

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB NO. 1004-0137  
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*5. Lease Serial No.  
NMNM118722

6. If Indian, Allottee or Tribe Name

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

**SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

CHEVRON USA INCORPORATED

Contact: LAURA BECERRA  
E-Mail: LBECERRA@CHEVRON.COM

8. Well Name and No.

SD 14 23 FED P19 17H

9. API Well No.

30-025-45706-00-X1

3a. Address

6301 DEAUVILLE BLVD  
MIDLAND, TX 79706

3b. Phone No. (include area code)

Ph: 432-687-7655

10. Field and Pool or Exploratory Area

WC025G09S263327G UP WOLFCAMP

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 14 T26S R32E NWNE 455FNL 1455FEL  
32.049053 N Lat, 103.641693 W Lon

11. County or Parish, State

LEA COUNTY, NM

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

| TYPE OF SUBMISSION                                   | TYPE OF ACTION                                |                                               |                                                    |                                           |
|------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|----------------------------------------------------|-------------------------------------------|
| <input checked="" type="checkbox"/> Notice of Intent | <input type="checkbox"/> Acidize              | <input type="checkbox"/> Deepen               | <input type="checkbox"/> Production (Start/Resume) | <input type="checkbox"/> Water Shut-Off   |
| <input type="checkbox"/> Subsequent Report           | <input type="checkbox"/> Alter Casing         | <input type="checkbox"/> Hydraulic Fracturing | <input type="checkbox"/> Reclamation               | <input type="checkbox"/> Well Integrity   |
| <input type="checkbox"/> Final Abandonment Notice    | <input type="checkbox"/> Casing Repair        | <input type="checkbox"/> New Construction     | <input type="checkbox"/> Recomplete                | <input checked="" type="checkbox"/> Other |
|                                                      | <input type="checkbox"/> Change Plans         | <input type="checkbox"/> Plug and Abandon     | <input type="checkbox"/> Temporarily Abandon       | Change to Original A                      |
|                                                      | <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Plug Back            | <input type="checkbox"/> Water Disposal            | PD                                        |

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

Chevron respectfully requests to change the casing design on this well to a 4-string design. The 9-Point drilling plan is attached with the following updates:

- Casing design factors have been updated to reflect new casing design.

- Annular clearance variance for the 5.5" production string in the 7-5/8" intermediate 2 liner. The crossover on the 5"x5.5" tapered production string will be located approximately 500' above the 7-5/8" shoe for all wells. Planned TOC will be above this crossover fulfilling BLM cementing requirement.

- Cement program updated to reflect changes in the casing design.

**HOBBS OCD****JUN 24 2019****RECEIVED**

14. I hereby certify that the foregoing is true and correct.

**Electronic Submission #468653 verified by the BLM Well Information System  
For CHEVRON USA INCORPORATED, sent to the Hobbs  
Committed to AFMSS for processing by PRISCILLA PEREZ on 06/13/2019 (19PP2165SE)**

Name (Printed/Typed) LAURA BECERRA

Title REGULATORY SPECIALIST

Signature (Electronic Submission)

Date 06/11/2019

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**Approved By ZOTA STEVENSTitle PETROLEUM ENGINEERDate 06/19/2019

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

Office Hobbs

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

(Instructions on page 2)

**\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\****Ka*

**Additional data for EC transaction #468653 that would not fit on the form**

**32. Additional remarks, continued**

- Formations tops in the 9Pt. plan have been updated utilizing data from pilot holes Chevron has drilled in the area.

- Change depths to 23,000' MD/12,184' TVD

- Change of proposed FTP, LTP and BHL

FROM:

FTP- 330' FNL, 1640' FEL; LTP- 330' FSL, 1640' FEL; BHL- 180' FSL, 1640' FEL

TO:

FTP- 100' FNL, 2310' FEL; LTP- 100' FSL, 2310' FEL; BHL- 25' FSL, 2310' FEL

FIELD NAME CORRECTION: WC025G08S263205N

# Revisions to Operator-Submitted EC Data for Sundry Notice #468653

|                | Operator Submitted                                                                             | BLM Revised (AFMSS)                                                                                          |
|----------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Sundry Type:   | APDCH<br>NOI                                                                                   | APDCH<br>NOI                                                                                                 |
| Lease:         | NMNM118722                                                                                     | NMNM118722                                                                                                   |
| Agreement:     |                                                                                                |                                                                                                              |
| Operator:      | CHEVRON USA INC<br>6301 DEAUVILLE BLVD<br>MIDLAND, TX 79706<br>Ph: 432-687-7665                | CHEVRON USA INCORPORATED<br>6301 DEAUVILLE BLVD<br>MIDLAND, TX 79706<br>Ph: 432.687.7100<br>Fx: 432-687-7221 |
| Admin Contact: | LAURA BECERRA<br>REGULATORY SPECIALIST<br>E-Mail: LBECERRA@CHEVRON.COM<br><br>Ph: 432-687-7655 | LAURA BECERRA<br>REGULATORY SPECIALIST<br>E-Mail: LBECERRA@CHEVRON.COM<br><br>Ph: 432-687-7655               |
| Tech Contact:  | LAURA BECERRA<br>REGULATORY SPECIALIST<br>E-Mail: LBECERRA@CHEVRON.COM<br><br>Ph: 432-687-7655 | LAURA BECERRA<br>REGULATORY SPECIALIST<br>E-Mail: LBECERRA@CHEVRON.COM<br><br>Ph: 432-687-7655               |
| Location:      |                                                                                                |                                                                                                              |
| State:         | NM                                                                                             | NM                                                                                                           |
| County:        | LEA                                                                                            | LEA                                                                                                          |
| Field/Pool:    | WC025G09S263327G;UP WOLFC                                                                      | WC025G09S263327G UP WOLFCAMP                                                                                 |
| Well/Facility: | SD 14 23 FED P19 17H<br>Sec 14 T26S R32E Mer NMP NWNE 455FNL 1455FEL                           | SD 14 23 FED P19 17H<br>Sec 14 T26S R32E NWNE 455FNL 1455FEL<br>32.049053 N Lat, 103.641693 W Lon            |

# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

|                       |                                    |
|-----------------------|------------------------------------|
| OPERATOR'S NAME:      | Chevron USA Incorporated           |
| LEASE NO.:            | NMNM118722                         |
| WELL NAME & NO.:      | SD 14 23 Fed P18 17H               |
| SURFACE HOLE FOOTAGE: | 455'/N & 1455'/W                   |
| BOTTOM HOLE FOOTAGE:  | 25'/S & 231'/W                     |
| LOCATION:             | Section 14, T.26 S., R.32 E., NMPM |
| COUNTY:               | Lea County, New Mexico             |

COA

**All previous COAs still apply expect the following:**

|                      |                                        |                                            |                               |
|----------------------|----------------------------------------|--------------------------------------------|-------------------------------|
| H2S                  | <input checked="" type="radio"/> Yes   | <input type="radio"/> No                   |                               |
| Potash               | <input checked="" type="radio"/> None  | <input type="radio"/> Secretary            | <input type="radio"/> R-111-P |
| Cave/Karst Potential | <input type="radio"/> Low              | <input checked="" type="radio"/> Medium    | <input type="radio"/> High    |
| Variance             | <input type="radio"/> None             | <input checked="" type="radio"/> Flex Hose | <input type="radio"/> Other   |
| Wellhead             | <input type="radio"/> Conventional     | <input checked="" type="radio"/> Multibowl | <input type="radio"/> Both    |
| Other                | <input type="checkbox"/> 4 String Area | <input type="checkbox"/> Capitan Reef      | <input type="checkbox"/> WIPP |

## A. Hydrogen Sulfide

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM

## B. CASING

1. The 13-3/8 inch surface casing shall be set at approximately **850** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours

after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above
  - ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

**Operator shall filled 1/3<sup>rd</sup> of casing with fluid while running intermediate casing to maintain collapse safety factor.**

3. The minimum required fill of cement behind the 7-5/8 inch intermediate liner is:
  - Cement should tie-back at least 100 feet into previous casing string. Operator shall provide method of verification.

**Variance for an annular spacing between 7 5/8" and 5 1/2" casing is approved.**

4. The minimum required fill of cement behind the 5-1/2 x 5 inch production casing is:
  - Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

### **C. PRESSURE CONTROL**

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 intermediate casing shoe shall be **10,000 (10M)** psi.

