,000.0 | 17.00 | 36.27 | 1,963.1 | 244.6 | 179.5 | 303.3 | 0.00 | 0.00 | 0.00 |
| 2,100.0 | 17.00 | 36.27 | 2,058.7 | 268.1 | 196.8 | 332.6 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 17.00 | 36.27 | 2,154.3 | 291.7 | 214.1 | 361.8 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 17.00 | 36.27 | 2,249.9 | 315.3 | 231.4 | 391.1 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 17.00 | 36.27 | 2,345.6 | 338.8 | 248.7 | 420.3 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 17.00 | 36.27 | 2,441.2 | 362.4 | 266.0 | 449.5 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 17.00 | 36.27 | 2,536.8 | 386.0 | 283.3 | 478.8 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 17.00 | 36.27 | 2,632.5 | 409.5 | 300.6 | 508.0 | 0.00 | 0.00 | 0.00 |
| 2,794.8 | 17.00 | 36.27 | 2,723.2 | 431.9 | 317.0 | 535.7 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 16.95 | 36.27 | 2,728.1 | 433.1 | 317.9 | 537.2 | 1.00 | -1.00 | 0.00 |
| 2,900.0 | 15.95 | 36.27 | 2,824.0 | 455.9 | 334.6 | 565.6 | 1.00 | -1.00 | 0.00 |
| 3,000.0 | 14.95 | 36.27 | 2,920.4 | 477.4 | 350.4 | 592.2 | 1.00 | -1.00 | 0.00 |
| 3,100.0 | 13.95 | 36.27 | 3,017.2 | 497.5 | 365.1 | 617.1 | 1.00 | -1.00 | 0.00 |
| 3,200.0 | 12.95 | 36.27 | 3,114.5 | 516.3 | 378.9 | 640.4 | 1.00 | -1.00 | 0.00 |
| 3,300.0 | 11.95 | 36.27 | 3,212.1 | 533.7 | 391.6 | 662.0 | 1.00 | -1.00 | 0.00 |
| 3,400.0 | 10.95 | 36.27 | 3,310.1 | 549.7 | 403.4 | 681.8 | 1.00 | -1.00 | 0.00 |
| 3,500.0 | 9.95 | 36.27 | 3,408.5 | 564.3 | 414.1 | 699.9 | 1.00 | -1.00 | 0.00 |
| 3,600.0 | 8.95 | 36.27 | 3,507.1 | 577.5 | 423.8 | 716.4 | 1.00 | -1.00 | 0.00 |
| 3,700.0 | 7.95 | 36.27 | 3,606.0 | 589.4 | 432.5 | 731.0 | 1.00 | -1.00 | 0.00 |
| 3,800.0 | 6.95 | 36.27 | 3,705.2 | 599.8 | 440.2 | 744.0 | 1.00 | -1.00 | 0.00 |
| 3,900.0 | 5.95 | 36.27 | 3,804.6 | 608.9 | 446.8 | 755.2 | 1.00 | -1.00 | 0.00 |
| 4,000.0 | 4.95 | 36.27 | 3,904.1 | 616.5 | 452.5 | 764.7 | 1.00 | -1.00 | 0.00 |
| 4,100.0 | 3.95 | 36.27 | 4,003.8 | 622.8 | 457.0 | 772.5 | 1.00 | -1.00 | 0.00 |
| 4,200.0 | 2.95 | 36.27 | 4,103.6 | 627.6 | 460.6 | 778.5 | 1.00 | -1.00 | 0.00 |
| 4,300.0 | 1.95 | 36.27 | 4,203.5 | 631.1 | 463.1 | 782.8 | 1.00 | -1.00 | 0.00 |
| 4,400.0 | 0.95 | 36.27 | 4,303.5 | 633.1 | 464.6 | 785.3 | 1.00 | -1.00 | 0.00 |
| 4,494.9 | 0.00 | 0.00 | 4,398.3 | 633.7 | 465.1 | 786.1 | 1.00 | -1.00 | 0.00 |
| 4,500.0 | 0.00 | 0.00 | 4,403.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 0.00 | 0.00 | 4,503.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 0.00 | 0.00 | 4,603.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 0.00 | 0.00 | 4,703.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 0.00 | 0.00 | 4,803.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 4,947.5 | 0.00 | 0.00 | 4,851.0 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 0.00 | 0.00 | 4,903.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 0.00 | 0.00 | 5,003.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 0.00 | 0.00 | 5,103.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 0.00 | 0.00 | 5,203.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 0.00 | 0.00 | 5,303.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 0.00 | 0.00 | 5,403.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 0.00 | 0.00 | 5,503.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 0.00 | 0.00 | 5,603.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 0.00 | 0.00 | 5,703.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 0.00 | 0.00 | 5,803.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 0.00 | 0.00 | 5,903.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 0.00 | 0.00 | 6,003.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 0.00 | 0.00 | 6,103.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |

# EOG Resources

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | Denver Division - Utah | **Local Co-ordinate Reference:** | Well 1471-15D |
| **Project:** | T9S-R22E Sec 15 | **TVD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Site:** | CWU 1470-1474 15D (Pad A4_CWU 844-15) | **MD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Well:** | 1471-15D | **North Reference:** | True |
| **Wellbore:** | Wellbore #1 | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | APD Plan | **Database:** | EDM 2003.21 Single User Db |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 6,300.0 | 0.00 | 0.00 | 6,203.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 6,400.0 | 0.00 | 0.00 | 6,303.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 0.00 | 0.00 | 6,403.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 0.00 | 0.00 | 6,503.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 0.00 | 0.00 | 6,603.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 0.00 | 0.00 | 6,703.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 0.00 | 0.00 | 6,803.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 0.00 | 0.00 | 6,903.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 0.00 | 0.00 | 7,003.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 0.00 | 0.00 | 7,103.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 0.00 | 0.00 | 7,203.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 0.00 | 0.00 | 7,303.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 0.00 | 0.00 | 7,403.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 0.00 | 0.00 | 7,503.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 0.00 | 0.00 | 7,603.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 0.00 | 0.00 | 7,703.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 0.00 | 0.00 | 7,803.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 0.00 | 0.00 | 7,903.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 0.00 | 0.00 | 8,003.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 0.00 | 0.00 | 8,103.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 0.00 | 0.00 | 8,203.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 0.00 | 0.00 | 8,303.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 0.00 | 0.00 | 8,403.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 0.00 | 0.00 | 8,503.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 0.00 | 0.00 | 8,603.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 0.00 | 0.00 | 8,703.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 0.00 | 0.00 | 8,803.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 0.00 | 0.00 | 8,903.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 0.00 | 0.00 | 9,003.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 0.00 | 0.00 | 9,103.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 0.00 | 0.00 | 9,203.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 0.00 | 0.00 | 9,303.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 0.00 | 0.00 | 9,403.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 0.00 | 0.00 | 9,503.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 0.00 | 0.00 | 9,603.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 9,800.0 | 0.00 | 0.00 | 9,703.5 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |
| 9,801.5 | 0.00 | 0.00 | 9,705.0 | 633.7 | 465.1 | 786.1 | 0.00 | 0.00 | 0.00 |

**Design Targets**

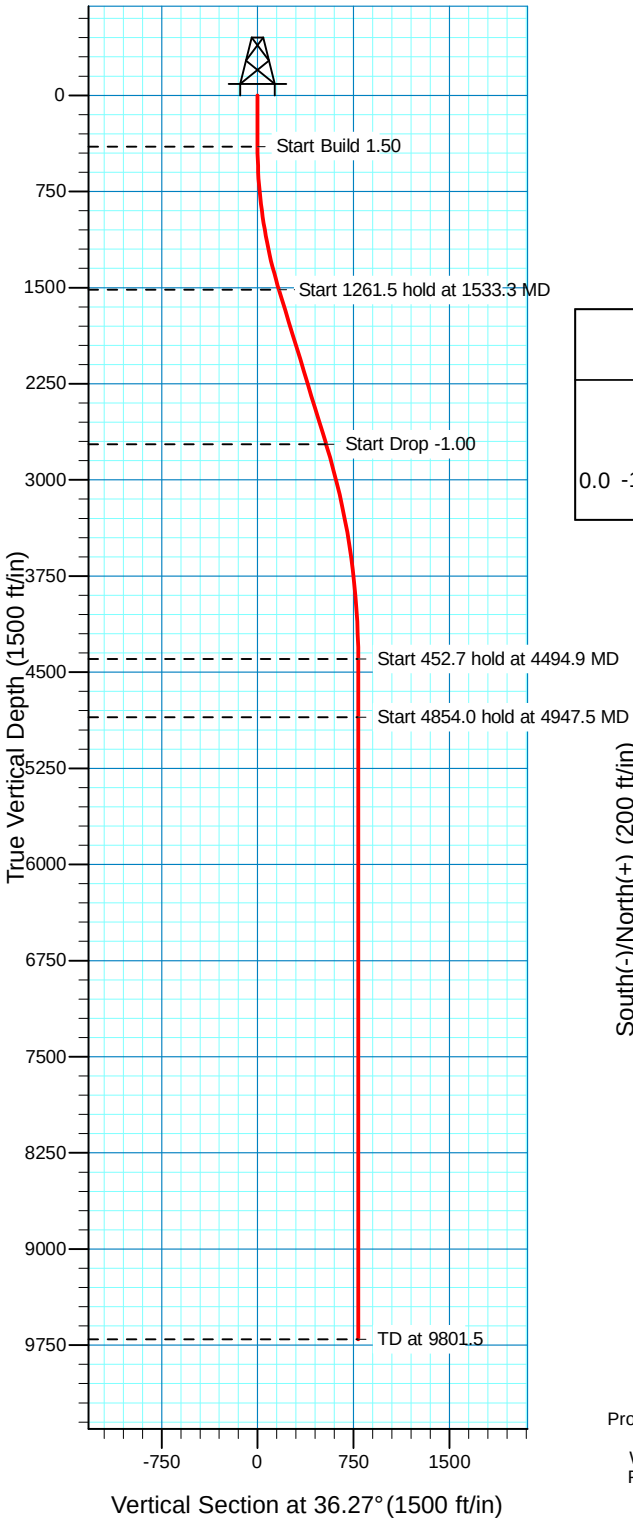
| Target Name<br>- hit/miss target<br>- Shape | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| CWU 1471-15D<br>- plan hits target center<br>- Circle (radius 50.0) | 0.00 | 0.00 | 4,851.0 | 633.7 | 465.1 | -102,845.62 | 2,579,604.78 | 40° 1' 55.590 N | 109° 25' 49.622 W |

Checked By: _____ Approved By: _____ Date: _____

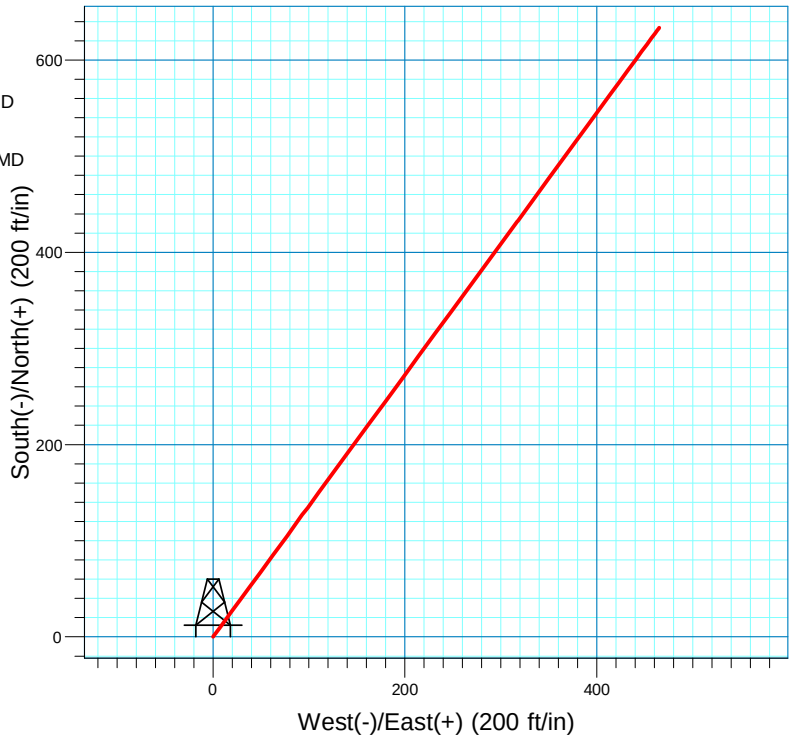
’APIWellNo:43047508230000’

# CWU 1471-15D

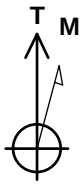
**Section 15 T9S R22E**
**Uintah County, UT**




| Surface Location | | | |
|---|---|---|---|
| NAD 1927 (NADCON CONUS) Utah North 4301 | | | |
| Ground Elevation: 4877.0 RIG @ 4896.0ft (TRUE 34) | | | |
| Northing | Easting | Latitude | Longitude |
| 0.0 -103490.25 | 2579154.90 | 40° 1' 49.328 N | 109° 25' 55.600 W |




Project: T9S-R22E Sec 15
Site: CWU 1470-1474 15D (Pad A4_CWU 844-15)
Well: 1471-15D
Plan: APD Plan




Azimuths to True North
Magnetic North: 11.31°

Magnetic Field
Strength: 52594.1snT
Dip Angle: 65.97°
Date: 5/4/2009
Model: IGRF200510

SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSec | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 2 | 400.0 | 0.00 | 0.00 | 400.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 3 | 1533.3 | 17.00 | 36.27 | 1516.8 | 134.6 | 98.7 | 1.50 | 36.27 | 166.9 | |
| 4 | 2794.8 | 17.00 | 36.27 | 2723.2 | 431.9 | 317.0 | 0.00 | 0.00 | 535.7 | |
| 5 | 4494.9 | 0.00 | 0.00 | 4398.3 | 633.7 | 465.1 | 1.00 | 180.00 | 786.1 | |
| 6 | 4947.5 | 0.00 | 0.00 | 4851.0 | 633.7 | 465.1 | 0.00 | 0.00 | 786.1 | CWU 1471-15D |
| 7 | 9801.5 | 0.00 | 0.00 | 9705.0 | 633.7 | 465.1 | 0.00 | 0.00 | 786.1 | |

TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
|---|---|---|---|---|---|---|---|---|
| CWU 1471-15D | 4851.0 | 633.7 | 465.1 | -102845.62 | 2579604.78 | 40° 1' 55.590 N | 109° 25' 49.622 W | Circle (Radius: 50.0) |

# Denver Division - Utah

**T9S-R22E Sec 15**
**CWU 1470-1474 15D (Pad A4_CWU 844-15)**
**1472-15D**

**Wellbore #1**

**Plan: APD Plan**

# Standard Survey Report

**27 August, 2009**

# EOG Resources

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | Denver Division - Utah | **Local Co-ordinate Reference:** | Well 1472-15D |
| **Project:** | T9S-R22E Sec 15 | **TVD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Site:** | CWU 1470-1474 15D (Pad A4_CWU 844-15) | **MD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Well:** | 1472-15D | **North Reference:** | True |
| **Wellbore:** | Wellbore #1 | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | APD Plan | **Database:** | EDM 2003.21 Single User Db |

**Project** T9S-R22E Sec 15

| | | | |
|---|---|---|---|
| **Map System:** | US State Plane 1927 (Exact solution) | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 (NADCON CONUS) | | |
| **Map Zone:** | Utah North 4301 | | |

**Site** CWU 1470-1474 15D (Pad A4_CWU 844-15)

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | -103,537.13 ft | **Latitude:** | 40° 1' 48.860 N |
| **From:** | Lat/Long | **Easting:** | 2,579,174.79 ft | **Longitude:** | 109° 25' 55.358 W |
| **Position Uncertainty:** | 0.0 ft | **Slot Radius:** | " | **Grid Convergence:** | 1.36 ° |

**Well** 1472-15D

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.0 ft | **Northing:** | -103,485.60 ft | **Latitude:** | 40° 1' 49.379 N |
| | **+E/-W** | 0.0 ft | **Easting:** | 2,579,135.18 ft | **Longitude:** | 109° 25' 55.852 W |
| **Position Uncertainty** | | 0.0 ft | **Wellhead Elevation:** | ft | **Ground Level:** | 4,877.0 ft |

**Wellbore** Wellbore #1

| **Magnetics** | **Model Name** | **Sample Date** | **Declination (°)** | **Dip Angle (°)** | **Field Strength (nT)** |
|---|---|---|---|---|---|
| | IGRF200510 | 5/4/2009 | 11.31 | 65.97 | 52,594 |

**Design** APD Plan

**Audit Notes:**

| | | | | |
|---|---|---|---|---|
| **Version:** | **Phase:** | PROTOTYPE | **Tie On Depth:** | 0.0 |

| **Vertical Section:** | **Depth From (TVD) (ft)** | **+N/-S (ft)** | **+E/-W (ft)** | **Direction (°)** |
|---|---|---|---|---|
| | 0.0 | 0.0 | 0.0 | 355.71 |

**Survey Tool Program** **Date** 8/27/2009

| **From (ft)** | **To (ft)** | **Survey (Wellbore)** | **Tool Name** | **Description** |
|---|---|---|---|---|
| 0.0 | 9,803.8 | APD Plan (Wellbore #1) | MWD | MWD - Standard |

**Planned Survey**

| **Measured Depth (ft)** | **Inclination (°)** | **Azimuth (°)** | **Vertical Depth (ft)** | **+N/-S (ft)** | **+E/-W (ft)** | **Vertical Section (ft)** | **Dogleg Rate (°/100ft)** | **Build Rate (°/100ft)** | **Turn Rate (°/100ft)** |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 400.0 | 0.00 | 0.00 | 400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 500.0 | 1.50 | 355.71 | 500.0 | 1.3 | -0.1 | 1.3 | 1.50 | 1.50 | 0.00 |
| 600.0 | 3.00 | 355.71 | 599.9 | 5.2 | -0.4 | 5.2 | 1.50 | 1.50 | 0.00 |
| 700.0 | 4.50 | 355.71 | 699.7 | 11.7 | -0.9 | 11.8 | 1.50 | 1.50 | 0.00 |
| 800.0 | 6.00 | 355.71 | 799.3 | 20.9 | -1.6 | 20.9 | 1.50 | 1.50 | 0.00 |
| 900.0 | 7.50 | 355.71 | 898.6 | 32.6 | -2.4 | 32.7 | 1.50 | 1.50 | 0.00 |
| 1,000.0 | 9.00 | 355.71 | 997.5 | 46.9 | -3.5 | 47.0 | 1.50 | 1.50 | 0.00 |
| 1,100.0 | 10.50 | 355.71 | 1,096.1 | 63.8 | -4.8 | 64.0 | 1.50 | 1.50 | 0.00 |
| 1,200.0 | 12.00 | 355.71 | 1,194.2 | 83.2 | -6.2 | 83.5 | 1.50 | 1.50 | 0.00 |

