

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

FORM 3

AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL

2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>		1. WELL NAME and NUMBER NBU 921-23E1CS	
4. TYPE OF WELL Gas Well Coalbed Methane Well: NO		3. FIELD OR WILDCAT NATURAL BUTTES	
6. NAME OF OPERATOR KERR-MCGEE OIL & GAS ONSHORE, L.P.		5. UNIT or COMMUNITIZATION AGREEMENT NAME NATURAL BUTTES	
8. ADDRESS OF OPERATOR P.O. Box 173779, Denver, CO, 80217		7. OPERATOR PHONE 720 929-6587	
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) UTU 0149075		9. OPERATOR E-MAIL mary.mondragon@anadarko.com	
11. MINERAL OWNERSHIP FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input 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') UTE TRIBE		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
LOCATION AT SURFACE	2192 FNL 495 FWL	SWNW	23
Top of Uppermost Producing Zone	1767 FNL 665 FWL	SWNW	23
At Total Depth	1767 FNL 665 FWL	SWNW	23
21. COUNTY UINTAH	22. DISTANCE TO NEAREST LEASE LINE (Feet) 665	23. NUMBER OF ACRES IN DRILLING UNIT 640	
	25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 315	26. PROPOSED DEPTH MD: 10034 TVD: 9960	
27. ELEVATION - GROUND LEVEL 4863	28. BOND NUMBER WYB000291	29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE Permit #43-8496	

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 Kathy Schneebeck-Dulnoan	TITLE Staff Regulatory Analyst	PHONE 720 929-6007
SIGNATURE	DATE 08/03/2009	EMAIL Kathy.SchneebeckDulnoan@anadarko.com
API NUMBER ASSIGNED 43047506130000	APPROVAL  Permit Manager	

Proposed Hole, Casing, and Cement

String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Prod	7.875	4.5	0	10034		
Pipe	Grade	Length	Weight			
	Grade HCP-110 LT&C	310	11.6			
	Grade I-80 LT&C	9724	11.6			

Proposed Hole, Casing, and Cement

String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Surf	12.25	9.625	0	2570		
Pipe	Grade	Length	Weight			
	Grade J-55 LT&C	2570	36.0			

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

Found 2006
Aluminum Cap in
Pile of Stones.

N89°53.7'W - 39.716' (G.L.O.)
N89°51'13"W - 2621.41' (Meas.)

N89°33.3'W - 40.431' (G.L.O.)

Found 2006
Aluminum Cap in
Pile of Stones.

N0°09.5'W - 40.173' (G.L.O.)
2651.43' (Measured)
N00°07'07"W (Basis of Bearings)

2192'

1767'

665'
495'
Bottom of Hole
Well Surface Position

**WELL LOCATION:
NBU 921-23E1CS**

ELEV. UNGRADED GROUND = 4862.7'

23

Found 2006
Aluminum Cap in
Pile of Stones

N0°01.1'E - 40.094' (G.L.O.)
N00°03'36"E - 2646.34' (Meas.)

Found 2006
Aluminum Cap in
Pile of Stones
Under E/W Fence

N89°25'15"W - 2654.75' (Meas.)
N89°27.4'W - 40.223' (G.L.O.)

NBU 921-23E1CS (Surface Position)
NAD 83 LATITUDE = 40.022816° (40° 01' 22.136")
LONGITUDE = 109.526653° (109° 31' 35.952")
NAD 27 LATITUDE = 40.022851° (40° 01' 22.263")
LONGITUDE = 109.525965° (109° 31' 33.476")

NBU 921-23E1CS (Bottom Hole)
NAD 83 LATITUDE = 40.023980° (40° 01' 26.328")
LONGITUDE = 109.526050° (109° 31' 33.779")
NAD 27 LATITUDE = 40.024015° (40° 01' 26.455")
LONGITUDE = 109.525362° (109° 31' 31.303")

Found 2006
Aluminum Cap in
Pile of Stones
Under E/W Fence

S89°56'29"W - 2641.83' (Meas.)
S89°54.5'W - 40.028' (G.L.O.)

N0°08.1'W - 40.093' (G.L.O.)

N0°07.6'W - 40.104' (G.L.O.)

Found 2006
Aluminum Cap
under E/W Fence

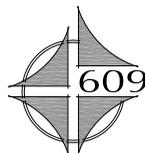
NOTES:

- ▲ = 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 N21°45'42"E 456.73' 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 ¼ 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'.

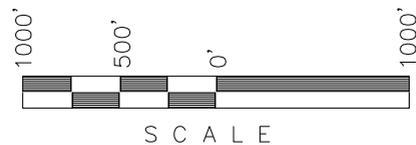
**Kerr-McGee
Oil & Gas Onshore, LP**

1099 18th Street - Denver, Colorado 80202

**NBU 921-23E1CS
WELL PLAT**
1767' FNL, 665' FWL (Bottom Hole)
SW ¼ NW ¼ OF SECTION 23, T9S, R21E,
S.L.B.&M. UINTAH COUNTY, UTAH.



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



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.