**ZS 061819**

# **Delaware Basin Changes to APD/COA for Federal Well**



## **Well Name:**

|                         |            |                     |
|-------------------------|------------|---------------------|
| <b>SD 14 23 FED P19</b> | <b>17H</b> | <b>30-025-45706</b> |
|-------------------------|------------|---------------------|

**Rig: Nabors X30**

## **CVX CONTACT:**

Jason Hannen  
MCBU D&C Engineer – Nabors X30  
Chevron North America Exploration and Production Co.  
MidContinent Business Unit  
Office: (713) 372-1169  
Cell: (432) 238-3004  
Email: Jason.Hannen@chevron.com

## Summary of Changes to APD Submission

Chevron respectfully requests to update the original 9-point plan submitted for well SD EA 14 23 P19 15H. The following changes were made to the 9-point plan:

- All four wells will be a 4 string design as outlined in the following table

| Purpose                   | From    | To      | Hole Size | Csg Size | Weight | Grade     | Thread  | Condition |
|---------------------------|---------|---------|-----------|----------|--------|-----------|---------|-----------|
| Surface                   | 0'      | 850'    | 17-1/2"   | 13-3/8"  | 54.5 # | J55       | BTC     | New       |
| Intermediate 1            | 0'      | 4900'   | 12-1/4"   | 9-5/8"   | 43.5#  | L-80IC    | LTC     | New       |
| Intermediate 2<br>(Liner) | 4,400'  | 11,500' | 8-1/2"    | 7-5/8"   | 29.7 # | L-80IC    | W-513   | New       |
| Production                | 0'      | 11,000' | 6-3/4"    | 5.5"     | 20#    | P-110-ICY | TXP BTC | New       |
| (Taper String)            | 11,000' | 23,000' | 6-3/4"    | 5"       | 18#    | P-110 IC  | W-521   | New       |

- Casing design factors have been updated to reflect new casing design
- Annular clearance variance for the 5.5" production string in the 7-5/8" intermediate 2 liner. The crossover on the 5"x5.5" tapered production string will be located approximately 500' above the 7-5/8" shoe for all wells. Planned TOC will be above this crossover fulfilling BLM cementing requirement.
- Cement program updated to reflect changes in the casing design.
- Formations tops in the 9-point plan have been updated utilizing data from pilot holes Chevron has drilled in the area.

Please see attached, updated 9-point plan.

### 1. FORMATION TOPS

| FORMATION                | SUB-SEA TVD | KBTVD  | MD     |
|--------------------------|-------------|--------|--------|
| Rustler                  | 2,540       | 709    | 710    |
| Castile                  | 447         | 2,802  | 2,819  |
| Lamar                    | -1,370      | 4,619  | 4,667  |
| Bell Canyon              | -1,420      | 4,669  | 4,718  |
| Cherry Canyon            | -2,408      | 5,657  | 5,732  |
| Brushy Canyon            | -3,990      | 7,239  | 7,323  |
| Bone Spring Limestone    | -5,610      | 8,859  | 8,943  |
| Upr. Avalon              | -5,652      | 8,901  | 8,985  |
| Top Bone Spring 1        | -6,483      | 9,732  | 9,816  |
| Top Bone Spring 2        | -7,090      | 10,339 | 10,423 |
| Top Bone Spring 3        | -8,105      | 11,354 | 11,438 |
| Wolfcamp                 | -8,723      | 11,972 | 12,086 |
| Wolfcamp A1              | -8,819      | 12,068 | 12,225 |
|                          |             |        |        |
| Lateral TD (Wolfcamp A1) | -8,935      | 12,184 | 23,000 |

### 2. ESTIMATED DEPTH OF WATER, OIL, GAS & OTHER MINERAL BEARING FORMATIONS

The estimated depths at which the top and bottom of the anticipated water, oil, gas, or other mineral bearing formations are expected to be encountered are as follows:

| Substance                            | Formation             | Depth  |
|--------------------------------------|-----------------------|--------|
| Deepest Expected Base of Fresh Water |                       | 700    |
| Water                                | Rustler               | 709    |
| Water                                | Bell Canyon           | 4,669  |
| Water                                | Cherry Canyon         | 5,657  |
| Oil/Gas                              | Brushy Canyon         | 7,239  |
| Oil/Gas                              | Bone Spring Limestone | 8,859  |
| Oil/Gas                              | Upr. Avalon           | 8,901  |
| Oil/Gas                              | Top Bone Spring 1     | 9,732  |
| Oil/Gas                              | Top Bone Spring 2     | 10,339 |
| Oil/Gas                              | Top Bone Spring 3     | 11,354 |
| Oil/Gas                              | Wolfcamp              | 11,972 |
| Oil/Gas                              | Wolfcamp A1           | 12,068 |

All shows of fresh water and minerals will be reported and protected.

### 3. BOP EQUIPMENT

Will have a minimum of a 10000 psi rig stack (see proposed schematic) for drill out below surface (Wolfcamp is not exposed until drillout of the intermediate 2 casing). Could possibly utilize the 5000 psi rig stack (see proposed schematic) for drill out below surface casing due to the availability of 10 M annular. (Wolfcamp is not exposed until drillout of the intermediate 2 casing) Stack will be tested as specified in the attached testing requirements. Batch drilling of the surface, intermediate 1 & intermediate 2, and production will take place. A full BOP test will be performed unless approval from BLM is received otherwise. Flex choke hose will be used for all wells on the pad (see attached specs) BOP test will be conducted by a third party.

Chevron requests a variance to use a FMC UH-S Multibowl wellhead, which will be run through the rig floor on surface casing. BOPE will be nipped up and tested after cementing surface casing. Subsequent tests will be performed as needed, not to exceed 30 days. The field report from FMC and BOP test information will be provided in a subsequent report at the end of the well. Please see the attached wellhead schematic. An installation manual has been placed on file with the BLM office and remains unchanged from previous submittal.

#### 4. CASING PROGRAM

a. The proposed casing program will be as follows:

| Purpose                   | From   | To      | Hole Size | Csg Size | Weight | Grade     | Thread  | Condition |
|---------------------------|--------|---------|-----------|----------|--------|-----------|---------|-----------|
| Surface                   | 0'     | 850'    | 17-1/2"   | 13-3/8"  | 54.5 # | J55       | BTC     | New       |
| Intermediate 1            | 0'     | 4,900'  | 12-1/4"   | 9-5/8"   | 43.5#  | L-80IC    | LTC     | New       |
| Intermediate 2<br>(Liner) | 4,600' | 11,500' | 8-1/2"    | 7-5/8"   | 29.7 # | L-80IC    | W-513   | New       |
| Production                | 0'     | 4,500'  | 6-3/4"    | 5-1/2"   | 20#    | P-110-ICY | TXP BTC | New       |
| (Taper String)            | 4,500' | 23,000' | 6-3/4"    | 5"       | 18#    | P-110 IC  | W-521   | New       |

b. Casing design subject to revision based on geologic conditions encountered.

c. \*\*\*A "Worst Case" casing design for wells in a particular area is used below to calculate the Casing Safety Factors. If for any reason the casing design for a particular well requires setting casing deeper than the following "worst case" design, then the Casing Safety Factors will be recalculated & sent to the BLM prior to drilling.

d. Chevron will fill casing at a minimum of every 20 jts (840') while running for intermediate and production casing in order to maintain collapse SF.

#### SF Calculations based on the following "Worst Case" casing design:

Surface Casing: 1,150' TVD  
Intermediate 1 Casing: 5,132' TVD  
Intermediate 2 Liner: 11,650' TVD  
Production Casing: 23,000' MD/12,852' TVD (10,300' VS @ 90 deg inc)  
4 String Design

| Casing String          | Min SF Burst | Min SF Collapse | Min SF Tension | Min SF Tri-Axial |
|------------------------|--------------|-----------------|----------------|------------------|
| Surface                | 1.48         | 2.10            | 4.91           | 1.80             |
| Intermediate 1         | 1.52         | 1.87            | 2.79           | 1.83             |
| Intermediate 2 (Liner) | 1.33         | 2.59            | 1.60           | 1.66             |
| Production             | 1.10         | 1.39            | 1.61           | 1.32             |