# EOG Resources

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | Denver Division - Utah | **Local Co-ordinate Reference:** | Well 1472-15D |
| **Project:** | T9S-R22E Sec 15 | **TVD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Site:** | CWU 1470-1474 15D (Pad A4_CWU 844-15) | **MD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Well:** | 1472-15D | **North Reference:** | True |
| **Wellbore:** | Wellbore #1 | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | APD Plan | **Database:** | EDM 2003.21 Single User Db |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 1,300.0 | 13.50 | 355.71 | 1,291.7 | 105.2 | -7.9 | 105.5 | 1.50 | 1.50 | 0.00 |
| 1,400.0 | 15.00 | 355.71 | 1,388.6 | 129.8 | -9.7 | 130.2 | 1.50 | 1.50 | 0.00 |
| 1,500.0 | 15.00 | 355.71 | 1,485.2 | 155.6 | -11.7 | 156.0 | 0.00 | 0.00 | 0.00 |
| 1,600.0 | 15.00 | 355.71 | 1,581.8 | 181.4 | -13.6 | 181.9 | 0.00 | 0.00 | 0.00 |
| 1,700.0 | 15.00 | 355.71 | 1,678.4 | 207.2 | -15.5 | 207.8 | 0.00 | 0.00 | 0.00 |
| 1,800.0 | 15.00 | 355.71 | 1,775.0 | 233.0 | -17.5 | 233.7 | 0.00 | 0.00 | 0.00 |
| 1,900.0 | 15.00 | 355.71 | 1,871.6 | 258.8 | -19.4 | 259.6 | 0.00 | 0.00 | 0.00 |
| 2,000.0 | 15.00 | 355.71 | 1,968.2 | 284.6 | -21.3 | 285.4 | 0.00 | 0.00 | 0.00 |
| 2,100.0 | 15.00 | 355.71 | 2,064.8 | 310.5 | -23.3 | 311.3 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 15.00 | 355.71 | 2,161.4 | 336.3 | -25.2 | 337.2 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 15.00 | 355.71 | 2,257.9 | 362.1 | -27.1 | 363.1 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 15.00 | 355.71 | 2,354.5 | 387.9 | -29.1 | 389.0 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 15.00 | 355.71 | 2,451.1 | 413.7 | -31.0 | 414.9 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 15.00 | 355.71 | 2,547.7 | 439.5 | -32.9 | 440.7 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 15.00 | 355.71 | 2,644.3 | 465.3 | -34.9 | 466.6 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 15.00 | 355.71 | 2,740.9 | 491.1 | -36.8 | 492.5 | 0.00 | 0.00 | 0.00 |
| 2,876.9 | 15.00 | 355.71 | 2,815.2 | 511.0 | -38.3 | 512.4 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 14.77 | 355.71 | 2,837.5 | 516.9 | -38.7 | 518.3 | 1.00 | -1.00 | 0.00 |
| 3,000.0 | 13.77 | 355.71 | 2,934.4 | 541.5 | -40.6 | 543.0 | 1.00 | -1.00 | 0.00 |
| 3,100.0 | 12.77 | 355.71 | 3,031.8 | 564.4 | -42.3 | 565.9 | 1.00 | -1.00 | 0.00 |
| 3,200.0 | 11.77 | 355.71 | 3,129.5 | 585.5 | -43.9 | 587.2 | 1.00 | -1.00 | 0.00 |
| 3,300.0 | 10.77 | 355.71 | 3,227.5 | 605.0 | -45.3 | 606.7 | 1.00 | -1.00 | 0.00 |
| 3,400.0 | 9.77 | 355.71 | 3,325.9 | 622.8 | -46.7 | 624.6 | 1.00 | -1.00 | 0.00 |
| 3,500.0 | 8.77 | 355.71 | 3,424.6 | 638.9 | -47.9 | 640.7 | 1.00 | -1.00 | 0.00 |
| 3,600.0 | 7.77 | 355.71 | 3,523.6 | 653.2 | -49.0 | 655.0 | 1.00 | -1.00 | 0.00 |
| 3,700.0 | 6.77 | 355.71 | 3,622.8 | 665.8 | -49.9 | 667.7 | 1.00 | -1.00 | 0.00 |
| 3,800.0 | 5.77 | 355.71 | 3,722.2 | 676.7 | -50.7 | 678.6 | 1.00 | -1.00 | 0.00 |
| 3,900.0 | 4.77 | 355.71 | 3,821.8 | 685.9 | -51.4 | 687.8 | 1.00 | -1.00 | 0.00 |
| 4,000.0 | 3.77 | 355.71 | 3,921.5 | 693.3 | -52.0 | 695.2 | 1.00 | -1.00 | 0.00 |
| 4,100.0 | 2.77 | 355.71 | 4,021.3 | 699.0 | -52.4 | 700.9 | 1.00 | -1.00 | 0.00 |
| 4,200.0 | 1.77 | 355.71 | 4,121.2 | 702.9 | -52.7 | 704.9 | 1.00 | -1.00 | 0.00 |
| 4,300.0 | 0.77 | 355.71 | 4,221.2 | 705.1 | -52.8 | 707.1 | 1.00 | -1.00 | 0.00 |
| 4,376.9 | 0.00 | 0.00 | 4,298.1 | 705.6 | -52.9 | 707.6 | 1.00 | -1.00 | 0.00 |
| 4,400.0 | 0.00 | 0.00 | 4,321.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 0.00 | 0.00 | 4,421.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 0.00 | 0.00 | 4,521.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 0.00 | 0.00 | 4,621.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 0.00 | 0.00 | 4,721.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 0.00 | 0.00 | 4,821.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 4,934.8 | 0.00 | 0.00 | 4,856.0 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 0.00 | 0.00 | 4,921.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 0.00 | 0.00 | 5,021.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 0.00 | 0.00 | 5,121.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 0.00 | 0.00 | 5,221.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 0.00 | 0.00 | 5,321.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 0.00 | 0.00 | 5,421.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 0.00 | 0.00 | 5,521.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 0.00 | 0.00 | 5,621.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 0.00 | 0.00 | 5,721.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 0.00 | 0.00 | 5,821.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 0.00 | 0.00 | 5,921.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 0.00 | 0.00 | 6,021.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 0.00 | 0.00 | 6,121.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 0.00 | 0.00 | 6,221.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |

# EOG Resources

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | Denver Division - Utah | **Local Co-ordinate Reference:** | Well 1472-15D |
| **Project:** | T9S-R22E Sec 15 | **TVD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Site:** | CWU 1470-1474 15D (Pad A4_CWU 844-15) | **MD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Well:** | 1472-15D | **North Reference:** | True |
| **Wellbore:** | Wellbore #1 | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | APD Plan | **Database:** | EDM 2003.21 Single User Db |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 6,400.0 | 0.00 | 0.00 | 6,321.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 0.00 | 0.00 | 6,421.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 0.00 | 0.00 | 6,521.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 0.00 | 0.00 | 6,621.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 0.00 | 0.00 | 6,721.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 0.00 | 0.00 | 6,821.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 0.00 | 0.00 | 6,921.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 0.00 | 0.00 | 7,021.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 0.00 | 0.00 | 7,121.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 0.00 | 0.00 | 7,221.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 0.00 | 0.00 | 7,321.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 0.00 | 0.00 | 7,421.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 0.00 | 0.00 | 7,521.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 0.00 | 0.00 | 7,621.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 0.00 | 0.00 | 7,721.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 0.00 | 0.00 | 7,821.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 0.00 | 0.00 | 7,921.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 0.00 | 0.00 | 8,021.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 0.00 | 0.00 | 8,121.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 0.00 | 0.00 | 8,221.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 0.00 | 0.00 | 8,321.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 0.00 | 0.00 | 8,421.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 0.00 | 0.00 | 8,521.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 0.00 | 0.00 | 8,621.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 0.00 | 0.00 | 8,721.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 0.00 | 0.00 | 8,821.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 0.00 | 0.00 | 8,921.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 0.00 | 0.00 | 9,021.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 0.00 | 0.00 | 9,121.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 0.00 | 0.00 | 9,221.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 0.00 | 0.00 | 9,321.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 0.00 | 0.00 | 9,421.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 0.00 | 0.00 | 9,521.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 0.00 | 0.00 | 9,621.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 9,800.0 | 0.00 | 0.00 | 9,721.2 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |
| 9,803.8 | 0.00 | 0.00 | 9,725.0 | 705.6 | -52.9 | 707.6 | 0.00 | 0.00 | 0.00 |

**Design Targets**

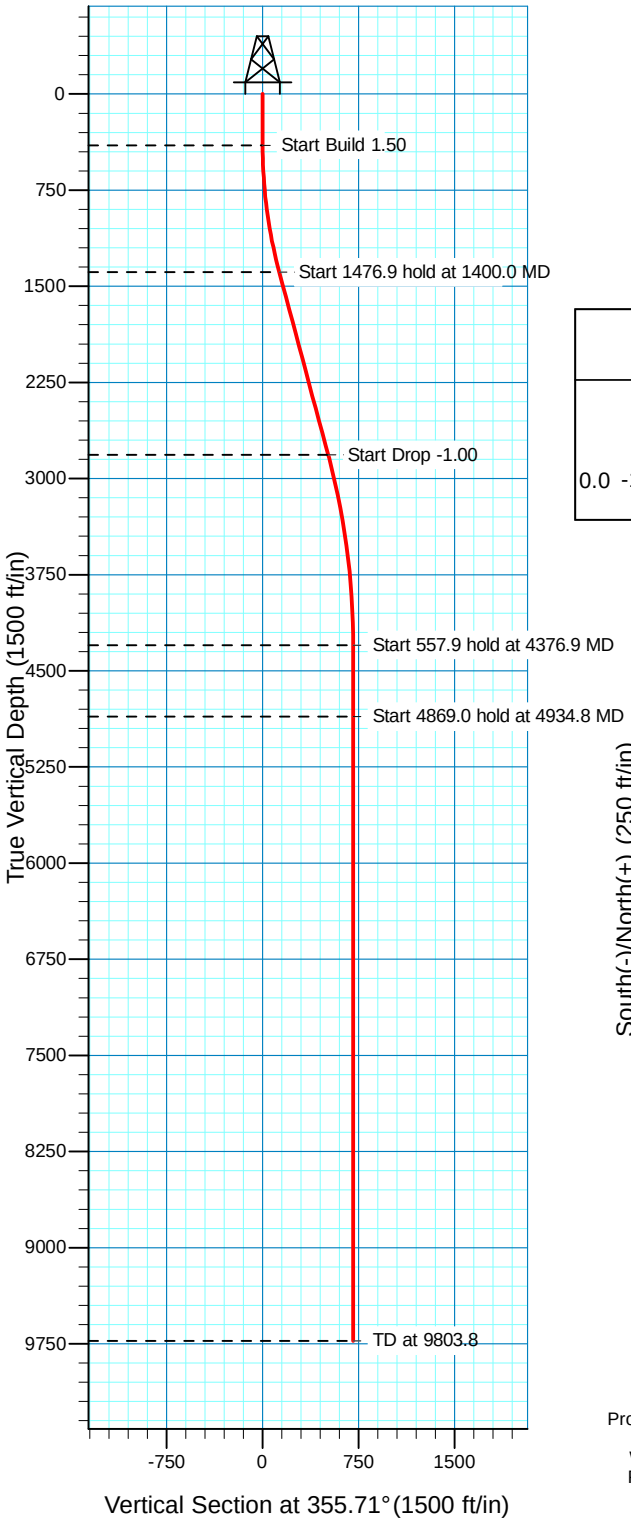
| Target Name<br>- hit/miss target<br>- Shape | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| CWU 1472-15D<br>- plan hits target center<br>- Circle (radius 50.0) | 0.00 | 0.00 | 4,856.0 | 705.6 | -52.9 | -102,781.41 | 2,579,065.52 | 40° 1' 56.351 N | 109° 25' 56.531 W |

Checked By: _____ Approved By: _____ Date: _____

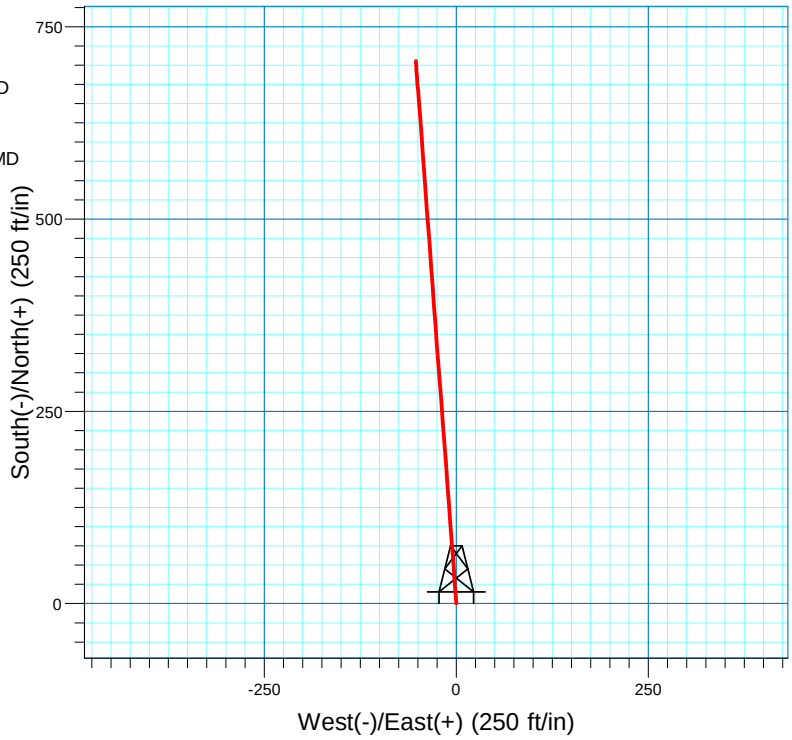
’APIWellNo:43047508230000’

# CWU 1472-15D

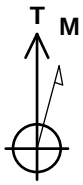
**Section 15 T9S R22E**
**Uintah County, UT**




| Surface Location | | | |
|---|---|---|---|
| NAD 1927 (NADCON CONUS) Utah North 4301 | | | |
| Ground Elevation: 4877.0 RIG @ 4896.0ft (TRUE 34) | | | |
| Northing | Easting | Latitude | Longitude |
| 0.0 -103485.60 | 2579135.18 | 40° 1' 49.379 N | 109° 25' 55.852 W |




Project: T9S-R22E Sec 15
Site: CWU 1470-1474 15D (Pad A4_CWU 844-15)
Well: 1472-15D
Plan: APD Plan




Azimuths to True North
Magnetic North: 11.31°

Magnetic Field
Strength: 52594.1snT
Dip Angle: 65.97°
Date: 5/4/2009
Model: IGRF200510

SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSec | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 2 | 400.0 | 0.00 | 0.00 | 400.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 3 | 1400.0 | 15.00 | 355.71 | 1388.6 | 129.8 | -9.7 | 1.50 | 355.71 | 130.2 | |
| 4 | 2876.9 | 15.00 | 355.71 | 2815.2 | 511.0 | -38.3 | 0.00 | 0.00 | 512.4 | |
| 5 | 4376.9 | 0.00 | 0.00 | 4298.1 | 705.6 | -52.9 | 1.00 | 180.00 | 707.6 | |
| 6 | 4934.8 | 0.00 | 0.00 | 4856.0 | 705.6 | -52.9 | 0.00 | 0.00 | 707.6 | CWU 1472-15D |
| 7 | 9803.8 | 0.00 | 0.00 | 9725.0 | 705.6 | -52.9 | 0.00 | 0.00 | 707.6 | |

TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
|---|---|---|---|---|---|---|---|---|
| CWU 1472-15D | 4856.0 | 705.6 | -52.9 | -102781.41 | 2579065.52 | 40° 1' 56.351 N | 109° 25' 56.531 W | Circle (Radius: 50.0) |

# Denver Division - Utah

**T9S-R22E Sec 15**
**CWU 1470-1474 15D (Pad A4_CWU 844-15)**
**1473-15D**

**Wellbore #1**

**Plan: APD Plan**

# Standard Survey Report

**27 August, 2009**

# EOG Resources

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | Denver Division - Utah | **Local Co-ordinate Reference:** | Well 1473-15D |
| **Project:** | T9S-R22E Sec 15 | **TVD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Site:** | CWU 1470-1474 15D (Pad A4_CWU 844-15) | **MD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Well:** | 1473-15D | **North Reference:** | True |
| **Wellbore:** | Wellbore #1 | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | APD Plan | **Database:** | EDM 2003.21 Single User Db |

**Project** T9S-R22E Sec 15

| | | | |
|---|---|---|---|
| **Map System:** | US State Plane 1927 (Exact solution) | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 (NADCON CONUS) | | |
| **Map Zone:** | Utah North 4301 | | |

**Site** CWU 1470-1474 15D (Pad A4_CWU 844-15)

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | -103,537.13 ft | **Latitude:** | 40° 1' 48.860 N |
| **From:** | Lat/Long | **Easting:** | 2,579,174.79 ft | **Longitude:** | 109° 25' 55.358 W |
| **Position Uncertainty:** | 0.0 ft | **Slot Radius:** | " | **Grid Convergence:** | 1.36 ° |

**Well** 1473-15D

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.0 ft | **Northing:** | -103,483.63 ft | **Latitude:** | 40° 1' 49.400 N |
| | **+E/-W** | 0.0 ft | **Easting:** | 2,579,125.89 ft | **Longitude:** | 109° 25' 55.970 W |
| **Position Uncertainty** | | 0.0 ft | **Wellhead Elevation:** | ft | **Ground Level:** | 4,877.0 ft |

**Wellbore** Wellbore #1

| **Magnetics** | **Model Name** | **Sample Date** | **Declination (°)** | **Dip Angle (°)** | **Field Strength (nT)** |
|---|---|---|---|---|---|
| | IGRF200510 | 5/4/2009 | 11.31 | 65.97 | 52,594 |

