

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#14 HOWARD 2N-33HZ (310' FNL & 1244' FEL, SEC. 28)
Field: WELD COUNTY (KERR MCGEE) Well: HOWARD 2N-33HZ
Facility: SEC.28-T1N-R67W Wellbore: HOWARD 2N-33HZ PWB

Plot reference wellpath is HOWARD 2N-33HZ (PERMIT REV-1) PWP

| | |
|--|--|
| True vertical depths are referenced to ENSIGN 145 (RKB) | Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet |
| Measured depths are referenced to ENSIGN 145 (RKB) | North Reference: True north |
| ENSIGN 145 (RKB) to Mean Sea Level: 4996 feet | Scale: True distance |
| Mean Sea Level to Mud line (At Slot: SLOT#14 HOWARD 2N-33HZ (310' FNL & 1244' FEL, SEC. 28)): 0 feet | Depths are in feet |
| Coordinates are in feet referenced to Slot | Created by: precin on 5/23/2013 |

Location Information

| Facility Name | | | Grid East (US ft) | Grid North (US ft) | Latitude | Longitude |
|--|--------------|--------------|-------------------|--------------------|----------------|-----------------|
| SEC 28-T1N-R67W | | | 316923.760 | 121463.460 | 38°32'36.656"N | 114°37'52.006"W |
| Slot | Local N (ft) | Local E (ft) | Grid East (US ft) | Grid North (US ft) | Latitude | Longitude |
| SLOT#14 HOWARD 2N-33HZ (310' FNL & 1244' FEL, SEC. 28) | 1416840.75 | 2716777.85 | 3170662.775 | 1253805.597 | 40°01'42.506"N | 104°53'26.034"W |
| ENSIGN 145 (RKB) to Mud line (At Slot: SLOT#14 HOWARD 2N-33HZ (310' FNL & 1244' FEL, SEC. 28)) | | | | | 4996ft | |
| Mean Sea Level to Mud line (At Slot: SLOT#14 HOWARD 2N-33HZ (310' FNL & 1244' FEL, SEC. 28)) | | | | | 0ft | |
| ENSIGN 145 (RKB) to Mean Sea Level | | | | | 4996ft | |

Survey Program

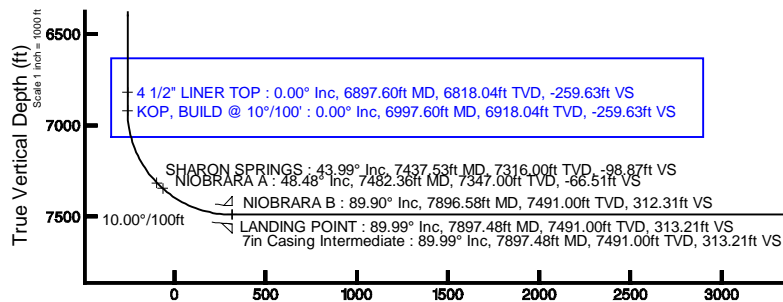
| Start MD (ft) | End MD (ft) | Tool | Model | Log Name/Comment | Wellbore |
|---------------|-------------|----------|--------------------|------------------|--------------------|
| 13.00 | 7897.48 | NaviTrak | NaviTrak (MagCorr) | | HOWARD 2N-33HZ PWB |
| 7897.48 | 12754.04 | OnTrak | OnTrak (MagCorr) | | HOWARD 2N-33HZ PWB |

Well Profile Data

| Design Comment | MD (ft) | Inc (°) | Az (°) | TVD (ft) | Local N (ft) | Local E (ft) | DLS (°/100ft) | VS (ft) |
|-----------------------|----------|---------|---------|----------|--------------|--------------|---------------|---------|
| TIE-ON | 13.00 | 0.000 | 288.700 | 13.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| BEGIN NUDGE | 1450.00 | 0.000 | 288.700 | 1450.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| END NUDGE | 2050.00 | 12.000 | 288.700 | 2045.62 | 20.07 | -59.30 | 2.00 | -20.35 |
| BEGIN DROP | 5290.18 | 12.000 | 288.700 | 5215.00 | 236.06 | -697.41 | 0.00 | -239.28 |
| END DROP | 5890.18 | 0.000 | 179.735 | 5810.62 | 256.13 | -756.70 | 2.00 | -259.63 |
| KOP, BUILD @ 10°/100' | 6997.60 | 0.000 | 179.735 | 6918.04 | 256.13 | -756.70 | 0.00 | -259.63 |
| LANDING POINT | 7897.48 | 89.988 | 179.735 | 7491.00 | -316.70 | -754.06 | 10.00 | 313.21 |
| TOTAL DEPTH | 12754.04 | 89.988 | 179.735 | 7492.00 | -5173.21 | -731.64 | 0.00 | 5169.77 |

Targets

| Name | MD (ft) | TVD (ft) | Local N (ft) | Local E (ft) | Grid East (US ft) | Grid North (US ft) | Latitude | Longitude |
|--|----------|----------|--------------|--------------|-------------------|--------------------|----------------|-----------------|
| HOWARD 27W-28HZ HARD LINES (460' SETBACKS, SEC. 28) | | 4996.00 | -29.85 | 0.00 | 3170662.98 | 1253775.75 | 40°01'42.211"N | 104°53'26.034"W |
| HOWARD 27W-28HZ HARD LINES (460' SETBACKS, SEC. 33) | | 4996.00 | -29.85 | 0.00 | 3170662.98 | 1253775.75 | 40°01'42.211"N | 104°53'26.034"W |
| HOWARD 27W-28HZ SECTION LINES (SEC. 28) | | 4996.00 | -29.85 | 0.00 | 3170662.98 | 1253775.75 | 40°01'42.211"N | 104°53'26.034"W |
| HOWARD 27W-28HZ SECTION LINES (SEC. 33) | | 4996.00 | -29.85 | 0.00 | 3170662.98 | 1253775.75 | 40°01'42.211"N | 104°53'26.034"W |
| HOWARD 2N-33HZ BHL ON PLAT (200' FNL & 2000' FEL, SEC. 24) REV-1 | 12754.04 | 7492.00 | -5173.21 | -731.64 | 3169966.74 | 1248627.68 | 40°00'51.387"N | 104°53'35.437"W |

