

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

FORM 3

AMENDED REPORT

|  |           |                   |   |  |                |  |         |                                |       |        |  |          |  |
|--|-----------|-------------------|---|--|----------------|--|---------|--------------------------------|-------|--------|--|----------|--|
| <b>APPLICATION FOR PERMIT TO DRILL</b>   |           |                   |   |  |                | 1. WELL NAME and NUMBER<br>Silver 5-20C4   |         |                                |       |        |  |          |  |
| 2. TYPE OF WORK<br>DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/> |           |                   |   |  |                | 3. FIELD OR WILDCAT<br>ALTAMONT  |         |                                |       |        |  |          |  |
| 4. TYPE OF WELL<br>Oil Well Coalbed Methane Well: NO   |           |                   |   |  |                | 5. UNIT or COMMUNITIZATION AGREEMENT NAME  |         |                                |       |        |  |          |  |
| 6. NAME OF OPERATOR<br>EP ENERGY E&P COMPANY, L.P.   |           |                   |   |  |                | 7. OPERATOR PHONE<br>713 997-5038  |         |                                |       |        |  |          |  |
| 8. ADDRESS OF OPERATOR<br>1001 Louisiana, Houston, TX, 77002   |           |                   |   |  |                | 9. OPERATOR E-MAIL<br>maria.gomez@epenergy.com   |         |                                |       |        |  |          |  |
| 10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)<br>Fee  |           |                   | 11. MINERAL OWNERSHIP<br>FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>    |  |                | 12. SURFACE OWNERSHIP<br>FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/> |         |                                |       |        |  |          |  |
| 13. NAME OF SURFACE OWNER (if box 12 = 'fee')<br>Dennis Silver   |           |                   |   |  |                | 14. SURFACE OWNER PHONE (if box 12 = 'fee')<br>801-973-7759  |         |                                |       |        |  |          |  |
| 15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')<br>PO Box 702392, West Valley City, UT 84170  |           |                   |   |  |                | 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<br>YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/> |  |                | 19. SLANT<br>VERTICAL <input checked="" type="checkbox"/> DIRECTIONAL <input type="checkbox"/> HORIZONTAL <input type="checkbox"/>                               |         |                                |       |        |  |          |  |
| 20. LOCATION OF WELL   |           | FOOTAGES          |   | QTR-QTR  |                | SECTION  |         | TOWNSHIP                       |       | RANGE  |  | MERIDIAN |  |
| LOCATION AT SURFACE  |           | 1904 FNL 1002 FEL |   | SENE   |                | 20   |         | 3.0 S                          |       | 4.0 W  |  | U        |  |
| Top of Uppermost Producing Zone  |           | 1904 FNL 1002 FEL |   | SENE   |                | 20   |         | 3.0 S                          |       | 4.0 W  |  | U        |  |
| At Total Depth   |           | 1904 FNL 1002 FEL |   | SENE   |                | 20   |         | 3.0 S                          |       | 4.0 W  |  | U        |  |
| 21. COUNTY<br>DUCHESNE   |           |                   | 22. DISTANCE TO NEAREST LEASE LINE (Feet)<br>1002   |  |                | 23. NUMBER OF ACRES IN DRILLING UNIT<br>640  |         |                                |       |        |  |          |  |
|  |           |                   | 25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)<br>4000   |  |                | 26. PROPOSED DEPTH<br>MD: 11900 TVD: 11900   |         |                                |       |        |  |          |  |
| 27. ELEVATION - GROUND LEVEL<br>5850   |           |                   | 28. BOND NUMBER<br>400JU0708  |  |                | 29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE<br>Duchesne City   |         |                                |       |        |  |          |  |
| <b>Hole, Casing, and Cement Information</b>  |           |                   |   |  |                |  |         |                                |       |        |  |          |  |
| String   | Hole Size | Casing Size       | Length  | Weight   | Grade & Thread | Max Mud Wt.  | Cement  | Sacks                          | Yield | Weight |  |          |  |
| COND   | 17.5      | 13.375            | 0 - 600   | 54.5   | J-55 ST&C      | 8.8  | Class G | 758                            | 1.15  | 15.8   |  |          |  |
| SURF   | 12.25     | 9.625             | 0 - 1800  | 40.0   | N-80 LT&C      | 9.3  | Type V  | 190                            | 3.16  | 11.0   |  |          |  |
|  |           |                   |   |  |                |  | Class G | 195                            | 1.3   | 14.3   |  |          |  |
| I1   | 8.75      | 7                 | 0 - 8750  | 29.0   | HCP-110 LT&C   | 10.5   | Class G | 360                            | 2.31  | 12.0   |  |          |  |
|  |           |                   |   |  |                |  | Class G | 246                            | 1.65  | 13.0   |  |          |  |
| L1   | 6.125     | 5                 | 8550 - 11900  | 18.0   | HCP-110 LT&C   | 13.0   | Class G | 198                            | 1.47  | 14.2   |  |          |  |
| <b>ATTACHMENTS</b>   |           |                   |   |  |                |  |         |                                |       |        |  |          |  |
| <b>VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES</b>  |           |                   |   |  |                |  |         |                                |       |        |  |          |  |
| <input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER   |           |                   |   |  |                | <input checked="" type="checkbox"/> COMPLETE DRILLING PLAN   |         |                                |       |        |  |          |  |
| <input checked="" type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)  |           |                   |   |  |                | <input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER   |         |                                |       |        |  |          |  |
| <input type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)  |           |                   |   |  |                | <input checked="" type="checkbox"/> TOPOGRAPHICAL MAP  |         |                                |       |        |  |          |  |
| NAME Maria S. Gomez  |           |                   |   | TITLE Principal Regulatory Analyst   |                |  |         | PHONE 713 997-5038             |       |        |  |          |  |
| SIGNATURE  |           |                   |   | DATE 02/27/2014  |                |  |         | EMAIL maria.gomez@epenergy.com |       |        |  |          |  |
| API NUMBER ASSIGNED<br>43013528750000  |           |                   |   | APPROVAL<br><br><br>Permit Manager |                |  |         |                                |       |        |  |          |  |

**Silver 5-20C4  
Sec. 20, T3S, R4W  
DUCHESNE COUNTY, UT**

**EP ENERGY E&P COMPANY, L.P.**

**DRILLING PROGRAM**

**1. Estimated Tops of Important Geologic Markers**

| <u>Formation</u>    | <u>Depth</u> |
|---------------------|--------------|
| Green River (GRRV)  | 3,900' TVD   |
| Green River (GRTN1) | 5,000' TVD   |
| Mahogany Bench      | 5,357' TVD   |
| L. Green River      | 6,827' TVD   |
| Wasatch             | 8,697' TVD   |
| T.D. (Permit)       | 11,900' TVD  |

**2. Estimated Depths of Anticipated Water, Oil, Gas or Mineral Formations:**

| <u>Substance</u> | <u>Formation</u>    | <u>Depth</u>    |
|------------------|---------------------|-----------------|
|                  | Green River (GRRV)  | 3,900' MD / TVD |
|                  | Green River (GRTN1) | 5,000' MD / TVD |
|                  | Mahogany Bench      | 5,357' MD / TVD |
| Oil              | L. Green River      | 6,827' MD / TVD |
| Oil              | Wasatch             | 8,697' MD / TVD |

**3. Pressure Control Equipment: (Schematic Attached)**

A 4.5" by 20.0" rotating head on structural pipe from surface to 600' MD/TVD. A 4.5" by 13-3/8" Smith Rotating Head (Diverter Stack) from 600' MD/TVD to 1,800' MD/TVD on Conductor. A 10M BOP stack w/ rotating head, 5M annular, blind rams, single w/ flex rams & B-Section from 1,800' MD/TVD to 8,750' MD/TVD. A 10M BOP stack w/ rotating head, 5M annular, blind rams, single w/ flex rams & B-Section from 8,750' MD/TVD to TD (11,900' MD/TVD).

The BOPE and related equipment will meet the requirements of the 5M and 10M system.

**OPERATORS MINIMUM SPECIFICATIONS FOR BOPE:**

The surface casing will be equipped with a flanged casing head of 5M psi working pressure. An 11" 5M x 11" 10M spool, 11" x 10M psi BOP and 5M psi annular will be nipped up on the surface casing and tested to 250 psi low test / 3,000 psi high test for 10 minutes each prior to drilling out. The surface casing will be tested to 1,000 psi. for 30 mins. Intermediate casing will be tested to the

greater of 1,500 psi or 0.22 psi/ft. The choke manifold equipment, upper Kelly cock and floor safety valves will be tested to 5M psi. The annular preventer will be tested to 250 psi low test / 4,000 psi high test. The 10M BOP will be installed with 3-½" pipe rams, blind rams, mud cross and rotating head from surface shoe to TD. The BOPE will be hydraulically operated.

In addition, the BOP equipment will be tested after running intermediate casing, after any repairs to the equipment and at least once every 30 days. Pipe and blind rams will be activated on each trip, annular preventer will be activated weekly and weekly BOP drills will be held with each crew.

**Statement on Accumulator System and Location of Hydraulic Controls:**

Precision Rig # 406 is expected to be used to drill the proposed well. Operations will commence after approval of this application. Manual and/or hydraulic controls will be in compliance with 5M and 10M psi systems.

**Auxiliary Equipment:**

- A) Pason Gas Monitoring 600' - TD
- B) Mud logger with gas monitor – 1,800' to TD (11,900' MD/TVD)
- C) Choke manifold with one manual and one hydraulic operated choke
- D) Full opening floor valve with drill pipe thread
- E) Upper and lower Kelly cock
- F) Shaker, de-sander and centrifuge

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Wellbore Diagram.

All casing will meet or exceed the following design safety factors:

- Burst = 1.00
- Collapse = 1.125
- Tension = 1.2 (including 100k# overpull)

Cement design calculations for intermediate and production hole will be based on minimum 10% excess over gauge hole volumes. Actual volumes pumped will be a minimum of 10% excess over caliper volume to designed tops of cement for any section logged. A minimum of 50% excess over gauge volume will be pumped on surface casing.

5. **Drilling Fluids Program:**

Proposed Mud Program:

| Interval     | Type | Mud Weight  |
|--------------|------|-------------|
| Surface      | WBM  | 8.8 – 9.3   |
| Intermediate | WBM  | 9.3 – 10.5  |
| Production   | WBM  | 10.5 – 13.0 |

Anticipated mud weights are based on actual offset well bottom-hole pressure data. Mud weights utilized may be somewhat higher to allow for trip margin and to provide hole stability for running logs and casing.

Visual mud monitoring equipment will be utilized.

6. **Evaluation Program:**

Logs:

Mud Log: 1,800' MD/TVD – TD (11,900' MD/TVD)

Open Hole Logs: Gamma Ray, Neutron-Density, Resistivity, Sonic, from surface casing shoe to TD.

7. **Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 11,900' TVD equals approximately 8,044 psi. This is calculated based on a 0.676 psi/ft gradient (13.0 ppg mud density at TD).

Maximum anticipated surface pressure equals approximately 5,426 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/ft).

Maximum anticipated surface pressure based on frac gradient at 7" casing shoe is 0.8 psi/ft at 8,750' TVD = 7,000 psi

BOPE and casing design will be based on the lesser of the two MASPs which is 5,426 psi.

8. **OPERATOR REQUESTS THAT THE PROPOSED WELL BE PLACED ON CONFIDENTIAL STATUS.**



**DRILLING PROGRAM**

| CASING PROGRAM   | SIZE    | INTERVAL |       | WT.   | GR.     | CPLG. | BURST  | COLLAPSE | TENSION |
|------------------|---------|----------|-------|-------|---------|-------|--------|----------|---------|
| CONDUCTOR        | 13 3/8" | 0        | 600   | 54.5  | J-55    | STC   | 2,740  | 1,130    | 514     |
| SURFACE          | 9-5/8"  | 0        | 1800  | 40.00 | N-80    | LTC   | 5,750  | 3,090    | 737     |
| INTERMEDIATE     | 7"      | 0        | 8750  | 29.00 | HCP-110 | LTC   | 11,220 | 9,750    | 797     |
| PRODUCTION LINER | 5'      | 8550     | 11900 | 18.00 | HCP-110 | STL   | 13,940 | 15,450   | 495     |

| CEMENT PROGRAM   |      | FT. OF FILL | DESCRIPTION  | SACKS | EXCESS | WEIGHT   | YIELD |
|------------------|------|-------------|--|-------|--------|----------|-------|
| CONDUCTOR        |      | 600         | Class G + 3% CACL2   | 758   | 100%   | 15.8 ppg | 1.15  |
| SURFACE          | Lead | 1,300       | EXTENDACEM SYSTEM: Type V Cement + 5 lbm/sk Silicalite Compacted + 0.25 lbm/sk Kwik Seal + 0.125 lbm/sk Poly-E-Flake + 2% Bentonite  | 190   | 75%    | 11.0 ppg | 3.16  |
|                  | Tail | 500         | HALCEM SYSTEM: Glass G Cement + 3 lbm/sk Silicalite Compacted + 1% Salt + 0.3% Econolite + 0.25 lbm/sk Poly-E-Flake + 0.25 lbm/sk Kwik Seal + 0.5% HR-5  | 195   | 50%    | 14.3 ppg | 1.30  |
| INTERMEDIATE     | Lead | 5,050       | EXTENDACEM SYSTEM: Class G Cement + 10% Bentonite + 0.1% SA-1015 + 0.2% Econolite + 0.2% Halad-322 + 3 lbm/sk Silicalite Compacted + 1 lbm/sk Granulite TR 1/4 + 0.125 lbm/sk Poly-E-Flake + 5 lbm/sk Kol-Seal + 0.8% HR-5 | 360   | 10%    | 12.0 ppg | 2.31  |
|                  | Tail | 2,400       | BONDCEM SYSTEM: Class G Cement + 4% Bentonite + 0.25 Poly-E-Flake + 0.1% Halad-413 + 5 lb/sk Silicalite Compacted + 0.15% SA-1015 + 0.5% HR-5  | 246   | 10%    | 13.0 ppg | 1.65  |
| PRODUCTION LINER |      | 3,350       | EXTENDACEM SYSTEM: Class G Cement + 0.3% Super CBL + 0.6% SCR-100 + 0.3% Halad-413 + 0.125 lbm/sk Poly-E-Flake + 3 lbm/sk Silicalite Compacted + 20% SSA-1 + 0.1% SA-1015  | 198   | 25%    | 14.20    | 1.47  |

| FLOAT EQUIPMENT & CENTRALIZERS |  |
|--------------------------------|--|
| CONDUCTOR                      | PDC drillable guide shoe, 1 joint, PDC drillable float collar. Thread lock all float equipment. Install bow spring centralizers on the bottom 3 joints of casing.  |
| SURFACE                        | PDC drillable guide shoe, 1 joint casing, PDC drillable float collar & Stage collar. Thread lock all float equipment. Install bow spring centralizers on the bottom 3 joints of casing & every 3rd joint thereafter. |
| INTERMEDIATE                   | PDC drillable 10M,P-110 float shoe, 1 joint, PDC drillable 10M, P-110 float collar. Thread lock all float equipment. Maker joint at 6,800'.  |
| LINER                          | Float shoe, 1 joint, float collar, 1 joint, landing collar. Thread lock all FE. Maker joints every 1000'.  |

PROJECT ENGINEER(S): Brad Macafee 713-997-6383

MANAGER: Bob Dodd

**EP ENERGY E&P COMPANY, L.P.**  
**SILVER 5-20C4**  
**SECTION 20, T3S, R4W, U.S.B.&M.**

PROCEED NORTH ON STATE ROAD 87 FROM THE INTERSECTION OF STATE ROAD 87 WITH US HIGHWAY 40 IN DUCHESNE, UTAH APPROXIMATELY 3.54 MILES TO AN INTERSECTION;

TURN RIGHT AND TRAVEL EASTERLY ON A COUNTY B ROAD 1.77 MILES TO THE BEGINNING OF THE ACCESS ROAD;

TURN RIGHT AND TRAVEL SOUTHERLY FOLLOWING ROAD FLAGS 0.38 MILES TO THE PROPOSED LOCATION;

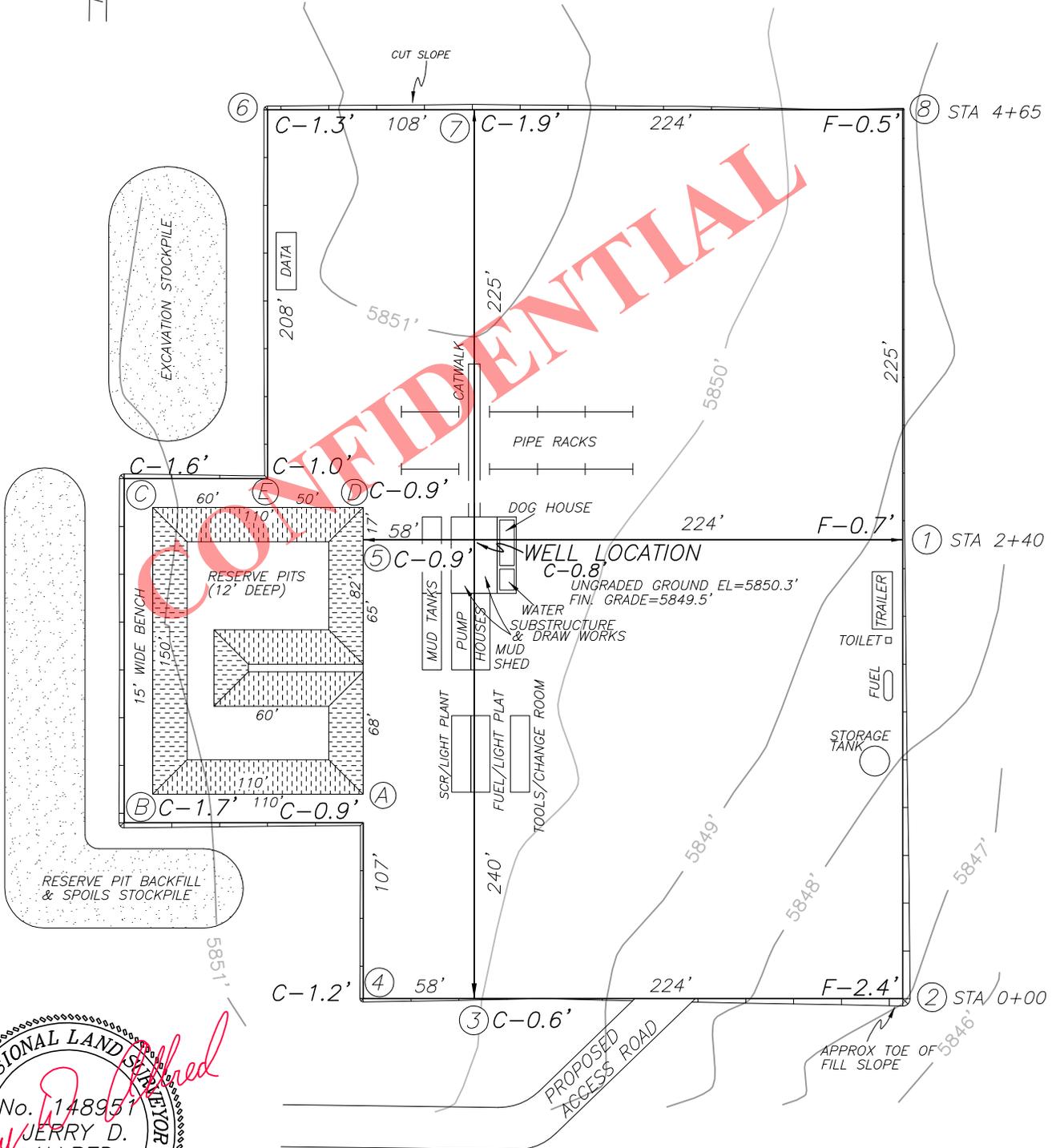
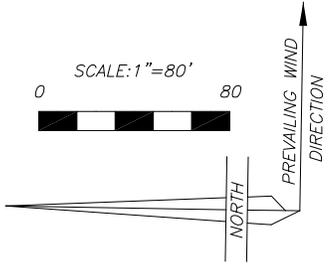
TOTAL DISTANCE FROM DUCHESNE, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 5.69 MILES.

**CONFIDENTIAL**

# EP ENERGY E&P COMPANY, L.P.

LOCATION LAYOUT FOR  
SILVER 5-20C4  
SECTION 20, T3S, R4W, U.S.B.&M.  
1904' FNL, 1002' FEL

FIGURE #1



*Jerry D. Allred*  
**PROFESSIONAL LAND SURVEYOR**  
 No. 148951  
**JERRY D. ALLRED**  
 6 DEC '13  
**STATE OF UTAH**

6 DEC 2013 01-128-443

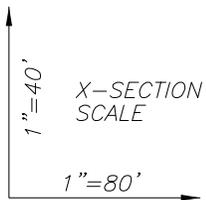
**JERRY D. ALLRED & ASSOCIATES**  
 SURVEYING CONSULTANTS  
 1235 NORTH 700 EAST--P.O. BOX 975  
 DUCHESNE, UTAH 84021  
 (435) 738-5352

RECEIVED: April 28, 2014

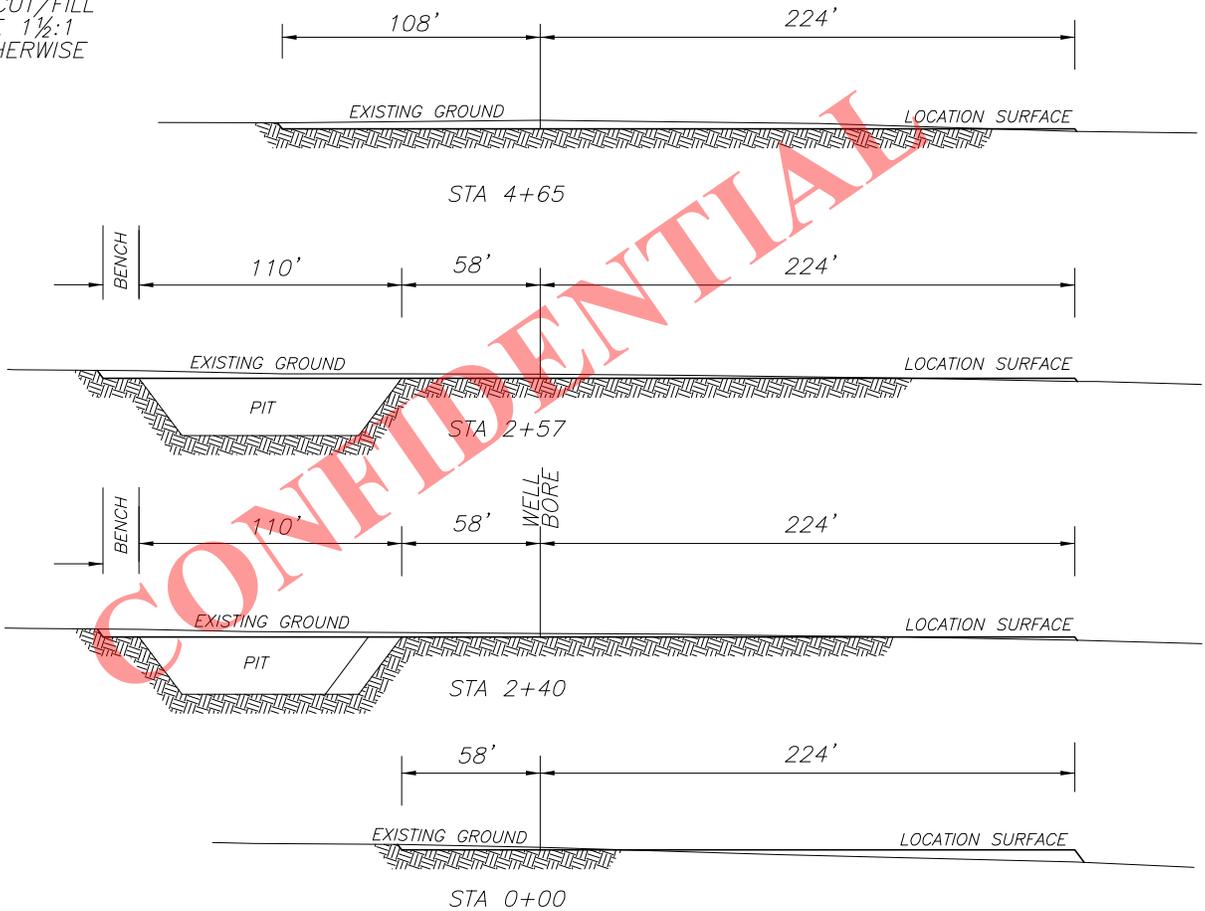
# EP ENERGY E&P COMPANY, L.P.

