

Mewbourne Oil Company, Armstrong 26/35 W1IP Fed Com #1H
 Sec 26, T25S, R31E
 SL: 2625' FNL & 380' FEL, Sec 26
 BHL: 330' FSL & 990' FEL, Sec 35

1. Geologic Formations

| | | | |
|---------------|--------|-------------------------------|------|
| TVD of target | 12136' | Pilot hole depth | NA |
| MD at TD: | 19775' | Deepest expected fresh water: | 325' |

Basin

| Formation | Depth (TVD) from KB | Water/Mineral Bearing/ Target Zone? | Hazards* |
|----------------------------------|--------------------------------|--|-----------------|
| Quaternary Fill | Surface | | |
| Rustler | 881 | | |
| Top of Salt | 1278 | | |
| Base of Salt | 4066 | | |
| Delaware (Lamar) | 4302 | Oil/Gas | |
| Bell Canyon | 4340 | | |
| Cherry Canyon | 5371 | | |
| Manzanita Marker | 5511 | | |
| Brushy Canyon | 6881 | | |
| Bone Spring | 8278 | Oil/Gas | |
| 1 st Bone Spring Sand | 9308 | | |
| 2 nd Bone Spring Sand | 9944 | | |
| 3 rd Bone Spring Sand | 11186 | | |
| Abo | | | |
| Wolfcamp | 11626 | Target Zone | |
| Devonian | | | |
| Fusselman | | | |
| Ellenburger | | | |
| Granite Wash | | | |

*H2S, water flows, loss of circulation, abnormal pressures, etc.

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2. Casing Program

| Hole Size | Casing Interval | | Csg. Size | Weight (lbs) | Grade | Conn. | SF Collapse | SF Burst | SF Tension |
|---------------------------|-----------------|-----------------------|-----------|--------------|-------|--------------------|-------------|----------|------------|
| | From | To | | | | | | | |
| 17.5" | 0' | 905' 1000' | 13.375" | 48 | H40 | STC | 1.57 | 3.68 | 7.41 |
| 12.25" | 0' | 3453' | 9.625" | 36 | J55 | LTC | 1.13 | 1.96 | 2.92 |
| 12.25" | 3453' | 4225' | 9.625" | 40 | J55 | LTC | 1.17 | 1.80 | 16.84 |
| 8.75" | 0' | 3245' | 7" | 26 | P110 | LTC | 1.30 | 1.67 | 2.03 |
| 6.125" | 11500' | 19775' | 4.5" | 13.5 | P110 | LTC | 1.30 | 1.51 | 3.03 |
| BLM Minimum Safety Factor | | | | 1.125 | 1 | 1.6 Dry 1.8 Wet | | | |

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

| | Y or N |
|--|--------|
| Is casing new? If used, attach certification as required in Onshore Order #1 | Y |
| Is casing API approved? If no, attach casing specification sheet. | Y |
| Is premium or uncommon casing planned? If yes attach casing specification sheet. | N |
| Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria). | Y |
| Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing? | Y |
| Is well located within Capitan Reef? | N |
| If yes, does production casing cement tie back a minimum of 50' above the Reef? | |
| Is well within the designated 4 string boundary. | |
| Is well located in SOPA but not in R-111-P? | N |
| If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing? | |
| Is well located in R-111-P and SOPA? | N |
| If yes, are the first three strings cemented to surface? | |
| Is 2 nd string set 100' to 600' below the base of salt? | |
| Is well located in high Cave/Karst? | Y |
| If yes, are there two strings cemented to surface? | Y |
| (For 2 string wells) If yes, is there a contingency casing if lost circulation occurs? | |
| Is well located in critical Cave/Karst? | N |
| If yes, are there three strings cemented to surface? | |