REGISTERED LAND SURVEYOR
REGISTRATION No. 362251
STATE OF UTAH

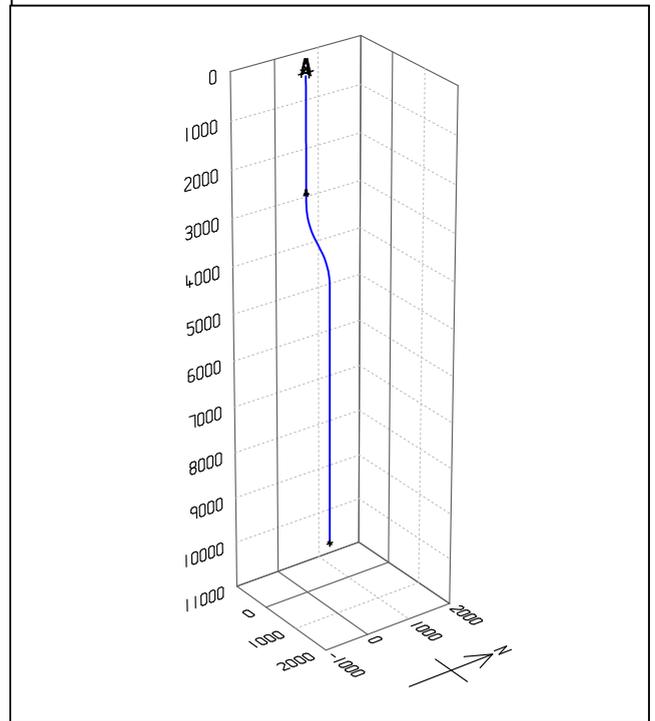
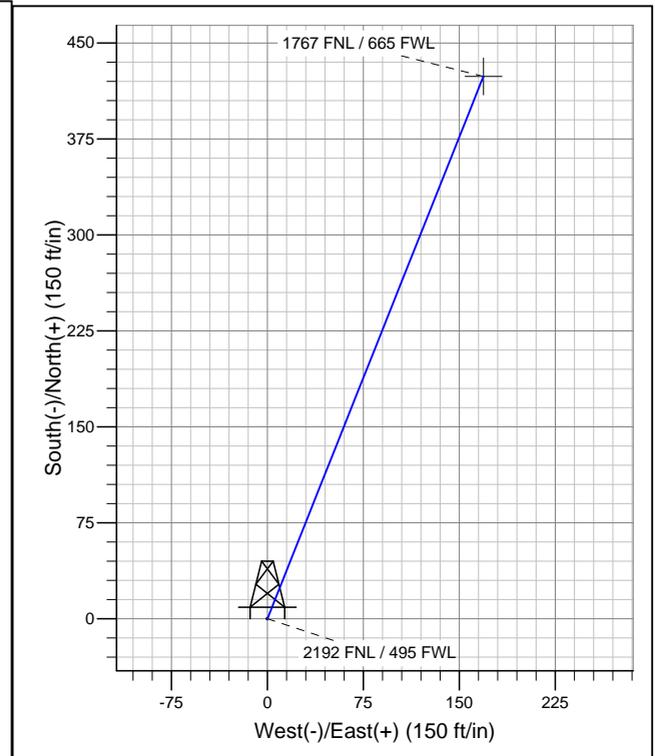
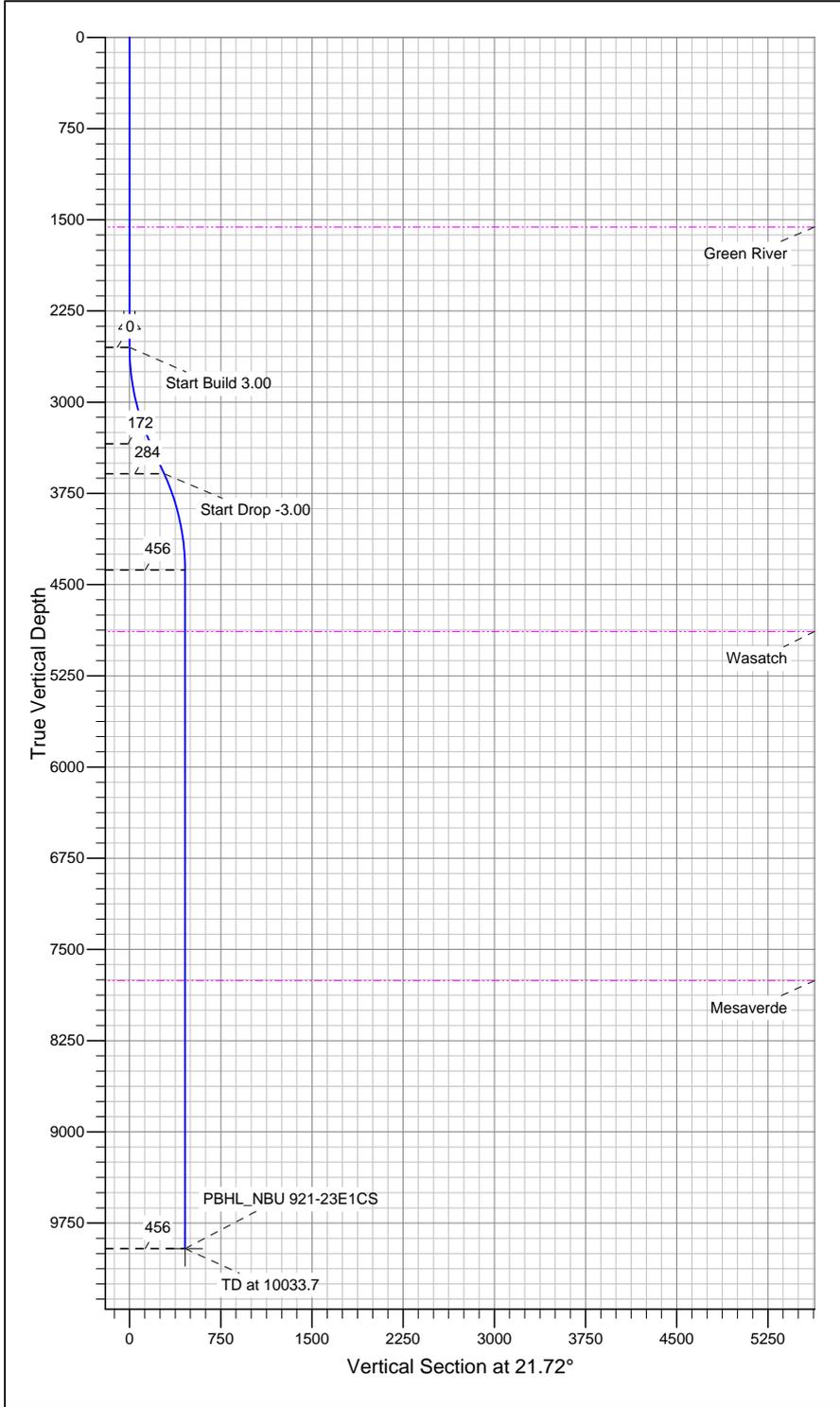
Koby R. Kay
No. 362251
KOBY R. KAY