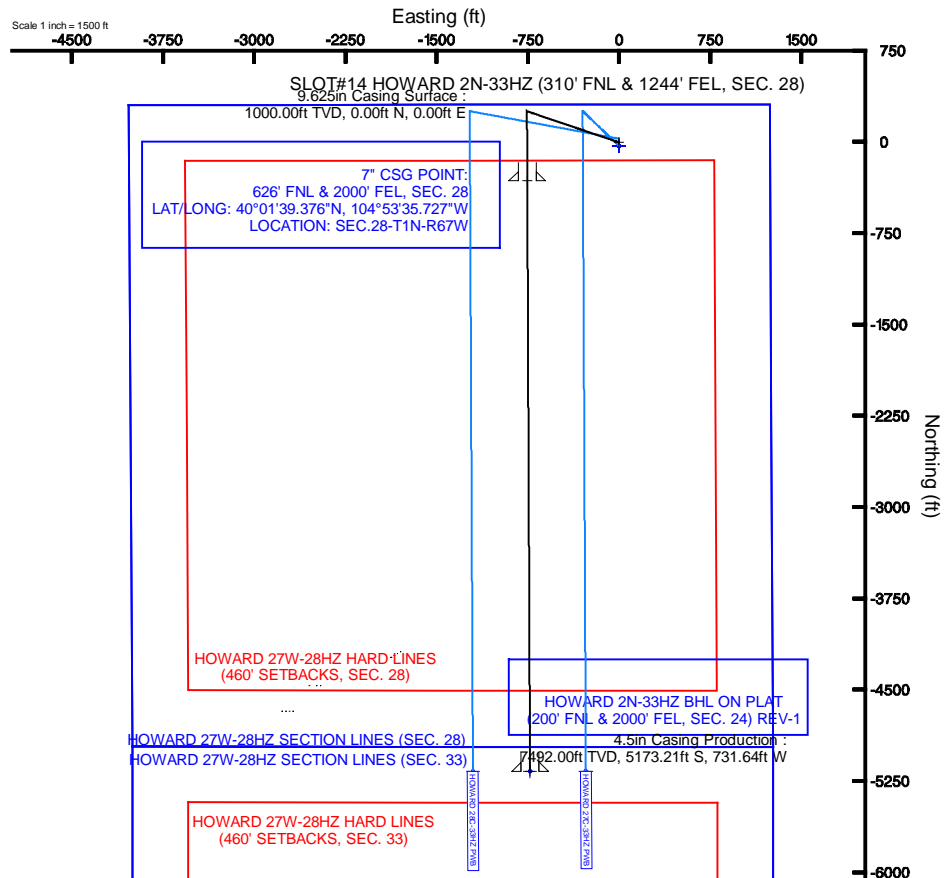


Vertical Section (ft)
Azimuth 179.73° with reference 0.00 N, 0.00 E



BGGM (1945.0 to 2014.0) Dip: 66.64° Field: 52617.8 nT
Magnetic North is 8.69 degrees East of True North (at 5/22/2013)

To correct azimuth from Magnetic to True add 8.69 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the True North Azimuth = 90 + 8.69 = 98.69



HOWARD 2N-33HZ BHL ON PLAT (200' FNL & 2000' FEL, SEC. 24) REV-1
4.5in Casing Production : 89.99° Inc, 12754.04ft MD, 7492.00ft TVD, 5169.77ft VS
TOTAL DEPTH : 89.99° Inc, 12754.04ft MD, 7492.00ft TVD, 5169.77ft VS

Scale 1 inch = 1000 ft





Planned Wellpath Report

HOWARD 2N-33HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|---------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP | Slot | SLOT#14 HOWARD 2N-33HZ (310' FNL & 1244' FEL, SEC. 28) |
| Area | COLORADO | Well | HOWARD 2N-33HZ |
| Field | WELD COUNTY (KERR MCGEE) | Wellbore | HOWARD 2N-33HZ PWB |
| Facility | SEC.28-T1N-R67W | | |

REPORT SETUP INFORMATION

| | | | |
|---------------------|---|----------------------|--|
| Projection System | NAD83 / Lambert Colorado SP, Northern Zone (501), US feet | Software System | WellArchitect® 3.0.2 |
| North Reference | True | User | Precaín |
| Scale | 0.999964 | Report Generated | 5/23/2013 at 8:16:43 AM |
| Convergence at slot | 0.39° East | Database/Source file | WellArchitectDB/HOWARD_2N-33HZ_PWB.xml |

WELLPATH LOCATION

| | Local coordinates | | Grid coordinates | | Geographic coordinates | |
|-----------------------|-------------------|------------|------------------|-----------------|------------------------|-----------------|
| | North[ft] | East[ft] | Easting[US ft] | Northing[US ft] | Latitude | Longitude |
| Slot Location | 1416840.75 | 2716777.85 | 3170662.78 | 1253805.60 | 40°01'42.506"N | 104°53'26.034"W |
| Facility Reference Pt | | | 316923.76 | 121463.46 | 36°32'36.656"N | 114°37'52.006"W |
| Field Reference Pt | | | 3197771.84 | 1268891.29 | 40°04'09.600"N | 104°47'36.000"W |