FIGURE #2

LOCATION LAYOUT FOR  
SILVER 5-20C4  
SECTION 20, T3S, R4W, U.S.B.&M.  
1904' FNL, 1002' FEL



NOTE: ALL CUT/FILL  
SLOPES ARE 1½:1  
UNLESS OTHERWISE  
NOTED



APPROXIMATE YARDAGES

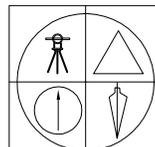
TOTAL CUT (INCLUDING PIT) = 10,205 CU. YDS.

PIT CUT = 4955 CU. YDS.  
TOPSOIL STRIPPING: (6") = 3080 CU. YDS.  
REMAINING LOCATION CUT = 2170 CU. YDS

TOTAL FILL = 2170 CU. YDS.

LOCATION SURFACE GRAVEL=1653 CU. YDS. (4" DEEP)

ACCESS ROAD GRAVEL=548 CU. YDS.



JERRY D. ALLRED & ASSOCIATES  
SURVEYING CONSULTANTS

1235 NORTH 700 EAST--P.O. BOX 975  
DUCHESNE, UTAH 84021  
(435) 738-5352

6 DEC 2013

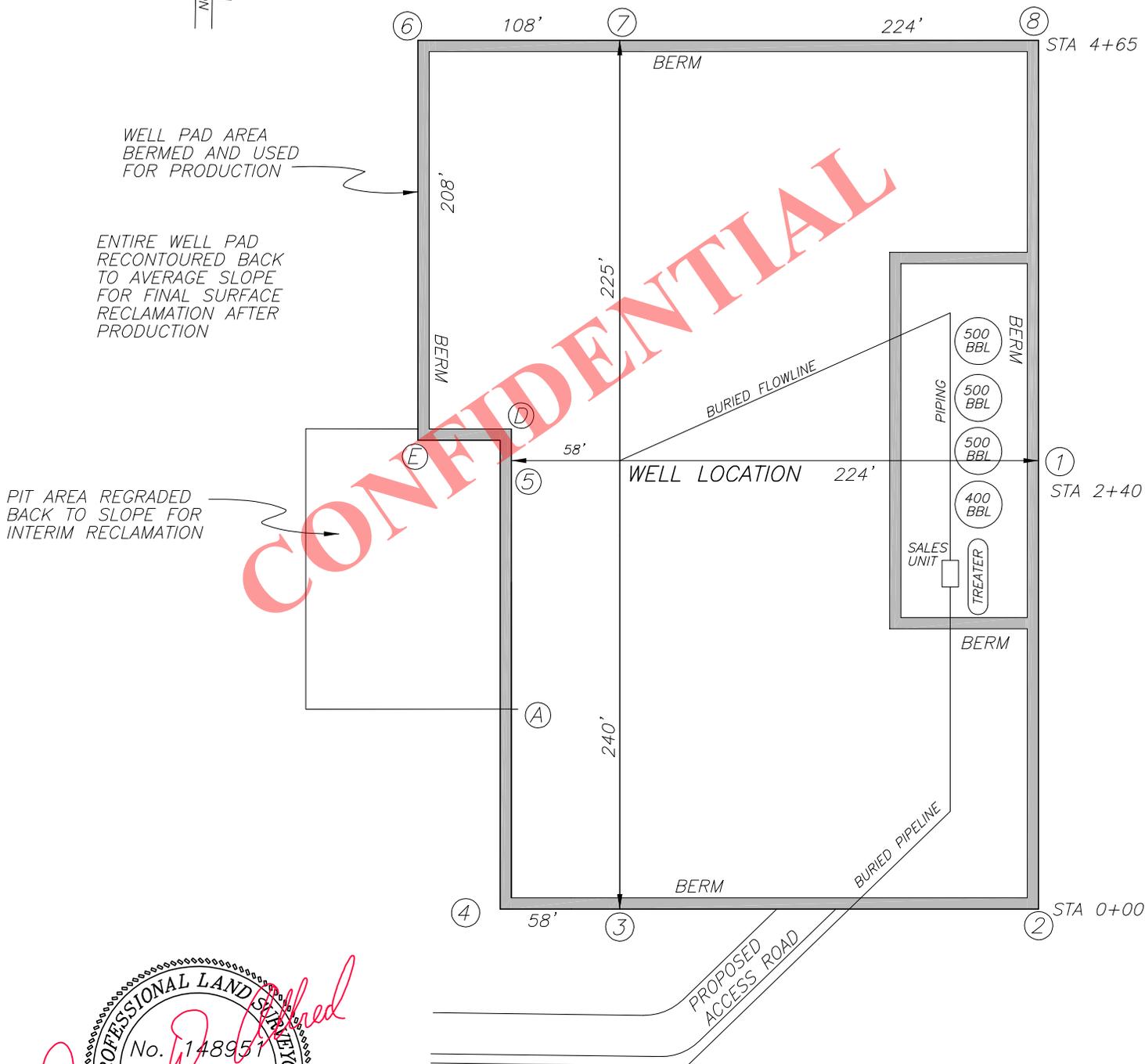
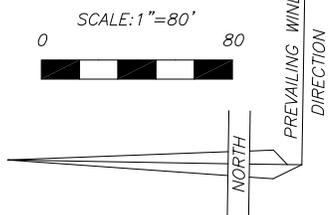
01-128-443

RECEIVED: April 28, 2014

# EP ENERGY E&P COMPANY, L.P.

FIGURE #3

LOCATION LAYOUT FOR  
SILVER 5-20C4  
SECTION 20, T3S, R4W, U.S.B.&M.  
1904' FNL, 1002' FEL



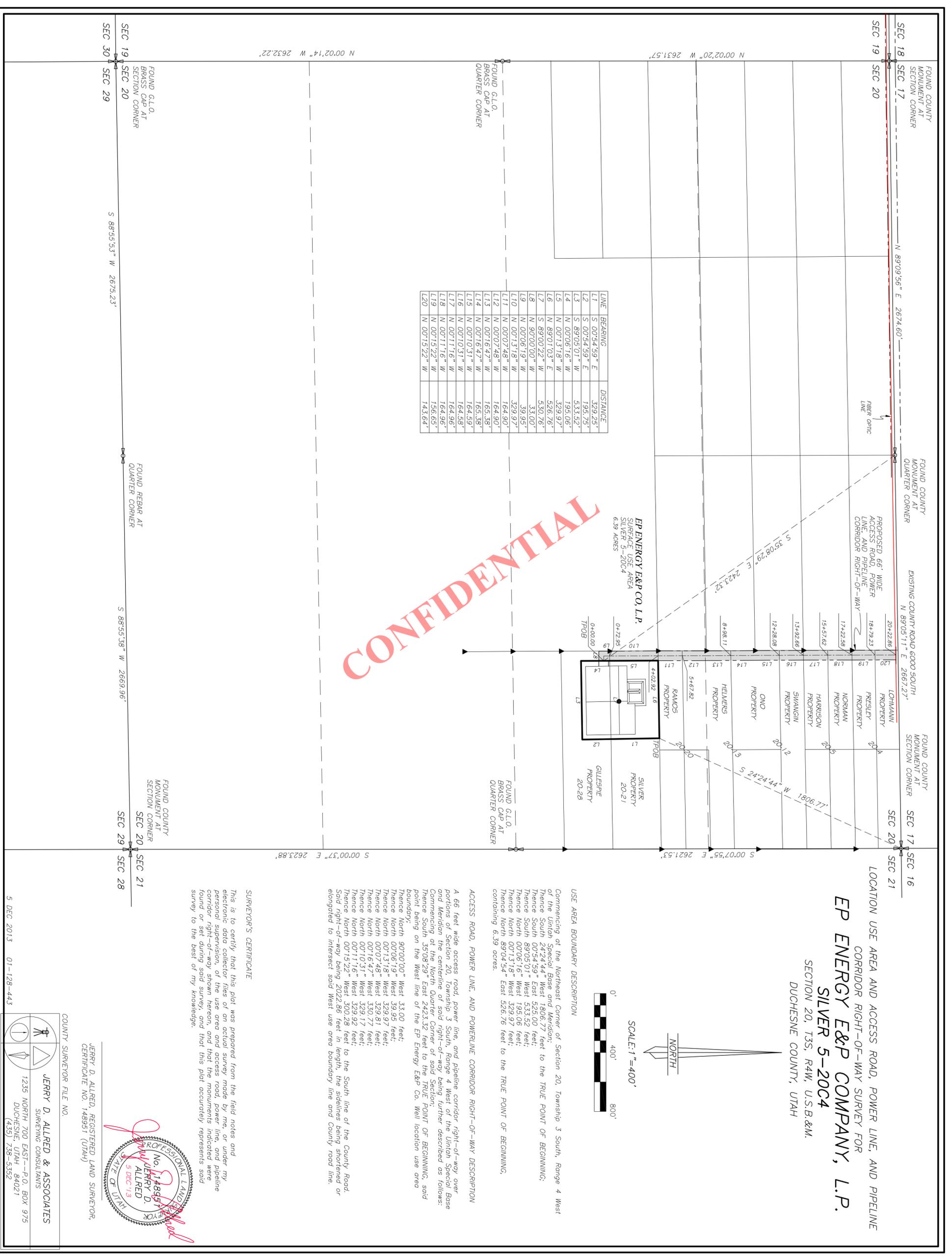
**CONFIDENTIAL**

*Jerry D. Allred*

PROFESSIONAL LAND SURVEYOR  
No. 14895  
JERRY D. ALLRED  
6 DEC '13  
STATE OF UTAH

JERRY D. ALLRED & ASSOCIATES  
SURVEYING CONSULTANTS  
1235 NORTH 700 EAST--P.O. BOX 975  
DUCHESNE, UTAH 84021  
(435) 738-5352

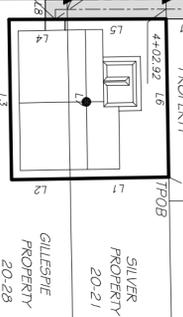
RECEIVED: April 28, 2014



| LINE | BEARING       | DISTANCE |
|------|---------------|----------|
| L1   | S 00°54'59" E | 329.25'  |
| L2   | S 00°54'59" E | 195.75'  |
| L3   | S 89°05'01" W | 533.52'  |
| L4   | N 00°06'16" W | 195.06'  |
| L5   | N 00°13'18" W | 329.97'  |
| L6   | N 89°01'03" E | 526.76'  |
| L7   | S 89°00'22" W | 530.76'  |
| L8   | N 90°00'00" W | 33.00'   |
| L9   | N 00°06'19" W | 39.95'   |
| L10  | N 00°13'18" W | 329.97'  |
| L11  | N 00°07'48" W | 164.90'  |
| L12  | N 00°16'44" W | 165.38'  |
| L13  | N 00°16'44" W | 165.38'  |
| L14  | N 00°16'44" W | 165.38'  |
| L15  | N 00°10'31" W | 164.59'  |
| L16  | N 00°10'31" W | 164.58'  |
| L17  | N 00°11'16" W | 164.96'  |
| L18  | N 00°15'22" W | 156.65'  |
| L20  | N 00°15'22" W | 143.64'  |

CONFIDENTIAL

EP ENERGY E&P CO, L.P.  
SURFACE USE AREA  
SILVER 5-20C4  
6.39 ACRES



SCALE: 1"=400'



LOCATION USE AREA AND ACCESS ROAD, POWER LINE, AND PIPELINE  
CORRIDOR RIGHT-OF-WAY SURVEY FOR  
**EP ENERGY E&P COMPANY, L.P.**  
SILVER 5-20C4  
SECTION 20, T3S, R4W, U.S.B.&M.  
DUCHESSNE COUNTY, UTAH

**ACCESS ROAD, POWER LINE, AND PIPELINE CORRIDOR RIGHT-OF-WAY DESCRIPTION**

A 66 feet wide access road, power line, and pipeline corridor right-of-way over portions of Section 20, Township 3 South, Range 4 West of the Union Special Base and Meridian the centerline of said right-of-way being further described as follows: Commencing at the North Quarter Corner of said Section; Thence South 35°08'29" East 2423.32 feet to the TRUE POINT OF BEGINNING, said point being on the West line of the EP Energy E&P Co. Well location use area boundary;

Thence North 90°00'00" West 33.00 feet;  
Thence North 00°06'19" West 39.95 feet;  
Thence North 00°13'18" West 329.97 feet;  
Thence North 00°07'48" West 329.81 feet;  
Thence North 00°16'44" West 330.72 feet;  
Thence North 00°10'31" West 329.17 feet;  
Thence North 00°11'16" West 329.92 feet;  
Thence North 00°15'22" West 300.28 feet to the South line of the County Road. Said right-of-way being 2022.86 feet in length, the sidelines being shortened or elongated to intersect said West use area boundary line and County road line.

**SURVEYOR'S CERTIFICATE**

This is to certify that this plat was prepared from the field notes and electronic data collector files of an actual survey made by me, or under my personal supervision, of the use area and access road, power line, and pipeline corridor right-of-way shown hereon, and that the monuments indicated were found or set during said survey, and that this plat accurately represents said survey to the best of my knowledge.

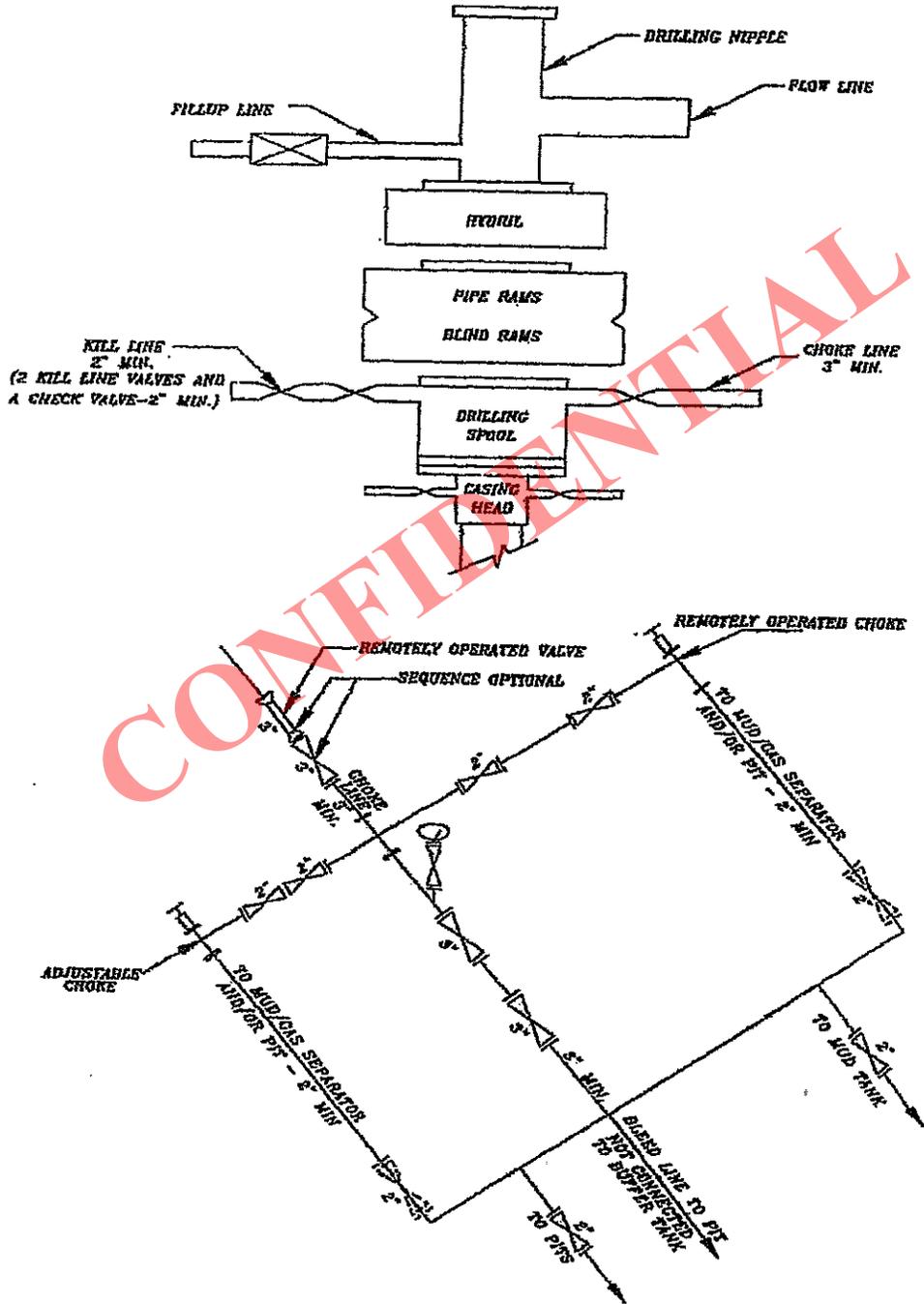


JERRY D. ALLRED, REGISTERED LAND SURVEYOR,  
CERTIFICATE NO. 148951 (UTAH)

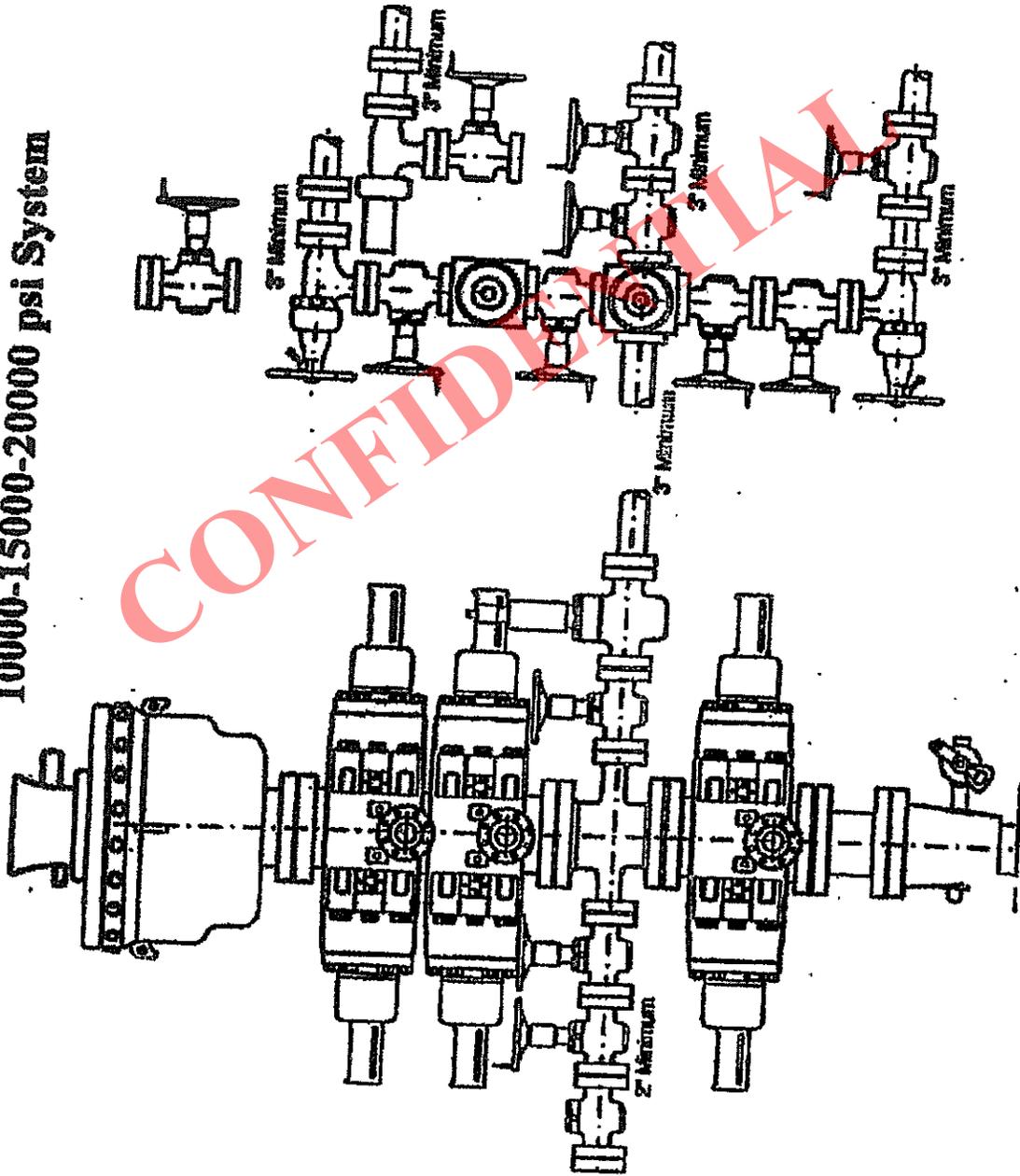
COUNTY SURVEYOR FILE NO.  
**JERRY D. ALLRED & ASSOCIATES**  
SURVEYING CONSULTANTS  
1235 NORTH 700 EAST—P.O. BOX 975  
DUCHESSNE, UTAH 84021  
(435) 738-5352

5 DEC 2013 01-128-443

# 5M BOP STACK and CHOKE MANIFOLD SYSTEM



10000-15000-20000 psi System

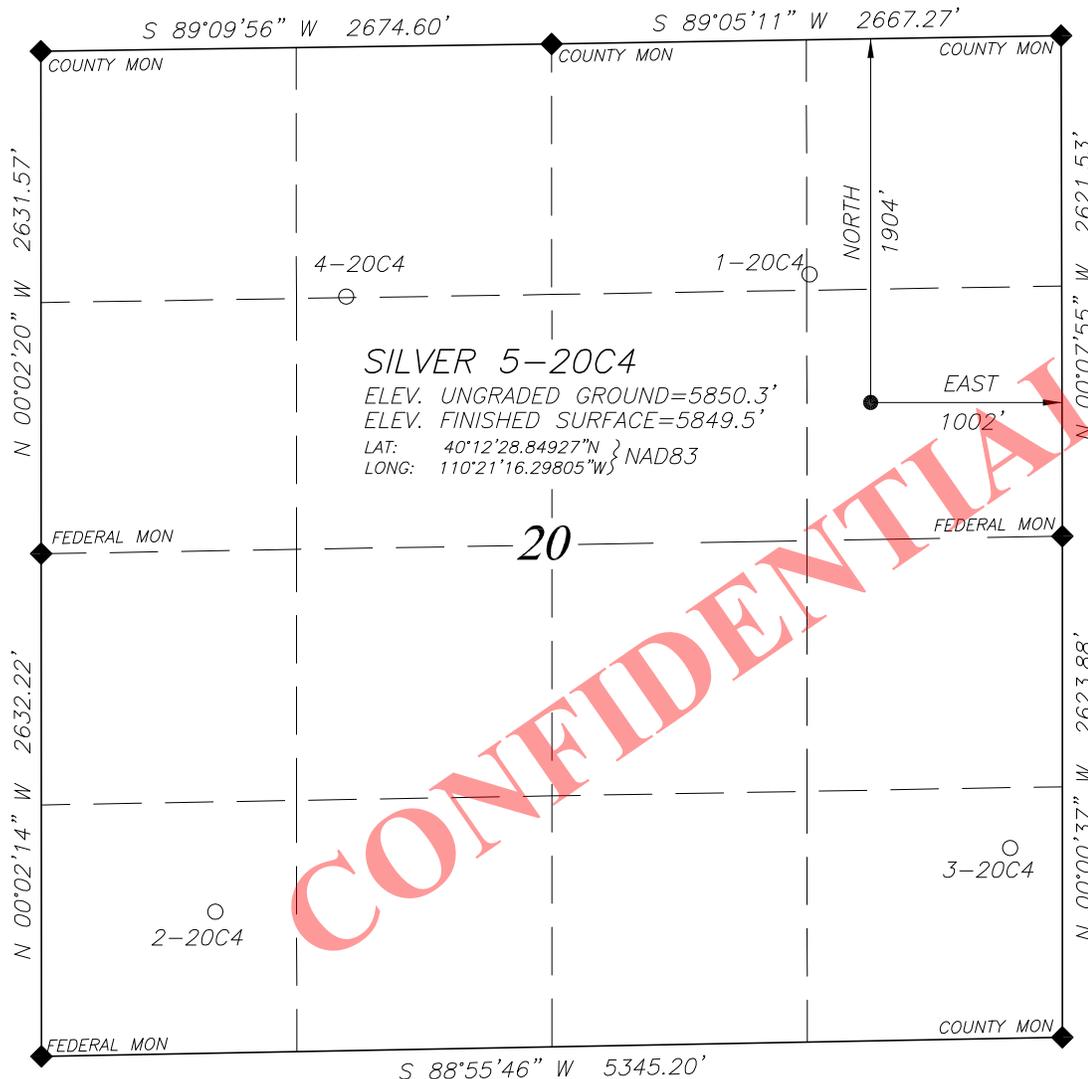


# EP ENERGY E&P COMPANY, L.P.

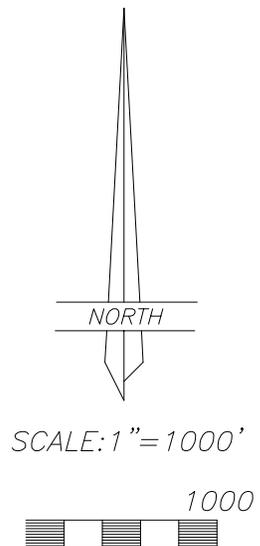
WELL LOCATION

SILVER 5-20C4

LOCATED IN THE SE¼ OF THE NE¼ OF SECTION 20, T3S, R4W, U.S.B.&M. DUCHESNE COUNTY, UTAH



**SILVER 5-20C4**  
 ELEV. UNGRADED GROUND=5850.3'  
 ELEV. FINISHED SURFACE=5849.5'  
 LAT: 40°12'28.84927"N } NAD83  
 LONG: 110°21'16.29805"W }



NOTE:  
 NAD27 VALUES FOR WELL POSITION:  
 LAT: 40.20805636° N  
 LONG: 110.35381653° W

LEGEND AND NOTES

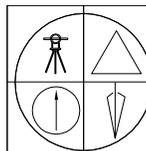
- ◆ CORNER MONUMENTS FOUND AND USED BY THIS SURVEY
- THE GENERAL LAND OFFICE (G.L.O.) PLAT WAS USED FOR REFERENCE AND CALCULATIONS AS WAS THE U.S.G.S. MAP
- THIS SURVEY WAS PERFORMED USING GLOBAL POSITIONING SYSTEM PROCEDURES AND EQUIPMENT
- THE BASIS OF BEARINGS IS GEODETIC NORTH DERIVED FROM G.P.S. OBSERVATIONS AT A SECTION CORNER LOCATED AT LAT. 40°15'22.90258"N AND LONG. 110°23'21.19760"W USING THE UTAH STATE G.P.S. VIRTUAL REFERENCE STATION CONTROL NETWORK MAINTAINED AND OPERATED BY THE AUTOMATED GEOGRAPHIC REFERENCE CENTER
- BASIS OF ELEVATIONS: NAVD 88 DATUM USING THE UTAH REFERENCE NETWORK CONTROL SYSTEM

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM THE FIELD NOTES AND ELECTRONIC DATA COLLECTOR FILES OF AN ACTUAL SURVEY PERFORMED BY ME, OR UNDER MY PERSONAL SUPERVISION, DURING WHICH THE SHOWN MONUMENTS WERE FOUND OR REESTABLISHED.