Min SF is the smallest of a group of safety factors that include the following considerations:

|                                                                                                                                                                | Surf | Int (1) | Int 2 (Liner) | Prod |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|---------------|------|
| <b>Burst Design</b>                                                                                                                                            |      |         |               |      |
| Pressure Test- Surface, Int 1, Int 2, Prod Csg<br>P external: Mud weight above TOC, PP below<br>P internal: Test psi + next section heaviest mud in csg        | X    | X       | X             | X    |
| Displace to Gas- Surf Csg<br>P external: Mud weight above TOC, PP below<br>P internal: Field Gas from Next Csg Point                                           | X    |         |               |      |
| Gas over mud (60/40 - Limit Frac at Shoe) - Int 1, Int 2 Csg<br>P external: Mud weight above TOC, PP below<br>P internal: 60% gas over 40% mud from hole TD PP |      | X       | X             |      |
| Stimulation (Frac) Pressures- Prod Csg<br>P external: Mud weight above TOC, PP below<br>P internal: Max inj pressure w/ heaviest injected fluid                |      |         |               | X    |
| Tubing leak- Prod Csg (Packer @ KOP)<br>P external: Mud weight above TOC, PP below<br>P internal: Leak just below surf, 8.45 ppg packer fluid                  |      |         |               | X    |
| <b>Collapse Design</b>                                                                                                                                         |      |         |               |      |
| Full Evacuation - Surface, Int 1, Int 2, Prod Csg<br>P external: Water gradient in cement, mud above TOC<br>P internal: none                                   | X    | X       | X             | X    |
| Cementing- Surf, Int 1, Int 2, Prod Csg<br>P external: Wet cement<br>P internal: displacement fluid - water                                                    | X    | X       | X             | X    |
| <b>Tension Design</b>                                                                                                                                          |      |         |               |      |
| 72k lb overpull                                                                                                                                                |      |         | X             |      |
| 100k lb overpull                                                                                                                                               | X    | X       |               | X    |

5. **CEMENTING PROGRAM**

| Slurry       | Type    | Top     | Bottom  | Weight | Yield      | %Excess   | Sacks | Water  | Additives                                                       |
|--------------|---------|---------|---------|--------|------------|-----------|-------|--------|-----------------------------------------------------------------|
| Surface      |         |         |         | (ppg)  | (sx/cu ft) | Open Hole |       | gal/sk |                                                                 |
| Tail         | Class C | 0'      | 850'    | 14.8   | 1.33       | 50        | 650   | 6.57   | Extender<br>Antifoam<br>Retarder                                |
| Intermediate |         |         |         |        |            |           |       |        |                                                                 |
| Lead         | Class C | 0'      | 4,600'  | 11.9   | 2.56       | 110       | 3704  | 14.69  | Antifoam<br>Extender<br>Salt<br>Retarder<br>Viscosifier         |
| Tail         | Class C | 4,600'  | 4,900'  | 14.8   | 1.335      | 110       | 576   | 6.29   | Antifoam<br>Retarder<br>Viscosifier                             |
| Liner        |         |         |         |        |            |           |       |        |                                                                 |
| Lead         | Class C | 4,600'  | 11,150' | 11.9   | 2.56       | 140       | 462   | 14.69  | Antifoam<br>Extender<br>Salt<br>Retarder<br>Viscosifier         |
| Tail         | Class C | 11,150' | 11,500' | 14.8   | 1.335      | 50        | 59    | 6.29   | Antifoam<br>Extender<br>Salt<br>Retarder<br>Viscosifier         |
| Production   |         |         |         |        |            |           |       |        |                                                                 |
| Lead         | Class H | 8,000'  | 21,500' | 15.6   | 1.184      | 35        | 1558  | 5.18   | Antifoam<br>Dispersent<br>Fluid Loss<br>Retarder<br>Viscosifier |
| Tail         | Class H | 21,500' | 23,000' | 16.0   | 1.903      | 20        | 110   | 7.45   | Antifoam<br>Dispersent<br>Fluid Loss<br>Retarder<br>Viscosifier |

1. Final cement volumes will be determined by caliper.
2. Surface casing shall have at least one centralizer installed on each of the bottom three joints starting with the shoe joint.
3. Production casing will have one solid body type centralizer on every joint from TD to KOP. Bowspring type centralizers will be run every other joint from KOP into intermediate casing 500' above planned TOC.

## 6. MUD PROGRAM

| From    | To      | Type          | Weight    | F. Vis  | Filtrate |
|---------|---------|---------------|-----------|---------|----------|
| 0'      | 850'    | Spud Mud      | 8.3-8.7   | 32 - 34 | NC - NC  |
| 850'    | 4,900'  | Brine         | 9.4-10.6  | 28 - 30 | 25-30    |
| 4,900'  | 11,500' | Cut Brine     | 8.8-10.0  | 70 - 75 | 25 - 30  |
| 11,500' | 22,300' | Oil Based Mud | 12.0-14.8 | 70 - 75 | 25 - 30  |

A closed system will be utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill. Sanitary wastes will be contained in a chemical porta-toilet and then hauled to an approved sanitary landfill.

All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations. And transporting of E&P waste will follow EPA regulations and accompanying manifests.

A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume. When abnormal pressures are anticipated – a pit volume totalizer (PVT), stroke counter, and flow sensor will be used to detect volume changes indicating loss or gain of circulating fluid volume.

A weighting agent and lost circulating material (LCM) will be onsite to mitigate pressure or lost circulation as hole conditions dictate.

## 7. TESTING, LOGGING, AND CORING

The anticipated type and amount of testing, logging, and coring are as follows:

- Drill stem tests are not planned.
- The logging program will be as follows:

| TYPE    | Logs          | Interval                                 | Timing                        |
|---------|---------------|------------------------------------------|-------------------------------|
| Mudlogs | 2 Man Mud Log | Surface casing shoe through prod hole TD | While drilling or circulating |
| LWD     | MWD Gamma     | Int. and Prod. Hole                      | While drilling                |

- Conventional whole core samples are not planned.
- A Directional Survey will be run.

## 8. ABNORMAL PRESSURES AND HYDROGEN SULFIDE

- No abnormal pressures or temperatures are expected. Estimated BHP at Int. 1 TD is: 

|       |
|-------|
| 2,361 |
|-------|

 psi  
No abnormal pressures or temperatures are expected. Estimated BHP at Int. 2 TD is: 

|       |
|-------|
| 5,359 |
|-------|

 psi  
No abnormal pressures or temperatures are expected. Estimated BHP at Prod. TD is: 

|       |
|-------|
| 9,382 |
|-------|

 psi
- Hydrogen sulfide gas is not anticipated. An H<sub>2</sub>S Contingency plan is attached with this APD in the event that H<sub>2</sub>S is encountered

# Chevron SD 14 23 FED P19 17H Rev0 kFc 06Jun19 Proposal Geodetic Report

(Def Plan)



Report Date: June 07, 2019 - 11:28 AM  
 Client: Chevron  
 Field: NM Lea County (NAD 27)  
 Structure / Slot: Chevron SD 14 23 FED Pad 19 / 17H  
 Well: SD 14 23 Fed P19 17H  
 Borehole: SD 14 23 Fed P19 17H  
 UWI / API#: Unknown / Unknown  
 Survey Name: Chevron SD 14 23 FED P19 17H Rev0 kFc 06Jun19  
 Survey Date: June 06, 2019  
 Tort / AHD / DDI / ERD Ratio: 111.700 \* / 11570.140 R / 6.381 / 0.950  
 Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet  
 Location Lat / Long: N 32° 2' 56.14481", W 103° 38' 28.41218"  
 Location Grid N/E Y/X: N 382213.000 RUS, E 714438.000 RUS  
 CRS Grid Convergence Angle: 0.3873 \*  
 Grid Scale Factor: 0.99998178  
 Version / Patch: 2.10.760.0

