



+N/-S
0.00

+E/-W
0.00

Northing
1629311.80

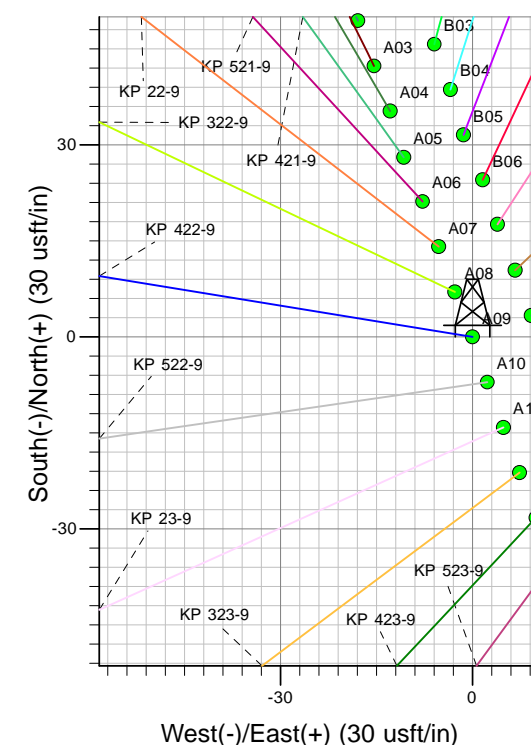
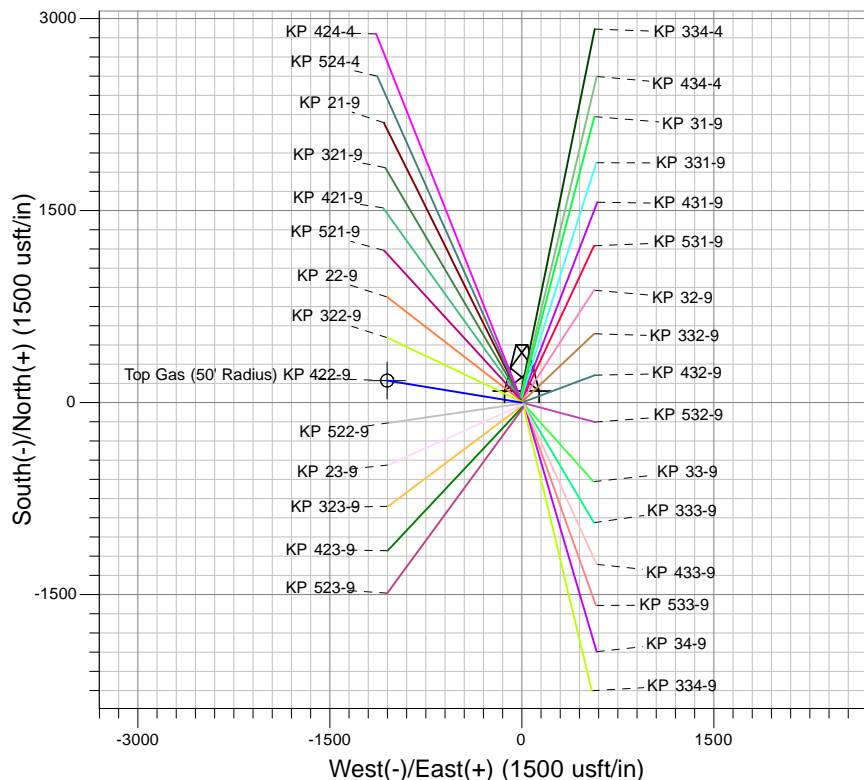
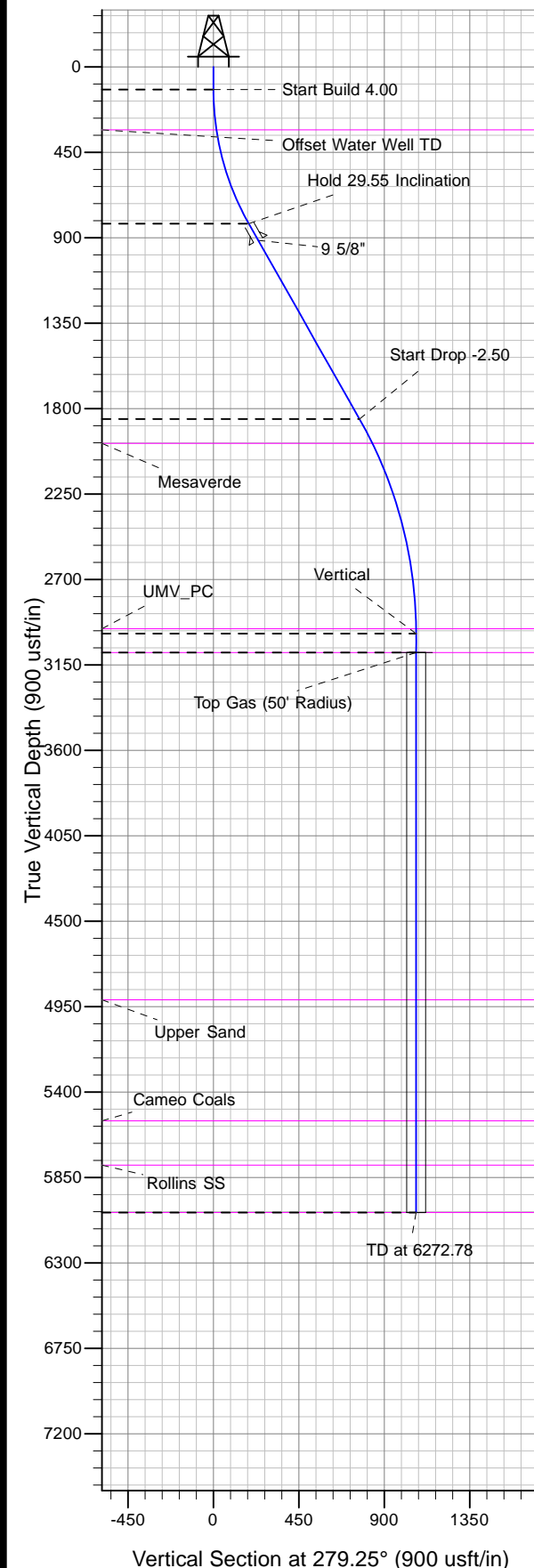
Easting
2419574.70

