

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

FORM 3

AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL						1. WELL NAME and NUMBER Morgan State 921-36H4CS							
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						3. FIELD OR WILDCAT NATURAL BUTTES							
4. TYPE OF WELL Gas Well <input type="checkbox"/> Coalbed Methane Well: NO <input type="checkbox"/>						5. UNIT or COMMUNITIZATION AGREEMENT NAME							
6. NAME OF OPERATOR KERR-MCGEE OIL & GAS ONSHORE, L.P.						7. OPERATOR PHONE 720 929-6515							
8. ADDRESS OF OPERATOR P.O. Box 173779, Denver, CO, 80217						9. OPERATOR E-MAIL julie.jacobson@anadarko.com							
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) ML 22265			11. MINERAL OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>			12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>							
13. NAME OF SURFACE OWNER (if box 12 = 'fee')						14. SURFACE OWNER PHONE (if box 12 = 'fee')							
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')						16. SURFACE OWNER E-MAIL (if box 12 = 'fee')							
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')			18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>			19. SLANT VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>							
20. LOCATION OF WELL		FOOTAGES		QTR-QTR		SECTION		TOWNSHIP		RANGE		MERIDIAN	
LOCATION AT SURFACE		2102 FSL 737 FEL		NESE		36		9.0 S		21.0 E		S	
Top of Uppermost Producing Zone		2402 FNL 493 FEL		SENE		36		9.0 S		21.0 E		S	
At Total Depth		2402 FNL 493 FEL		SENE		36		9.0 S		21.0 E		S	
21. COUNTY UINTAH				22. DISTANCE TO NEAREST LEASE LINE (Feet) 493				23. NUMBER OF ACRES IN DRILLING UNIT 639					
				25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 628				26. PROPOSED DEPTH MD: 10640 TVD: 10522					
27. ELEVATION - GROUND LEVEL 5036				28. BOND NUMBER 22013542				29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 43-8496					
Hole, Casing, and Cement Information													
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement		Sacks	Yield	Weight		
Surf	12.25	8.625	0 - 2580	28.0	J-55 LT&C	0.2	Type V		180	1.15	15.8		
							Class G		270	1.15	15.8		
Prod	7.875	4.5	0 - 10640	11.6	HCP-110 LT&C	13.0	Premium Lite High Strength		320	3.38	12.0		
							50/50 Poz		1550	1.31	14.3		
ATTACHMENTS													
VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES													
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER						<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN							
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)						<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER							
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)						<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP							
NAME Danielle Piernot				TITLE Regulatory Analyst				PHONE 720 929-6156					
SIGNATURE				DATE 12/19/2011				EMAIL danielle.piernot@anadarko.com					
API NUMBER ASSIGNED 43047522890000				APPROVAL  Permit Manager									

Kerr-McGee Oil & Gas Onshore. L.P.**MORGAN STATE 921-36H4CS**

Surface: 2102 FSL / 737 FEL NESE
 BHL: 2402 FNL / 493 FEL SENE

Section 36 T9S R21E

Unitah County, Utah
 Mineral Lease: ML-22265

ONSHORE ORDER NO. 1**DRILLING PROGRAM**

1. & 2.a **Estimated Tops of Important Geologic Markers:**
Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,331'	
Birds Nest	1,661'	Water
Mahogany	2,132'	Water
Wasatch	4,594'	Gas
Mesaverde	7,260'	Gas
Sego	9,421'	Gas
Castlegate	9,488'	Gas
MN5	9,922'	Gas
TVD =	10,522'	
TD =	10,640'	

- 2.C Kerr McGee Oil & Gas Onshore LP (Kerr McGee) will either drill to the the Blackhawk formation, which is part of the Mesaverde formation, or the Wasatch/Mesaverde formation. If Kerr McGee drills to the Blackhawk formation (part of the Mesaverde formation), please refer to MN5 as the bottom formation. The attached Blackhawk Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the deeper formation.

If Kerr McGee drills to the Wasatch/Mesaverde formation please refer to Segoe as the bottom formation. The attached Wasatch/Mesaverde Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the depths the Wasatch/Mesaverde formations are found.

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

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

4. Proposed Casing & Cementing Program:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

5. Drilling Fluids Program:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

6. Evaluation Program:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

7. Abnormal Conditions:**7.a Blackhawk (Part of Mesaverde Formation) Target Formation**

Maximum anticipated bottom hole pressure calculated at 10522' TVD, approximately equals
6,945 psi (0.66 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,678 psi (bottom hole pressure
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

7.b Wasach/Mesaverde Target Formation

Maximum anticipated bottom hole pressure calculated at 9421' TVD, approximately equals
6,029 psi (0.64 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 3,944 psi (bottom hole pressure
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

9. Variances:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program
Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements
associated with air drilling outlined in Onshore Order 2

- Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated
with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

Variance for FIT Requirements

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

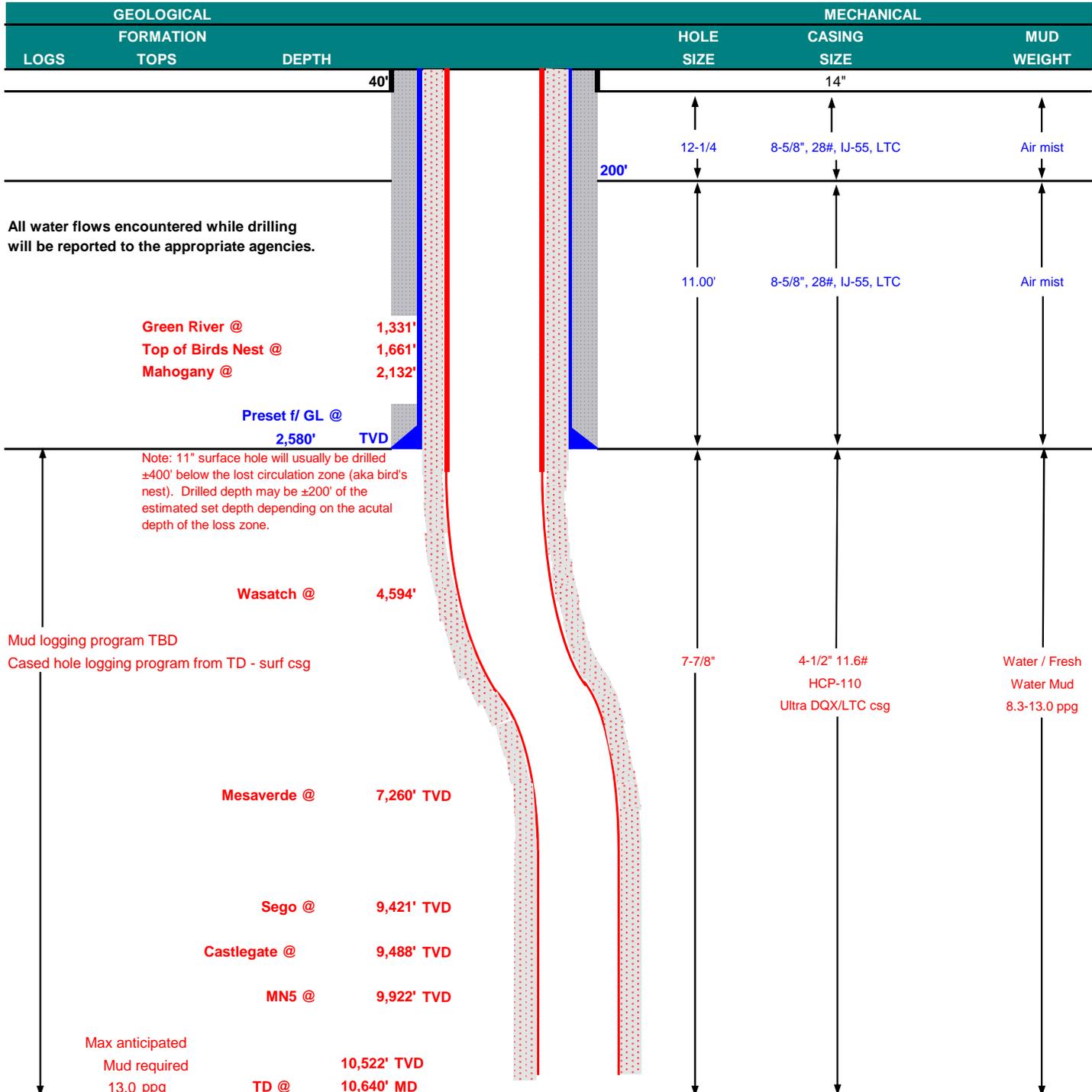
10. **Other Information:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program



KERR-McGEE OIL & GAS ONSHORE LP BLACKHAWK DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	December 19, 2011			
WELL NAME	MORGAN STATE 921-36H4CS		TD	10,522'	TVD	10,640' MD	
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION	5,035'
SURFACE LOCATION	NESE	2102 FSL	737 FEL	Sec 36	T 9S	R 21E	
	Latitude:	39.991128	Longitude:	-109.492605		NAD 27	
BTM HOLE LOCATION	SENE	2402 FNL	493 FEL	Sec 36	T 9S	R 21E	
	Latitude:	39.993177	Longitude:	-109.491732		NAD 27	
OBJECTIVE ZONE(S)	BLACKHAWK						
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.						





KERR-McGEE OIL & GAS ONSHORE LP
BLACKHAWK DRILLING PROGRAM

CASING PROGRAM

							DESIGN FACTORS			
	SIZE	INTERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	LTC	DQX
		TENSION								
CONDUCTOR	14"	0-40'					3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to 2,580	28.00	IJ-55	LTC	2.09	1.56	5.50	N/A
PRODUCTION	4-1/2"	0	to 5,000	11.60	HCP-110	DQX	1.19	1.22	279,000	367,174
	4-1/2"	5,000	to 10,640'	11.60	HCP-110	LTC	1.19	1.22	5.32	

Surface Casing:

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
Option 1	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
NOTE: If well will circulate water to surface, option 2 will be utilized							
SURFACE	LEAD	2,080'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	190	35%	11.00	3.82
Option 2	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,090'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	320	35%	12.00	3.38
	TAIL	6,550'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,550	35%	14.30	1.31

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

Nick Spence / Danny Showers / Chad Loesel

DATE: _____

DRILLING SUPERINTENDENT:

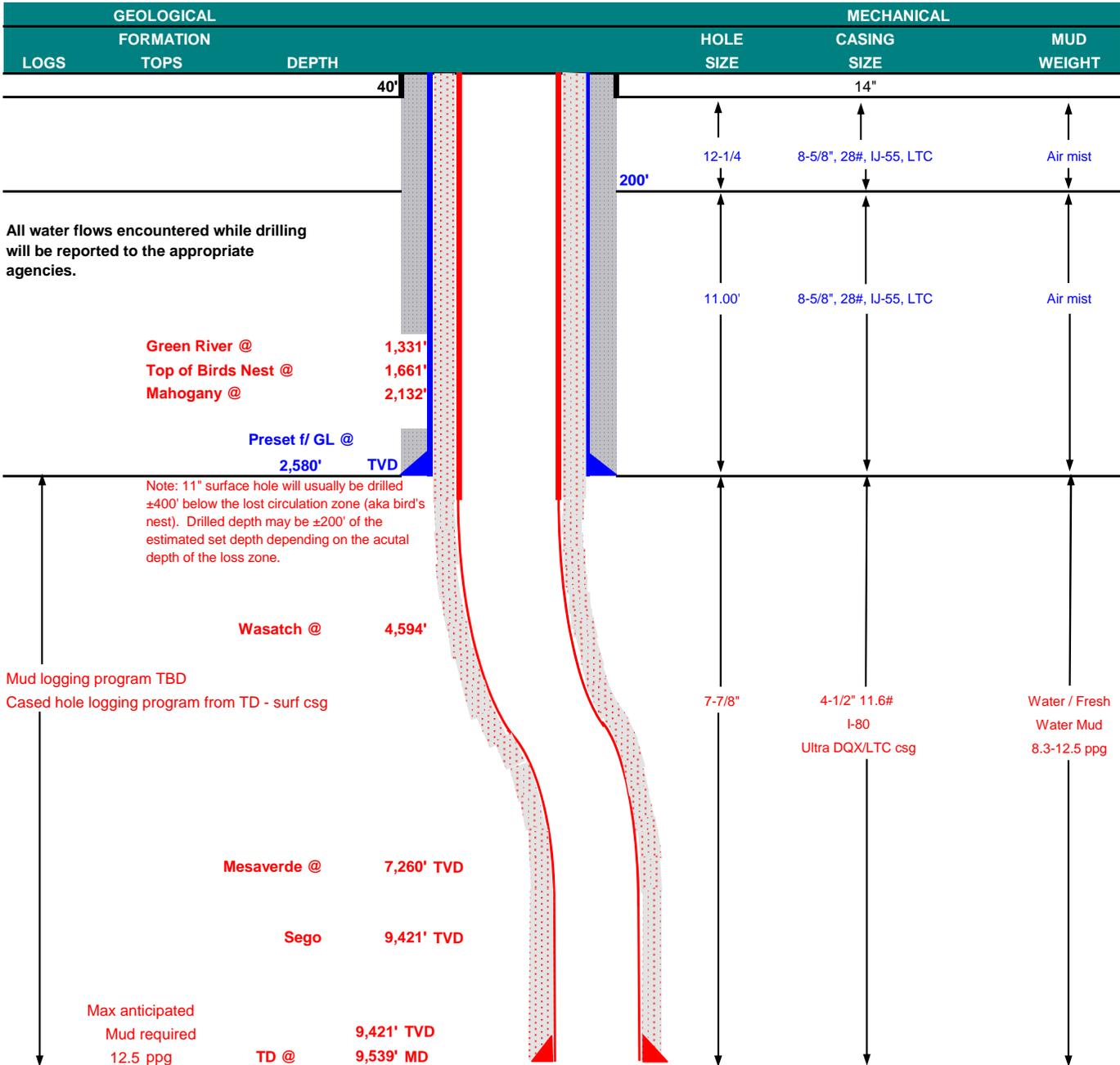
Kenny Gathings / Lovel Young

DATE: _____



KERR-McGEE OIL & GAS ONSHORE LP WASATCH/MESAVERDE DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	December 19, 2011	
WELL NAME	MORGAN STATE 921-36H4CS		TD	9,421'	TVD 9,539' MD
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah
SURFACE LOCATION	NESE	2102 FSL	737 FEL	Sec 36 T 9S R 21E	FINISHED ELEVATION 5,035'
	Latitude:	39.991128	Longitude:	-109.492605	NAD 27
BTM HOLE LOCATION	SENE	2402 FNL	493 FEL	Sec 36 T 9S R 21E	
	Latitude:	39.993177	Longitude:	-109.491732	NAD 27
OBJECTIVE ZONE(S)	Wasatch/Mesaverde				
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.				





KERR-McGEE OIL & GAS ONSHORE LP

WASATCH/MESAVERDE DRILLING PROGRAM

CASING PROGRAM

							DESIGN FACTORS			
							LTC	DQX		
	SIZE	INTERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION	
CONDUCTOR	14"	0-40'					3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to 2,580	28.00	IJ-55	LTC	2.09	1.56	5.50	N/A
PRODUCTION	4-1/2"	0	to 5,000	11.60	I-80	DQX	7,780	6,350		267,035
							7,780	6,350	223,000	2.98
	4-1/2"	5,000	to 9,539'	11.60	I-80	LTC	1.11	1.04	5.24	

Surface Casing:

(Burst Assumptions: TD = 12.5 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.64 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT		YIELD
SURFACE Option 1	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80		1.15
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80		1.15
NOTE: If well will circulate water to surface, option 2 will be utilized								
SURFACE Option 2	LEAD	2,080'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	190	35%	11.00		3.82
	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80		1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80		1.15
PRODUCTION	LEAD	4,089'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	320	35%	12.00		3.38
	TAIL	5,450'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,290	35%	14.30		1.31

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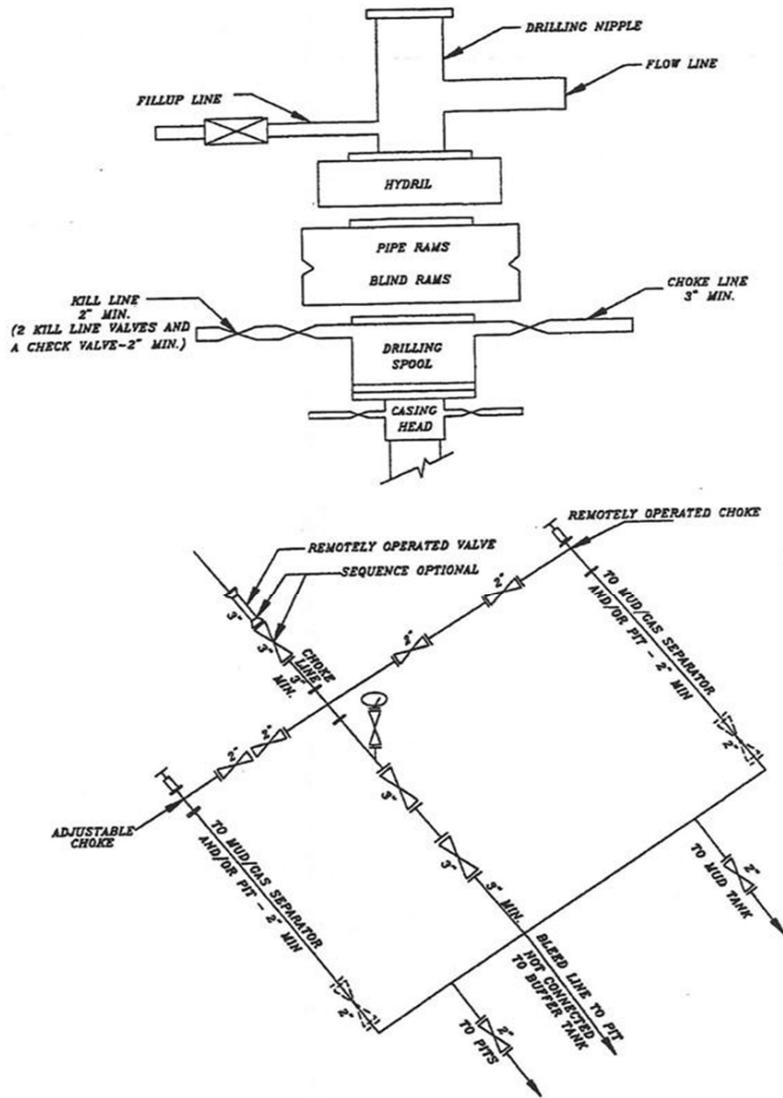
DRILLING ENGINEER: _____
Nick Spence / Danny Showers / Chad Loesel

DATE: _____

DRILLING SUPERINTENDENT: _____
Kenny Gathings / Lovel Young

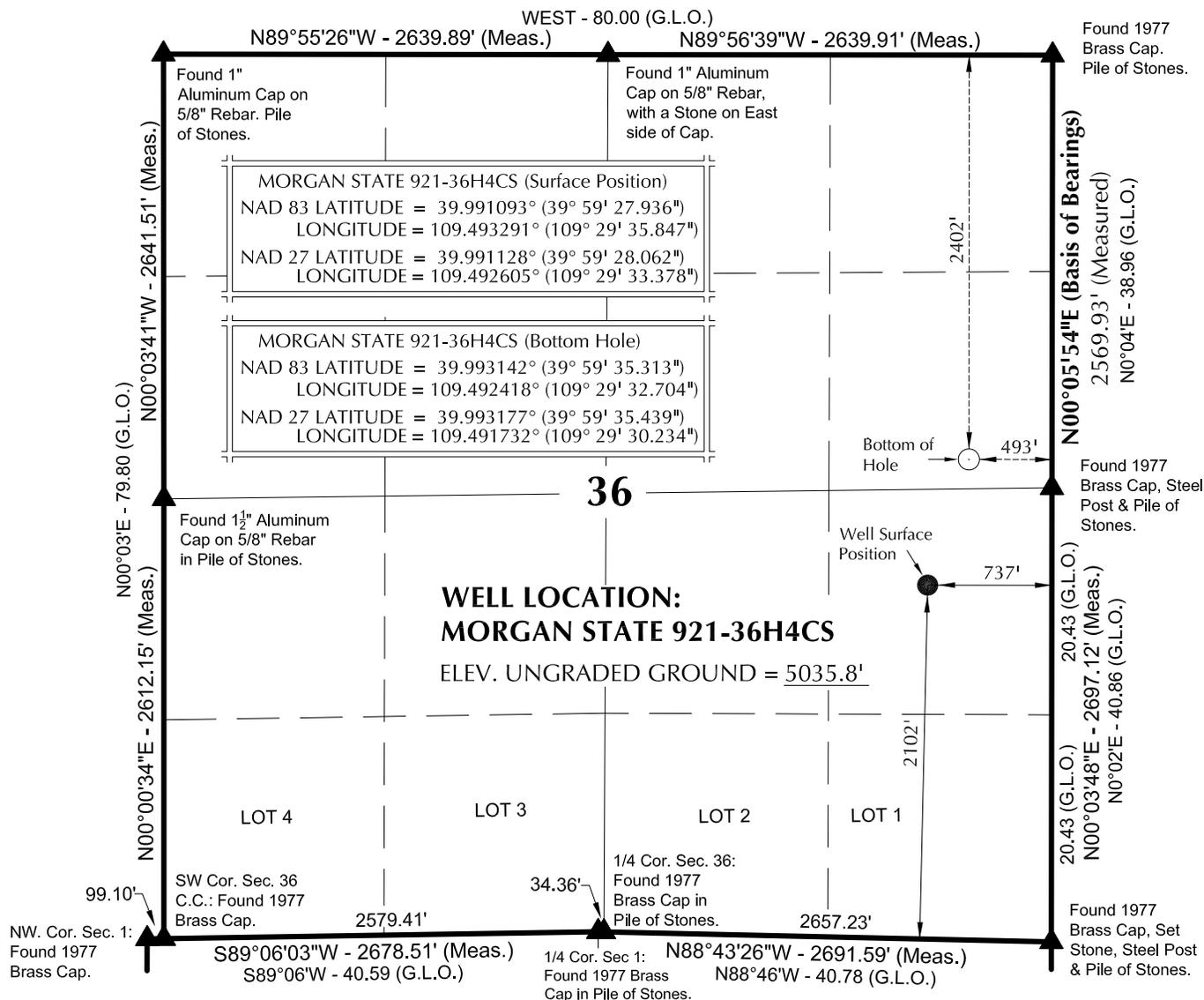
DATE: _____

EXHIBIT A
MORGAN STATE 921-36H4CS



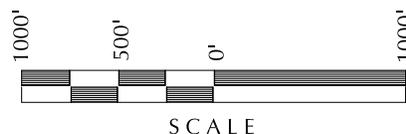
SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

T9S, R21E, S.L.B.&M.



NOTES:

- ▲ = Section Corners Located
- 1. Well footages are measured at right angles to the Section Lines.
- 2. G.L.O. distances are shown in feet or chains.
1 chain = 66 feet.
- 3. The Bottom of hole bears N18°10'07"E 785.71' from the Surface Position.
- 4. Bearings are based on Global Positioning Satellite observations.
- 5. Basis of elevation is Tri-Sta "Two Water" located in the NW 1/4 of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.



SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

11-11-11
 No. 6028691
 JOHN R. LAUGH
 PROFESSIONAL LAND SURVEYOR
 REGISTRATION No. 6028691
 STATE OF UTAH

Kerr-McGee Oil & Gas Onshore, LP
 1099 18th Street - Denver, Colorado 80202

WELL PAD: MORGAN STATE 921-361

**MORGAN STATE 921-36H4CS
 WELL PLAT
 2402' FNL, 493' FEL (Bottom Hole)
 SE 1/4 NE 1/4 OF SECTION 36, T9S, R21E,
 S.L.B.&M., UTAH COUNTY, UTAH.**



CONSULTING, LLC
 2155 North Main Street
 Sheridan WY 82801
 Phone 307-674-0609
 Fax 307-674-0182

TIMBERLINE

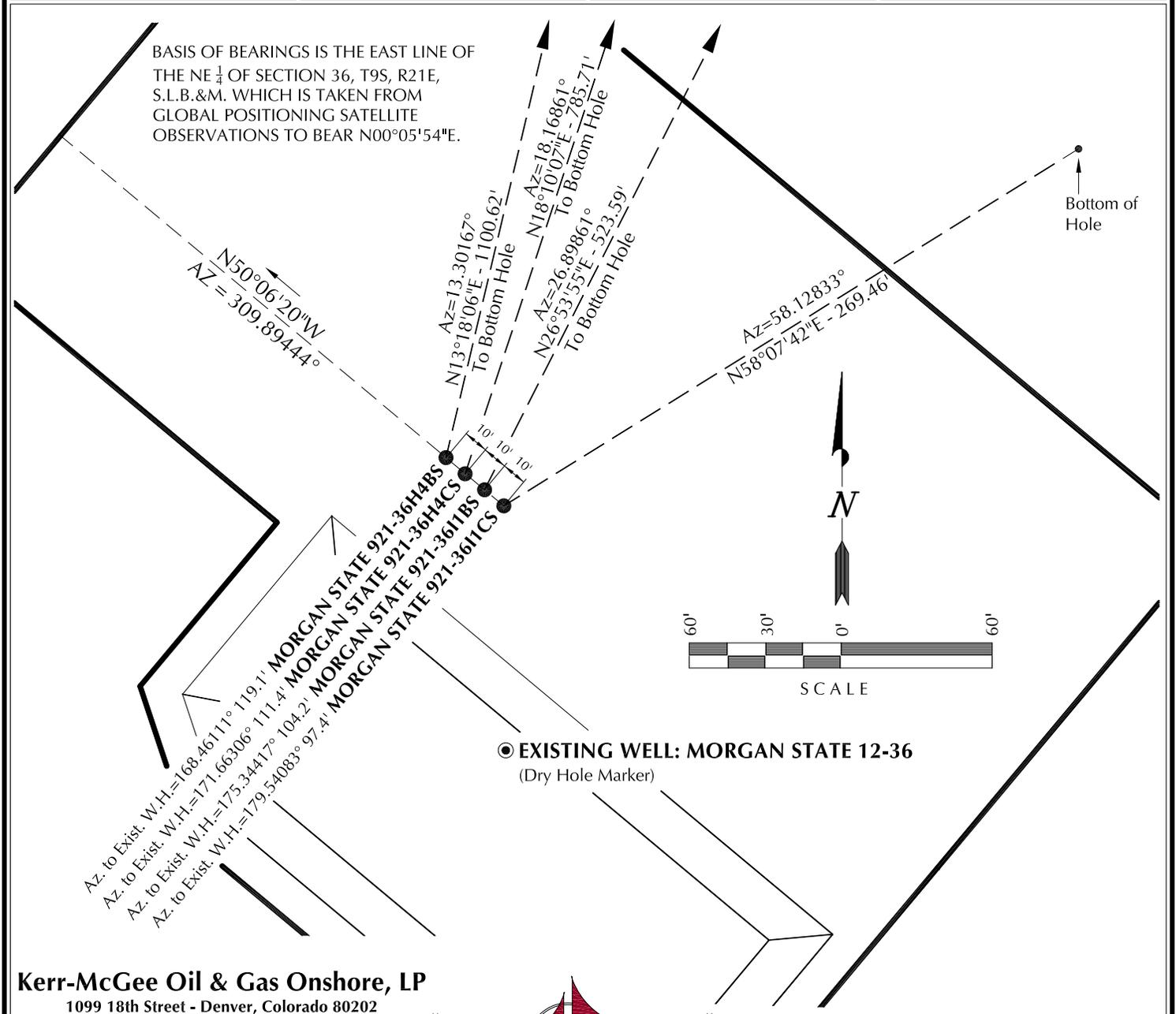
ENGINEERING & LAND SURVEYING, INC.
 209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365