Survey / DLS Computation: Minimum Curvature / Lubinski  
 Vertical Section Azimuth: 179.720 \* (Grid North)  
 Vertical Section Origin: 0.000 R, 0.000 R  
 TVD Reference Datum: RKB = 32.8R  
 TVD Reference Elevation: 3249.800 ft above  
 Seabed / Ground Elevation: 3217.000 ft above  
 Magnetic Declination: 6.662 \*  
 Total Gravity Field Strength: 998.4318mgn (9.80665 Based)  
 Gravity Model: GARM  
 Total Magnetic Field Strength: 47708.851 nT  
 Magnetic Dip Angle: 59.645 \*  
 Declination Date: June 06, 2019  
 Magnetic Declination Model: HDGM 2019  
 North Reference: Grid North  
 Grid Convergence Used: 0.3873 \*  
 Total Corr Mag North-Grid: 6.2945 \*  
 North: Well Head  
 Local Coord Referenced To: Well Head

| Comments         | MD<br>(ft) | Incl<br>(°) | Azim Grid<br>(°) | TVD<br>(ft) | VSEC<br>(ft) | NS<br>(ft) | EW<br>(ft) | DLS<br>(ft/100ft) | Northing<br>(ftUS) | Easting<br>(ftUS) | Latitude<br>(N/S ° ' ")     | Longitude<br>(E/W ° ' ") |
|------------------|------------|-------------|------------------|-------------|--------------|------------|------------|-------------------|--------------------|-------------------|-----------------------------|--------------------------|
| Surface          | 0.00       | 0.00        | 0.00             | 0.00        | 0.00         | 0.00       | 0.00       | N/A               | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
|                  | 100.00     | 0.00        | 295.00           | 100.00      | 0.00         | 0.00       | 0.00       | 0.00              | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
|                  | 200.00     | 0.00        | 295.00           | 200.00      | 0.00         | 0.00       | 0.00       | 0.00              | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
|                  | 300.00     | 0.00        | 295.00           | 300.00      | 0.00         | 0.00       | 0.00       | 0.00              | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
|                  | 400.00     | 0.00        | 295.00           | 400.00      | 0.00         | 0.00       | 0.00       | 0.00              | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
|                  | 500.00     | 0.00        | 295.00           | 500.00      | 0.00         | 0.00       | 0.00       | 0.00              | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
|                  | 600.00     | 0.00        | 295.00           | 600.00      | 0.00         | 0.00       | 0.00       | 0.00              | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
|                  | 700.00     | 0.00        | 295.00           | 700.00      | 0.00         | 0.00       | 0.00       | 0.00              | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
| Rustler          | 709.60     | 0.00        | 295.00           | 709.60      | 0.00         | 0.00       | 0.00       | 0.00              | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
|                  | 800.00     | 0.00        | 295.00           | 800.00      | 0.00         | 0.00       | 0.00       | 0.00              | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
| 13 3/8" Casing   | 870.00     | 0.00        | 295.00           | 870.00      | 0.00         | 0.00       | 0.00       | 0.00              | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
|                  | 900.00     | 0.00        | 295.00           | 900.00      | 0.00         | 0.00       | 0.00       | 0.00              | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
|                  | 1000.00    | 0.00        | 295.00           | 1000.00     | 0.00         | 0.00       | 0.00       | 0.00              | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
|                  | 1100.00    | 0.00        | 295.00           | 1100.00     | 0.00         | 0.00       | 0.00       | 0.00              | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
|                  | 1200.00    | 0.00        | 295.00           | 1200.00     | 0.00         | 0.00       | 0.00       | 0.00              | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
|                  | 1300.00    | 0.00        | 295.00           | 1300.00     | 0.00         | 0.00       | 0.00       | 0.00              | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
| Build 1.5"/100ft | 1350.00    | 0.00        | 295.00           | 1350.00     | 0.00         | 0.00       | 0.00       | 0.00              | 382213.00          | 714438.00         | N 32 2 56.14 W 103 38 28.41 |                          |
|                  | 1400.00    | 0.75        | 295.00           | 1400.00     | -0.14        | 0.14       | -0.30      | 1.50              | 382213.14          | 714437.70         | N 32 2 56.15 W 103 38 28.42 |                          |
|                  | 1500.00    | 2.25        | 295.00           | 1499.98     | -1.26        | 1.24       | -2.87      | 1.50              | 382214.24          | 714435.33         | N 32 2 56.16 W 103 38 28.44 |                          |
|                  | 1600.00    | 3.75        | 295.00           | 1599.82     | -3.49        | 3.46       | -7.41      | 1.50              | 382216.48          | 714430.59         | N 32 2 56.18 W 103 38 28.50 |                          |
|                  | 1700.00    | 5.25        | 295.00           | 1699.51     | -6.84        | 6.77       | -14.52     | 1.50              | 382219.77          | 714423.48         | N 32 2 56.21 W 103 38 28.58 |                          |
|                  | 1800.00    | 6.75        | 295.00           | 1798.96     | -11.31       | 11.19      | -24.00     | 1.50              | 382224.19          | 714414.00         | N 32 2 56.26 W 103 38 28.69 |                          |
|                  | 1900.00    | 8.25        | 295.00           | 1898.10     | -16.88       | 16.70      | -35.83     | 1.50              | 382229.70          | 714402.18         | N 32 2 56.31 W 103 38 28.83 |                          |
|                  | 2000.00    | 9.75        | 295.00           | 1998.87     | -23.56       | 23.31      | -50.00     | 1.50              | 382236.31          | 714388.00         | N 32 2 56.38 W 103 38 28.99 |                          |
| Hold             | 2050.03    | 10.50       | 295.00           | 2046.12     | -27.31       | 27.03      | -57.98     | 1.50              | 382240.03          | 714380.03         | N 32 2 56.42 W 103 38 29.08 |                          |
|                  | 2100.00    | 10.50       | 295.00           | 2095.25     | -31.20       | 30.88      | -66.23     | 0.00              | 382243.88          | 714371.77         | N 32 2 56.45 W 103 38 29.18 |                          |
|                  | 2200.00    | 10.50       | 295.00           | 2193.58     | -38.98       | 38.58      | -82.75     | 0.00              | 382251.58          | 714355.26         | N 32 2 56.53 W 103 38 29.37 |                          |
|                  | 2300.00    | 10.50       | 295.00           | 2291.60     | -46.76       | 46.28      | -99.26     | 0.00              | 382259.28          | 714338.74         | N 32 2 56.61 W 103 38 29.56 |                          |
|                  | 2400.00    | 10.50       | 295.00           | 2390.23     | -54.55       | 53.98      | -115.78    | 0.00              | 382266.88          | 714322.22         | N 32 2 56.69 W 103 38 29.75 |                          |
|                  | 2500.00    | 10.50       | 295.00           | 2488.55     | -62.33       | 61.68      | -132.30    | 0.00              | 382274.68          | 714305.71         | N 32 2 56.76 W 103 38 29.94 |                          |
|                  | 2600.00    | 10.50       | 295.00           | 2586.88     | -70.11       | 69.38      | -148.82    | 0.00              | 382282.38          | 714289.19         | N 32 2 56.84 W 103 38 30.14 |                          |
|                  | 2700.00    | 10.50       | 295.00           | 2685.20     | -77.89       | 77.08      | -165.33    | 0.00              | 382290.08          | 714272.67         | N 32 2 56.92 W 103 38 30.33 |                          |
|                  | 2800.00    | 10.50       | 295.00           | 2783.53     | -85.67       | 84.78      | -181.85    | 0.00              | 382297.78          | 714256.16         | N 32 2 57.00 W 103 38 30.52 |                          |
| Castile          | 2819.40    | 10.50       | 295.00           | 2802.60     | -87.18       | 86.28      | -185.05    | 0.00              | 382299.27          | 714252.95         | N 32 2 57.01 W 103 38 30.56 |                          |
|                  | 2900.00    | 10.50       | 295.00           | 2881.85     | -93.45       | 92.49      | -198.37    | 0.00              | 382305.48          | 714239.84         | N 32 2 57.07 W 103 38 30.71 |                          |