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3. Cementing Program

| Casing | # Sks | Wt. lb/ gal | Yld ft ³ / sack | H ₂ O gal/ sk | 500# Comp. Strength (hours) | Slurry Description |
|---------------------|-------|-------------------|----------------------------------|--------------------------------|--------------------------------------|--|
| Surf. | 475 | 14.8 | 2.12 | 6.3 | 8 | Lead: Class C + Salt + Gel + Extender + LCM |
| | 200 | 14.8 | 1.34 | 6.3 | 8 | Tail: Class C + Retarder |
| Inter. | 695 | 12.5 | 2.12 | 11 | 10 | Lead: Class C + Salt + Gel + Extender + LCM |
| | 200 | 14.8 | 1.34 | 6.3 | 8 | Tail: Class C + Retarder |
| Prod. Stg 1 | 385 | 12.5 | 2.12 | 11 | 9 | Lead: Class C + Gel + Retarder + Defoamer + Extender |
| | 400 | 15.6 | 1.18 | 5.2 | 10 | Tail: Class H + Retarder + Fluid Loss + Defoamer |
| ECP/DV Tool @ 5511' | | | | | | |
| Prod. Stg 2 | 75 | 12.5 | 2.12 | 11 | 9 | Lead: Class C + Gel + Retarder + Defoamer + Extender |
| | 100 | 14.8 | 1.34 | 6.3 | 8 | Tail: Class C + Retarder |
| Liner | 340 | 11.2 | 2.97 | 17 | 16 | Class C + Salt + Gel + Fluid Loss + Retarder + Dispersant + Defoamer + Anti-Settling Agent |

DV tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

| Casing String | TOC | % Excess |
|---------------|--------|----------|
| Surface | 0' | 100% |
| Intermediate | 0' | 25% |
| Production | 4025' | 25% |
| Liner | 11800' | 25% |

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4. Pressure Control Equipment

| |
|----------------|
| Variance: None |
|----------------|

| BOP installed and tested before drilling which hole? | Size? | System Rated WP | Type | ✓ | Tested to: |
|--|---------|-----------------|------------|---|-----------------|
| 12-1/4" | 13-5/8" | 5M 10 | Annular | X | 2500# |
| | | | Blind Ram | X | 5000# 10,000 |
| | | | Pipe Ram | X | |
| | | | Double Ram | | |
| | | | Other* | | |

*Specify if additional ram is utilized.

Per Andy Taylor
8/29/17
Chris Walker

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

| | |
|---|--|
| X | Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i. |
| Y | A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart. |
| N | Are anchors required by manufacturer? |
| Y | A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. • Provide description here: See attached schematic |

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5. Mud Program

| Depth | | Type | Weight (ppg) | Viscosity | Water Loss |
|-------|-------|-----------------|--------------|-----------|------------|
| From | To | | | | |
| 0 | 905 | FW Gel | 8.6-8.8 | 28-34 | N/C |
| 905 | 4225 | Saturated Brine | 10.0 | 28-34 | N/C |
| 4225 | 11300 | Cut Brine | 8.6-9.7 | 28-34 | N/C |
| 11300 | 19775 | FW w/ Polymer | 10.0-13.0 | 30-40 | <10cc |

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. MW up to 13.0 ppg may be required for shale control. The highest MW needed to balance formation pressure is expected to be 12.0 ppg.

| | |
|---|-----------------------------|
| What will be used to monitor the loss or gain of fluid? | Pason/PVT/Visual Monitoring |
|---|-----------------------------|

6. Logging and Testing Procedures

| Logging, Coring and Testing. | |
|------------------------------|---|
| X | Will run GR/CNL from KOP (11300') to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM. |
| | No Logs are planned based on well control or offset log information. |
| | Drill stem test? If yes, explain |
| | Coring? If yes, explain |

| Additional logs planned | | Interval |
|-------------------------|-----------|--------------------|
| X | Gamma Ray | 11300' (KOP) to TD |
| | Density | |
| | CBL | |
| | Mud log | |
| | PEX | |

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7. Drilling Conditions

| Condition | Specify what type and where? |
|----------------------------|------------------------------|
| BH Pressure at deepest TVD | 7573 psi |
| Abnormal Temperature | No |

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers in surface hole. Weighted mud for possible over-pressure in Wolfcamp formation. Weighted mud for shale control & hole stability.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