**Design** APD Plan

**Audit Notes:**

| | | | | |
|---|---|---|---|---|
| **Version:** | **Phase:** | PROTOTYPE | **Tie On Depth:** | 0.0 |

| **Vertical Section:** | **Depth From (TVD) (ft)** | **+N/-S (ft)** | **+E/-W (ft)** | **Direction (°)** |
|---|---|---|---|---|
| | 0.0 | 0.0 | 0.0 | 281.14 |

**Survey Tool Program** **Date** 8/27/2009

| **From (ft)** | **To (ft)** | **Survey (Wellbore)** | **Tool Name** | **Description** |
|---|---|---|---|---|
| 0.0 | 9,789.2 | APD Plan (Wellbore #1) | MWD | MWD - Standard |

**Planned Survey**

| **Measured Depth (ft)** | **Inclination (°)** | **Azimuth (°)** | **Vertical Depth (ft)** | **+N/-S (ft)** | **+E/-W (ft)** | **Vertical Section (ft)** | **Dogleg Rate (°/100ft)** | **Build Rate (°/100ft)** | **Turn Rate (°/100ft)** |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 400.0 | 1.50 | 281.14 | 400.0 | 0.3 | -1.3 | 1.3 | 1.50 | 1.50 | 0.00 |
| 500.0 | 3.00 | 281.14 | 499.9 | 1.0 | -5.1 | 5.2 | 1.50 | 1.50 | 0.00 |
| 600.0 | 4.50 | 281.14 | 599.7 | 2.3 | -11.6 | 11.8 | 1.50 | 1.50 | 0.00 |
| 700.0 | 6.00 | 281.14 | 699.3 | 4.0 | -20.5 | 20.9 | 1.50 | 1.50 | 0.00 |
| 800.0 | 7.50 | 281.14 | 798.6 | 6.3 | -32.1 | 32.7 | 1.50 | 1.50 | 0.00 |
| 900.0 | 9.00 | 281.14 | 897.5 | 9.1 | -46.1 | 47.0 | 1.50 | 1.50 | 0.00 |
| 1,000.0 | 10.50 | 281.14 | 996.1 | 12.4 | -62.8 | 64.0 | 1.50 | 1.50 | 0.00 |
| 1,100.0 | 12.00 | 281.14 | 1,094.2 | 16.1 | -81.9 | 83.5 | 1.50 | 1.50 | 0.00 |
| 1,200.0 | 13.50 | 281.14 | 1,191.7 | 20.4 | -103.5 | 105.5 | 1.50 | 1.50 | 0.00 |

# EOG Resources

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | Denver Division - Utah | **Local Co-ordinate Reference:** | Well 1473-15D |
| **Project:** | T9S-R22E Sec 15 | **TVD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Site:** | CWU 1470-1474 15D (Pad A4_CWU 844-15) | **MD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Well:** | 1473-15D | **North Reference:** | True |
| **Wellbore:** | Wellbore #1 | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | APD Plan | **Database:** | EDM 2003.21 Single User Db |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 1,300.0 | 15.00 | 281.14 | 1,288.6 | 25.2 | -127.7 | 130.2 | 1.50 | 1.50 | 0.00 |
| 1,400.0 | 15.00 | 281.14 | 1,385.2 | 30.2 | -153.1 | 156.0 | 0.00 | 0.00 | 0.00 |
| 1,500.0 | 15.00 | 281.14 | 1,481.8 | 35.2 | -178.5 | 181.9 | 0.00 | 0.00 | 0.00 |
| 1,600.0 | 15.00 | 281.14 | 1,578.4 | 40.2 | -203.9 | 207.8 | 0.00 | 0.00 | 0.00 |
| 1,700.0 | 15.00 | 281.14 | 1,675.0 | 45.2 | -229.3 | 233.7 | 0.00 | 0.00 | 0.00 |
| 1,800.0 | 15.00 | 281.14 | 1,771.6 | 50.2 | -254.7 | 259.6 | 0.00 | 0.00 | 0.00 |
| 1,900.0 | 15.00 | 281.14 | 1,868.2 | 55.2 | -280.1 | 285.4 | 0.00 | 0.00 | 0.00 |
| 2,000.0 | 15.00 | 281.14 | 1,964.8 | 60.2 | -305.5 | 311.3 | 0.00 | 0.00 | 0.00 |
| 2,100.0 | 15.00 | 281.14 | 2,061.4 | 65.2 | -330.9 | 337.2 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 15.00 | 281.14 | 2,157.9 | 70.2 | -356.2 | 363.1 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 15.00 | 281.14 | 2,254.5 | 75.2 | -381.6 | 389.0 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 15.00 | 281.14 | 2,351.1 | 80.2 | -407.0 | 414.9 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 15.00 | 281.14 | 2,447.7 | 85.2 | -432.4 | 440.7 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 15.00 | 281.14 | 2,544.3 | 90.2 | -457.8 | 466.6 | 0.00 | 0.00 | 0.00 |
| 2,642.9 | 15.00 | 281.14 | 2,585.8 | 92.3 | -468.7 | 477.7 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 14.43 | 281.14 | 2,641.0 | 95.1 | -482.9 | 492.2 | 1.00 | -1.00 | 0.00 |
| 2,800.0 | 13.43 | 281.14 | 2,738.0 | 99.8 | -506.6 | 516.3 | 1.00 | -1.00 | 0.00 |
| 2,900.0 | 12.43 | 281.14 | 2,835.5 | 104.1 | -528.5 | 538.7 | 1.00 | -1.00 | 0.00 |
| 3,000.0 | 11.43 | 281.14 | 2,933.3 | 108.1 | -548.8 | 559.3 | 1.00 | -1.00 | 0.00 |
| 3,100.0 | 10.43 | 281.14 | 3,031.5 | 111.8 | -567.4 | 578.3 | 1.00 | -1.00 | 0.00 |
| 3,200.0 | 9.43 | 281.14 | 3,130.0 | 115.1 | -584.3 | 595.5 | 1.00 | -1.00 | 0.00 |
| 3,300.0 | 8.43 | 281.14 | 3,228.8 | 118.1 | -599.5 | 611.1 | 1.00 | -1.00 | 0.00 |
| 3,400.0 | 7.43 | 281.14 | 3,327.9 | 120.8 | -613.1 | 624.9 | 1.00 | -1.00 | 0.00 |
| 3,500.0 | 6.43 | 281.14 | 3,427.1 | 123.1 | -624.9 | 636.9 | 1.00 | -1.00 | 0.00 |
| 3,600.0 | 5.43 | 281.14 | 3,526.6 | 125.1 | -635.1 | 647.3 | 1.00 | -1.00 | 0.00 |
| 3,700.0 | 4.43 | 281.14 | 3,626.2 | 126.8 | -643.5 | 655.8 | 1.00 | -1.00 | 0.00 |
| 3,800.0 | 3.43 | 281.14 | 3,726.0 | 128.1 | -650.2 | 662.7 | 1.00 | -1.00 | 0.00 |
| 3,900.0 | 2.43 | 281.14 | 3,825.9 | 129.1 | -655.2 | 667.8 | 1.00 | -1.00 | 0.00 |
| 4,000.0 | 1.43 | 281.14 | 3,925.8 | 129.7 | -658.5 | 671.2 | 1.00 | -1.00 | 0.00 |
| 4,100.0 | 0.43 | 281.14 | 4,025.8 | 130.0 | -660.1 | 672.8 | 1.00 | -1.00 | 0.00 |
| 4,142.9 | 0.00 | 0.00 | 4,068.7 | 130.1 | -660.3 | 673.0 | 1.00 | -1.00 | 0.00 |
| 4,200.0 | 0.00 | 0.00 | 4,125.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 0.00 | 0.00 | 4,225.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 0.00 | 0.00 | 4,325.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 0.00 | 0.00 | 4,425.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 0.00 | 0.00 | 4,525.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 0.00 | 0.00 | 4,625.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 0.00 | 0.00 | 4,725.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 0.00 | 0.00 | 4,825.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 4,918.2 | 0.00 | 0.00 | 4,844.0 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 0.00 | 0.00 | 4,925.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 0.00 | 0.00 | 5,025.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 0.00 | 0.00 | 5,125.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 0.00 | 0.00 | 5,225.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 0.00 | 0.00 | 5,325.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 0.00 | 0.00 | 5,425.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 0.00 | 0.00 | 5,525.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 0.00 | 0.00 | 5,625.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 0.00 | 0.00 | 5,725.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 0.00 | 0.00 | 5,825.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 0.00 | 0.00 | 5,925.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 0.00 | 0.00 | 6,025.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 0.00 | 0.00 | 6,125.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 0.00 | 0.00 | 6,225.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |

# EOG Resources

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | Denver Division - Utah | **Local Co-ordinate Reference:** | Well 1473-15D |
| **Project:** | T9S-R22E Sec 15 | **TVD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Site:** | CWU 1470-1474 15D (Pad A4_CWU 844-15) | **MD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Well:** | 1473-15D | **North Reference:** | True |
| **Wellbore:** | Wellbore #1 | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | APD Plan | **Database:** | EDM 2003.21 Single User Db |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 6,400.0 | 0.00 | 0.00 | 6,325.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 0.00 | 0.00 | 6,425.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 0.00 | 0.00 | 6,525.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 0.00 | 0.00 | 6,625.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 0.00 | 0.00 | 6,725.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 0.00 | 0.00 | 6,825.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 0.00 | 0.00 | 6,925.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 0.00 | 0.00 | 7,025.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 0.00 | 0.00 | 7,125.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 0.00 | 0.00 | 7,225.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 0.00 | 0.00 | 7,325.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 0.00 | 0.00 | 7,425.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 0.00 | 0.00 | 7,525.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 0.00 | 0.00 | 7,625.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 0.00 | 0.00 | 7,725.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 0.00 | 0.00 | 7,825.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 0.00 | 0.00 | 7,925.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 0.00 | 0.00 | 8,025.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 0.00 | 0.00 | 8,125.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 0.00 | 0.00 | 8,225.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 0.00 | 0.00 | 8,325.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 0.00 | 0.00 | 8,425.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 0.00 | 0.00 | 8,525.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 0.00 | 0.00 | 8,625.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 0.00 | 0.00 | 8,725.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 0.00 | 0.00 | 8,825.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 0.00 | 0.00 | 8,925.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 0.00 | 0.00 | 9,025.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 0.00 | 0.00 | 9,125.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 0.00 | 0.00 | 9,225.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 0.00 | 0.00 | 9,325.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 0.00 | 0.00 | 9,425.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 0.00 | 0.00 | 9,525.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 0.00 | 0.00 | 9,625.8 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |
| 9,789.2 | 0.00 | 0.00 | 9,715.0 | 130.1 | -660.3 | 673.0 | 0.00 | 0.00 | 0.00 |

**Design Targets**

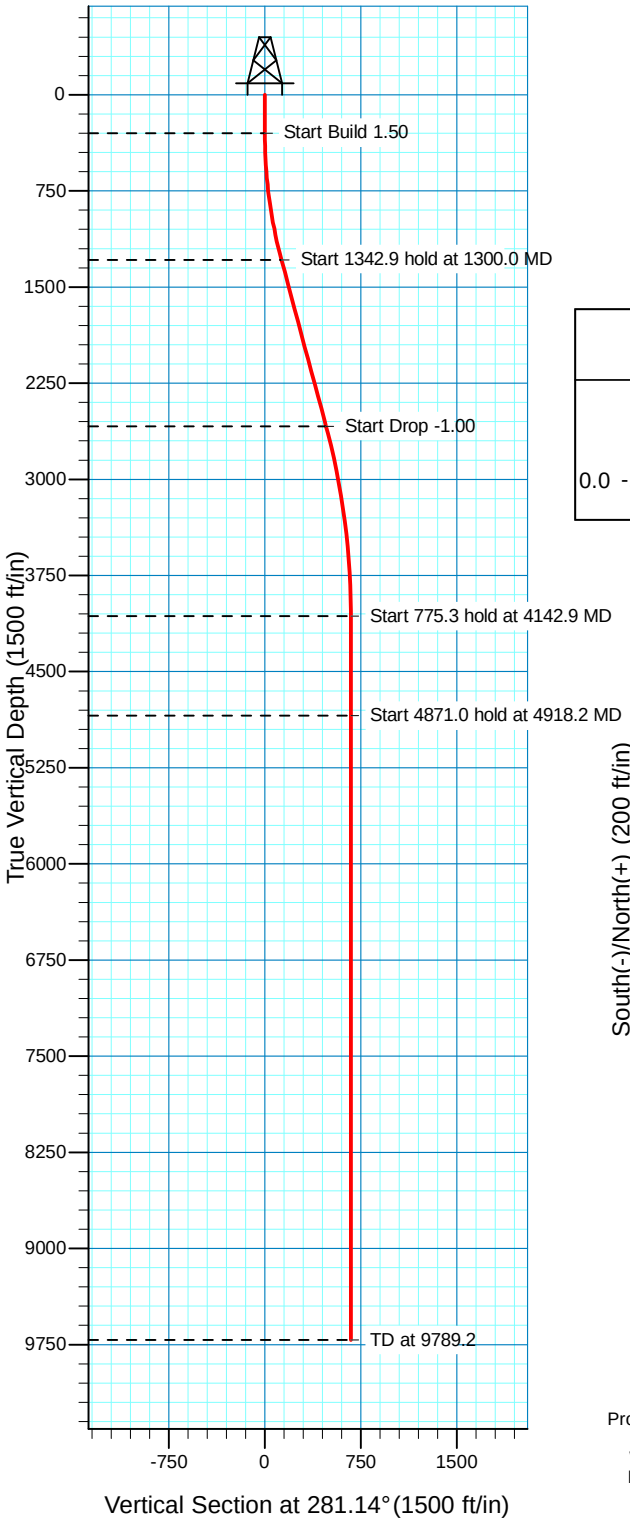
| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| CWU 1473-15D<br>- plan hits target center<br>- Circle (radius 50.0) | 0.00 | 0.00 | 4,844.0 | 130.1 | -660.3 | -103,369.32 | 2,578,462.71 | 40° 1' 50.685 N | 109° 26' 4.457 W |

Checked By: _____ Approved By: _____ Date: _____

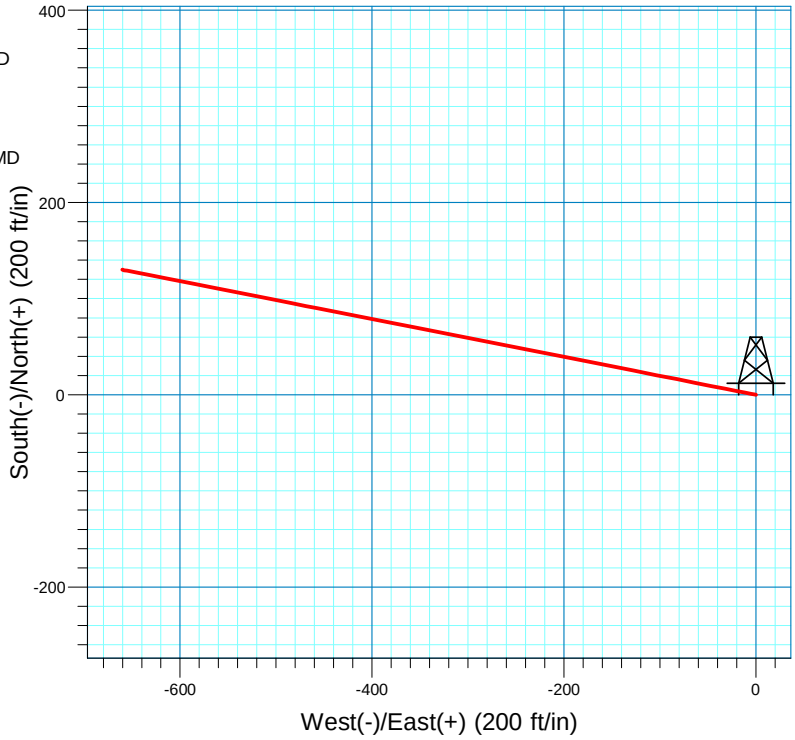
’APIWellNo:43047508230000’

# CWU 1473-15D

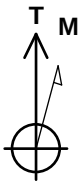
**Section 15 T9S R22E**
**Uintah County, UT**




| Surface Location | | | |
|---|---|---|---|
| NAD 1927 (NADCON CONUS) Utah North 4301 | | | |
| Ground Elevation: 4877.0 RIG @ 4896.0ft (TRUE 34) | | | |
| Northing | Easting | Latitude | Longitude |
| 0.0 -103483.63 | 2579125.89 | 40° 1' 49.400 N | 109° 25' 55.970 W |




Project: T9S-R22E Sec 15
Site: CWU 1470-1474 15D (Pad A4_CWU 844-15)
Well: 1473-15D
Plan: APD Plan




Azimuths to True North
Magnetic North: 11.31°

Magnetic Field
Strength: 52594.1snT
Dip Angle: 65.97°
Date: 5/4/2009
Model: IGRF200510

SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSec | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 2 | 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 3 | 1300.0 | 15.00 | 281.14 | 1288.6 | 25.2 | -127.7 | 1.50 | 281.14 | 130.2 | |
| 4 | 2642.9 | 15.00 | 281.14 | 2585.8 | 92.3 | -468.7 | 0.00 | 0.00 | 477.7 | |
| 5 | 4142.9 | 0.00 | 0.00 | 4068.7 | 130.1 | -660.3 | 1.00 | 180.00 | 673.0 | |
| 6 | 4918.2 | 0.00 | 0.00 | 4844.0 | 130.1 | -660.3 | 0.00 | 0.00 | 673.0 | CWU 1473-15D |
| 7 | 9789.2 | 0.00 | 0.00 | 9715.0 | 130.1 | -660.3 | 0.00 | 0.00 | 673.0 | |

TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
|---|---|---|---|---|---|---|---|---|
| CWU 1473-15D | 4844.0 | 130.1 | -660.3 | -103369.32 | 2578462.71 | 40° 1' 50.685 N | 109° 26' 4.457 W | Circle (Radius: 50.0) |

# Denver Division - Utah

**T9S-R22E Sec 15**
**CWU 1470-1474 15D (Pad A4_CWU 844-15)**
**1474-15D**

**Wellbore #1**

**Plan: APD Plan**

# Standard Survey Report

**27 August, 2009**

# EOG Resources

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | Denver Division - Utah | **Local Co-ordinate Reference:** | Well 1474-15D |
| **Project:** | T9S-R22E Sec 15 | **TVD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Site:** | CWU 1470-1474 15D (Pad A4_CWU 844-15) | **MD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Well:** | 1474-15D | **North Reference:** | True |
| **Wellbore:** | Wellbore #1 | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | APD Plan | **Database:** | EDM 2003.21 Single User Db |