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 01-06-09	SURVEYED BY: M.S.B.	SHEET 2 OF 13
DATE DRAWN: 02-13-09	DRAWN BY: M.W.W.	
SCALE: 1" = 1000'		Date Last Revised: 04-23-09



Well Name: P_NBU 921-23E1CS
 Surface Location: UINTAH_NBU 921-23E PAD
 NAD 1927 (NADCON CONUS) Universal Transverse Mercator (US Survey Feet)
 UTAH - UTM (feet), NAD27, Zone 12N
 Ground Elevation: 4862.0
 Northing 14537779.51 Easting 2053102.75 Latitude 40.022851°N Longitude 109.525965°W



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
2	2550.0	0.00	0.00	2550.0	0.0	0.0	0.00	0.00	0.0
3	3366.7	24.50	21.72	3342.0	159.8	63.6	3.00	21.72	172.0
4	3637.7	24.50	21.72	3588.7	264.2	105.2	0.00	0.00	284.4
5	4454.4	0.00	0.00	4380.7	423.9	168.8	3.00	180.00	456.3
6	10033.7	0.00	0.00	9960.0	423.9	168.8	0.00	0.00	456.3



Azimuths to True North
 Magnetic North: 11.34°

Magnetic Field
 Strength: 52573.3snT
 Dip Angle: 65.94°
 Date: 5/15/2009
 Model: IGRF200510

ROCKIES - PLANNING

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

UINTAH_NBU 921-23E PAD

P_NBU 921-23E1CS

P_NBU 921-23E1CS

Plan: Plan #1 05-15-09 ZJRA6

Standard Planning Report - Geographic

15 May, 2009

APC Planning Report - Geographic

Database: apc_edmp	Local Co-ordinate Reference: Well P_NBU 921-23E1CS
Company: ROCKIES - PLANNING	TVD Reference: WELL @ 4862.0ft (Original Well Elev)
Project: UTAH - UTM (feet), NAD27, Zone 12N	MD Reference: WELL @ 4862.0ft (Original Well Elev)
Site: UINTAH_NBU 921-23E PAD	North Reference: True
Well: P_NBU 921-23E1CS	Survey Calculation Method: Minimum Curvature
Wellbore: P_NBU 921-23E1CS	
Design: Plan #1 05-15-09 ZJRA6	

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

Site UINTAH_NBU 921-23E PAD			
Site Position:	Northing: 14,537,799.03ft	Latitude: 40.022903°N	
From: Lat/Long	Easting: 2,053,137.43ft	Longitude: 109.525840°W	
Position Uncertainty: 0.0 ft	Slot Radius: "	Grid Convergence: 0.95 °	

Well P_NBU 921-23E1CS			
Well Position	+N/-S 0.0 ft	Northing: 14,537,779.51 ft	Latitude: 40.022851°N
	+E/-W 0.0 ft	Easting: 2,053,102.75 ft	Longitude: 109.525965°W
Position Uncertainty	0.0 ft	Wellhead Elevation: ft	Ground Level: 4,862.0ft

Wellbore P_NBU 921-23E1CS					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	5/15/2009	11.34	65.94	52,573

Design Plan #1 05-15-09 ZJRA6				
Audit Notes:				
Version:	Phase: PLAN	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	9,960.0	0.0	0.0	21.72