JERRY D. ALLRED, REGISTERED LAND SURVEYOR, CERTIFICATE NO. 148951 (UTAH)

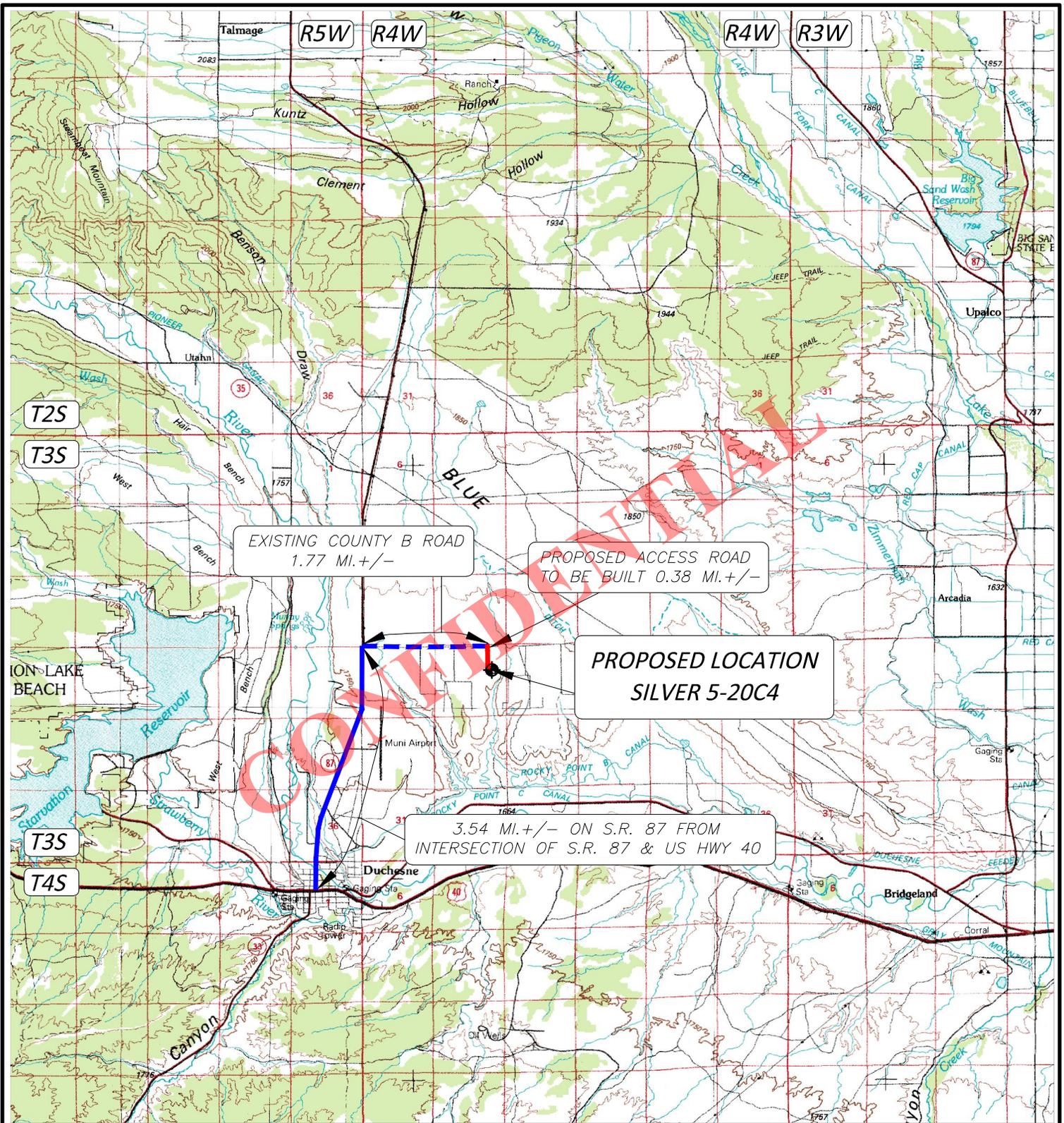


JERRY D. ALLRED & ASSOCIATES  
 SURVEYING CONSULTANTS

1235 NORTH 700 EAST--P.O. BOX 975  
 DUCHESNE, UTAH 84021  
 (435) 738-5352

6 DEC 2013 01-128-443

RECEIVED: February 27, 2014



EXISTING COUNTY B ROAD  
1.77 MI. +/-

PROPOSED ACCESS ROAD  
TO BE BUILT 0.38 MI. +/-

PROPOSED LOCATION  
SILVER 5-20C4

3.54 MI. +/- ON S.R. 87 FROM  
INTERSECTION OF S.R. 87 & US HWY 40

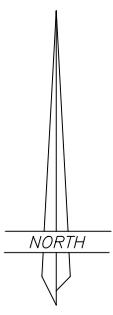
**LEGEND:**

PROPOSED WELL LOCATION

01-128-443

**JERRY D. ALLRED & ASSOCIATES**  
SURVEYING CONSULTANTS

1235 NORTH 700 EAST--P.O. BOX 975  
DUCHEсне, UTAH 84021  
(435) 738-5352



**EP ENERGY E&P COMPANY, L.P.**

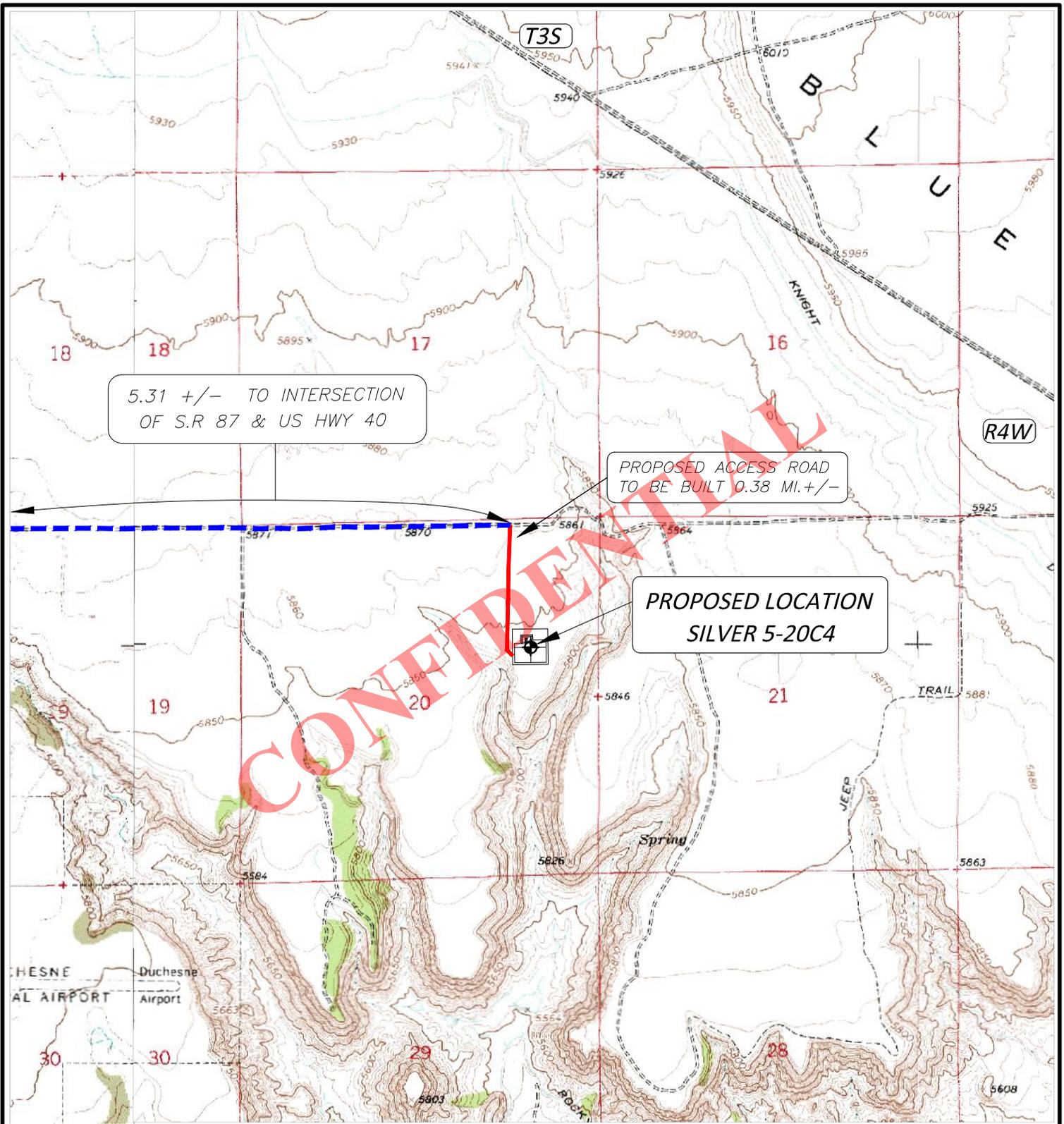
SILVER 5-20C4

SECTION 20, T3S, R4W, U.S.B.&M.

1904' FNL 1002' FEL

**TOPOGRAPHIC MAP "A"**

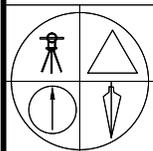
SCALE: 1"=10,000'  
4 OCT 2013



**LEGEND:**

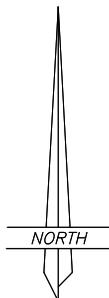
-  PROPOSED WELL LOCATION
-  PROPOSED ACCESS ROAD
-  EXISTING GRAVEL ROAD
-  EXISTING DIRT ROAD

01-128-443



**JERRY D. ALLRED & ASSOCIATES**  
SURVEYING CONSULTANTS

1235 NORTH 700 EAST--P.O. BOX 975  
DUCHEсне, UTAH 84021  
(435) 738-5352

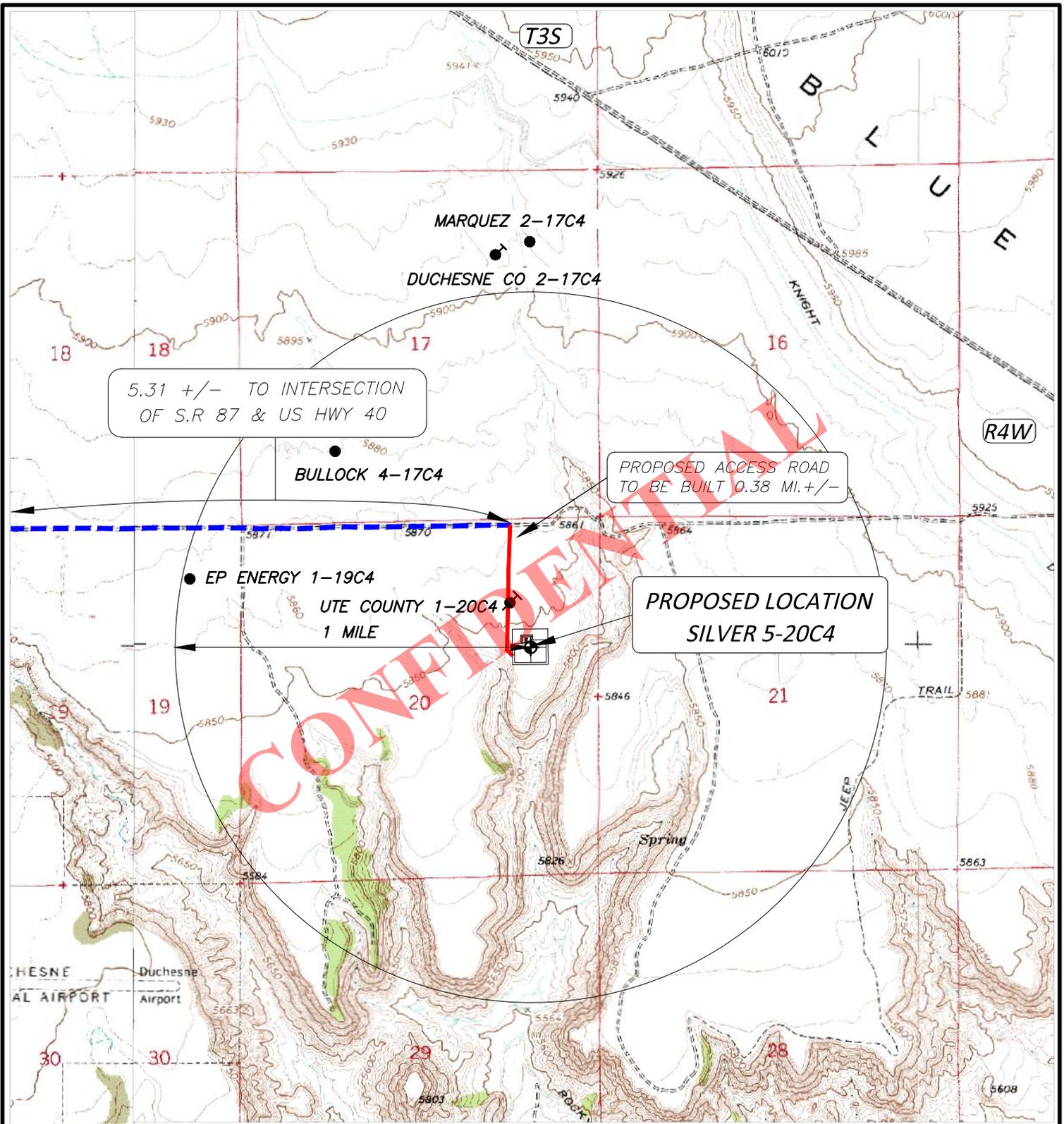


**EP ENERGY E&P COMPANY, L.P.**

SILVER 5-20C4  
SECTION 20, T3S, R4W, U.S.B.&M.  
1904' FNL 1002' FEL

**TOPOGRAPHIC MAP "B"**

SCALE: 1"=2000'  
4 OCT 2013

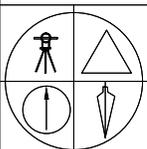


**LEGEND:**

**PROPOSED WELL LOCATION**

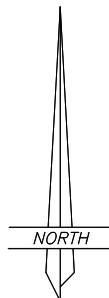
2-25C6

01-128-443



**JERRY D. ALLRED & ASSOCIATES**  
SURVEYING CONSULTANTS

1235 NORTH 700 EAST--P.O. BOX 975  
DUCHEсне, UTAH 84021  
(435) 738-5352



**EP ENERGY E&P COMPANY, L.P.**

SILVER 5-20C4

SECTION 20, T3S, R4W, U.S.B.&M.

1904' FNL 1002' FEL

**TOPOGRAPHIC MAP "C"**

SCALE; 1"=2000'

4 OCT 2013

**AFFIDAVIT OF DAMAGE SETTLEMENT AND RELEASE**

Corie A. Mathews personally appeared before me, and, being duly sworn, deposes and says:

1. My name is Corie A. Mathews. I am a Senior Landman for EP Energy E&P Company, L.P., whose address is 1001 Louisiana Street, Houston, Texas 77002 ("EP Energy").
2. EP Energy is the operator of the proposed Silver 5-20C4 well ("the Well") to be located in the SE/4 of the NE/4 of Section 20, Township 3 South, Range 4 West, USM, Duchesne County, Utah (the "Drillsite Location"). The surface owners of the Drillsite location are Dennis Silver, whose address is PO BOX 702392, West Valley City, Utah 84170 and telephone number is (801) 973-7759, and Patti Kathleen Ryan Gillespie, whose address is 1006 Ridgewood C VS, Niceville, Florida 32578 and telephone number is (850) 420-4786 (collectively as the "Surface Owners").
3. EP Energy and the Surface Owners have entered into Damage Settlement and Release Agreements dated December 31, 2013 and January 15, 2014 to cover any and all injuries or damages of every character and description sustained by the Surface Owners or Surface Owners' property as a result of operations associated with the drilling, completion and producing of the Well.

FURTHER AFFIANT SAYETH NOT.

  
 \_\_\_\_\_  
 Corie A. Mathews, RPL

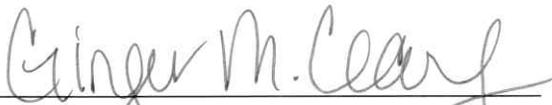
CONFIDENTIAL

**ACKNOWLEDGMENT**

STATE OF TEXAS           §  
   §  
 COUNTY OF HARRIS       §

This instrument was acknowledged before me on this the 26<sup>th</sup> day of February, 2014 by Corie A. Mathews as a Senior Landman for EP ENERGY E&P COMPANY, L.P., a Delaware limited partnership, on behalf of said partnership and acknowledged to me that he executed the same as his own free and voluntary act and deed for the uses and purposes therein set forth.



  
 \_\_\_\_\_  
 Notary Public in and for State of Texas

EP Energy E&P Company, L.P.

**Related Surface Information**

1. **Current Surface Use:**

- Livestock Grazing and Oil and Gas Production.

2. **Proposed Surface Disturbance:**

- The road will be crown and ditch. Water wings will be constructed on the access road as needed.
- The topsoil will be windrowed and re-spread in the borrow area.
- New road to be constructed will be approximately .38 miles in length and 66 feet wide.
- All equipment and vehicles will be confined to the access road, pad and area specified in the APD.

3. **Location Of Existing Wells:**

- Existing oil, gas wells within one (1) mile radius of proposed well are provided in EXHIBIT C.

4. **Location And Type Of Drilling Water Supply:**

- Drilling water: Duchesne City Water

5. **Existing/Proposed Facilities For Productive Well:**

- There are no existing facilities that will be utilized for this well.
- A pipeline corridor .38 miles will parallel the proposed access road. The corridor will contain one 4 inch gas line and one 2 inch gas line and one 2 inch Salt Water disposal line. Rehabilitation of unneeded, previously disturbed areas will consist of backfilling and contouring the reserve pit area; backsloping and contouring all cut and fill slopes. These areas will be reseeded. Refer to plans for reclamation of surface for details.
- Upgrade and maintain access roads and drainage control structures (e.g., culverts, drainage dips, ditching, etc.) as necessary to prevent soil erosion and accommodate safe, year-round traffic.

6. **Construction Materials:**

- Native soil from road and location will be used for construction materials along with gravel and/or scoria road base material. In the event that conditions should necessitate graveling of all or part of the access road and location, surfacing materials will be purchased from commercial suppliers in the marketing area.

7. **Methods For Handling Waste Disposal:**

- The reserve pit will be designed to prevent the collection of surface runoff and will be constructed with a minimum of ½ the total depth below the original ground surface on the lowest point with the pit. The pit will be lined with a 20-mil polyethylene to prevent leakage of fluids. The liner will be rolled into place and secured at the ends, i.e. buried on top of the pit berms. Prior to use, the reserve pit will be fenced on three sides; the fourth side will be fenced at the time the rig is removed. Drilling fluids, cuttings and produced water will be contained in the reserve pit (trash will be placed in the trash cage). Fluids in the reserve pit will be allowed to evaporate prior to pit burial.
- Garbage and other trash will be contained in the portable trash cage and hauled off the location to an authorized disposal site. Any trash on the pad will be cleaned up prior to the rig moving off location and hauled to an authorized disposal site.
- Sewage will be handled in Portable Toilets.
- Produced water will be placed in the reserve pit for a period not to exceed ninety days after initial production. Any hydrocarbons produced during completion work will be contained in test tanks and removed from the location at a later date.
- Water from the reserve pit may be used for drilling of additional wells. The water will be trucked along access roads as approved in pertinent APD's

8. **Ancillary Facilities:**

- There will be no ancillary facilities associated with this project.

**9. Surface Reclamation Plans:**

Backfilling of the pits will be done when dry. In the event of a dry hole, the location will be re-contoured, the topsoil will be distributed evenly over the entire location, and the seedbed prepared.

- Seed will be planted after September 15<sup>th</sup>, and prior to ground frost, or seed will be planted after the frost has left and before May 15<sup>th</sup>. Slopes to steep for machinery will be hand broadcast and raked with twice the specified amount of seed.
  1. The construction program and design are on the attached cut, fill and cross sectional diagrams.
  2. Prior to construction, all topsoil will be removed from the entire site and stockpiled. Topsoil for this site is the first 6 inches of soil materials.
  3. After the location has been reshaped and after redistributing the topsoil, the operator will rip and scarify the drilling platform and access road on the contour, to a depth of at least 12 inches.
- Rehabilitation will begin upon the completion of the drilling. Complete rehabilitation will depend on weather conditions and the amount of time required to dry the reserve pit.
  1. All rehabilitation work including seeding will be completed as soon as weather and the reserve pit conditions are appropriate.
  2. Landowner will be contacted for rehabilitation requirements.