**Project** T9S-R22E Sec 15

| | | | |
|---|---|---|---|
| **Map System:** | US State Plane 1927 (Exact solution) | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 (NADCON CONUS) | | |
| **Map Zone:** | Utah North 4301 | | |

**Site** CWU 1470-1474 15D (Pad A4_CWU 844-15)

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | -103,537.13 ft | **Latitude:** | 40° 1' 48.860 N |
| **From:** | Lat/Long | **Easting:** | 2,579,174.79 ft | **Longitude:** | 109° 25' 55.358 W |
| **Position Uncertainty:** | 0.0 ft | **Slot Radius:** | " | **Grid Convergence:** | 1.36 ° |

**Well** 1474-15D

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.0 ft | **Northing:** | -103,488.26 ft | **Latitude:** | 40° 1' 49.350 N |
| | **+E/-W** | 0.0 ft | **Easting:** | 2,579,145.61 ft | **Longitude:** | 109° 25' 55.718 W |
| **Position Uncertainty** | | 0.0 ft | **Wellhead Elevation:** | ft | **Ground Level:** | 4,877.0 ft |

**Wellbore** Wellbore #1

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | IGRF200510 | 5/4/2009 | 11.31 | 65.97 | 52,594 |

**Design** APD Plan

**Audit Notes:**

| | | | | |
|---|---|---|---|---|
| **Version:** | **Phase:** | PROTOTYPE | **Tie On Depth:** | 0.0 |

| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
|---|---|---|---|---|
| | 0.0 | 0.0 | 0.0 | 184.09 |

**Survey Tool Program** **Date** 8/27/2009

| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
|---|---|---|---|---|
| 0.0 | 9,738.1 | APD Plan (Wellbore #1) | MWD | MWD - Standard |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 400.0 | 1.50 | 184.09 | 400.0 | -1.3 | -0.1 | 1.3 | 1.50 | 1.50 | 0.00 |
| 500.0 | 3.00 | 184.09 | 499.9 | -5.2 | -0.4 | 5.2 | 1.50 | 1.50 | 0.00 |
| 600.0 | 4.50 | 184.09 | 599.7 | -11.7 | -0.8 | 11.8 | 1.50 | 1.50 | 0.00 |
| 700.0 | 6.00 | 184.09 | 699.3 | -20.9 | -1.5 | 20.9 | 1.50 | 1.50 | 0.00 |
| 800.0 | 7.50 | 184.09 | 798.6 | -32.6 | -2.3 | 32.7 | 1.50 | 1.50 | 0.00 |
| 900.0 | 9.00 | 184.09 | 897.5 | -46.9 | -3.4 | 47.0 | 1.50 | 1.50 | 0.00 |
| 1,000.0 | 10.50 | 184.09 | 996.1 | -63.8 | -4.6 | 64.0 | 1.50 | 1.50 | 0.00 |
| 1,100.0 | 12.00 | 184.09 | 1,094.2 | -83.3 | -6.0 | 83.5 | 1.50 | 1.50 | 0.00 |
| 1,200.0 | 13.50 | 184.09 | 1,191.7 | -105.3 | -7.5 | 105.5 | 1.50 | 1.50 | 0.00 |

# EOG Resources

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | Denver Division - Utah | **Local Co-ordinate Reference:** | Well 1474-15D |
| **Project:** | T9S-R22E Sec 15 | **TVD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Site:** | CWU 1470-1474 15D (Pad A4_CWU 844-15) | **MD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Well:** | 1474-15D | **North Reference:** | True |
| **Wellbore:** | Wellbore #1 | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | APD Plan | **Database:** | EDM 2003.21 Single User Db |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 1,300.0 | 15.00 | 184.09 | 1,288.6 | -129.8 | -9.3 | 130.2 | 1.50 | 1.50 | 0.00 |
| 1,400.0 | 15.00 | 184.09 | 1,385.2 | -155.6 | -11.1 | 156.0 | 0.00 | 0.00 | 0.00 |
| 1,500.0 | 15.00 | 184.09 | 1,481.8 | -181.5 | -13.0 | 181.9 | 0.00 | 0.00 | 0.00 |
| 1,600.0 | 15.00 | 184.09 | 1,578.4 | -207.3 | -14.8 | 207.8 | 0.00 | 0.00 | 0.00 |
| 1,700.0 | 15.00 | 184.09 | 1,675.0 | -233.1 | -16.7 | 233.7 | 0.00 | 0.00 | 0.00 |
| 1,800.0 | 15.00 | 184.09 | 1,771.6 | -258.9 | -18.5 | 259.6 | 0.00 | 0.00 | 0.00 |
| 1,900.0 | 15.00 | 184.09 | 1,868.2 | -284.7 | -20.4 | 285.4 | 0.00 | 0.00 | 0.00 |
| 2,000.0 | 15.00 | 184.09 | 1,964.8 | -310.5 | -22.2 | 311.3 | 0.00 | 0.00 | 0.00 |
| 2,100.0 | 15.00 | 184.09 | 2,061.4 | -336.4 | -24.0 | 337.2 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 15.00 | 184.09 | 2,157.9 | -362.2 | -25.9 | 363.1 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 15.00 | 184.09 | 2,254.5 | -388.0 | -27.7 | 389.0 | 0.00 | 0.00 | 0.00 |
| 2,317.6 | 15.00 | 184.09 | 2,271.5 | -392.5 | -28.1 | 393.5 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 14.18 | 184.09 | 2,351.3 | -413.2 | -29.5 | 414.3 | 1.00 | -1.00 | 0.00 |
| 2,500.0 | 13.18 | 184.09 | 2,448.4 | -436.8 | -31.2 | 437.9 | 1.00 | -1.00 | 0.00 |
| 2,600.0 | 12.18 | 184.09 | 2,546.0 | -458.7 | -32.8 | 459.9 | 1.00 | -1.00 | 0.00 |
| 2,700.0 | 11.18 | 184.09 | 2,643.9 | -478.9 | -34.2 | 480.1 | 1.00 | -1.00 | 0.00 |
| 2,800.0 | 10.18 | 184.09 | 2,742.2 | -497.4 | -35.6 | 498.6 | 1.00 | -1.00 | 0.00 |
| 2,900.0 | 9.18 | 184.09 | 2,840.8 | -514.1 | -36.8 | 515.4 | 1.00 | -1.00 | 0.00 |
| 3,000.0 | 8.18 | 184.09 | 2,939.6 | -529.2 | -37.8 | 530.5 | 1.00 | -1.00 | 0.00 |
| 3,100.0 | 7.18 | 184.09 | 3,038.7 | -542.5 | -38.8 | 543.9 | 1.00 | -1.00 | 0.00 |
| 3,200.0 | 6.18 | 184.09 | 3,138.1 | -554.1 | -39.6 | 555.5 | 1.00 | -1.00 | 0.00 |
| 3,300.0 | 5.18 | 184.09 | 3,237.6 | -563.9 | -40.3 | 565.4 | 1.00 | -1.00 | 0.00 |
| 3,400.0 | 4.18 | 184.09 | 3,337.2 | -572.1 | -40.9 | 573.5 | 1.00 | -1.00 | 0.00 |
| 3,500.0 | 3.18 | 184.09 | 3,437.0 | -578.5 | -41.4 | 579.9 | 1.00 | -1.00 | 0.00 |
| 3,600.0 | 2.18 | 184.09 | 3,536.9 | -583.1 | -41.7 | 584.6 | 1.00 | -1.00 | 0.00 |
| 3,700.0 | 1.18 | 184.09 | 3,636.9 | -586.0 | -41.9 | 587.5 | 1.00 | -1.00 | 0.00 |
| 3,800.0 | 0.18 | 184.09 | 3,736.9 | -587.2 | -42.0 | 588.7 | 1.00 | -1.00 | 0.00 |
| 3,817.6 | 0.00 | 0.00 | 3,754.4 | -587.2 | -42.0 | 588.7 | 1.00 | -1.00 | 0.00 |
| 3,900.0 | 0.00 | 0.00 | 3,836.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 0.00 | 0.00 | 3,936.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 0.00 | 0.00 | 4,036.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 0.00 | 0.00 | 4,136.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 0.00 | 0.00 | 4,236.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 0.00 | 0.00 | 4,336.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 0.00 | 0.00 | 4,436.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 0.00 | 0.00 | 4,536.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 0.00 | 0.00 | 4,636.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 0.00 | 0.00 | 4,736.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 4,868.1 | 0.00 | 0.00 | 4,805.0 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 0.00 | 0.00 | 4,836.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 0.00 | 0.00 | 4,936.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 0.00 | 0.00 | 5,036.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 0.00 | 0.00 | 5,136.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 0.00 | 0.00 | 5,236.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 0.00 | 0.00 | 5,336.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 0.00 | 0.00 | 5,436.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 0.00 | 0.00 | 5,536.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 0.00 | 0.00 | 5,636.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 0.00 | 0.00 | 5,736.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 0.00 | 0.00 | 5,836.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 0.00 | 0.00 | 5,936.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 0.00 | 0.00 | 6,036.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 0.00 | 0.00 | 6,136.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 0.00 | 0.00 | 6,236.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |

# EOG Resources

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | Denver Division - Utah | **Local Co-ordinate Reference:** | Well 1474-15D |
| **Project:** | T9S-R22E Sec 15 | **TVD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Site:** | CWU 1470-1474 15D (Pad A4_CWU 844-15) | **MD Reference:** | RIG @ 4896.0ft (TRUE 34) |
| **Well:** | 1474-15D | **North Reference:** | True |
| **Wellbore:** | Wellbore #1 | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | APD Plan | **Database:** | EDM 2003.21 Single User Db |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 6,400.0 | 0.00 | 0.00 | 6,336.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 0.00 | 0.00 | 6,436.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 0.00 | 0.00 | 6,536.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 0.00 | 0.00 | 6,636.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 0.00 | 0.00 | 6,736.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 0.00 | 0.00 | 6,836.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 0.00 | 0.00 | 6,936.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 0.00 | 0.00 | 7,036.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 0.00 | 0.00 | 7,136.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 0.00 | 0.00 | 7,236.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 0.00 | 0.00 | 7,336.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 0.00 | 0.00 | 7,436.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 0.00 | 0.00 | 7,536.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 0.00 | 0.00 | 7,636.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 0.00 | 0.00 | 7,736.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 0.00 | 0.00 | 7,836.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 0.00 | 0.00 | 7,936.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 0.00 | 0.00 | 8,036.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 0.00 | 0.00 | 8,136.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 0.00 | 0.00 | 8,236.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 0.00 | 0.00 | 8,336.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 0.00 | 0.00 | 8,436.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 0.00 | 0.00 | 8,536.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 0.00 | 0.00 | 8,636.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 0.00 | 0.00 | 8,736.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 0.00 | 0.00 | 8,836.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 0.00 | 0.00 | 8,936.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 0.00 | 0.00 | 9,036.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 0.00 | 0.00 | 9,136.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 0.00 | 0.00 | 9,236.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 0.00 | 0.00 | 9,336.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 0.00 | 0.00 | 9,436.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 0.00 | 0.00 | 9,536.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 0.00 | 0.00 | 9,636.9 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |
| 9,738.1 | 0.00 | 0.00 | 9,675.0 | -587.2 | -42.0 | 588.7 | 0.00 | 0.00 | 0.00 |

**Design Targets**

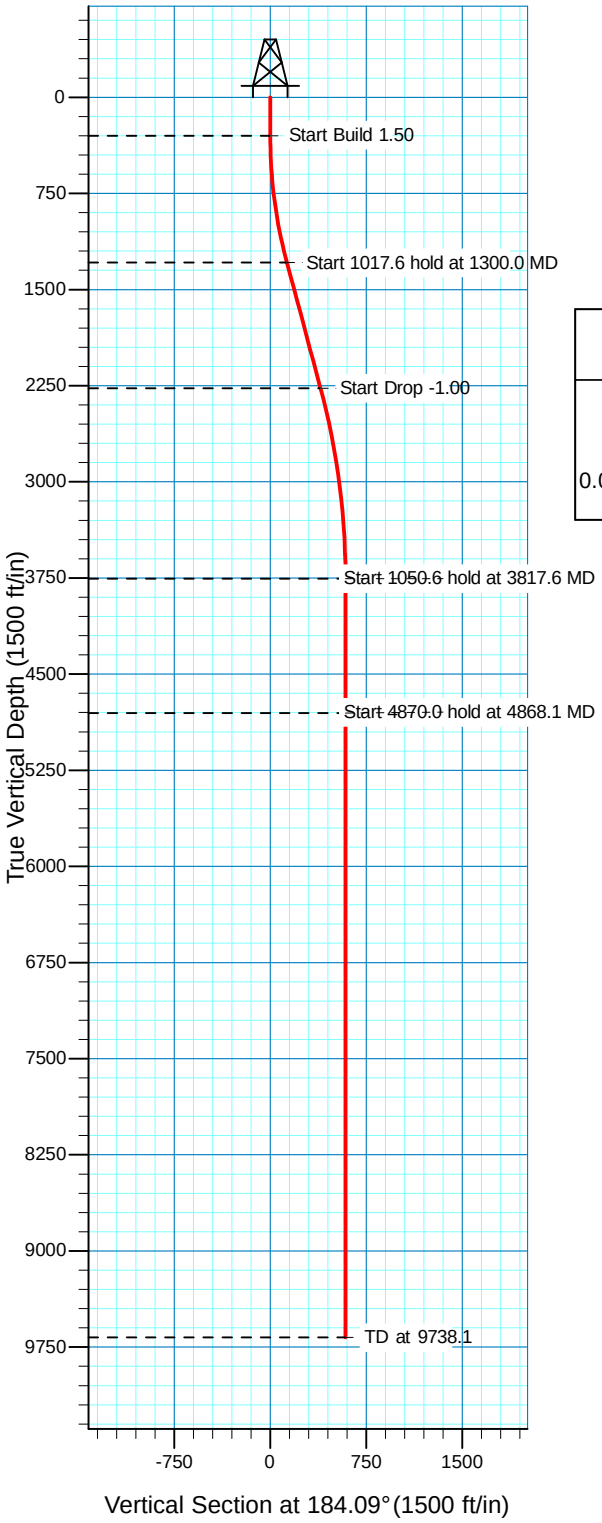
| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| CWU 1474-15D<br>- plan hits target center<br>- Circle (radius 50.0) | 0.00 | 0.00 | 4,805.0 | -587.2 | -42.0 | -104,076.34 | 2,579,117.61 | 40° 1' 43.547 N | 109° 25' 56.258 W |

Checked By: _____ Approved By: _____ Date: _____

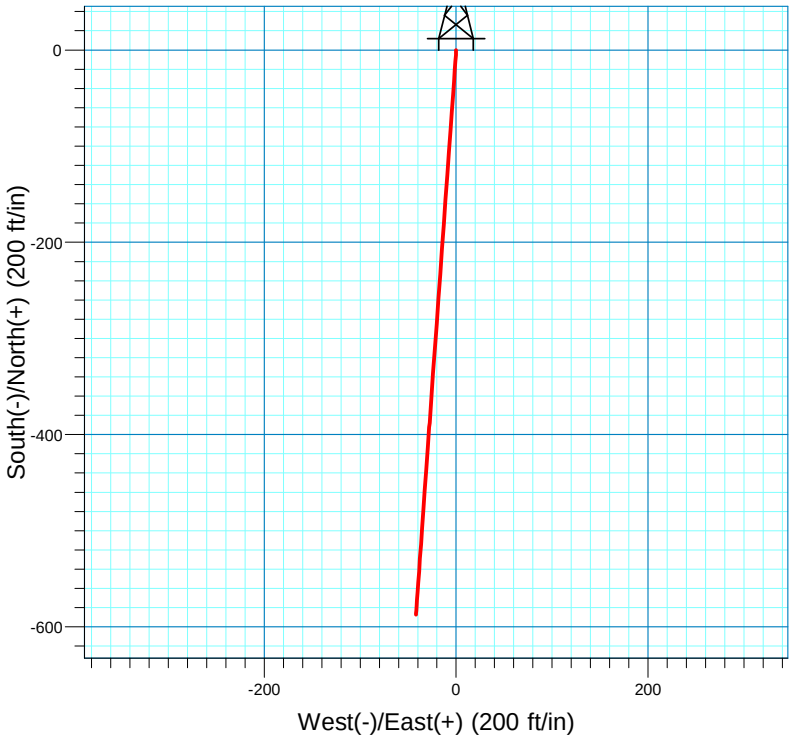
’APIWellNo:43047508230000’

# CWU 1474-15D

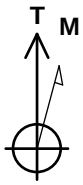
**Section 15 T9S R22E**
**Uintah County, UT**




| Surface Location | | | | |
|---|---|---|---|---|
| NAD 1927 (NADCON CONUS) Utah North 4301 | | | | |
| Ground Elevation: 4877.0 RIG @ 4896.0ft (TRUE 34) | | | | |
| | Northing | Easting | Latitude | Longitude |
| 0.0 | -103488.26 | 2579145.61 | 40° 1' 49.350 N | 109° 25' 55.718 W |




Project: T9S-R22E Sec 15
Site: CWU 1470-1474 15D (Pad A4_CWU 844-15)
Well: 1474-15D
Plan: APD Plan




Azimuths to True North
Magnetic North: 11.31°

Magnetic Field
Strength: 52594.1snT
Dip Angle: 65.97°
Date: 5/4/2009
Model: IGRF200510