DATE SURVEYED: 9-20-11	SURVEYED BY: J.W.	SHEET NO: 3
DATE DRAWN: 11-01-11	DRAWN BY: T.J.R.	
SCALE: 1" = 1000'		3 OF 16

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
MORGAN STATE 921-3611CS	39°59'27.810" 39.991058°	109°29'35.650" 109.493236°	39°59'27.936" 39.991093°	109°29'33.180" 109.492550°	2090' FSL 722' FEL	39°59'29.216" 39.991449°	109°29'32.711" 109.492420°	39°59'29.342" 39.991484°	109°29'30.242" 109.491734°	2237' FSL 493' FEL
MORGAN STATE 921-3611BS	39°59'27.873" 39.991076°	109°29'35.748" 109.493263°	39°59'27.999" 39.991111°	109°29'33.279" 109.492577°	2096' FSL 729' FEL	39°59'32.487" 39.992358°	109°29'32.708" 109.492419°	39°59'32.613" 39.992393°	109°29'30.238" 109.491733°	2568' FSL 493' FEL
MORGAN STATE 921-36H4CS	39°59'27.936" 39.991093°	109°29'35.847" 109.493291°	39°59'28.062" 39.991128°	109°29'33.378" 109.492605°	2102' FSL 737' FEL	39°59'35.313" 39.993142°	109°29'32.704" 109.492418°	39°59'35.439" 39.993177°	109°29'30.234" 109.491732°	2402' FSL 493' FEL
MORGAN STATE 921-36H4BS	39°59'28.000" 39.991111°	109°29'35.946" 109.493318°	39°59'28.126" 39.991146°	109°29'33.476" 109.492632°	2108' FSL 745' FEL	39°59'38.583" 39.994051°	109°29'32.698" 109.492416°	39°59'38.709" 39.994086°	109°29'30.228" 109.491730°	2071' FSL 493' FEL
MORGAN STATE 12-36	39°59'26.847" 39.990791°	109°29'35.639" 109.493233°	39°59'26.973" 39.990826°	109°29'33.170" 109.492547°	1992' FSL 721' FEL					

RELATIVE COORDINATES - From Surface Position to Bottom Hole											
WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
MORGAN STATE 921-3611CS	142.3'	228.8'	MORGAN STATE 921-3611BS	466.9'	236.9'	MORGAN STATE 921-36H4CS	746.5'	245.0'	MORGAN STATE 921-36H4BS	1071.1'	253.2'



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WELL PAD - MORGAN STATE 921-361

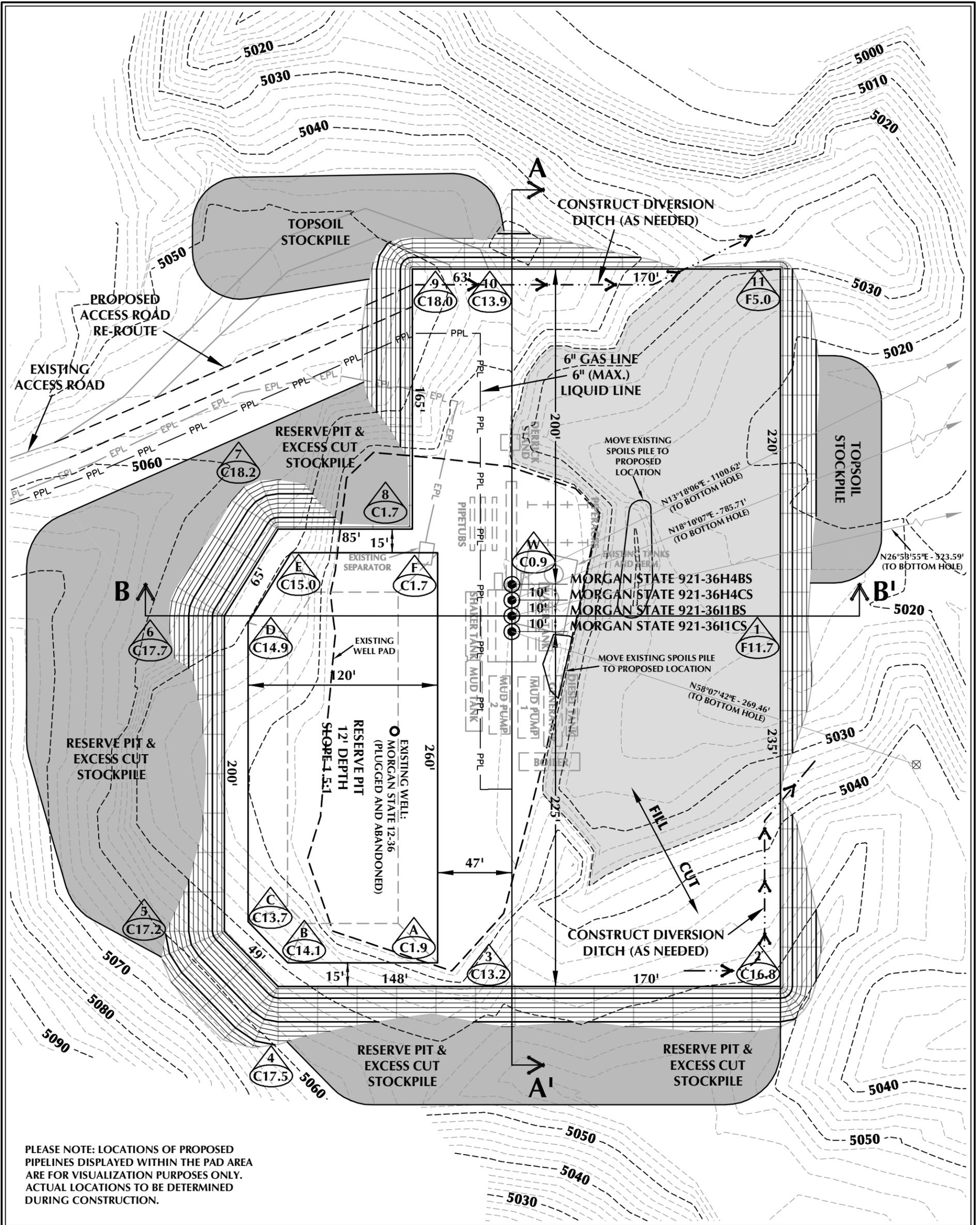
WELL PAD INTERFERENCE PLAT
 WELLS - MORGAN STATE 921-3611BS,
 MORGAN STATE 921-36H4CS &
 MORGAN STATE 921-36H4BS
 LOCATED IN SECTION 36, T9S, R21E,
 S.L.B.&M., Uintah County, Utah.

609

CONSULTING, LLC
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 Sheridan WY 82801
 Phone 307-674-0609
 Fax 307-674-0182

TIMBERLINE (435) 789-1365
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 209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 9-20-11	SURVEYED BY: J.W.	SHEET NO: 5
DATE DRAWN: 11-01-11	DRAWN BY: T.J.R.	
SCALE: 1" = 60'	Date Last Revised:	5 OF 16



PLEASE NOTE: LOCATIONS OF PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.

WELL PAD - MORGAN STATE 921-36I DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5035.9'
 FINISHED GRADE ELEVATION = 5035.0'
 CUT SLOPES = 1.5:1
 FILL SLOPES = 1.5:1
 TOTAL WELL PAD AREA = 4.00 ACRES
 TOTAL DISTURBANCE AREA = 5.51 ACRES
 SHRINKAGE FACTOR = 1.10
 SWELL FACTOR = 1.00

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WELL PAD - MORGAN STATE 921-36I

WELL PAD - LOCATION LAYOUT
 MORGAN STATE 921-36I1CS,
 MORGAN STATE 921-36I1BS,
 MORGAN STATE 921-36H4CS &
 MORGAN STATE 921-36H4BS
 LOCATED IN SECTION 36, T9S, R21E,
 S.L.B.&M., Uintah County, Utah



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WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 22,071 C.Y.
 TOTAL FILL FOR WELL PAD = 20,145 C.Y.
 TOPSOIL @ 6" DEPTH = 2,458 C.Y.
 EXCESS MATERIAL = 1,926 C.Y.

RESERVE PIT QUANTITIES

TOTAL CUT FOR RESERVE PIT
 +/- 10,730 C.Y.
 RESERVE PIT CAPACITY (2' OF FREEBOARD)
 +/- 41,190 BARRELS

WELL PAD LEGEND

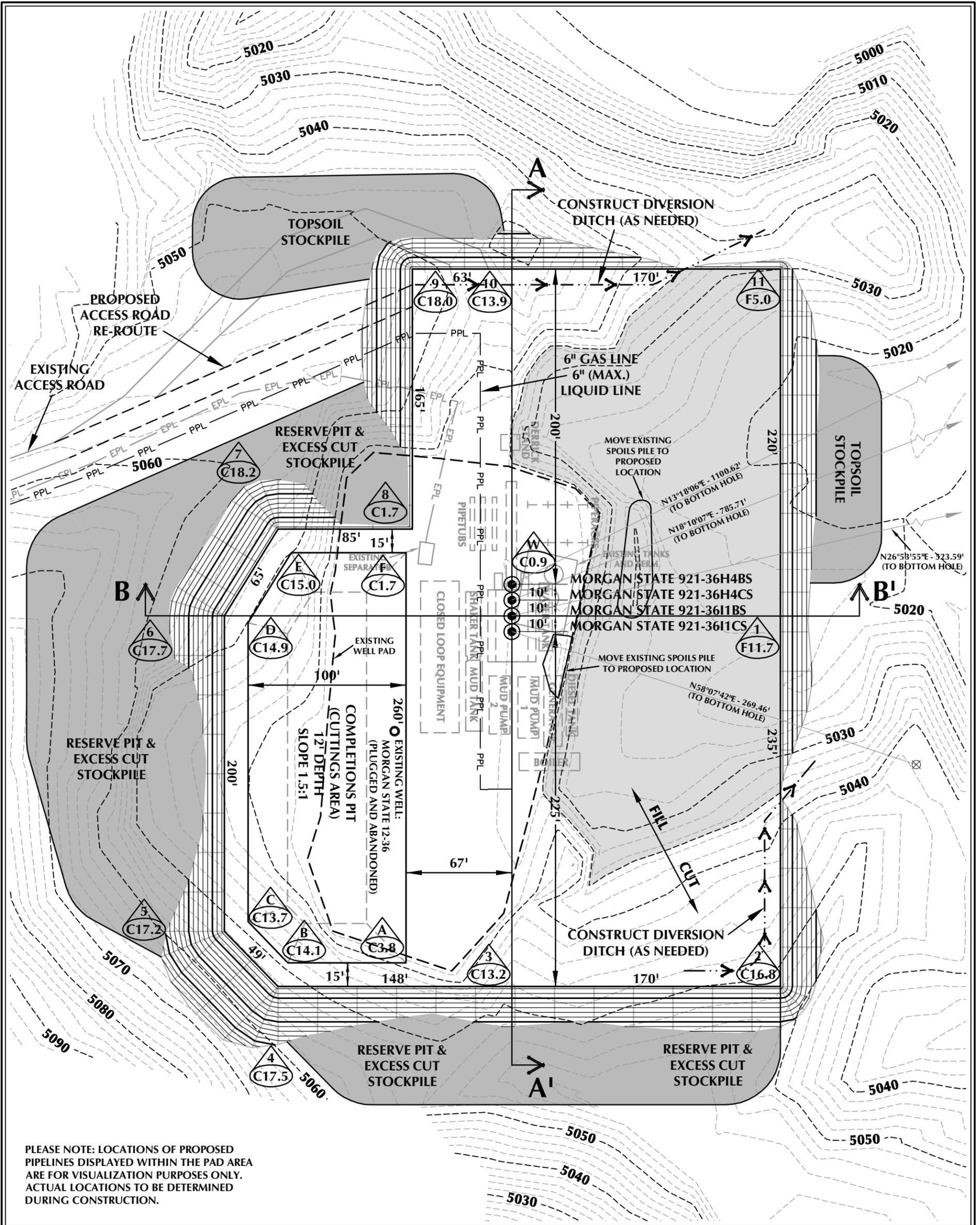
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PROPOSED PIPELINE
- EXISTING PIPELINE



HORIZONTAL 0 30' 60' 1" = 60'
 2' CONTOURS

SCALE: 1"=60' DATE: 11/11/11 SHEET NO: 6 OF 16
 REVISED:

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 209 NORTH 300 WEST - VERNAL, UTAH 84078



WELL PAD - MORGAN STATE 921-36I (CLOSED LOOP) DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5035.9'
 FINISHED GRADE ELEVATION = 5035.0'
 CUT SLOPES = 1.5:1
 FILL SLOPES = 1.5:1
 TOTAL WELL PAD AREA = 4.00 ACRES
 TOTAL DISTURBANCE AREA = 5.51 ACRES
 SHRINKAGE FACTOR = 1.10
 SWELL FACTOR = 1.00

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WELL PAD - MORGAN STATE 921-36I

WELL PAD - LOCATION LAYOUT
 MORGAN STATE 921-36I1CS,
 MORGAN STATE 921-36I1BS,
 MORGAN STATE 921-36H4CS &
 MORGAN STATE 921-36H4BS
 LOCATED IN SECTION 36, T9S, R21E,
 S.L.B.&M., Uintah County, Utah



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 2155 North Main Street
 Sheridan, WY 82801
 Phone 307-674-0609
 Fax 307-674-0182

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 22,071 C.Y.
 TOTAL FILL FOR WELL PAD = 20,145 C.Y.
 TOPSOIL @ 6" DEPTH = 2,458 C.Y.
 EXCESS MATERIAL = 1,926 C.Y.

COMPLETIONS PIT QUANTITIES

TOTAL CUT FOR COMPLETIONS PIT
 +/- 8,580 C.Y.
 COMPLETIONS PIT CAPACITY
 (2' OF FREEBOARD)
 +/- 32,680 BARRELS

WELL PAD LEGEND

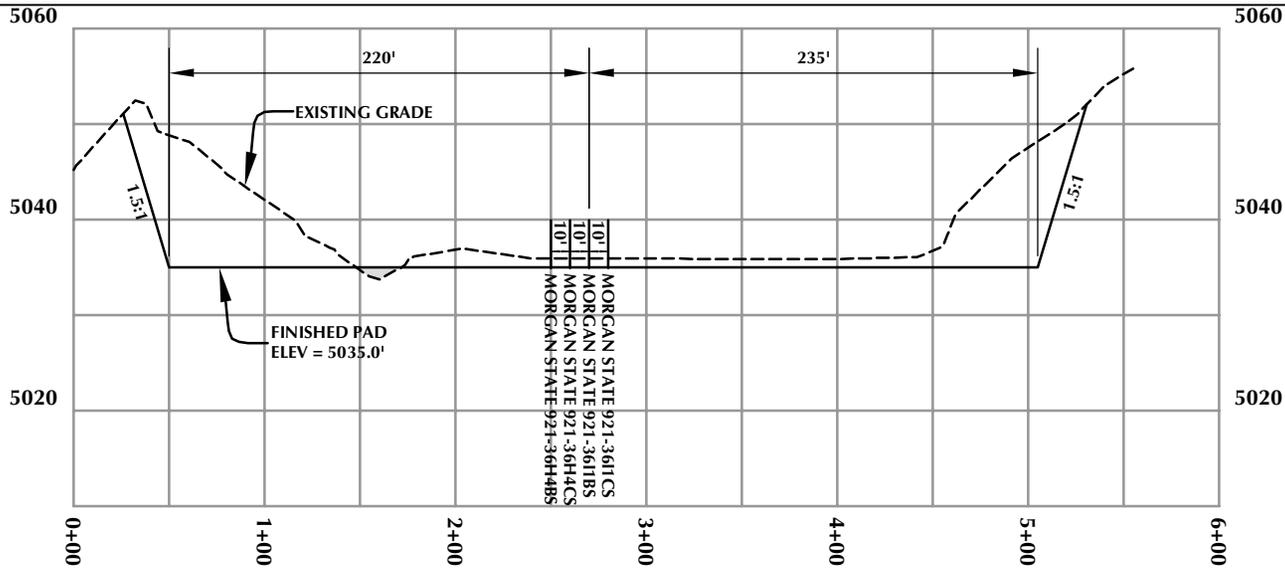
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PROPOSED PIPELINE
- EXISTING PIPELINE



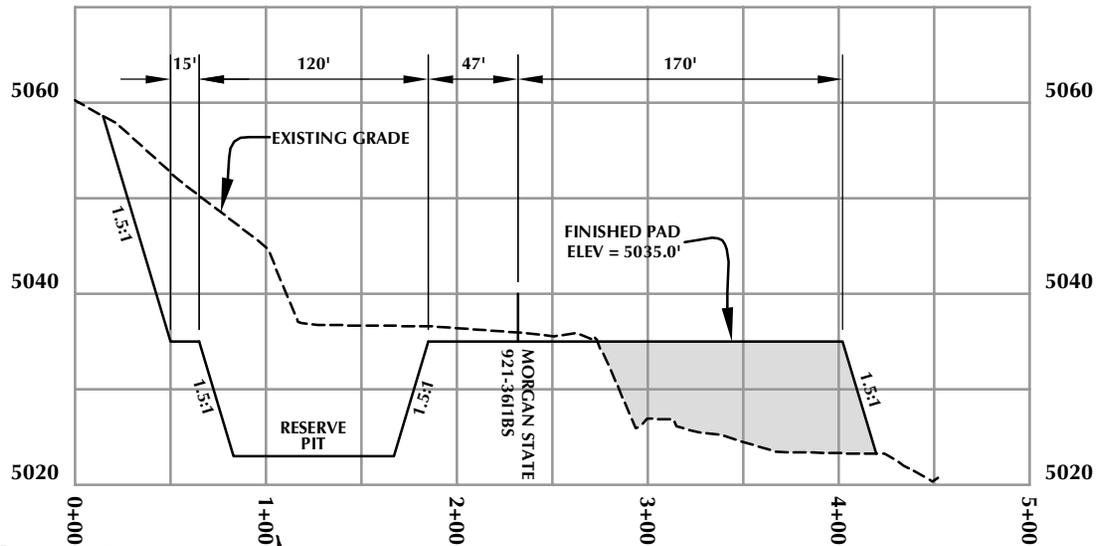
HORIZONTAL 0 30' 60' 1" = 60'
 2' CONTOURS

SCALE: 1"=60' DATE: 11/15/11 SHEET NO:
 REVISED: **6B** 6B OF 16

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CROSS SECTION A-A'



CROSS SECTION B-B'

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WELL PAD - MORGAN STATE 921-361

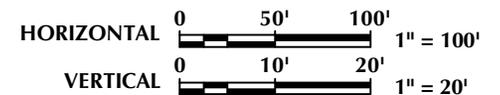
WELL PAD - CROSS SECTIONS
MORGAN STATE 921-361CS,
MORGAN STATE 921-361BS,
MORGAN STATE 921-36H4CS &
MORGAN STATE 921-36H4BS
LOCATED IN SECTION 36, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH



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(435) 789-1365



Scale: 1"=100'

Date: 11/11/11

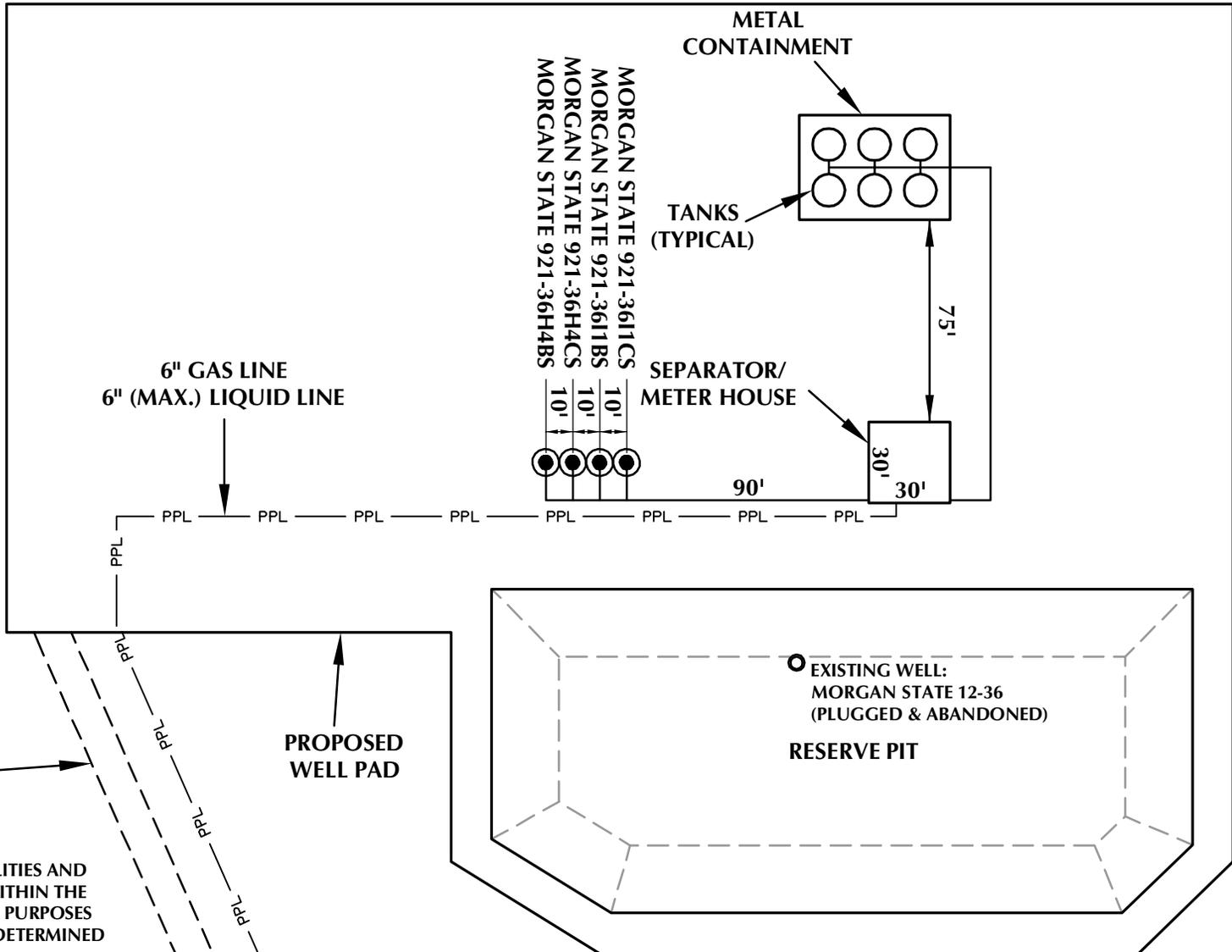
SHEET NO:

REVISED:

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7 OF 16

K:\MADRARD\2011\11\2011_65_NBU_FOCUS_921-36\DWGS\MORGAN STATE 921-36\MORGAN STATE 921-36.dwg, 11/11/2011 10:26:09 AM, gntly



PLEASE NOTE: LOCATIONS OF FACILITIES AND PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.

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WELL PAD - MORGAN STATE 921-361

WELL PAD - FACILITIES DIAGRAM
MORGAN STATE 921-36H1CS,
MORGAN STATE 921-36H1BS,
MORGAN STATE 921-36H4CS &
MORGAN STATE 921-36H4BS
LOCATED IN SECTION 36, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH

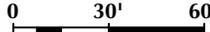


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WELL PAD LEGEND

-  EXISTING WELL LOCATION
-  PROPOSED WELL LOCATION
-  PPL — PROPOSED PIPELINE
-  EPL — EXISTING PIPELINE



HORIZONTAL  1" = 60'

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Scale: 1"=60'	Date: 11/11/11	SHEET NO: 8
REVISED:		8 OF 16



PHOTO VIEW: FROM PIT CORNER F TO LOCATION STAKE

CAMERA ANGLE: NORTHEASTERLY



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: NORTHEASTERLY

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WELL PAD - MORGAN STATE 921-36I

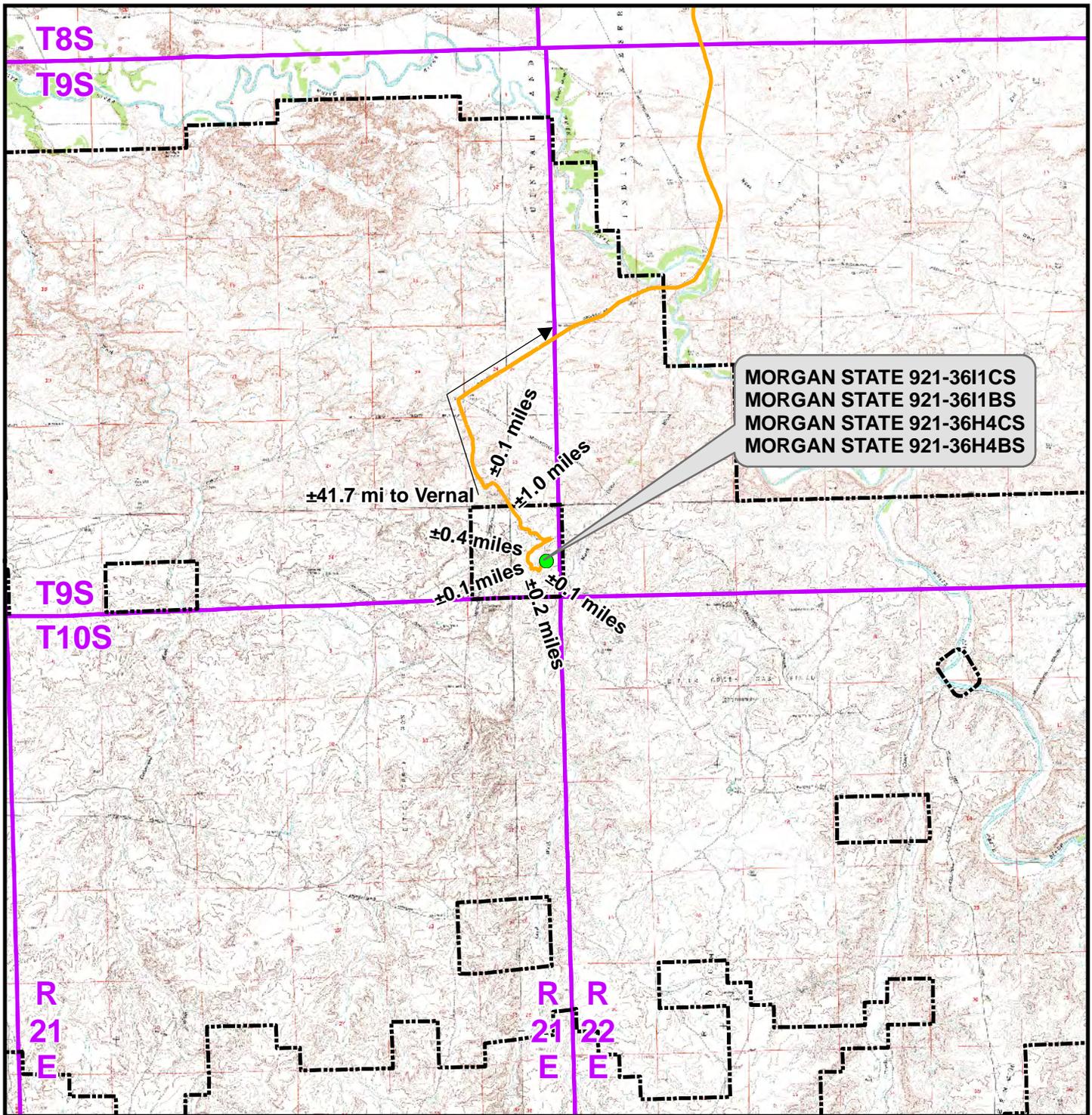
LOCATION PHOTOS
 MORGAN STATE 921-36I1CS,
 MORGAN STATE 921-36I1BS,
 MORGAN STATE 921-36H4CS &
 MORGAN STATE 921-36H4BS
 LOCATED IN SECTION 36, T9S, R21E,
 S.L.B.&M., Uintah County, Utah.