**10. Surface Ownership:**

Dennis Silver  
P.O. Box 702392  
West Valley City, UT 84170

Patti Kathleen Ryan Gillespie  
1006 Ridgewood C VS  
Niceville, FL 32578

**Other Information:**

- The surface soil consists of clay, and silt.
- Flora – vegetation consists of the following: Sagebrush, Juniper and prairie grasses.
- Fauna – antelope, deer, coyotes, raptors, small mammals, and domestic grazing animals.
- Current surface uses – Livestock grazing and mineral exploration and production.

• **Operator and Contact Persons:**

**Construction and Reclamation:**

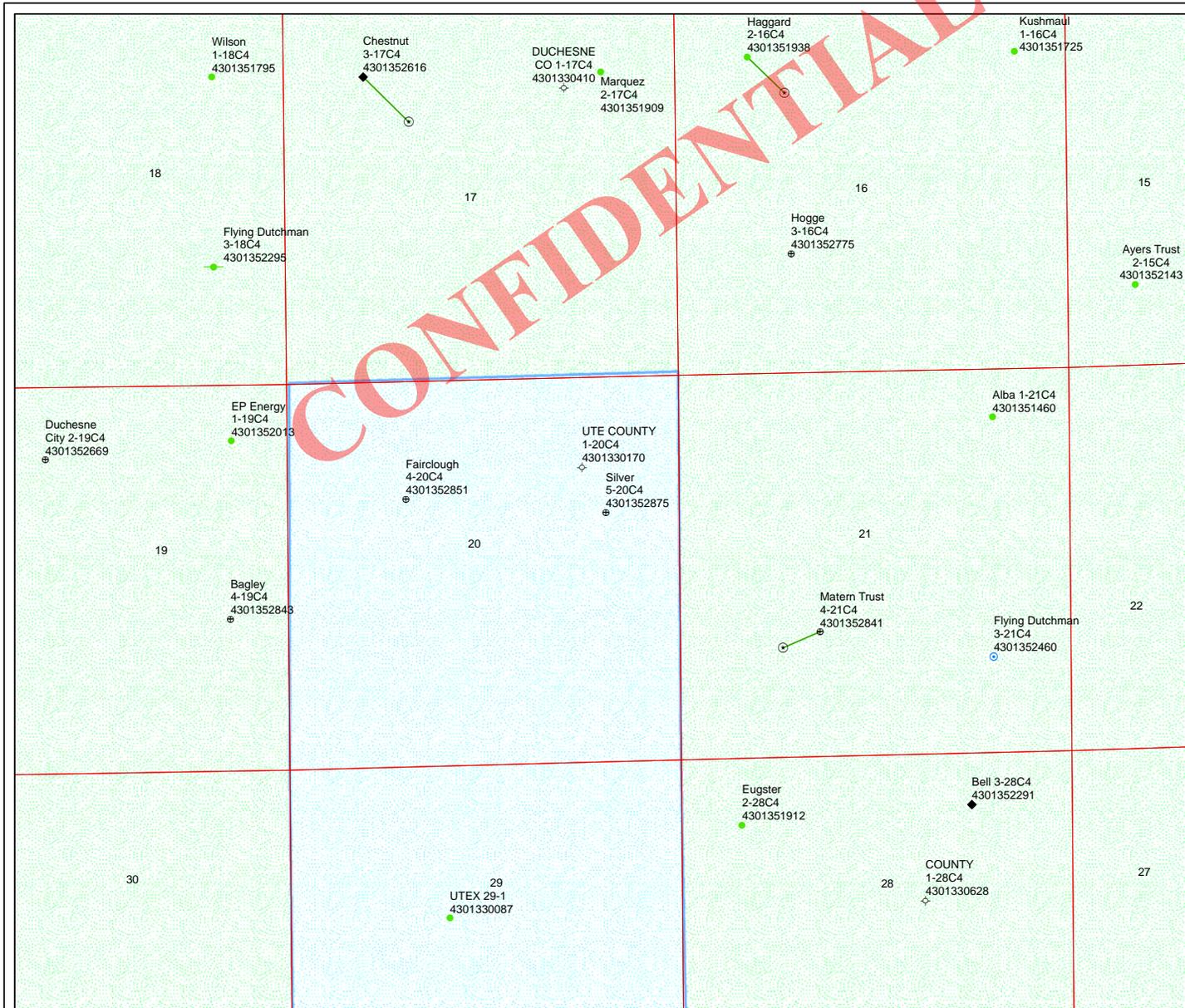
EP Energy E&P Company, L.P.  
Wayne Garner  
PO Box 410  
Altamont, Utah 84001  
435-454-3394 – Office  
435-823-1490 – Cell

**Regarding This APD**

EP Energy E&P Company, L.P.  
Maria S. Gomez  
1001 Louisiana, Rm 2730D  
Houston, Texas 77002  
713-997-5038 – Office

**Drilling**

EP Energy E&P Company, L.P.  
Brad MacAfee – Drilling Engineer  
1001 Louisiana, Rm 2660D  
Houston, Texas 77002  
713-997-6383 – office  
281-813-0902 – Cell



API Number: 4301352875

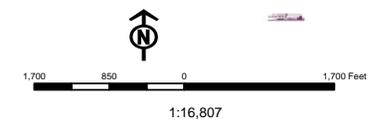
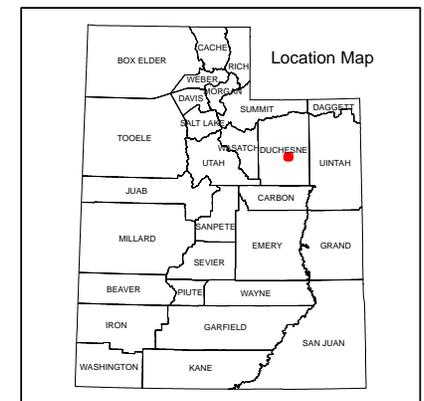
Well Name: Silver 5-20C4

Township: T03.0S Range: R04.0W Section: 20 Meridian: U

Operator: EP ENERGY E&P COMPANY, L.P.

Map Prepared: 2/28/2014  
Map Produced by Diana Mason

| Wells Query |                                    | Units         |              |
|-------------|------------------------------------|---------------|--------------|
|             | APD - Approved Permit              |               | ACTIVE       |
|             | DRL - Spudded (Drilling Commenced) |               | EXPLORATORY  |
|             | GIW - Gas Injection                |               | GAS STORAGE  |
|             | GS - Gas Storage                   |               | NF PP OIL    |
|             | LOC - New Location                 |               | NF SECONDARY |
|             | OPS - Operation Suspended          |               | PI OIL       |
|             | PA - Plugged Abandoned             |               | PP GAS       |
|             | PGW - Producing Gas Well           |               | PP GEOTHERML |
|             | POW - Producing Oil Well           |               | PP OIL       |
|             | SGW - Shut-in Gas Well             |               | SECONDARY    |
|             | SOW - Shut-in Oil Well             |               | TERMINATED   |
|             | TA - Temp. Abandoned               | <b>Fields</b> |              |
|             | TW - Test Well                     |               | Unknown      |
|             | WDW - Water Disposal               |               | ABANDONED    |
|             | WW - Water Injection Well          |               | ACTIVE       |
|             | WSW - Water Supply Well            |               | COMBINED     |
|             |                                    |               | INACTIVE     |
|             |                                    |               | STORAGE      |
|             |                                    |               | TERMINATED   |



|  |  |       |       |       |
|--|--|-------|-------|-------|
| Well Name                                | EP ENERGY E&P COMPANY, L.P. Silver 5-20C4 43013528750000 |       |       |       |
| String                                   | Cond   | Surf  | I1    | L1    |
| Casing Size(")                           | 13.375   | 9.625 | 7.000 | 5.000 |
| Setting Depth (TVD)                      | 600  | 1800  | 8750  | 11900 |
| Previous Shoe Setting Depth (TVD)        | 0  | 600   | 1800  | 8750  |
| Max Mud Weight (ppg)                     | 8.8  | 9.3   | 10.5  | 13.0  |
| BOPE Proposed (psi)                      | 1000   | 1000  | 10000 | 10000 |
| Casing Internal Yield (psi)              | 2730   | 5750  | 11220 | 13940 |
| Operators Max Anticipated Pressure (psi) | 8044   |       |       | 13.0  |

|   |  |        |   |
|---|--|--------|---|
| Calculations                                  | Cond String  | 13.375 | "   |
| Max BHP (psi)                                 | .052*Setting Depth*MW=                             | 275    |   |
|   |  |        | BOPE Adequate For Drilling And Setting Casing at Depth? |
| MASP (Gas) (psi)                              | Max BHP-(0.12*Setting Depth)=                      | 203    | YES <input type="checkbox"/> 4.5 x 20 rotating head     |
| MASP (Gas/Mud) (psi)                          | Max BHP-(0.22*Setting Depth)=                      | 143    | YES <input type="checkbox"/> OK                         |
|   |  |        | *Can Full Expected Pressure Be Held At Previous Shoe?   |
| Pressure At Previous Shoe                     | Max BHP-.22*(Setting Depth - Previous Shoe Depth)= | 143    | NO <input type="checkbox"/> OK <input type="checkbox"/> |
| Required Casing/BOPE Test Pressure=           |  | 600    | psi   |
| *Max Pressure Allowed @ Previous Casing Shoe= |  | 0      | psi *Assumes 1psi/ft frac gradient                      |

|   |  |       |   |
|---|--|-------|---|
| Calculations                                  | Surf String  | 9.625 | "   |
| Max BHP (psi)                                 | .052*Setting Depth*MW=                             | 870   |   |
|   |  |       | BOPE Adequate For Drilling And Setting Casing at Depth? |
| MASP (Gas) (psi)                              | Max BHP-(0.12*Setting Depth)=                      | 654   | YES <input type="checkbox"/> 4.5 x 13 3/8 rotating head |
| MASP (Gas/Mud) (psi)                          | Max BHP-(0.22*Setting Depth)=                      | 474   | YES <input type="checkbox"/> Ok                         |
|   |  |       | *Can Full Expected Pressure Be Held At Previous Shoe?   |
| Pressure At Previous Shoe                     | Max BHP-.22*(Setting Depth - Previous Shoe Depth)= | 606   | NO <input type="checkbox"/> OK <input type="checkbox"/> |
| Required Casing/BOPE Test Pressure=           |  | 1800  | psi   |
| *Max Pressure Allowed @ Previous Casing Shoe= |  | 600   | psi *Assumes 1psi/ft frac gradient                      |

|   |  |       |   |
|---|--|-------|---|
| Calculations                                  | I1 String  | 7.000 | "   |
| Max BHP (psi)                                 | .052*Setting Depth*MW=                             | 4778  |   |
|   |  |       | BOPE Adequate For Drilling And Setting Casing at Depth?                             |
| MASP (Gas) (psi)                              | Max BHP-(0.12*Setting Depth)=                      | 3728  | YES <input type="checkbox"/> 10M BOPE w/rotating head, 5M annular, blind rams, flex |
| MASP (Gas/Mud) (psi)                          | Max BHP-(0.22*Setting Depth)=                      | 2853  | YES <input type="checkbox"/> rams, mud cross  |
|   |  |       | *Can Full Expected Pressure Be Held At Previous Shoe?                               |
| Pressure At Previous Shoe                     | Max BHP-.22*(Setting Depth - Previous Shoe Depth)= | 3249  | NO <input type="checkbox"/> OK <input type="checkbox"/>                             |
| Required Casing/BOPE Test Pressure=           |  | 7854  | psi   |
| *Max Pressure Allowed @ Previous Casing Shoe= |  | 1800  | psi *Assumes 1psi/ft frac gradient  |

|   |  |       |   |
|---|--|-------|---|
| Calculations                                  | L1 String  | 5.000 | "   |
| Max BHP (psi)                                 | .052*Setting Depth*MW=                             | 8044  |   |
|   |  |       | BOPE Adequate For Drilling And Setting Casing at Depth?                             |
| MASP (Gas) (psi)                              | Max BHP-(0.12*Setting Depth)=                      | 6616  | YES <input type="checkbox"/> 10M BOPE w/rotating head, 5M annular, blind rams, flex |
| MASP (Gas/Mud) (psi)                          | Max BHP-(0.22*Setting Depth)=                      | 5426  | YES <input type="checkbox"/> rams, mud cross  |
|   |  |       | *Can Full Expected Pressure Be Held At Previous Shoe?                               |
| Pressure At Previous Shoe                     | Max BHP-.22*(Setting Depth - Previous Shoe Depth)= | 7351  | YES <input type="checkbox"/> OK <input type="checkbox"/>                            |
| Required Casing/BOPE Test Pressure=           |  | 9758  | psi   |
| *Max Pressure Allowed @ Previous Casing Shoe= |  | 8750  | psi *Assumes 1psi/ft frac gradient  |

# 43013528750000 Silver 5-20C4

## Casing Schematic

Surface

13-3/8"  
MW 9.

1300'  
I Dams w -

9-5/8"  
MW 9.3  
Frac 19.3

TOC @ 0.

TOC @ 317.

Conductor  
600. MD

1361' tail

Surface  
1800. MD

to 0' @ 9% w/o, tail 1257'

\* Proposed to 1300'

3900' Green River

TOC @ 3927.

to 1349' @ 2% w/o, tail 6549'

\* Proposed to 1300'

5000' Green River GRTN1

5357' Mahogany Bench

6827' L. Green River

7168' tail

\* Proposed to 6350'

12%  
TOL @ 8550.

8697' Wasatch

Intermediate  
8750. MD

TOC @ 9481.

to TOL @ 4% w/o

7"  
MW 10.5  
Frac 19.3

5"  
MW 13.

Production Liner  
11900. MD

✓ Strip cuts

**CONFIDENTIAL**

|              |                                       |                             |
|--------------|---------------------------------------|-----------------------------|
| Well name:   | <b>43013528750000 Silver 5-20C4</b>   |                             |
| Operator:    | <b>EP ENERGY E&amp;P COMPANY, LP.</b> |                             |
| String type: | Conductor                             | Project ID:<br>43-013-52875 |
| Location:    | DUCHESNE COUNTY                       |                             |

**Design parameters:**

**Collapse**

Mud weight: 9.000 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 82 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft

Cement top: Surface

**Burst**

Max anticipated surface pressure: 208 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 280 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.70 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

**Non-directional string.**

Tension is based on buoyed weight.  
Neutral point: 520 ft

| Run Seq | Segment Length (ft) | Size (in)               | Nominal Weight (lbs/ft) | Grade            | End Finish           | True Vert Depth (ft) | Measured Depth (ft) | Drift Diameter (in)     | Est. Cost (\$)        |
|---------|---------------------|-------------------------|-------------------------|------------------|----------------------|----------------------|---------------------|-------------------------|-----------------------|
| 1       | 600                 | 13.375                  | 54.50                   | J-55             | ST&C                 | 600                  | 600                 | 12.49                   | 7442                  |
| Run Seq | Collapse Load (psi) | Collapse Strength (psi) | Collapse Design Factor  | Burst Load (psi) | Burst Strength (psi) | Burst Design Factor  | Tension Load (kips) | Tension Strength (kips) | Tension Design Factor |
| 1       | 280                 | 1130                    | 4.030                   | 280              | 2730                 | 9.74                 | 28.3                | 514                     | 18.14 J               |

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: April 17, 2014  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 600 ft, a mud weight of 9 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

|              |                                       |                             |
|--------------|---------------------------------------|-----------------------------|
| Well name:   | <b>43013528750000 Silver 5-20C4</b>   |                             |
| Operator:    | <b>EP ENERGY E&amp;P COMPANY, LP.</b> |                             |
| String type: | Surface                               | Project ID:<br>43-013-52875 |
| Location:    | DUCHESNE COUNTY                       |                             |

**Design parameters:**

**Collapse**

Mud weight: 9.300 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 99 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft  
Cement top: 317 ft

**Burst**

Max anticipated surface pressure: 1,584 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 1,800 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.70 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Tension is based on buoyed weight.  
Neutral point: 1,551 ft

**Non-directional string.**

**Re subsequent strings:**

Next setting depth: 8,750 ft  
Next mud weight: 10.500 ppg  
Next setting BHP: 4,773 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 1,800 ft  
Injection pressure: 1,800 psi

| Run Seq | Segment Length (ft) | Size (in)               | Nominal Weight (lbs/ft) | Grade            | End Finish           | True Vert Depth (ft) | Measured Depth (ft) | Drift Diameter (in)     | Est. Cost (\$)        |
|---------|---------------------|-------------------------|-------------------------|------------------|----------------------|----------------------|---------------------|-------------------------|-----------------------|
| 1       | 1800                | 9.625                   | 40.00                   | N-80             | LT&C                 | 1800                 | 1800                | 8.75                    | 22903                 |
| Run Seq | Collapse Load (psi) | Collapse Strength (psi) | Collapse Design Factor  | Burst Load (psi) | Burst Strength (psi) | Burst Design Factor  | Tension Load (kips) | Tension Strength (kips) | Tension Design Factor |
| 1       | 870                 | 3090                    | 3.554                   | 1800             | 5750                 | 3.19                 | 62                  | 737                     | 11.88 J               |

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: April 17, 2014  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 1800 ft, a mud weight of 9.3 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

|              |                                       |             |              |
|--------------|---------------------------------------|-------------|--------------|
| Well name:   | <b>43013528750000 Silver 5-20C4</b>   |             |              |
| Operator:    | <b>EP ENERGY E&amp;P COMPANY, LP.</b> |             |              |
| String type: | Intermediate                          | Project ID: | 43-013-52875 |
| Location:    | DUCHESNE COUNTY                       |             |              |

**Design parameters:**

**Collapse**

Mud weight: 10.500 ppg  
 Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
 Surface temperature: 74 °F  
 Bottom hole temperature: 196 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 1,000 ft

Cement top: 3,927 ft

**Burst**

Max anticipated surface pressure: 5,418 psi  
 Internal gradient: 0.220 psi/ft  
 Calculated BHP 7,343 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
 8 Round LTC: 1.80 (J)  
 Buttress: 1.60 (J)  
 Premium: 1.50 (J)  
 Body yield: 1.60 (B)

Tension is based on buoyed weight.  
 Neutral point: 7,359 ft

**Non-directional string.**

**Re subsequent strings:**

Next setting depth: 11,900 ft  
 Next mud weight: 13.000 ppg  
 Next setting BHP: 8,036 psi  
 Fracture mud wt: 19.250 ppg  
 Fracture depth: 8,750 ft  
 Injection pressure: 8,750 psi

| Run Seq | Segment Length (ft) | Size (in)               | Nominal Weight (lbs/ft) | Grade            | End Finish           | True Vert Depth (ft) | Measured Depth (ft) | Drift Diameter (in)     | Est. Cost (\$)        |
|---------|---------------------|-------------------------|-------------------------|------------------|----------------------|----------------------|---------------------|-------------------------|-----------------------|
| 1       | 8750                | 7                       | 29.00                   | HCP-110          | LT&C                 | 8750                 | 8750                | 6.059                   | 98810                 |
| Run Seq | Collapse Load (psi) | Collapse Strength (psi) | Collapse Design Factor  | Burst Load (psi) | Burst Strength (psi) | Burst Design Factor  | Tension Load (kips) | Tension Strength (kips) | Tension Design Factor |
| 1       | 4773                | 9200                    | 1.928                   | 7343             | 11220                | 1.53                 | 213.4               | 797                     | 3.73 J                |

Prepared by: Helen Sadik-Macdonald  
 Div of Oil, Gas & Mining

Phone: 801 538-5357  
 FAX: 801-359-3940

Date: April 28, 2014  
 Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 8750 ft, a mud weight of 10.5 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

|              |                                       |             |              |
|--------------|---------------------------------------|-------------|--------------|
| Well name:   | <b>43013528750000 Silver 5-20C4</b>   |             |              |
| Operator:    | <b>EP ENERGY E&amp;P COMPANY, LP.</b> |             |              |
| String type: | Production Liner                      | Project ID: | 43-013-52875 |
| Location:    | DUCHESNE COUNTY                       |             |              |

**Design parameters:**

**Collapse**

Mud weight: 13.000 ppg  
 Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
 Surface temperature: 74 °F  
 Bottom hole temperature: 241 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 1,000 ft

Cement top: 9,481 ft

**Burst**

Max anticipated surface pressure: 5,418 psi  
 Internal gradient: 0.220 psi/ft  
 Calculated BHP 8,036 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
 8 Round LTC: 1.80 (J)  
 Buttress: 1.60 (J)  
 Premium: 1.50 (J)  
 Body yield: 1.60 (B)

Tension is based on buoyed weight.  
 Neutral point: 11,247 ft

Liner top: 8,550 ft

**Non-directional string.**

| Run Seq | Segment Length (ft) | Size (in)               | Nominal Weight (lbs/ft) | Grade            | End Finish           | True Vert Depth (ft) | Measured Depth (ft) | Drift Diameter (in)     | Est. Cost (\$)        |
|---------|---------------------|-------------------------|-------------------------|------------------|----------------------|----------------------|---------------------|-------------------------|-----------------------|
| 1       | 3300                | 5                       | 18.00                   | HCP-110          | ST-L                 | 11900                | 11900               | 4.151                   | 261352                |
| Run Seq | Collapse Load (psi) | Collapse Strength (psi) | Collapse Design Factor  | Burst Load (psi) | Burst Strength (psi) | Burst Design Factor  | Tension Load (kips) | Tension Strength (kips) | Tension Design Factor |
| 1       | 8036                | 15360                   | 1.911                   | 8036             | 13940                | 1.73                 | 47.6                | 341                     | 7.16 J                |

Prepared by: Helen Sadik-Macdonald  
 Div of Oil, Gas & Mining

Phone: 801 538-5357  
 FAX: 801-359-3940

Date: April 17, 2014  
 Salt Lake City, Utah

**Remarks:**

For this liner string, the top is rounded to the nearest 100 ft. Collapse is based on a vertical depth of 11900 ft, a mud weight of 13 ppg. The Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

# ON-SITE PREDRILL EVALUATION

## Utah Division of Oil, Gas and Mining

**Operator** EP ENERGY E&P COMPANY, L.P.  
**Well Name** Silver 5-20C4  
**API Number** 43013528750000      **APD No** 9472    **Field/Unit** ALTAMONT  
**Location: 1/4,1/4** SENE    **Sec** 20    **Tw** 3.0S    **Rng** 4.0W    1904 FNL 1002 FEL  
**GPS Coord (UTM)** 554929 4451047      **Surface Owner** Dennis Silver

### Participants

Jared Thacker (EP Energy); Heather Ivie & Kelsey Carter (EP Land Agency); Dennis Ingram (Division of Oil, Gas & Mining)

### Regional/Local Setting & Topography

The proposed Silver 5-20C4 is located in northeastern Utah, approximately 3.51 miles north of Duchesne on US Highway 87, then east on a county road another 1.77 miles where the new access road will lead south for another 0.38 into well site. This project is located along the southern reached of Blue Bench, which is a nearly flat bench that slopes gently to the south toward the Duchesne River Drainage some four miles to the south. Blue Bench was utilized at one time as an alfalfa producing cropland and irrigated, but has since transformed into an arid, dry habitat with scattered sagebrush or weeds. Residential area and river bottom to the south, few if any population along the bench. The immediate area at the proposed well site is series of pointed fingers the run south toward the Duchesne River Drainage off the lower end of Blue Bench. The surface slopes gently to the southwest having only a couple feet of slope from north to south. A fingered canyon or draw makes a "Y" and heads southwest and northeast of this well pad.

### Surface Use Plan

**Current Surface Use**  
 Recreational  
 Wildlife Habitat

| New Road Miles | Well Pad             | Src Const Material | Surface Formation |
|----------------|----------------------|--------------------|-------------------|
| 0.38           | Width 332 Length 465 | Onsite             | UNTA              |

**Ancillary Facilities** N

### Waste Management Plan Adequate?

### Environmental Parameters

**Affected Floodplains and/or Wetlands** N

#### **Flora / Fauna**

Dense sagebrush cover, bunch grass, prickly pear cactus

Potential mule deer, mountain lion, coyote, fox, prairie dog, raccoon, field mice and other small mammals, birds typical of northeastern Utah on lands adjacent or near river bottom habitat.