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,550.0	0.00	0.00	2,550.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,366.7	24.50	21.72	3,342.0	159.8	63.6	3.00	3.00	0.00	21.72	
3,637.7	24.50	21.72	3,588.7	264.2	105.2	0.00	0.00	0.00	0.00	
4,454.4	0.00	0.00	4,380.7	423.9	168.8	3.00	-3.00	0.00	180.00	
10,033.7	0.00	0.00	9,960.0	423.9	168.8	0.00	0.00	0.00	0.00	PBHL_NBU 921-23

APC Planning Report - Geographic

Database: apc_edmp	Local Co-ordinate Reference: Well P_NBU 921-23E1CS
Company: ROCKIES - PLANNING	TVD Reference: WELL @ 4862.0ft (Original Well Elev)
Project: UTAH - UTM (feet), NAD27, Zone 12N	MD Reference: WELL @ 4862.0ft (Original Well Elev)
Site: UINTAH_NBU 921-23E PAD	North Reference: True
Well: P_NBU 921-23E1CS	Survey Calculation Method: Minimum Curvature
Wellbore: P_NBU 921-23E1CS	
Design: Plan #1 05-15-09 ZJRA6	

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude	
0.0	0.00	0.00	0.0	0.0	0.0	14,537,779.51	2,053,102.75	40.022851°N	109.525965°W	
1,560.0	0.00	0.00	1,560.0	0.0	0.0	14,537,779.51	2,053,102.75	40.022851°N	109.525965°W	
Green River										
2,400.0	0.00	0.00	2,400.0	0.0	0.0	14,537,779.51	2,053,102.75	40.022851°N	109.525965°W	
Surface Casing										
2,550.0	0.00	0.00	2,550.0	0.0	0.0	14,537,779.51	2,053,102.75	40.022851°N	109.525965°W	
3,366.7	24.50	21.72	3,342.0	159.8	63.6	14,537,940.30	2,053,163.72	40.023290°N	109.525738°W	
3,637.7	24.50	21.72	3,588.7	264.2	105.2	14,538,045.40	2,053,203.58	40.023576°N	109.525589°W	
4,454.4	0.00	0.00	4,380.7	423.9	168.8	14,538,206.19	2,053,264.56	40.024015°N	109.525362°W	
4,959.7	0.00	0.00	4,886.0	423.9	168.8	14,538,206.19	2,053,264.56	40.024015°N	109.525362°W	
Wasatch										
7,829.7	0.00	0.00	7,756.0	423.9	168.8	14,538,206.19	2,053,264.56	40.024015°N	109.525362°W	
Mesaverde										
10,033.7	0.00	0.00	9,960.0	423.9	168.8	14,538,206.19	2,053,264.56	40.024015°N	109.525362°W	

Targets										
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL_NBU 921-23E1		0.00	0.00	9,960.0	423.9	168.8	14,538,206.19	2,053,264.56	40.024015°N	109.525362°W
- plan hits target center										
- Point										

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")		
2,400.0	2,400.0	Surface Casing	9-5/8	12-1/4		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,959.7	4,886.0	Wasatch		0.00		
1,560.0	1,560.0	Green River		0.00		
7,829.7	7,756.0	Mesaverde		0.00		

NBU 921-23E1CS

Pad: NBU 921-23E

Surface: 2,192' FNL, 495' FWL (SW/4NW/4)

BHL: 1,767' FNL 665' FWL (SW/4NW/4)

Sec. 23 T9S R21E

Uintah, Utah

Mineral Lease: UTU 0149075

ONSHORE ORDER NO. 1

DRILLING PROGRAM

1. – 2. **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	1,560'	
Birds Nest	1,873'	Water
Mahogany	2,368'	Water
Wasatch	4,886'	Gas
Mesaverde	7,756'	Gas
MVU2	8,713'	Gas
MVL1	9,274'	Gas
TVD	9,960'	
TD	10,034'	

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

Please refer to the attached Drilling Program.

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program.

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program.

6. **Evaluation Program:**

Please refer to the attached Drilling Program.

7. Abnormal Conditions:

Maximum anticipated bottomhole pressure calculated at 10,034' TD, approximately equals 6,251 psi (calculated at 0.62 psi/foot).

Maximum anticipated surface pressure equals approximately 4,014 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

8. Anticipated Starting Dates:

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

9. Variances:

Please refer to the attached 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 to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 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 9-5/8 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)). The air rig operation utilizes a 5M BOPE when drilling. 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.