Latitude
39.54319

Longitude
-107.55834

Slot
A09

Well Name: KP 422-9
Surface Location: KP 32-9 Pad
North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
Ground Elevation: 5762.00
KELLY BUSHING @ 5783.00usft (Cyclone 17 (21' RKB) kjs)



Project: Sec. 09-T6S-R91W
Site: KP 32-9 Pad
Well: KP 422-9
Design #2 09Sep13 kjs



Azimuths to True North
Magnetic North: 9.92°
Magnetic Field
Strength: 52148.4snT
Dip Angle: 65.81°
Date: 4/15/2013
Model: IGRF2010

ANNOTATIONS

| TVD | MD | Inc | Azi | +N/-S | +E/-W | Vsect | Departure | Annotation |
|---------|---------|-------|--------|--------|----------|---------|-----------|------------------------|
| 120.00 | 120.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Start Build 4.00 |
| 826.43 | 858.75 | 29.55 | 279.25 | 29.94 | -183.90 | 186.32 | 186.32 | Hold 29.55 Inclination |
| 1854.71 | 2040.78 | 29.55 | 279.25 | 123.61 | -759.28 | 769.27 | 769.27 | Start Drop -2.50 |
| 2985.00 | 3222.78 | 0.00 | 0.00 | 171.51 | -1053.51 | 1067.38 | 1067.38 | Vertical |
| 3085.00 | 3322.78 | 0.00 | 0.00 | 171.51 | -1053.51 | 1067.38 | 1067.38 | Top Gas |
| 6035.00 | 6272.78 | 0.00 | 0.00 | 171.51 | -1053.51 | 1067.38 | 1067.38 | TD at 6272.78 |