#### **Soil Type and Characteristics**

Reddish in color, fine-grained sandy loam

**Erosion Issues** N

**Sedimentation Issues** N

**Site Stability Issues** N

**Drainage Diversion Required?** N

**Berm Required?** Y

**Erosion Sedimentation Control Required?** N

**Paleo Survey Run?** N    **Paleo Potential Observed?** N    **Cultural Survey Run?** N    **Cultural Resources?** N

**Reserve Pit**

**Site-Specific Factors**

**Site Ranking**

|  |                   |    |
|--|-------------------|----|
| <b>Distance to Groundwater (feet)</b>    | >200              | 0  |
| <b>Distance to Surface Water (feet)</b>  | >1000             | 0  |
| <b>Dist. Nearest Municipal Well (ft)</b> | >5280             | 0  |
| <b>Distance to Other Wells (feet)</b>    | >1320             | 0  |
| <b>Native Soil Type</b>                  | High permeability | 20 |
| <b>Fluid Type</b>                        | Fresh Water       | 5  |
| <b>Drill Cuttings</b>                    | Normal Rock       | 0  |
| <b>Annual Precipitation (inches)</b>     |                   | 0  |
| <b>Affected Populations</b>              |                   |    |
| <b>Presence Nearby Utility Conduits</b>  | Not Present       | 0  |
| <b>Final Score</b>                       |                   | 25 |

1 Sensitivity Level

**Characteristics / Requirements**

Proposed reserve pit on north side of location in cut, measuring 110' wide by 150' long by 12' deep, having prevailing winds from the west

**Closed Loop Mud Required?**    **Liner Required?** Y    **Liner Thickness** 20    **Pit Underlayment Required?**

**Other Observations / Comments**

Sagebrush covering, surface slopes southwest, there aren't any drainage or surface water issues, landowners invited but did not attend.

Dennis Ingram  
Evaluator

3/19/2014  
Date / Time

**Application for Permit to Drill  
Statement of Basis  
Utah Division of Oil, Gas and Mining**

| APD No           | API WellNo   | Status | Well Type                | Surf Owner    | CBM |
|------------------|--|--------|--------------------------|---------------|-----|
| 9472             | 43013528750000                                     | LOCKED | OW                       | P             | No  |
| <b>Operator</b>  | EP ENERGY E&P COMPANY, L.P.                        |        | <b>Surface Owner-APD</b> | Dennis Silver |     |
| <b>Well Name</b> | Silver 5-20C4                                      |        | <b>Unit</b>              |               |     |
| <b>Field</b>     | ALTAMONT   |        | <b>Type of Work</b>      | DRILL         |     |
| <b>Location</b>  | SENE 20 3S 4W U 1904 FNL<br>(UTM) 554929E 4451066N |        | 1002 FEL                 | GPS Coord     |     |

**Geologic Statement of Basis**

EP proposes to set 600 feet of conductor and 1,800 feet of surface casing both of which will be cemented to surface. The surface and intermediate holes will be drilled utilizing fresh water mud. The estimated depth to the base of moderately saline ground water is 1,300 feet. A search of Division of Water Rights records indicates that there are 12 water wells within a 10,000 foot radius of the center of Section 20. These wells probably produce water from the Duchesne River Formation and associated alluvium. Depths of the wells fall in the range of 57-370 feet. The wells are listed as being used for irrigation, stock watering, municipal and domestic. The proposed drilling, casing and cement program should adequately protect the highly used Duchesne River aquifer.

Brad Hill  
APD Evaluator

3/25/2014  
Date / Time

**Surface Statement of Basis**

Surface slopes to the southwest but nearly flat, minus any drainage issues. The reserve pit is staked off the north side of the location in cut, and will require a 20 mil synthetic liner as proposed in the Application to Drill. The location shall also be bermed to prevent drilling or production fluids from leaving the location. An old camper and van was noted and photographed several hundred feet northeast of the well pad.

A presite was scheduled and performed for the Silver 5-20C4 on March 19, 2014 to take input and address issues regarding the construction and drilling of this well. Two landowners were shown to own the surface of this well pad and were both invited to the presite by telephone but did not attend. Photos of the surface was sent to one of the landowners by request after the presite visit. EP Energy claims to have a signed landowner agreement with both of these landowners in place.

Dennis Ingram  
Onsite Evaluator

3/19/2014  
Date / Time

**Conditions of Approval / Application for Permit to Drill**

| Category | Condition  |
|----------|--|
| Pits     | A synthetic liner with a minimum thickness of 20 mils shall be properly installed and maintained in the reserve pit. |
| Pits     | The reserve pit should be located on the north side of the location.   |
| Surface  | The well site shall be bermed to prevent fluids from entering or   |

## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 2/27/2014

API NO. ASSIGNED: 43013528750000

WELL NAME: Silver 5-20C4

OPERATOR: EP ENERGY E&amp;P COMPANY, L.P. (N3850)

PHONE NUMBER: 713 997-5038

CONTACT: Maria S. Gomez

PROPOSED LOCATION: SENE 20 030S 040W

Permit Tech Review: 

SURFACE: 1904 FNL 1002 FEL

Engineering Review: 

BOTTOM: 1904 FNL 1002 FEL

Geology Review: 

COUNTY: DUCHESNE

LATITUDE: 40.20820

LONGITUDE: -110.35454

UTM SURF EASTINGS: 554929.00

NORTHINGS: 4451066.00

FIELD NAME: ALTAMONT

LEASE TYPE: 4 - Fee

LEASE NUMBER: Fee

PROPOSED PRODUCING FORMATION(S): GREEN RIVER(LWR)-WASATCH

SURFACE OWNER: 4 - Fee

COALBED METHANE: NO

## RECEIVED AND/OR REVIEWED:

- PLAT
- Bond: STATE - 400JU0708
- Potash
- Oil Shale 190-5
- Oil Shale 190-3
- Oil Shale 190-13
- Water Permit: Duchesne City
- RDCC Review:
- Fee Surface Agreement
- Intent to Commingle

Commingle Approved

## LOCATION AND SITING:

- R649-2-3.
- Unit:
- R649-3-2. General
- R649-3-3. Exception
- Drilling Unit
- Board Cause No: Cause 139-90
- Effective Date: 5/9/2012
- Siting: 4 Wells Per 640 Acre
- R649-3-11. Directional Drill

Comments: Presite Completed

Stipulations: 5 - Statement of Basis - bhll  
8 - Cement to Surface -- 2 strings - hmadonald  
12 - Cement Volume (3) - hmadonald



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

## Permit To Drill

\*\*\*\*\*

**Well Name:** Silver 5-20C4

**API Well Number:** 43013528750000

**Lease Number:** Fee

**Surface Owner:** FEE (PRIVATE)

**Approval Date:** 5/5/2014

### Issued to:

EP ENERGY E&P COMPANY, L.P., 1001 Louisiana, Houston, TX 77002

### 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 139-90. The expected producing formation or pool is the GREEN RIVER(LWR)-WASATCH 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:

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Cement volumes for the 13 3/8" and 9 5/8" casing strings shall be determined from actual hole diameters in order to place cement from the pipe setting depths back to the surface.

Cement volume for the 7" intermediate string shall be determined from actual hole diameter in order to place lead cement from the pipe setting depth back to 1300' MD and tail cement to 6350' as indicated in the submitted drilling plan.

### Additional Approvals:

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan - contact Dustin Doucet
- Significant plug back of the well - contact Dustin Doucet
- Plug and abandonment of the well - contact Dustin Doucet

**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  
OR  
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website  
at <http://oilgas.ogm.utah.gov>
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing - contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program  
- contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well - contact Dan Jarvis

**Contact Information:**

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office  
801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office  
801-231-8956 - after office hours

**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:

**Approved by:**

A handwritten signature in black ink, appearing to read "J. Rogers", written in a cursive style.

For John Rogers  
Associate Director, Oil & Gas



Alexis Huefner <alexishuefner@utah.gov>

---

**Well: Silver 2-20C4 Initial Spud date.**

1 message

---

**RLANDRIG008** <RLANDRIG008@epenergy.com>

Fri, May 16, 2014 at 10:00 AM

To: Alexis Huefner <alexishuefner@utah.gov>, "MacAfee, Bradley D" <Brad.MacAfee@epenergy.com>, Carol Daniels <caroldaniels@utah.org>, "dennisingram@utah.gov" <dennisingram@utah.gov>, "Morales, Lisa" <Lisa.Morales@epenergy.com>, Maria Gomes <Maria.Gomes@epenergy.com>, "Evans, Perry (Contractor)" <Perry.Evans@epenergy.com>

May 16, 2014

Well: Silver 5-20C4

API# 43013528750000

County: Duchesne

State: Utah

Initial Spud of this well was on May 07, 2014 at 08:00 Hrs.

Rig: Leon Ross Rat Hole Rig #26

1904 FNL 1002 FEL

SENE 20 3S 4W

Steven Murphy

Rig Site Supervisor

EP Energy LLC

C: 435-823-1725

CONFIDENTIAL

---

THIS E-MAIL AND ANY MATERIALS TRANSMITTED WITH IT MAY CONTAIN CONFIDENTIAL OR PROPRIETARY MATERIAL FOR THE SOLE USE OF THE INTENDED RECIPIENT. ANY REVIEW, USE, DISTRIBUTION OR DISCLOSURE BY OTHERS IS STRICTLY PROHIBITED. IF YOU ARE NOT THE INTENDED RECIPIENT, OR AUTHORIZED TO RECEIVE THE INFORMATION FROM THE RECIPIENT, PLEASE NOTIFY THE SENDER BY REPLY E-MAIL AND DELETE ALL COPIES OF THIS MESSAGE.

|  |  |   |
|--|--|---|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING  |  | <b>FORM 9</b>   |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br><br>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. |  | <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b><br>Fee |
|  |  | <b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>          |
| <b>1. TYPE OF WELL</b><br>Oil Well   |  | <b>7. UNIT or CA AGREEMENT NAME:</b>                  |
| <b>2. NAME OF OPERATOR:</b><br>EP ENERGY E&P COMPANY, L.P.   |  | <b>8. WELL NAME and NUMBER:</b><br>Silver 5-20C4      |
| <b>3. ADDRESS OF OPERATOR:</b><br>1001 Louisiana , Houston, TX, 77002  |  | <b>9. API NUMBER:</b><br>43013528750000               |
| <b>PHONE NUMBER:</b><br>713 997-5038 Ext   |  | <b>9. FIELD and POOL or WILDCAT:</b><br>ALTAMONT      |
| <b>4. LOCATION OF WELL</b><br><b>FOOTAGES AT SURFACE:</b><br>1904 FNL 1002 FEL<br><b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b><br>Qtr/Qtr: SENE Section: 20 Township: 03.0S Range: 04.0W Meridian: U  |  | <b>COUNTY:</b><br>DUCHESNE                            |
|  |  | <b>STATE:</b><br>UTAH                                 |

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

| TYPE OF SUBMISSION   | TYPE OF ACTION   |   |   |
|--|--|---|---|
| <input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b><br>Approximate date work will start:<br>7/3/2014 | <input type="checkbox"/> ACIDIZE                       | <input type="checkbox"/> ALTER CASING                   | <input type="checkbox"/> CASING REPAIR                  |
| <input type="checkbox"/> <b>SUBSEQUENT REPORT</b><br>Date of Work Completion:                                | <input type="checkbox"/> CHANGE TO PREVIOUS PLANS      | <input type="checkbox"/> CHANGE TUBING                  | <input type="checkbox"/> CHANGE WELL NAME               |
| <input type="checkbox"/> <b>SPUD REPORT</b><br>Date of Spud:   | <input type="checkbox"/> CHANGE WELL STATUS            | <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS | <input type="checkbox"/> CONVERT WELL TYPE              |
| <input type="checkbox"/> <b>DRILLING REPORT</b><br>Report Date:  | <input type="checkbox"/> DEEPEN                        | <input type="checkbox"/> FRACTURE TREAT                 | <input type="checkbox"/> NEW CONSTRUCTION               |
|  | <input type="checkbox"/> OPERATOR CHANGE               | <input type="checkbox"/> PLUG AND ABANDON               | <input type="checkbox"/> PLUG BACK                      |
|  | <input type="checkbox"/> PRODUCTION START OR RESUME    | <input type="checkbox"/> RECLAMATION OF WELL SITE       | <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION |
|  | <input type="checkbox"/> REPERFORATE CURRENT FORMATION | <input type="checkbox"/> SIDETRACK TO REPAIR WELL       | <input type="checkbox"/> TEMPORARY ABANDON              |
|  | <input type="checkbox"/> TUBING REPAIR                 | <input type="checkbox"/> VENT OR FLARE                  | <input type="checkbox"/> WATER DISPOSAL                 |
|  | <input type="checkbox"/> WATER SHUTOFF                 | <input type="checkbox"/> SI TA STATUS EXTENSION         | <input type="checkbox"/> APD EXTENSION                  |
|  | <input type="checkbox"/> WILDCAT WELL DETERMINATION    | <input checked="" type="checkbox"/> OTHER               | OTHER: <input type="text" value="Initial Completion"/>  |

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

EP plans to start perforating today and frac on Monday. Please see attached for details and testing information.

**Approved by the  
Utah Division of  
Oil, Gas and Mining**  
July 02, 2014

Date: \_\_\_\_\_

By: DeKQ

|  |                                     |  |
|--|-------------------------------------|--|
| <b>NAME (PLEASE PRINT)</b><br>Maria S. Gomez | <b>PHONE NUMBER</b><br>713 997-5038 | <b>TITLE</b><br>Principal Regulatory Analyst |
| <b>SIGNATURE</b><br>N/A                      | <b>DATE</b><br>7/2/2014             |  |

## **Silver 5-20C4**

### **Initial Completion**

**API # : 43013528750000**

**The following precautions will be taken until the RCA for the Conover is completed:**

1. Review torque turning and running of the 7" and 5" liner of anomalies.
2. Test and chart casing for 30 minutes, noting pressure if any on surface casing.
3. Test all lubricators, valves and BOP's to working pressure.
4. Wellhead isolation tools will continue to be used to isolate the wellhead during the frac.
5. Monitor the surface casing during frac:
  - a. Lay a flowline to the flow back tank and keep the valve open.
  - b. This line will remain in place until a wire line set retrievable packer is in place isolating the 5" casing from the 7" after the frac.
6. 2 7/8" tubing will be run to isolate the 7" casing during the flow back of the well.
7. A flow test will be conducted and the gas will be flared for a period of 2 - 4 weeks. The maximum flare volume is 50 MMscf.
8. Well pressure and annulus pressure would be monitored during this time until the well is ready for pump.

### **Completion Information (Wasatch Formation)**

- |                 |  |
|-----------------|--|
| <b>Stage #1</b> | RU WL unit with 10K lubricator and test to 10,000 psi with glycol. Perforations from ~10916' – 11268' with ~5000 gallons of 15% HCL acid, ~3000 # of 100 mesh sand and ~140000 # of Power Prop 20/40. Total clean water volume is 119336 gals. |
| <b>Stage #2</b> | RU WL unit with 10K lubricator and test to 10,000 psi with glycol. Perforations from ~10481' – 10838' with ~5000 gallons of 15% HCL acid, ~3000 # of 100 mesh sand and ~140000 # of Power Prop 20/40. Total clean water volume is 118687 gals. |
| <b>Stage #3</b> | RU WL unit with 10K lubricator and test to 10,000 psi with glycol. Perforations from ~10196' – 10452' with ~5000 gallons of 15% HCL acid, ~3000 # of 100 mesh sand and ~155000 # of TLC 30/50. Total clean water volume is 138187 gals.        |
| <b>Stage #4</b> | RU WL unit with 10K lubricator and test to 10,000 psi with glycol. Perforations from ~9910' – 10164' with ~5000 gallons of 15% HCL acid, ~3000 # of 100 mesh sand and ~170000 # of TLC 30/50. Total clean water volume is 147685 gals.         |

- Stage #5** RU WL unit with 10K lubricator and test to 10,000 psi with glycol. Perforations from ~9568' – 9880' with ~5000 gallons of 15% HCL acid, ~3000 # of 100 mesh sand and ~155000 # of TLC 30/50. Total clean water volume is 138250 gals.
- Stage #6** RU WL unit with 10K lubricator and test to 10,000 psi with glycol. Perforations from ~9322' – 9545' with ~5000 gallons of 15% HCL acid, ~3000 # of 100 mesh sand and ~150000 # of TLC 30/50. Total clean water volume is 134575 gals.
- Stage #7** RU WL unit with 10K lubricator and test to 10,000 psi with glycol. Perforations from ~9076' – 9292' with ~5000 gallons of 15% HCL acid, ~3000 # of 100 mesh sand and ~145000 # of TLC 30/50. Total clean water volume is 130899 gals.
- Stage #8** RU WL unit with 10K lubricator and test to 10000 psi with glycol. Perforations from ~8859' – 9042' with ~5000 gallons of 15% HCL acid, ~3000# of 100 mesh sand and ~140000# of TLC 30/50.

### Stimulation Summary

|                          | Top Perf | Btm. Perf | Gross Interval | Plug Depth | Net Perf Length | Total Shots | Perf Intervals | Type of Prop     | Lbs of Prop      | Lbs/ft     | Lbs of 100 Mesh | Gals of HCL (15%) | Gals of Clean H2O | Gals of Slurry   |
|--------------------------|----------|-----------|----------------|------------|-----------------|-------------|----------------|------------------|------------------|------------|-----------------|-------------------|-------------------|------------------|
| Stage #1                 | 10,916   | 11,268    | 352            | NA         | 23              | 69          | 17             | Power Prop 20/40 | 140,000          | 398        | 3,000           | 5,000             | 119,336           | 131,043          |
| Stage #2                 | 10,481   | 10,838    | 357            | 10,848     | 23              | 69          | 17             | Power Prop 20/40 | 140,000          | 392        | 3,000           | 5,000             | 118,687           | 130,394          |
| Stage #3                 | 10,196   | 10,452    | 256            | 10,462     | 22              | 66          | 15             | TLC 30/50        | 155,000          | 605        | 3,000           | 5,000             | 138,187           | 176,234          |
| Stage #4                 | 9,910    | 10,164    | 254            | 10,174     | 22              | 66          | 16             | TLC 30/50        | 170,000          | 669        | 3,000           | 5,000             | 147,685           | 189,220          |
| Stage #5                 | 9,568    | 9,880     | 312            | 9,890      | 23              | 69          | 15             | TLC 30/50        | 155,000          | 497        | 3,000           | 5,000             | 138,250           | 176,765          |
| Stage #6                 | 9,322    | 9,545     | 223            | 9,555      | 23              | 69          | 16             | TLC 30/50        | 150,000          | 673        | 3,000           | 5,000             | 134,575           | 172,182          |
| Stage #7                 | 9,076    | 9,292     | 216            | 9,302      | 21              | 63          | 16             | TLC 30/50        | 145,000          | 671        | 3,000           | 5,000             | 130,899           | 167,599          |
| Stage #8                 | 8,859    | 9,042     | 183            | 9,052      | 21              | 63          | 16             | TLC 30/50        | 140,000          | 765        | 3,000           | 5,000             | 128,267           | 164,037          |
| <b>Average per Stage</b> |          |           | <b>269</b>     |            | <b>22</b>       | <b>67</b>   | <b>16</b>      |                  | <b>149,375</b>   | <b>584</b> | <b>3,000</b>    | <b>5,000</b>      | <b>131,986</b>    | <b>163,434</b>   |
| <b>Totals per Well</b>   |          |           | <b>2,153</b>   |            | <b>178</b>      | <b>534</b>  | <b>128</b>     |                  | <b>1,195,000</b> |            | <b>24,000</b>   | <b>40,000</b>     | <b>1,055,886</b>  | <b>1,307,474</b> |

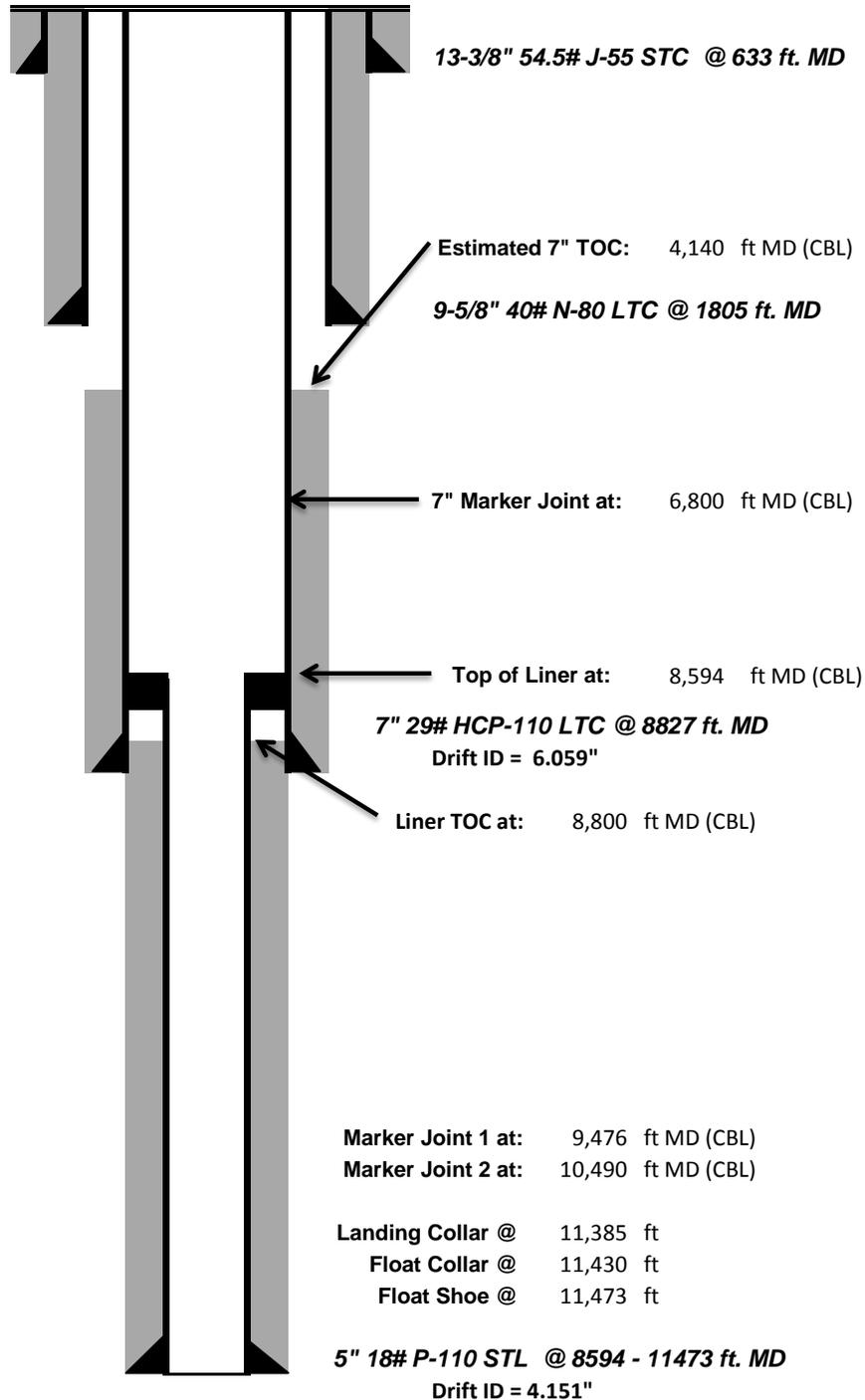


**Pre-Completion Wellbore Schematic**

Well Name: **Silver 5-20C4**  
 Company Name: **EP Energy**  
 Field, County, State: **Altamont, Duchesne County, Utah**  
 Surface Location: **Lat: 40°12'28.84927" N Long: 110°21'16.29805" W**  
 Producing Zone(s): **Green River / Wasatch**

Last Updated: **6/3/2014**  
 By: **Mohammad Siddiqui**  
 TD: **11,473**  
 API: **43013528750000**  
 AFE: **161772**

8.43 ppg KCL substitute (Clay Webb Water) water in the wellbore



13-3/8" 54.5# J-55 STC @ 633 ft. MD

Estimated 7" TOC: 4,140 ft MD (CBL)

9-5/8" 40# N-80 LTC @ 1805 ft. MD

7" Marker Joint at: 6,800 ft MD (CBL)

Top of Liner at: 8,594 ft MD (CBL)