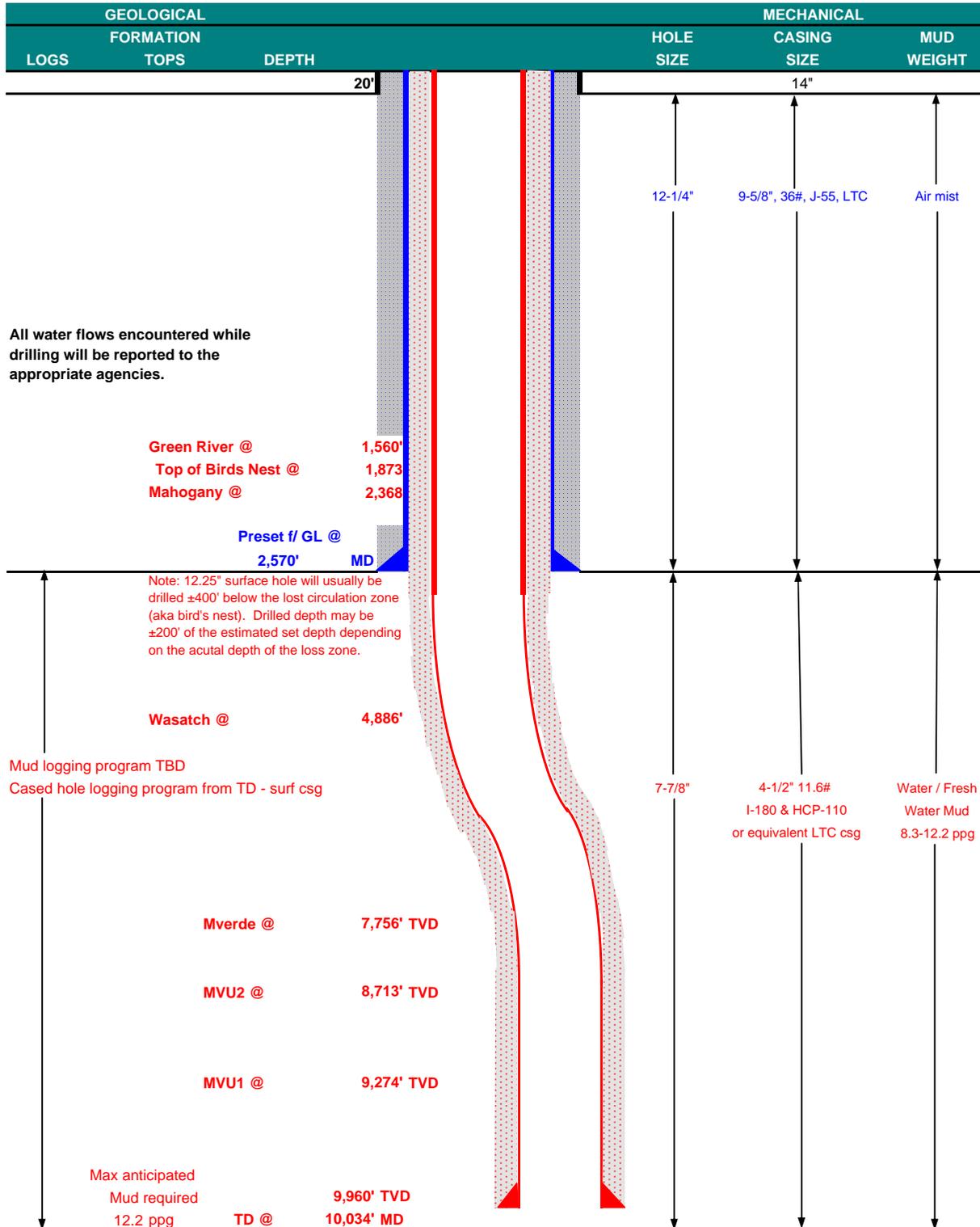
10. Other Information:

Please refer to the attached Drilling Program.



KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	August 3, 2009	
WELL NAME	NBU 921-23E1CS		TD	9,960' TVD	10,034' MD
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah
SURFACE LOCATION	SW/4 NW/4	2,192' FNL	495' FWL	Sec 23 T 9S R 21E	FINISHED ELEVATION 4,862'
	Latitude:	40.022816	Longitude:	-109.526653	NAD 83
BTM HOLE LOCATION	SW/4 NW/4	1,767' FNL	665' FWL	Sec 23 T 9S R 21E	
	Latitude:	40.023980	Longitude:	-109.526050	NAD 83
OBJECTIVE ZONE(S)	Wasatch/Mesaverde				
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), Ute Tribe (Surface), UDOGM Tri-County Health Dept.				





KERR-McGEE OIL & GAS ONSHORE LP
DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'						
						3,520	2,020	453,000
SURFACE	9-5/8"	0 to 2,570	36.00	J-55	LTC	0.85	1.68	6.23
						7,780	6,350	201,000
PRODUCTION	4-1/2"	0 to 9,724	11.60	I-80	LTC	1.88	1.06	2.12
						10,690	8,650	279,000
	4-1/2"	9,724 to 10,034	11.60	HCP-110	LTC	156.74	1.37	95.37

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)
 (Burst Assumptions: TD = 12.2 ppg) 0.22 psi/ft = gradient for partially evac wellbore
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)
MASP 4,014 psi

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD
 (Burst Assumptions: TD = 12.2 ppg) 0.62 psi/ft = bottomhole gradient
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)
MABHP 6,251 psi

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	215	60%	15.60	1.18
Option 1							
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele Premium cmt + 2% CaCl	380	0%	15.60	1.18
SURFACE			NOTE: If well will circulate water to surface, option 2 will be utilized				
Option 2	LEAD	2,070'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	490	35%	12.60	1.81
	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	35%	15.60	1.18
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION	LEAD	4,384'	Premium Lite II + 3% KCl + 0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	420	40%	11.00	3.38
	TAIL	5,650'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,380	40%	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. No centralizers will be used.

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.