KOKOPELLI FIELD

Sec. 09-T6S-R91W

KP 32-9 Pad

KP 422-9 - Slot A09

Wellbore #1

Plan: Design #2 09Sep13 kjs

Standard Planning Report - Geographic

11 September, 2013



IBM Global Services
Planning Report - Geographic

| | | | |
|------------------|-----------------------|-------------------------------------|--|
| Database: | COMPASS-PICEANCE | Local Co-ordinate Reference: | Well KP 422-9 - Slot A09 |
| Company: | KOKOPELLI FIELD | TVD Reference: | KELLY BUSHING @ 5783.00usft (Cyclone 17 (21' RKB) kjs) |
| Project: | Sec. 09-T6S-R91W | MD Reference: | KELLY BUSHING @ 5783.00usft (Cyclone 17 (21' RKB) kjs) |
| Site: | KP 32-9 Pad | North Reference: | True |
| Well: | KP 422-9 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #2 09Sep13 kjs | | |

| | | | |
|--------------------|---------------------------|----------------------|----------------|
| Project | Sec. 09-T6S-R91W | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Central Zone | | |

| | | | | |
|------------------------------|-------------|---------------------|-------------------|----------------------------------|
| Site | KP 32-9 Pad | | | |
| Site Position: | | Northing: | 1,629,318.90 usft | Latitude: 39.54321 |
| From: | Map | Easting: | 2,419,572.10 usft | Longitude: -107.55835 |
| Position Uncertainty: | 0.00 usft | Slot Radius: | 13.200 in | Grid Convergence: -1.30 ° |

| | | | | |
|-----------------------------|---------------------|-----------|----------------------------|-------------------|
| Well | KP 422-9 - Slot A09 | | | |
| Well Position | +N/-S | 0.00 usft | Northing: | 1,629,311.80 usft |
| | +E/-W | 0.00 usft | Easting: | 2,419,574.70 usft |
| Position Uncertainty | 0.00 usft | | Wellhead Elevation: | |
| | | | Ground Level: | 5,762.00 usft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Wellbore #1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2010 | 4/15/2013 | 9.92 | 65.81 | 52,148 |

| | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| Design | Design #2 09Sep13 kjs | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
| | 0.00 | 0.00 | 0.00 | 279.25 |

| | | | | | | | | | | |
|------------------------------|------------------------|--------------------|------------------------------|---------------------|---------------------|--------------------------------|-------------------------------|------------------------------|----------------|----------------------|
| Plan Sections | | | | | | | | | | |
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 120.00 | 0.00 | 0.00 | 120.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 858.75 | 29.55 | 279.25 | 826.43 | 29.94 | -183.90 | 4.00 | 4.00 | 0.00 | 279.25 | |
| 2,040.78 | 29.55 | 279.25 | 1,854.71 | 123.61 | -759.28 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3,222.78 | 0.00 | 0.00 | 2,985.00 | 171.51 | -1,053.51 | 2.50 | -2.50 | 0.00 | 180.00 | |
| 3,322.78 | 0.00 | 0.00 | 3,085.00 | 171.51 | -1,053.51 | 0.00 | 0.00 | 0.00 | 0.00 | Top Gas (50' Radius) |
| 6,272.78 | 0.00 | 0.00 | 6,035.00 | 171.51 | -1,053.51 | 0.00 | 0.00 | 0.00 | 0.00 | |



IBM Global Services
Planning Report - Geographic

| | | | |
|------------------|-----------------------|-------------------------------------|--|
| Database: | COMPASS-PICEANCE | Local Co-ordinate Reference: | Well KP 422-9 - Slot A09 |
| Company: | KOKOPELLI FIELD | TVD Reference: | KELLY BUSHING @ 5783.00usft (Cyclone 17 (21' RKB) kjs) |
| Project: | Sec. 09-T6S-R91W | MD Reference: | KELLY BUSHING @ 5783.00usft (Cyclone 17 (21' RKB) kjs) |
| Site: | KP 32-9 Pad | North Reference: | True |
| Well: | KP 422-9 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #2 09Sep13 kjs | | |