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 209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 9-20-11	PHOTOS TAKEN BY: J.W.	SHEET NO: 9 9 OF 16
DATE DRAWN: 11-01-11	DRAWN BY: T.J.R.	
Date Last Revised:		



MORGAN STATE 921-36I1CS
 MORGAN STATE 921-36I1BS
 MORGAN STATE 921-36H4CS
 MORGAN STATE 921-36H4BS

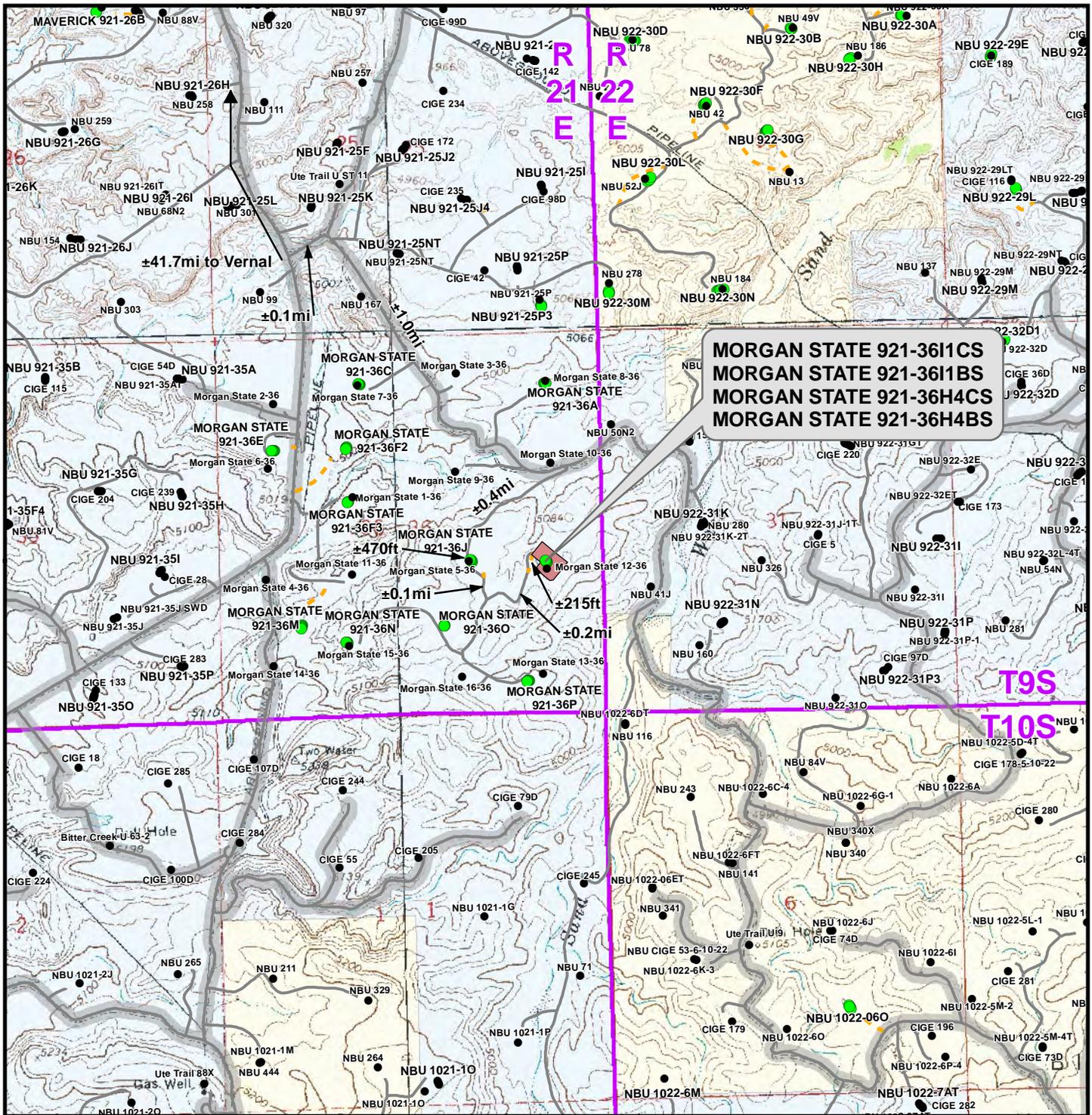
±41.7 mi to Vernal
 ±0.1 miles
 ±0.4 miles
 ±1.0 miles
 ±0.1 miles
 ±0.2 miles
 ±0.1 miles

Legend

- Proposed Well Location
- Natural Buttes Unit Boundary
- Access Route - Proposed

Distance From Well Pad - MORGAN STATE 921-36I To Unit Boundary: ±722ft

<p>WELL PAD - MORGAN STATE 921-36I</p> <p style="text-align: center;">TOPO A MORGAN STATE 921-36I1CS, MORGAN STATE 921-36I1BS, MORGAN STATE 921-36H4CS & MORGAN STATE 921-36H4BS LOCATED IN SECTION 36, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH</p>	<p>Kerr-McGee Oil & Gas Onshore L.P.</p> <p>1099 18th Street Denver, Colorado 80202</p>	<div style="text-align: center;">  <p>609 CONSULTING, LLC 2155 North Main Street Sheridan, Wyoming 82801 Phone 307-674-0609 Fax 307-674-0182</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 50%;">SCALE: 1:100,000</td> <td style="width: 50%;">NAD83 USP Central</td> </tr> <tr> <td>DRAWN: TL</td> <td>DATE: 11 Nov 2011</td> </tr> <tr> <td>REVISED:</td> <td>DATE:</td> </tr> </table> <div style="text-align: right; margin-top: 10px;"> <p>SHEET NO: 10 10 OF 16</p> </div>	SCALE: 1:100,000	NAD83 USP Central	DRAWN: TL	DATE: 11 Nov 2011	REVISED:	DATE:
SCALE: 1:100,000	NAD83 USP Central							
DRAWN: TL	DATE: 11 Nov 2011							
REVISED:	DATE:							



**MORGAN STATE 921-3611CS
MORGAN STATE 921-3611BS
MORGAN STATE 921-36H4CS
MORGAN STATE 921-36H4BS**

Legend

- Well - Proposed
- Well - Existing
- Well Pad
- Road - Proposed
- Road - Existing
- County Road
- Bureau of Land Management
- State
- Indian Reservation
- Private

Total Proposed Road Re-Route Length: ±215ft

WELL PAD - MORGAN STATE 921-361

TOPO B
MORGAN STATE 921-3611CS,
MORGAN STATE 921-3611BS,
MORGAN STATE 921-36H4CS &
MORGAN STATE 921-36H4BS
LOCATED IN SECTION 36, T9S, R21E,
S.L.B.&M., Uintah County, Utah

**Kerr-McGee Oil &
Gas Onshore L.P.**

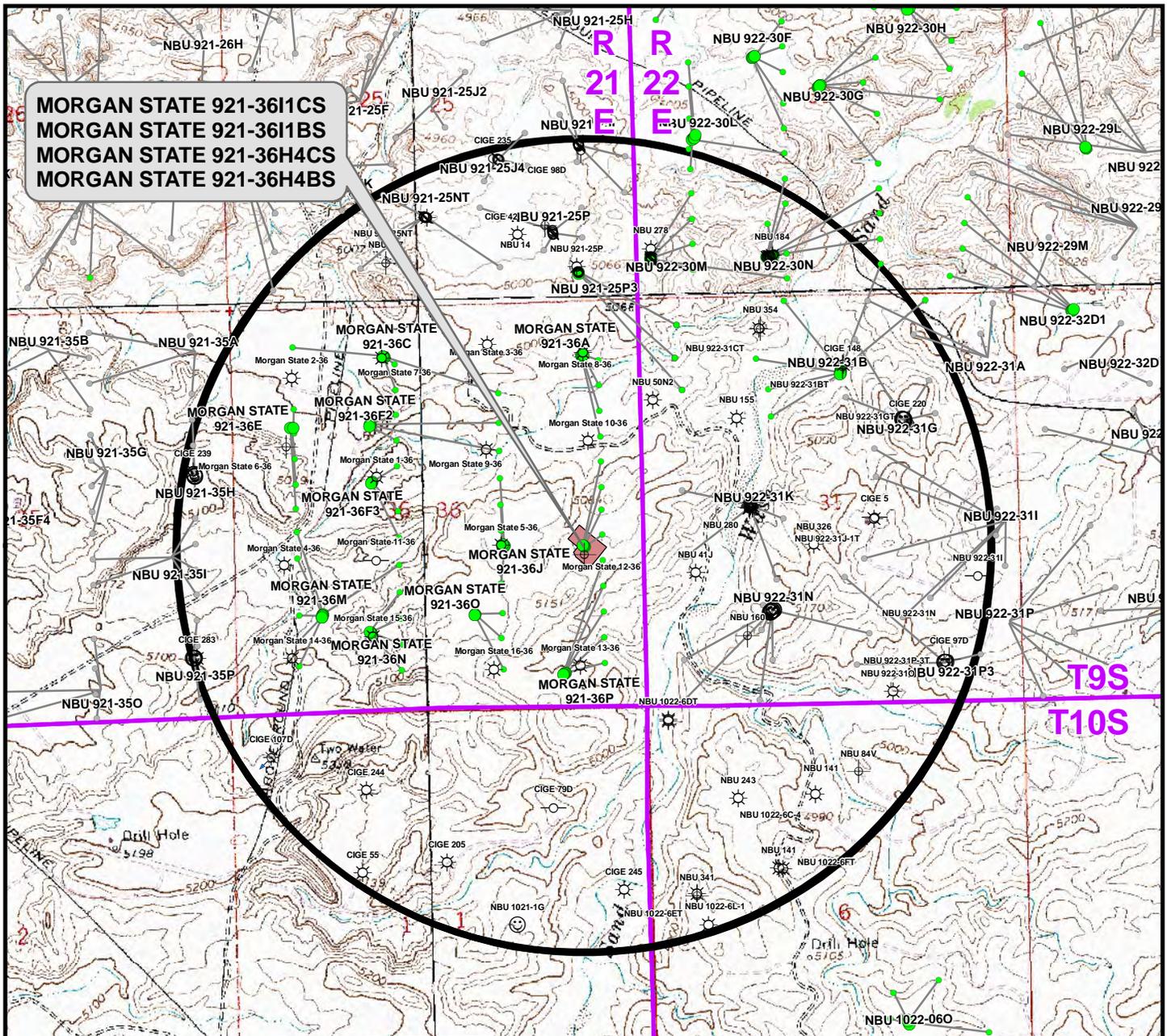
1099 18th Street
Denver, Colorado 80202



CONSULTING, LLC
2155 North Main Street
Sheridan, Wyoming 82801
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Fax 307-674-0182



SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO:	11
DRAWN: TL	DATE: 11 Nov 2011	11 OF 16	
REVISED:	DATE:		



**MORGAN STATE 921-36I1CS
MORGAN STATE 921-36I1BS
MORGAN STATE 921-36H4CS
MORGAN STATE 921-36H4BS**

Well locations derived from Utah Division of Oil, Gas and Mining (UDOGM) (oilgas.ogm.utah.gov). The estimated distances from proposed bore locations to the nearest existing bore locations are based on UDOGM data.

Proposed Well	Nearest Well Bore	Footage
MORGAN STATE 921-36I1CS	Morgan State 12-36	331ft
MORGAN STATE 921-36I1BS	Morgan State 12-36	615ft
MORGAN STATE 921-36H4CS	Morgan State 10-36	628ft
MORGAN STATE 921-36H4BS	Morgan State 10-36	319ft

Legend

- Well - Proposed
- Well Path
- ☀ Producing
- ⊕ Deferred
- Bottom Hole - Proposed
- Well Pad
- ☺ Spudded
- ⊗ Cancelled
- ☀ Active Injector
- ⊕ Plugged & Abandoned
- Bottom Hole - Existing
- ◻ Well - 1 Mile Radius
- APD Approved
- ⊖ Temporarily Abandoned
- ⊗ Location Abandoned
- ⊖ Shut-In
- ⊗ Preliminary Location

WELL PAD - MORGAN STATE 921-36I

TOPO C
MORGAN STATE 921-36I1CS,
MORGAN STATE 921-36I1BS,
MORGAN STATE 921-36H4CS &
MORGAN STATE 921-36H4BS
LOCATED IN SECTION 36, T9S, R21E,
S.L.B.&M., Uintah County, Utah

**Kerr-McGee Oil &
Gas Onshore L.P.**

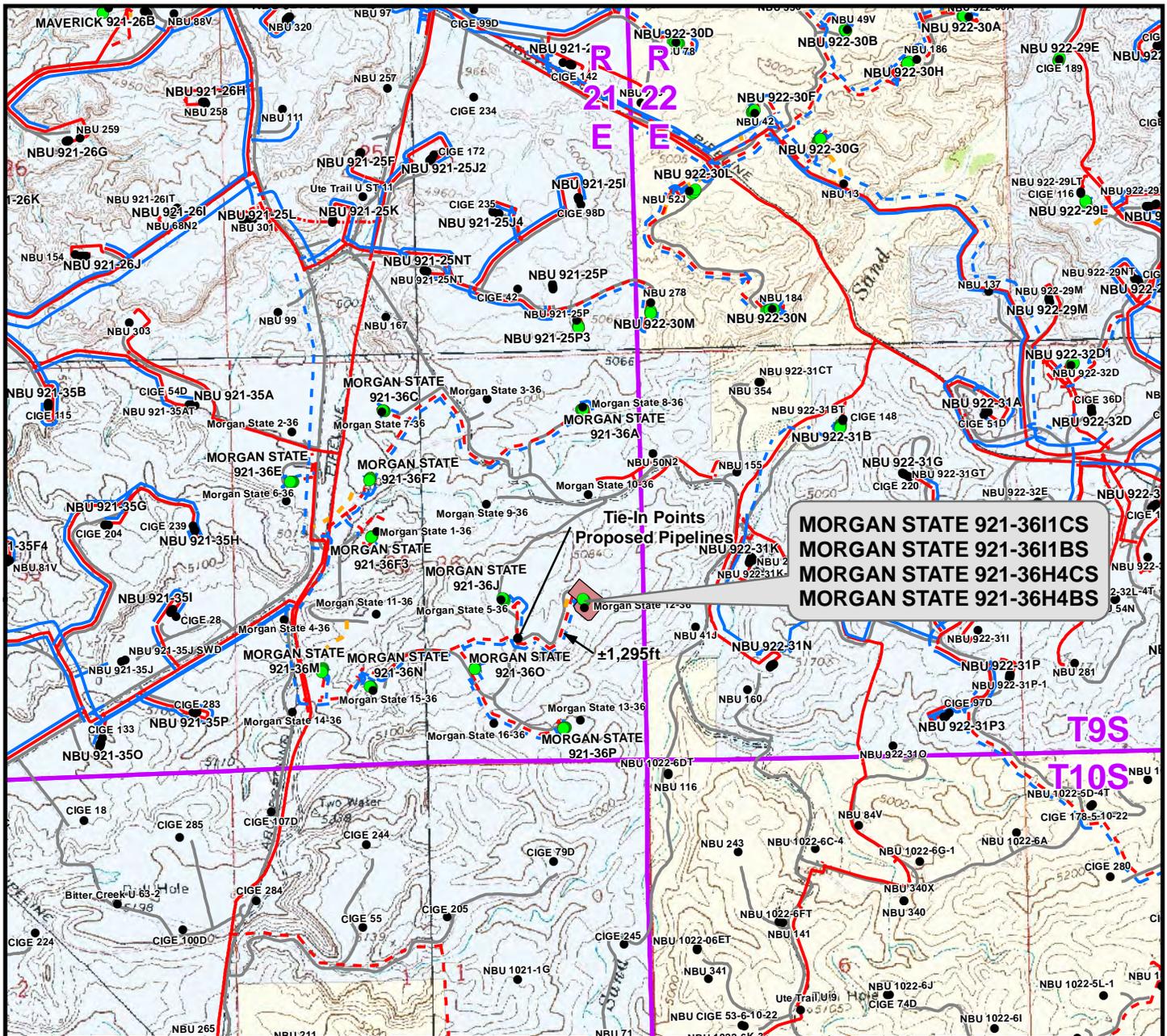
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SCALE: 1" = 2,000ft	NAD83 USP Central	12
DRAWN: TL	DATE: 11 Nov 2011	
REVISED:	DATE:	

SHEET NO:
12 OF 16



MORGAN STATE 921-361CS
MORGAN STATE 921-361BS
MORGAN STATE 921-36H4CS
MORGAN STATE 921-36H4BS

Proposed Liquid Pipeline	Length	Proposed Gas Pipeline	Length
Buried 6" (Max.) (Meter House to Edge of Pad)	±355ft	Buried 6" (Meter House to Edge of Pad)	±355ft
Buried 6" (Max.) (Edge of Pad to 36J Intersection)	±1,295ft	Buried 6" (Edge of Pad to 36J Intersection)	±1,295ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±1,650ft	TOTAL PROPOSED BURIED GAS PIPELINE =	±1,650ft

Legend

● Well - Proposed	- - - Gas Pipeline - Proposed	- - - Liquid Pipeline - Proposed	- - - Road - Proposed	■ Bureau of Land Management	■ State
● Well - Existing	- - - Gas Pipeline - To Be Upgraded	- - - Liquid Pipeline - Existing	- - - Road - Existing	■ Indian Reservation	■ Private
■ Well Pad	- - - Gas Pipeline - Existing				

WELL PAD - MORGAN STATE 921-361

TOPO D
MORGAN STATE 921-361CS,
MORGAN STATE 921-361BS,
MORGAN STATE 921-36H4CS &
MORGAN STATE 921-36H4BS
 LOCATED IN SECTION 36, T9S, R21E,
 S.L.B.&M., UINTAH COUNTY, UTAH

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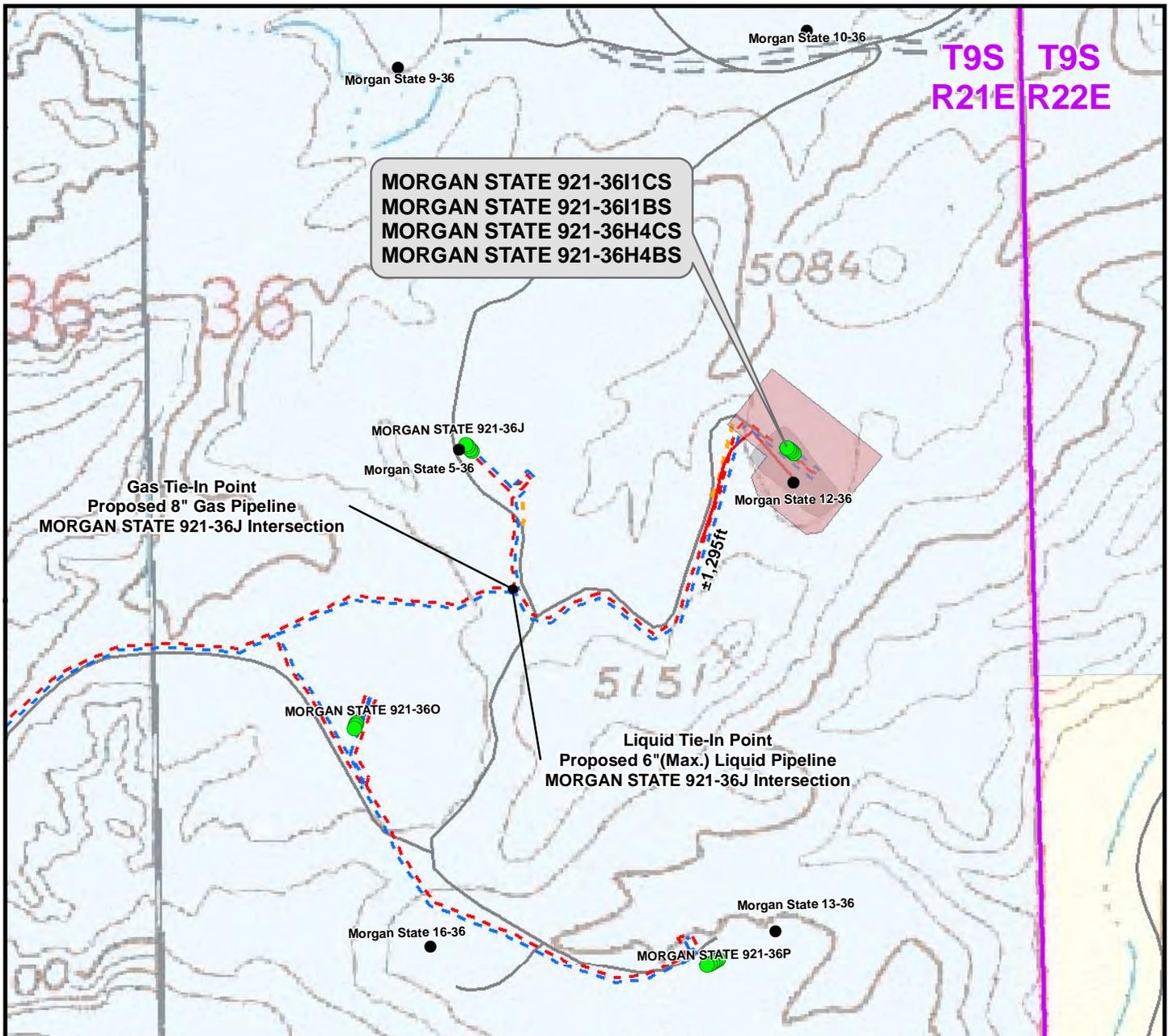


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SCALE: 1" = 2,000ft	NAD83 USP Central	13
DRAWN: TL	DATE: 11 Nov 2011	
REVISED:	DATE:	

SHEET NO:
13 OF 16



Proposed Liquid Pipeline	Length	Proposed Gas Pipeline	Length
----- Buried 6" (Max.) (Meter House to Edge of Pad)	±355ft	----- Buried 6" (Meter House to Edge of Pad)	±355ft
----- Buried 6" (Max.) (Edge of Pad to 36J Intersection)	±1,295ft	----- Buried 6" (Edge of Pad to 36J Intersection)	±1,295ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±1,650ft	TOTAL PROPOSED BURIED GAS PIPELINE =	±1,650ft

Legend

● Well - Proposed	 Well Pad - Proposed	--- Gas Pipeline - Proposed	--- Liquid Pipeline - Proposed	 Road - Existing	 Bureau of Land Management
● Well - Existing	 Well Pad - Existing	--- Gas Pipeline - To Be Upgraded	--- Liquid Pipeline - Existing	 Road - Proposed	 Indian Reservation
		--- Gas Pipeline - Existing			 State
					 Private

WELL PAD - MORGAN STATE 921-36I

TOPO D2 (PAD & PIPELINE DETAIL)
 MORGAN STATE 921-361CS,
 MORGAN STATE 921-361BS,
 MORGAN STATE 921-36H4CS &
 MORGAN STATE 921-36H4BS
 LOCATED IN SECTION 36, T9S, R21E,
 S.L.B.&M., Uintah County, Utah

**Kerr-McGee Oil &
 Gas Onshore L.P.**

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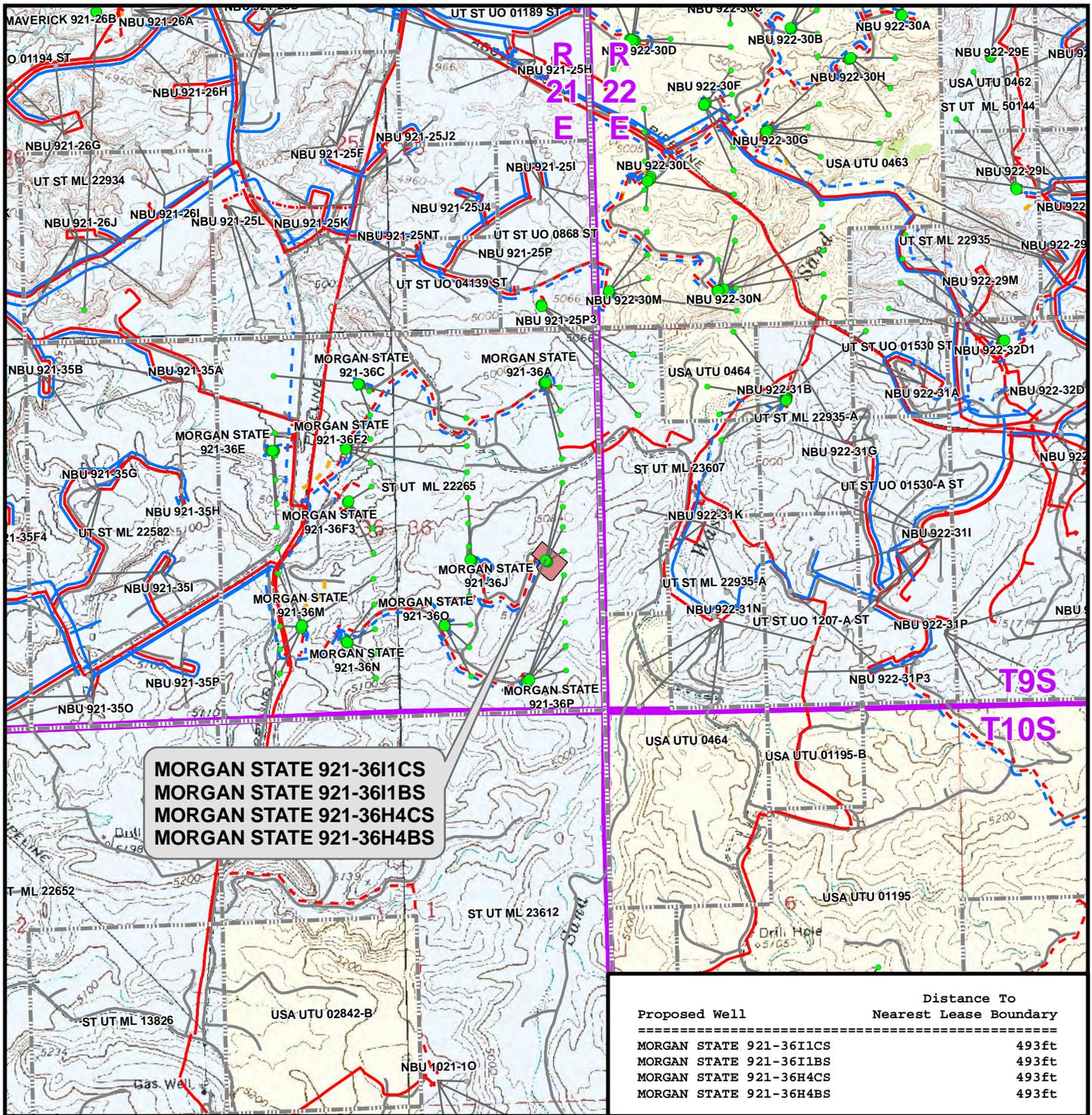


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SCALE: 1" = 500ft	NAD83 USP Central	14
DRAWN: TL	DATE: 11 Nov 2011	
REVISED:	DATE:	

SHEET NO:
14 OF 16



**MORGAN STATE 921-36I1CS
MORGAN STATE 921-36I1BS
MORGAN STATE 921-36H4CS
MORGAN STATE 921-36H4BS**

Proposed Well	Distance To Nearest Lease Boundary
MORGAN STATE 921-36I1CS	493ft
MORGAN STATE 921-36I1BS	493ft
MORGAN STATE 921-36H4CS	493ft
MORGAN STATE 921-36H4BS	493ft

Legend

- Well - Proposed
- Well Pad
- - - Gas Pipeline - Proposed
- - - Liquid Pipeline - Proposed
- - - Road - Proposed
- Bureau of Land Management
- Bottom Hole - Proposed
- ▭ Lease Boundary
- - - Gas Pipeline - To Be Upgraded
- - - Liquid Pipeline - Existing
- - - Road - Existing
- Indian Reservation
- Bottom Hole - Existing
- - - Gas Pipeline - Existing
- State
- Private
- Well Path

WELL PAD - MORGAN STATE 921-36I

TOPO E
MORGAN STATE 921-36I1CS,
MORGAN STATE 921-36I1BS,
MORGAN STATE 921-36H4CS &
MORGAN STATE 921-36H4BS
LOCATED IN SECTION 36, T9S, R21E,
S.L.B.&M., Uintah County, Utah

**Kerr-McGee Oil &
Gas Onshore L.P.**

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Denver, Colorado 80202

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Fax 307-674-0182

SCALE: 1" = 2,000ft

DRAWN: TL

REVISED:

NAD83 USP Central

DATE: 11 Nov 2011

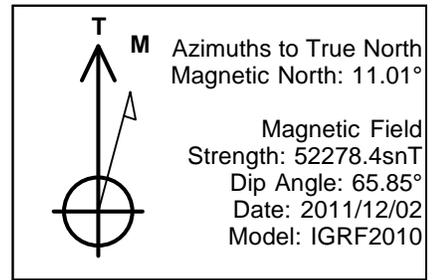
DATE:

SHEET NO:
15
15 OF 16

Kerr-McGee Oil & Gas Onshore, LP
WELL PAD – MORGAN STATE 921-36I
WELLS – MORGAN STATE 921-36I1CS, MORGAN STATE 921-36I1BS,
MORGAN STATE 921-36H4CS & MORGAN STATE 921-36H4BS
Section 36, T9S, R21E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 18.2 miles to a Class D County Road to the northeast. Exit left and proceed in a northeasterly direction along the Class D County Road approximately 0.1 miles to a second Class D County Road to the southeast. Exit right and proceed in a southeasterly direction along the second Class D County Road approximately 1.0 miles to a service road to the southwest. Exit right and proceed in a southwesterly direction approximately 0.4 miles to the proposed MORGAN STATE 921-36J well pad. Proceed in a southeasterly direction approximately 470 feet through the proposed MORGAN STATE 921-36J well pad to a second service road to the south. Proceed in a southerly direction along the second service road approximately 0.1 miles to a third service road to the northeast. Exit left and proceed in a northeasterly direction along the third service road approximately 0.2 miles to the proposed access road to the northeast. Follow road flags in a northeasterly direction approximately 215 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 43.6 miles in a southerly direction.