|                  | 3000.00    | 10.50       | 295.00           | 2980.18     | -101.23      | 100.19     | -214.88    | 0.00              | 382313.18          | 714223.12         | N 32 2 57.15 W 103 38 30.90 |                          |
|                  | 3100.00    | 10.50       | 295.00           | 3078.50     | -109.02      | 107.89     | -231.40    | 0.00              | 382320.88          | 714206.81         | N 32 2 57.23 W 103 38 31.09 |                          |
|                  | 3200.00    | 10.50       | 295.00           | 3176.83     | -116.80      | 115.59     | -247.92    | 0.00              | 382328.58          | 714180.09         | N 32 2 57.30 W 103 38 31.28 |                          |
|                  | 3300.00    | 10.50       | 295.00           | 3275.16     | -124.58      | 123.29     | -264.44    | 0.00              | 382336.28          | 714173.57         | N 32 2 57.38 W 103 38 31.48 |                          |
|                  | 3400.00    | 10.50       | 295.00           | 3373.48     | -132.38      | 130.89     | -280.95    | 0.00              | 382343.98          | 714157.08         | N 32 2 57.46 W 103 38 31.67 |                          |
|                  | 3500.00    | 10.50       | 295.00           | 3471.81     | -140.14      | 138.69     | -297.47    | 0.00              | 382351.68          | 714140.54         | N 32 2 57.54 W 103 38 31.86 |                          |
|                  | 3600.00    | 10.50       | 295.00           | 3570.13     | -147.92      | 146.39     | -313.99    | 0.00              | 382359.39          | 714124.02         | N 32 2 57.61 W 103 38 32.05 |                          |
|                  | 3700.00    | 10.50       | 295.00           | 3668.46     | -155.71      | 154.09     | -330.51    | 0.00              | 382367.09          | 714107.51         | N 32 2 57.69 W 103 38 32.24 |                          |
|                  | 3800.00    | 10.50       | 295.00           | 3766.78     | -163.49      | 161.79     | -347.02    | 0.00              | 382374.79          | 714090.99         | N 32 2 57.77 W 103 38 32.43 |                          |
|                  | 3900.00    | 10.50       | 295.00           | 3865.11     | -171.27      | 169.49     | -363.54    | 0.00              | 382382.49          | 714074.47         | N 32 2 57.85 W 103 38 32.62 |                          |
|                  | 4000.00    | 10.50       | 295.00           | 3963.43     | -179.05      | 177.19     | -380.06    | 0.00              | 382390.19          | 714057.98         | N 32 2 57.92 W 103 38 32.81 |                          |
|                  | 4100.00    | 10.50       | 295.00           | 4061.76     | -186.83      | 184.90     | -396.57    | 0.00              | 382397.89          | 714041.44         | N 32 2 58.00 W 103 38 33.01 |                          |
|                  | 4200.00    | 10.50       | 295.00           | 4160.08     | -194.61      | 192.60     | -413.09    | 0.00              | 382405.59          | 714024.92         | N 32 2 58.08 W 103 38 33.20 |                          |
|                  | 4300.00    | 10.50       | 295.00           | 4258.41     | -202.39      | 200.30     | -429.61    | 0.00              | 382413.29          | 714008.41         | N 32 2 58.15 W 103 38 33.39 |                          |
|                  | 4400.00    | 10.50       | 295.00           | 4356.73     | -210.18      | 208.00     | -446.13    | 0.00              | 382420.99          | 713991.89         | N 32 2 58.23 W 103 38 33.58 |                          |
|                  | 4500.00    | 10.50       | 295.00           | 4455.06     | -217.96      | 215.70     | -462.64    | 0.00              | 382428.69          | 713975.38         | N 32 2 58.31 W 103 38 33.77 |                          |
|                  | 4600.00    | 10.50       | 295.00           | 4553.39     | -225.74      | 223.40     | -479.16    | 0.00              | 382436.39          | 713958.88         | N 32 2 58.39 W 103 38 33.96 |                          |
| Lamar            | 4687.34    | 10.50       | 295.00           | 4619.60     | -230.98      | 228.59     | -490.28    | 0.00              | 382441.58          | 713947.74         | N 32 2 58.44 W 103 38 34.09 |                          |
|                  | 4700.00    | 10.50       | 295.00           | 4651.71     | -233.52      | 231.10     | -495.68    | 0.00              | 382444.09          | 713942.34         | N 32 2 58.46 W 103 38 34.15 |                          |
| Ball Canyon      | 4718.19    | 10.50       | 295.00           | 4689.60     | -234.94      | 232.50     | -498.88    | 0.00              | 382445.49          | 713939.34         | N 32 2 58.48 W 103 38 34.19 |                          |
|                  | 4800.00    | 10.50       | 295.00           | 4750.04     | -241.30      | 238.80     | -512.20    | 0.00              | 382451.79          | 713925.83         | N 32 2 58.54 W 103 38 34.35 |                          |
|                  | 4900.00    | 10.50       | 295.00           | 4848.36     | -249.08      | 248.50     | -528.71    | 0.00              | 382458.49          | 713909.31         | N 32 2 58.62 W 103 38 34.54 |                          |
|                  | 5000.00    | 10.50       | 295.00           | 4946.69     | -256.86      | 254.20     | -545.23    | 0.00              | 382467.19          | 713892.79         | N 32 2 58.69 W 103 38 34.73 |                          |
|                  | 5100.00    | 10.50       | 295.00           | 5045.01     | -264.65      | 261.90     | -561.75    | 0.00              | 382474.89          | 713876.28         | N 32 2 58.77 W 103 38 34.92 |                          |
|                  | 5200.00    | 10.50       | 295.00           | 5143.34     | -272.43      | 269.60     | -578.26    | 0.00              | 382482.59          | 713859.76         | N 32 2 58.85 W 103 38 35.11 |                          |
|                  | 5300.00    | 10.50       | 295.00           | 5241.66     | -280.21      | 277.31     | -594.78    | 0.00              | 382490.29          | 713843.24         | N 32 2 58.93 W 103 38 35.30 |                          |
|                  | 5400.00    | 10.50       | 295.00           | 5339.99     | -287.99      | 285.01     | -611.30    | 0.00              | 382498.00          | 713826.73         | N 32 2 59.00 W 103 38 35.49 |                          |
|                  | 5500.00    | 10.50       | 295.00           | 5438.31     | -295.77      | 292.71     | -627.82    | 0.00              | 382505.70          | 713810.21         | N 32 2 59.08 W 103 38 35.68 |                          |
|                  | 5600.00    | 10.50       | 295.00           | 5536.64     | -303.55      | 300.41     | -644.33    | 0.00              | 382513.40          | 713793.69         | N 32 2 59.16 W 103 38 35.88 |                          |
|                  | 5700.00    | 10.50       | 295.00           | 5634.96     | -311.34      | 308.11     | -660.85    | 0.00              | 382521.10          | 713777.18         | N 32 2 59.24 W 103 38 36.07 |                          |
| Cherry Canyon    | 5723.02    | 10.50       | 295.00           | 5657.60     | -313.13      | 309.88     | -664.65    | 0.00              | 382522.87          | 713773.37         | N 32 2 59.25 W 103 38 36.11 |                          |
|                  | 5800.00    | 10.50       | 295.00           | 5733.29     | -319.12      | 315.81     | -677.37    | 0.00              | 382528.80          | 713760.68         | N 32 2 59.31 W 103 38 36.26 |                          |
|                  | 5900.00    | 10.50       | 295.00           | 5831.61     | -326.90      | 323.51     | -693.89    | 0.00              | 382538.50          | 713744.14         | N 32 2 59.39 W 103 38 36.45 |                          |
|                  | 6000.00    | 10.50       | 295.00           | 5929.94     | -334.68      | 331.21     | -710.40    | 0.00              | 382544.20          | 713727.63         | N 32 2 59.47 W 103 38 36.64 |                          |
|                  | 6100.00    | 10.50       | 295.00           | 6028.27     | -342.46      | 338.91     | -726.92    | 0.00              | 382551.90          | 713711.11         | N 32 2 59.54 W 103 38 36.83 |                          |
|                  | 6200.00    | 10.50       | 295.00           | 6126.59     | -350.24      | 346.61     | -743.44    | 0.00              | 382559.60          | 713694.59         | N 32 2 59.62 W 103 38 37.02 |                          |
|                  | 6300.00    | 10.50       | 295.00           | 6224.92     | -358.02      | 354.31     | -759.95    | 0.00              | 382567.30          | 713678.08         | N 32 2 59.70 W 103 38 37.22 |                          |
|                  | 6400.00    | 10.50       |                  |             |              |            |            |                   |                    |                   |                             |                          |