WELLPATH DATUM

| | | | |
|--------------------------|-------------------|---|-------------------|
| Calculation method | Minimum curvature | ENSIGN 145 (RKB) to Facility Vertical Datum | 4996.00ft |
| Horizontal Reference Pt | Slot | ENSIGN 145 (RKB) to Mean Sea Level | 4996.00ft |
| Vertical Reference Pt | ENSIGN 145 (RKB) | ENSIGN 145 (RKB) to Mud Line at Slot (SLOT#14 HOWARD 2N-33HZ (310' FNL & 1244' FEL, SEC. 28)) | 4996.00ft |
| MD Reference Pt | ENSIGN 145 (RKB) | Section Origin | N 0.00, E 0.00 ft |
| Field Vertical Reference | Mean Sea Level | Section Azimuth | 179.73° |



Planned Wellpath Report

HOWARD 2N-33HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|---------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP | Slot | SLOT#14 HOWARD 2N-33HZ (310' FNL & 1244' FEL, SEC. 28) |
| Area | COLORADO | Well | HOWARD 2N-33HZ |
| Field | WELD COUNTY (KERR MCGEE) | Wellbore | HOWARD 2N-33HZ PWB |
| Facility | SEC.28-T1N-R67W | | |

WELLPATH DATA (142 stations) † = interpolated/extrapolated station

| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Latitude | Longitude | DLS [°/100ft] | Comments |
|------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------|-----------------|------------------|----------------|
| 0.00† | 0.000 | 288.700 | 0.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | |
| 13.00 | 0.000 | 288.700 | 13.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | TIE-ON |
| 113.00† | 0.000 | 288.700 | 113.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | |
| 213.00† | 0.000 | 288.700 | 213.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | |
| 313.00† | 0.000 | 288.700 | 313.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | |
| 413.00† | 0.000 | 288.700 | 413.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | |
| 513.00† | 0.000 | 288.700 | 513.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | |
| 613.00† | 0.000 | 288.700 | 613.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | |
| 713.00† | 0.000 | 288.700 | 713.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | |
| 813.00† | 0.000 | 288.700 | 813.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | |
| 913.00† | 0.000 | 288.700 | 913.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | |
| 1013.00† | 0.000 | 288.700 | 1013.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | |
| 1088.00† | 0.000 | 288.700 | 1088.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | FOX HILLS BASE |
| 1113.00† | 0.000 | 288.700 | 1113.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | |
| 1213.00† | 0.000 | 288.700 | 1213.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | |
| 1313.00† | 0.000 | 288.700 | 1313.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | |
| 1413.00† | 0.000 | 288.700 | 1413.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | |
| 1450.00 | 0.000 | 288.700 | 1450.00 | 0.00 | 0.00 | 0.00 | 40°01'42.506"N | 104°53'26.034"W | 0.00 | BEGIN NUDGE |
| 1513.00† | 1.260 | 288.700 | 1512.99 | -0.23 | 0.22 | -0.66 | 40°01'42.508"N | 104°53'26.042"W | 2.00 | |
| 1613.00† | 3.260 | 288.700 | 1612.91 | -1.51 | 1.49 | -4.39 | 40°01'42.521"N | 104°53'26.090"W | 2.00 | |
| 1713.00† | 5.260 | 288.700 | 1712.63 | -3.92 | 3.87 | -11.43 | 40°01'42.544"N | 104°53'26.181"W | 2.00 | |
| 1813.00† | 7.260 | 288.700 | 1812.03 | -7.46 | 7.36 | -21.75 | 40°01'42.579"N | 104°53'26.314"W | 2.00 | |
| 1913.00† | 9.260 | 288.700 | 1910.99 | -12.13 | 11.97 | -35.36 | 40°01'42.624"N | 104°53'26.489"W | 2.00 | |
| 2013.00† | 11.260 | 288.700 | 2009.38 | -17.92 | 17.68 | -52.23 | 40°01'42.681"N | 104°53'26.705"W | 2.00 | |
| 2050.00 | 12.000 | 288.700 | 2045.62 | -20.35 | 20.07 | -59.30 | 40°01'42.704"N | 104°53'26.796"W | 2.00 | END NUDGE |
| 2113.00† | 12.000 | 288.700 | 2107.25 | -24.60 | 24.27 | -71.70 | 40°01'42.746"N | 104°53'26.956"W | 0.00 | |
| 2213.00† | 12.000 | 288.700 | 2205.06 | -31.36 | 30.94 | -91.40 | 40°01'42.812"N | 104°53'27.209"W | 0.00 | |
| 2313.00† | 12.000 | 288.700 | 2302.88 | -38.12 | 37.60 | -111.09 | 40°01'42.878"N | 104°53'27.462"W | 0.00 | |
| 2413.00† | 12.000 | 288.700 | 2400.69 | -44.87 | 44.27 | -130.79 | 40°01'42.943"N | 104°53'27.715"W | 0.00 | |
| 2513.00† | 12.000 | 288.700 | 2498.51 | -51.63 | 50.93 | -150.48 | 40°01'43.009"N | 104°53'27.968"W | 0.00 | |
| 2613.00† | 12.000 | 288.700 | 2596.32 | -58.39 | 57.60 | -170.17 | 40°01'43.075"N | 104°53'28.222"W | 0.00 | |
| 2713.00† | 12.000 | 288.700 | 2694.13 | -65.14 | 64.27 | -189.87 | 40°01'43.141"N | 104°53'28.475"W | 0.00 | |
| 2813.00† | 12.000 | 288.700 | 2791.95 | -71.90 | 70.93 | -209.56 | 40°01'43.207"N | 104°53'28.728"W | 0.00 | |
| 2913.00† | 12.000 | 288.700 | 2889.76 | -78.66 | 77.60 | -229.25 | 40°01'43.273"N | 104°53'28.981"W | 0.00 | |
| 3013.00† | 12.000 | 288.700 | 2987.58 | -85.41 | 84.26 | -248.95 | 40°01'43.339"N | 104°53'29.234"W | 0.00 | |
| 3113.00† | 12.000 | 288.700 | 3085.39 | -92.17 | 90.93 | -268.64 | 40°01'43.405"N | 104°53'29.487"W | 0.00 | |
| 3213.00† | 12.000 | 288.700 | 3183.21 | -98.93 | 97.60 | -288.33 | 40°01'43.470"N | 104°53'29.741"W | 0.00 | |
| 3313.00† | 12.000 | 288.700 | 3281.02 | -105.69 | 104.26 | -308.03 | 40°01'43.536"N | 104°53'29.994"W | 0.00 | |
| 3413.00† | 12.000 | 288.700 | 3378.84 | -112.44 | 110.93 | -327.72 | 40°01'43.602"N | 104°53'30.247"W | 0.00 | |
| 3513.00† | 12.000 | 288.700 | 3476.65 | -119.20 | 117.59 | -347.42 | 40°01'43.668"N | 104°53'30.500"W | 0.00 | |
| 3613.00† | 12.000 | 288.700 | 3574.47 | -125.96 | 124.26 | -367.11 | 40°01'43.734"N | 104°53'30.753"W | 0.00 | |
| 3713.00† | 12.000 | 288.700 | 3672.28 | -132.71 | 130.93 | -386.80 | 40°01'43.800"N | 104°53'31.006"W | 0.00 | |
| 3813.00† | 12.000 | 288.700 | 3770.10 | -139.47 | 137.59 | -406.50 | 40°01'43.866"N | 104°53'31.260"W | 0.00 | |
| 3913.00† | 12.000 | 288.700 | 3867.91 | -146.23 | 144.26 | -426.19 | 40°01'43.932"N | 104°53'31.513"W | 0.00 | |
| 4013.00† | 12.000 | 288.700 | 3965.73 | -152.98 | 150.92 | -445.88 | 40°01'43.997"N | 104°53'31.766"W | 0.00 | |