7" 29# HCP-110 LTC @ 8827 ft. MD  
 Drift ID = 6.059"

Liner TOC at: 8,800 ft MD (CBL)

Marker Joint 1 at: 9,476 ft MD (CBL)

Marker Joint 2 at: 10,490 ft MD (CBL)

Landing Collar @ 11,385 ft

Float Collar @ 11,430 ft

Float Shoe @ 11,473 ft

5" 18# P-110 STL @ 8594 - 11473 ft. MD  
 Drift ID = 4.151"

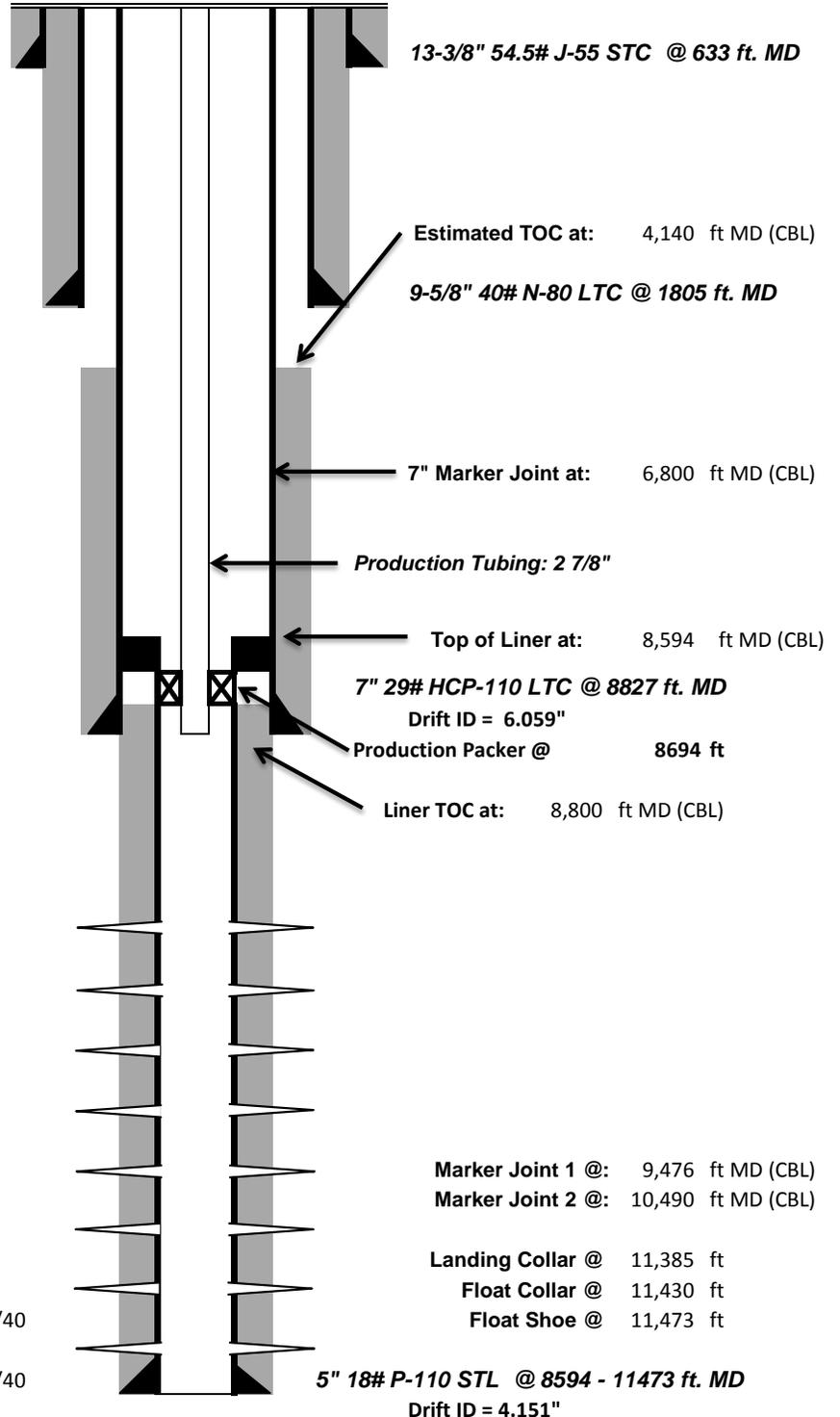


**Post-Completion Wellbore Schematic**

Well Name: **Silver 5-20C4**  
 Company Name: **EP Energy**  
 Field, County, State: **Altamont, Duchesne County, Utah**  
 Surface Location: **Lat: 40°12'28.84927" N Long: 110°21'16.29805" W**  
 Producing Zone(s): **Green River / Wasatch**

Last Updated: **6/3/2014**  
 By: **Mohammad Siddiqui**  
 TD: **11,473**  
 API: **43013528750000**  
 AFE: **161772**

8.43 ppg KCL substitute (Clay Webb Water) water in the wellbore



**Initial Completion Perf Information**

- Stage #8** 8857 - 9042 21' /63 shots  
5000 gal HCL & 140000 lbs TLC 30/50
- Stage #7** 9076 - 9292 21' /63 shots  
5000 gal HCL & 145000 lbs TLC 30/50
- Stage #6** 9320 - 9545 23' /69 shots  
5000 gal HCL & 150000 lbs TLC 30/50
- Stage #5** 9569 - 9877 23' /69 shots  
5000 gal HCL & 155000 lbs TLC 30/50
- Stage #4** 9910 - 10164 22' /66 shots  
5000 gal HCL & 170000 lbs TLC 30/50
- Stage #3** 10195 - 10450 22' /66 shots  
5000 gal HCL & 155000 lbs TLC 30/50
- Stage #2** 10483 - 10838 23' /69 shots  
5000 gal HCL & 140000 lbs Power Prop 20/40
- Stage #1** 10916 - 11268 23' /69 shots  
5000 gal HCL & 140000 lbs Power Prop 20/40



Alexis Huefner <alexishuefner@utah.gov>

---

**Well: Silver 2-20C4 Initial Spud date.**

1 message

---

**RLANDRIG008** <RLANDRIG008@epenergy.com>

Fri, May 16, 2014 at 10:00 AM

To: Alexis Huefner <alexishuefner@utah.gov>, "MacAfee, Bradley D" <Brad.MacAfee@epenergy.com>, Carol Daniels <caroldaniels@utah.org>, "dennisingram@utah.gov" <dennisingram@utah.gov>, "Morales, Lisa" <Lisa.Morales@epenergy.com>, Maria Gomes <Maria.Gomes@epenergy.com>, "Evans, Perry (Contractor)" <Perry.Evans@epenergy.com>

May 16, 2014

Well: Silver 5-20C4

API# 43013528750000

County: Duchesne

State: Utah

Initial Spud of this well was on May 07, 2014 at 08:00 Hrs.

Rig: Leon Ross Rat Hole Rig #26

1904 FNL 1002 FEL  
SENE 20 3S 4W

Steven Murphy

Rig Site Supervisor

EP Energy LLC

C: 435-823-1725

CONFIDENTIAL

---

THIS E-MAIL AND ANY MATERIALS TRANSMITTED WITH IT MAY CONTAIN CONFIDENTIAL OR PROPRIETARY MATERIAL FOR THE SOLE USE OF THE INTENDED RECIPIENT. ANY REVIEW, USE, DISTRIBUTION OR DISCLOSURE BY OTHERS IS STRICTLY PROHIBITED. IF YOU ARE NOT THE INTENDED RECIPIENT, OR AUTHORIZED TO RECEIVE THE INFORMATION FROM THE RECIPIENT, PLEASE NOTIFY THE SENDER BY REPLY E-MAIL AND DELETE ALL COPIES OF THIS MESSAGE.

|  |  |   |
|--|--|---|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING  |  | FORM 9  |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br><br>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. |  | <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b><br>Fee |
|  |  | <b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>          |
| <b>1. TYPE OF WELL</b><br>Oil Well   |  | <b>7. UNIT or CA AGREEMENT NAME:</b>                  |
| <b>2. NAME OF OPERATOR:</b><br>EP ENERGY E&P COMPANY, L.P.   |  | <b>8. WELL NAME and NUMBER:</b><br>Silver 5-20C4      |
| <b>3. ADDRESS OF OPERATOR:</b><br>1001 Louisiana , Houston, TX, 77002  |  | <b>9. API NUMBER:</b><br>43013528750000               |
| <b>PHONE NUMBER:</b><br>713 997-5038 Ext   |  | <b>9. FIELD and POOL or WILDCAT:</b><br>ALTAMONT      |
| <b>4. LOCATION OF WELL</b><br><b>FOOTAGES AT SURFACE:</b><br>1904 FNL 1002 FEL<br><b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b><br>Qtr/Qtr: SENE Section: 20 Township: 03.0S Range: 04.0W Meridian: U  |  | <b>COUNTY:</b><br>DUCHESNE                            |
|  |  | <b>STATE:</b><br>UTAH                                 |

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

| TYPE OF SUBMISSION   | TYPE OF ACTION   |   |   |
|--|--|---|---|
| <input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b><br>Approximate date work will start:<br>7/3/2014 | <input type="checkbox"/> ACIDIZE                       | <input type="checkbox"/> ALTER CASING                   | <input type="checkbox"/> CASING REPAIR                  |
| <input type="checkbox"/> <b>SUBSEQUENT REPORT</b><br>Date of Work Completion:                                | <input type="checkbox"/> CHANGE TO PREVIOUS PLANS      | <input type="checkbox"/> CHANGE TUBING                  | <input type="checkbox"/> CHANGE WELL NAME               |
| <input type="checkbox"/> <b>SPUD REPORT</b><br>Date of Spud:   | <input type="checkbox"/> CHANGE WELL STATUS            | <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS | <input type="checkbox"/> CONVERT WELL TYPE              |
| <input type="checkbox"/> <b>DRILLING REPORT</b><br>Report Date:  | <input type="checkbox"/> DEEPEN                        | <input type="checkbox"/> FRACTURE TREAT                 | <input type="checkbox"/> NEW CONSTRUCTION               |
|  | <input type="checkbox"/> OPERATOR CHANGE               | <input type="checkbox"/> PLUG AND ABANDON               | <input type="checkbox"/> PLUG BACK                      |
|  | <input type="checkbox"/> PRODUCTION START OR RESUME    | <input type="checkbox"/> RECLAMATION OF WELL SITE       | <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION |
|  | <input type="checkbox"/> REPERFORATE CURRENT FORMATION | <input type="checkbox"/> SIDETRACK TO REPAIR WELL       | <input type="checkbox"/> TEMPORARY ABANDON              |
|  | <input type="checkbox"/> TUBING REPAIR                 | <input type="checkbox"/> VENT OR FLARE                  | <input type="checkbox"/> WATER DISPOSAL                 |
|  | <input type="checkbox"/> WATER SHUTOFF                 | <input type="checkbox"/> SI TA STATUS EXTENSION         | <input type="checkbox"/> APD EXTENSION                  |
|  | <input type="checkbox"/> WILDCAT WELL DETERMINATION    | <input checked="" type="checkbox"/> OTHER               | OTHER: <input type="text" value="Initial Completion"/>  |

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

EP plans to start perforating today and frac on Monday. Please see attached for details and testing information.

**Approved by the  
Utah Division of  
Oil, Gas and Mining  
July 02, 2014**

Date: \_\_\_\_\_

By: Dark Duff

|  |                                     |  |
|--|-------------------------------------|--|
| <b>NAME (PLEASE PRINT)</b><br>Maria S. Gomez | <b>PHONE NUMBER</b><br>713 997-5038 | <b>TITLE</b><br>Principal Regulatory Analyst |
| <b>SIGNATURE</b><br>N/A                      | <b>DATE</b><br>7/2/2014             |  |

## **Silver 5-20C4**

### **Initial Completion**

**API # : 43013528750000**

**The following precautions will be taken until the RCA for the Conover is completed:**

1. Review torque turning and running of the 7" and 5" liner of anomalies.
2. Test and chart casing for 30 minutes, noting pressure if any on surface casing.
3. Test all lubricators, valves and BOP's to working pressure.
4. Wellhead isolation tools will continue to be used to isolate the wellhead during the frac.
5. Monitor the surface casing during frac:
  - a. Lay a flowline to the flow back tank and keep the valve open.
  - b. This line will remain in place until a wire line set retrievable packer is in place isolating the 5" casing from the 7" after the frac.
6. 2 7/8" tubing will be run to isolate the 7" casing during the flow back of the well.
7. A flow test will be conducted and the gas will be flared for a period of 2 - 4 weeks. The maximum flare volume is 50 MMscf.
8. Well pressure and annulus pressure would be monitored during this time until the well is ready for pump.

### **Completion Information (Wasatch Formation)**

- |                 |  |
|-----------------|--|
| <b>Stage #1</b> | RU WL unit with 10K lubricator and test to 10,000 psi with glycol. Perforations from ~10916' – 11268' with ~5000 gallons of 15% HCL acid, ~3000 # of 100 mesh sand and ~140000 # of Power Prop 20/40. Total clean water volume is 119336 gals. |
| <b>Stage #2</b> | RU WL unit with 10K lubricator and test to 10,000 psi with glycol. Perforations from ~10481' – 10838' with ~5000 gallons of 15% HCL acid, ~3000 # of 100 mesh sand and ~140000 # of Power Prop 20/40. Total clean water volume is 118687 gals. |
| <b>Stage #3</b> | RU WL unit with 10K lubricator and test to 10,000 psi with glycol. Perforations from ~10196' – 10452' with ~5000 gallons of 15% HCL acid, ~3000 # of 100 mesh sand and ~155000 # of TLC 30/50. Total clean water volume is 138187 gals.        |
| <b>Stage #4</b> | RU WL unit with 10K lubricator and test to 10,000 psi with glycol. Perforations from ~9910' – 10164' with ~5000 gallons of 15% HCL acid, ~3000 # of 100 mesh sand and ~170000 # of TLC 30/50. Total clean water volume is 147685 gals.         |

- Stage #5** RU WL unit with 10K lubricator and test to 10,000 psi with glycol. Perforations from ~9568' – 9880' with ~5000 gallons of 15% HCL acid, ~3000 # of 100 mesh sand and ~155000 # of TLC 30/50. Total clean water volume is 138250 gals.
- Stage #6** RU WL unit with 10K lubricator and test to 10,000 psi with glycol. Perforations from ~9322' – 9545' with ~5000 gallons of 15% HCL acid, ~3000 # of 100 mesh sand and ~150000 # of TLC 30/50. Total clean water volume is 134575 gals.
- Stage #7** RU WL unit with 10K lubricator and test to 10,000 psi with glycol. Perforations from ~9076' – 9292' with ~5000 gallons of 15% HCL acid, ~3000 # of 100 mesh sand and ~145000 # of TLC 30/50. Total clean water volume is 130899 gals.
- Stage #8** RU WL unit with 10K lubricator and test to 10000 psi with glycol. Perforations from ~8859' – 9042' with ~5000 gallons of 15% HCL acid, ~3000# of 100 mesh sand and ~140000# of TLC 30/50.

### Stimulation Summary

|                          | Top Perf | Btm. Perf | Gross Interval | Plug Depth | Net Perf Length | Total Shots | Perf Intervals | Type of Prop     | Lbs of Prop      | Lbs/ft     | Lbs of 100 Mesh | Gals of HCL (15%) | Gals of Clean H2O | Gals of Slurry   |
|--------------------------|----------|-----------|----------------|------------|-----------------|-------------|----------------|------------------|------------------|------------|-----------------|-------------------|-------------------|------------------|
| Stage #1                 | 10,916   | 11,268    | 352            | NA         | 23              | 69          | 17             | Power Prop 20/40 | 140,000          | 398        | 3,000           | 5,000             | 119,336           | 131,043          |
| Stage #2                 | 10,481   | 10,838    | 357            | 10,848     | 23              | 69          | 17             | Power Prop 20/40 | 140,000          | 392        | 3,000           | 5,000             | 118,687           | 130,394          |
| Stage #3                 | 10,196   | 10,452    | 256            | 10,462     | 22              | 66          | 15             | TLC 30/50        | 155,000          | 605        | 3,000           | 5,000             | 138,187           | 176,234          |
| Stage #4                 | 9,910    | 10,164    | 254            | 10,174     | 22              | 66          | 16             | TLC 30/50        | 170,000          | 669        | 3,000           | 5,000             | 147,685           | 189,220          |
| Stage #5                 | 9,568    | 9,880     | 312            | 9,890      | 23              | 69          | 15             | TLC 30/50        | 155,000          | 497        | 3,000           | 5,000             | 138,250           | 176,765          |
| Stage #6                 | 9,322    | 9,545     | 223            | 9,555      | 23              | 69          | 16             | TLC 30/50        | 150,000          | 673        | 3,000           | 5,000             | 134,575           | 172,182          |
| Stage #7                 | 9,076    | 9,292     | 216            | 9,302      | 21              | 63          | 16             | TLC 30/50        | 145,000          | 671        | 3,000           | 5,000             | 130,899           | 167,599          |
| Stage #8                 | 8,859    | 9,042     | 183            | 9,052      | 21              | 63          | 16             | TLC 30/50        | 140,000          | 765        | 3,000           | 5,000             | 128,267           | 164,037          |
| <b>Average per Stage</b> |          |           | <b>269</b>     |            | <b>22</b>       | <b>67</b>   | <b>16</b>      |                  | <b>149,375</b>   | <b>584</b> | <b>3,000</b>    | <b>5,000</b>      | <b>131,986</b>    | <b>163,434</b>   |
| <b>Totals per Well</b>   |          |           | <b>2,153</b>   |            | <b>178</b>      | <b>534</b>  | <b>128</b>     |                  | <b>1,195,000</b> |            | <b>24,000</b>   | <b>40,000</b>     | <b>1,055,886</b>  | <b>1,307,474</b> |

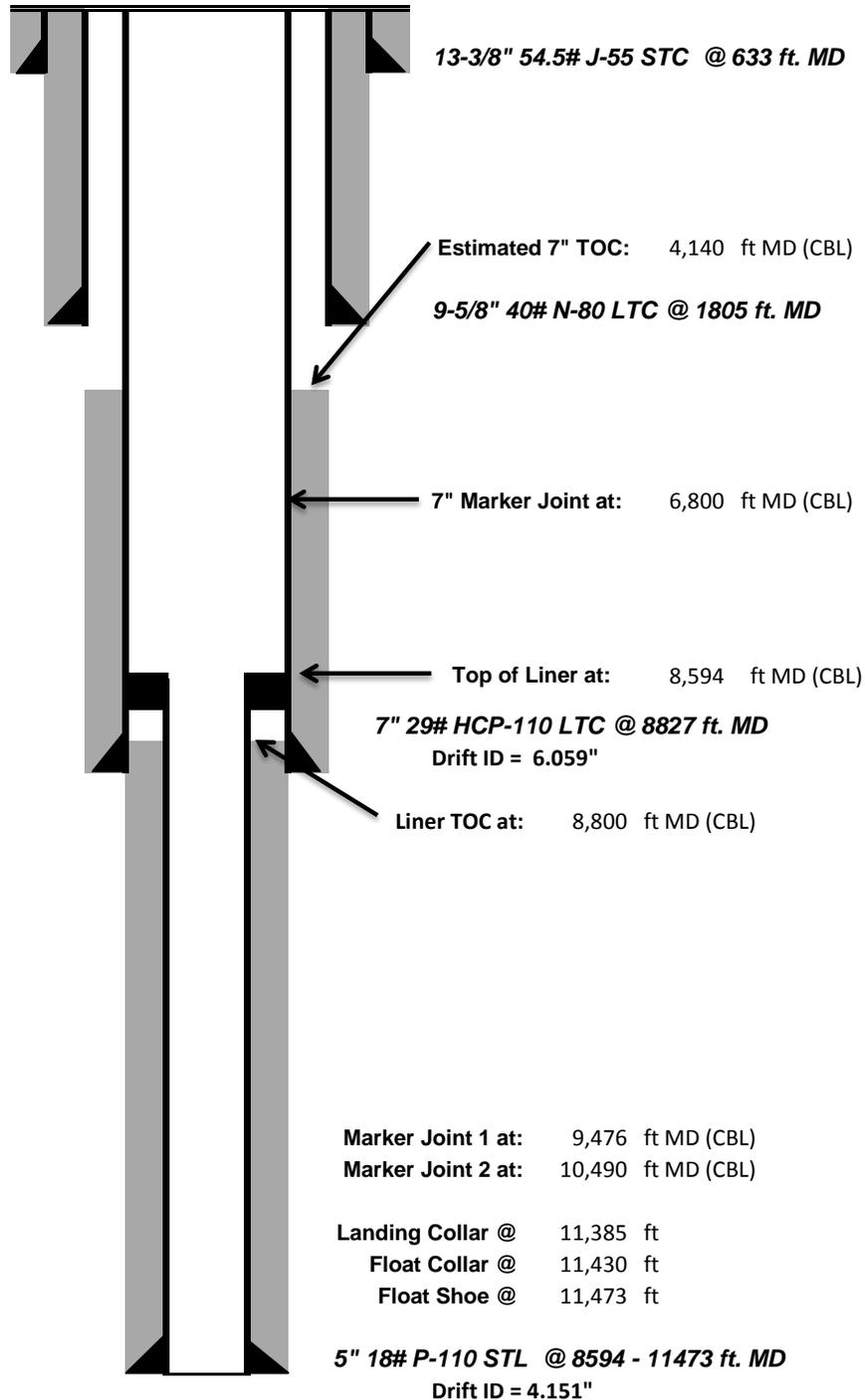


**Pre-Completion Wellbore Schematic**

Well Name: **Silver 5-20C4**  
 Company Name: **EP Energy**  
 Field, County, State: **Altamont, Duchesne County, Utah**  
 Surface Location: **Lat: 40°12'28.84927" N Long: 110°21'16.29805" W**  
 Producing Zone(s): **Green River / Wasatch**

Last Updated: **6/3/2014**  
 By: **Mohammad Siddiqui**  
 TD: **11,473**  
 API: **43013528750000**  
 AFE: **161772**