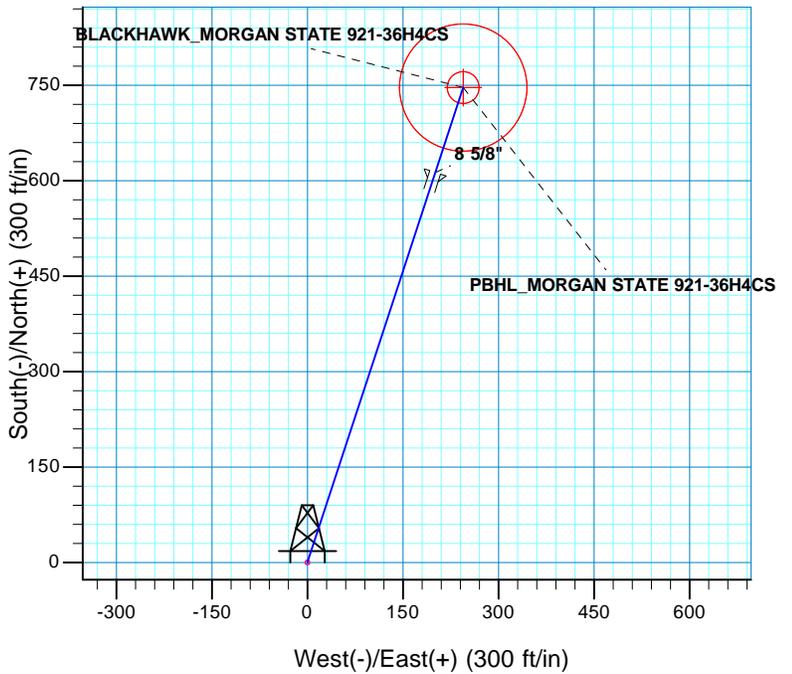
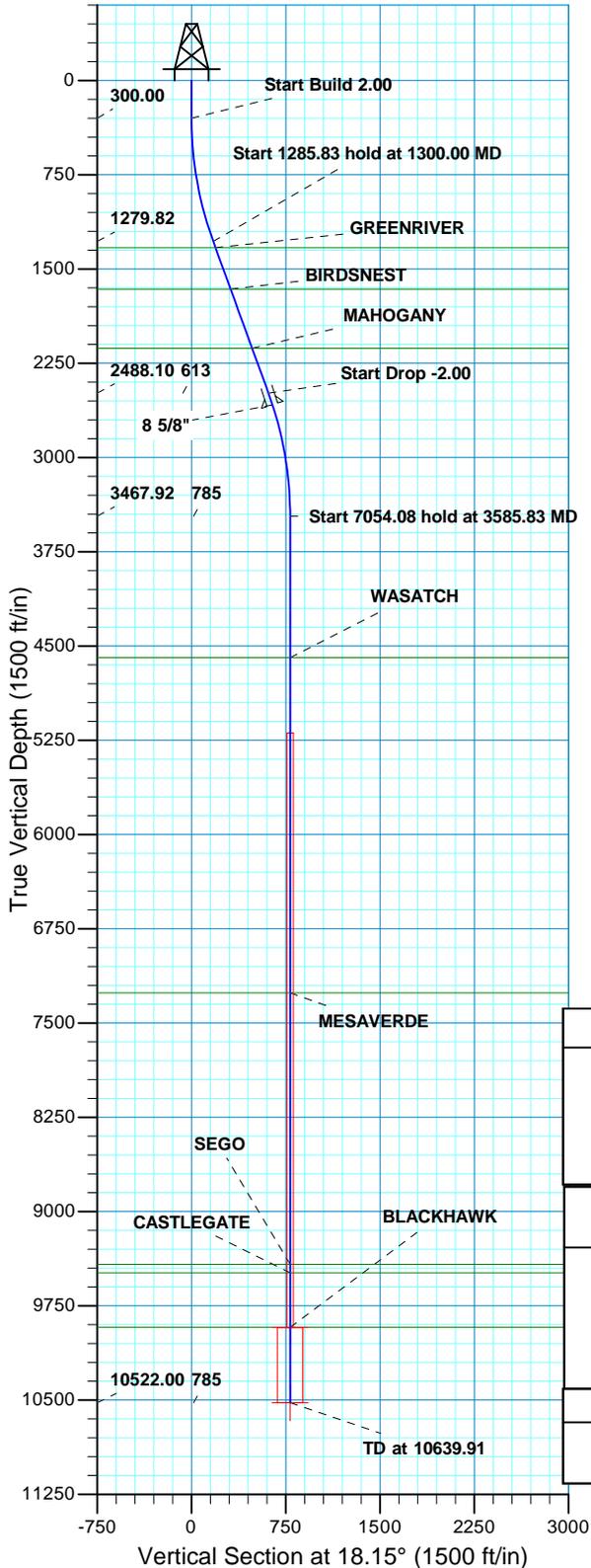
WELL DETAILS: MORGAN STATE 921-36H4CS

GL 5035 & KB 4GL 5035 & KB 4 @ 5039.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14526383.69	2062638.36	39° 59' 28.061 N	109° 29' 33.378 W

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BLACKHAWK	9922.00	746.26	244.57	14527133.98	2062870.28	39° 59' 35.437 N	109° 29' 30.235 W	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10522.00	746.26	244.57	14527133.98	2062870.28	39° 59' 35.437 N	109° 29' 30.235 W	Circle (Radius: 100.00)
- plan hits target center								



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1300.00	20.00	18.15	1279.82	164.18	53.80	2.00	18.15	172.77	
2585.83	20.00	18.15	2488.10	582.09	190.76	0.00	0.00	612.55	
3585.83	0.00	0.00	3467.92	746.26	244.57	2.00	180.00	785.32	
10639.91	0.00	0.00	10522.00	746.26	244.57	0.00	0.00	785.32	PBHL_MORGAN STATE 921-36H4CS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N		FORMATION TOP DETAILS		
Geodetic System: Universal Transverse Mercator (US Survey Feet)	TVDPath	MDPath	Formation	
Datum: NAD 1927 (NADCON CONUS)	1661.00	1705.65	1331.00	GREENRIVER
Ellipsoid: Clarke 1866	2132.00	2206.88	1661.00	BIRDSNEST
Zone: Zone 12N (114 W to 108 W)	4594.00	4711.91	2132.00	MAHOGANY
Location: SECTION 36 T9S R21E	7260.00	7377.91	4594.00	WASATCH
System Datum: Mean Sea Level	9421.00	9538.91	7260.00	MESAVERDE
	9488.00	9605.91	9421.00	SEGO
	9922.00	10039.91	9488.00	CASTLEGATE
			9922.00	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
2582.00	2685.15	8 5/8"	8.625

RECEIVED :



US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

MORGAN STATE 921-36I

MORGAN STATE 921-36H4CS

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

02 December, 2011





SDI
Planning Report



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well MORGAN STATE 921-36H4CS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5035 & KB 4GL 5035 & KB 4 @ 5039.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5035 & KB 4GL 5035 & KB 4 @ 5039.00ft (ASSUMED)
Site:	MORGAN STATE 921-36I	North Reference:	True
Well:	MORGAN STATE 921-36H4CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Project	UTAH - UTM (feet), NAD27, Zone 12N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	MORGAN STATE 921-36I, SECTION 36 T9S R21E				
Site Position:		Northing:	14,526,390.12 usft	Latitude:	39° 59' 28.126 N
From:	Lat/Long	Easting:	2,062,630.69 usft	Longitude:	109° 29' 33.475 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.97 °

Well	MORGAN STATE 921-36H4CS, 2102 FSL 737 FEL					
Well Position	+N/-S	-6.56 ft	Northing:	14,526,383.69 usft	Latitude:	39° 59' 28.061 N
	+E/-W	7.56 ft	Easting:	2,062,638.36 usft	Longitude:	109° 29' 33.378 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,035.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011/12/02	11.01	65.85	52,278

Design	PLAN #1 PRELIMINARY				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	18.15	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	20.00	18.15	1,279.82	164.18	53.80	2.00	2.00	0.00	18.15	
2,585.83	20.00	18.15	2,488.10	582.09	190.76	0.00	0.00	0.00	0.00	
3,585.83	0.00	0.00	3,467.92	746.26	244.57	2.00	-2.00	0.00	180.00	
10,639.91	0.00	0.00	10,522.00	746.26	244.57	0.00	0.00	0.00	0.00	PBHL_MORGAN ST/



SDI
Planning Report



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well MORGAN STATE 921-36H4CS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5035 & KB 4GL 5035 & KB 4 @ 5039.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5035 & KB 4GL 5035 & KB 4 @ 5039.00ft (ASSUMED)
Site:	MORGAN STATE 921-36I	North Reference:	True
Well:	MORGAN STATE 921-36H4CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00										
400.00	2.00	18.15	399.98	1.66	0.54	1.75	2.00	2.00	0.00	0.00
500.00	4.00	18.15	499.84	6.63	2.17	6.98	2.00	2.00	0.00	0.00
600.00	6.00	18.15	599.45	14.91	4.89	15.69	2.00	2.00	0.00	0.00
700.00	8.00	18.15	698.70	26.49	8.68	27.88	2.00	2.00	0.00	0.00
800.00	10.00	18.15	797.47	41.36	13.55	43.52	2.00	2.00	0.00	0.00
900.00	12.00	18.15	895.62	59.49	19.50	62.60	2.00	2.00	0.00	0.00
1,000.00	14.00	18.15	993.06	80.86	26.50	85.10	2.00	2.00	0.00	0.00
1,100.00	16.00	18.15	1,089.64	105.46	34.56	110.98	2.00	2.00	0.00	0.00
1,200.00	18.00	18.15	1,185.27	133.24	43.67	140.21	2.00	2.00	0.00	0.00
1,300.00	20.00	18.15	1,279.82	164.18	53.80	172.77	2.00	2.00	0.00	0.00
Start 1285.83 hold at 1300.00 MD										
1,354.47	20.00	18.15	1,331.00	181.88	59.61	191.40	0.00	0.00	0.00	0.00
GREENRIVER										
1,400.00	20.00	18.15	1,373.78	196.68	64.46	206.97	0.00	0.00	0.00	0.00
1,500.00	20.00	18.15	1,467.75	229.18	75.11	241.17	0.00	0.00	0.00	0.00
1,600.00	20.00	18.15	1,561.72	261.68	85.76	275.37	0.00	0.00	0.00	0.00
1,700.00	20.00	18.15	1,655.69	294.18	96.41	309.58	0.00	0.00	0.00	0.00
1,705.65	20.00	18.15	1,661.00	296.02	97.01	311.51	0.00	0.00	0.00	0.00
BIRDSNEST										
1,800.00	20.00	18.15	1,749.66	326.68	107.06	343.78	0.00	0.00	0.00	0.00
1,900.00	20.00	18.15	1,843.63	359.18	117.71	377.98	0.00	0.00	0.00	0.00
2,000.00	20.00	18.15	1,937.60	391.68	128.36	412.18	0.00	0.00	0.00	0.00
2,100.00	20.00	18.15	2,031.57	424.19	139.01	446.38	0.00	0.00	0.00	0.00
2,200.00	20.00	18.15	2,125.54	456.69	149.67	480.59	0.00	0.00	0.00	0.00
2,206.88	20.00	18.15	2,132.00	458.92	150.40	482.94	0.00	0.00	0.00	0.00
MAHOGANY										
2,300.00	20.00	18.15	2,219.51	489.19	160.32	514.79	0.00	0.00	0.00	0.00
2,400.00	20.00	18.15	2,313.48	521.69	170.97	548.99	0.00	0.00	0.00	0.00
2,500.00	20.00	18.15	2,407.45	554.19	181.62	583.19	0.00	0.00	0.00	0.00
2,585.83	20.00	18.15	2,488.10	582.09	190.76	612.55	0.00	0.00	0.00	0.00
Start Drop -2.00										
2,600.00	19.72	18.15	2,501.43	586.66	192.26	617.36	2.00	-2.00	0.00	0.00
2,685.15	18.01	18.15	2,582.00	612.82	200.83	644.89	2.00	-2.00	0.00	0.00
8 5/8"										
2,700.00	17.72	18.15	2,596.13	617.15	202.25	649.45	2.00	-2.00	0.00	0.00
2,800.00	15.72	18.15	2,691.90	644.48	211.21	678.21	2.00	-2.00	0.00	0.00
2,900.00	13.72	18.15	2,788.62	668.62	219.12	703.61	2.00	-2.00	0.00	0.00
3,000.00	11.72	18.15	2,886.16	689.54	225.98	725.63	2.00	-2.00	0.00	0.00
3,100.00	9.72	18.15	2,984.41	707.21	231.77	744.22	2.00	-2.00	0.00	0.00
3,200.00	7.72	18.15	3,083.25	721.61	236.49	759.37	2.00	-2.00	0.00	0.00
3,300.00	5.72	18.15	3,182.56	732.73	240.13	771.07	2.00	-2.00	0.00	0.00
3,400.00	3.72	18.15	3,282.22	740.54	242.69	779.29	2.00	-2.00	0.00	0.00
3,500.00	1.72	18.15	3,382.10	745.04	244.17	784.03	2.00	-2.00	0.00	0.00
3,585.83	0.00	0.00	3,467.92	746.26	244.57	785.32	2.00	-2.00	-21.14	0.00
Start 7054.08 hold at 3585.83 MD										
3,600.00	0.00	0.00	3,482.09	746.26	244.57	785.32	0.00	0.00	0.00	0.00



SDI
Planning Report



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well MORGAN STATE 921-36H4CS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5035 & KB 4GL 5035 & KB 4 @ 5039.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5035 & KB 4GL 5035 & KB 4 @ 5039.00ft (ASSUMED)
Site:	MORGAN STATE 921-36I	North Reference:	True
Well:	MORGAN STATE 921-36H4CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
3,700.00	0.00	0.00	3,582.09	746.26	244.57	785.32	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,682.09	746.26	244.57	785.32	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,782.09	746.26	244.57	785.32	0.00	0.00	0.00	
4,000.00	0.00	0.00	3,882.09	746.26	244.57	785.32	0.00	0.00	0.00	
4,100.00	0.00	0.00	3,982.09	746.26	244.57	785.32	0.00	0.00	0.00	
4,200.00	0.00	0.00	4,082.09	746.26	244.57	785.32	0.00	0.00	0.00	
4,300.00	0.00	0.00	4,182.09	746.26	244.57	785.32	0.00	0.00	0.00	
4,400.00	0.00	0.00	4,282.09	746.26	244.57	785.32	0.00	0.00	0.00	
4,500.00	0.00	0.00	4,382.09	746.26	244.57	785.32	0.00	0.00	0.00	
4,600.00	0.00	0.00	4,482.09	746.26	244.57	785.32	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,582.09	746.26	244.57	785.32	0.00	0.00	0.00	
4,711.91	0.00	0.00	4,594.00	746.26	244.57	785.32	0.00	0.00	0.00	
WASATCH										
4,800.00	0.00	0.00	4,682.09	746.26	244.57	785.32	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,782.09	746.26	244.57	785.32	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,882.09	746.26	244.57	785.32	0.00	0.00	0.00	
5,100.00	0.00	0.00	4,982.09	746.26	244.57	785.32	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,082.09	746.26	244.57	785.32	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,182.09	746.26	244.57	785.32	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,282.09	746.26	244.57	785.32	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,382.09	746.26	244.57	785.32	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,482.09	746.26	244.57	785.32	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,582.09	746.26	244.57	785.32	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,682.09	746.26	244.57	785.32	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,782.09	746.26	244.57	785.32	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,882.09	746.26	244.57	785.32	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,982.09	746.26	244.57	785.32	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,082.09	746.26	244.57	785.32	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,182.09	746.26	244.57	785.32	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,282.09	746.26	244.57	785.32	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,382.09	746.26	244.57	785.32	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,482.09	746.26	244.57	785.32	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,582.09	746.26	244.57	785.32	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,682.09	746.26	244.57	785.32	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,782.09	746.26	244.57	785.32	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,882.09	746.26	244.57	785.32	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,982.09	746.26	244.57	785.32	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,082.09	746.26	244.57	785.32	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,182.09	746.26	244.57	785.32	0.00	0.00	0.00	
7,377.91	0.00	0.00	7,260.00	746.26	244.57	785.32	0.00	0.00	0.00	
MESAVERDE										
7,400.00	0.00	0.00	7,282.09	746.26	244.57	785.32	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,382.09	746.26	244.57	785.32	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,482.09	746.26	244.57	785.32	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,582.09	746.26	244.57	785.32	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,682.09	746.26	244.57	785.32	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,782.09	746.26	244.57	785.32	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,882.09	746.26	244.57	785.32	0.00	0.00	0.00	
8,100.00	0.00	0.00	7,982.09	746.26	244.57	785.32	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,082.09	746.26	244.57	785.32	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,182.09	746.26	244.57	785.32	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,282.09	746.26	244.57	785.32	0.00	0.00	0.00	



SDI
Planning Report



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well MORGAN STATE 921-36H4CS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5035 & KB 4GL 5035 & KB 4 @ 5039.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5035 & KB 4GL 5035 & KB 4 @ 5039.00ft (ASSUMED)
Site:	MORGAN STATE 921-36I	North Reference:	True
Well:	MORGAN STATE 921-36H4CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,500.00	0.00	0.00	8,382.09	746.26	244.57	785.32	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,482.09	746.26	244.57	785.32	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,582.09	746.26	244.57	785.32	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,682.09	746.26	244.57	785.32	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,782.09	746.26	244.57	785.32	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,882.09	746.26	244.57	785.32	0.00	0.00	0.00	
9,100.00	0.00	0.00	8,982.09	746.26	244.57	785.32	0.00	0.00	0.00	
9,200.00	0.00	0.00	9,082.09	746.26	244.57	785.32	0.00	0.00	0.00	
9,300.00	0.00	0.00	9,182.09	746.26	244.57	785.32	0.00	0.00	0.00	
9,400.00	0.00	0.00	9,282.09	746.26	244.57	785.32	0.00	0.00	0.00	
9,500.00	0.00	0.00	9,382.09	746.26	244.57	785.32	0.00	0.00	0.00	
9,538.91	0.00	0.00	9,421.00	746.26	244.57	785.32	0.00	0.00	0.00	
SEGO										
9,600.00	0.00	0.00	9,482.09	746.26	244.57	785.32	0.00	0.00	0.00	
9,605.91	0.00	0.00	9,488.00	746.26	244.57	785.32	0.00	0.00	0.00	
CASTLEGATE										
9,700.00	0.00	0.00	9,582.09	746.26	244.57	785.32	0.00	0.00	0.00	
9,800.00	0.00	0.00	9,682.09	746.26	244.57	785.32	0.00	0.00	0.00	
9,900.00	0.00	0.00	9,782.09	746.26	244.57	785.32	0.00	0.00	0.00	
10,000.00	0.00	0.00	9,882.09	746.26	244.57	785.32	0.00	0.00	0.00	
10,039.91	0.00	0.00	9,922.00	746.26	244.57	785.32	0.00	0.00	0.00	
BLACKHAWK - BLACKHAWK_MORGAN STATE 921-36H4CS										
10,100.00	0.00	0.00	9,982.09	746.26	244.57	785.32	0.00	0.00	0.00	
10,200.00	0.00	0.00	10,082.09	746.26	244.57	785.32	0.00	0.00	0.00	
10,300.00	0.00	0.00	10,182.09	746.26	244.57	785.32	0.00	0.00	0.00	
10,400.00	0.00	0.00	10,282.09	746.26	244.57	785.32	0.00	0.00	0.00	
10,500.00	0.00	0.00	10,382.09	746.26	244.57	785.32	0.00	0.00	0.00	
10,600.00	0.00	0.00	10,482.09	746.26	244.57	785.32	0.00	0.00	0.00	
10,639.91	0.00	0.00	10,522.00	746.26	244.57	785.32	0.00	0.00	0.00	
TD at 10639.91 - PBHL_MORGAN STATE 921-36H4CS										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BLACKHAWK_MORGAI - hit/miss target - Shape - Circle (radius 25.00)	0.00	0.00	9,922.00	746.26	244.57	14,527,133.99	2,062,870.27	39° 59' 35.437 N	109° 29' 30.235 W
PBHL_MORGAN STATI - plan hits target center - Circle (radius 100.00)	0.00	0.00	10,522.00	746.26	244.57	14,527,133.99	2,062,870.27	39° 59' 35.437 N	109° 29' 30.235 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,685.15	2,582.00	8 5/8"	8.625	11.000	



SDI
Planning Report



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well MORGAN STATE 921-36H4CS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5035 & KB 4GL 5035 & KB 4 @ 5039.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5035 & KB 4GL 5035 & KB 4 @ 5039.00ft (ASSUMED)
Site:	MORGAN STATE 921-36I	North Reference:	True
Well:	MORGAN STATE 921-36H4CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,354.47	1,331.00	GREENRIVER				
1,705.65	1,661.00	BIRDSNEST				
2,206.88	2,132.00	MAHOGANY				
4,711.91	4,594.00	WASATCH				
7,377.91	7,260.00	MESAVERDE				
9,538.91	9,421.00	SEGO				
9,605.91	9,488.00	CASTLEGATE				
10,039.91	9,922.00	BLACKHAWK				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
300.00	300.00	0.00	0.00	Start Build 2.00	
1,300.00	1,279.82	164.18	53.80	Start 1285.83 hold at 1300.00 MD	
2,585.83	2,488.10	582.09	190.76	Start Drop -2.00	
3,585.83	3,467.92	746.26	244.57	Start 7054.08 hold at 3585.83 MD	
10,639.91	10,522.00	746.26	244.57	TD at 10639.91	

MORGAN STATE 921-36H4BS

Surface:	2108 FSL / 745 FEL	NESE	Lot
BHL:	2071 FNL / 493 FEL	SENE	Lot

MORGAN STATE 921-36H4CS

Surface:	2102 FSL / 737 FEL	NESE	Lot
BHL:	2402 FNL / 493 FEL	SENE	Lot

MORGAN STATE 921-36I1BS

Surface:	2096 FSL / 729 FEL	NESE	Lot
BHL:	2568 FSL / 493 FEL	NESE	Lot

MORGAN STATE 921-36I1CS

Surface:	2090 FSL / 722 FEL	NESE	Lot
BHL:	2237 FSL / 493 FEL	NESE	Lot

Pad: MORGAN STATE 921-36I PAD

Section 36 T9S R21E
Mineral Lease: ML-22265

Uintah County, Utah
Operator: Kerr-McGee Oil & Gas Onshore LP

This SUPO contains surface operating procedures for Kerr-McGee Oil & Gas Onshore LP (KMG), a wholly owned subsidiary of Anadarko Petroleum Corporation (APC) pertaining to actions that involve the State of Utah School and Institutional Trust Lands Administration (SITLA) in the development of minerals leased to APC/KMG (including but not limited to, APDs/SULAs/ROEs/ROWs and/or easements.)

See associated Utah Division of Oil, Gas, and Mining (UDOGM) Form 3(s), plats, maps, and other attachments for site-specific information on projects represented herein.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

A. Existing Roads:

Existing roads consist of county and improved/unimproved lease roads. KMG will maintain existing roads in a condition that is the same as or better than before operations began and in a safe and usable condition. Maintenance of existing roads will continue until final abandonment and reclamation of well pads and/or other facilities. The road maintenance may include, but is not limited to, blading, ditching, culvert installation/cleanout, surfacing, and dust control.

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

B. Planned Access Roads:

Approximately $\pm 215'$ (0.04 miles) of proposed road re-route is proposed (see Topo Map B). Applicable Uintah County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

If there are roads that are new or to be reconstructed, they will be located, designed, and maintained to meet the standards of SITLA and other commonly accepted Best Management Practices (BMPs). If a new road/corridor were to cross a water of the United States, KMG will adhere to the requirements of applicable Nationwide or Individual Permits of the Department of Army Corps of Engineers.

During the onsite, turnouts, major cut and fills, culverts, bridges, gates, cattle guards, low water crossings, or modifications needed to existing infrastructure/facilities were determined, as applicable, are typically shown on attached Exhibits and Topo maps.