Planned Wellpath Report

HOWARD 2N-33HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|---------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP | Slot | SLOT#14 HOWARD 2N-33HZ (310' FNL & 1244' FEL, SEC. 28) |
| Area | COLORADO | Well | HOWARD 2N-33HZ |
| Field | WELD COUNTY (KERR MCGEE) | Wellbore | HOWARD 2N-33HZ PWB |
| Facility | SEC.28-T1N-R67W | | |

WELLPATH DATA (142 stations) † = interpolated/extrapolated station

| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Latitude | Longitude | DLS [°/100ft] | Comments |
|----------|-----------------|-------------|----------|----------------|------------|-----------|----------------|-----------------|---------------|-----------------------|
| 4113.00† | 12.000 | 288.700 | 4063.54 | -159.74 | 157.59 | -465.58 | 40°01'44.063"N | 104°53'32.019"W | 0.00 | |
| 4213.00† | 12.000 | 288.700 | 4161.36 | -166.50 | 164.26 | -485.27 | 40°01'44.129"N | 104°53'32.272"W | 0.00 | |
| 4313.00† | 12.000 | 288.700 | 4259.17 | -173.25 | 170.92 | -504.96 | 40°01'44.195"N | 104°53'32.525"W | 0.00 | |
| 4413.00† | 12.000 | 288.700 | 4356.99 | -180.01 | 177.59 | -524.66 | 40°01'44.261"N | 104°53'32.779"W | 0.00 | |
| 4513.00† | 12.000 | 288.700 | 4454.80 | -186.77 | 184.25 | -544.35 | 40°01'44.327"N | 104°53'33.032"W | 0.00 | |
| 4613.00† | 12.000 | 288.700 | 4552.62 | -193.53 | 190.92 | -564.04 | 40°01'44.393"N | 104°53'33.285"W | 0.00 | |
| 4713.00† | 12.000 | 288.700 | 4650.43 | -200.28 | 197.58 | -583.74 | 40°01'44.459"N | 104°53'33.538"W | 0.00 | |
| 4813.00† | 12.000 | 288.700 | 4748.24 | -207.04 | 204.25 | -603.43 | 40°01'44.524"N | 104°53'33.791"W | 0.00 | |
| 4841.38† | 12.000 | 288.700 | 4776.00 | -208.96 | 206.14 | -609.02 | 40°01'44.543"N | 104°53'33.863"W | 0.00 | SUSSEX |
| 4913.00† | 12.000 | 288.700 | 4846.06 | -213.80 | 210.92 | -623.13 | 40°01'44.590"N | 104°53'34.044"W | 0.00 | |
| 5013.00† | 12.000 | 288.700 | 4943.87 | -220.55 | 217.58 | -642.82 | 40°01'44.656"N | 104°53'34.298"W | 0.00 | |
| 5113.00† | 12.000 | 288.700 | 5041.69 | -227.31 | 224.25 | -662.51 | 40°01'44.722"N | 104°53'34.551"W | 0.00 | |
| 5213.00† | 12.000 | 288.700 | 5139.50 | -234.07 | 230.91 | -682.21 | 40°01'44.788"N | 104°53'34.804"W | 0.00 | |
| 5290.18 | 12.000 | 288.700 | 5215.00 | -239.28 | 236.06 | -697.41 | 40°01'44.839"N | 104°53'34.999"W | 0.00 | BEGIN DROP |
| 5313.00† | 11.544 | 288.700 | 5237.34 | -240.80 | 237.55 | -701.82 | 40°01'44.853"N | 104°53'35.056"W | 2.00 | |
| 5413.00† | 9.544 | 288.700 | 5335.64 | -246.74 | 243.42 | -719.15 | 40°01'44.911"N | 104°53'35.279"W | 2.00 | |
| 5513.00† | 7.544 | 288.700 | 5434.53 | -251.57 | 248.18 | -733.22 | 40°01'44.958"N | 104°53'35.460"W | 2.00 | |
| 5613.00† | 5.544 | 288.700 | 5533.87 | -255.27 | 251.83 | -744.01 | 40°01'44.995"N | 104°53'35.598"W | 2.00 | |
| 5713.00† | 3.544 | 288.700 | 5633.55 | -257.85 | 254.37 | -751.52 | 40°01'45.020"N | 104°53'35.695"W | 2.00 | |
| 5813.00† | 1.544 | 288.700 | 5733.45 | -259.29 | 255.80 | -755.72 | 40°01'45.034"N | 104°53'35.749"W | 2.00 | |
| 5890.18 | 0.000 | 179.735 | 5810.62 | -259.63 | 256.13 | -756.70 | 40°01'45.037"N | 104°53'35.762"W | 2.00 | END DROP |
| 5913.00† | 0.000 | 179.735 | 5833.44 | -259.63 | 256.13 | -756.70 | 40°01'45.037"N | 104°53'35.762"W | 0.00 | |
| 6013.00† | 0.000 | 179.735 | 5933.44 | -259.63 | 256.13 | -756.70 | 40°01'45.037"N | 104°53'35.762"W | 0.00 | |
| 6113.00† | 0.000 | 179.735 | 6033.44 | -259.63 | 256.13 | -756.70 | 40°01'45.037"N | 104°53'35.762"W | 0.00 | |
| 6213.00† | 0.000 | 179.735 | 6133.44 | -259.63 | 256.13 | -756.70 | 40°01'45.037"N | 104°53'35.762"W | 0.00 | |
| 6313.00† | 0.000 | 179.735 | 6233.44 | -259.63 | 256.13 | -756.70 | 40°01'45.037"N | 104°53'35.762"W | 0.00 | |
| 6413.00† | 0.000 | 179.735 | 6333.44 | -259.63 | 256.13 | -756.70 | 40°01'45.037"N | 104°53'35.762"W | 0.00 | |
| 6513.00† | 0.000 | 179.735 | 6433.44 | -259.63 | 256.13 | -756.70 | 40°01'45.037"N | 104°53'35.762"W | 0.00 | |
| 6613.00† | 0.000 | 179.735 | 6533.44 | -259.63 | 256.13 | -756.70 | 40°01'45.037"N | 104°53'35.762"W | 0.00 | |
| 6713.00† | 0.000 | 179.735 | 6633.44 | -259.63 | 256.13 | -756.70 | 40°01'45.037"N | 104°53'35.762"W | 0.00 | |
| 6813.00† | 0.000 | 179.735 | 6733.44 | -259.63 | 256.13 | -756.70 | 40°01'45.037"N | 104°53'35.762"W | 0.00 | |
| 6897.60† | 0.000 | 179.735 | 6818.04 | -259.63 | 256.13 | -756.70 | 40°01'45.037"N | 104°53'35.762"W | 0.00 | 4 1/2" LINER TOP |
| 6913.00† | 0.000 | 179.735 | 6833.44 | -259.63 | 256.13 | -756.70 | 40°01'45.037"N | 104°53'35.762"W | 0.00 | |
| 6997.60 | 0.000 | 179.735 | 6918.04 | -259.63 | 256.13 | -756.70 | 40°01'45.037"N | 104°53'35.762"W | 0.00 | KOP, BUILD @ 10°/100' |
| 7013.00† | 1.540 | 179.735 | 6933.44 | -259.42 | 255.92 | -756.70 | 40°01'45.035"N | 104°53'35.762"W | 10.00 | |
| 7113.00† | 11.540 | 179.735 | 7032.66 | -248.05 | 244.55 | -756.65 | 40°01'44.923"N | 104°53'35.761"W | 10.00 | |
| 7213.00† | 21.540 | 179.735 | 7128.40 | -219.61 | 216.12 | -756.52 | 40°01'44.642"N | 104°53'35.759"W | 10.00 | |
| 7313.00† | 31.540 | 179.735 | 7217.75 | -174.99 | 171.49 | -756.31 | 40°01'44.201"N | 104°53'35.756"W | 10.00 | |
| 7413.00† | 41.540 | 179.735 | 7297.99 | -115.53 | 112.03 | -756.04 | 40°01'43.613"N | 104°53'35.753"W | 10.00 | |
| 7437.53† | 43.993 | 179.735 | 7316.00 | -98.87 | 95.38 | -755.96 | 40°01'43.448"N | 104°53'35.752"W | 10.00 | SHARON SPRINGS |
| 7482.36† | 48.475 | 179.735 | 7347.00 | -66.51 | 63.01 | -755.81 | 40°01'43.129"N | 104°53'35.750"W | 10.00 | NIOBRARA A |
| 7513.00† | 51.540 | 179.735 | 7366.69 | -43.03 | 39.54 | -755.70 | 40°01'42.897"N | 104°53'35.749"W | 10.00 | |
| 7613.00† | 61.540 | 179.735 | 7421.76 | 40.29 | -43.78 | -755.32 | 40°01'42.073"N | 104°53'35.744"W | 10.00 | |
| 7713.00† | 71.540 | 179.735 | 7461.52 | 131.91 | -135.40 | -754.90 | 40°01'41.168"N | 104°53'35.738"W | 10.00 | |
| 7813.00† | 81.540 | 179.735 | 7484.77 | 229.03 | -232.53 | -754.45 | 40°01'40.208"N | 104°53'35.732"W | 10.00 | |