| Planned Survey | | | | | | | | | | |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|---------------------------|--------------------------|----------|------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude | |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,629,311.80 | 2,419,574.70 | 39.54319 | -107.55834 | |
| 120.00 | 0.00 | 0.00 | 120.00 | 0.00 | 0.00 | 1,629,311.80 | 2,419,574.70 | 39.54319 | -107.55834 | |
| Start Build 4.00 | | | | | | | | | | |
| 332.78 | 8.51 | 279.25 | 332.00 | 2.53 | -15.57 | 1,629,314.68 | 2,419,559.20 | 39.54320 | -107.55840 | |
| Offset Water Well TD | | | | | | | | | | |
| 500.00 | 15.20 | 279.25 | 495.56 | 8.05 | -49.46 | 1,629,320.97 | 2,419,525.44 | 39.54321 | -107.55852 | |
| 858.75 | 29.55 | 279.25 | 826.43 | 29.94 | -183.90 | 1,629,345.89 | 2,419,391.53 | 39.54327 | -107.55899 | |
| Hold 29.55 Inclination | | | | | | | | | | |
| 959.00 | 29.55 | 279.25 | 913.64 | 37.88 | -232.70 | 1,629,354.94 | 2,419,342.93 | 39.54330 | -107.55917 | |
| 9 5/8" | | | | | | | | | | |
| 1,000.00 | 29.55 | 279.25 | 949.31 | 41.13 | -252.65 | 1,629,358.64 | 2,419,323.05 | 39.54331 | -107.55924 | |
| 1,500.00 | 29.55 | 279.25 | 1,384.27 | 80.75 | -496.04 | 1,629,403.77 | 2,419,080.62 | 39.54341 | -107.56010 | |
| 2,000.00 | 29.55 | 279.25 | 1,819.24 | 120.38 | -739.43 | 1,629,448.90 | 2,418,838.19 | 39.54352 | -107.56096 | |
| 2,040.78 | 29.55 | 279.25 | 1,854.71 | 123.61 | -759.28 | 1,629,452.58 | 2,418,818.42 | 39.54353 | -107.56103 | |
| Start Drop -2.50 | | | | | | | | | | |
| 2,186.86 | 25.90 | 279.25 | 1,984.00 | 134.53 | -826.34 | 1,629,465.01 | 2,418,751.62 | 39.54356 | -107.56127 | |
| Mesaverde | | | | | | | | | | |
| 2,500.00 | 18.07 | 279.25 | 2,274.14 | 153.35 | -941.95 | 1,629,486.45 | 2,418,636.47 | 39.54361 | -107.56168 | |
| 3,000.00 | 5.57 | 279.25 | 2,762.57 | 169.77 | -1,042.83 | 1,629,505.15 | 2,418,535.98 | 39.54366 | -107.56204 | |
| 3,197.78 | 0.63 | 279.25 | 2,960.00 | 171.49 | -1,053.38 | 1,629,507.11 | 2,418,525.48 | 39.54366 | -107.56208 | |
| UMV_PC | | | | | | | | | | |
| 3,222.78 | 0.00 | 0.00 | 2,985.00 | 171.51 | -1,053.51 | 1,629,507.13 | 2,418,525.35 | 39.54366 | -107.56208 | |
| Vertical | | | | | | | | | | |
| 3,322.78 | 0.00 | 0.00 | 3,085.00 | 171.51 | -1,053.51 | 1,629,507.13 | 2,418,525.35 | 39.54366 | -107.56208 | |
| Top Gas - Approx. Top Gas | | | | | | | | | | |
| 3,500.00 | 0.00 | 0.00 | 3,262.22 | 171.51 | -1,053.51 | 1,629,507.13 | 2,418,525.35 | 39.54366 | -107.56208 | |
| 4,000.00 | 0.00 | 0.00 | 3,762.22 | 171.51 | -1,053.51 | 1,629,507.13 | 2,418,525.35 | 39.54366 | -107.56208 | |
| 4,500.00 | 0.00 | 0.00 | 4,262.22 | 171.51 | -1,053.51 | 1,629,507.13 | 2,418,525.35 | 39.54366 | -107.56208 | |
| 5,000.00 | 0.00 | 0.00 | 4,762.22 | 171.51 | -1,053.51 | 1,629,507.13 | 2,418,525.35 | 39.54366 | -107.56208 | |
| 5,151.78 | 0.00 | 0.00 | 4,914.00 | 171.51 | -1,053.51 | 1,629,507.13 | 2,418,525.35 | 39.54366 | -107.56208 | |
| Upper Sand | | | | | | | | | | |
| 5,500.00 | 0.00 | 0.00 | 5,262.22 | 171.51 | -1,053.51 | 1,629,507.13 | 2,418,525.35 | 39.54366 | -107.56208 | |
| 5,789.78 | 0.00 | 0.00 | 5,552.00 | 171.51 | -1,053.51 | 1,629,507.13 | 2,418,525.35 | 39.54366 | -107.56208 | |
| Cameo Coals | | | | | | | | | | |
| 6,000.00 | 0.00 | 0.00 | 5,762.22 | 171.51 | -1,053.51 | 1,629,507.13 | 2,418,525.35 | 39.54366 | -107.56208 | |
| 6,022.78 | 0.00 | 0.00 | 5,785.00 | 171.51 | -1,053.51 | 1,629,507.13 | 2,418,525.35 | 39.54366 | -107.56208 | |
| Rollins SS | | | | | | | | | | |
| 6,272.78 | 0.00 | 0.00 | 6,035.00 | 171.51 | -1,053.51 | 1,629,507.13 | 2,418,525.35 | 39.54366 | -107.56208 | |
| TD at 6272.78 - TD | | | | | | | | | | |