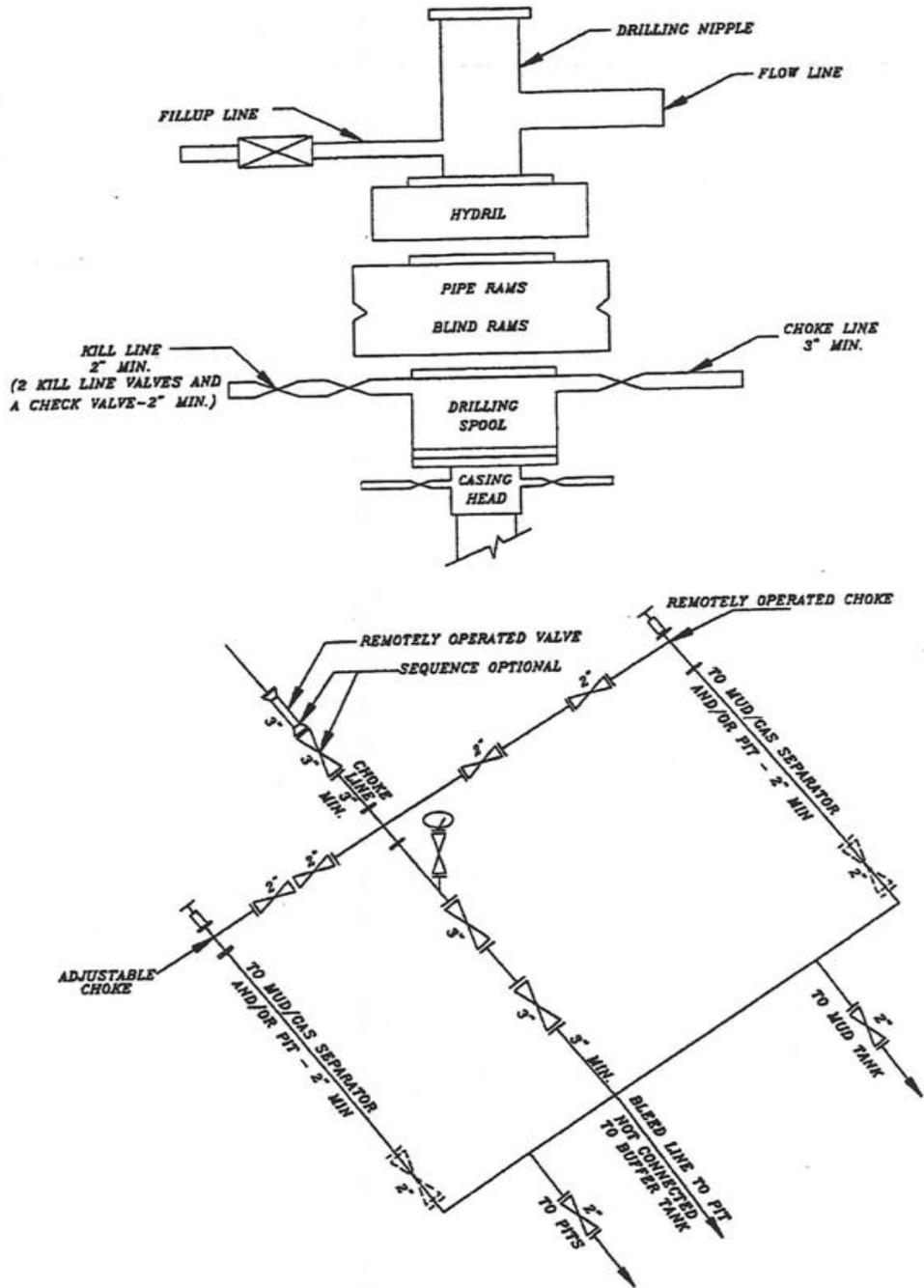
DRILLING ENGINEER: _____
John Huycke / Emile Goodwin

DATE: _____

DRILLING SUPERINTENDENT: _____
John Merkel / Lovel Young

DATE: _____

EXHIBIT A NBU 921-23E1CS



SCHMATIC DIAGRAM OF 5,000 PSI BOP STACK

WELL PAD INTERFERENCE PLAT

DIRECTIONAL PAD - NBU 921-23E

BASIS OF BEARINGS IS THE WEST LINE OF THE NW 1/4 OF SECTION 23, T9S, R21E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°07'07"W.

LATITUDE & LONGITUDE Surface Position - (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
921-23L1BS	40°01'22.042" 40.022789°	109°31'36.178" 109.526716°
921-23E1CS	40°01'22.136" 40.022816°	109°31'35.952" 109.526653°
921-23F4CS	40°01'22.231" 40.022842°	109°31'35.726" 109.526590°
921-23E4BS	40°01'22.325" 40.022868°	109°31'35.501" 109.526528°
Existing Well NBU 921-23E	40°01'21.876" 40.022743°	109°31'35.768" 109.526602°

LATITUDE & LONGITUDE Bottom Hole - (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
921-23L1BS	40°01'16.293" 40.021193°	109°31'33.749" 109.526041°
921-23E1CS	40°01'26.328" 40.023980°	109°31'33.779" 109.526050°
921-23F4CS	40°01'19.802" 40.022167°	109°31'16.793" 109.521331°
921-23E4BS	40°01'23.235" 40.023121°	109°31'33.768" 109.526047°