Planned Wellpath Report

HOWARD 2N-33HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|---------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP | Slot | SLOT#14 HOWARD 2N-33HZ (310' FNL & 1244' FEL, SEC. 28) |
| Area | COLORADO | Well | HOWARD 2N-33HZ |
| Field | WELD COUNTY (KERR MCGEE) | Wellbore | HOWARD 2N-33HZ PWB |
| Facility | SEC.28-T1N-R67W | | |

WELLPATH DATA (142 stations) † = interpolated/extrapolated station

| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Latitude | Longitude | DLS [°/100ft] | Comments |
|-----------|-----------------|-------------|----------|----------------|------------|-----------|----------------|-----------------|---------------|---------------|
| 7896.58† | 89.898 | 179.735 | 7491.00 | 312.31 | -315.80 | -754.06 | 40°01'39.385"N | 104°53'35.727"W | 10.00 | NIOBRARA B |
| 7897.48 | 89.988 | 179.735 | 7491.00 | 313.21 | -316.70 | -754.06 | 40°01'39.376"N | 104°53'35.727"W | 10.00 | LANDING POINT |
| 7913.00† | 89.988 | 179.735 | 7491.00 | 328.73 | -332.22 | -753.99 | 40°01'39.223"N | 104°53'35.726"W | 0.00 | |
| 8013.00† | 89.988 | 179.735 | 7491.02 | 428.73 | -432.22 | -753.53 | 40°01'38.235"N | 104°53'35.720"W | 0.00 | |
| 8113.00† | 89.988 | 179.735 | 7491.05 | 528.73 | -532.22 | -753.06 | 40°01'37.246"N | 104°53'35.714"W | 0.00 | |
| 8213.00† | 89.988 | 179.735 | 7491.07 | 628.73 | -632.22 | -752.60 | 40°01'36.258"N | 104°53'35.708"W | 0.00 | |
| 8313.00† | 89.988 | 179.735 | 7491.09 | 728.73 | -732.21 | -752.14 | 40°01'35.270"N | 104°53'35.702"W | 0.00 | |
| 8413.00† | 89.988 | 179.735 | 7491.11 | 828.73 | -832.21 | -751.68 | 40°01'34.282"N | 104°53'35.696"W | 0.00 | |
| 8513.00† | 89.988 | 179.735 | 7491.13 | 928.73 | -932.21 | -751.22 | 40°01'33.294"N | 104°53'35.691"W | 0.00 | |
| 8613.00† | 89.988 | 179.735 | 7491.15 | 1028.73 | -1032.21 | -750.76 | 40°01'32.305"N | 104°53'35.685"W | 0.00 | |
| 8713.00† | 89.988 | 179.735 | 7491.17 | 1128.73 | -1132.21 | -750.29 | 40°01'31.317"N | 104°53'35.679"W | 0.00 | |
| 8813.00† | 89.988 | 179.735 | 7491.19 | 1228.73 | -1232.21 | -749.83 | 40°01'30.329"N | 104°53'35.673"W | 0.00 | |
| 8913.00† | 89.988 | 179.735 | 7491.21 | 1328.73 | -1332.21 | -749.37 | 40°01'29.341"N | 104°53'35.667"W | 0.00 | |
| 9013.00† | 89.988 | 179.735 | 7491.23 | 1428.73 | -1432.21 | -748.91 | 40°01'28.352"N | 104°53'35.661"W | 0.00 | |
| 9113.00† | 89.988 | 179.735 | 7491.25 | 1528.73 | -1532.21 | -748.45 | 40°01'27.364"N | 104°53'35.655"W | 0.00 | |
| 9213.00† | 89.988 | 179.735 | 7491.27 | 1628.73 | -1632.20 | -747.99 | 40°01'26.376"N | 104°53'35.649"W | 0.00 | |
| 9313.00† | 89.988 | 179.735 | 7491.29 | 1728.73 | -1732.20 | -747.52 | 40°01'25.388"N | 104°53'35.643"W | 0.00 | |
| 9413.00† | 89.988 | 179.735 | 7491.31 | 1828.73 | -1832.20 | -747.06 | 40°01'24.400"N | 104°53'35.637"W | 0.00 | |
| 9513.00† | 89.988 | 179.735 | 7491.33 | 1928.73 | -1932.20 | -746.60 | 40°01'23.411"N | 104°53'35.631"W | 0.00 | |
| 9613.00† | 89.988 | 179.735 | 7491.35 | 2028.73 | -2032.20 | -746.14 | 40°01'22.423"N | 104°53'35.625"W | 0.00 | |