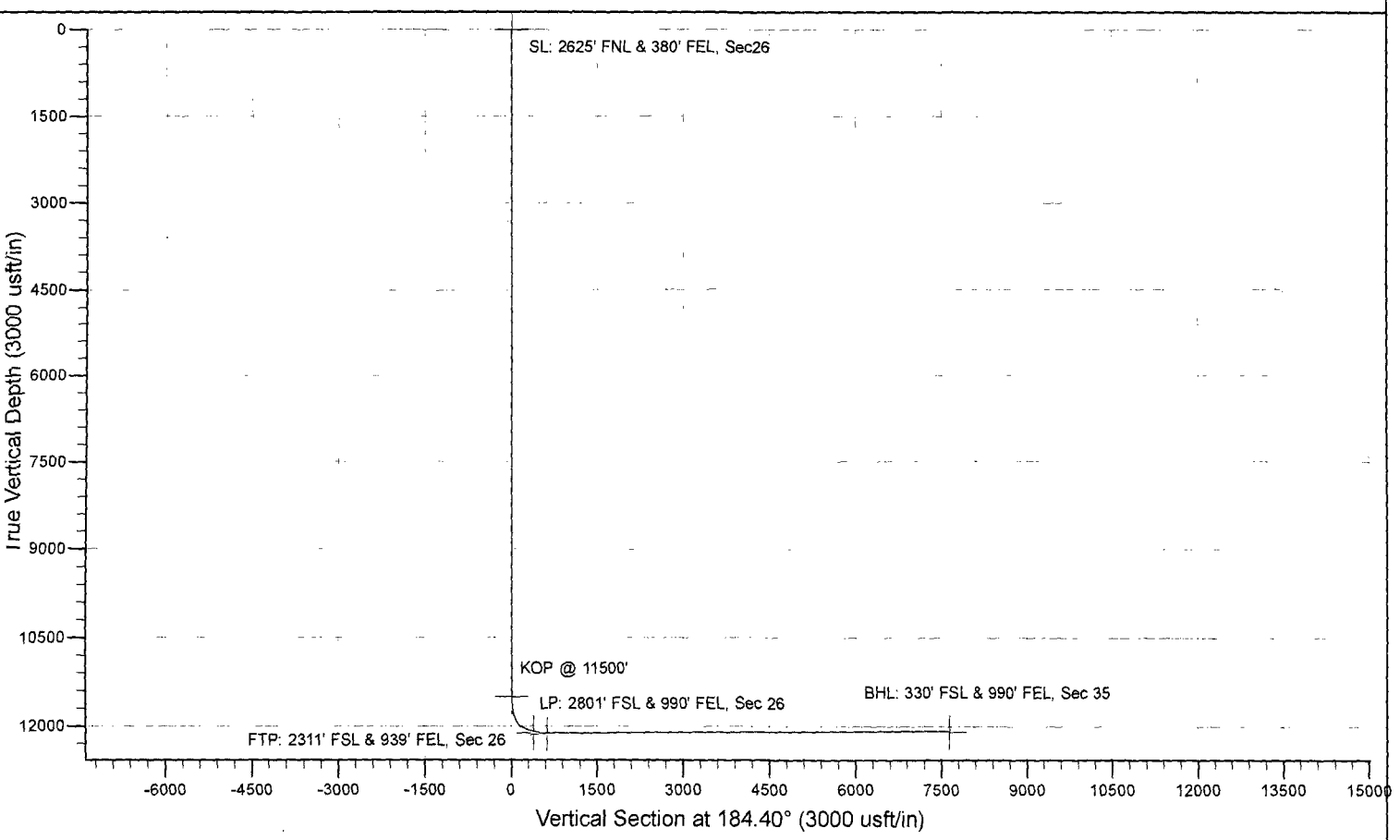
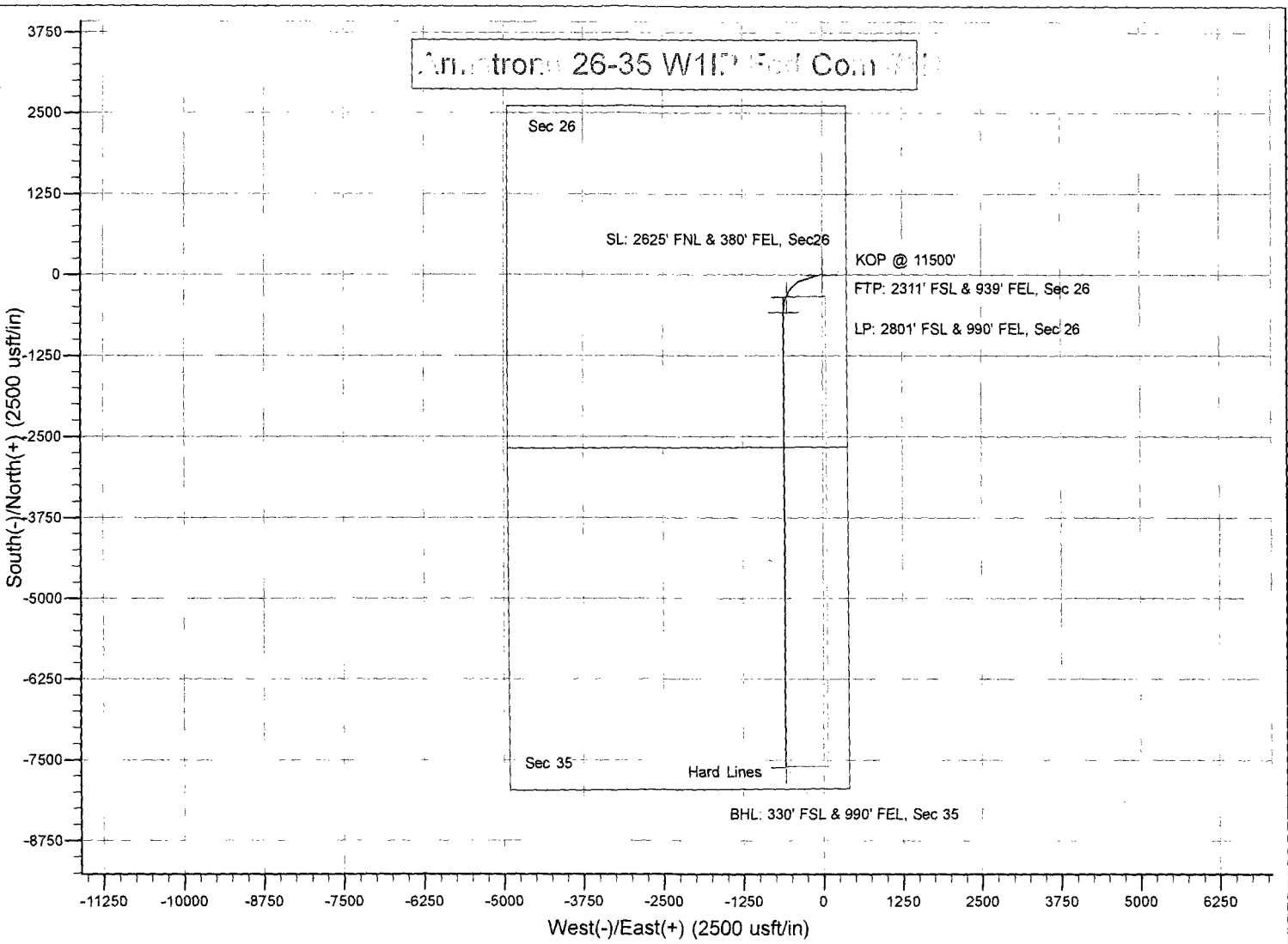
| | |
|---|-------------------|
| | H2S is present |
| X | H2S Plan attached |