LATITUDE & LONGITUDE Surface Position - (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
921-23L1BS	40°01'22.169" 40.022825°	109°31'33.702" 109.526028°
921-23E1CS	40°01'22.263" 40.022851°	109°31'33.476" 109.525965°
921-23F4CS	40°01'22.358" 40.022877°	109°31'33.249" 109.525903°
921-23E4BS	40°01'22.452" 40.022903°	109°31'33.024" 109.525840°
Existing Well NBU 921-23E	40°01'22.003" 40.022779°	109°31'33.291" 109.525914°

SURFACE POSITION FOOTAGES:

NBU 921-23L1BS
2201' FNL & 477' FWL

NBU 921-23E1CS
2192' FNL & 495' FWL

NBU 921-23F4CS
2182' FNL & 512' FWL

NBU 921-23E4BS
2172' FNL & 530' FWL

EXISTING WELL NBU 921-23E
2218' FNL & 509' FWL

BOTTOM HOLE FOOTAGES

NBU 921-23L1BS
2520' FSL & 665' FWL

NBU 921-23E1CS
1767' FNL & 665' FWL

NBU 921-23F4CS
2425' FNL & 1985' FWL

NBU 921-23E4BS
2080' FNL & 665' FWL

RELATIVE COORDINATES From Surface Position to Bottom Hole		
WELL	NORTH	EAST
921-23L1BS	-582'	189'
921-23E1CS	424'	169'
921-23F4CS	-247'	1,473'
921-23E4BS	92'	135'

LATITUDE & LONGITUDE Bottom Hole - (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
921-23L1BS	40°01'16.420" 40.021228°	109°31'31.273" 109.525354°
921-23E1CS	40°01'26.455" 40.024015°	109°31'31.303" 109.525362°
921-23F4CS	40°01'19.929" 40.022203°	109°31'14.318" 109.520644°
921-23E4BS	40°01'23.362" 40.023156°	109°31'31.292" 109.525359°

S61°26'37"W
Az=241.44361°

NBU 921-23L1BS
Az. to Exist. W.H.=117.79833° 36.1'

NBU 921-23E1CS
Az. to Exist. W.H.=151.49472° 30.0'

NBU 921-23F4CS
Az. to Exist. W.H.=185.23222° 36.1'

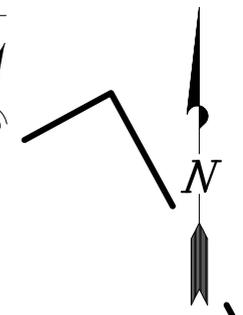
NBU 921-23E4BS
Az. to Exist. W.H.=204.59222° 50.0'

Az=55.68528°
N55°41'07"E - 163.28'
(To Bottom Hole)

Az=99.51194°
S80°29'17"E - 1493.64'
(To Bottom Hole)

● EXISTING WELL: NBU 921-23E

S17°57'38"E - 611.81'
Az=162.03944°
(To Bottom Hole)



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



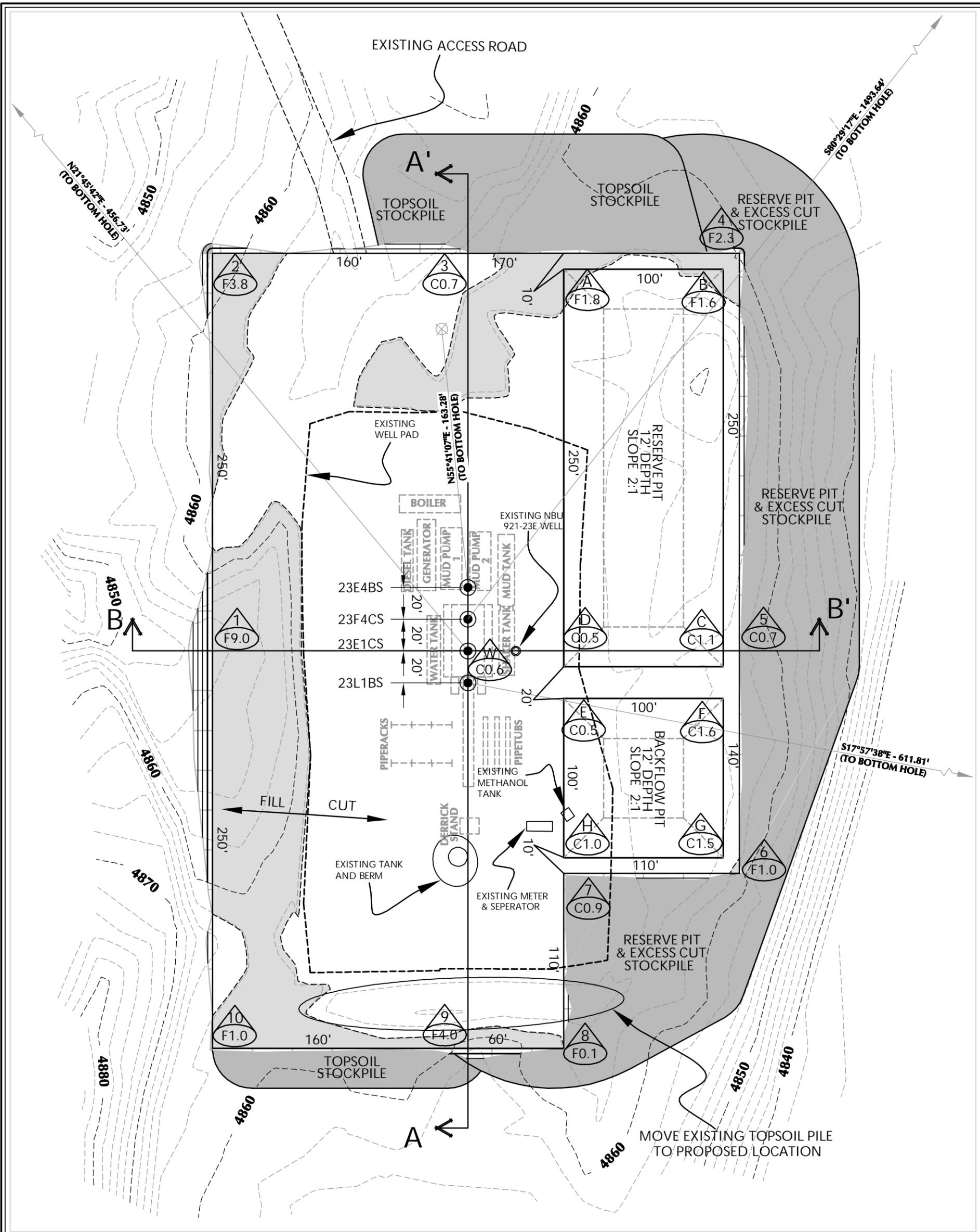
CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