| Comments                      | MD<br>(m) | Incl<br>(°) | Azi m Grd<br>(°) | TVD<br>(m) | VSEC<br>(m) | NS<br>(m) | EW<br>(m) | DLS<br>(m) | Northings<br>(m) | Easting<br>(m) | Latitude<br>(N/S) | Longitude<br>(E/W) |
|-------------------------------|-----------|-------------|------------------|------------|-------------|-----------|-----------|------------|------------------|----------------|-------------------|--------------------|
| Hold Vertical                 | 7236.39   | 0.00        | 295.00           | 7155.40    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 7300.00   | 0.00        | 295.00           | 7217.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
| Brushy Canyon                 | 7322.59   | 0.00        | 295.00           | 7239.60    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 7400.00   | 0.00        | 295.00           | 7317.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 7500.00   | 0.00        | 295.00           | 7417.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 7600.00   | 0.00        | 295.00           | 7517.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 7700.00   | 0.00        | 295.00           | 7617.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 7800.00   | 0.00        | 295.00           | 7717.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 7900.00   | 0.00        | 295.00           | 7817.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 8000.00   | 0.00        | 295.00           | 7917.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 8100.00   | 0.00        | 295.00           | 8017.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 8200.00   | 0.00        | 295.00           | 8117.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 8300.00   | 0.00        | 295.00           | 8217.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 8400.00   | 0.00        | 295.00           | 8317.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 8500.00   | 0.00        | 295.00           | 8417.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 8600.00   | 0.00        | 295.00           | 8517.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 8700.00   | 0.00        | 295.00           | 8617.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 8800.00   | 0.00        | 295.00           | 8717.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 8900.00   | 0.00        | 295.00           | 8817.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
| Bone Spring                   | 8942.59   | 0.00        | 295.00           | 8859.60    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
| Upper Avalon                  | 8984.59   | 0.00        | 295.00           | 8901.60    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 9000.00   | 0.00        | 295.00           | 8917.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 9100.00   | 0.00        | 295.00           | 9017.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 9200.00   | 0.00        | 295.00           | 9117.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 9300.00   | 0.00        | 295.00           | 9217.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 9400.00   | 0.00        | 295.00           | 9317.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 9500.00   | 0.00        | 295.00           | 9417.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 9600.00   | 0.00        | 295.00           | 9517.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 9700.00   | 0.00        | 295.00           | 9617.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 9800.00   | 0.00        | 295.00           | 9717.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
| Top First Bone Spring         | 9815.59   | 0.00        | 295.00           | 9732.60    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 9900.00   | 0.00        | 295.00           | 9817.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 10000.00  | 0.00        | 295.00           | 9917.01    | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 10100.00  | 0.00        | 295.00           | 10017.01   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
| First Bone Spring Shale       | 10122.59  | 0.00        | 295.00           | 10039.60   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 10200.00  | 0.00        | 295.00           | 10117.01   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 10300.00  | 0.00        | 295.00           | 10217.01   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 10400.00  | 0.00        | 295.00           | 10317.01   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
| Top Second Bone Spring        | 10422.59  | 0.00        | 295.00           | 10339.60   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 10500.00  | 0.00        | 295.00           | 10417.01   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 10600.00  | 0.00        | 295.00           | 10517.01   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 10700.00  | 0.00        | 295.00           | 10617.01   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 10800.00  | 0.00        | 295.00           | 10717.01   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 10900.00  | 0.00        | 295.00           | 10817.01   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
| Second Bone Spring Third Carb | 10923.59  | 0.00        | 295.00           | 10840.60   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 11000.00  | 0.00        | 295.00           | 10917.01   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
| SBSG Third Carb base          | 11017.59  | 0.00        | 295.00           | 10934.60   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
| Second Bone Spring Shale      | 11059.59  | 0.00        | 295.00           | 10976.60   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 11100.00  | 0.00        | 295.00           | 11017.01   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
| Third Bone Spring First Carb  | 11171.59  | 0.00        | 295.00           | 11088.60   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 11200.00  | 0.00        | 295.00           | 11117.01   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
| 7 5/8" Casing                 | 11271.59  | 0.00        | 295.00           | 11188.60   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
| Third BSG 1 Carb base         | 11277.59  | 0.00        | 295.00           | 11194.60   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 11300.00  | 0.00        | 295.00           | 11217.01   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 11400.00  | 0.00        | 295.00           | 11317.01   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
| Top Third Bone Spring         | 11437.59  | 0.00        | 295.00           | 11354.60   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 11500.00  | 0.00        | 295.00           | 11417.01   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 11600.00  | 0.00        | 295.00           | 11517.01   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
| KOP, Build 10"/100ft          | 11692.79  | 0.00        | 295.00           | 11609.80   | -403.88     | 399.70    | -857.30   | 0.00       | 382612.68        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 11700.00  | 0.72        | 179.72           | 11617.01   | -403.84     | 399.65    | -857.30   | 10.00      | 382612.64        | 713580.73      | N 32 3 0.15       | W 103 38 38.34     |
|                               | 11800.00  | 10.72       | 179.72           | 11716.39   | -393.88     | 399.70    | -857.25   | 10.00      | 382602.68        | 713580.78      | N 32 3 0.06       | W 103 38 38.34     |
|                               | 11900.00  | 20.72       | 179.72           | 11812.53   | -366.82     | 382.64    | -857.12   | 10.00      | 382575.82        | 713580.92      | N 32 2 59.79      | W 103 38 38.34     |
| FTP Cross                     | 11934.00  | 24.12       | 179.72           | 11843.95   | -353.88     | 349.87    | -857.05   | 10.00      | 382562.68        | 713580.88      | N 32 2 59.68      | W 103 38 38.34     |
|                               | 12000.00  | 30.72       | 179.72           | 11902.50   | -323.48     | 319.29    | -856.80   | 10.00      | 382532.26        | 713581.13      | N 32 2 59.38      | W 103 38 38.34     |
| Wolfcamp A                    | 12085.68  | 39.29       | 179.72           | 11972.60   | -274.39     | 270.20    | -856.66   | 10.00      | 382483.19        | 713581.38      | N 32 2 58.87      | W 103 38 38.34     |
|                               | 12100.00  | 40.72       | 179.72           | 11983.59   | -265.17     | 260.98    | -856.61   | 10.00      | 382473.97        | 713581.42      | N 32 2 58.78      | W 103 38 38.34     |
| Wolfcamp A X Base             | 12139.48  | 44.67       | 179.72           | 12012.60   | -238.40     | 234.22    | -856.48   | 10.00      | 382447.21        | 713581.55      | N 32 2 58.52      | W 103 38 38.35     |
|                               | 12200.00  | 50.72       | 179.72           | 12053.31   | -193.68     | 186.42    | -856.28   | 10.00      | 382402.47        | 713581.78      | N 32 2 58.07      | W 103 38 38.35     |
| Wolfcamp A Y                  | 12224.81  | 53.20       | 179.72           | 12068.60   | -174.12     | 169.94    | -856.16   | 10.00      | 382382.93        | 713581.87      | N 32 2 57.88      | W 103 38 38.35     |
|                               | 12300.00  | 60.72       | 179.72           | 12109.58   | -111.14     | 106.96    | -855.85   | 10.00      | 382319.95        | 713582.19      | N 32 2 57.26      | W 103 38 38.35     |
| Wolfcamp A Y TGT 1            | 12351.26  | 65.85       | 179.72           | 12132.60   | -65.36      | 61.18     | -855.82   | 10.00      | 382274.18        | 713582.41      | N 32 2 56.80      | W 103 38 38.35     |
|                               | 12400.00  | 70.72       | 179.72           | 12150.63   | -20.10      | 15.92     | -855.40   | 10.00      | 382228.92        | 713582.64      | N 32 2 56.38      | W 103 38 38.35     |
|                               | 12500.00  | 80.72       | 179.72           | 12175.26   | 76.69       | -80.87    | -854.92   | 10.00      | 382132.13        | 713583.12      | N 32 2 55.40      | W 103 38 38.35     |
| Wolfcamp A TGT                | 12515.85  | 82.31       | 179.72           | 12177.60   | 92.37       | -96.55    | -854.84   | 10.00      | 382116.48        | 713583.19      | N 32 2 55.24      | W 103 38 38.35     |
| Landing Point                 | 12593.68  | 90.09       | 179.72           | 12182.76   | 169.94      | -174.12   | -854.48   | 10.00      | 382038.89        | 713583.58      | N 32 2 54.48      | W 103 38 38.35     |
|                               | 12600.00  | 90.09       | 179.72           | 12182.75   | 176.29      | -180.46   | -854.42   | 0.00       | 382032.54        | 713583.61</    |                   |                    |