8.43 ppg KCL substitute (Clay Webb Water) water in the wellbore



**13-3/8" 54.5# J-55 STC @ 633 ft. MD**

**Estimated 7" TOC: 4,140 ft MD (CBL)**

**9-5/8" 40# N-80 LTC @ 1805 ft. MD**

**7" Marker Joint at: 6,800 ft MD (CBL)**

**Top of Liner at: 8,594 ft MD (CBL)**

**7" 29# HCP-110 LTC @ 8827 ft. MD**  
**Drift ID = 6.059"**

**Liner TOC at: 8,800 ft MD (CBL)**

**Marker Joint 1 at: 9,476 ft MD (CBL)**

**Marker Joint 2 at: 10,490 ft MD (CBL)**

**Landing Collar @ 11,385 ft**

**Float Collar @ 11,430 ft**

**Float Shoe @ 11,473 ft**

**5" 18# P-110 STL @ 8594 - 11473 ft. MD**  
**Drift ID = 4.151"**

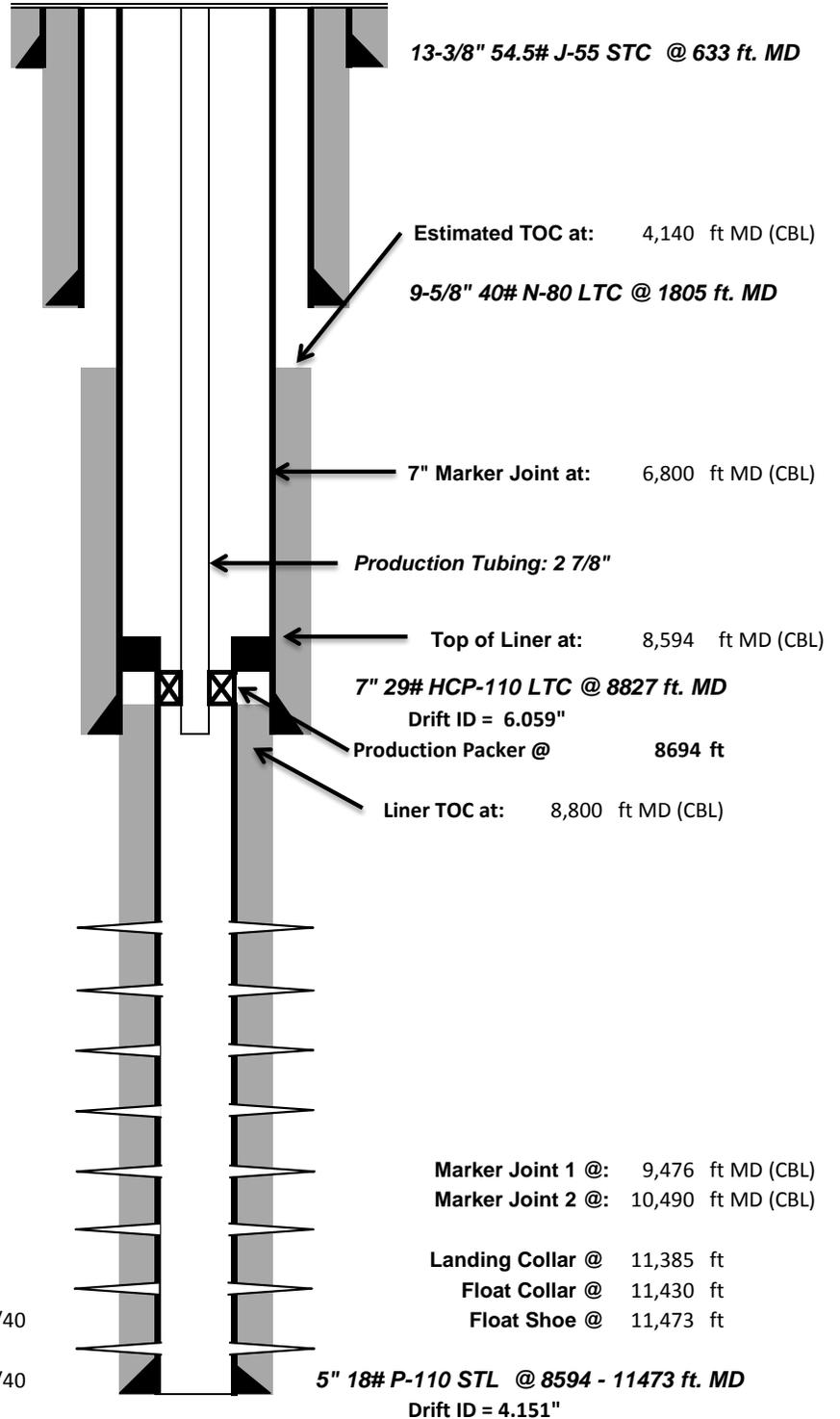


**Post-Completion Wellbore Schematic**

Well Name: **Silver 5-20C4**  
 Company Name: **EP Energy**  
 Field, County, State: **Altamont, Duchesne County, Utah**  
 Surface Location: **Lat: 40°12'28.84927" N Long: 110°21'16.29805" W**  
 Producing Zone(s): **Green River / Wasatch**

Last Updated: **6/3/2014**  
 By: **Mohammad Siddiqui**  
 TD: **11,473**  
 API: **43013528750000**  
 AFE: **161772**

8.43 ppg KCL substitute (Clay Webb Water) water in the wellbore



**Initial Completion Perf Information**

| Stage #         | Depth Range          | Shots                | Fluids                                     |
|-----------------|----------------------|----------------------|--|
| <b>Stage #8</b> | <b>8857 - 9042</b>   | <b>21' /63 shots</b> | 5000 gal HCL & 140000 lbs TLC 30/50        |
| <b>Stage #7</b> | <b>9076 - 9292</b>   | <b>21' /63 shots</b> | 5000 gal HCL & 145000 lbs TLC 30/50        |
| <b>Stage #6</b> | <b>9320 - 9545</b>   | <b>23' /69 shots</b> | 5000 gal HCL & 150000 lbs TLC 30/50        |
| <b>Stage #5</b> | <b>9569 - 9877</b>   | <b>23' /69 shots</b> | 5000 gal HCL & 155000 lbs TLC 30/50        |
| <b>Stage #4</b> | <b>9910 - 10164</b>  | <b>22' /66 shots</b> | 5000 gal HCL & 170000 lbs TLC 30/50        |
| <b>Stage #3</b> | <b>10195 - 10450</b> | <b>22' /66 shots</b> | 5000 gal HCL & 155000 lbs TLC 30/50        |
| <b>Stage #2</b> | <b>10483 - 10838</b> | <b>23' /69 shots</b> | 5000 gal HCL & 140000 lbs Power Prop 20/40 |
| <b>Stage #1</b> | <b>10916 - 11268</b> | <b>23' /69 shots</b> | 5000 gal HCL & 140000 lbs Power Prop 20/40 |

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

AMENDED REPORT  FORM 8  
(highlight changes)

5. LEASE DESIGNATION AND SERIAL NUMBER:

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT or CA AGREEMENT NAME

8. WELL NAME and NUMBER:

9. API NUMBER:

10 FIELD AND POOL, OR WILDCAT

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

12. COUNTY

13. STATE

UTAH

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

1a. TYPE OF WELL: OIL WELL  GAS WELL  DRY  OTHER \_\_\_\_\_

b. TYPE OF WORK: NEW WELL  HORIZ. LATS.  DEEP-EN  RE-ENTRY  DIFF. RESVR.  OTHER \_\_\_\_\_

2. NAME OF OPERATOR:

3. ADDRESS OF OPERATOR: CITY STATE ZIP PHONE NUMBER:

4. LOCATION OF WELL (FOOTAGES)  
AT SURFACE:  
  
AT TOP PRODUCING INTERVAL REPORTED BELOW:  
  
AT TOTAL DEPTH:

14. DATE SPUDDED: 15. DATE T.D. REACHED: 16. DATE COMPLETED: ABANDONED  READY TO PRODUCE  17. ELEVATIONS (DF, RKB, RT, GL):

18. TOTAL DEPTH: MD TVD 19. PLUG BACK T.D.: MD TVD 20. IF MULTIPLE COMPLETIONS, HOW MANY? \* 21. DEPTH BRIDGE MD PLUG SET: TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each) 23. WAS WELL CORED? NO  YES  (Submit analysis)  
WAS DST RUN? NO  YES  (Submit report)  
DIRECTIONAL SURVEY? NO  YES  (Submit copy)

**24. CASING AND LINER RECORD (Report all strings set in well)**

| HOLE SIZE | SIZE/GRADE | WEIGHT (#/ft.) | TOP (MD) | BOTTOM (MD) | STAGE CEMENTER DEPTH | CEMENT TYPE & NO. OF SACKS | SLURRY VOLUME (BBL) | CEMENT TOP ** | AMOUNT PULLED |
|-----------|------------|----------------|----------|-------------|----------------------|----------------------------|---------------------|---------------|---------------|
|           |            |                |          |             |                      |                            |                     |               |               |
|           |            |                |          |             |                      |                            |                     |               |               |
|           |            |                |          |             |                      |                            |                     |               |               |
|           |            |                |          |             |                      |                            |                     |               |               |
|           |            |                |          |             |                      |                            |                     |               |               |
|           |            |                |          |             |                      |                            |                     |               |               |
|           |            |                |          |             |                      |                            |                     |               |               |
|           |            |                |          |             |                      |                            |                     |               |               |
|           |            |                |          |             |                      |                            |                     |               |               |

**25. TUBING RECORD**

| SIZE | DEPTH SET (MD) | PACKER SET (MD) | SIZE | DEPTH SET (MD) | PACKER SET (MD) | SIZE | DEPTH SET (MD) | PACKER SET (MD) |
|------|----------------|-----------------|------|----------------|-----------------|------|----------------|-----------------|
|      |                |                 |      |                |                 |      |                |                 |
|      |                |                 |      |                |                 |      |                |                 |

**26. PRODUCING INTERVALS**

| FORMATION NAME | TOP (MD) | BOTTOM (MD) | TOP (TVD) | BOTTOM (TVD) |
|----------------|----------|-------------|-----------|--------------|
| (A)            |          |             |           |              |
| (B)            |          |             |           |              |
| (C)            |          |             |           |              |
| (D)            |          |             |           |              |

**27. PERFORATION RECORD**

| INTERVAL (Top/Bot - MD) | SIZE | NO. HOLES | PERFORATION STATUS  |
|-------------------------|------|-----------|---|
|                         |      |           | Open <input type="checkbox"/> Squeezed <input type="checkbox"/> |
|                         |      |           | Open <input type="checkbox"/> Squeezed <input type="checkbox"/> |
|                         |      |           | Open <input type="checkbox"/> Squeezed <input type="checkbox"/> |
|                         |      |           | Open <input type="checkbox"/> Squeezed <input type="checkbox"/> |

**28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC. See attached for further information on #27 & #28.**

| DEPTH INTERVAL | AMOUNT AND TYPE OF MATERIAL |
|----------------|-----------------------------|
|                |                             |
|                |                             |
|                |                             |

**29. ENCLOSED ATTACHMENTS: All logs are submitted to UDOGM by vendor.**

- ELECTRICAL/MECHANICAL LOGS
- SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION
- GEOLOGIC REPORT
- CORE ANALYSIS
- DST REPORT
- OTHER: \_\_\_\_\_
- DIRECTIONAL SURVEY

**30. WELL STATUS:**

**31. INITIAL PRODUCTION**

**INTERVAL A (As shown in item #26)**

|                      |             |             |             |               |               |                           |            |            |              |                  |
|----------------------|-------------|-------------|-------------|---------------|---------------|---------------------------|------------|------------|--------------|------------------|
| DATE FIRST PRODUCED: |             | TEST DATE:  |             | HOURS TESTED: |               | TEST PRODUCTION RATES: →  | OIL – BBL: | GAS – MCF: | WATER – BBL: | PROD. METHOD:    |
| CHOKE SIZE:          | TBG. PRESS. | CSG. PRESS. | API GRAVITY | BTU – GAS     | GAS/OIL RATIO | 24 HR PRODUCTION RATES: → | OIL – BBL: | GAS – MCF: | WATER – BBL: | INTERVAL STATUS: |

**INTERVAL B (As shown in item #26)**

|                      |             |             |             |               |               |                           |            |            |              |                  |
|----------------------|-------------|-------------|-------------|---------------|---------------|---------------------------|------------|------------|--------------|------------------|
| DATE FIRST PRODUCED: |             | TEST DATE:  |             | HOURS TESTED: |               | TEST PRODUCTION RATES: →  | OIL – BBL: | GAS – MCF: | WATER – BBL: | PROD. METHOD:    |
| CHOKE SIZE:          | TBG. PRESS. | CSG. PRESS. | API GRAVITY | BTU – GAS     | GAS/OIL RATIO | 24 HR PRODUCTION RATES: → | OIL – BBL: | GAS – MCF: | WATER – BBL: | INTERVAL STATUS: |

**INTERVAL C (As shown in item #26)**

|                      |             |             |             |               |               |                           |            |            |              |                  |
|----------------------|-------------|-------------|-------------|---------------|---------------|---------------------------|------------|------------|--------------|------------------|
| DATE FIRST PRODUCED: |             | TEST DATE:  |             | HOURS TESTED: |               | TEST PRODUCTION RATES: →  | OIL – BBL: | GAS – MCF: | WATER – BBL: | PROD. METHOD:    |
| CHOKE SIZE:          | TBG. PRESS. | CSG. PRESS. | API GRAVITY | BTU – GAS     | GAS/OIL RATIO | 24 HR PRODUCTION RATES: → | OIL – BBL: | GAS – MCF: | WATER – BBL: | INTERVAL STATUS: |

**INTERVAL D (As shown in item #26)**

|                      |             |             |             |               |               |                           |            |            |              |                  |
|----------------------|-------------|-------------|-------------|---------------|---------------|---------------------------|------------|------------|--------------|------------------|
| DATE FIRST PRODUCED: |             | TEST DATE:  |             | HOURS TESTED: |               | TEST PRODUCTION RATES: →  | OIL – BBL: | GAS – MCF: | WATER – BBL: | PROD. METHOD:    |
| CHOKE SIZE:          | TBG. PRESS. | CSG. PRESS. | API GRAVITY | BTU – GAS     | GAS/OIL RATIO | 24 HR PRODUCTION RATES: → | OIL – BBL: | GAS – MCF: | WATER – BBL: | INTERVAL STATUS: |

**32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)**

**33. SUMMARY OF POROUS ZONES (Include Aquifers):**

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

**34. FORMATION (Log) MARKERS:**

| Formation | Top (MD) | Bottom (MD) | Descriptions, Contents, etc. | Name | Top (Measured Depth) |
|-----------|----------|-------------|------------------------------|------|----------------------|
|           |          |             |                              |      |                      |

**35. ADDITIONAL REMARKS (Include plugging procedure)**

**36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.**

NAME (PLEASE PRINT) \_\_\_\_\_ TITLE \_\_\_\_\_

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

This report must be submitted within 30 days of

- completing or plugging a new well
- reentering a previously plugged and abandoned well
- drilling horizontal laterals from an existing well bore
- significantly deepening an existing well bore below the previous bottom-hole depth
- recompleting to a different producing formation
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

\* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

\*\* ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

**Attachment to Well Completion Report****Form 8 Dated August 10, 2014****Well Name: Silver 5-20C4****Items #27 and #28 Continued****27. Perforation Record**

| <b>Interval (Top/Bottom – MD)</b> | <b>Size</b> | <b>No. of Holes</b> | <b>Perf. Status</b> |
|-----------------------------------|-------------|---------------------|---------------------|
| <b>9569'-9877'</b>                | <b>.43</b>  | <b>69</b>           | <b>Open</b>         |
| <b>9320'-9545'</b>                | <b>.43</b>  | <b>69</b>           | <b>Open</b>         |
| <b>9076'-9292'</b>                | <b>.43</b>  | <b>69</b>           | <b>Open</b>         |
| <b>8857'-9042'</b>                | <b>.43</b>  | <b>69</b>           | <b>Open</b>         |

**28. Acid, Fracture, Treatment, Cement Squeeze, Etc.**

| <b>Depth Interval</b> | <b>Amount and Type of Material</b>                      |
|-----------------------|---|
| <b>9910'-10164'</b>   | <b>5000 gal acid, 3000# 100 mesh, 170260# 30/50 TLC</b> |
| <b>9569'-9877'</b>    | <b>5000 gal acid, 3000# 100 mesh, 155460# 30/50 TLC</b> |
| <b>9320'-9545'</b>    | <b>5000 gal acid, 3000# 100 mesh, 149860# 30/50 TLC</b> |
| <b>9076'-9292'</b>    | <b>5000 gal acid, 3000# 100 mesh, 145260# 30/50 TLC</b> |
| <b>8857'-9042'</b>    | <b>5000 gal acid, 3000# 100 mesh, 138780# 30/50 TLC</b> |



**Company:** EP Energy  
**Well:** Silver 5-20C4  
**Location:** Duchesne, UT  
**Rig:** Precision 404

**Job Number:** \_\_\_\_\_  
**Mag Decl.:** \_\_\_\_\_  
**Dir Driller:** \_\_\_\_\_  
**MWD Eng:** \_\_\_\_\_

**Calculation Method** Minimum Curvature  
**Proposed Azimuth** 0.00  
**Depth Reference** KB  
**Tie Into:** Gyro/MWD

| Survey Number | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates |          | Closure       |                   | Dogleg Severity (d/100') | Build Rate (d/100') | Walk Rate (d/100') |       |         |
|---------------|-------------------|-------------------|---------------|--------------------|--------------------------|-----------------------|-------------|----------|---------------|-------------------|--------------------------|---------------------|--------------------|-------|---------|
|               |                   |                   |               |                    |                          |                       | N/S (ft)    | E/W (ft) | Distance (ft) | Direction Azimuth |                          |                     |                    |       |         |
| <b>Tie In</b> | <b>0.00</b>       | <b>0.00</b>       | <b>0.00</b>   |                    |                          |                       |             |          |               |                   |                          |                     |                    |       |         |
| 1             | 100.00            | 0.77              | 193.58        | 100.00             | 100.00                   | -0.65                 | 0.65        | S        | 0.16          | W                 | 0.67                     | 193.58              | 0.77               | 0.77  | 193.58  |
| 2             | 200.00            | 0.60              | 199.28        | 100.00             | 199.99                   | -1.80                 | 1.80        | S        | 0.49          | W                 | 1.86                     | 195.17              | 0.18               | -0.17 | 5.70    |
| 3             | 300.00            | 0.74              | 193.19        | 100.00             | 299.98                   | -2.92                 | 2.92        | S        | 0.81          | W                 | 3.03                     | 195.46              | 0.16               | 0.14  | -6.09   |
| 4             | 400.00            | 1.03              | 192.81        | 100.00             | 399.97                   | -4.43                 | 4.43        | S        | 1.15          | W                 | 4.58                     | 194.62              | 0.29               | 0.29  | -0.38   |
| 5             | 500.00            | 1.08              | 192.23        | 100.00             | 499.95                   | -6.23                 | 6.23        | S        | 1.55          | W                 | 6.42                     | 194.01              | 0.05               | 0.05  | -0.58   |
| 6             | 600.00            | 0.78              | 197.81        | 100.00             | 599.94                   | -7.80                 | 7.80        | S        | 1.96          | W                 | 8.04                     | 194.13              | 0.31               | -0.30 | 5.58    |
| 7             | 700.00            | 0.73              | 201.24        | 100.00             | 699.93                   | -9.04                 | 9.04        | S        | 2.40          | W                 | 9.36                     | 194.88              | 0.07               | -0.05 | 3.43    |
| 8             | 800.00            | 0.70              | 203.85        | 100.00             | 799.92                   | -10.20                | 10.20       | S        | 2.88          | W                 | 10.60                    | 195.77              | 0.04               | -0.03 | 2.62    |
| 9             | 900.00            | 0.76              | 204.21        | 100.00             | 899.92                   | -11.36                | 11.36       | S        | 3.40          | W                 | 11.85                    | 196.66              | 0.06               | 0.06  | 0.35    |
| 10            | 1000.00           | 0.97              | 204.10        | 100.00             | 999.90                   | -12.73                | 12.73       | S        | 4.01          | W                 | 13.35                    | 197.50              | 0.21               | 0.21  | -0.11   |
| 11            | 1100.00           | 1.01              | 209.49        | 100.00             | 1099.89                  | -14.26                | 14.26       | S        | 4.79          | W                 | 15.05                    | 198.56              | 0.10               | 0.04  | 5.39    |
| 12            | 1200.00           | 1.17              | 199.48        | 100.00             | 1199.87                  | -15.99                | 15.99       | S        | 5.56          | W                 | 16.93                    | 199.18              | 0.25               | 0.16  | -10.01  |
| 13            | 1300.00           | 1.29              | 193.25        | 100.00             | 1299.85                  | -18.05                | 18.05       | S        | 6.16          | W                 | 19.07                    | 198.85              | 0.18               | 0.12  | -6.23   |
| 14            | 1400.00           | 1.45              | 198.67        | 100.00             | 1399.82                  | -20.34                | 20.34       | S        | 6.82          | W                 | 21.46                    | 198.54              | 0.20               | 0.16  | 5.41    |
| 15            | 1500.00           | 1.72              | 196.16        | 100.00             | 1499.78                  | -22.98                | 22.98       | S        | 7.65          | W                 | 24.22                    | 198.40              | 0.28               | 0.27  | -2.50   |
| 16            | 1600.00           | 2.05              | 200.81        | 100.00             | 1599.73                  | -26.09                | 26.09       | S        | 8.70          | W                 | 27.50                    | 198.44              | 0.37               | 0.33  | 4.64    |
| 17            | 1700.00           | 2.52              | 207.82        | 100.00             | 1699.65                  | -29.71                | 29.71       | S        | 10.36         | W                 | 31.46                    | 199.22              | 0.54               | 0.47  | 7.02    |
| 18            | 1757.00           | 2.90              | 209.31        | 57.00              | 1756.58                  | -32.08                | 32.08       | S        | 11.65         | W                 | 34.13                    | 199.96              | 0.68               | 0.67  | 2.61    |
| 19            | 1824.00           | 2.88              | 217.08        | 67.00              | 1823.50                  | -34.90                | 34.90       | S        | 13.50         | W                 | 37.42                    | 201.14              | 0.59               | -0.03 | 11.60   |
| 20            | 1918.00           | 1.08              | 225.93        | 94.00              | 1917.44                  | -37.40                | 37.40       | S        | 15.56         | W                 | 40.51                    | 202.59              | 1.94               | -1.91 | 9.41    |
| 21            | 2011.00           | 0.67              | 41.12         | 93.00              | 2010.43                  | -37.60                | 37.60       | S        | 15.83         | W                 | 40.79                    | 202.83              | 1.88               | -0.44 | -198.72 |
| 22            | 2104.00           | 0.46              | 47.82         | 93.00              | 2103.43                  | -36.94                | 36.94       | S        | 15.20         | W                 | 39.94                    | 202.36              | 0.24               | -0.23 | 7.20    |
| 23            | 2197.00           | 0.34              | 48.09         | 93.00              | 2196.43                  | -36.50                | 36.50       | S        | 14.71         | W                 | 39.36                    | 201.95              | 0.13               | -0.13 | 0.29    |
| 24            | 2290.00           | 0.30              | 53.59         | 93.00              | 2289.43                  | -36.17                | 36.17       | S        | 14.31         | W                 | 38.90                    | 201.59              | 0.05               | -0.04 | 5.91    |
| 25            | 2383.00           | 1.71              | 36.62         | 93.00              | 2382.41                  | -34.92                | 34.92       | S        | 13.29         | W                 | 37.36                    | 200.84              | 1.53               | 1.52  | -18.25  |
| 26            | 2476.00           | 1.83              | 33.64         | 93.00              | 2475.37                  | -32.57                | 32.57       | S        | 11.64         | W                 | 34.58                    | 199.66              | 0.16               | 0.13  | -3.20   |
| 27            | 2569.00           | 1.63              | 30.99         | 93.00              | 2568.32                  | -30.20                | 30.20       | S        | 10.13         | W                 | 31.85                    | 198.55              | 0.23               | -0.22 | -2.85   |
| 28            | 2662.00           | 1.52              | 30.72         | 93.00              | 2661.29                  | -28.00                | 28.00       | S        | 8.82          | W                 | 29.36                    | 197.49              | 0.12               | -0.12 | -0.29   |
| 29            | 2755.00           | 1.13              | 30.08         | 93.00              | 2754.26                  | -26.15                | 26.15       | S        | 7.73          | W                 | 27.27                    | 196.48              | 0.42               | -0.42 | -0.69   |
| 30            | 2848.00           | 2.08              | 40.49         | 93.00              | 2847.23                  | -24.07                | 24.07       | S        | 6.18          | W                 | 24.85                    | 194.39              | 1.06               | 1.02  | 11.19   |
| 31            | 2941.00           | 1.75              | 36.00         | 93.00              | 2940.17                  | -21.64                | 21.64       | S        | 4.25          | W                 | 22.05                    | 191.10              | 0.39               | -0.35 | -4.83   |
| 32            | 3034.00           | 1.50              | 34.60         | 93.00              | 3033.14                  | -19.49                | 19.49       | S        | 2.72          | W                 | 19.68                    | 187.95              | 0.27               | -0.27 | -1.51   |
| 33            | 3127.00           | 1.12              | 40.09         | 93.00              | 3126.11                  | -17.79                | 17.79       | S        | 1.44          | W                 | 17.85                    | 184.64              | 0.43               | -0.41 | 5.90    |
| 34            | 3220.00           | 2.18              | 38.31         | 93.00              | 3219.07                  | -15.71                | 15.71       | S        | 0.24          | E                 | 15.71                    | 179.13              | 1.14               | 1.14  | -1.91   |
| 35            | 3313.00           | 2.16              | 48.80         | 93.00              | 3312.00                  | -13.16                | 13.16       | S        | 2.65          | E                 | 13.43                    | 168.61              | 0.43               | -0.02 | 11.28   |