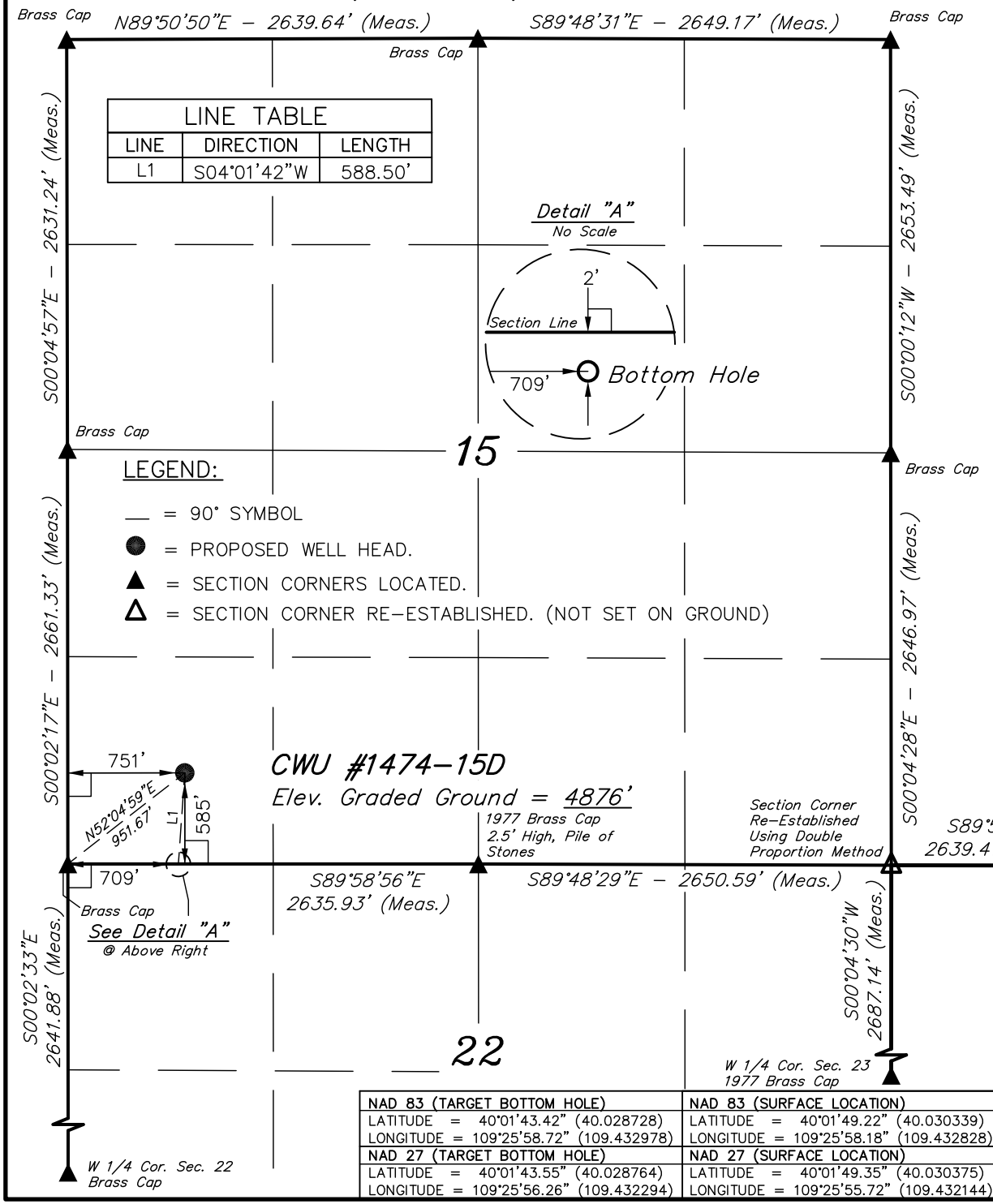
SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSec | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 2 | 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 3 | 1300.0 | 15.00 | 184.09 | 1288.6 | -129.8 | -9.3 | 1.50 | 184.09 | 130.2 | |
| 4 | 2317.6 | 15.00 | 184.09 | 2271.5 | -392.5 | -28.1 | 0.00 | 0.00 | 393.5 | |
| 5 | 3817.6 | 0.00 | 0.00 | 3754.4 | -587.2 | -42.0 | 1.00 | 180.00 | 588.7 | |
| 6 | 4868.1 | 0.00 | 0.00 | 4805.0 | -587.2 | -42.0 | 0.00 | 0.00 | 588.7 | CWU 1474-15D |
| 7 | 9738.1 | 0.00 | 0.00 | 9675.0 | -587.2 | -42.0 | 0.00 | 0.00 | 588.7 | |

TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
|---|---|---|---|---|---|---|---|---|
| CWU 1474-15D | 4805.0 | -587.2 | -42.0 | -104076.34 | 2579117.61 | 40° 1' 43.547 N | 109° 25' 56.258 W | Circle (Radius: 50.0) |

# T9S, R22E, S.L.B.&M.




| LINE TABLE | | |
|---|---|---|
| LINE | DIRECTION | LENGTH |
| L1 | S04°01'42"W | 588.50' |

LEGEND:

— = 90° SYMBOL

● = PROPOSED WELL HEAD.

▲ = SECTION CORNERS LOCATED.

△ = SECTION CORNER RE-ESTABLISHED. (NOT SET ON GROUND)

## EOG RESOURCES, INC.

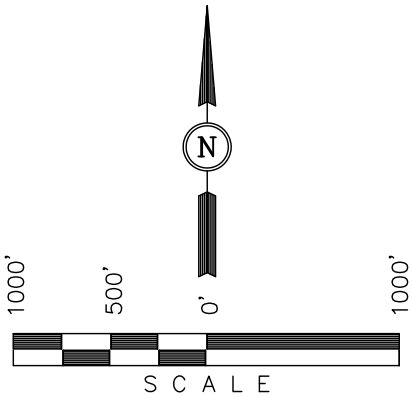
Well location, CWU #1474-15D, located as shown in the SW 1/4 SW 1/4 of Section 15, T9S, R22E, S.L.B.&M., Uintah County, Utah.

### BASIS OF ELEVATION

BENCH MARK 20EAM LOCATED IN THE SE 1/4 OF SECTION 35, T8S, R21E, S.L.B.&M. TAKEN FROM THE OURAY SE, QUADRANGLE, UTAH, UINTAH COUNTY, 7.5 MINUTE QUAD (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 4697 FEET.

### BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.




### CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 161319
STATE OF UTAH

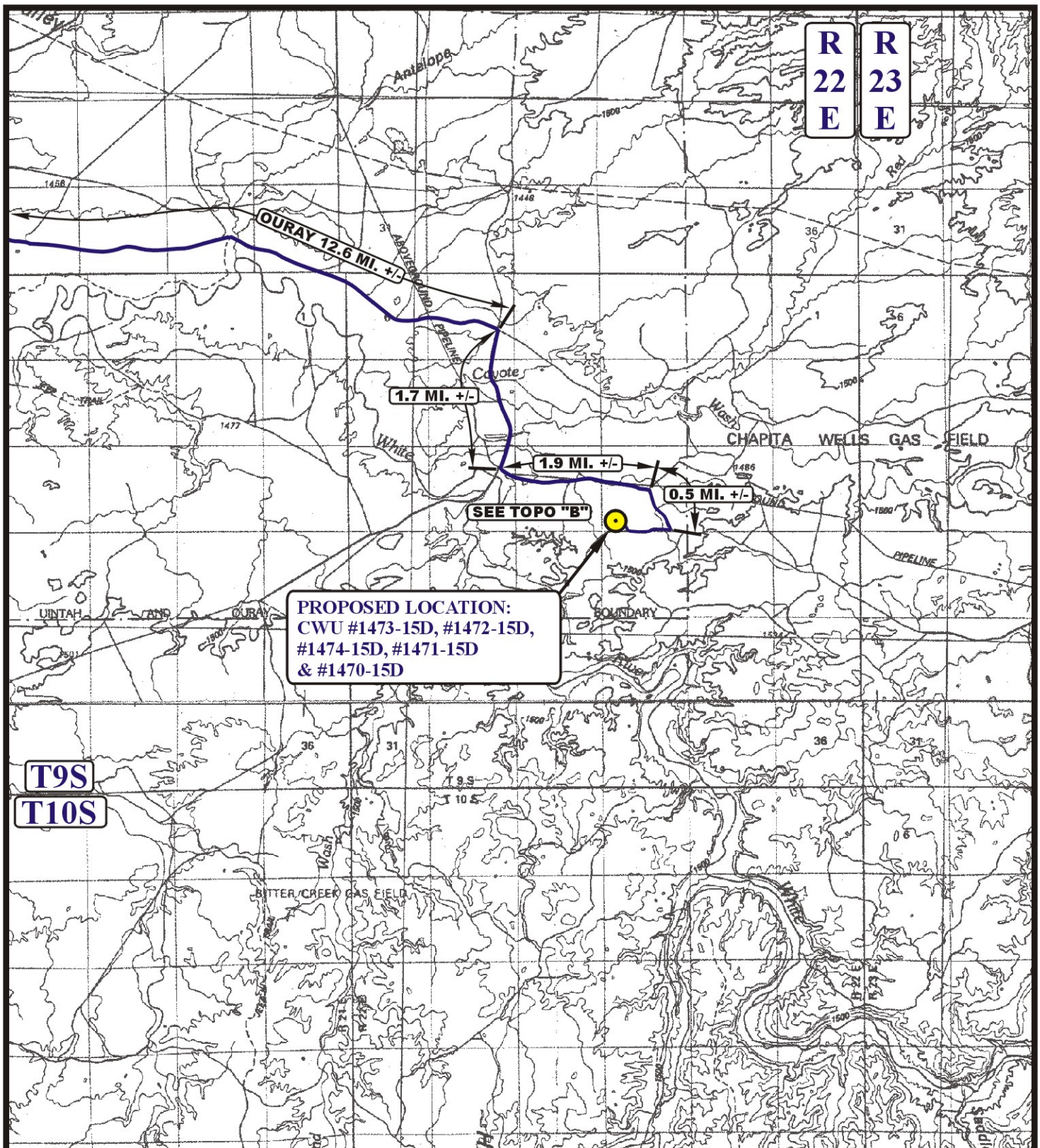
REGISTERED LAND SURVEYOR NO. 161319 ROBERT L. KAY STATE OF UTAH

| NAD 83 (TARGET BOTTOM HOLE) | NAD 83 (SURFACE LOCATION) |
|---|---|
| LATITUDE = 40°01'43.42" (40.028728) | LATITUDE = 40°01'49.22" (40.030339) |
| LONGITUDE = 109°25'58.72" (109.432978) | LONGITUDE = 109°25'58.18" (109.432828) |
| **NAD 27 (TARGET BOTTOM HOLE)** | **NAD 27 (SURFACE LOCATION)** |
| LATITUDE = 40°01'43.55" (40.028764) | LATITUDE = 40°01'49.35" (40.030375) |
| LONGITUDE = 109°25'56.26" (109.432294) | LONGITUDE = 109°25'55.72" (109.432144) |

**UINTAH ENGINEERING & LAND SURVEYING**
85 SOUTH 200 EAST – VERNAL, UTAH 84078
(435) 789-1017

| | | |
|---|---|---|
| SCALE 1" = 1000' | DATE SURVEYED: 06-09-09 | DATE DRAWN: 07-17-09 |
| PARTY G.S. C.R. C.H. | REFERENCES G.L.O. PLAT | |
| WEATHER WARM | FILE EOG RESOURCES, INC. | |

'APIWellNo:43047508230000'




**LEGEND:**

PROPOSED LOCATION

N

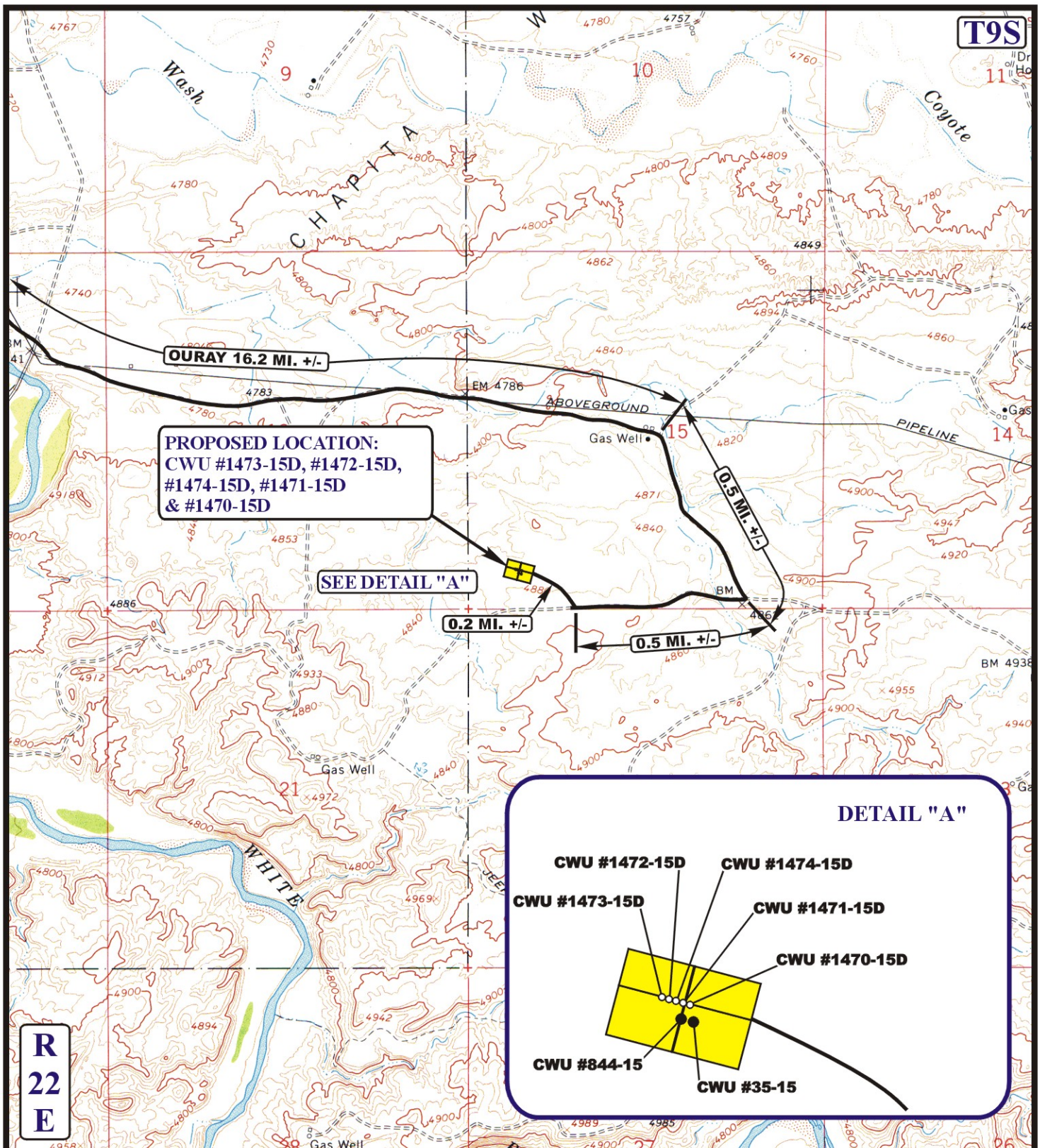
**EOG RESOURCES, INC.**

CWU #1473-15D, #1472-15D,
#1474-15D, #1471-15D & #1470-15D
SECTION 15, T9S, R22E, S.L.B.&M.
SW 1/4 SW 1/4

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

| TOPOGRAPHIC MAP | 06 MONTH | 04 DAY | 03 YEAR | A TOPO |
|---|---|---|---|---|
| SCALE: 1:100,000 | DRAWN BY: P.M. | REV: J.H. 07-15-09 | | |

’APIWellNo:43047508230000’




**LEGEND:**

EXISTING ROAD

N

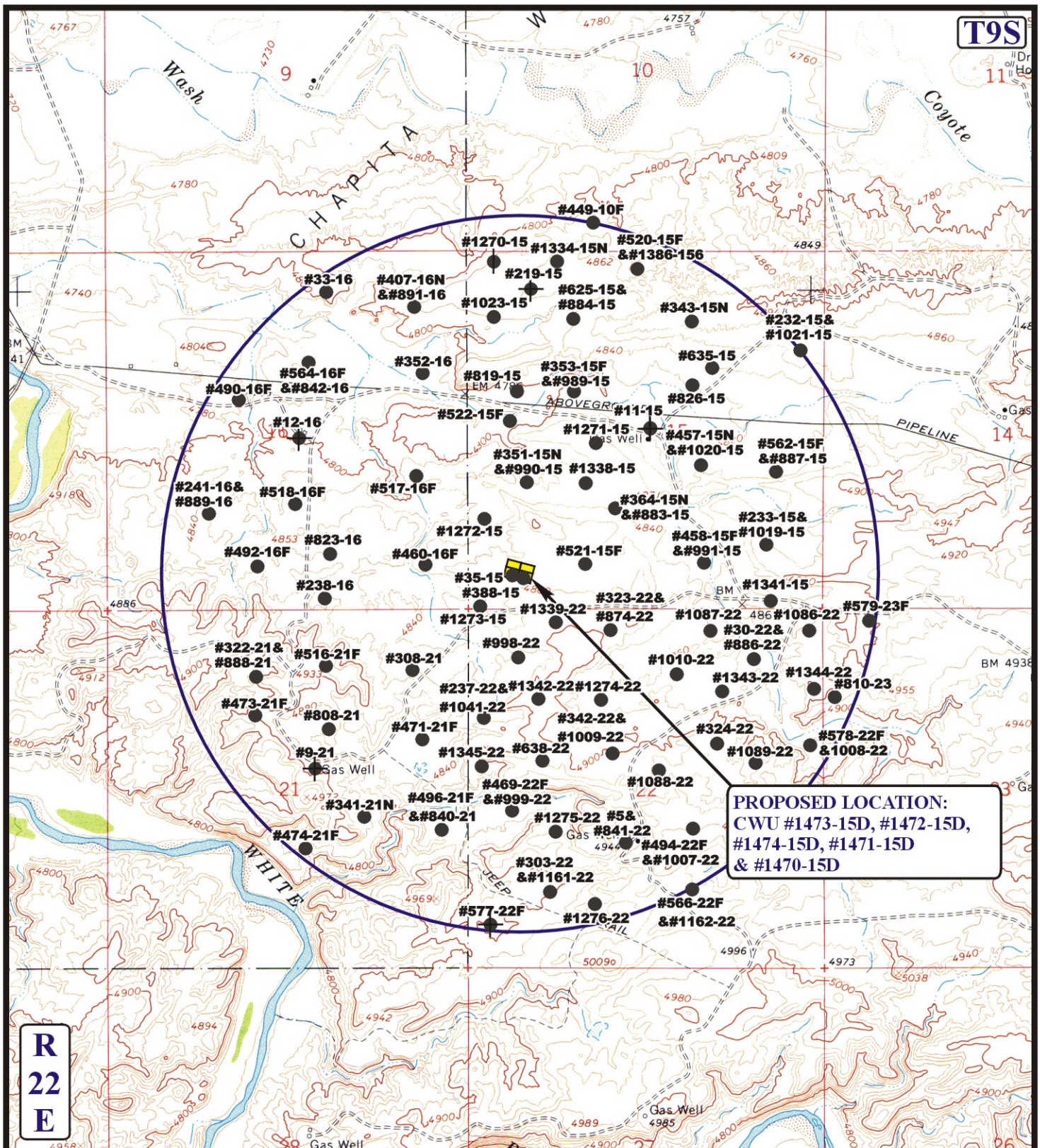
**EOG RESOURCES, INC.**

CWU #1473-15D, #1472-15D,
#1474-15D, #1471-15D & #1470-15D
SECTION 15, T9S, R22E, S.L.B.&M.
SW 1/4 SW 1/4

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

| TOPOGRAPHIC MAP | 06 MONTH | 04 DAY | 03 YEAR | B TOPO |
|---|---|---|---|---|
| SCALE: 1" = 2000' | DRAWN BY: P.M. | REV: J.H. 07-15-09 | | |