| Comments                    | MD<br>(ft) | Incl<br>(°) | Azim Grid<br>(°) | TVD<br>(ft) | VSEC<br>(ft) | NS<br>(ft) | EW<br>(ft) | DLS<br>(°/100ft) | Northing<br>(ft) | Easting<br>(ft) | Latitude<br>(N/S ° °') | Longitude<br>(E/W ° °') |
|-----------------------------|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|------------------|-----------------|------------------------|-------------------------|
|                             | 16100.00   | 90.09       | 179.72           | 12177.45    | 3676.28      | -3680.42   | -837.08    | 0.00             | 378532.73        | 713800.98       | N 32                   | 2 19.78 W 103 38 38.41  |
|                             | 16200.00   | 90.09       | 179.72           | 12177.30    | 3776.28      | -3780.41   | -836.58    | 0.00             | 378432.74        | 713801.45       | N 32                   | 2 19.79 W 103 38 38.41  |
|                             | 16300.00   | 90.09       | 179.72           | 12177.14    | 3876.28      | -3880.41   | -836.09    | 0.00             | 378332.74        | 713801.95       | N 32                   | 2 19.80 W 103 38 38.41  |
|                             | 16400.00   | 90.09       | 179.72           | 12176.99    | 3976.28      | -3980.41   | -835.59    | 0.00             | 378232.75        | 713802.44       | N 32                   | 2 19.81 W 103 38 38.42  |
|                             | 16500.00   | 90.09       | 179.72           | 12176.84    | 4076.28      | -4080.41   | -835.09    | 0.00             | 378132.75        | 713802.94       | N 32                   | 2 15.82 W 103 38 38.42  |
|                             | 16600.00   | 90.09       | 179.72           | 12176.69    | 4176.28      | -4180.41   | -834.60    | 0.00             | 378032.76        | 713803.43       | N 32                   | 2 14.83 W 103 38 38.42  |
|                             | 16700.00   | 90.09       | 179.72           | 12176.54    | 4276.28      | -4280.41   | -834.10    | 0.00             | 377932.76        | 713803.93       | N 32                   | 2 13.84 W 103 38 38.42  |
|                             | 16800.00   | 90.09       | 179.72           | 12176.39    | 4376.28      | -4380.41   | -833.61    | 0.00             | 377832.77        | 713804.43       | N 32                   | 2 12.85 W 103 38 38.42  |
|                             | 16900.00   | 90.09       | 179.72           | 12176.24    | 4476.28      | -4480.41   | -833.11    | 0.00             | 377732.77        | 713804.92       | N 32                   | 2 11.86 W 103 38 38.42  |
|                             | 17000.00   | 90.09       | 179.72           | 12176.08    | 4576.28      | -4580.40   | -832.62    | 0.00             | 377632.78        | 713805.42       | N 32                   | 2 10.87 W 103 38 38.43  |
|                             | 17100.00   | 90.09       | 179.72           | 12175.93    | 4676.28      | -4680.40   | -832.12    | 0.00             | 377532.79        | 713805.91       | N 32                   | 2 9.88 W 103 38 38.43   |
|                             | 17200.00   | 90.09       | 179.72           | 12175.78    | 4776.28      | -4780.40   | -831.62    | 0.00             | 377432.79        | 713806.41       | N 32                   | 2 8.89 W 103 38 38.43   |
|                             | 17300.00   | 90.09       | 179.72           | 12175.63    | 4876.28      | -4880.40   | -831.13    | 0.00             | 377332.80        | 713806.90       | N 32                   | 2 7.90 W 103 38 38.43   |
|                             | 17319.30   | 90.09       | 179.72           | 12175.60    | 4895.58      | -4899.70   | -831.03    | 0.00             | 377313.50        | 713807.00       | N 32                   | 2 7.71 W 103 38 38.43   |
| MP, Drop 2"/100ft           | 17329.97   | 89.87       | 179.72           | 12175.60    | 4906.25      | -4910.37   | -830.98    | 2.00             | 377302.82        | 713807.05       | N 32                   | 2 7.61 W 103 38 38.43   |
| Hold                        | 17400.00   | 89.87       | 179.72           | 12175.76    | 4976.28      | -4980.40   | -830.63    | 0.00             | 377232.80        | 713807.40       | N 32                   | 2 6.91 W 103 38 38.43   |
|                             | 17500.00   | 89.87       | 179.72           | 12175.98    | 5076.28      | -5080.40   | -830.14    | 0.00             | 377132.81        | 713807.90       | N 32                   | 2 5.92 W 103 38 38.43   |
|                             | 17600.00   | 89.87       | 179.72           | 12176.20    | 5176.28      | -5180.40   | -829.64    | 0.00             | 377032.81        | 713808.39       | N 32                   | 2 4.93 W 103 38 38.44   |
|                             | 17700.00   | 89.87       | 179.72           | 12176.42    | 5276.28      | -5280.39   | -829.14    | 0.00             | 376932.82        | 713808.89       | N 32                   | 2 3.94 W 103 38 38.44   |
|                             | 17800.00   | 89.87       | 179.72           | 12176.64    | 5376.28      | -5380.39   | -828.65    | 0.00             | 376832.82        | 713809.38       | N 32                   | 2 2.96 W 103 38 38.44   |
|                             | 17900.00   | 89.87       | 179.72           | 12176.86    | 5476.28      | -5480.39   | -828.15    | 0.00             | 376732.83        | 713809.88       | N 32                   | 2 1.97 W 103 38 38.44   |
|                             | 18000.00   | 89.87       | 179.72           | 12177.09    | 5576.28      | -5580.39   | -827.66    | 0.00             | 376632.83        | 713810.38       | N 32                   | 2 0.98 W 103 38 38.44   |
|                             | 18100.00   | 89.87       | 179.72           | 12177.31    | 5676.28      | -5680.39   | -827.17    | 0.00             | 376532.84        | 713810.87       | N 32                   | 2 59.99 W 103 38 38.44  |
|                             | 18200.00   | 89.87       | 179.72           | 12177.53    | 5776.28      | -5780.39   | -826.68    | 0.00             | 376432.85        | 713811.37       | N 32                   | 2 58.99 W 103 38 38.44  |
| Wolfcamp A TGT              | 18232.29   | 89.87       | 179.72           | 12177.60    | 5806.58      | -5812.67   | -826.50    | 0.00             | 376400.57        | 713811.53       | N 32                   | 2 58.68 W 103 38 38.45  |
|                             | 18300.00   | 89.87       | 179.72           | 12177.75    | 5876.28      | -5880.39   | -826.17    | 0.00             | 376332.85        | 713811.87       | N 32                   | 2 58.01 W 103 38 38.45  |
|                             | 18400.00   | 89.87       | 179.72           | 12177.97    | 5976.28      | -5980.38   | -825.67    | 0.00             | 376232.86        | 713812.36       | N 32                   | 2 57.02 W 103 38 38.45  |
|                             | 18500.00   | 89.87       | 179.72           | 12178.19    | 6076.28      | -6080.38   | -825.18    | 0.00             | 376132.86        | 713812.86       | N 32                   | 2 56.03 W 103 38 38.45  |
|                             | 18600.00   | 89.87       | 179.72           | 12178.41    | 6176.28      | -6180.38   | -824.68    | 0.00             | 376032.87        | 713813.35       | N 32                   | 2 55.04 W 103 38 38.45  |
|                             | 18700.00   | 89.87       | 179.72           | 12178.63    | 6276.28      | -6280.38   | -824.18    | 0.00             | 375932.87        | 713813.85       | N 32                   | 2 54.05 W 103 38 38.45  |
|                             | 18800.00   | 89.87       | 179.72           | 12178.86    | 6376.28      | -6380.38   | -823.69    | 0.00             | 375832.88        | 713814.35       | N 32                   | 2 53.06 W 103 38 38.45  |
|                             | 18900.00   | 89.87       | 179.72           | 12179.08    | 6476.28      | -6480.38   | -823.19    | 0.00             | 375732.88        | 713814.84       | N 32                   | 2 52.07 W 103 38 38.46  |
|                             | 19000.00   | 89.87       | 179.72           | 12179.30    | 6576.28      | -6580.38   | -822.70    | 0.00             | 375632.89        | 713815.34       | N 32                   | 2 51.08 W 103 38 38.46  |
|                             | 19100.00   | 89.87       | 179.72           | 12179.52    | 6676.28      | -6680.37   | -822.20    | 0.00             | 375532.90        | 713815.83       | N 32                   | 2 50.09 W 103 38 38.46  |
|                             | 19200.00   | 89.87       | 179.72           | 12179.74    | 6776.28      | -6780.37   | -821.70    | 0.00             | 375432.90        | 713816.33       | N 32                   | 2 49.10 W 103 38 38.46  |
|                             | 19300.00   | 89.87       | 179.72           | 12179.96    | 6876.28      | -6880.37   | -821.21    | 0.00             | 375332.91        | 713816.83       | N 32                   | 2 48.11 W 103 38 38.46  |
|                             | 19400.00   | 89.87       | 179.72           | 12180.18    | 6976.28      | -6980.37   | -820.71    | 0.00             | 375232.91        | 713817.32       | N 32                   | 2 47.12 W 103 38 38.46  |