C. Location of Existing and Proposed Facilities:

This pad will expand the existing pad for the Morgan State 12-36. The Morgan State 12-36 well location is a plugged and abandoned well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of December 5, 2011.

Production facilities (see Well Pad Design Summary and Facilities Diagram):

Production facilities will be installed on the disturbed portion of the well pad and may include bermed components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) above ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

Gathering Facilities:

The following pipeline transmission facilities will apply if the well is productive (see Topo D):

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is $\pm 1,650'$ and the individual segments are broken up as follows:

- ±355' (0.1 miles) –New 6" buried gas pipeline from the meter to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.
- ±1,295' (0.2 miles) –New 6" buried gas pipeline from the edge of pad to the 921-36J intersection. Please refer to Topo D2 - Pad and Pipeline Detail.

The total liquid gathering pipeline distance from the separator to the tie in point is ±1,650' and the individual segments are broken up as follows:

- ±355' (0.1 miles) –New 6" buried liquid pipeline from the separator to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.
- ±1,295' (0.2 miles) –New 6" buried liquid pipeline from the edge of pad to the 921-36J intersection. Please refer to Topo D2 - Pad and Pipeline Detail.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

The proposed pipelines will be buried and will include gas gathering and liquid gathering pipelines in the same trench. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. KMG requests a permanent 30' right-of-way adjacent to the road for life-of-project for maintenance, repairs, and/or upgrades, no additional right-of-way will be needed beyond the 30'. Where the pipeline is not adjacent to the road or well pad, KMG requests a temporary 45' construction right-of-way 30' permanent right-of-way.

The proposed trench width for the pipeline would range from 18-48 inches and will be excavated to a depth of 48 to 60 inches of normal soil cover or 24 inches of cover in consolidated rock. During construction blasting may occur along the proposed right-of-way where trenching equipment cannot cut into the bedrock. Large debris and rocks removed from the earth during trenching and blasting that could not be returned to the trench would be distributed evenly and naturally in the project area. The proposed pipelines will be pressure tested pneumatically (depending on size) or with fluids (either fresh or produced). If fluids are used, there will be no discharge to the surface.

Pipeline signs will be installed along the right-of-way to indicate the pipeline proximity and ownership, as well as to provide emergency contact phone numbers. Above ground valves, T's, and/or cathodic protection will be installed at various locations for connection, corrosion prevention and/or for safety purposes.

D. Location and Type of Water Supply:

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

E. Source of Construction Materials:

Construction operations will typically be completed with native materials found on location. If needed, construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

F. Methods for Handling Waste Materials:

Should the well be productive, produced water will be contained in a water tank and will be transported by pipeline and/or truck to an approved disposal sites facilities and/or Salt Water Disposal (SWD) injection well. Currently, those facilities are:

RNI in Sec. 5 T9S R22E
 Ace Oilfield in Sec. 2 T6S R20E
 MC&MC in Sec. 12 T6S R19E
 Pipeline Facility in Sec. 36 T9S R20E
 Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E
 Bonanza Evaporation Pond in Sec. 2 T10S R23E
 Ouray #1 SWD in Sec. 1 T9S R21E
 NBU 159 SWD in Sec. 35 T9S R21E
 CIGE 112D SWD in Sec. 19 T9S R21E
 CIGE 114 SWD in Sec. 34 T9S R21E
 NBU 921-34K SWD in Sec. 34 T9S R21E
 NBU 921-33F SWD in Sec. 33 T9S R21E
 NBU 921-34L SWD in Sec. 34 T9S R21E

Kerr-McGee will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completing of the wells on the pad or used as part of our Aandarko Completions Transportation System (ACTS). Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completions pit.

If Kerr-McGee does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

Unless otherwise approved, no oil or other oil based drill additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water, biodegradable polymer soap, bentonite clay, and /or non-toxic additives will be used in the system.

Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be encountered during drilling, completions, or well testing, product will either be contained in test tanks on the well site or evacuated by vacuum

trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be release into the pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternative is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as the hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods. (e.g. solidification)

Any additional pits necessary for subsequent operations, such as temporary flare pits, or workover pits, will contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of the work.

For the protection of livestock and wildlife, all open pits and cellars will be fenced/covered to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after after six (6) months from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift. Reserve pit liners will be cut off or folded as near to the mud surface as possible and as safety considerations allow and buried on location.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

Any undesirable event, including accidental release of fluids, or release in excess of reportable quantities, will be managed according to the notification requirements of UDOGMs "Reporting Oil and Gas Undesirable Events" rule. Where State wells are participatory to a Federal agreement, according to NTL-3A, the appropriate Federal agencies will be notified.

Materials Management

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

G. Ancillary Facilities:

None are anticipated.

H. Well Site Layout (see Well Pad Design Summary):

The location, orientation and aerial extent of each drill pad; reserve/completion/flare pit; access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure; proposed cuts and fills; and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

Coordinates are provided in the National Spatial Reference System, North American Datum, 1927 (NAD27) or latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

I. Plans for Reclamation of the Surface:

Surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. This reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

Interim Reclamation

Interim reclamation includes pit closure, re-contouring (where possible), soil bed preparation, topsoil placement, seeding, and/or weed control.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/

completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit.

Final Reclamation

Final reclamation will be performed for newly drilled unproductive wells and/or at the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring, final grading will be conducted over the entire surface of the well site and access road. Where practical, the area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers and surface materials will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep perpendicular to the natural flow of water.

All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to UDOGM.

Seeding and Measures Common to Interim and Final Reclamation

Reclaimed areas may be fenced to exclude grazing and encourage re-vegetation.

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to, erosion control blankets and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

Seeding will occur year-round as conditions allow. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The site specific seed mix will be provided by SITLA.

J. Surface/Mineral Ownership:

SITLA
675 East 500 South, Suite 500
Salt Lake City, UT 84102

L. Other Information:

None

M. Lessee's or Operators' Representative & Certification:

Danielle Piernot
Regulatory Analyst II
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6156

Tommy Thompson
General Manager, Drilling
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.



Danielle Piernot

December 19, 2011

Date



Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
DENVER, CO 80217-3779

December 14, 2011

Ms. Diana Mason
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11
Morgan State 921-36H4CS
T9S-R21E
Section 36: NESE (Surface), SENE (Bottom Hole)
Surface: 2102' FSL, 737' FEL
Bottom Hole: 2402' FNL, 493' FEL
Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing roads and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink that reads 'Joe Matney'.

Joe Matney
Sr. Staff Landman

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. Morgan State 921-36H4CS			
String	Surf	Prod		
Casing Size(")	8.625	4.500		
Setting Depth (TVD)	2483	10522		
Previous Shoe Setting Depth (TVD)	0	2483		
Max Mud Weight (ppg)	8.4	13.0		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3390	10690		
Operators Max Anticipated Pressure (psi)	6945	12.7		

Calculations	Surf String	8.625	"
Max BHP (psi)	.052*Setting Depth*MW=	1085	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	787	NO air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	539	NO Reasonable depth in area
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	539	NO
Required Casing/BOPE Test Pressure=		2373	psi
*Max Pressure Allowed @ Previous Casing Shoe=		0	psi *Assumes 1psi/ft frac gradient

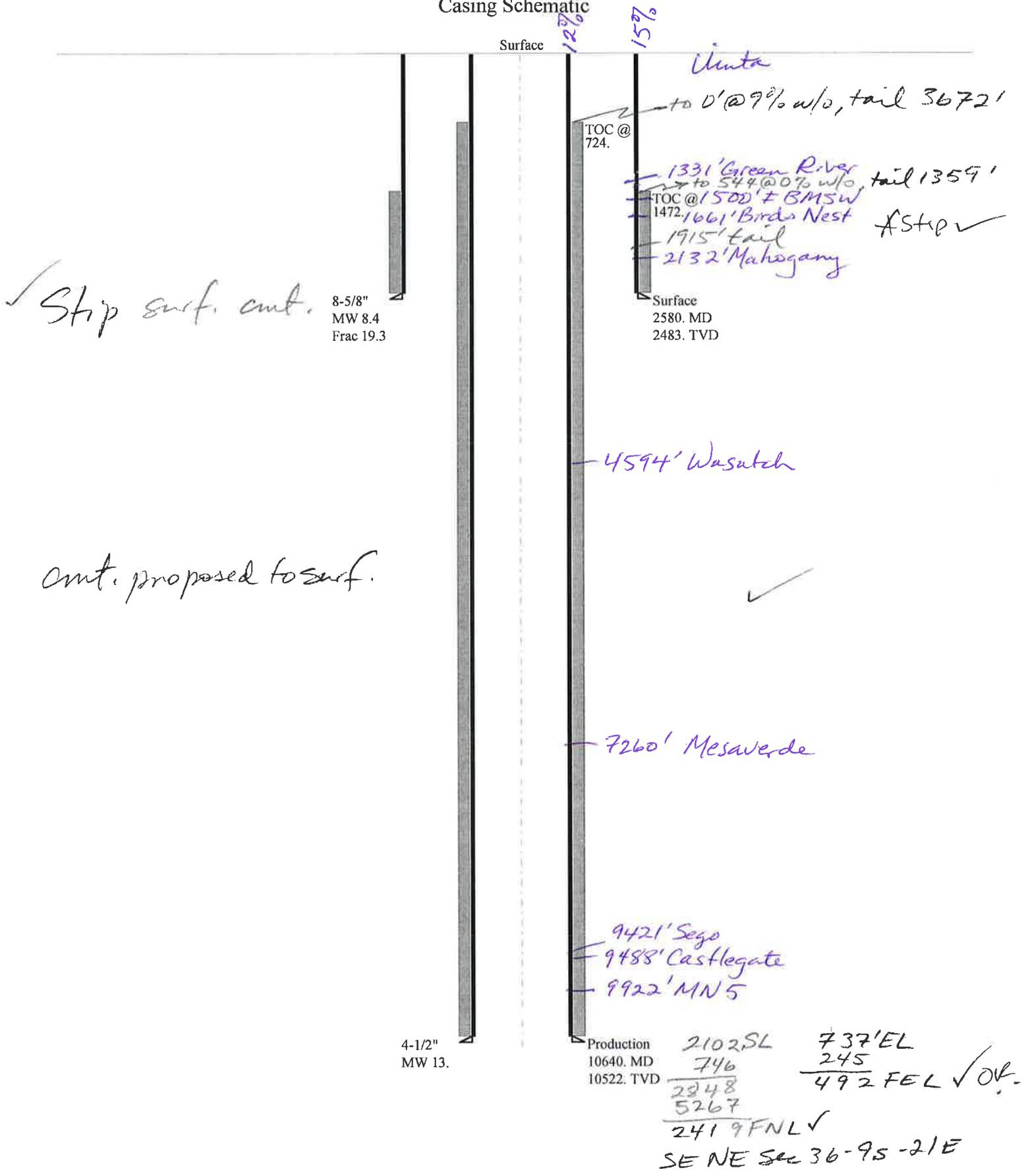
Calculations	Prod String	4.500	"
Max BHP (psi)	.052*Setting Depth*MW=	7113	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	5850	NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	4798	YES OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	5344	NO Reasonable
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2483	psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

43047522890000 Morgan State 921-36H4CS

Casing Schematic



Uinta

to 0' @ 9% w/o, tail 3672'

TOC @ 724.

1331' Green River to 544' @ 0% w/o, tail 1359'

TOC @ 1500' ≠ BMSW

1472.1661' Birds Nest

1915' tail

2132' Mahogany

*Strip ✓

Surface

2580. MD

2483. TVD

✓ Strip surf. amt.

8-5/8" MW 8.4 Frac 19.3

amt. proposed to surf.

4594' Wasatch

7260' Mesaverde

9421' Sego

9488' Castlegate

9922' MN 5

4-1/2" MW 13.

Production 10640. MD 10522. TVD

2102 SL

746

2348

5267

2419 FNL ✓

SE NE Sec 36-95-21E

737' EL

245

492 FEL ✓ OK.

Well name:	43047522890000 Morgan State 921-36H4CS	
Operator:	KERR-MCGEE OIL & GAS ONSHORE, L.P.	
String type:	Surface	Project ID: 43-047-52289
Location:	UINTAH COUNTY	

Design parameters:**Collapse**

Mud weight: 8.400 ppg
Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 2,236 psi
Internal gradient: 0.120 psi/ft
Calculated BHP: 2,533 psi

No backup mud specified.

Minimum design factors:**Collapse:**

Design factor: 1.125

Burst:

Design factor: 1.00

Tension:

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

Tension is based on air weight.

Neutral point: 2,253 ft

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 109 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 1,472 ft

Directional Info - Build & Drop

Kick-off point: 300 ft
Departure at shoe: 611 ft
Maximum dogleg: 2 °/100ft
Inclination at shoe: 20 °

Re subsequent strings:

Next setting depth: 10,522 ft
Next mud weight: 13.000 ppg
Next setting BHP: 7,106 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 2,540 ft
Injection pressure: 2,540 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2580	8.625	28.00	I-55	LT&C	2483	2580	7.892	102168
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	1083	1880	1.735	2533	3390	1.34	69.5	348	5.01 J

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

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

Date: March 6, 2012
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 2483 ft, a mud weight of 8.4 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Well name:	43047522890000 Morgan State 921-36H4CS		
Operator:	KERR-MCGEE OIL & GAS ONSHORE, L.P.		
String type:	Production	Project ID:	43-047-52289
Location:	UINTAH	COUNTY	

Design parameters:**Collapse**

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

Minimum design factors:**Collapse:**

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 221 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 724 ft

Burst

Max anticipated surface pressure: 4,791 psi
Internal gradient: 0.220 psi/ft
Calculated BHP 7,106 psi

No backup mud specified.

Tension:

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

Tension is based on air weight.

Neutral point: 8,595 ft

Directional Info - Build & Drop

Kick-off point 300 ft
Departure at shoe: 785 ft
Maximum dogleg: 2 °/100ft
Inclination at shoe: 0 °

Estimated cost: 159,174 (\$)

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
2	5000	4.5	11.60	HCP-110	DQX	4882	5000	3.875	132000
1	5640	4.5	11.60	HCP-110	LT&C	10522	10640	3.875	27174

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
2	3297	8120	2.463	5865	10690	1.82	122.1	367.2	3.01 B
1	7106	8650	1.217	7106	10690	1.50	65.4	279	4.26 J

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

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

Date: March 6, 2012
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 10522 ft, a mud weight of 13 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

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

43047522890000 Morgan State 921-36H4CS

Casing Schematic

Surface

12 7/8
15 7/8

Uenta

to 0' @ 8% w/o, tail 3590'

TOC @ 708.

to 544' @ 0% w/o, tail 1359'

TOC @ 1472.

ASTIP

Surface
2580. MD
2483. TVD

4154' tail

4594' Wasatch



9421' Sego

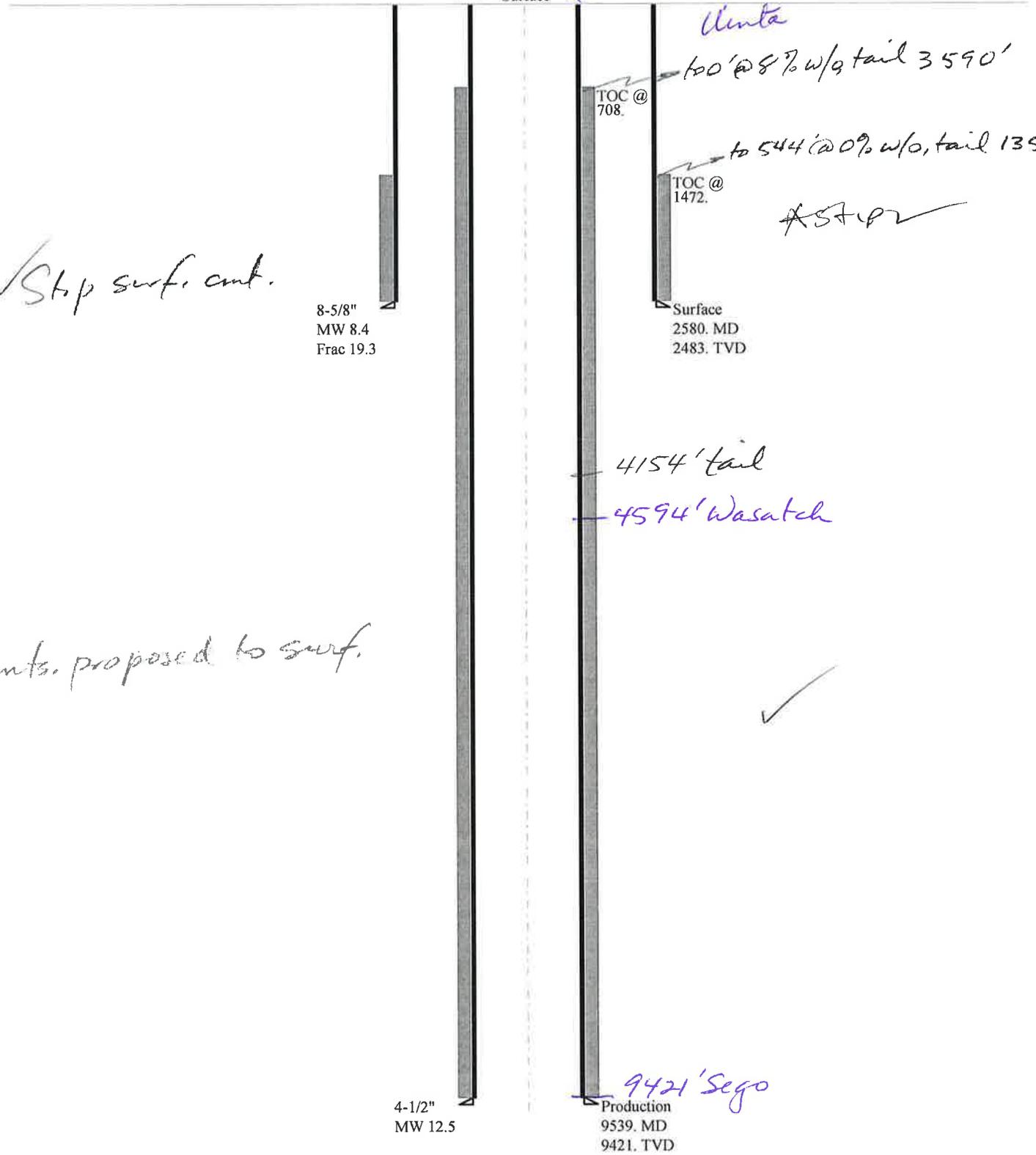
Production
9539. MD
9421. TVD

4-1/2"
MW 12.5

8-5/8"
MW 8.4
Frac 19.3

Stop surf. cont.

conts. proposed to surf.



Well name:	43047522890000 Morgan State 921-36H4CS		
Operator:	KERR-MCGEE OIL & GAS ONSHORE, L.P.		
String type:	Surface	Project ID:	43-047-52289
Location:	UINTAH	COUNTY	

Design parameters:**Collapse**

Mud weight: 8.400 ppg
Design is based on evacuated pipe.

Minimum design factors:**Collapse:**

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 109 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 1,472 ft

Burst

Max anticipated surface pressure: 2,236 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 2,533 psi

No backup mud specified.

Tension:

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

Tension is based on air weight.
Neutral point: 2,253 ft

Directional Info - Build & Drop

Kick-off point 300 ft
Departure at shoe: 611 ft
Maximum dogleg: 2 °/100ft
Inclination at shoe: 20 °

Re subsequent strings:

Next setting depth: 9,421 ft
Next mud weight: 12.500 ppg
Next setting BHP: 6,118 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 2,540 ft
Injection pressure: 2,540 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2580	8.625	28.00	I-55	LT&C	2483	2580	7.892	102168
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	1083	1880	1.735	2533	3390	1.34	69.5	348	5.01 J

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

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

Date: March 6, 2012
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 2483 ft, a mud weight of 8.4 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Well name:	43047522890000 Morgan State 921-36H4CS		
Operator:	KERR-MCGEE OIL & GAS ONSHORE, L.P.		
String type:	Production	Project ID:	43-047-52289
Location:	UINTAH	COUNTY	

Design parameters:**Collapse**

Mud weight: 12.500 ppg
Internal fluid density: 1.000 ppg

Minimum design factors:**Collapse:**

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 206 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 708 ft

Burst

Max anticipated surface pressure: 4,045 psi
Internal gradient: 0.220 psi/ft
Calculated BHP 6,118 psi

No backup mud specified.

Tension:

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

Directional Info - Build & Drop

Kick-off point 300 ft
Departure at shoe: 785 ft
Maximum dogleg: 2 °/100ft
Inclination at shoe: 0 °

Tension is based on air weight.

Neutral point: 7,779 ft

Estimated cost: 191,915 (\$)

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
2	5000	4.5	11.60	I-80	DQX	4882	5000	3.875	132000
1	4539	4.5	11.60	I-80	LT&C	9421	9539	3.875	59915
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
2	2917	5908	2.026	5119	7780	1.52	109.3	267	2.44 J
1	5628	6360	1.130	6118	7780	1.27	52.7	212	4.03 J

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

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

Date: March 6, 2012
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 9421 ft, a mud weight of 12.5 ppg. An internal gradient of .052 psi/ft was used for collapse from TD. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

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

From: Jim Davis
To: APD APPROVAL
CC: Danielle Piernot; Julie Jacobson
Date: 4/2/2012 1:51 PM
Subject: Morgan State 921-36A Morgan State 921-36I pad wells

The following wells have been approved by SITLA including arch and paleo clearance.

Morgan State 921-36A4BS (4304752268)
Morgan State 921-36A4CS (4304752269)
Morgan State 921-36H1BS (4304752270)
Morgan State 921-36H1CS (4304752271)
Morgan State 921-36I1CS (4304752251)
Morgan State 921-36H4BS (4304752288)
Morgan State 921-36H4CS (4304752289)
Morgan State 921-36I1BS (4304752290)

Thanks.
-Jim

Jim Davis
Utah Trust Lands Administration
jimdavis1@utah.gov
Phone: (801) 538-5156

ON-SITE PREDRILL EVALUATION

Utah Division of Oil, Gas and Mining

Operator KERR-MCGEE OIL & GAS ONSHORE, L.P.
Well Name Morgan State 921-36H4CS
API Number 43047522890000 **APD No** 5077 **Field/Unit** NATURAL BUTTES
Location: 1/4,1/4 NESE **Sec** 36 **Tw** 9.0S **Rng** 21.0E 2102 FSL 737 FEL
GPS Coord (UTM) 628632 4427855 **Surface Owner**

Participants

Sheila Wopsock, Charles Chase, Danielle Piernot, Doyle Holmes, (Anadarko). John Slaugh, Mitch Batty, (Timberline). Jim Davis (SITLA). Alex Hansen (DWR). Chris Jensen and David Hackford, (DOGGM).

Regional/Local Setting & Topography

This site is on an existing location, and very little new construction will be necessary.

This location is within the Natural Buttes Unit but this section is not part of the Natural Buttes Unit. It is approximately 14 road miles southeast of Ouray, Utah. The general area is at the head of a long unnamed wash east of Cottonwood Wash. Both washes enter the White River in the same general area, approximately six miles to the north. The area is characterized by rolling hills, which are frequently divided by somewhat gentle draws that drain northerly. This unnamed wash is an ephemeral drainage. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle and antelope exists. The washes are sometimes rimmed with steep side hills, which have exposed sandstone bedrock cliffs along the rims.

Four new directional wells will be drilled from this location which currently has one well, the Morgan State 12-36. This well has been PA'd.

Surface Use Plan

Current Surface Use

Grazing
Wildlfe Habitat
Existing Well Pad

New Road Miles

0.04

Well Pad

Width 354 **Length** 455

Src Const Material

Onsite

Surface Formation

UNTA

Ancillary Facilities N

Waste Management Plan Adequate? Y

Environmental Parameters

Affected Floodplains and/or Wetlands N

Flora / Fauna

Prickly pear, wild onion, shadscale, mat saltbrush, Indian ricegrass, halogeton, pepper grass. Principal species present are cheatgrass, black sagebrush, stipa, mesquite grass.

Sheep, antelope, coyote, raptors, small mammals and birds.

Soil Type and Characteristics

Rocky sandy clay loam.

Erosion Issues Y

Erosion could be a problem if diversion ditches aren't maintained.

Sedimentation Issues N

Site Stability Issues N

Drainage Diverson Required? Y

Around west side of location.

Berm Required? N

Erosion Sedimentation Control Required? N

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

Reserve Pit

Site-Specific Factors

Site Ranking

- Distance to Groundwater (feet)**
- Distance to Surface Water (feet)**
- Dist. Nearest Municipal Well (ft)**
- Distance to Other Wells (feet)**
- Native Soil Type**
- Fluid Type**
- Drill Cuttings**
- Annual Precipitation (inches)**
- Affected Populations**
- Presence Nearby Utility Conduits**

Final Score

Sensitivity Level

Characteristics / Requirements

Closed Loop Mud Required? Liner Required? Liner Thickness Pit Underlayment Required?

Other Observations / Comments

David Hackford
Evaluator

1/11/2012
Date / Time

Application for Permit to Drill Statement of Basis

Utah Division of Oil, Gas and Mining

4/10/2012

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
5077	43047522890000	SITLA	GW	S	No
Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.		Surface Owner-APD		
Well Name	Morgan State 921-36H4CS		Unit		
Field	NATURAL BUTTES		Type of Work	DRILL	
Location	NESE 36 9S 21E S 2102 FSL 737 FEL GPS Coord (UTM) 628643E 4427855N				

Geologic Statement of Basis

Kerr McGee proposes to set 2,580' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 1,500'. A search of Division of Water Rights records shows one water well within a 10,000 foot radius of the center of Section 36. The well is listed as 2,640 feet deep and used for drilling water. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. The proposed casing and cement should adequately protect. Any usable ground water.

Brad Hill
APD Evaluator

2/8/2012
Date / Time

Surface Statement of Basis

The general area is in the central portion of the Natural Buttes Unit. Within this area is the White River and rugged drainages that drain into it. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River is six miles. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 43.6 miles to the northwest. Access from Vernal is by following Utah State, Uintah County and oilfield development roads.

Four wells will be directionally drilled from this location. They are the Morgan State 921-36I1CS, Morgan State 921-36I1BS, Morgan State 921-36H4CS and the Morgan State 921-36H4BS. The existing location currently has one well. This well is the Morgan State 12-36, and this well has been PA'd. A drainage ditch will be necessary around the west side of the location. The pad as modified should be stable and sufficient for five wells, and is the best site for a location in the immediate area.

New construction will consist of approximately 100 feet on the south, 100 feet on the west, 75 feet on the north, and 75 feet on the east side of the existing location.

Both the surface and minerals are owned by SITLA. Jim Davis of SITLA and Alex Hansen with DWR were invited by email to the pre-site evaluation. Both were present. Kerr McGee personnel were told to consult with SITLA for reclamation standards including seeding mixes to be used.

RECEIVED: April 10, 2012

David Hackford
Onsite Evaluator

1/11/2012
Date / Time

Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 16 mils with a felt subliner shall be properly installed and maintained in the reserve pit.
Pits	The reserve pit should be located on the south side of the location.
Surface	Drainages adjacent to the proposed pad shall be diverted around the location.

WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 12/19/2011

API NO. ASSIGNED: 43047522890000

WELL NAME: Morgan State 921-36H4CS

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)

PHONE NUMBER: 720 929-6156

CONTACT: Danielle Piernot

PROPOSED LOCATION: NESE 36 090S 210E

Permit Tech Review:

SURFACE: 2102 FSL 0737 FEL

Engineering Review:

BOTTOM: 2402 FNL 0493 FEL

Geology Review:

COUNTY: UINTAH

LATITUDE: 39.99108

LONGITUDE: -109.49315

UTM SURF EASTINGS: 628643.00

NORTHINGS: 4427855.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 3 - State

LEASE NUMBER: ML 22265

PROPOSED PRODUCING FORMATION(S): BLACKHAWK

SURFACE OWNER: 3 - State

COALBED METHANE: NO

RECEIVED AND/OR REVIEWED:

- PLAT
- Bond: STATE/FEE - 22013542
- Potash
- Oil Shale 190-5
- Oil Shale 190-3
- Oil Shale 190-13
- Water Permit: 43-8496
- RDCC Review:
- Fee Surface Agreement
- Intent to Commingle

Commingling Approved

LOCATION AND SITING:

- R649-2-3.
- Unit:
- R649-3-2. General
- R649-3-3. Exception
- Drilling Unit
- Board Cause No: Cause 173-24
- Effective Date: 10/5/2009
- Siting: 460' Fr Exterior Lease Boundary
- R649-3-11. Directional Drill

Comments: Presite Completed

Stipulations: 3 - Commingling - ddoucet
 5 - Statement of Basis - bhill
 15 - Directional - dmason
 17 - Oil Shale 190-5(b) - dmason
 25 - Surface Casing - hmacdonald



GARY R. HERBERT
Governor

GREGORY S. BELL
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

Permit To Drill

Well Name: Morgan State 921-36H4CS
API Well Number: 43047522890000
Lease Number: ML 22265
Surface Owner: STATE
Approval Date: 4/10/2012

Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-24. The expected producing formation or pool is the BLACKHAWK Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

Commingle:

In accordance with Board Cause No. 173-24, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:

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

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil

shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Surface casing shall be cemented to the surface.

Additional Approvals:

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

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

Notification Requirements:

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

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

Contact Information:

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

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

Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) - due within 5 days of spudding the well
- Monthly Status Report (Form 9) - due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) - due prior to implementation
- Written Notice of Emergency Changes (Form 9) - due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) - due prior to implementation
- Report of Water Encountered (Form 7) - due within 30 days after completion
- Well Completion Report (Form 8) - due within 30 days after completion or

plugging

Approved By:

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

For John Rogers
Associate Director, Oil & Gas

BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG
Submitted By J. Scharnowske Phone Number 720.929.6029
Well Name/Number MORGAN STATE 921-36H4CS
Qtr/Qtr NESE Section 36 Township 9S Range 21E
Lease Serial Number ML 22265
API Number 4304752289

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 07/26/2012 9:00 HRS AM PM

Casing – Please report time casing run starts, not cementing times.

- Surface Casing
- Intermediate Casing
- Production Casing
- Liner
- Other

RECEIVED
JUL 25 2012
DIV. OF OIL, GAS & MINING

Date/Time 08/02/2012 08:00 HRS AM PM

BOPE

- Initial BOPE test at surface casing point
- BOPE test at intermediate casing point
- 30 day BOPE test
- Other

Date/Time _____ AM PM

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT KENNY GATHINGS AT

435.828.0986 OR LOVEL YOUNG AT 435.781.7051

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9 5. LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: 7. UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: Morgan State 921-36H4CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	9. API NUMBER: 43047522890000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	PHONE NUMBER: 720 929-6511 9. FIELD and POOL or WILDCAT: MOUNTAIN BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2102 FSL 0737 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 36 Township: 09.0S Range: 21.0E Meridian: S	COUNTY: UINTAH STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 7/26/2012	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

MIRU TRIPLE A BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'.
 RAN 14" 36.7# SCHEDULE 10 CONDUCTOR PIPE. CEMENT WITH 28
 SACKS READY MIX. SPUD WELL LOCATION ON JULY 26, 2012 AT 13:00
 HRS.

**Accepted by the
 Utah Division of
 Oil, Gas and Mining
 FOR RECORD ONLY
 August 02, 2012**

NAME (PLEASE PRINT) Jaime Scharnowske	PHONE NUMBER 720 929-6304	TITLE Regularatory Analyst
SIGNATURE N/A	DATE 8/2/2012	

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

FORM 6

ENTITY ACTION FORM

Operator: KERR McGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995
 Address: P.O. Box 173779
city DENVER
state CO zip 80217 Phone Number: (720) 929-6304

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304752251	Morgan State 921-36I1CS		NESE	36	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
A	99999	18670	7/26/2012			8/20/2012	
Comments: MIRU TRIPLE A BUCKET RIG. SPUD WELL LOCATION ON 7/26/2012 AT 09:30 HRS. <i>MVRD BHL: nese</i>							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304752290	Morgan State 921-36I1BS		NESE	36	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
A	99999	18671	7/26/2012			8/20/2012	
Comments: MIRU TRIPLE A BUCKET RIG. SPUD WELL LOCATION ON 7/26/2012 AT 11:30 HRS. <i>MVRD BHL: nese</i>							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304752289	Morgan State 921-36H4CS		NESE	36	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
A	99999	18672	7/26/2012			8/20/2012	
Comments: MIRU TRIPLE A BUCKET RIG. SPUD WELL LOCATION ON 7/26/2012 AT 13:00 HRS. <i>MVRD BHL: Sene</i>							

ACTION CODES:

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

JAIME SCHARNOWSKE

Name (Please Print)

Jaime Scharnowske

Signature

REGULATORY ANALYST

8/2/2012

Title

Date

RECEIVED

AUG 06 2012

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9 5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: 7.UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: MORGAN STATE 921-36H4CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	9. API NUMBER: 43047522890000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	PHONE NUMBER: 720 929-6511 9. FIELD and POOL or WILDCAT: MORGAN STATE LATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2102 FSL 0737 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 36 Township: 09.0S Range: 21.0E Meridian: S	COUNTY: UINTAH STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 10/3/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

No Activity for the month of September 2012. Well TD at 2,743.

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY
 October 05, 2012

NAME (PLEASE PRINT) Lindsey Frazier	PHONE NUMBER 720 929-6857	TITLE Regulatory Analyst II
SIGNATURE N/A	DATE 10/3/2012	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	5. LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
1. TYPE OF WELL Gas Well	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: 7. UNIT or CA AGREEMENT NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	8. WELL NAME and NUMBER: MORGAN STATE 921-36H4CS
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	9. API NUMBER: 43047522890000
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2102 FSL 0737 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 36 Township: 09.0S Range: 21.0E Meridian: S	9. FIELD and POOL or WILDCAT: MORGAN STATE LATERAL BUTTES
COUNTY: UINTAH	
STATE: UTAH	

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 10/10/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

FINISHED DRILLING TO 9,536' ON 10/08/2012. CEMENTED PRODUCTION CASING. RELEASED H&P 318 RIG ON 10/10/2012. DETAILS OF CASING AND CEMENT WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES

**Accepted by the
 Utah Division of
 Oil, Gas and Mining
 FOR RECORD ONLY
 October 18, 2012**

NAME (PLEASE PRINT) Lindsey Frazier	PHONE NUMBER 720 929-6857	TITLE Regulatory Analyst II
SIGNATURE N/A	DATE 10/15/2012	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9
5. LEASE DESIGNATION AND SERIAL NUMBER: ML 22265	
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	
7. UNIT or CA AGREEMENT NAME:	
8. WELL NAME and NUMBER: MORGAN STATE 921-36H4CS	
9. API NUMBER: 43047522890000	
9. FIELD and POOL or WILDCAT: MORGAN STATE BUTTES	
COUNTY: UINTAH	
STATE: UTAH	

SUNDRY NOTICES AND REPORTS ON WELLS
 Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL Gas Well	1. TYPE OF WELL Gas Well
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	PHONE NUMBER: 720 929-6511
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2102 FSL 0737 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 36 Township: 09.0S Range: 21.0E Meridian: S	

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 12/3/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.
 No Activity for the month of November 2012. Well TD at 9,536.

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY
 December 04, 2012

NAME (PLEASE PRINT) Jaime Scharnowske	PHONE NUMBER 720 929-6304	TITLE Regularatory Analyst
SIGNATURE N/A	DATE 12/3/2012	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	5. LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
1. TYPE OF WELL Gas Well	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	7. UNIT or CA AGREEMENT NAME:
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	8. WELL NAME and NUMBER: MORGAN STATE 921-36H4CS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2102 FSL 0737 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 36 Township: 09.0S Range: 21.0E Meridian: S	9. API NUMBER: 43047522890000
5. FIELD and POOL or WILDCAT: MORGAN STATE BUTTES	9. FIELD and POOL or WILDCAT: MORGAN STATE BUTTES
COUNTY: UINTAH	STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 1/3/2013	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

Started completing the well. Well TD at 9,536

**Accepted by the
 Utah Division of
 Oil, Gas and Mining
 FOR RECORD ONLY
 January 03, 2013**

NAME (PLEASE PRINT) Lindsey Frazier	PHONE NUMBER 720 929-6857	TITLE Regulatory Analyst II
SIGNATURE N/A	DATE 1/3/2013	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9 5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: 7.UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: MORGAN STATE 921-36H4CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	9. API NUMBER: 43047522890000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	PHONE NUMBER: 720 929-6511 9. FIELD and POOL or WILDCAT: MORGAN STATE BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2102 FSL 0737 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 36 Township: 09.0S Range: 21.0E Meridian: S	COUNTY: UINTAH STATE: UTAH

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

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<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 2/4/2013	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width:100px;" type="text"/>

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

Started completing the well. Well TD at 9,536

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY
 February 13, 2013

NAME (PLEASE PRINT) Laura Abrams	PHONE NUMBER 720 929-6356	TITLE Regulatory Analyst II
SIGNATURE N/A	DATE 2/4/2013	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9
5. LEASE DESIGNATION AND SERIAL NUMBER: ML 22265	
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	
7. UNIT or CA AGREEMENT NAME:	
8. WELL NAME and NUMBER: MORGAN STATE 921-36H4CS	
9. API NUMBER: 43047522890000	
9. FIELD and POOL or WILDCAT: MORGAN STATE LATERAL BUTTES	
COUNTY: UINTAH	
STATE: UTAH	

SUNDRY NOTICES AND REPORTS ON WELLS
 Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: MORGAN STATE 921-36H4CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	9. API NUMBER: 43047522890000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	9. FIELD and POOL or WILDCAT: MORGAN STATE LATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2102 FSL 0737 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 36 Township: 09.0S Range: 21.0E Meridian: S	PHONE NUMBER: 720 929-6511

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 2/5/2013	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input checked="" type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

The subject well was placed on production on 02/05/2013. The Chronological Well History will be submitted with the well completion report.

**Accepted by the
 Utah Division of
 Oil, Gas and Mining**

FOR RECORD ONLY

February 21, 2013

NAME (PLEASE PRINT) Lindsey Frazier	PHONE NUMBER 720 929-6857	TITLE Regulatory Analyst II
SIGNATURE N/A	DATE 2/7/2013	

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

RECEIVED
RECEIVED
MAR 05 2013
DIV. OF OIL, GAS & MINING

AMENDED REPORT FORM 8
(highlight changes)

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. LEASE DESIGNATION AND SERIAL NUMBER:
ML 22265

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT or CA AGREEMENT NAME

8. WELL NAME and NUMBER:
MORGAN STATE 921-36H4CS

9. API NUMBER:
4304752289

10. FIELD AND POOL, OR WILDCAT
NATURAL BUTTES

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
NESE 36 9S 21E S

12. COUNTY
UINTAH

13. STATE
UTAH

14. DATE SPUNDED: 7/26/2012

15. DATE T.D. REACHED: 10/8/2012

16. DATE COMPLETED: 2/5/2013

ABANDONED READY TO PRODUCE

17. ELEVATIONS (DF, RKB, RT, GL):
5059 RKB

18. TOTAL DEPTH: MD 9,536 TVD 9,427

19. PLUG BACK T.D.: MD 9,477 TVD 9,367

20. IF MULTIPLE COMPLETIONS, HOW MANY? *

21. DEPTH BRIDGE MD PLUG SET: TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)
BHP-HDIL/ZDL/CNGR-CBL/GR/CCL/TEMP

23. WAS WELL CORED? NO YES (Submit analysis)
WAS DST RUN? NO YES (Submit report)
DIRECTIONAL SURVEY? NO YES (Submit copy)

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

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#	0	40		28			
11"	8 5/8" IJ-55	28#	0	2,713		1,055		0	
7 7/8"	4 1/2" I-80	11.6#	0	9,524		1,600		2100	

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	8,987							

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A) WASATCH	6,110	7,340			6,110 7,340	0.36	80	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(B) MESAVERDE	7,385	9,353			7,385 9,353	0.36	204	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

27. PERFORATION RECORD

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
6110-9353	PUMP 12,367 BBLs SLICK H2O & 272,301 LBS 30/50 OTTAWA SAND 12 STAGES

29. ENCLOSED ATTACHMENTS:

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

30. WELL STATUS:

PROD

31. INITIAL PRODUCTION

INTERVAL A (As shown in item #26)

DATE FIRST PRODUCED: 2/5/2013		TEST DATE: 2/11/2013		HOURS TESTED: 24		TEST PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 2,528	WATER – BBL: 0	PROD. METHOD: FLOWING
CHOKE SIZE: 20/64	TBG. PRESS. 1,911	CSG. PRESS. 2,563	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 2,528	WATER – BBL: 0	INTERVAL STATUS: PROD

INTERVAL B (As shown in item #26)

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

INTERVAL C (As shown in item #26)

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

INTERVAL D (As shown in item #26)

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

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

SOLD

33. SUMMARY OF POROUS ZONES (Include Aquifers):

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

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				GREEN RIVER	1,442
				BIRD'S NEST	1,746
				MAHOGANY	2,232
				WASATCH	4,726
				MESAVERDE	7,369

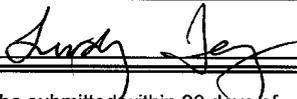
35. ADDITIONAL REMARKS (Include plugging procedure)

The first 210' of the surface hole was drilled with a 12 1/4" bit. The remainder of surface hole was drilled with an 11" bit. DQX csg was run from surface to 5020'; LTC csg was run from 5020' to 9524'. Attached is the chronological well history, perforation report & final survey.

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

NAME (PLEASE PRINT) LINDSEY FRAZIER

TITLE REGULATORY ANALYST

SIGNATURE 

DATE 2/28/2013

This report must be submitted within 30 days of

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

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

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

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

Phone: 801-538-5340

Fax: 801-359-3940

US ROCKIES REGION
Operation Summary Report

Well: MORGAN STATE 921-36H4CS YELLOW

Spud Date: 8/7/2012

Project: UTAH-UINTAH

Site: MORGAN STATE 921-36I PAD

Rig Name No: H&P 318/318, PROPETRO 11/11

Event: DRILLING

Start Date: 7/19/2012

End Date: 10/10/2012

Active Datum: RKB @5,059.00usft (above Mean Sea Level)

UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2102/E/0/737/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
8/7/2012	5:00 - 7:30	2.50	MIRU	01	B	P		M.S. 921-36H4CS (WELL 3 OF 4) INSTALL DIVERTOR HEAD AND BLUEY LINE. RIG UP NOV. SPOT IN RIG. SPOT IN CATWALK AND PIPE RACKS. RIG UP PUMP. PRIME PUMP. INSPECT RIG. SAFETY MEETING
	7:30 - 8:00	0.50	DRLSUR	06	A	P		PICK UP #1 BHA
	8:00 - 9:30	1.50	DRLSUR	02	D	P		DRL F/44' - T/210' (166" @ 110.6' ROP) W.O.B 5-15K RPM 45 POWERHEAD 67 MUD MOTOR UP/DWN/ROT 22/20/20 PSI ON/OFF 600/400 M.W. 8.4# VIS 27 397 GPM PUMP RATE / NO AIR NOV-ONLINE
	9:30 - 11:00	1.50	DRLSUR	06	A	P		TOOH WITH #1 BHA / TIH WITH #2 BHA
	11:00 - 16:00	5.00	DRLSUR	02	D	P		DRL F/210' - T/860' (650" @ 130' ROP) W.O.B 18 - 20K RPM 45 POWERHEAD 67 MUD MOTOR UP/DWN/ROT 60/52/55 5K DRAG PSI ON/OFF 1180/900 M.W. 8.4# VIS 27 397 GPM PUMP RATE / NO AIR NOV-ONLINE 3' LOW .29' LEFT OF TARGET SLID 201' / 22.4%
	16:00 - 0:00	8.00	DRLSUR	02	D	P		DRL F/860" - T/1790' (930" @ 116.3' ROP) W.O.B 18 - 20K RPM 45 POWERHEAD 67 MUD MOTOR UP/DOWN/ROT 76/58/65 11K DRAG PSI ON/OFF 1350/1250 M.W. 8.5# VIS 27 397 GPM PUMP RATE / 2420 CFM AIR RATE LOST CIRCULATION @ 1600' NOV- ONLINE 6.5' LOW 2' LEFT OF TARGET SLID 383' / 21%
8/8/2012	0:00 - 4:00	4.00	DRLSUR	02	D	P		DRL F/1790' - T/2180' (390" @ 97.5' ROP) W.O.B 18 - 20K RPM 45 POWERHEAD 67 MUD MOTOR UP/DWN/ROT 82/60/73 9K DRAG PSI ON/OFF 1480/1250 M.W. 8.5# VIS 27 397 GPM PUMP RATE / 2420 CFM AIR RATE TORQUE ON/OFF 3000/1500 2' LOW 1.5' LEFT OF TARGET SLID 423' / 20%

**US ROCKIES REGION
Operation Summary Report**

Well: MORGAN STATE 921-36H4CS YELLOW Spud Date: 8/7/2012

Project: UTAH-UINTAH Site: MORGAN STATE 921-36I PAD Rig Name No: H&P 318/318, PROPETRO 11/11

Event: DRILLING Start Date: 7/19/2012 End Date: 10/10/2012

Active Datum: RKB @5,059.00usft (above Mean Sea Level) UWI: NE/SE/O/9/S/21/E/36/O/0/26/PM/S/2102/E/O/737/O/O

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	4:00 - 12:00	8.00	DRLSUR	02	D	P		DRL F/2180' - T/2723' (543'@ 67.9' ROP) W.O.B 18 - 20K RPM 45 POWERHEAD 67 MUD MOTOR UP/DWN/ROT 96/70/80 16K DRAG PSI ON/OFF 1420/1130 M.W. 8.5# VIS 27 397 GPM PUMP RATE / 2420 CFM AIR RATE TORQUE ON/OFF 3000/1500
	12:00 - 14:00	2.00	DRLSUR	05	C	P		CIRCULATE FOR CASING
	14:00 - 17:00	3.00	DRLSUR	06	A	P		LDDS,BHA & DIRECTIONAL TOOLS
	17:00 - 18:00	1.00	DRLSUR	12	A	P		MOVE PIPE RACKS AND CATWALK. PULL DIVERTER HEAD. RIG UP TO RUN CSG. MOVE CSG INTO POSITION TO P/U.
	18:00 - 20:00	2.00	DRLSUR	12	C	P		TIH 61 JOINTS 8 5/8", 28#, J55 CASING SHOE IS AT 2688.8' BAFFLE IS AT 2644.3'
	20:00 - 20:30	0.50	DRLSUR	05	D	P		CIRCULATE PRIOR TO TIH WITH CSG
	20:30 - 21:00	0.50	DRLSUR	12	B	P		HOLD SAFETY MEETING PUMP ON CASING RUN 200' OF 1". RIG DOWN RIG MOVE OFF WELL, RIG UP CEMENT TRUCKS, AND CEMENT HEAD.
	21:00 - 22:00	1.00	CSGSUR	12	E	P		MAKE UP HEAD AND LOAD PLUG. PRESSURE TEST LINES TO 2000PSI. PUMP 50BBLs AHEAD 8.4# H2O. PUMP 20BBLs 8.4# GEL H2O AHEAD, PUMP 300 SXS (61.4BBLs) 15.8# 1.15 YIELD TAIL (2% CALC, 1/4#/SK OF FLOCECE) DROP PLUG ON THE FLY AND DISPLACE WITH 165BBLs OF 8.4# H2O. FINAL LIFT PRESSURE WAS 300PSI, BUMP PRESSURE WAS 700PSI HELD FOR 5 MINS. FLOAT HELD. NO RETURNS THRU OUT JOB. PUMP 125 SK 15.8 (25.6BBLs) CEMENT, W/4% CALCIUM DOWN 1". NO CEMENT TO SURFACE.
	22:00 - 23:30	1.50	CSGSUR	13	A	P		WOC PUMP 125SXS (20.4 BBLs) CEMENT DOWN BACKSIDE. (NO CMT TO SURFACE).
	23:30 - 0:00	0.50	CSGSUR	13	A	P		WOC
8/9/2012	0:00 - 1:00	1.00	CSGSUR	13	A	P		WOC PUMP 125SXS (25.6 BBLs) CEMENT DOWN BACKSIDE. (NO CMT TO SURFACE).
	1:00 - 3:00	2.00	CSGSUR	13	A	P		WOC PUMP 100SXS (20.4 BBLs) CEMENT DOWN BACKSIDE. (NO CMT TO SURFACE).
	3:00 - 4:30	1.50	CSGSUR	13	A	P		WOC PUMP 125SXS (25.6 BBLs) CEMENT DOWN BACKSIDE. (NO CMT TO SURFACE).
	4:30 - 6:00	1.50	CSGSUR	13	A	P		WOC PUMP 100SXS (20.4 BBLs) CEMENT DOWN BACKSIDE. (NO CMT TO SURFACE).
	6:00 - 7:00	1.00	CSGSUR	13	A	P		WOC PUMP 155SXS (31.7 BBLs) CEMENT DOWN BACKSIDE. (CMT TO SURFACE), RELEASED RIG @ 07:00
10/4/2012	8:00 - 9:00	1.00	RDMO	01	E	P		PREPARE RIG F/ SKID
	9:00 - 10:00	1.00	MIRU3	01	C	P		SKID RIG & CENTER RIG ON HOLE, RIG UP ROTARY TOOLS
	10:00 - 11:00	1.00	PRPSPD	14	A	P		NIPPLE UP BOP & EQUIPMENT

**US ROCKIES REGION
Operation Summary Report**

Well: MORGAN STATE 921-36H4CS YELLOW

Spud Date: 8/7/2012

Project: UTAH-UINTAH

Site: MORGAN STATE 921-36I PAD

Rig Name No: H&P 318/318, PROPETRO 11/11

Event: DRILLING

Start Date: 7/19/2012

End Date: 10/10/2012

Active Datum: RKB @5,059.00usft (above Mean Sea Level)

UWI: NE/SE/O/9/S/21/E/36/O/0/26/PM/S/2102/E/O/737/O/O

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	11:00 - 17:30	6.50	PRPSPD	15	A	P		SAFETY MEETING W/ A-1 TESTING , RIG UP & TEST BOP , IBOP, LOWER KELLY VALVE, FLOOR VALVE, PIPE RAMS, BLIND RAMS, HCR, WING VALVES CHOKE MANIFOLD ,CHECK VALVE LOW 250 HIGH 5,000 PSI ANN LOW 250 PSI HIGH 2500 PSI CASING 1500 FOR 30 MINS, TEST NOV SWACO CHOKE LINES & ORBIT VALVE TO 1,000 PSI OK, RIG DOWN TESTER
	17:30 - 18:00	0.50	PRPSPD	14	B	P		INSTALL WEAR BUSHING
	18:00 - 19:00	1.00	PRPSPD	09	A	P		SLIP & CUT 80' OF DRILL LINE
	19:00 - 21:30	2.50	PRPSPD	06	A	P		PICKUP SMITH MDI 616, SDI .23 RPG/1.5 BEND MOTOR , MWD , ORIENT MWD, TRIP IN HOLE , TAG CEMENT @ 2590'
	21:30 - 22:30	1.00	DRLPRC	02	F	P		DRILL CEMENT & FLOAT EQUIPMENT F/ 2590' TO 2743', SPUD @ 21:30 10/4/2012
	22:30 - 0:00	1.50	DRLPRC	02	B	P		DRILL F/ 2743' TO 2923' , 180' @ 120' HR WEIGHT ON BIT: 18/20 ROTATIONS PER MINUTE: 45 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 1700/1350 PICKUP/SLACK OFF/ROTATE: 110/80/94 MUD WEIGHT 8.6 , VISCOSITY 27 ROTATE:164 IN 1.25 HRS = 131.2' HR SLIDE: 16' IN .25 HRS = 64' HR NOV: DEWATERING NO LOSSES
10/5/2012	0:00 - 6:00	6.00	DRLPRC	02	B	P		DRILL F/ 2923' TO 3738' , 815' @ 135.8' HR WEIGHT ON BIT: 18/22 TORQUE 7/3 ROTATIONS PER MINUTE: 45/50 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 1700/1350 PICKUP/SLACK OFF/ROTATE: 110/80/94 MUD WEIGHT 8.6 , VISCOSITY 27 ROTATE:747' IN 5 HRS = 149.4' HR SLIDE: 68' IN 1 HR = 68' HR NOV: DEWATERING NO LOSSES
	6:00 - 6:30	0.50	DRLPRC	07	A	P		RIG SERVICE
	6:30 - 9:30	3.00	DRLPRV					DRILL F/ 3738' TO 4241' , 503' @ 167.6' HR WEIGHT ON BIT: 20/22 TORQUE 10/7 ROTATIONS PER MINUTE: 45/52 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 1900/1500 PICKUP/SLACK OFF/ROTATE: 132/100/115 MUD WEIGHT 8.6 , VISCOSITY 27 ROTATE: 483' IN 192' HR SLIDE: 20' IN .50 HRS = 40' HR NOV: DEWATERING NO LOSSES

US ROCKIES REGION
Operation Summary Report

Well: MORGAN STATE 921-36H4CS YELLOW Spud Date: 8/7/2012

Project: UTAH-UINTAH Site: MORGAN STATE 921-36I PAD Rig Name No: H&P 318/318, PROPETRO 11/11

Event: DRILLING Start Date: 7/19/2012 End Date: 10/10/2012

Active Datum: RKB @5,059.00usft (above Mean Sea Level) UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2102/E/0/737/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	9:30 - 13:30	4.00	DRLPRV	06	J	P		TRIP OUT TO HEAVY WATE DRILL PIPE, INSTALL 7 3/4 GHOST REAMER, TRIP IN HOLE
	13:30 - 18:00	4.50	DRLPRV	02	B	P		DRILL F/ 4241' TO 4877' , 636' @ 159' HR WEIGHT ON BIT: 20/22 TORQUE 8/6 ROTATIONS PER MINUTE: 50/55 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 1900/1500 PICKUP/SLACK OFF/ROTATE: 149/102/119 MUD WEIGHT 8.8 , VISCOSITY 36 ROTATE:616' IN 3.92 HRS = 157.1' HR SLIDE: 20' IN .58 HRS = 34.4' HR START VIS UP @ 4300' NOV: RUNNING CONVENTIONAL LOST APPROX 60 BBLS TO SEEPAGE PUMPING 15 BBL LCM SWEEPS EVERY 200'
	18:00 - 0:00	6.00	DRLPRV	02	B	P		DRILL F/ 4877' TO 5667' , 790' @ 131.6 WEIGHT ON BIT: 20/25 TORQUE 9/7 ROTATIONS PER MINUTE: 55/66 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 2200/1900 PICKUP/SLACK OFF/ROTATE: 170/106/132 MUD WEIGHT 8.8 , VISCOSITY 36 ROTATE:779' IN 5.67 HRS = 137.3' HR SLIDE: 11' IN .33 HRS = 33.3' HR NOV: RUNNING CONVENTIONAL LOST APPROX 90 BBLS TO SEEPAGE PUMPING 15 BBL SWEEPS EVERY 200'
10/6/2012	0:00 - 6:00	6.00	DRLPRV	02	B	P		DRILL F/ 5667' TO 6231' , 564' @ 94' HR WEIGHT ON BIT: 20/25 TORQUE 9/7 ROTATIONS PER MINUTE: 55/66 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 2200/1900 PICKUP/SLACK OFF/ROTATE: 174/108/134 MUD WEIGHT 9.2 , VISCOSITY 34 ROTATE: 534' IN 4.92 HRS = 108.5' HR SLIDE: 30' IN 1.08 HRS = 27.7' HR NOV: DEWATERING 2 HRS ON 2 HRS OFF LOST APPROX 90 BBLS TO SEEPAGE APPROX 15 BBLS/HR, PUMPING 15 BBL LCM SWEEPS EVERY 200'