8. Other facets of operation

Is this a walking operation? If yes, describe.
 Will be pre-setting casing? If yes, describe.

Attachments

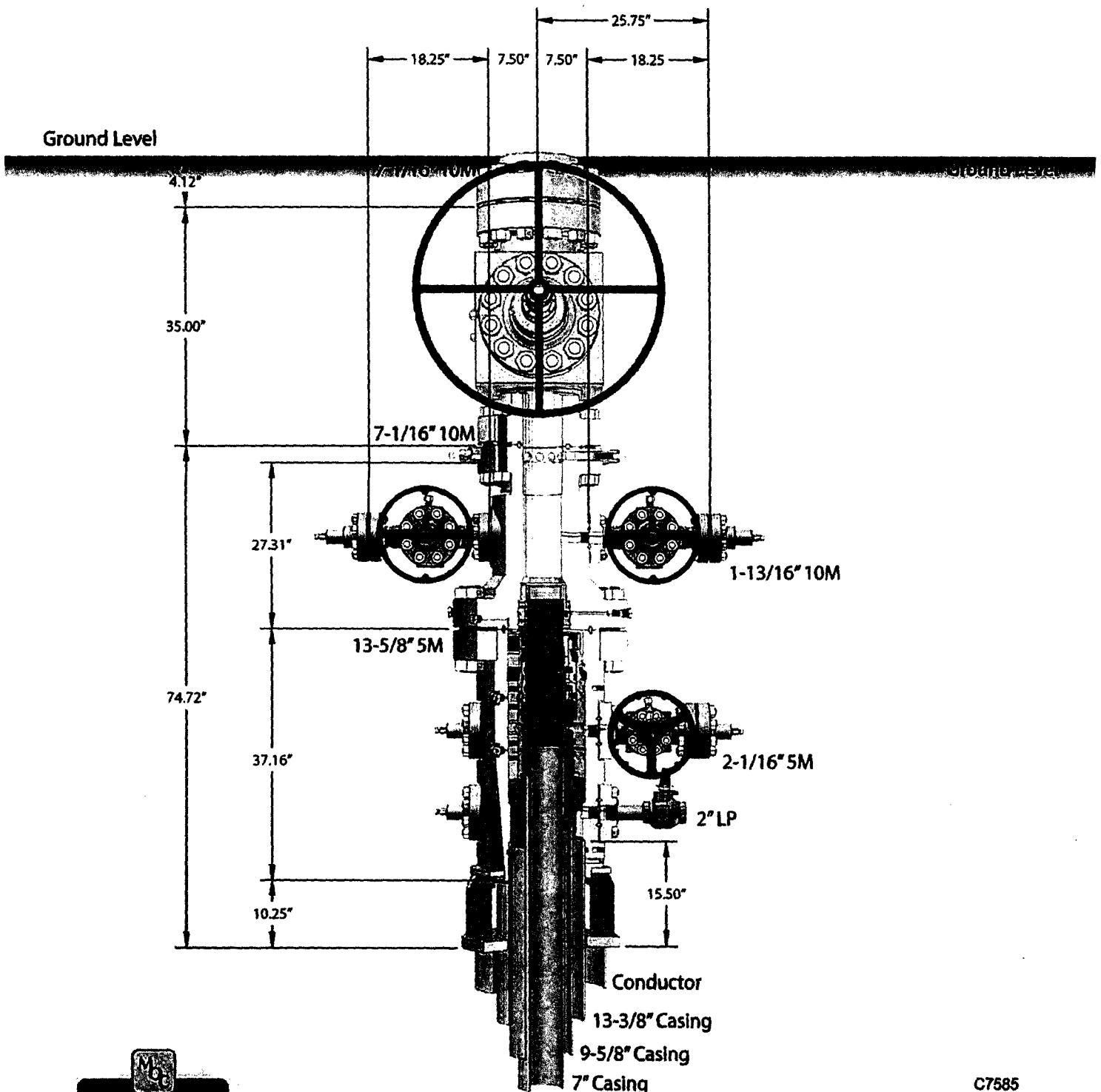
___ Directional Plan
 ___ Other, describe



CAMERON

A Schlumberger Company

13-5/8" MN-DS Wellhead System



Capping Head 57" conductor cut-off
79

C7585
Rev. 02

NOTE: All dimensions on this drawing are estimated measurements and should be evaluated by engineering.