’APIWellNo:43047508230000’




**LEGEND:**

- DISPOSAL WELLS
- PRODUCING WELLS
- SHUT IN WELLS
- WATER WELLS
- ABANDONED WELLS
- TEMPORARILY ABANDONED

N

**EOG RESOURCES, INC.**

**CWU #1473-15D, #1472-15D, #1474-15D, #1471-15D & #1470-15D**
**SECTION 15, T9S, R22E, S.L.B.&M.**
**SW 1/4 SW 1/4**


Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813


| TOPOGRAPHIC MAP | 06 MONTH | 04 DAY | 03 YEAR | C TOPO |
|---|---|---|---|---|
| SCALE: 1" = 2000' | DRAWN BY: P.M. | REV: J.H. 07-15-09 | | |

# EOG RESOURCES, INC.

## CWU #1473-15D, 1472-15D, #1474-15D, #1471-15D & #1470-15D

**LOCATED IN UINTAH COUNTY, UTAH**
**SECTION 15, T9S, R22E, S.L.B.&M.**

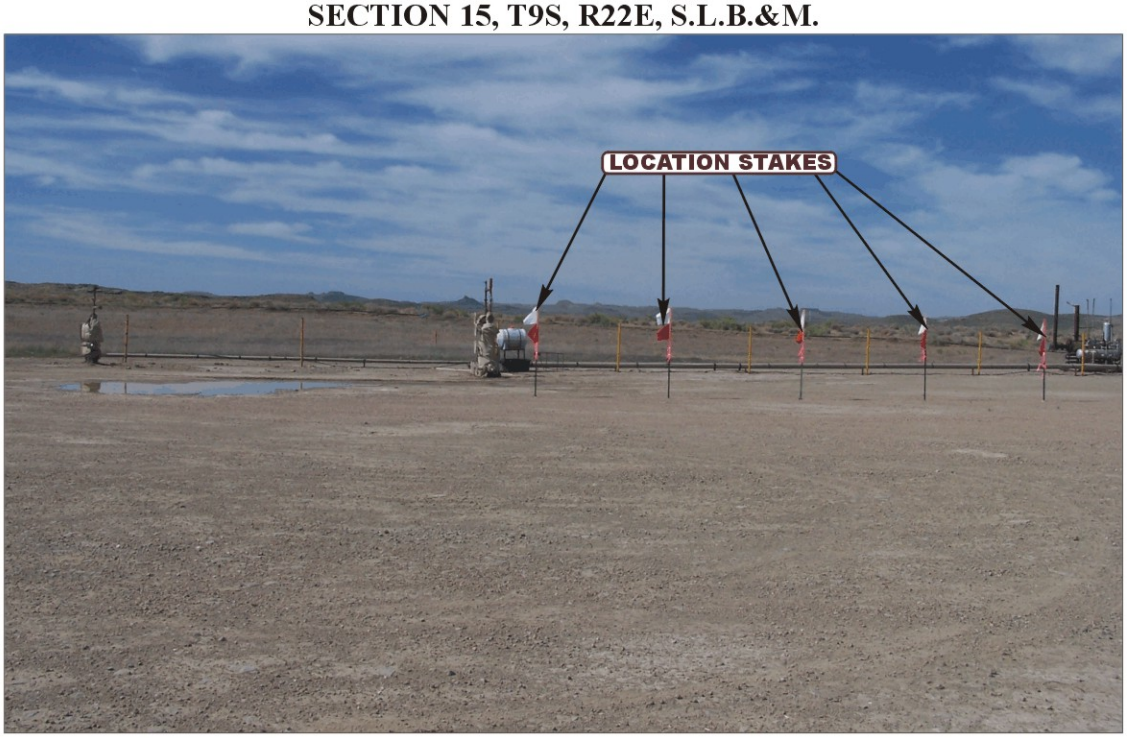



**PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE** **CAMERA ANGLE: SOUTHWESTERLY**

**PHOTO: VIEW OF EXISTING ACCESS** **CAMERA ANGLE: NORTHWESTERLY**

- Since 1964 -
Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

| LOCATION PHOTOS | 06 MONTH | 04 DAY | 03 YEAR | PHOTO |
|---|---|---|---|---|
| TAKEN BY: G.S. | DRAWN BY: P.M. | REV: J.H. 07-15-09 | | |

’APIWellNo:43047508230000’

# EOG RESOURCES, INC.

LOCATION LAYOUT FOR

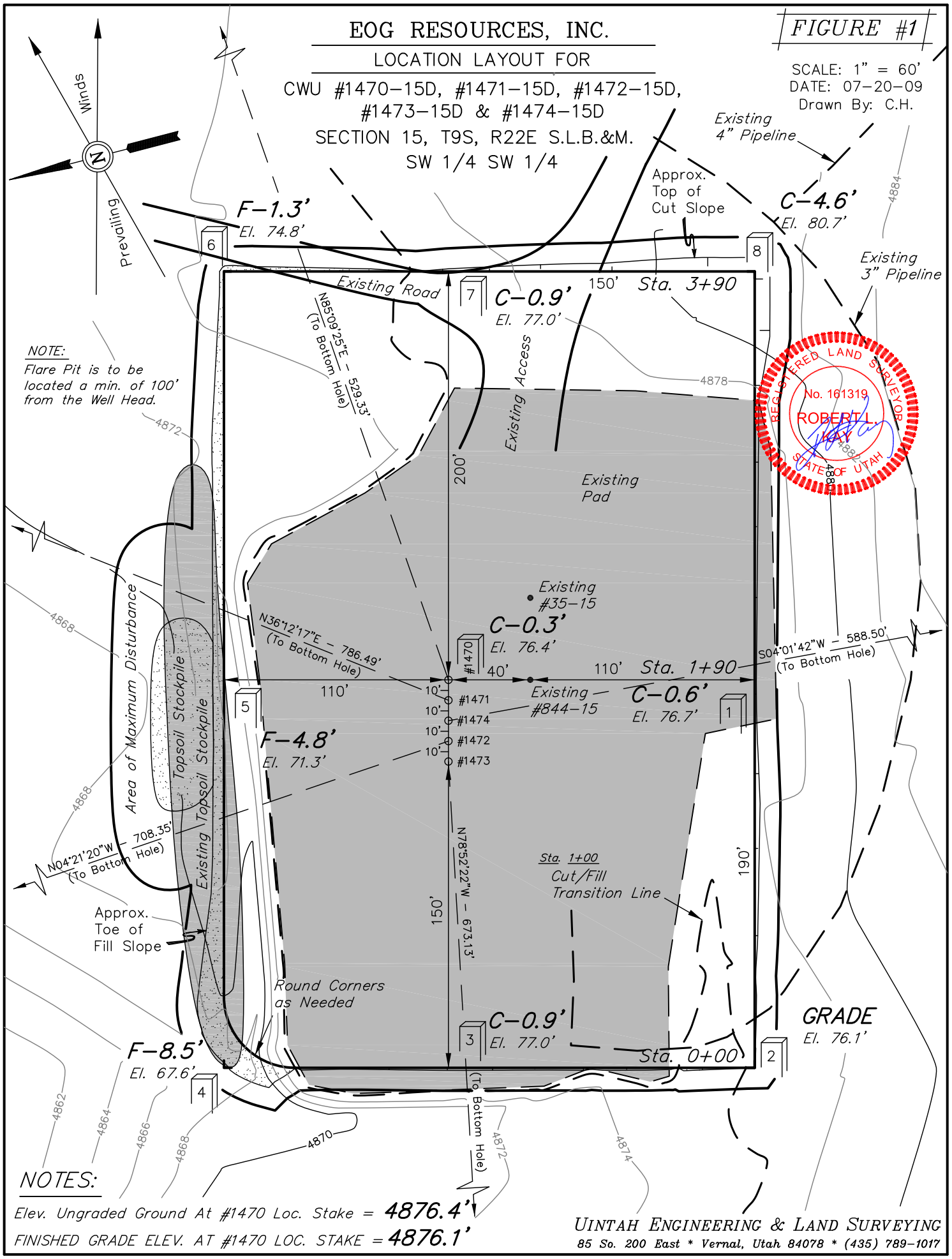
CWU #1470–15D, #1471–15D, #1472–15D, #1473–15D & #1474–15D

SECTION 15, T9S, R22E S.L.B.&M.

SW 1/4 SW 1/4

FIGURE #1

SCALE: 1” = 60’
DATE: 07–20–09
Drawn By: C.H.




NOTES:

Elev. Ungraded Ground At #1470 Loc. Stake = 4876.4’

FINISHED GRADE ELEV. AT #1470 LOC. STAKE = 4876.1’

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East * Vernal, Utah 84078 * (435) 789–1017

# EOG RESOURCES, INC.

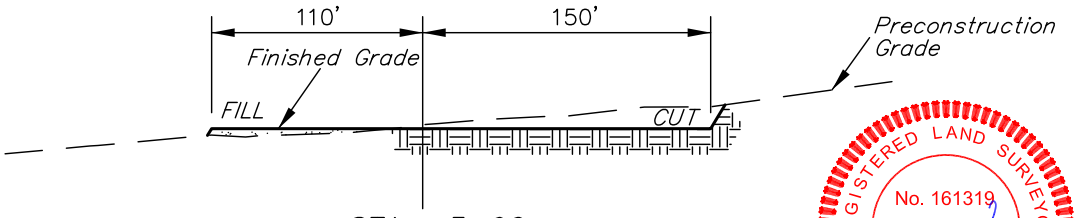
FIGURE #2

TYPICAL CROSS SECTIONS FOR

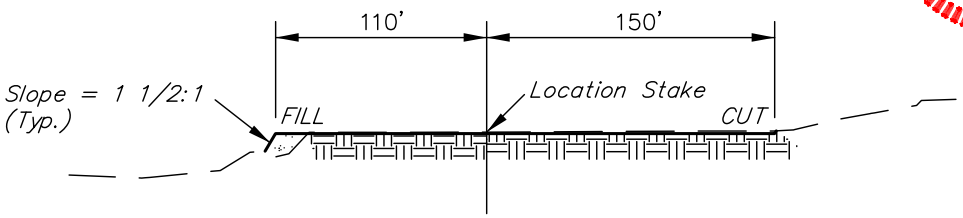
CWU #1470-15D, #1471-15D, #1472-15D,
#1473-15D & #1474-15D
SECTION 15, T9S, R22E S.L.B.&M.
SW 1/4 SW 1/4

1" = 40'
X-Section Scale
1" = 100'

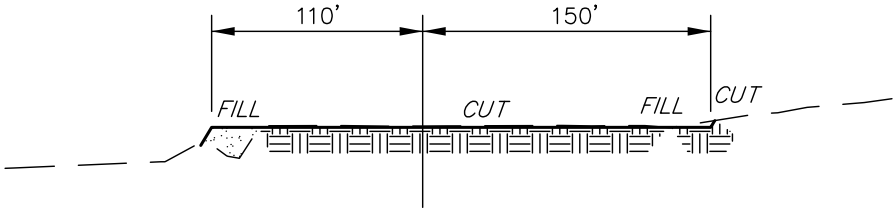
DATE: 07-20-09
Drawn By: C.H.



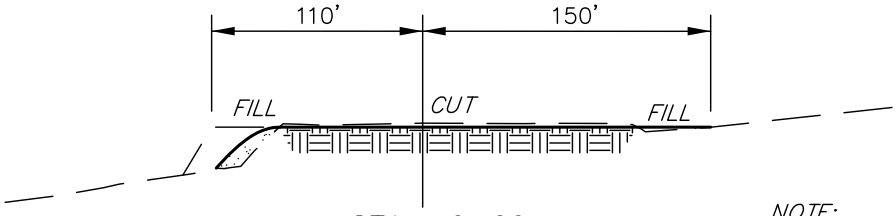

STA. 3+90




STA. 1+90




STA. 1+00




STA. 0+00

REGISTERED LAND SURVEYOR
No. 161319
ROBERT L. KAY
STATE OF UTAH

NOTE:
OBTAIN DEFICIT MATERIAL FROM EXISTING TOPSOIL STOCKPILE

* NOTE:
FILL QUANTITY INCLUDES 5% FOR COMPACTION

APPROXIMATE ACREAGES

EXISTING DISTURBANCE = ±1.634 ACRES
NEW DISTURBANCE = ±0.852 ACRES

TOTAL = ±2.486 ACRES

APPROXIMATE YARDAGES

CUT

(6") Topsoil Stripping (New Construction Only) = 610 Cu. Yds.
Remaining Location = 1,710 Cu. Yds.

TOTAL CUT = 2,320 CU.YDS.
FILL = 2,250 CU.YDS.

EXCESS MATERIAL = 70 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.) = 610 Cu. Yds.
DEFICIT UNBALANCE (After Interim Rehabilitation) = <540> Cu. Yds.

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East * Vernal, Utah 84078 * (435) 789-1017

# EOG RESOURCES, INC.

FIGURE #3

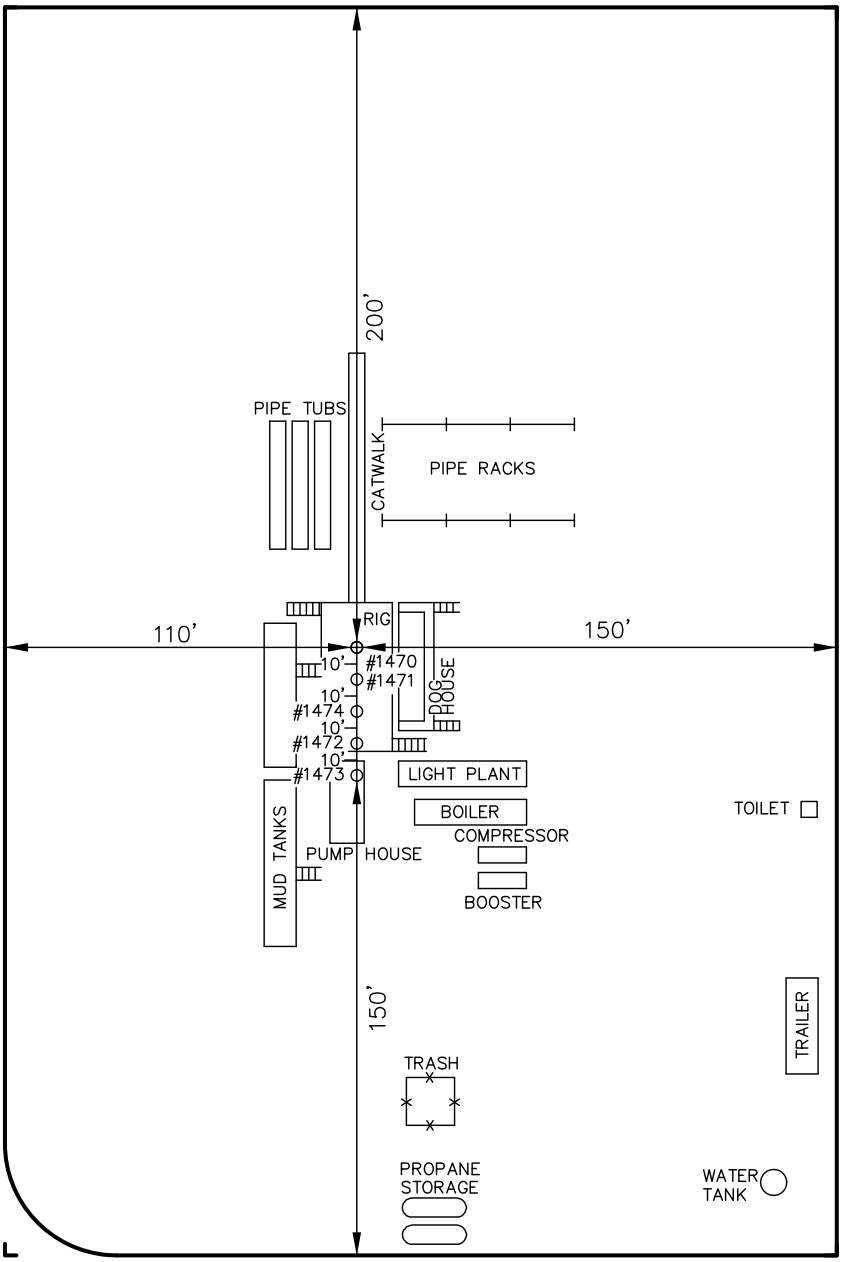
TYPICAL RIG LAYOUT FOR

CWU #1470–15D, #1471–15D, #1472–15D,
#1473–15D & #1474–15D
SECTION 15, T9S, R22E S.L.B.&M.
SW 1/4 SW 1/4

SCALE: 1" = 60'
DATE: 07–20–09
Drawn By: C.H.