US ROCKIES REGION
Operation Summary Report

Well: MORGAN STATE 921-36H4CS YELLOW Spud Date: 8/7/2012

Project: UTAH-UINTAH Site: MORGAN STATE 921-36I PAD Rig Name No: H&P 318/318, PROPETRO 11/11

Event: DRILLING Start Date: 7/19/2012 End Date: 10/10/2012

Active Datum: RKB @5,059.00usft (above Mean Sea Level) UWI: NE/SE/O9/S/21/E/36/O/O/26/PM/S/2102/E/O/737/O/O

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 17:00	11.00	DRLPRV	02	B	P		DRILL F/ 6231' TO 7177' , 946' @ 86' HR WEIGHT ON BIT: 20/25 TORQUE 11/10 ROTATIONS PER MINUTE: 65/68 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 2200/1900 PICKUP/SLACK OFF/ROTATE: 210/125/158 MUD WEIGHT 9.0 , VISCOSITY 36 ROTATE: 938' IN 10.42 HRS = 90' HR SLIDE: 8' IN .58 HRS = 13.7' HR NOV: DEWATERING 2 HRS ON 2 HRS OFF LOST APPROX 75 BBLs TO SEEPAGE APPROX 7 BBLs /HR , PUMPING 15 BBL LCM SWEEP EVERY 100'
	17:00 - 17:30	0.50	DRLPRV	07	A	P		RIG SERVICE
	17:30 - 0:00	6.50	DRLPRV	02	B	P		DRILL F/ 7177' TO 7561' , 384' @ 59' HR WEIGHT ON BIT: 20/25 TORQUE 12/6 ROTATIONS PER MINUTE: 63/68 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 2050/1900 PICKUP/SLACK OFF/ROTATE: 230/130/169 MUD WEIGHT 9.1 , VISCOSITY 34 ROTATE: 384' IN 6.5 HRS = 59' HR SLIDE:0 NOV: DEWATERING 2 HRS ON 2 HRS OFF LOST APPROX 50 BBLs TO SEEPAGE APPROX 7.5 BBLs/HR, PUMPING 15 BBL LCM SWEEP EVERY 200'
10/7/2012	0:00 - 6:00	6.00	DRLPRV	02	B	P		DRILL F/ 7561' TO 7962' , 401' @ 66.8' HR WEIGHT ON BIT: 20/25 TORQUE 12/8 ROTATIONS PER MINUTE: 63/68 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 2050/1900 PICKUP/SLACK OFF/ROTATE: 230/130/169 MUD WEIGHT 9.1 , VISCOSITY 34 ROTATE: 371' IN 4.33 HRS = 85.6' HR SLIDE: 30' IN 1.67 HRS = 17.9' HR NOV: DEWATERING 2 HRS ON 2 HRS OFF LOST APPROX 20 BBLs TO SEEPAGE

US ROCKIES REGION
Operation Summary Report

Well: MORGAN STATE 921-36H4CS YELLOW Spud Date: 8/7/2012

Project: UTAH-UINTAH Site: MORGAN STATE 921-36I PAD Rig Name No: H&P 318/318, PROPETRO 11/11

Event: DRILLING Start Date: 7/19/2012 End Date: 10/10/2012

Active Datum: RKB @5,059.00usft (above Mean Sea Level) UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2102/E/0/737/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 14:30	8.50	DRLPRV	02	B	P		DRILL F/ 7962' TO 8403' , 441' @ 51.8' HR WEIGHT ON BIT: 23/28 TORQUE 15/11 ROTATIONS PER MINUTE: 63/68 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 2250/ 1980 PICKUP/SLACKOFF/ROTATE:250/139/178 MUD WEIGHT 9.0 , VISCOSITY 36 ROTATE:429' IN 7.92 HRS = 54.1' HR SLIDE:12' IN .58 HRS = 20.6' HR NOV: DEWATERING 2 HRS ON 2 HRS OFF 20' FLARE @ 8030' NO LOSSES
	14:30 - 15:00	0.50	DRLPRV	07	A	P		RIG SERVICE
	15:00 - 0:00	9.00	DRLPRV	02	B	P		DRILL F/ 8403' TO 9016' , 613' @ 68.1' HR WEIGHT ON BIT: 24/28 TORQUE 14/7 ROTATIONS PER MINUTE: 63/65 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 2350/1990 PICKUP/SLACKOFF/ROTATE:275/140/196 MUD WEIGHT 9.5 , VISCOSITY 35 ROTATE:613' IN 9 HRS = 68.1' HR SLIDE:0 NOV: DEWATERING 2 HRS ON 2 HRS OFF NO LOSSES
10/8/2012	0:00 - 2:00	2.00	DRLPRV	05	G	P		START DISPLACING 11.8# MUD @ 9000' ATTEMPT TO DRILL WHILE DISPLACING 11.8# MUD, TRANSFER PUMPS WOULD NOT KEEP UP, PICK UP OFF BOTTOM & DISPLACE MUD MIXING LCM, LOST CIRC WHEN WE GO A 10.4 WT BACK TO SURFACE, LOST 450 BBLs
	2:00 - 3:30	1.50	DRLPRV	22	G	X		***LOST CIRC*** TRIP OUT 20 STAND TO 7176'
	3:30 - 5:00	1.50	DRLPRV	22	G	X		***LOST CIRC*** BUILD VOLUME, MIX LCM TO 20%, ESTABLISH CIRCULATION
	5:00 - 5:30	0.50	DRLPRV	22	G	X		***LOST CIRCULATION*** TRIP IN HOLE TO 8027'
	5:30 - 6:00	0.50	DRLPRV	22	G	X		***LOST CIRCULATION*** BREAK CIRCULATION, NO LOSSES
	6:00 - 6:30	0.50	DRLPRV	22	G	X		***LOST CIRCULATION*** TRIP IN HOLE 10 STANDS TO BOTTOM
	6:30 - 8:30	2.00	DRLPRV	02	B	P		DRILL F/ 9016' TO 9063' ,47' @ 23.5' HR WEIGHT ON BIT: 26/28 TORQUE 13/10 ROTATIONS PER MINUTE: 64/68 STROKES PER MINUTE: 108 GALLONS PER MINUTE: 486 ON/OFF PSI: 2650/2380 PICKUP/SLACKOFF/ROTATE:275/140/193 MUD WEIGHT 11.5 , VISCOSITY 38, 22% LCM ROTATE: 47' IN 2 HRS = 23.5' HR SLIDE:0 NOV: SHUT DOWN NO LOSSES

US ROCKIES REGION
Operation Summary Report

Well: MORGAN STATE 921-36H4CS YELLOW Spud Date: 8/7/2012
 Project: UTAH-UINTAH Site: MORGAN STATE 921-36I PAD Rig Name No: H&P 318/318, PROPETRO 11/11
 Event: DRILLING Start Date: 7/19/2012 End Date: 10/10/2012
 Active Datum: RKB @5,059.00usft (above Mean Sea Level) UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2102/E/0/737/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	8:30 - 9:00	0.50	DRLPRV	22	L	Z		*** MWD FAILURE*** TROUBLE SHOOT MWD SIGNAL
	9:00 - 13:30	4.50	DRLPRV	02	B	P		DRILL F/ 9063' TO 9252' , 189' @ 42' HR WEIGHT ON BIT: 24/28 TORQUE 10/10 ROTATIONS PER MINUTE: 64/68 STROKES PER MINUTE: 115 GALLONS PER MINUTE: 517 ON/OFF PSI: 2800/2500 PICKUP/SLACKOFF/ROTATE: 255/ 151/185 MUD WEIGHT 11.5 , VISCOSITY 36 , LCM 22% ROTATE:189' IN 4.5 HRS = 189' HR SLIDE:0 NOV: SHUT DOWN NO LOSSES
	13:30 - 14:00	0.50	DRLPRV	07	A	P		RIG SERVICE
	14:00 - 19:30	5.50	DRLPRV	02	B	P		DRILL F/ 9252' TO 9536' , TD @ 19:30 10/8/2012 ,284' @ 51.6' HR WEIGHT ON BIT: 24/28 TORQUE 11/7 ROTATIONS PER MINUTE: 63/65 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 2850/1530 PICKUP/SLACKOFF/ROTATE:260/155/194 MUD WEIGHT 11.8 , VISCOSITY 41 , 20% LCM ROTATE: 284' IN 5.5 HRS = 51.6' HR SLIDE:0 NOV: SHUT DOWN NO LOSSES
	19:30 - 20:30	1.00	DRLPRV	05	C	P		CIRCULATE & CONDITION F/ WIPER TRIP.
	20:30 - 0:00	3.50	DRLPRV	06	E	P		WIPER TRIP TO CASING SHOE , NO PROBLEMS
10/9/2012	0:00 - 2:30	2.50	DRLPRV	06	E	P		TRIP IN HOLE F/ SHOE , NO PROBLEMS
	2:30 - 3:30	1.00	DRLPRV	05	C	P		CIRCULATE & CONDITION F/ LOGS
	3:30 - 9:00	5.50	DRLPRV	06	A	P		TRIP OUT OF HOLE F/ LOGS, LAY DOWN GHOST REAMER, MWD, MOTOR & BIT
	9:00 - 14:30	5.50	EVALPR	11	C	P		SAFETY MEETING W/ BAKER ATLAS, RIG UP LOGGERS & RUN TRIPLE COMBO, WORKED THROUGH BRIDGE @ 4125' , HOLE STARTED GETTING STICKY @ 6500', LOGS WERE BRIEFLY STUCK @ 6668', LOG OUT F/ 6600', RIG DOWN LOGGERS
	14:30 - 15:00	0.50	EVALPR	07	A	P		RIG SERVICE
	15:00 - 20:00	5.00	EVALPR	06	E	X		*** LOGS BRIDGED OUT***TRIP IN HOLE F/ 2ND WIPER TRIP, TAG & WASH THROUGH BRIDGE @ 4254', CONTINUE TRIP IN HOLE WASH LAST STAND TO BOTTOM
	20:00 - 21:30	1.50	EVALPR	05	A	X		*** LOGS BRIDGED OUT*** CIRCULATE BOTTOMS UP, 15' FLARE
	21:30 - 0:00	2.50	EVALPR	06	E	X		*** LOGS BRIDGED OUT*** TRIPPING OUT OF HOLE @ 5300'
10/10/2012	0:00 - 3:30	3.50	DRLPRV	06	E	X		*** LOGS BRIDGED OUT*** FINISH TRIP OUT OF HOLE F/ 5300' (WET PIPE DUE TO PLUGGED BIT)
	3:30 - 4:00	0.50	DRLPRV	23		X		CLEAN RIG FLOOR

US ROCKIES REGION

Operation Summary Report

Well: MORGAN STATE 921-36H4CS YELLOW Spud Date: 8/7/2012

Project: UTAH-UINTAH Site: MORGAN STATE 921-36I PAD Rig Name No: H&P 318/318, PROPETRO 11/11

Event: DRILLING Start Date: 7/19/2012 End Date: 10/10/2012

Active Datum: RKB @5,059.00usft (above Mean Sea Level) UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2102/E/0/737/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	4:00 - 10:00	6.00	DRLPRV	11	C	P		SAFETY MEETING W/ BAKER ATLAS, RIG UP & RUN TRIPLE COMBO LOGS , BRIDGED OUT @ 7641' LOG OUT
	10:00 - 10:30	0.50	DRLPRV	14	B	P		PULL WEAR BUSHING
	10:30 - 11:30	1.00	DRLPRV	12	A	P		SAFETY MEETING W/ KIMZEY , RIG UP CASERS
	11:30 - 18:30	7.00	CSGPRO	12	C	P		RUN 217 JOINTS 4.5", 11.6#, 180 PRODUCTION CASING (103 JTS LT&C , 114 JTS DQX), LAND SHOE @ 9523', TOP OF FLOAT 9477', TOP OF MARKER 7351', TOP OF X/O 4999'
	18:30 - 20:00	1.50	CSGPRO	05	A	P		CIRC OUT GAS HAD 25' FLAR
	20:00 - 23:00	3.00	CSGPRO	12	E	P		CMT 4.5 CASING LEAD 12.5 # 560 SX CMT YIELD 1.98 TAIL 14.3 YIELD 1.33 1040 SX CMT DISPLACE W/ 147 BBLS BUMPED PLUG FLOATS HELD RETURNED 0 BBLS CMT TO PIT LIFT PSI 2,000 BUMP PSI 2500 FLOATS HELDCAL. TOP CMT @ 1500' SHOR 250 PSI ON LIFT
	23:00 - 23:30	0.50	CSGPRO	12	A	P		WASH OUT BOPS STACK ,FLOWLINES
	23:30 - 0:00	0.50	CSGPRO	14	A	P		NIPPLE DOWN BOPS , CLEAN PITS RIG RELEASED @ 00:00 10/11 2012

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	MORGAN STATE 921-36H4CS YELLOW	Wellbore No.	OH
Well Name	MORGAN STATE 921-36H4CS	Wellbore Name	MORGAN STATE 921-36H4CS
Report No.	1	Report Date	12/5/2012
Project	UTAH-UINTAH	Site	MORGAN STATE 921-36I PAD
Rig Name/No.		Event	COMPLETION
Start Date	12/5/2012	End Date	2/5/2013
Spud Date	8/7/2012	Active Datum	RKB @5,059.00usft (above Mean Sea Level)
UWI	NE/SE/O9/S/21/E/36/O/O/26/PM/S/2102/E/O/737/O/O		

1.3 General

Contractor		Job Method		Supervisor	
Perforated Assembly		Conveyed Method			

1.4 Initial Conditions

Fluid Type		Fluid Density	
Surface Press		Estimate Res Press	
TVD Fluid Top		Fluid Head	
Hydrostatic Press		Press Difference	
Balance Cond	NEUTRAL		

1.5 Summary

Gross Interval	6,110.0 (usft)-9,353.0 (usft)	Start Date/Time	1/21/2013 12:00AM
No. of Intervals	79	End Date/Time	1/21/2013 12:00AM
Total Shots	284	Net Perforation Interval	91.00 (usft)
Avg Shot Density	3.12 (shot/ft)	Final Surface Pressure	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/21/2013 12:00AM	WASATCH/			6,110.0	6,111.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/21/2013 12:00AM	WASATCH/			6,122.0	6,123.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			6,140.0	6,141.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			6,252.0	6,253.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			6,381.0	6,382.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			6,509.0	6,511.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			6,523.0	6,525.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			6,605.0	6,607.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			6,703.0	6,705.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			6,730.0	6,732.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			6,744.0	6,746.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			6,881.0	6,883.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			6,932.0	6,934.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			7,130.0	7,131.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			7,262.0	7,263.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			7,298.0	7,299.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			7,339.0	7,340.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,385.0	7,386.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,400.0	7,401.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,414.0	7,415.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,453.0	7,454.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,528.0	7,529.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr. Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/21/2013 12:00AM	MESAVERDE/			7,600.0	7,601.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,613.0	7,614.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,623.0	7,624.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,670.0	7,671.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,736.0	7,737.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,746.0	7,748.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,799.0	7,800.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,867.0	7,868.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,896.0	7,897.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,971.0	7,972.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,987.0	7,988.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,005.0	8,006.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,018.0	8,020.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,050.0	8,051.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,079.0	8,080.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,091.0	8,092.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,110.0	8,111.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,230.0	8,231.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,312.0	8,313.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,363.0	8,364.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,421.0	8,422.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/21/2013 12:00AM	MESAVERDE/			8,447.0	8,448.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,452.0	8,453.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,474.0	8,475.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,510.0	8,512.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,606.0	8,607.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,629.0	8,630.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,645.0	8,646.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,686.0	8,687.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,701.0	8,702.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,723.0	8,724.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,738.0	8,739.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,751.0	8,752.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,764.0	8,765.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,804.0	8,805.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,839.0	8,840.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,875.0	8,876.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,882.0	8,883.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,901.0	8,902.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,916.0	8,917.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,948.0	8,949.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,982.0	8,983.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/21/2013 12:00AM	MESAVERDE/			9,012.0	9,013.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,027.0	9,029.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,044.0	9,045.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,054.0	9,055.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,066.0	9,067.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,079.0	9,080.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,101.0	9,102.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,135.0	9,136.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,144.0	9,145.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,165.0	9,166.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,180.0	9,181.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,202.0	9,203.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,264.0	9,265.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,333.0	9,334.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,352.0	9,353.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

3 Plots

US ROCKIES REGION

Operation Summary Report

Well: MORGAN STATE 921-36H4CS YELLOW		Spud Date: 8/7/2012	
Project: UTAH-UINTAH		Site: MORGAN STATE 921-36I PAD	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION		Start Date: 12/5/2012	End Date: 2/5/2013
Active Datum: RKB @5,059.00usft (above Mean Sea Level)		UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2102/E/0/737/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
8/7/2012	-							
12/5/2012	11:15 - 11:30	0.25	FRAC	33	C	P		RU HOT OILER, FILLED 8 5/8 X 4 1/2" ANNULAR PRESSURED TO 1500 PSI, NO BLEED OFF, BLED WELL DOWN
12/6/2012	-							
1/15/2013	11:00 - 11:30	0.50	FRAC	33	C	P		FILL SURFACE CSG. MIRU CAMERON QUICK TEST. 1ST PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST 21 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG
1/21/2013	8:00 - 13:00	5.00	SUBSPR	37	B	P		BLEED OFF PSI. MOVE T/ NEXT WELL.SWMFN HSM, EQUALIZING WELL, MIRU CASED HOLE Solutons, PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE,
1/22/2013	7:00 - 8:15	1.25	FRAC	46	E	Z		WAITING ON NABORS TO GET EQUIP UP & RUNNING, & GET PRESSURE TESTED, TESTED TO 8,200#
	8:15 - 8:30	0.25	FRAC	48		P		HSM, OPENING & CLOSING VALVES

US ROCKIES REGION
Operation Summary Report

Well: MORGAN STATE 921-36H4CS YELLOW		Spud Date: 8/7/2012	
Project: UTAH-UIINTAH		Site: MORGAN STATE 921-36I PAD	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION		Start Date: 12/5/2012	End Date: 2/5/2013
Active Datum: RKB @5,059.00usft (above Mean Sea Level)		UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2102/E/0/737/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	8:30 - 17:30	9.00	FRAC	36	B	P		<p>PERF & FRAC FOLLOWING WELL AS PER DESIGN W/ 30/50 MESH SAND & SLK WTR. ALL CBP'S ARE HALIBURTON 8K CBP'S. REFER TO STIM PJR FOR FLUID, SAND AND CHEMICAL VOLUME PUM'D</p> <p>FRAC STG #1] WHP=1628#, BRK DN PERFS=3171#, @=4.7 BPM, INJ RT=42.9, INJ PSI=6,015#, INITIAL ISIP=2,276#, INITIAL FG=.68, FINAL ISIP=2,923#, FINAL FG=.75, AVERAGE RATE=50.7, AVERAGE PRESSURE=6,173#, MAX RATE=52.1, MAX PRESSURE=6,602#, NET PRESSURE INCREASE=647#, 15/24 63% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,112', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #2] WHP=2,525#, BRK DN PERFS=3,648#, @=4.8 BPM, INJ RT=46.7, INJ PSI=6,247#, INITIAL ISIP=2,778#, INITIAL FG=.75, FINAL ISIP=3,414#, FINAL FG=.82, AVERAGE RATE=48.2, AVERAGE PRESSURE=5,120#, MAX RATE=49.2, MAX PRESSURE=6,285#, NET PRESSURE INCREASE=636#, 16/24 67% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #3] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,993', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #3] WHP=1,152#, BRK DN PERFS=#, @= BPM, INJ RT=50, INJ PSI=4,447#, INITIAL ISIP=1,727#, INITIAL FG=.63, FINAL ISIP=2,890#, FINAL FG=.76, AVERAGE RATE=49.5, AVERAGE PRESSURE=4,670#, MAX RATE=50.6, MAX PRESSURE=5,374#, NET PRESSURE INCREASE=1,163#, 23/24 96% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #4] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,775', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #4] WHP=1,906#, BRK DN PERFS=2,512#, @=5.1 BPM, INJ RT=50.1, INJ PSI=4,314#, INITIAL ISIP=2,155#, INITIAL FG=.69, FINAL ISIP=2,588#, FINAL FG=.74, AVERAGE RATE=49.5, AVERAGE PRESSURE=4,570#, MAX RATE=50.6, MAX PRESSURE=5,374#, NET PRESSURE INCREASE=433#, 24/24 100% CALC</p>

US ROCKIES REGION

Operation Summary Report

Well: MORGAN STATE 921-36H4CS YELLOW Spud Date: 8/7/2012

Project: UTAH-UINTAH Site: MORGAN STATE 921-36I PAD Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3

Event: COMPLETION Start Date: 12/5/2012 End Date: 2/5/2013

Active Datum: RKB @5,059.00usft (above Mean Sea Level) UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2102/E/0/737/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/23/2013	7:00 - 7:15	0.25	FRAC	48	B	P		PERFS OPEN. X OVER TO WIRE LINE PERF STG #5] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,617', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW. SWIFN. HSM, OPENING / CLOSING VALVES

**US ROCKIES REGION
Operation Summary Report**

Well: MORGAN STATE 921-36H4CS YELLOW Spud Date: 8/7/2012

Project: UTAH-UINTAH Site: MORGAN STATE 921-36I PAD Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3

Event: COMPLETION Start Date: 12/5/2012 End Date: 2/5/2013

Active Datum: RKB @5,059.00usft (above Mean Sea Level) UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2102/E/0/737/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 7:15	0.00	FRAC	36	B	P		<p>FRAC STG #5] WHP=1,635#, BRK DN PERFS=4,518#, @=4.7 BPM, INJ RT=48.1, INJ PSI=5,160#, INITIAL ISIP=2,394#, INITIAL FG=.72, FINAL ISIP=2,660#, FINAL FG=.75, AVERAGE RATE=48.4, AVERAGE PRESSURE=5,399#, MAX RATE=51, MAX PRESSURE=6,739#, NET PRESSURE INCREASE=266#, 21/24 88% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #6] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,343', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #6] WHP=1,330#, BRK DN PERFS=2,712#, @=4.7 BPM, INJ RT=50, INJ PSI=4,057#, INITIAL ISIP=1,796#, INITIAL FG=.66, FINAL ISIP=2,443#, FINAL FG=.74, AVERAGE RATE=49.8, AVERAGE PRESSURE=4,308#, MAX RATE=50.6, MAX PRESSURE=5,717#, NET PRESSURE INCREASE=650#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #7] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,030', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #7] WHP=2,210#, BRK DN PERFS=2,881#, @=4.7 BPM, INJ RT=49.5, INJ PSI=5,584#, INITIAL ISIP=2,233#, INITIAL FG=.72, FINAL ISIP=2,552#, FINAL FG=.76, AVERAGE RATE=47.3, AVERAGE PRESSURE=4,452#, MAX RATE=50.5, MAX PRESSURE=6,752#, NET PRESSURE INCREASE=319#, 18/24 75% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #8] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,778', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #8] WHP=1,215#, BRK DN PERFS=3,053#, @=5 BPM, INJ RT=49.8, INJ PSI=4,556#, INITIAL ISIP=1,458#, INITIAL FG=.63, FINAL ISIP=2,197#, FINAL FG=.73, AVERAGE RATE=49.7, AVERAGE PRESSURE=4,099#, MAX RATE=50.5, MAX PRESSURE=4,920#, NET PRESSURE INCREASE=739#, 19/24 79% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #9] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,484', PERF MESAVERDE/ WASATCH USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO</p>

US ROCKIES REGION

Operation Summary Report

Well: MORGAN STATE 921-36H4CS YELLOW				Spud Date: 8/7/2012				
Project: UTAH-UINTAH			Site: MORGAN STATE 921-36I PAD			Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3		
Event: COMPLETION			Start Date: 12/5/2012		End Date: 2/5/2013			
Active Datum: RKB @5,059.00usft (above Mean Sea Level)				UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2102/E/0/737/0/0				
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/24/2013	7:00 - 7:15	0.25	FRAC	48		P		FRAC CREW SWMFN. HSM, WORKING AROUND WIRE LINE

**US ROCKIES REGION
Operation Summary Report**

Well: MORGAN STATE 921-36H4CS YELLOW Spud Date: 8/7/2012
 Project: UTAH-UINTAH Site: MORGAN STATE 921-36I PAD Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
 Event: COMPLETION Start Date: 12/5/2012 End Date: 2/5/2013
 Active Datum: RKB @5,059.00usft (above Mean Sea Level) UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2102/E/0/737/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 14:30	7.25	FRAC	36	B	P		<p>FRAC STG #9] WHP=854#, BRK DN PERFS=2,903#, @=4.9 BPM, INJ RT=51.7, INJ PSI=5,001#, INITIAL ISIP=1,222#, INITIAL FG=.61, FINAL ISIP=2,338#, FINAL FG=.76, AVERAGE RATE=51, AVERAGE PRESSURE=5,262#, MAX RATE=52, MAX PRESSURE=5,511#, NET PRESSURE INCREASE=1,116#, 17/24 71% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #10] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=6,964', PERF WASATCH USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #10] WHP=592#, BRK DN PERFS=1,919#, @=5.1 BPM, INJ RT=51, INJ PSI=3,471#, INITIAL ISIP=1,356#, INITIAL FG=.64, FINAL ISIP=1,943#, FINAL FG=.72, AVERAGE RATE=50.8, AVERAGE PRESSURE=3,502#, MAX RATE=52.3, MAX PRESSURE=4,249#, NET PRESSURE INCREASE=587#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #11] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=6,715', PERF WASATCH USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #11] WHP=1,749#, BRK DN PERFS=2,255#, @=4.1 BPM, INJ RT=51.3, INJ PSI=3,507#, INITIAL ISIP=1,752#, INITIAL FG=.70, FINAL ISIP=1,854#, FINAL FG=.72, AVERAGE RATE=51, AVERAGE PRESSURE=3,460#, MAX RATE=52.4, MAX PRESSURE=5,002#, NET PRESSURE INCREASE=102#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #12] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=6,412', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #12] WHP=1,051#, BRK DN PERFS=1,735#, @=5.1 BPM, INJ RT=51.9, INJ PSI=4,102#, INITIAL ISIP=1,157#, INITIAL FG=.62, FINAL ISIP=1,163#, FINAL FG=.62, AVERAGE RATE=51.6, AVERAGE PRESSURE=3,419#, MAX RATE=52.5, MAX PRESSURE=4,337#, NET PRESSURE INCREASE=6#, 19/20 95% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>P/U RIH W/ HALIBURTON 8K CBP, SET FOR TOP KILL @=6,060</p> <p>TOTAL FLUID PUMP'D=12,367 BBLs</p>