|                             | 19500.00   | 89.87       | 179.72           | 12180.40    | 7076.27      | -7080.37   | -820.21    | 0.00             | 375132.92        | 713817.82       | N 32                   | 2 46.13 W 103 38 38.47  |
|                             | 19600.00   | 89.87       | 179.72           | 12180.63    | 7176.27      | -7180.37   | -819.72    | 0.00             | 375032.92        | 713818.31       | N 32                   | 2 45.14 W 103 38 38.47  |
|                             | 19700.00   | 89.87       | 179.72           | 12180.85    | 7276.27      | -7280.36   | -819.22    | 0.00             | 374932.93        | 713818.81       | N 32                   | 2 44.15 W 103 38 38.47  |
|                             | 19800.00   | 89.87       | 179.72           | 12181.07    | 7376.27      | -7380.36   | -818.73    | 0.00             | 374832.93        | 713819.31       | N 32                   | 2 43.16 W 103 38 38.47  |
|                             | 19900.00   | 89.87       | 179.72           | 12181.29    | 7476.27      | -7480.36   | -818.23    | 0.00             | 374732.94        | 713819.80       | N 32                   | 2 42.17 W 103 38 38.47  |
|                             | 20000.00   | 89.87       | 179.72           | 12181.51    | 7576.27      | -7580.36   | -817.73    | 0.00             | 374632.94        | 713820.30       | N 32                   | 2 41.18 W 103 38 38.47  |
|                             | 20100.00   | 89.87       | 179.72           | 12181.73    | 7676.27      | -7680.36   | -817.24    | 0.00             | 374532.95        | 713820.79       | N 32                   | 2 40.20 W 103 38 38.48  |
|                             | 20200.00   | 89.87       | 179.72           | 12181.95    | 7776.27      | -7780.36   | -816.74    | 0.00             | 374432.96        | 713821.29       | N 32                   | 2 39.21 W 103 38 38.48  |
|                             | 20300.00   | 89.87       | 179.72           | 12182.17    | 7876.27      | -7880.36   | -816.25    | 0.00             | 374332.96        | 713821.79       | N 32                   | 2 38.22 W 103 38 38.48  |
|                             | 20400.00   | 89.87       | 179.72           | 12182.40    | 7976.27      | -7980.35   | -815.75    | 0.00             | 374232.97        | 713822.28       | N 32                   | 2 37.23 W 103 38 38.48  |
|                             | 20500.00   | 89.87       | 179.72           | 12182.62    | 8076.27      | -8080.35   | -815.25    | 0.00             | 374132.97        | 713822.78       | N 32                   | 2 36.24 W 103 38 38.48  |
|                             | 20600.00   | 89.87       | 179.72           | 12182.84    | 8176.27      | -8180.35   | -814.76    | 0.00             | 374032.98        | 713823.27       | N 32                   | 2 35.25 W 103 38 38.48  |
|                             | 20700.00   | 89.87       | 179.72           | 12183.06    | 8276.27      | -8280.35   | -814.26    | 0.00             | 373932.98        | 713823.77       | N 32                   | 2 34.26 W 103 38 38.48  |
|                             | 20800.00   | 89.87       | 179.72           | 12183.28    | 8376.27      | -8380.35   | -813.77    | 0.00             | 373832.99        | 713824.27       | N 32                   | 2 33.27 W 103 38 38.49  |
|                             | 20900.00   | 89.87       | 179.72           | 12183.50    | 8476.27      | -8480.35   | -813.27    | 0.00             | 373732.99        | 713824.76       | N 32                   | 2 32.28 W 103 38 38.49  |
| IFP1, Build 2"/100ft        | 20944.25   | 89.87       | 179.72           | 12183.60    | 8520.52      | -8524.59   | -813.05    | 0.00             | 373688.75        | 713824.88       | N 32                   | 2 31.84 W 103 38 38.49  |
| Hold                        | 20964.18   | 90.27       | 179.72           | 12183.57    | 8540.48      | -8544.53   | -812.95    | 2.00             | 373668.81        | 713825.08       | N 32                   | 2 31.64 W 103 38 38.49  |
|                             | 21000.00   | 90.27       | 179.72           | 12183.40    | 8576.27      | -8580.35   | -812.77    | 0.00             | 373633.00        | 713825.26       | N 32                   | 2 31.29 W 103 38 38.49  |
|                             | 21100.00   | 90.27       | 179.72           | 12182.93    | 8676.27      | -8680.34   | -812.28    | 0.00             | 373533.01        | 713825.75       | N 32                   | 2 30.30 W 103 38 38.49  |
|                             | 21200.00   | 90.27       | 179.72           | 12182.46    | 8776.27      | -8780.34   | -811.78    | 0.00             | 373433.01        | 713826.25       | N 32                   | 2 29.31 W 103 38 38.49  |
|                             | 21300.00   | 90.27       | 179.72           | 12181.98    | 8876.27      | -8880.34   | -811.29    | 0.00             | 373333.02        | 713826.74       | N 32                   | 2 28.32 W 103 38 38.50  |
|                             | 21400.00   | 90.27       | 179.72           | 12181.51    | 8976.27      | -8980.34   | -810.79    | 0.00             | 373233.03        | 713827.24       | N 32                   | 2 27.33 W 103 38 38.50  |
|                             | 21500.00   | 90.27       | 179.72           | 12181.03    | 9076.27      | -9080.33   | -810.30    | 0.00             | 373133.03        | 713827.74       | N 32                   | 2 26.34 W 103 38 38.50  |
|                             | 21600.00   | 90.27       | 179.72           | 12180.56    | 9176.26      | -9180.33   | -809.80    | 0.00             | 373033.04        | 713828.23       | N 32                   | 2 25.35 W 103 38 38.50  |
|                             | 21700.00   | 90.27       | 179.72           | 12180.08    | 9276.26      | -9280.33   | -809.31    | 0.00             | 372933.04        | 713828.73       | N 32                   | 2 24.36 W 103 38 38.50  |
|                             | 21800.00   | 90.27       | 179.72           | 12179.61    | 9376.26      | -9380.33   | -808.81    | 0.00             | 372833.05        | 713829.22       | N 32                   | 2 23.37 W 103 38 38.50  |
|                             | 21900.00   | 90.27       | 179.72           | 12179.13    | 9476.26      | -9480.32   | -808.32    | 0.00             | 372733.06        | 713829.72       | N 32                   | 2 22.38 W 103 38 38.51  |
|                             | 22000.00   | 90.27       | 179.72           | 12178.66    | 9576.26      | -9580.32   | -807.82    | 0.00             | 372633.06        | 713830.21       | N 32                   | 2 21.39 W 103 38 38.51  |
|                             | 22100.00   | 90.27       | 179.72           | 12178.18    | 9676.26      | -9680.32   | -807.33    | 0.00             | 372533.07        | 713830.71       | N 32                   | 2 20.40 W 103 38 38.51  |
|                             | 22200.00   | 90.27       | 179.72           | 12177.71    | 9776.26      | -9780.32   | -806.83    | 0.00             | 372433.08        | 713831.20       | N 32                   | 2 19.41 W 103 38 38.51  |
| Wolfcamp A TGT              | 22222.79   | 90.27       | 179.72           | 12177.60    | 9799.05      | -9803.11   | -806.72    | 0.00             | 372410.28        | 713831.32       | N 32                   | 2 19.19 W 103 38 38.51  |
|                             | 22300.00   | 90.27       | 179.72           | 12177.23    | 9876.26      | -9880.31   | -806.33    | 0.00             | 372333.08        | 713831.70       | N 32                   | 2 18.42 W 103 38 38.51  |
|                             | 22400.00   | 90.27       | 179.72           | 12176.76    | 9976.26      | -9980.31   | -805.84    | 0.00             | 372233.09        | 713832.19       | N 32                   | 2 17.43 W 103 38 38.51  |
|                             | 22500.00   | 90.27       | 179.72           | 12176.28    | 10076.25     | -10080.31  | -805.34    | 0.00             | 372133.10        | 713832.69       | N 32                   | 2 16.45 W 103 38 38.52  |
| LTP Cross                   | 22569.09   | 90.27       | 179.72           | 12175.96    | 10145.34     | -10149.40  | -805.00    | 0.00             | 372084.01        | 713833.03       | N 32                   | 2 15.76 W 103 38 38.52  |
|                             | 22600.00   | 90.27       | 179.72           | 12175.81    | 10176.25     | -10180.31  | -804.85    | 0.00             | 372033.10        | 713833.18       | N 32                   | 2 15.46 W 103 38 38.52  |
| SD 14 23 FED P19 17H - PBHL | 22644.10   | 90.27       | 179.72           | 12175.60    | 10220.36     | -10224.41  | -804.63    | 0.00             | 371989.00        | 713833.40       | N 32                   | 2 15.02 W 103 38 38.52  |

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 3 \*\*\* 3-D 97.071% Confidence 3.0000 sigma  
Survey Program:

| Description | Part |  |
|-------------|------|--|
|-------------|------|--|