| 9713.00† | 89.988 | 179.735 | 7491.37 | 2128.73 | -2132.20 | -745.68 | 40°01'21.435"N | 104°53'35.619"W | 0.00 | |
| 9813.00† | 89.988 | 179.735 | 7491.39 | 2228.73 | -2232.20 | -745.22 | 40°01'20.447"N | 104°53'35.613"W | 0.00 | |
| 9913.00† | 89.988 | 179.735 | 7491.42 | 2328.73 | -2332.20 | -744.75 | 40°01'19.458"N | 104°53'35.607"W | 0.00 | |
| 10013.00† | 89.988 | 179.735 | 7491.44 | 2428.73 | -2432.20 | -744.29 | 40°01'18.470"N | 104°53'35.601"W | 0.00 | |
| 10113.00† | 89.988 | 179.735 | 7491.46 | 2528.73 | -2532.20 | -743.83 | 40°01'17.482"N | 104°53'35.595"W | 0.00 | |
| 10213.00† | 89.988 | 179.735 | 7491.48 | 2628.73 | -2632.19 | -743.37 | 40°01'16.494"N | 104°53'35.589"W | 0.00 | |
| 10313.00† | 89.988 | 179.735 | 7491.50 | 2728.73 | -2732.19 | -742.91 | 40°01'15.506"N | 104°53'35.583"W | 0.00 | |
| 10413.00† | 89.988 | 179.735 | 7491.52 | 2828.73 | -2832.19 | -742.44 | 40°01'14.517"N | 104°53'35.577"W | 0.00 | |
| 10513.00† | 89.988 | 179.735 | 7491.54 | 2928.73 | -2932.19 | -741.98 | 40°01'13.529"N | 104°53'35.571"W | 0.00 | |
| 10613.00† | 89.988 | 179.735 | 7491.56 | 3028.73 | -3032.19 | -741.52 | 40°01'12.541"N | 104°53'35.565"W | 0.00 | |
| 10713.00† | 89.988 | 179.735 | 7491.58 | 3128.73 | -3132.19 | -741.06 | 40°01'11.553"N | 104°53'35.559"W | 0.00 | |
| 10813.00† | 89.988 | 179.735 | 7491.60 | 3228.73 | -3232.19 | -740.60 | 40°01'10.565"N | 104°53'35.553"W | 0.00 | |
| 10913.00† | 89.988 | 179.735 | 7491.62 | 3328.73 | -3332.19 | -740.14 | 40°01'09.576"N | 104°53'35.547"W | 0.00 | |
| 11013.00† | 89.988 | 179.735 | 7491.64 | 3428.73 | -3432.19 | -739.67 | 40°01'08.588"N | 104°53'35.541"W | 0.00 | |
| 11113.00† | 89.988 | 179.735 | 7491.66 | 3528.73 | -3532.18 | -739.21 | 40°01'07.600"N | 104°53'35.535"W | 0.00 | |
| 11213.00† | 89.988 | 179.735 | 7491.68 | 3628.73 | -3632.18 | -738.75 | 40°01'06.612"N | 104°53'35.529"W | 0.00 | |
| 11313.00† | 89.988 | 179.735 | 7491.70 | 3728.73 | -3732.18 | -738.29 | 40°01'05.623"N | 104°53'35.523"W | 0.00 | |
| 11413.00† | 89.988 | 179.735 | 7491.72 | 3828.73 | -3832.18 | -737.83 | 40°01'04.635"N | 104°53'35.517"W | 0.00 | |
| 11513.00† | 89.988 | 179.735 | 7491.74 | 3928.73 | -3932.18 | -737.37 | 40°01'03.647"N | 104°53'35.511"W | 0.00 | |
| 11613.00† | 89.988 | 179.735 | 7491.77 | 4028.73 | -4032.18 | -736.90 | 40°01'02.659"N | 104°53'35.505"W | 0.00 | |
| 11713.00† | 89.988 | 179.735 | 7491.79 | 4128.73 | -4132.18 | -736.44 | 40°01'01.671"N | 104°53'35.499"W | 0.00 | |
| 11813.00† | 89.988 | 179.735 | 7491.81 | 4228.73 | -4232.18 | -735.98 | 40°01'00.682"N | 104°53'35.493"W | 0.00 | |
| 11913.00† | 89.988 | 179.735 | 7491.83 | 4328.73 | -4332.18 | -735.52 | 40°00'59.694"N | 104°53'35.487"W | 0.00 | |
| 12013.00† | 89.988 | 179.735 | 7491.85 | 4428.73 | -4432.17 | -735.06 | 40°00'58.706"N | 104°53'35.481"W | 0.00 | |
| 12113.00† | 89.988 | 179.735 | 7491.87 | 4528.73 | -4532.17 | -734.60 | 40°00'57.718"N | 104°53'35.475"W | 0.00 | |