| Design Targets | | | | | | | | | | |
|---|---------------|--------------|------------|--------------|--------------|-----------------|----------------|----------|------------|--|
| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude | |
| Top Gas (50' Radius) KF - plan hits target center - Circle (radius 50.00) | 0.00 | 0.00 | 3,085.00 | 171.51 | -1,053.51 | 1,629,507.13 | 2,418,525.35 | 39.54366 | -107.56208 | |



| | | | |
|------------------|-----------------------|-------------------------------------|--|
| Database: | COMPASS-PICEANCE | Local Co-ordinate Reference: | Well KP 422-9 - Slot A09 |
| Company: | KOKOPELLI FIELD | TVD Reference: | KELLY BUSHING @ 5783.00usft (Cyclone 17 (21' RKB) kjs) |
| Project: | Sec. 09-T6S-R91W | MD Reference: | KELLY BUSHING @ 5783.00usft (Cyclone 17 (21' RKB) kjs) |
| Site: | KP 32-9 Pad | North Reference: | True |
| Well: | KP 422-9 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #2 09Sep13 kjs | | |

| Casing Points | | | | | |
|-----------------------|-----------------------|--------|----------------------|--------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name | Casing Diameter (in) | Hole Diameter (in) | |
| 959.00 | 913.64 | 9 5/8" | 9.625 | 12.250 | |

| Formations | | | | | | |
|-----------------------|-----------------------|----------------------|-----------|---------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 332.78 | 332.00 | Offset Water Well TD | | | | |
| 2,186.86 | 1,984.00 | Mesaverde | | | | |
| 3,197.78 | 2,960.00 | UMV_PC | | | | |
| 3,322.78 | 3,085.00 | Approx. Top Gas | | | | |
| 5,151.78 | 4,914.00 | Upper Sand | | | | |
| 5,789.78 | 5,552.00 | Cameo Coals | | | | |
| 6,022.78 | 5,785.00 | Rollins SS | | | | |
| 6,272.78 | 6,035.00 | TD | | | | |

| Plan Annotations | | | | | |
|-----------------------|-----------------------|-------------------|--------------|------------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | | |
| | | +N/-S (usft) | +E/-W (usft) | Comment | |
| 120.00 | 120.00 | 0.00 | 0.00 | Start Build 4.00 | |
| 858.75 | 826.43 | 29.94 | -183.90 | Hold 29.55 Inclination | |
| 2,040.78 | 1,854.71 | 123.61 | -759.28 | Start Drop -2.50 | |
| 3,222.78 | 2,985.00 | 171.51 | -1,053.51 | Vertical | |
| 3,322.78 | 3,085.00 | 171.51 | -1,053.51 | Top Gas | |
| 6,272.78 | 6,035.00 | 171.51 | -1,053.51 | TD at 6272.78 | |