REGISTERED LAND SURVEYOR
No. 161319
ROBERT L. KAY
STATE OF UTAH

*NOTE:*
*Flare Pit is to be located a min. of 100' from the Well Head.*




UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East * Vernal, Utah 84078 * (435) 789–1017

# EOG RESOURCES, INC.

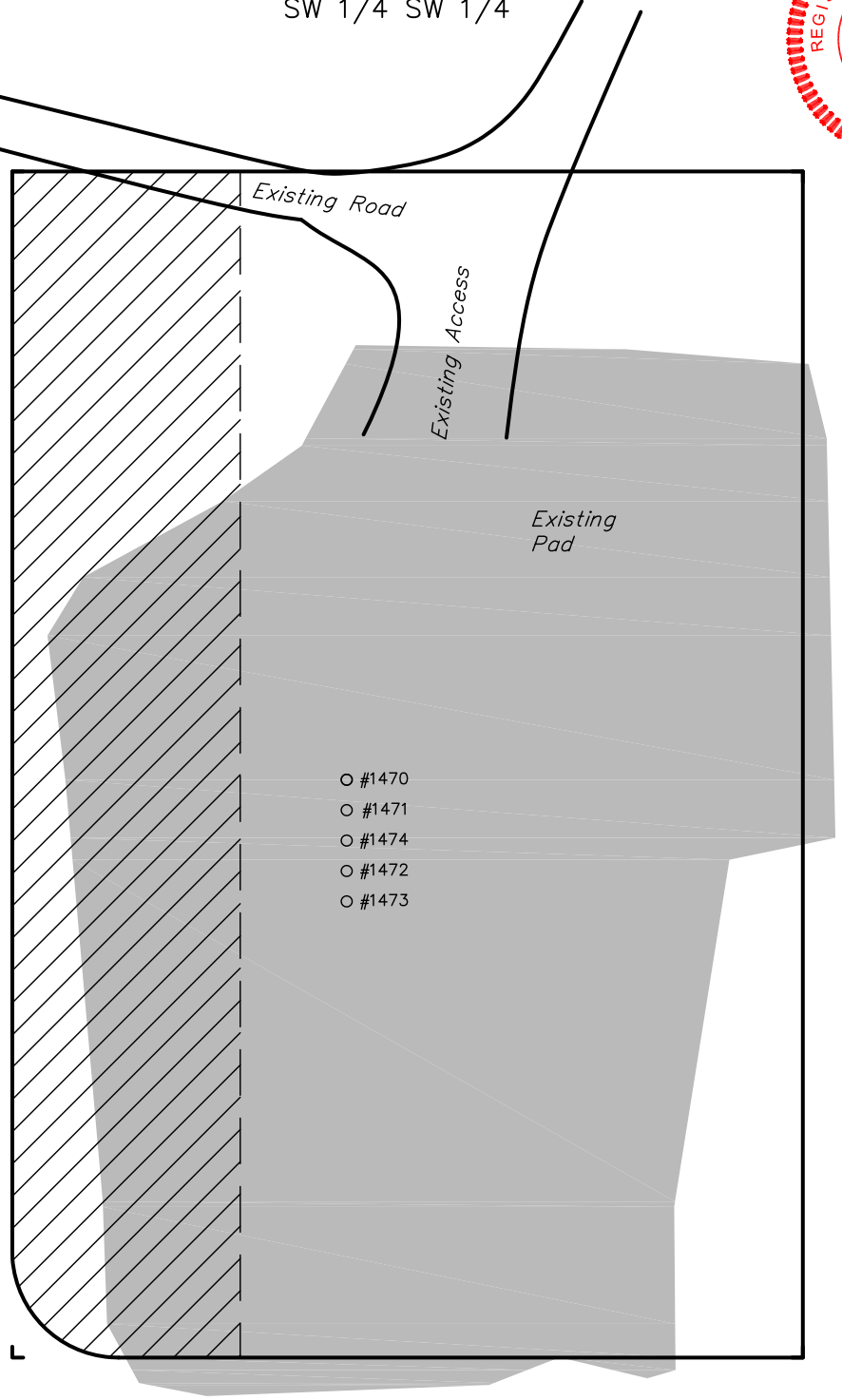
FIGURE #4

PRODUCTION FACILITY LAYOUT FOR

CWU #1470–15D, #1471–15D, #1472–15D,
#1473–15D & #1474–15D
SECTION 15, T9S, R22E S.L.B.&M.
SW 1/4 SW 1/4

SCALE: 1" = 60'
DATE: 07–20–09
Drawn By: C.H.

REGISTERED LAND SURVEYOR
No. 161319
ROBERT L. KAY
STATE OF UTAH




RE–HABED AREA

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East * Vernal, Utah 84078 * (435) 789–1017

# EOG RESOURCES, INC.
## CWU #1473-15D, #1472-15D, #1474-15D, #1471-15D & #1470-15D
## SECTION 15, T9S, R22E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14.0 MILES TO THE JUNCTION OF STATE HIGHWAY 88; EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 17.0 MILES TO OURAY, UTAH; PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 0.3 MILES ON THE SEEP RIDGE ROAD TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY DIRECTION APPROXIMATELY 12.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTH; TURN RIGHT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 1.7 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY DIRECTION APPROXIMATELY 1.9 MILES THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION APPROXIMATELY 0.5 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE WEST; TURN RIGHT AND PROCEED IN A WESTERLY DIRECTION APPROXIMATELY 0.5 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHWEST; TURN RIGHT AND PROCEED IN A NORTHWESTERLY DIRECTION APPROXIMATELY 0.2 MILES TO THE CWU #844-15 AND THE PROPOSED LOCATIONS.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 48.4 MILES.

API Well No: 43047508230000

# United States Department of the Interior

BUREAU OF LAND MANAGEMENT
**Utah State Office**
**P.O. Box 45155**
**Salt Lake City, Utah 84145-0155**

**IN REPLY REFER TO:**
**3160**
**(UT-922)**

November 24, 2009

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2009 Plan of Development Chapita Wells Unit Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2009 within the Chapita Wells Unit, Uintah County, Utah.

| API # | WELL NAME | LOCATION |
|---|---|---|
| (Proposed PZ MESA VERDE) | | |
| 43-047-50819 | CWU 1470-15D | Sec 15 T09S R22E 0580 FSL 0771 FWL<br>BHL Sec 15 T09S R22E 0625 FSL 1298 FWL |
| 43-047-50820 | CWU 1471-15D | Sec 15 T09S R22E 0583 FSL 0761 FWL<br>BHL Sec 15 T09S R22E 1217 FSL 1226 FWL |
| 43-047-50821 | CWU 1472-15D | Sec 15 T09S R22E 0588 FSL 0741 FWL<br>BHL Sec 15 T09S R22E 1294 FSL 0688 FWL |
| 43-047-50822 | CWU 1473-15D | Sec 15 T09S R22E 0590 FSL 0732 FWL<br>BHL Sec 15 T09S R22E 0720 FSL 0071 FWL |
| 43-047-50823 | CWU 1474-15D | Sec 15 T09S R22E 0585 FSL 0751 FWL<br>BHL Sec 22 T09S R22E 0002 FNL 0709 FWL |

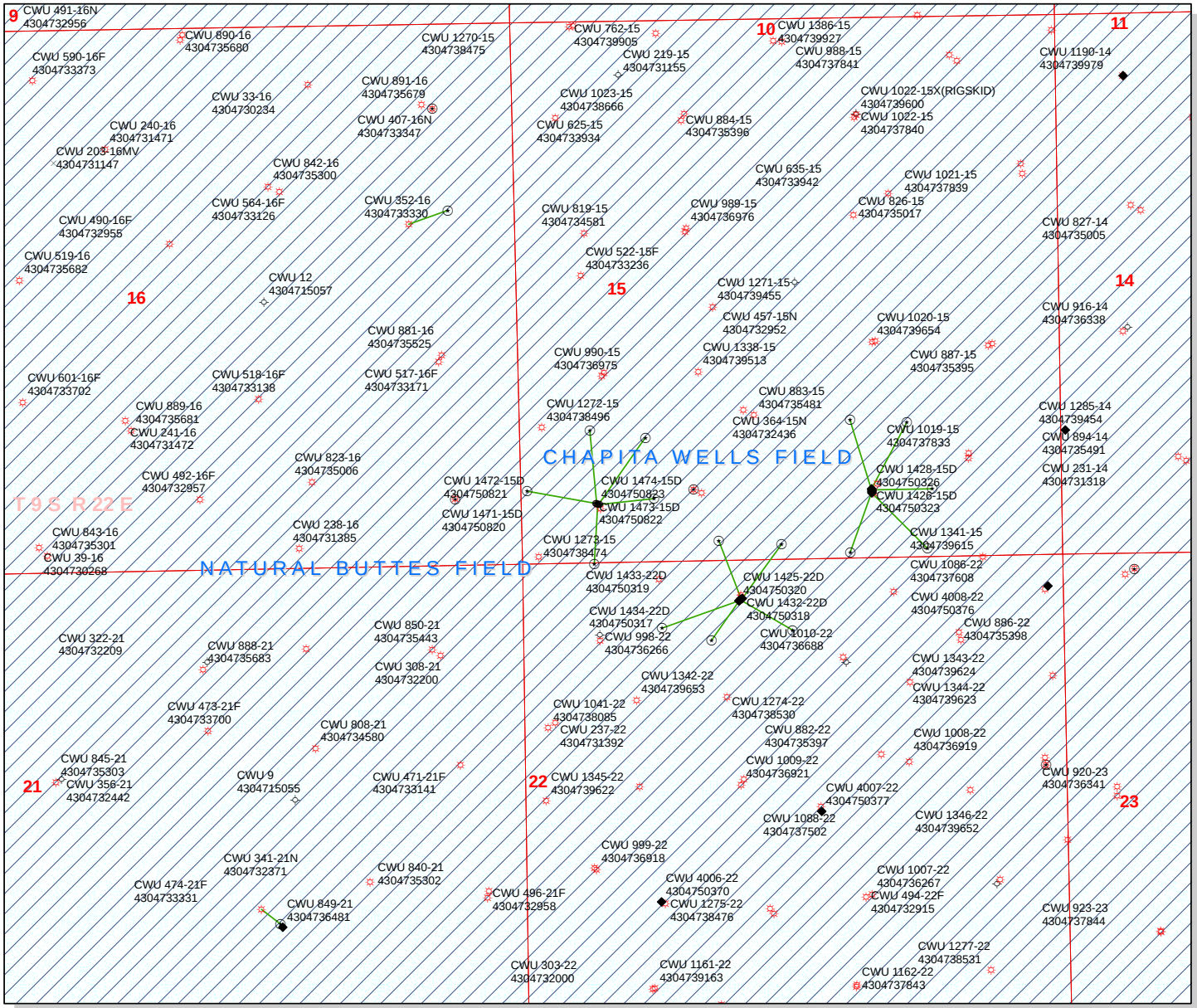
This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File - Chapita Wells Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:11-24-09

’APIWellNo:4304750823000’




**API Number: 4304750823**

**Well Name: CWU 1474-15D**

**Township 09.0 S Range 22.0 E Section 15**

**Meridian: SLBM**

Operator: EOG RESOURCES, INC.

Map Prepared:
Map Produced by Diana Mason

**Units**
**STATUS**
ACTIVE
EXPLORATORY
GAS STORAGE
NF PP OIL
NF SECONDARY
PI OIL
PP GAS
PP GEOTHERML
PP OIL
SECONDARY
TERMINATED

**Fields**
**STATUS**
Unknown
ABANDONED
ACTIVE
COMBINED
INACTIVE
STORAGE
TERMINATED
Sections
Township

**Wells Query**
<all other values>
**Status**
APD - Aproved Permit
DRL - Spuded (Drilling Commenced)
GIW - Gas Injection
GS - Gas Storage
LA - Location Abandoned
LOC - New Location
OPS - Operation Suspended
PA - Plugged Abandoned
PGW - Producing Gas Well
POW - Producing Oil Well
RET - Returned APD
SGW - Shut-in Gas Well
SOW - Shut-in Oil Well
TA - Temp. Abandoned
TW - Test Well
WDW - Water Disposal
WIW - Water Injection Well
WSW - Water Supply Well

N

1,250 625 0 1,250 Feet

1:12,000

'APIWellNo:43047508230000'

eog resources

**EOG Resources, Inc.**
*600 Seventeenth Street*
*Suite 1000N*
*Denver, CO 80202*
*Main: 303-572-9000*
*Fax: 303-824-5400*

March 9, 2010

Diana Whitney
Utah Division of Oil, Gas, & Mining
P.O. Box 145801
Salt Lake City, Utah 54114-5801

2180

**RE: Directional Application**

**Lease UTU-0284-A (BHL)**
**Chapita Wells Unit 1474-15D**
**Section 15, T9S, R22E (SHL)**
**Uintah County, Utah**

Ms. Whitney,

Pursuant to the filing of Chapita Wells Unit 1474-15D Application for Permit to Drill regarding the above referenced well on November 16, 2009, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- EOG Resources, Inc. is the only lease operator/working interest owner within a 460 foot radius of the Chapita Wells Unit 1474-15D well bore, located within Section 15, T9S, R22E, Uintah County, Utah.
- EOG Resources, Inc. is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, EOG will be able to utilize the existing road infrastructure.
- Furthermore, EOG hereby certifies that EOG is the sole working interest owner within 460 feet of the entire directional well bore.

Based on the above stated information, EOG Resources, Inc. requests the permit be granted pursuant to R649-3-11.

Sincerely,

Mary A. Maestas

Mary A. Maestas
Regulatory Assistant

RECEIVED
MAR 11 2010
DIV. OF OIL, GAS & MINING

# WORKSHEET
# APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 11/23/2009 **API NO. ASSIGNED:** 43047508230000
**WELL NAME:** CWU 1474-15D
**OPERATOR:** EOG Resources, Inc. (N9550) **PHONE NUMBER:** 303 824-5526
**CONTACT:** Mary Maestas

**PROPOSED LOCATION:** SWSW 15 090S 220E **Permit Tech Review:** ☑

**SURFACE:** 0585 FSL 0751 FWL **Engineering Review:** ☐

**BOTTOM:** 0002 FNL 0709 FWL **Geology Review:** ☑

**COUNTY:** UINTAH
**LATITUDE:** 40.03042 **LONGITUDE:** -109.43211
**UTM SURF EASTINGS:** 633782.00 **NORTHINGS:** 4432101.00
**FIELD NAME:** NATURAL BUTTES
**LEASE TYPE:** 1 - Federal
**LEASE NUMBER:** UTU0284A **PROPOSED PRODUCING FORMATION(S):** MESA VERDE
**SURFACE OWNER:** 1 - Federal **COALBED METHANE:** NO

**RECEIVED AND/OR REVIEWED:**

- ☑ **PLAT**
- ☑ **Bond:** FEDERAL - NM2308
- ☐ **Potash**
- ☑ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ☑ **Water Permit:** 49-225
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ☐ **Intent to Commingle**

**Commingling Approved**

**LOCATION AND SITING:**

- ☐ **R649-2-3.**

**Unit:** CHAPITA WELLS

- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ☑ **Drilling Unit**

**Board Cause No:** Cause 179-8
**Effective Date:** 8/10/1999
**Siting:** Suspends General Siting

- ☑ **R649-3-11. Directional Drill**

**Comments:** Presite Completed
BHL SEC 22 NWNW:

**Stipulations:**
4 - Federal Approval - dmason
15 - Directional - dmason
17 - Oil Shale 190-5(b) - dmason

GARY R. HERBERT
*Governor*
GREGORY S. BELL
*Lieutenant Governor*

# State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
*Executive Director*
**Division of Oil, Gas and Mining**
JOHN R. BAZA
*Division Director*

# Permit To Drill
**********

**Well Name:** CWU 1474-15D
**API Well Number:** 43047508230000
**Lease Number:** UTU0284A
**Surface Owner:** FEDERAL
**Approval Date:** 3/16/2010

**Issued to:**
EOG Resources, Inc., 1060 East Highway 40, Vernal, UT 84078

**Authority:**
Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 179-8. The expected producing formation or pool is the MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

**Duration:**
This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

**General:**
Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

**Conditions of Approval:**
State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

**Notification Requirements:**
The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:
- Within 24 hours following the spudding of the well – contact Carol Daniels at 801-538-5284 (please leave a voicemail message if not available)

OR
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at https://oilgas.ogm.utah.gov

**Reporting Requirements:**
All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

**Approved By:**

Gil Hunt
Associate Director, Oil & Gas

API Well No: 43047508230000

# STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU0284A

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: CHAPITA WELLS

1. TYPE OF WELL: Gas Well

8. WELL NAME and NUMBER: CWU 1474-15D

2. NAME OF OPERATOR: EOG Resources, Inc.

9. API NUMBER: 43047508230000

3. ADDRESS OF OPERATOR: 1060 East Highway 40 , Vernal, UT, 84078

PHONE NUMBER: 435 781-9111 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
0585 FSL 0751 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SWSW Section: 15 Township: 09.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11.
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ✓ NOTICE OF INTENT<br>Approximate date work will start:<br>3/9/2011 | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| ☐ SUBSEQUENT REPORT<br>Date of Work Completion: | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| ☐ SPUD REPORT<br>Date of Spud: | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| ☐ DRILLING REPORT<br>Report Date: | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ✓ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

EOG Resources, Inc. respectfully requests the APD for the referenced well be extended for one year.