Planned Wellpath Report

HOWARD 2N-33HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|---------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP | Slot | SLOT#14 HOWARD 2N-33HZ (310' FNL & 1244' FEL, SEC. 28) |
| Area | COLORADO | Well | HOWARD 2N-33HZ |
| Field | WELD COUNTY (KERR MCGEE) | Wellbore | HOWARD 2N-33HZ PWB |
| Facility | SEC.28-T1N-R67W | | |

WELLPATH DATA (142 stations) † = interpolated/extrapolated station

| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Latitude | Longitude | DLS [°/100ft] | Comments |
|-----------|-----------------|-------------|----------------------|----------------|------------|-----------|----------------|-----------------|---------------|-------------|
| 12213.00† | 89.988 | 179.735 | 7491.89 | 4628.73 | -4632.17 | -734.13 | 40°00'56.729"N | 104°53'35.470"W | 0.00 | |
| 12313.00† | 89.988 | 179.735 | 7491.91 | 4728.73 | -4732.17 | -733.67 | 40°00'55.741"N | 104°53'35.464"W | 0.00 | |
| 12413.00† | 89.988 | 179.735 | 7491.93 | 4828.73 | -4832.17 | -733.21 | 40°00'54.753"N | 104°53'35.458"W | 0.00 | |
| 12513.00† | 89.988 | 179.735 | 7491.95 | 4928.73 | -4932.17 | -732.75 | 40°00'53.765"N | 104°53'35.452"W | 0.00 | |
| 12613.00† | 89.988 | 179.735 | 7491.97 | 5028.73 | -5032.17 | -732.29 | 40°00'52.777"N | 104°53'35.446"W | 0.00 | |
| 12713.00† | 89.988 | 179.735 | 7491.99 | 5128.73 | -5132.17 | -731.83 | 40°00'51.788"N | 104°53'35.440"W | 0.00 | |
| 12754.04 | 89.988 | 179.735 | 7492.00 ¹ | 5169.77 | -5173.21 | -731.64 | 40°00'51.383"N | 104°53'35.437"W | 0.00 | TOTAL DEPTH |