US ROCKIES REGION

Operation Summary Report

Well: MORGAN STATE 921-36H4CS YELLOW Spud Date: 8/7/2012

Project: UTAH-UINTAH	Site: MORGAN STATE 921-36I PAD	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
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Event: COMPLETION	Start Date: 12/5/2012	End Date: 2/5/2013
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Active Datum: RKB @5,059.00usft (above Mean Sea Level)	UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2102/E/0/737/0/0
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Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
2/4/2013	7:00 - 7:15	0.25	DRLOUT	48		P		TOTAL SAND PUMP'D=272,301# HSM-JSA RDMO MORGAN STATE 921-36I1BS, MIRU, NDWH, NUBOP, PU 3 7/8" BIT & POBS W/ XN SN, RIH W/ 191 JTS 2 3/8" L-80 TAG FILL @ 6,050', RU PWR SWWL, SM, SDFN. HSM-JSA
	7:15 - 15:00	7.75	DRLOUT	31	I	P		
2/5/2013	7:00 - 7:15	0.25	DRLOUT	48		P		

US ROCKIES REGION
Operation Summary Report

Well: MORGAN STATE 921-36H4CS YELLOW		Spud Date: 8/7/2012	
Project: UTAH-UINTAH		Site: MORGAN STATE 921-36I PAD	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION		Start Date: 12/5/2012	End Date: 2/5/2013
Active Datum: RKB @5,059.00usft (above Mean Sea Level)		UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2102/E/0/737/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 15:00	7.75	DRLOUT	44	C	P		BRK CIRC, PRESS TEST BOP TO 3,000 PSI, LOST 0 PSI IN 15 MIN. C/O 10' SAND TAG PLUG #1 @ 6,060', DRL HAL 8K CBP IN 7 MIN, 0 PSI INC, FCP 0 PSI, RIH TAG FILL @ 6,372'. C/O 40' SAND TAG PLUG #2 @ 6,412', DRL HAL 8K CBP IN 5 MIN, 200 PSI INC, FCP 25 PSI, RIH TAG FILL @ 6,895'. C/O 20' SAND TAG PLUG #3 @ 6,715', DRL HAL 8K CBP IN 5 MIN, 0 PSI INC, FCP 25 PSI, RIH TAG FILL @ 6,939'. C/O 25' SAND TAG PLUG #4 @ 6,964', DRL HAL 8K CBP IN 4 MIN, 350 PSI INC, FCP 100 PSI, RIH TAG FILL @ 7,454'. C/O 30' SAND TAG PLUG #5 @ 7,484', DRL HAL 8K CBP IN 6 MIN, 300 PSI INC, FCP 200 PSI, RIH TAG FILL @ 7,753'. C/O 25' SAND TAG PLUG #6 @ 7,778', DRL HAL 8K CBP IN 7 MIN, 400 PSI INC, FCP 300 PSI, RIH TAG FILL @ 8,010'. C/O 10' SAND TAG PLUG #7 @ 8,030', DRL HAL 8K CBP IN 6 MIN, 200 PSI INC, FCP 300 PSI, RIH TAG FILL @ 8,298'. C/O 45' SAND TAG PLUG #8 @ 8,343', DRL HAL 8K CBP IN 6 MIN, 450 PSI INC, FCP 450 PSI, RIH TAG FILL @ 8,567'. C/O 50' SAND TAG PLUG #9 @ 8,617', DRL HAL 8K CBP IN 5 MIN, 200 PSI INC, FCP 500 PSI, RIH TAG FILL @ 8,760'. C/O 15' SAND TAG PLUG #10 @ 8,775', DRL HAL 8K CBP IN 7 MIN, 150 PSI INC, FCP 500 PSI, RIH TAG FILL @ 8,948'. C/O 45' SAND TAG PLUG #11 @ 8,993', DRL HAL 8K CBP IN 8 MIN, 350 PSI INC, FCP 600 PSI, RIH TAG FILL @ 9,097'. C/O 15' SAND TAG PLUG #12 @ 9,112', DRL HAL 8K CBP IN 6 MIN, 250 PSI INC, FCP 650 PSI, RIH TAG FILL @ 9,417' (64' BLW BTM PERF), CIRC CLEAN, RD PWR SWWL, POOH LD 14 JTS TBG, LAND TBG W/ 283 JTS 2 3/8" L-80 EOT @ 8,987.49', RD FLOOR & TBG EQUIP, NDBOP, NUWH, DROP BALL POBS @ 2,000 PSI, PRESS TEST FLOWLINE BETWEEN HAL 9,000 & WELLHEAD TO 3,000 PSI, LET BIT FALL 20

US ROCKIES REGION

Operation Summary Report

Well: MORGAN STATE 921-36H4CS YELLOW		Spud Date: 8/7/2012	
Project: UTAH-UINTAH		Site: MORGAN STATE 921-36I PAD	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION		Start Date: 12/5/2012	End Date: 2/5/2013
Active Datum: RKB @5,059.00usft (above Mean Sea Level)		UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2102/E/0/737/0/0	

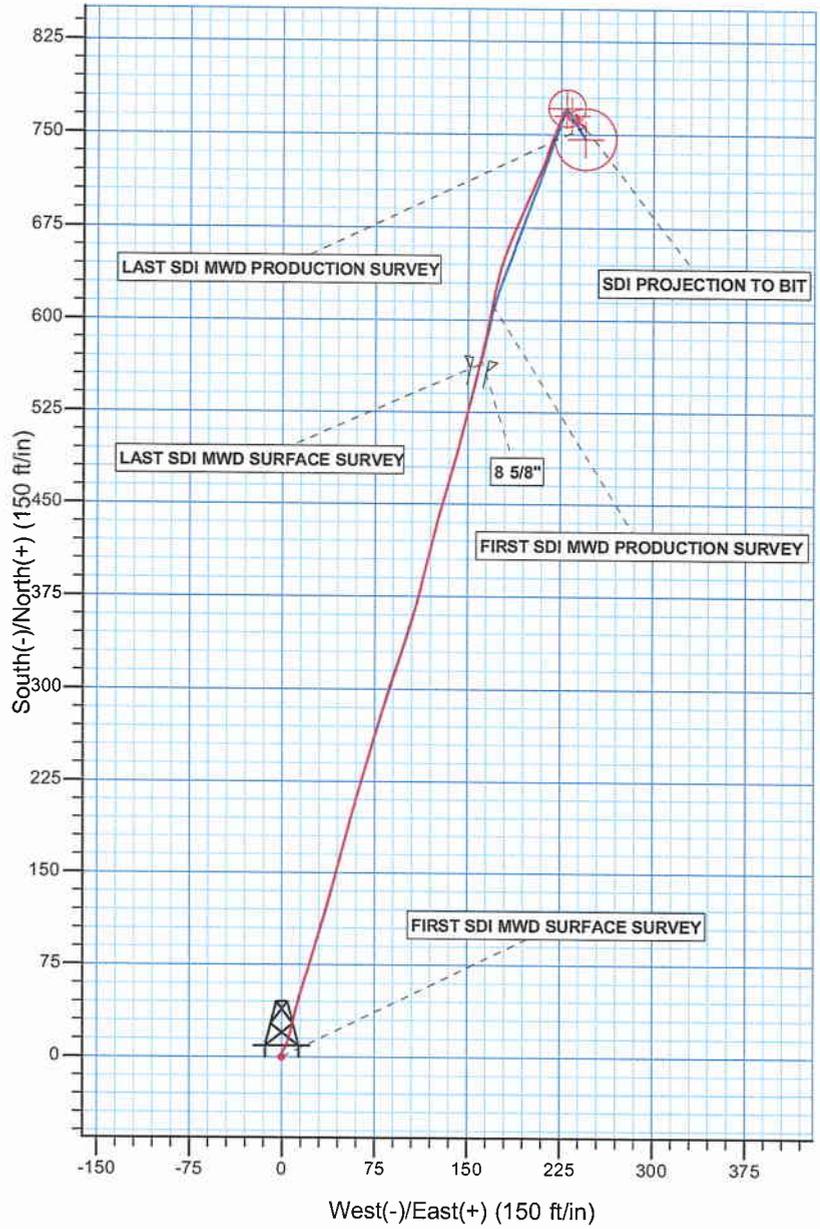
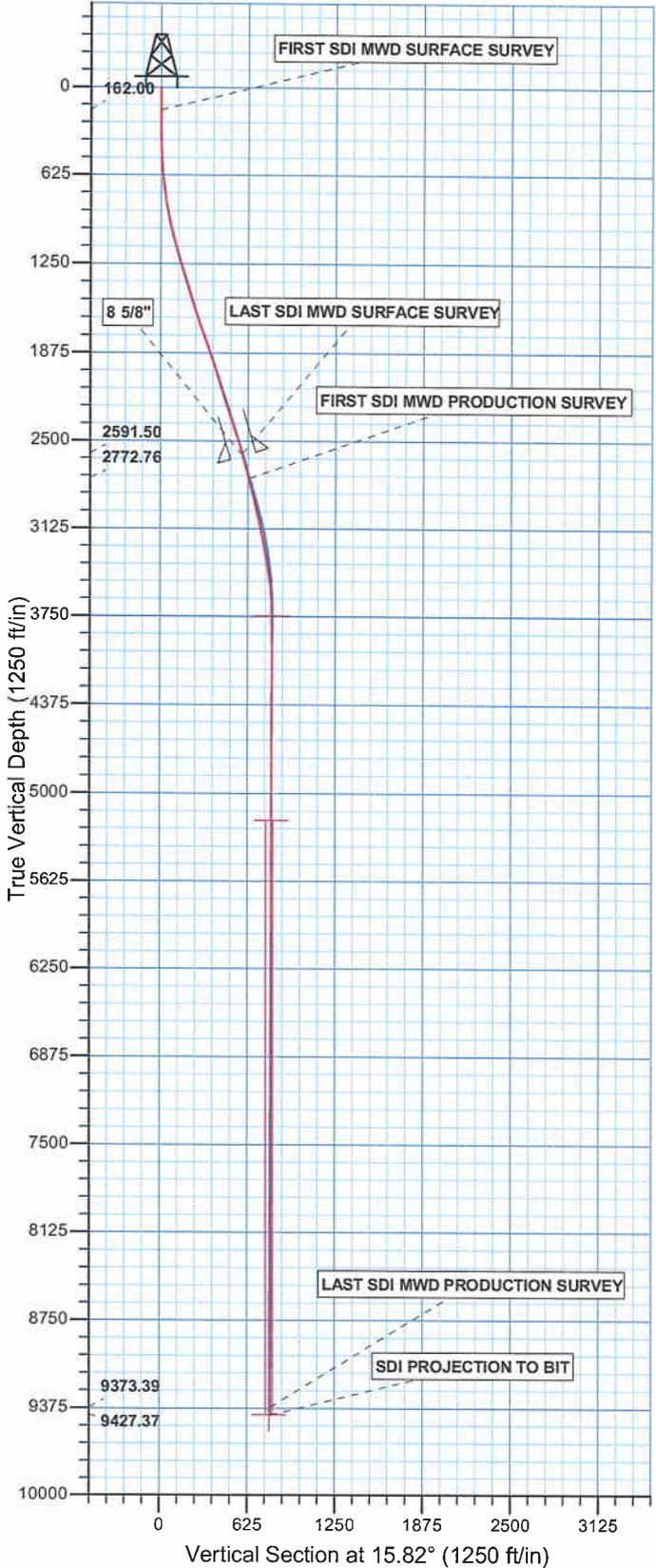
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								MIN, TURN OVER TO FBC, DRAIN UP EQUIP, SDFN.
								KB-24' HANGER-.83' 283 JTS 2 3/8" L-80-8,960.46' POBS W/ XN SN-2.20' EOT @ 8,987.49'
								314 JTS DEL 283 JTS USED 31 JTS RET
								TWTR=12,627 BBLS TWR=2,987 BBLS TWLTR=9,640 BBLS
	15:00 - 15:00	0.00	DRLOUT	50				WELL TURNED TO SALES @ 1530 HR ON 2/5/2013. 2400 MCFD, 1920 BWPD, FCP 2560#, FTP 2420#, 20/64" CK.
2/11/2013	7:00 -			50				WELL IP'D ON 2/11/2013 - 2528 MCFD, 0 BOPD, 0 BWPD, CP 2563#, FTP 1911#, CK 20/64, LP 122#, 24 HRS

WELL DETAILS: MORGAN STATE 921-36H4CS					
GL 5035 & KB 24 @ 5059.00ft (HP 318)					
+N-S 0.00	+E-W 0.00	Northing 14526383.69	Easting 2062638.36	Latitude 39.991128	Longitude -109.492605



Azimuths to True North
 Magnetic North: 11.01°

Magnetic Field
 Strength: 52278.3snT
 Dip Angle: 65.85°
 Date: 12/02/2011
 Model: IGRF2010



PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N
Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 12N (114 W to 108 W)
Location: SECTION 36 T9S R21E
System Datum: Mean Sea Level

Design: OH (MORGAN STATE 921-36H4CS/OH)
 Created By: Gabe Kendall Date: 14:05, October 11 2012



Scientific Drilling

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

MORGAN STATE 921-36I

MORGAN STATE 921-36H4CS

OH

Design: OH

Standard Survey Report

11 October, 2012

Anadarko 
Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well MORGAN STATE 921-36H4CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	TVD Reference:	GL 5035 & KB 24 @ 5059.00ft (HP 318)
Site:	MORGAN STATE 921-36I	MD Reference:	GL 5035 & KB 24 @ 5059.00ft (HP 318)
Well:	MORGAN STATE 921-36H4CS	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	UTAH - UTM (feet), NAD27, Zone 12N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	MORGAN STATE 921-36I, SECTION 36 T9S R21E				
Site Position:		Northing:	14,526,390.12 usft	Latitude:	39.991146
From:	Lat/Long	Easting:	2,062,630.69 usft	Longitude:	-109.492632
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.97 °

Well	MORGAN STATE 921-36H4CS, 2102 FSL 737 FEL					
Well Position	+N/-S	0.00 ft	Northing:	14,526,383.69 usft	Latitude:	39.991128
	+E/-W	0.00 ft	Easting:	2,062,638.36 usft	Longitude:	-109.492605
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,035.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/02/11	11.01	65.85	52,278

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	15.82	

Survey Program	Date 10/11/12				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
20.00	2,677.00	Survey #1 SDI MWD SURFACE (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
2,865.00	9,536.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	
162.00	0.26	243.75	162.00	-0.14	-0.29	-0.22	0.18	0.18	0.00	
FIRST SDI MWD SURFACE SURVEY										
192.00	0.18	235.05	192.00	-0.20	-0.39	-0.30	0.29	-0.27	-29.00	
221.00	0.09	248.15	221.00	-0.23	-0.45	-0.35	0.33	-0.31	45.17	
247.00	0.18	327.16	247.00	-0.21	-0.49	-0.33	0.71	0.35	303.88	
275.00	0.44	356.34	275.00	-0.06	-0.52	-0.20	1.06	0.93	104.21	
303.00	0.79	357.13	303.00	0.24	-0.54	0.08	1.25	1.25	2.82	
332.00	1.06	4.51	331.99	0.70	-0.52	0.53	1.02	0.93	25.45	

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MORGAN STATE 921-36I
Well: MORGAN STATE 921-36H4CS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well MORGAN STATE 921-36H4CS
TVD Reference: GL 5035 & KB 24 @ 5059.00ft (HP 318)
MD Reference: GL 5035 & KB 24 @ 5059.00ft (HP 318)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
360.00	1.58	14.97	359.99	1.34	-0.40	1.17	2.04	1.86	37.36
452.00	2.81	27.01	451.92	4.57	0.95	4.65	1.42	1.34	13.09
542.00	3.78	25.43	541.77	9.21	3.22	9.74	1.08	1.08	-1.76
632.00	5.28	15.32	631.48	15.89	5.59	16.81	1.88	1.67	-11.23
722.00	7.21	13.22	720.95	25.38	7.98	26.59	2.16	2.14	-2.33
812.00	9.06	14.53	810.04	37.74	11.05	39.32	2.07	2.06	1.46
902.00	11.26	15.94	898.62	53.05	15.24	55.19	2.46	2.44	1.57
992.00	13.10	16.99	986.59	71.25	20.63	74.18	2.06	2.04	1.17
1,082.00	14.60	17.70	1,073.97	91.82	27.06	95.72	1.68	1.67	0.79
1,172.00	16.00	16.38	1,160.78	114.52	34.01	119.46	1.60	1.56	-1.47
1,262.00	17.06	14.53	1,247.06	139.20	40.82	145.06	1.31	1.18	-2.06
1,352.00	17.94	14.71	1,332.89	165.39	47.65	172.12	0.98	0.98	0.20
1,442.00	18.11	15.32	1,418.48	192.29	54.87	199.96	0.28	0.19	0.68
1,532.00	18.29	16.47	1,503.97	219.32	62.57	228.07	0.45	0.20	1.28
1,622.00	18.73	16.29	1,589.32	246.73	70.62	256.64	0.49	0.49	-0.20
1,712.00	18.91	16.64	1,674.51	274.58	78.85	285.67	0.24	0.20	0.39
1,802.00	18.82	18.40	1,759.67	302.33	87.61	314.76	0.64	-0.10	1.96
1,892.00	19.52	18.75	1,844.68	330.34	97.03	344.28	0.79	0.78	0.39
1,982.00	19.81	16.17	1,929.43	359.22	106.11	374.54	1.02	0.32	-2.87
2,072.00	17.32	13.92	2,014.75	386.88	113.58	403.19	2.88	-2.77	-2.50
2,162.00	16.88	13.74	2,100.77	412.58	119.90	429.64	0.49	-0.49	-0.20
2,252.00	17.59	14.80	2,186.72	438.42	126.48	456.29	0.86	0.79	1.18
2,342.00	18.20	15.94	2,272.37	465.08	133.82	483.94	0.78	0.68	1.27
2,432.00	18.38	14.97	2,357.82	492.30	141.34	512.19	0.39	0.20	-1.08
2,522.00	17.94	14.80	2,443.34	519.41	148.55	540.23	0.49	-0.49	-0.19
2,612.00	16.80	13.92	2,529.24	545.44	155.22	567.09	1.30	-1.27	-0.98
2,677.00	16.53	13.57	2,591.51	563.54	159.65	585.72	0.44	-0.42	-0.54
LAST SDI MWD SURFACE SURVEY									
2,865.00	14.25	9.67	2,772.76	612.36	169.81	635.46	1.33	-1.21	-2.07
FIRST SDI MWD PRODUCTION SURVEY									
2,960.00	12.86	14.29	2,865.11	634.13	174.38	657.65	1.85	-1.46	4.86
3,054.00	12.46	19.93	2,956.83	653.80	180.42	678.23	1.38	-0.43	6.00
3,148.00	12.87	24.12	3,048.54	672.89	188.16	698.70	1.07	0.44	4.46
3,243.00	12.68	23.20	3,141.19	692.13	196.59	719.51	0.29	-0.20	-0.97
3,337.00	11.75	23.74	3,233.06	710.38	204.51	739.22	1.00	-0.99	0.57
3,432.00	9.45	20.42	3,326.44	726.54	211.12	756.58	2.50	-2.42	-3.49
3,526.00	8.04	18.91	3,419.34	739.99	215.95	770.83	1.52	-1.50	-1.61
3,621.00	7.12	22.59	3,513.51	751.71	220.36	783.32	1.09	-0.97	3.87
3,715.00	4.92	20.22	3,606.99	760.88	223.99	793.12	2.35	-2.34	-2.52
3,810.00	2.81	22.68	3,701.77	766.85	226.30	799.50	2.23	-2.22	2.59
3,904.00	0.62	50.86	3,795.72	769.30	227.58	802.20	2.43	-2.33	29.98
3,998.00	0.61	70.92	3,889.71	769.78	228.45	802.90	0.23	-0.01	21.34
4,092.00	0.50	122.16	3,983.71	769.73	229.27	803.07	0.52	-0.12	54.51

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MORGAN STATE 921-36I
Well: MORGAN STATE 921-36H4CS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well MORGAN STATE 921-36H4CS
TVD Reference: GL 5035 & KB 24 @ 5059.00ft (HP 318)
MD Reference: GL 5035 & KB 24 @ 5059.00ft (HP 318)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/S (ft)	+E/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,195.00	0.88	141.33	4,086.70	768.87	230.14	802.49	0.43	0.37	18.61
4,289.00	0.21	330.49	4,180.70	768.46	230.51	802.19	1.16	-0.71	-181.74
4,383.00	0.66	212.62	4,274.70	768.15	230.13	801.79	0.83	0.48	-125.39
4,478.00	0.88	192.14	4,369.69	766.98	229.68	800.54	0.37	0.23	-21.56
4,572.00	0.37	349.38	4,463.69	766.57	229.48	800.09	1.31	-0.54	167.28
4,666.00	0.12	252.34	4,557.68	766.84	229.33	800.31	0.43	-0.27	-103.23
4,760.00	0.41	178.05	4,651.68	766.47	229.24	799.93	0.42	0.31	-79.03
4,855.00	0.55	159.20	4,746.68	765.70	229.42	799.24	0.22	0.15	-19.84
4,949.00	0.42	148.93	4,840.68	764.99	229.76	798.65	0.17	-0.14	-10.93
5,044.00	0.72	149.31	4,935.67	764.18	230.24	798.00	0.32	0.32	0.40
5,138.00	0.80	132.27	5,029.66	763.23	231.03	797.30	0.25	0.09	-18.13
5,233.00	0.98	138.64	5,124.65	762.17	232.05	796.56	0.22	0.19	6.71
5,327.00	1.16	138.38	5,218.64	760.86	233.22	795.62	0.19	0.19	-0.28
5,421.00	0.05	347.88	5,312.63	760.19	233.84	795.14	1.28	-1.18	-160.11
5,516.00	0.20	121.60	5,407.63	760.14	233.97	795.13	0.25	0.16	140.76
5,610.00	0.45	111.63	5,501.63	759.92	234.46	795.05	0.27	0.27	-10.61
5,704.00	0.70	97.02	5,595.62	759.71	235.37	795.10	0.31	0.27	-15.54
5,799.00	0.97	110.75	5,690.61	759.35	236.70	795.12	0.35	0.28	14.45
5,893.00	0.62	13.63	5,784.61	759.57	237.56	795.56	1.29	-0.37	-103.32
5,988.00	0.45	55.31	5,879.60	760.28	237.99	796.36	0.43	-0.18	43.87
6,082.00	1.49	335.66	5,973.59	761.60	237.79	797.58	1.57	1.11	-84.73
6,177.00	1.32	335.97	6,068.56	763.73	236.83	799.36	0.18	-0.18	0.33
6,271.00	0.62	345.06	6,162.55	765.21	236.26	800.63	0.76	-0.74	9.67
6,366.00	0.40	348.36	6,257.55	766.03	236.06	801.37	0.23	-0.23	3.47
6,460.00	0.12	340.75	6,351.54	766.44	235.96	801.74	0.30	-0.30	-8.10
6,554.00	0.13	210.88	6,445.54	766.44	235.88	801.72	0.24	0.01	-138.16
6,649.00	0.55	158.41	6,540.54	765.93	235.99	801.25	0.51	0.44	-55.23
6,743.00	0.79	165.33	6,634.54	764.88	236.32	800.33	0.27	0.26	7.36
6,838.00	0.99	157.18	6,729.52	763.49	236.80	799.13	0.25	0.21	-8.58
6,932.00	0.28	354.36	6,823.52	762.97	237.10	798.71	1.34	-0.76	-173.21
7,027.00	0.07	0.74	6,918.52	763.26	237.07	798.98	0.22	-0.22	6.72
7,121.00	0.18	15.96	7,012.52	763.46	237.12	799.18	0.12	0.12	16.19
7,215.00	0.20	10.31	7,106.52	763.76	237.19	799.49	0.03	0.02	-6.01
7,310.00	0.35	4.31	7,201.52	764.22	237.24	799.94	0.16	0.16	-6.32
7,404.00	0.48	357.99	7,295.52	764.90	237.25	800.60	0.15	0.14	-6.72
7,499.00	0.35	355.52	7,390.51	765.58	237.21	801.25	0.14	-0.14	-2.60
7,593.00	0.09	12.80	7,484.51	765.94	237.20	801.59	0.28	-0.28	18.38
7,688.00	0.11	49.20	7,579.51	766.07	237.29	801.74	0.07	0.02	38.32
7,782.00	0.59	200.29	7,673.51	765.68	237.19	801.34	0.73	0.51	160.73
7,877.00	0.89	182.19	7,768.50	764.48	236.99	800.13	0.40	0.32	-19.05
7,971.00	0.99	154.32	7,862.49	763.02	237.31	798.81	0.49	0.11	-29.65
8,066.00	0.58	165.63	7,957.48	761.82	237.79	797.78	0.46	-0.43	11.91
8,160.00	0.44	85.67	8,051.48	761.38	238.27	797.50	0.71	-0.15	-85.06
8,254.00	0.62	62.66	8,145.48	761.64	239.08	797.97	0.29	0.19	-24.48

Company: US ROCKIES REGION PLANNING
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Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well MORGAN STATE 921-36H4CS
TVD Reference: GL 5035 & KB 24 @ 5059.00ft (HP 318)
MD Reference: GL 5035 & KB 24 @ 5059.00ft (HP 318)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,349.00	0.84	5.32	8,240.47	762.57	239.60	799.01	0.76	0.23	-60.36
8,443.00	0.54	340.21	8,334.46	763.68	239.51	800.04	0.45	-0.32	-26.71
8,537.00	0.18	292.86	8,428.46	764.15	239.23	800.42	0.47	-0.38	-50.37
8,632.00	0.18	202.77	8,523.46	764.07	239.03	800.29	0.27	0.00	-94.83
8,726.00	0.53	182.03	8,617.46	763.50	238.96	799.72	0.39	0.37	-22.06
8,821.00	0.44	171.48	8,712.45	762.70	239.00	798.96	0.13	-0.09	-11.11
8,915.00	0.44	181.15	8,806.45	761.98	239.05	798.29	0.08	0.00	10.29
9,009.00	0.53	201.89	8,900.45	761.22	238.88	797.50	0.21	0.10	22.06
9,104.00	0.78	139.48	8,995.44	760.32	239.13	796.71	0.75	0.26	-65.69
9,198.00	0.70	128.85	9,089.44	759.47	240.00	796.13	0.17	-0.09	-11.31
9,387.00	1.14	132.81	9,278.41	757.47	242.27	794.83	0.24	0.23	2.10
9,482.00	1.41	141.24	9,373.39	755.92	243.70	793.72	0.35	0.28	8.87
LAST SDI MWD PRODUCTION SURVEY									
9,536.00	1.41	141.24	9,427.37	754.88	244.53	792.95	0.00	0.00	0.00
SDI PROJECTION TO BIT									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,693.00	2,606.85	8 5/8"	8.625	11.000

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
162.00	162.00	-0.14	-0.29	FIRST SDI MWD SURFACE SURVEY
2,677.00	2,591.51	563.54	159.65	LAST SDI MWD SURFACE SURVEY
2,865.00	2,772.76	612.36	169.81	FIRST SDI MWD PRODUCTION SURVEY
9,482.00	9,373.39	755.92	243.70	LAST SDI MWD PRODUCTION SURVEY
9,536.00	9,427.37	754.88	244.53	SDI PROJECTION TO BIT

Checked By: _____ Approved By: _____ Date: _____