**Company:** EP Energy  
**Well:** Silver 5-20C4  
**Location:** Duchesne, UT  
**Rig:** Precision 404

**Job Number:** \_\_\_\_\_  
**Mag Decl.:** \_\_\_\_\_  
**Dir Driller:** \_\_\_\_\_  
**MWD Eng:** \_\_\_\_\_

**Calculation Method** Minimum Curvature  
**Proposed Azimuth** 0.00  
**Depth Reference** KB  
**Tie Into:** Gyro/MWD

| Survey Number | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates |          |               |           | Closure       |           | Dogleg Severity (d/100') | Build Rate (d/100') | Walk Rate (d/100') |
|---------------|-------------------|-------------------|---------------|--------------------|--------------------------|-----------------------|-------------|----------|---------------|-----------|---------------|-----------|--------------------------|---------------------|--------------------|
|               |                   |                   |               |                    |                          |                       | N/S (ft)    | E/W (ft) | Distance (ft) | Direction | Distance (ft) | Direction |                          |                     |                    |
| 36            | 3406.00           | 1.45              | 41.10         | 93.00              | 3404.96                  | -11.12                | 11.12       | S        | 4.74          | E         | 12.09         | 156.90    | 0.81                     | -0.76               | -8.28              |
| 37            | 3499.00           | 1.03              | 38.25         | 93.00              | 3497.94                  | -9.58                 | 9.58        | S        | 6.04          | E         | 11.32         | 147.79    | 0.46                     | -0.45               | -3.06              |
| 38            | 3592.00           | 0.41              | 81.13         | 93.00              | 3590.93                  | -8.87                 | 8.87        | S        | 6.88          | E         | 11.23         | 142.20    | 0.84                     | -0.67               | 46.11              |
| 39            | 3685.00           | 0.39              | 131.68        | 93.00              | 3683.93                  | -9.03                 | 9.03        | S        | 7.45          | E         | 11.71         | 140.49    | 0.37                     | -0.02               | 54.35              |
| 40            | 3778.00           | 0.60              | 133.55        | 93.00              | 3776.92                  | -9.58                 | 9.58        | S        | 8.04          | E         | 12.50         | 140.00    | 0.23                     | 0.23                | 2.01               |
| 41            | 3871.00           | 0.75              | 159.73        | 93.00              | 3869.92                  | -10.48                | 10.48       | S        | 8.60          | E         | 13.56         | 140.64    | 0.36                     | 0.16                | 28.15              |
| 42            | 3964.00           | 0.85              | 155.31        | 93.00              | 3962.91                  | -11.68                | 11.68       | S        | 9.10          | E         | 14.81         | 142.08    | 0.13                     | 0.11                | -4.75              |
| 43            | 4057.00           | 1.01              | 163.82        | 93.00              | 4055.90                  | -13.10                | 13.10       | S        | 9.62          | E         | 16.25         | 143.71    | 0.23                     | 0.17                | 9.15               |
| 44            | 4150.00           | 0.82              | 87.77         | 93.00              | 4148.89                  | -13.86                | 13.86       | S        | 10.51         | E         | 17.39         | 142.82    | 1.22                     | -0.20               | -81.77             |
| 45            | 4243.00           | 0.39              | 82.70         | 93.00              | 4241.88                  | -13.79                | 13.79       | S        | 11.49         | E         | 17.95         | 140.21    | 0.47                     | -0.46               | -5.45              |
| 46            | 4336.00           | 0.62              | 157.42        | 93.00              | 4334.88                  | -14.22                | 14.22       | S        | 12.00         | E         | 18.60         | 139.84    | 0.69                     | 0.25                | 80.34              |
| 47            | 4429.00           | 0.95              | 182.79        | 93.00              | 4427.87                  | -15.45                | 15.45       | S        | 12.15         | E         | 19.66         | 141.82    | 0.51                     | 0.35                | 27.28              |
| 48            | 4522.00           | 1.46              | 187.86        | 93.00              | 4520.85                  | -17.39                | 17.39       | S        | 11.95         | E         | 21.10         | 145.51    | 0.56                     | 0.55                | 5.45               |
| 49            | 4615.00           | 0.05              | 297.48        | 93.00              | 4613.84                  | -18.55                | 18.55       | S        | 11.75         | E         | 21.96         | 147.64    | 1.59                     | -1.52               | 117.87             |
| 50            | 4708.00           | 1.14              | 14.36         | 93.00              | 4706.83                  | -17.63                | 17.63       | S        | 11.95         | E         | 21.30         | 145.88    | 1.21                     | 1.17                | -304.43            |
| 51            | 4801.00           | 0.62              | 2.47          | 93.00              | 4799.82                  | -16.23                | 16.23       | S        | 12.20         | E         | 20.31         | 143.08    | 0.59                     | -0.56               | -12.78             |
| 52            | 4894.00           | 1.04              | 34.79         | 93.00              | 4892.81                  | -15.04                | 15.04       | S        | 12.70         | E         | 19.68         | 139.82    | 0.66                     | 0.45                | 34.75              |
| 53            | 4987.00           | 1.76              | 37.63         | 93.00              | 4985.78                  | -13.21                | 13.21       | S        | 14.05         | E         | 19.29         | 133.24    | 0.78                     | 0.77                | 3.05               |
| 54            | 5080.00           | 2.75              | 23.85         | 93.00              | 5078.71                  | -10.04                | 10.04       | S        | 15.83         | E         | 18.75         | 122.39    | 1.21                     | 1.06                | -14.82             |
| 55            | 5173.00           | 1.85              | 13.93         | 93.00              | 5171.64                  | -6.55                 | 6.55        | S        | 17.09         | E         | 18.30         | 110.95    | 1.05                     | -0.97               | -10.67             |
| 56            | 5266.00           | 2.58              | 9.14          | 93.00              | 5264.57                  | -3.02                 | 3.02        | S        | 17.79         | E         | 18.04         | 99.64     | 0.81                     | 0.78                | -5.15              |
| 57            | 5359.00           | 1.98              | 358.12        | 93.00              | 5357.49                  | 0.65                  | 0.65        | N        | 18.07         | E         | 18.08         | 87.94     | 0.80                     | -0.65               | 375.25             |
| 58            | 5451.00           | 1.31              | 359.34        | 92.00              | 5449.45                  | 3.29                  | 3.29        | N        | 18.00         | E         | 18.30         | 79.64     | 0.73                     | -0.73               | 1.33               |
| 59            | 5544.00           | 1.97              | 13.47         | 93.00              | 5542.42                  | 5.91                  | 5.91        | N        | 18.36         | E         | 19.29         | 72.16     | 0.83                     | 0.71                | -371.90            |
| 60            | 5637.00           | 2.26              | 10.80         | 93.00              | 5635.35                  | 9.26                  | 9.26        | N        | 19.08         | E         | 21.21         | 64.10     | 0.33                     | 0.31                | -2.87              |
| 61            | 5730.00           | 2.93              | 6.67          | 93.00              | 5728.26                  | 13.43                 | 13.43       | N        | 19.70         | E         | 23.84         | 55.72     | 0.75                     | 0.72                | -4.44              |
| 62            | 5823.00           | 2.12              | 4.10          | 93.00              | 5821.17                  | 17.50                 | 17.50       | N        | 20.10         | E         | 26.65         | 48.95     | 0.88                     | -0.87               | -2.76              |
| 63            | 5916.00           | 1.59              | 5.08          | 93.00              | 5914.12                  | 20.50                 | 20.50       | N        | 20.33         | E         | 28.88         | 44.76     | 0.57                     | -0.57               | 1.05               |
| 64            | 6009.00           | 1.28              | 349.18        | 93.00              | 6007.09                  | 22.81                 | 22.81       | N        | 20.25         | E         | 30.50         | 41.60     | 0.54                     | -0.33               | 370.00             |
| 65            | 6102.00           | 0.77              | 325.14        | 93.00              | 6100.07                  | 24.34                 | 24.34       | N        | 19.70         | E         | 31.32         | 38.98     | 0.71                     | -0.55               | -25.85             |
| 66            | 6195.00           | 0.64              | 308.89        | 93.00              | 6193.07                  | 25.18                 | 25.18       | N        | 18.94         | E         | 31.51         | 36.95     | 0.26                     | -0.14               | -17.47             |
| 67            | 6288.00           | 0.45              | 265.43        | 93.00              | 6286.06                  | 25.48                 | 25.48       | N        | 18.17         | E         | 31.29         | 35.50     | 0.47                     | -0.20               | -46.73             |
| 68            | 6381.00           | 0.73              | 212.36        | 93.00              | 6379.06                  | 24.95                 | 24.95       | N        | 17.49         | E         | 30.47         | 35.03     | 0.63                     | 0.30                | -57.06             |
| 69            | 6475.00           | 1.12              | 201.36        | 94.00              | 6473.04                  | 23.59                 | 23.59       | N        | 16.83         | E         | 28.98         | 35.52     | 0.45                     | 0.41                | -11.70             |
| 70            | 6568.00           | 1.35              | 189.50        | 93.00              | 6566.02                  | 21.66                 | 21.66       | N        | 16.32         | E         | 27.12         | 37.00     | 0.37                     | 0.25                | -12.75             |
| 71            | 6661.00           | 0.42              | 253.17        | 93.00              | 6659.01                  | 20.48                 | 20.48       | N        | 15.82         | E         | 25.88         | 37.68     | 1.32                     | -1.00               | 68.46              |
| 72            | 6754.00           | 0.44              | 237.54        | 93.00              | 6752.01                  | 20.19                 | 20.19       | N        | 15.19         | E         | 25.27         | 36.95     | 0.13                     | 0.02                | -16.81             |



**Company:** EP Energy  
**Well:** Silver 5-20C4  
**Location:** Duchesne, UT  
**Rig:** Precision 404

**Job Number:** \_\_\_\_\_  
**Mag Decl.:** \_\_\_\_\_  
**Dir Driller:** \_\_\_\_\_  
**MWD Eng:** \_\_\_\_\_

**Calculation Method** Minimum Curvature  
**Proposed Azimuth** 0.00  
**Depth Reference** KB  
**Tie Into:** Gyro/MWD

| Survey Number | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates |          |               |           | Closure       |           | Dogleg Severity (d/100') | Build Rate (d/100') | Walk Rate (d/100') |
|---------------|-------------------|-------------------|---------------|--------------------|--------------------------|-----------------------|-------------|----------|---------------|-----------|---------------|-----------|--------------------------|---------------------|--------------------|
|               |                   |                   |               |                    |                          |                       | N/S (ft)    | E/W (ft) | Distance (ft) | Direction | Distance (ft) | Direction |                          |                     |                    |
| 73            | 6847.00           | 0.98              | 202.09        | 93.00              | 6845.00                  | 19.26                 | 19.26       | N        | 14.59         | E         | 24.16         | 37.14     | 0.72                     | 0.58                | -38.12             |
| 74            | 6940.00           | 1.57              | 197.69        | 93.00              | 6937.98                  | 17.31                 | 17.31       | N        | 13.90         | E         | 22.20         | 38.77     | 0.64                     | 0.63                | -4.73              |
| 75            | 7033.00           | 1.88              | 193.80        | 93.00              | 7030.94                  | 14.62                 | 14.62       | N        | 13.15         | E         | 19.66         | 41.98     | 0.36                     | 0.33                | -4.18              |
| 76            | 7126.00           | 2.04              | 188.86        | 93.00              | 7123.88                  | 11.50                 | 11.50       | N        | 12.53         | E         | 17.01         | 47.46     | 0.25                     | 0.17                | -5.31              |
| 77            | 7219.00           | 2.38              | 188.99        | 93.00              | 7216.81                  | 7.96                  | 7.96        | N        | 11.98         | E         | 14.38         | 56.40     | 0.37                     | 0.37                | 0.14               |
| 78            | 7312.00           | 2.62              | 187.54        | 93.00              | 7309.72                  | 3.94                  | 3.94        | N        | 11.39         | E         | 12.06         | 70.92     | 0.27                     | 0.26                | -1.56              |
| 79            | 7405.00           | 2.74              | 187.75        | 93.00              | 7402.62                  | -0.37                 | 0.37        | S        | 10.82         | E         | 10.82         | 91.95     | 0.13                     | 0.13                | 0.23               |
| 80            | 7498.00           | 3.05              | 187.88        | 93.00              | 7495.50                  | -5.02                 | 5.02        | S        | 10.18         | E         | 11.35         | 116.26    | 0.33                     | 0.33                | 0.14               |
| 81            | 7590.00           | 1.99              | 216.80        | 92.00              | 7587.42                  | -8.73                 | 8.73        | S        | 8.88          | E         | 12.45         | 134.48    | 1.76                     | -1.15               | 31.43              |
| 82            | 7684.00           | 1.15              | 251.82        | 94.00              | 7681.38                  | -10.33                | 10.33       | S        | 7.01          | E         | 12.48         | 145.83    | 1.32                     | -0.89               | 37.26              |
| 83            | 7777.00           | 1.11              | 238.91        | 93.00              | 7774.37                  | -11.08                | 11.08       | S        | 5.35          | E         | 12.31         | 154.22    | 0.28                     | -0.04               | -13.88             |
| 84            | 7870.00           | 1.41              | 225.42        | 93.00              | 7867.34                  | -12.35                | 12.35       | S        | 3.77          | E         | 12.91         | 163.04    | 0.45                     | 0.32                | -14.51             |
| 85            | 7963.00           | 1.98              | 221.33        | 93.00              | 7960.30                  | -14.36                | 14.36       | S        | 1.89          | E         | 14.48         | 172.50    | 0.63                     | 0.61                | -4.40              |
| 86            | 8055.00           | 2.92              | 213.61        | 92.00              | 8052.22                  | -17.51                | 17.51       | S        | 0.46          | W         | 17.51         | 181.49    | 1.08                     | 1.02                | -8.39              |
| 87            | 8148.00           | 2.66              | 219.59        | 93.00              | 8145.11                  | -21.14                | 21.14       | S        | 3.14          | W         | 21.37         | 188.46    | 0.42                     | -0.28               | 6.43               |
| 88            | 8241.00           | 2.36              | 224.86        | 93.00              | 8238.02                  | -24.16                | 24.16       | S        | 5.87          | W         | 24.86         | 193.65    | 0.41                     | -0.32               | 5.67               |
| 89            | 8334.00           | 2.23              | 242.87        | 93.00              | 8330.94                  | -26.34                | 26.34       | S        | 8.83          | W         | 27.78         | 198.53    | 0.78                     | -0.14               | 19.37              |
| 90            | 8427.00           | 2.04              | 233.26        | 93.00              | 8423.88                  | -28.16                | 28.16       | S        | 11.77         | W         | 30.52         | 202.68    | 0.44                     | -0.20               | -10.33             |
| 91            | 8520.00           | 1.93              | 214.08        | 93.00              | 8516.83                  | -30.45                | 30.45       | S        | 13.97         | W         | 33.50         | 204.65    | 0.72                     | -0.12               | -20.62             |
| 92            | 8614.00           | 1.75              | 204.32        | 94.00              | 8610.78                  | -33.07                | 33.07       | S        | 15.45         | W         | 36.50         | 205.04    | 0.38                     | -0.19               | -10.38             |
| 93            | 8707.00           | 1.80              | 208.23        | 93.00              | 8703.73                  | -35.65                | 35.65       | S        | 16.72         | W         | 39.38         | 205.14    | 0.14                     | 0.05                | 4.20               |
| 94            | 8760.00           | 1.81              | 206.44        | 53.00              | 8756.71                  | -37.13                | 37.13       | S        | 17.49         | W         | 41.04         | 205.22    | 0.11                     | 0.02                | -3.38              |
| 95            | 8800.00           | 1.75              | 204.59        | 40.00              | 8796.69                  | -38.25                | 38.25       | S        | 18.03         | W         | 42.28         | 205.23    | 0.22                     | -0.16               | -4.64              |
| 96            | 8900.00           | 1.07              | 214.48        | 100.00             | 8896.66                  | -40.40                | 40.40       | S        | 19.19         | W         | 44.73         | 205.40    | 0.72                     | -0.68               | 9.90               |
| 97            | 9000.00           | 1.68              | 208.82        | 100.00             | 8996.63                  | -42.45                | 42.45       | S        | 20.42         | W         | 47.11         | 205.69    | 0.62                     | 0.61                | -5.66              |
| 98            | 9100.00           | 2.24              | 188.12        | 100.00             | 9096.57                  | -45.67                | 45.67       | S        | 21.40         | W         | 50.44         | 205.11    | 0.89                     | 0.56                | -20.70             |
| 99            | 9200.00           | 2.43              | 194.66        | 100.00             | 9196.49                  | -49.65                | 49.65       | S        | 22.22         | W         | 54.40         | 204.10    | 0.33                     | 0.19                | 6.54               |
| 100           | 9300.00           | 3.01              | 190.26        | 100.00             | 9296.37                  | -54.29                | 54.29       | S        | 23.22         | W         | 59.05         | 203.16    | 0.62                     | 0.59                | -4.40              |
| 101           | 9400.00           | 3.22              | 189.70        | 100.00             | 9396.23                  | -59.65                | 59.65       | S        | 24.16         | W         | 64.35         | 202.05    | 0.21                     | 0.21                | -0.56              |
| 102           | 9500.00           | 3.12              | 180.58        | 100.00             | 9496.07                  | -65.14                | 65.14       | S        | 24.66         | W         | 69.65         | 200.74    | 0.51                     | -0.10               | -9.12              |
| 103           | 9600.00           | 3.04              | 181.10        | 100.00             | 9595.93                  | -70.51                | 70.51       | S        | 24.74         | W         | 74.73         | 199.33    | 0.09                     | -0.08               | 0.52               |
| 104           | 9700.00           | 2.91              | 183.42        | 100.00             | 9695.79                  | -75.70                | 75.70       | S        | 24.94         | W         | 79.70         | 198.24    | 0.18                     | -0.13               | 2.32               |
| 105           | 9800.00           | 2.34              | 189.93        | 100.00             | 9795.69                  | -80.24                | 80.24       | S        | 25.45         | W         | 84.18         | 197.60    | 0.64                     | -0.57               | 6.51               |
| 106           | 9900.00           | 2.47              | 189.86        | 100.00             | 9895.60                  | -84.37                | 84.37       | S        | 26.17         | W         | 88.33         | 197.23    | 0.13                     | 0.13                | -0.06              |
| 107           | 10000.00          | 2.99              | 189.68        | 100.00             | 9995.49                  | -89.06                | 89.06       | S        | 26.97         | W         | 93.06         | 196.85    | 0.53                     | 0.53                | -0.18              |
| 108           | 10100.00          | 2.60              | 196.05        | 100.00             | 10095.37                 | -93.82                | 93.82       | S        | 28.04         | W         | 97.92         | 196.64    | 0.50                     | -0.39               | 6.38               |
| 109           | 10200.00          | 3.08              | 193.99        | 100.00             | 10195.24                 | -98.60                | 98.60       | S        | 29.32         | W         | 102.86        | 196.56    | 0.49                     | 0.48                | -2.07              |



**Company:** EP Energy **Job Number:** \_\_\_\_\_  
**Well:** Silver 5-20C4 **Mag Decl.:** \_\_\_\_\_  
**Location:** Duchesne, UT **Dir Driller:** \_\_\_\_\_  
**Rig:** Precision 404 **MWD Eng:** \_\_\_\_\_

**Calculation Method** Minimum Curvature  
**Proposed Azimuth** 0.00  
**Depth Reference** KB  
**Tie Into:** Gyro/MWD

| Survey Number | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates |          | Closure       |                   | Dogleg Severity (d/100') | Build Rate (d/100') | Walk Rate (d/100') |       |        |
|---------------|-------------------|-------------------|---------------|--------------------|--------------------------|-----------------------|-------------|----------|---------------|-------------------|--------------------------|---------------------|--------------------|-------|--------|
|               |                   |                   |               |                    |                          |                       | N/S (ft)    | E/W (ft) | Distance (ft) | Direction Azimuth |                          |                     |                    |       |        |
| 110           | 10300.00          | 3.31              | 181.87        | 100.00             | 10295.09                 | -104.09               | 104.09      | S        | 30.06         | W                 | 108.34                   | 196.11              | 0.71               | 0.24  | -12.12 |
| 111           | 10400.00          | 3.24              | 185.99        | 100.00             | 10394.93                 | -109.79               | 109.79      | S        | 30.45         | W                 | 113.94                   | 195.50              | 0.25               | -0.07 | 4.11   |
| 112           | 10500.00          | 3.33              | 176.94        | 100.00             | 10494.76                 | -115.51               | 115.51      | S        | 30.59         | W                 | 119.49                   | 194.83              | 0.53               | 0.09  | -9.05  |
| 113           | 10600.00          | 3.51              | 176.26        | 100.00             | 10594.58                 | -121.46               | 121.46      | S        | 30.23         | W                 | 125.17                   | 193.98              | 0.18               | 0.17  | -0.68  |
| 114           | 10700.00          | 3.69              | 178.77        | 100.00             | 10694.39                 | -127.73               | 127.73      | S        | 29.96         | W                 | 131.20                   | 193.20              | 0.24               | 0.18  | 2.51   |
| 115           | 10800.00          | 3.15              | 182.72        | 100.00             | 10794.21                 | -133.68               | 133.68      | S        | 30.03         | W                 | 137.01                   | 192.66              | 0.59               | -0.54 | 3.95   |
| 116           | 10900.00          | 3.45              | 177.15        | 100.00             | 10894.04                 | -139.43               | 139.43      | S        | 30.01         | W                 | 142.62                   | 192.15              | 0.44               | 0.31  | -5.57  |
| 117           | 11000.00          | 3.65              | 181.82        | 100.00             | 10993.85                 | -145.62               | 145.62      | S        | 29.96         | W                 | 148.67                   | 191.62              | 0.35               | 0.19  | 4.67   |
| 118           | 11100.00          | 3.37              | 184.86        | 100.00             | 11093.66                 | -151.73               | 151.73      | S        | 30.31         | W                 | 154.72                   | 191.30              | 0.33               | -0.27 | 3.04   |
| 119           | 11200.00          | 3.29              | 185.59        | 100.00             | 11193.50                 | -157.51               | 157.51      | S        | 30.84         | W                 | 160.50                   | 191.08              | 0.09               | -0.08 | 0.73   |
| 120           | 11300.00          | 3.13              | 177.87        | 100.00             | 11293.34                 | -163.10               | 163.10      | S        | 31.01         | W                 | 166.02                   | 190.77              | 0.46               | -0.16 | -7.72  |
| 121           | 11364.00          | 3.14              | 184.13        | 64.00              | 11357.24                 | -166.59               | 166.59      | S        | 31.08         | W                 | 169.47                   | 190.57              | 0.53               | 0.01  | 9.79   |
| 122           | 11495.00          | 3.14              | 184.13        | 131.00             | 11488.05                 | -173.74               | 173.74      | S        | 31.59         | W                 | 176.59                   | 190.31              | 0.00               | 0.00  | 0.00   |
| 123           |                   |                   |               |                    |                          |                       |             |          |               |                   |                          |                     |                    |       |        |
| 124           |                   |                   |               |                    |                          |                       |             |          |               |                   |                          |                     |                    |       |        |
| 125           |                   |                   |               |                    |                          |                       |             |          |               |                   |                          |                     |                    |       |        |
| 126           |                   |                   |               |                    |                          |                       |             |          |               |                   |                          |                     |                    |       |        |
| 127           |                   |                   |               |                    |                          |                       |             |          |               |                   |                          |                     |                    |       |        |
| 128           |                   |                   |               |                    |                          |                       |             |          |               |                   |                          |                     |                    |       |        |
| 129           |                   |                   |               |                    |                          |                       |             |          |               |                   |                          |                     |                    |       |        |
| 130           |                   |                   |               |                    |                          |                       |             |          |               |                   |                          |                     |                    |       |        |
| 131           |                   |                   |               |                    |                          |                       |             |          |               |                   |                          |                     |                    |       |        |
| 132           |                   |                   |               |                    |                          |                       |             |          |               |                   |                          |                     |                    |       |        |
| 133           |                   |                   |               |                    |                          |                       |             |          |               |                   |                          |                     |                    |       |        |
| 134           |                   |                   |               |                    |                          |                       |             |          |               |                   |                          |                     |                    |       |        |
| 135           |                   |                   |               |                    |                          |                       |             |          |               |                   |                          |                     |                    |       |        |
| 136           |                   |                   |               |                    |                          |                       |             |          |               |                   |                          |                     |                    |       |        |
| 137           |                   |                   |               |                    |                          |                       |             |          |               |                   |                          |                     |                    |       |        |