HOLE & CASING SECTIONS - Ref Wellbore: HOWARD 2N-33HZ PWB Ref Wellpath: HOWARD 2N-33HZ (PERMIT REV-1) PWP

| String/Diameter | Start MD [ft] | End MD [ft] | Interval [ft] | Start TVD [ft] | End TVD [ft] | Start N/S [ft] | Start E/W [ft] | End N/S [ft] | End E/W [ft] |
|-------------------------|---------------|-------------|---------------|----------------|--------------|----------------|----------------|--------------|--------------|
| 13.5in Open Hole | 13.00 | 1000.00 | 987.00 | 13.00 | 1000.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9.625in Casing Surface | 13.00 | 1000.00 | 987.00 | 13.00 | 1000.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8.75in Open Hole | 1000.00 | 7897.48 | 6897.48 | 1000.00 | 7491.00 | 0.00 | 0.00 | -316.70 | -754.06 |
| 7in Casing Intermediate | 13.00 | 7897.48 | 7884.48 | 13.00 | 7491.00 | 0.00 | 0.00 | -316.70 | -754.06 |
| 6.125in Open Hole | 7897.48 | 12754.04 | 4856.56 | 7491.00 | 7492.00 | -316.70 | -754.06 | -5173.21 | -731.64 |
| 4.5in Casing Production | 13.00 | 12754.04 | 12741.04 | 13.00 | 7492.00 | 0.00 | 0.00 | -5173.21 | -731.64 |



Planned Wellpath Report

HOWARD 2N-33HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|---------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP | Slot | SLOT#14 HOWARD 2N-33HZ (310' FNL & 1244' FEL, SEC. 28) |
| Area | COLORADO | Well | HOWARD 2N-33HZ |
| Field | WELD COUNTY (KERR MCGEE) | Wellbore | HOWARD 2N-33HZ PWB |
| Facility | SEC.28-T1N-R67W | | |

TARGETS

| Name | MD [ft] | TVD [ft] | North [ft] | East [ft] | Grid East [US ft] | Grid North [US ft] | Latitude | Longitude | Shape |
|--|------------|-------------|---------------|--------------|----------------------|-----------------------|----------------|-----------------|---------|
| HOWARD 27W-28HZ HARD LINES (460' SETBACKS, SEC. 28) | | 4996.00 | -29.85 | 0.00 | 3170662.98 | 1253775.75 | 40°01'42.211"N | 104°53'26.034"W | polygon |
| HOWARD 27W-28HZ HARD LINES (460' SETBACKS, SEC. 33) | | 4996.00 | -29.85 | 0.00 | 3170662.98 | 1253775.75 | 40°01'42.211"N | 104°53'26.034"W | polygon |
| HOWARD 27W-28HZ SECTION LINES (SEC. 28) | | 4996.00 | -29.85 | 0.00 | 3170662.98 | 1253775.75 | 40°01'42.211"N | 104°53'26.034"W | polygon |
| HOWARD 27W-28HZ SECTION LINES (SEC. 33) | | 4996.00 | -29.85 | 0.00 | 3170662.98 | 1253775.75 | 40°01'42.211"N | 104°53'26.034"W | polygon |
| 1) HOWARD 2N-33HZ BHL ON PLAT (200' FNL & 2000' FEL, SEC. 24) REV- 1 | 12754.04 | 7492.00 | -5173.21 | -731.64 | 3169966.74 | 1248627.68 | 40°00'51.383"N | 104°53'35.437"W | point |

SURVEY PROGRAM - Ref Wellbore: HOWARD 2N-33HZ PWB Ref Wellpath: HOWARD 2N-33HZ (PERMIT REV-1) PWP

| Start MD [ft] | End MD [ft] | Positional Uncertainty Model | Log Name/Comment | Wellbore |
|------------------|----------------|------------------------------|------------------|--------------------|
| 13.00 | 7897.48 | NaviTrak (MagCorr) | | HOWARD 2N-33HZ PWB |
| 7897.48 | 12754.04 | OnTrak (MagCorr) | | HOWARD 2N-33HZ PWB |



Planned Wellpath Report

HOWARD 2N-33HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|---------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP | Slot | SLOT#14 HOWARD 2N-33HZ (310' FNL & 1244' FEL, SEC. 28) |
| Area | COLORADO | Well | HOWARD 2N-33HZ |
| Field | WELD COUNTY (KERR MCGEE) | Wellbore | HOWARD 2N-33HZ PWB |
| Facility | SEC.28-T1N-R67W | | |

WELLPATH COMMENTS

| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Comment |
|------------|--------------------|----------------|-------------|------------------|
| 1088.00 | 0.000 | 288.700 | 1088.00 | FOX HILLS BASE |
| 4841.38 | 12.000 | 288.700 | 4776.00 | SUSSEX |
| 6897.60 | 0.000 | 179.735 | 6818.04 | 4 1/2" LINER TOP |
| 7437.53 | 43.993 | 179.735 | 7316.00 | SHARON SPRINGS |
| 7482.36 | 48.475 | 179.735 | 7347.00 | NIOBRARA A |
| 7896.58 | 89.898 | 179.735 | 7491.00 | NIOBRARA B |

DESIGN COMMENTS

| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Comment |
|------------|--------------------|----------------|-------------|-----------------------|
| 13.00 | 0.000 | 288.700 | 13.00 | TIE-ON |
| 1450.00 | 0.000 | 288.700 | 1450.00 | BEGIN NUDGE |
| 2050.00 | 12.000 | 288.700 | 2045.62 | END NUDGE |
| 5290.18 | 12.000 | 288.700 | 5215.00 | BEGIN DROP |
| 5890.18 | 0.000 | 179.735 | 5810.62 | END DROP |
| 6997.60 | 0.000 | 179.735 | 6918.04 | KOP, BUILD @ 10°/100' |
| 7897.48 | 89.988 | 179.735 | 7491.00 | LANDING POINT |
| 12754.04 | 89.988 | 179.735 | 7492.00 | TOTAL DEPTH |