**Approved by the Utah Division of Oil, Gas and Mining**

**Date:** 03/09/2011

**By:**

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Michelle Robles | 307 276-4842 | Regulatory Assistant |

| SIGNATURE | DATE |
|---|---|
| N/A | 3/9/2011 |

## The Utah Division of Oil, Gas, and Mining

**- State of Utah**
**- Department of Natural Resources**

**Electronic Permitting System - Sundry Notices**

# Request for Permit Extension Validation Well Number 43047508230000

**API:** 43047508230000
**Well Name:** CWU 1474-15D
**Location:** 0585 FSL 0751 FWL QTR SWSW SEC 15 TWNP 090S RNG 220E MER S
**Company Permit Issued to:** EOG RESOURCES, INC.
**Date Original Permit Issued:** 3/16/2010

**The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.**

- **If located on private land, has the ownership changed, if so, has the surface agreement been updated?** ○ **Yes** ◉ **No**
- **Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?** ○ **Yes** ◉ **No**
- **Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?** ○ **Yes** ◉ **No**
- **Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location?** ○ **Yes** ◉ **No**
- **Has the approved source of water for drilling changed?** ○ **Yes** ◉ **No**
- **Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?** ○ **Yes** ◉ **No**
- **Is bonding still in place, which covers this proposed well?** ◉ **Yes** ○ **No**

**Signature:** Michelle Robles **Date:** 3/9/2011
**Title:** Regulatory Assistant **Representing:** EOG RESOURCES, INC.

**RECEIVED** Mar. 09, 2011

Form 3160-3
(August 2007)

RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR NOV 16 2009
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010

# APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
UTU0284A

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
UTU63013BF

8. Lease Name and Well No.
CWU 1474-15D

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator
EOG RESOURCES INC
Contact: MARY A. MAESTAS
E-Mail: mary_maestas@eogresources.com

9. API Well No.
43 047 50823

3a. Address
1060 EAST HIGHWAY 40
VERNAL, UT 84078

3b. Phone No. (include area code)
Ph: 303-824-5526

10. Field and Pool, or Exploratory
NATURAL BUTTES

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface SWSW 585FSL 751FWL 40.03034 N Lat, 109.43283 W Lon

At proposed prod. zone NWNW 2FNL 709FWL 40.02873 N Lat, 109.43298 W Lon Sec 22

11. Sec., T., R., M., or Blk. and Survey or Area
Sec 15 T9S R22E Mer SLB
SME: BLM

14. Distance in miles and direction from nearest town or post office*
48.4 MILES SOUTH OF VERNAL, UT

12. County or Parish
UINTAH

13. State
UT

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
2' LEASE LINE

16. No. of Acres in Lease
1240.00

17. Spacing Unit dedicated to this well

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.
340'

19. Proposed Depth
9738 MD
9675 TVD

20. BLM/BIA Bond No. on file
NM2308

21. Elevations (Show whether DF, KB, RT, GL, etc.
4876 GL

22. Approximate date work will start

23. Estimated duration
45 DAYS

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature
(Electronic Submission)

Name (Printed/Typed)
MARY A. MAESTAS Ph: 303-824-5526

Date
11/16/2009

Title
REGULATORY ASSISTANT

Approved by (Signature)

Name (Printed/Typed)
Jerry Kenczka

Date
JUL 12 201

Title
Assistant Field Manager
Lands & Mineral Resources

Office
VERNAL FIELD OFFICE

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

CONDITIONS OF APPROVAL ATTACHED

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**Additional Operator Remarks (see next page)**

**Electronic Submission #77465 verified by the BLM Well Information System**
**For EOG RESOURCES INC, sent to the Vernal**
**Committed to AFMSS for processing by ROBIN R. HANSEN on 11/17/2009 (10BRH0049AE)**

NOTICE OF APPROVAL

RECEIVED
JUL 18 2011
DIV. OF OIL, GAS & MINING

UDOGM

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

## Additional Operator Remarks:

Production will be established from the Mesaverde formation.

The proposed well will include Chapita Wells Unit 1470-15D, Chapita Wells Unit 1471-15D, Chapita Wells Unit 1472-15D, Chapita Wells Unit 1473-15D, Chapita Wells Unit 1474-15D and producing wells Chapita Wells Unit 35-15 and Chapita Wells Unit 844-15.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VERNAL FIELD OFFICE
170 South 500 East VERNAL, UT 84078 (435) 781-440(

## *CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL*

| | | | |
|---|---|---|---|
| **Company:** | **EOG Resource, Inc.** | **Location:** | **SWSW, Sec. 15, T9S, R22E(S)**<br>**NWNW, Sec. 22, T9S, R22E (B)** |
| **Well No:** | **CWU 1474-15D** | **Lease No:** | **UTU-0284A** |
| **API No:** | **43-047-50823** | **Agreement:** | **Chapita Wells Unit** |

**OFFICE NUMBER: (435) 781-4400**

**OFFICE FAX NUMBER: (435) 781-3420**

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

## NOTIFICATION REQUIREMENTS

| | | |
|---|---|---|
| Location Construction<br>(Notify Environmental Scientist) | - | Forty-Eight (48) hours prior to construction of location and access roads. |
| Location Completion<br>(Notify Environmental Scientist) | - | Prior to moving on the drilling rig. |
| Spud Notice<br>(Notify Petroleum Engineer) | - | Twenty-Four (24) hours prior to spudding the well. |
| Casing String & Cementing<br>(Notify Supv. Petroleum Tech.) | - | Twenty-Four (24) hours prior to running casing and cementing all casing strings to: ut_vn_opreport@blm.gov. |
| BOP & Related Equipment Tests<br>(Notify Supv. Petroleum Tech.) | - | Twenty-Four (24) hours prior to initiating pressure tests. |
| First Production Notice<br>(Notify Petroleum Engineer) | - | Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days. |

## *SURFACE USE PROGRAM CONDITIONS OF APPROVAL (COAs)*

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of $NO_x$ per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.

- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of $NO_x$ per horsepower-hour.

- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.

- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.

**SITE SPECIFIC COAs:**

**COMPANY/OPERATOR:** EOG Resources Inc.
**Well Name and Number:** CWU 1470-15D (to be directionally drilled from existing CWU 35-15 844-15 well pad)
**LOCATION:** SWSW Sec. 15, Township 9 South, Range 22 East

1. **Paleontology:**
   A permitted paleontologist will monitor the construction of the well pad.

2. **Paint**
   All facilities will be painted Covert Green within six months of installation, except those facilities which are required to comply with the Occupational Safety and Health Act (OSHA).

3. **Note:**
   **Expiration Date for the** "Chapita Wells Stagecoach Area Natural Gas Development Environmental Impact Statement," (EIS # UT-080-2005-0010) is March 31, 2013. Approval and drilling of this gas well is contingent on the validity of the above EA (sec. 390, b:3, Energy Policy Act of 2005). Consequently, the well must be spudded by March 31, 2013; otherwise, the APD will default to 'expired status' and the operator will cease all drilling related activities at the site.

## *DOWNHOLE PROGRAM*
## *CONDITIONS OF APPROVAL (COAs)*

### *SITE SPECIFIC DOWNHOLE COAs:*

- A formation integrity test shall be performed at the surface casing shoe.
- Gamma Ray Log shall be run from Total Depth to Surface.

**Variances Granted**

**Air Drilling**

- Dust suppression equipment. Variance granted for water mist system to substitute for the dust suppression equipment.
- Blooie line discharge 100' from the well bore, variance granted for blooie line discharge to be 75' from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100' from the well bore. Variance granted for truck/trailer mounted air compressors.
- Straight run blooie line. Variance granted for targeted "T's" at bends.
- Automatic igniter. Variance granted for igniter due to water mist.

**All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to.** The following items are emphasized:

### DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.

- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.

- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.

- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.

- No aggressive/fresh hard-banded drill pipe shall be used within casing.

- **Cement baskets shall not be run on surface casing.**

- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.

- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.

- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.

- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.

- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.

- **Please submit an electronic copy of all other logs run on this well in LAS format to UT_VN_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**

- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

***OPERATING REQUIREMENT REMINDERS:***

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.

- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at www.ONRR.gov.

- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:

    - Operator name, address, and telephone number.
    - Well name and number.
    - Well location (¼¼, Sec., Twn, Rng, and P.M.).
    - Date well was placed in a producing status (date of first production for which royalty will be paid).
    - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
    - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
    - Unit agreement and/or participating area name and number, if applicable.
    - Communitization agreement number, if applicable.

- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.

- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.

- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.

- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.

- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.

- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.

- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.

- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.

- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

**STATE OF UTAH**
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

**5.LEASE DESIGNATION AND SERIAL NUMBER:** UTU0284A

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** CHAPITA WELLS

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** CWU 1474-15D

**2. NAME OF OPERATOR:** EOG Resources, Inc.

**9. API NUMBER:** 43047508230000

**3. ADDRESS OF OPERATOR:** 600 17th Street, Suite 1000 N , Denver, CO, 80202

**PHONE NUMBER:** 435 781-9111 Ext

**9. FIELD and POOL or WILDCAT:** NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 0585 FSL 0751 FWL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: SWSW Section: 15 Township: 09.0S Range: 22.0E Meridian: S

**COUNTY:** UINTAH

**STATE:** UTAH

**11.**

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

**TYPE OF SUBMISSION**

- ✓ NOTICE OF INTENT
  Approximate date work will start: 2/7/2012
- ☐ SUBSEQUENT REPORT
  Date of Work Completion:
- ☐ SPUD REPORT
  Date of Spud:
- ☐ DRILLING REPORT
  Report Date:

**TYPE OF ACTION**

| | | |
|---|---|---|
| ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ✓ APD EXTENSION |
| ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

EOG Resources, Inc. respectfully requests the APD for the referenced well be extended for one year.

**Approved by the Utah Division of Oil, Gas and Mining**

**Date:** February 13, 2012

**By:**

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Nanette Lupcho | 435 781-9157 | Regulatory Assistant |

| SIGNATURE | DATE |
|---|---|
| N/A | 2/7/2012 |

RECEIVED: Feb. 07, 2012

## The Utah Division of Oil, Gas, and Mining

**- State of Utah**
**- Department of Natural Resources**

**Electronic Permitting System - Sundry Notices**

## Request for Permit Extension Validation Well Number 43047508230000

**API:** 43047508230000
**Well Name:** CWU 1474-15D
**Location:** 0585 FSL 0751 FWL QTR SWSW SEC 15 TWNP 090S RNG 220E MER S
**Company Permit Issued to:** EOG RESOURCES, INC.
**Date Original Permit Issued:** 3/16/2010

**The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.**

- **If located on private land, has the ownership changed, if so, has the surface agreement been updated?** ○ **Yes** ◉ **No**
- **Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?** ○ **Yes** ◉ **No**
- **Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?** ○ **Yes** ◉ **No**
- **Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location?** ○ **Yes** ◉ **No**
- **Has the approved source of water for drilling changed?** ○ **Yes** ◉ **No**
- **Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?** ○ **Yes** ◉ **No**
- **Is bonding still in place, which covers this proposed well?** ◉ **Yes** ○ **No**

**Signature:** Nanette Lupcho **Date:** 2/7/2012
**Title:** Regulatory Assistant **Representing:** EOG RESOURCES, INC.

RECEIVED: Feb. 07, 2012

# STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

**5.LEASE DESIGNATION AND SERIAL NUMBER:** UTU0284A

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** CHAPITA WELLS

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** CWU 1474-15D

**2. NAME OF OPERATOR:** EOG Resources, Inc.

**9. API NUMBER:** 43047508230000

**3. ADDRESS OF OPERATOR:** 600 17th Street, Suite 1000 N , Denver, CO, 80202

**PHONE NUMBER:** 435 781-9111 Ext

**9. FIELD and POOL or WILDCAT:** NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 0585 FSL 0751 FWL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: SWSW Section: 15 Township: 09.0S Range: 22.0E Meridian: S

**COUNTY:** UINTAH

**STATE:** UTAH

11.
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ✓ NOTICE OF INTENT<br>Approximate date work will start:<br>2/25/2013 | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| ☐ SUBSEQUENT REPORT<br>Date of Work Completion: | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| ☐ SPUD REPORT<br>Date of Spud: | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| ☐ DRILLING REPORT<br>Report Date: | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ✓ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

EOG Resources, Inc. respectfully requests the APD for the referenced well be extended for one year.

**Approved by the Utah Division of Oil, Gas and Mining**

**Date:** March 04, 2013

**By:**

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Vail Nazzaro | 303 824-5590 | Sr. Regulatory Assistant |

| SIGNATURE | DATE |
|---|---|
| N/A | 2/25/2013 |

RECEIVED: Feb. 25, 2013

## The Utah Division of Oil, Gas, and Mining

**- State of Utah**
**- Department of Natural Resources**

**Electronic Permitting System - Sundry Notices**

### Request for Permit Extension Validation Well Number 43047508230000

**API:** 43047508230000
**Well Name:** CWU 1474-15D
**Location:** 0585 FSL 0751 FWL QTR SWSW SEC 15 TWNP 090S RNG 220E MER S
**Company Permit Issued to:** EOG RESOURCES, INC.
**Date Original Permit Issued:** 3/16/2010

**The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.**

- **If located on private land, has the ownership changed, if so, has the surface agreement been updated?** ○ **Yes** ◉ **No**
- **Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?** ○ **Yes** ◉ **No**
- **Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?** ○ **Yes** ◉ **No**
- **Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location?** ○ **Yes** ◉ **No**
- **Has the approved source of water for drilling changed?** ○ **Yes** ◉ **No**
- **Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?** ○ **Yes** ◉ **No**
- **Is bonding still in place, which covers this proposed well?** ◉ **Yes** ○ **No**

**Signature:** Vail Nazzaro **Date:** 2/25/2013
**Title:** Sr. Regulatory Assistant **Representing:** EOG RESOURCES, INC.

RECEIVED: Feb. 25, 2013

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
MAR 0 4 2013
BLM

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

**SUNDRY NOTICES AND REPORTS ON WELLS**
***Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***

***SUBMIT IN TRIPLICATE - Other instructions on reverse side.***

5. Lease Serial No.
UTU0284A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
CHAPITA WELLS

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.
CWU 1474-15D

2. Name of Operator
EOG RESOURCES, INC.
Contact: VAIL NAZZARO
E-Mail: vail_nazzaro@eogresources.com

9. API Well No.
43-047-50823

3a. Address
600 17TH STREET SUITE 1000N
DENVER, CO 80202

3b. Phone No. (include area code)
Ph: 303-824-5590

10. Field and Pool, or Exploratory
NATURAL BUTTES

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 15 T9S R22E Mer SLB SWSW 585FSL 751FWL

11. County or Parish, and State
UINTAH COUNTY, UT

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | | |
|---|---|---|---|---|
| ☒ Notice of Intent | ☐ Acidize | ☐ Deepen | ☐ Production (Start/Resume) | ☐ Water Shut-Off |
| ☐ Subsequent Report | ☐ Alter Casing | ☐ Fracture Treat | ☐ Reclamation | ☐ Well Integrity |
| ☐ Final Abandonment Notice | ☐ Casing Repair | ☐ New Construction | ☐ Recomplete | ☒ Other Change to Original A PD |
| | ☐ Change Plans | ☐ Plug and Abandon | ☐ Temporarily Abandon | |
| | ☐ Convert to Injection | ☐ Plug Back | ☐ Water Disposal | |

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

EOG Resources, Inc. respectfully requests a two year extension for the referenced APD.

VERNAL FIELD OFFICE
ENG. RHH 4/22/13
GEOL.
E.S.
PET.
ECL.

MAY 0 9 2013

14. I hereby certify that the foregoing is true and correct.
**Electronic Submission #200548 verified by the BLM Well Information System**
**For EOG RESOURCES, INC., sent to the Vernal**
**Committed to AFMSS for processing by BOBBI SCHROEDER on 03/05/2013 ()**

Name *(Printed/Typed)* VAIL NAZZARO — Title SR. REGULATORY ASSISTANT

Signature (Electronic Submission) — Date 03/04/2013

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By **DENIED** — Title — Date APR 2 3 2013

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office **VERNAL FIELD OFFICE**

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

UDOGM

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

13R 15 0160SE

# Reason for Denial

## EOG Resources, Inc.

### Notice of Intent
### APD Extension

**Lease:** UTU-0283A
**Well:** CWU 1474-15D
**Location:** SWSW Sec 15-T9S-R22E

An extension for the referenced APD is denied for the following reason:

---

1. The original APD was approved on 07/12/2011, and the original 2 year expiration date of the APD would normally have been until 07/12/2013. However, the Site Specific NEPA document was a Categorical Exclusion (CX) with an expiration date of 03/31/2013. An APD can be extended if the Site Specific NEPA document is valid for the period of the extension. In this case the APD expired on the date of the expiration date of the CX which was prior to the original 2 year term of the APD.

2. The APD for the above well cannot be extended.

The well specific NEPA was a Categorical Exclusion reference Section 390 of the Energy Policy Act of 2005 with a five year spud date condition based upon the signature date of the Chapita Wells-Stagecoach Area Natural Gas Development EIS which was approved on 03/31/2008. Any and all CX NEPA Site Specific Documents for well locations tiered off this EIS have an expiration date of 03/31/2013.

If you have any other questions concerning this matter, please contact Robin L Hansen of this office at (435) 781-2777

# United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Green River District
Vernal Field Office
170 South 500 East
Vernal, UT 84078
http://www.blm.gov/ut/st/en/fo/vernal.html

JAN 24 2014

IN REPLY REFER TO:
3160 (UTG011)

Kaylene Gardner
EOG Resources, Inc.
600 17TH STREET, SUITE 1000 N
DENVER, CO 80202

43 047 50823

RECEIVED
FEB 20 2014
DIV. OF OIL, GAS & MINING

Re: Notice of Expiration
Well No. CWU 1474-15D
SWSW, Sec. 15, T9S, R22E
Uintah County, Utah
Lease No. UTU-0284A
Chapita Wells Unit

Dear Ms. Gardner:

The Application for Permit to Drill (APD) for the above-referenced well was approved on July 12, 2011. A two (2) year extension of the original APD was requested. The request was reviewed and the extension denied, due to NEPA expiring prior to the original 2 year date of the APD. According to our records, no known activity has transpired at the approved location. In view of the foregoing, this office is notifying you that the approval of the referenced application has expired. If you intend to drill at this location in the future, a new Application for Permit to Drill must be submitted.

This office requires a letter confirming that no surface disturbance has been made for this drill site. Any surface disturbance associated with the approved location of this well is to be rehabilitated. A schedule for this rehabilitation must be submitted to this office. Your cooperation in this matter is appreciated.

If you have any questions regarding this matter, please contact Robin R. Hansen at (435) 781-3428.

Sincerely,

/s/ Jerry Kenczka

Jerry Kenczka
Assistant Field Manager
Lands & Mineral Resources

cc: UDOGM

bcc: Well File
I&E Asst.

GARY R. HERBERT
*Governor*

SPENCER J. COX
*Lieutenant Governor*

# State of Utah

**DEPARTMENT OF NATURAL RESOURCES**

MICHAEL R. STYLER
*Executive Director*

**Division of Oil, Gas and Mining**

JOHN R. BAZA
*Division Director*

May 15, 2014

EOG Resources, Inc.
600 17th Street, Suite 1000 N.
Denver, CO 80202

Re: APDs Rescinded for EOG Resources, Inc., Uintah County

Ladies and Gentlemen:

Enclosed find the list of APDs that is being rescinded. No drilling activity at these locations has been reported to the division. Therefore, approval to drill these wells is hereby rescinded, effective May 15, 2014.

A new APD must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,

Diana Mason
Environmental Scientist

cc: Well File
Bureau of Land Management, Vernal

1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114-5801
telephone (801) 538-5340 • facsimile (801) 359-3940 • TTY (801) 538-7458 • *www.ogm.utah.gov*

UTAH DNR OIL, GAS & MINING

| | |
|---|---|
| 43-047-39960 | CWU 755-10 |
| 43-047-40607 | LOST LOVE 15-25 |
| 43-047-50819 | CWU 1470-15D |
| 43-047-50820 | CWU 1471-15D |
| 43-047-50821 | CWU 1472-15D |
| 43-047-50822 | CWU 1473-15D |
| 43-047-50823 | CWU 1474-15D |
| 43-047-50825 | CWU 1481-26D |