DATE SURVEYED: 01-06-09	SURVEYED BY: M.S.B.
DATE DRAWN: 02-16-09	DRAWN BY: M.W.W.
	REVISED: 04-23-09

Timberline (435) 789-1365
Engineering & Land Surveying, Inc.
209 NORTH 300 WEST VERNAL, UTAH 84078

SHEET
5
OF 13

NBU 921-23L1BS, NBU 921-23E1CS,
NBU 921-23F4CS & NBU 921-23E4BS
LOCATED IN SECTION 23, T9S, R21E,
S.L.B.&M. UINTAH COUNTY, UTAH.



WELL PAD NBU 921-23E QUANTITIES

EXISTING GRADE @ CENTER OF WELL PAD = 4,862.7'
 FINISHED GRADE ELEVATION = 4,862.1'
 CUT SLOPES = 1.5:1
 FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 5,371 C.Y.
 TOTAL FILL FOR WELL PAD = 3,669 C.Y.
 TOPSOIL @ 6" DEPTH = 1,802 C.Y.
 EXCESS MATERIAL = 1,702 C.Y.
 TOTAL DISTURBANCE = 3.63 ACRES
 SHRINKAGE FACTOR = 1.10
 SWELL FACTOR = 1.00
 RESERVE PIT CAPACITY (2' OF FREEBOARD)
 +/- 28,730 BARRELS
 RESERVE PIT VOLUME
 +/- 7,720 CY
 BACKFLOW PIT CAPACITY (2' OF FREEBOARD)
 +/- 9,490 BARRELS
 BACKFLOW PIT VOLUME
 +/- 2,660 CY

WELL PAD LEGEND

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



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

**KERR-MCGEE OIL & GAS
 ONSHORE L.P.**
 1099 18th Street - Denver, Colorado 80202

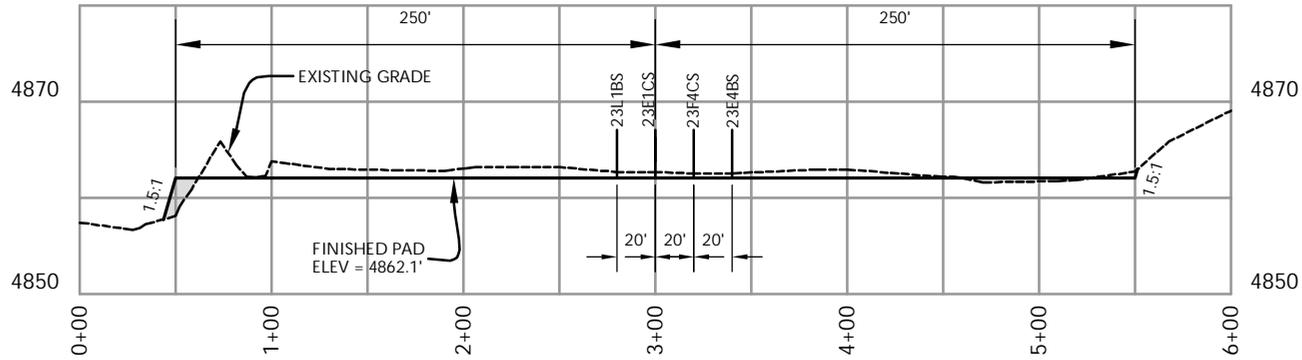


609 CONSULTING, LLC
 371 Coffeen Avenue
 Sheridan WY 82801
 Phone 307-674-0609
 Fax 307-674-0182

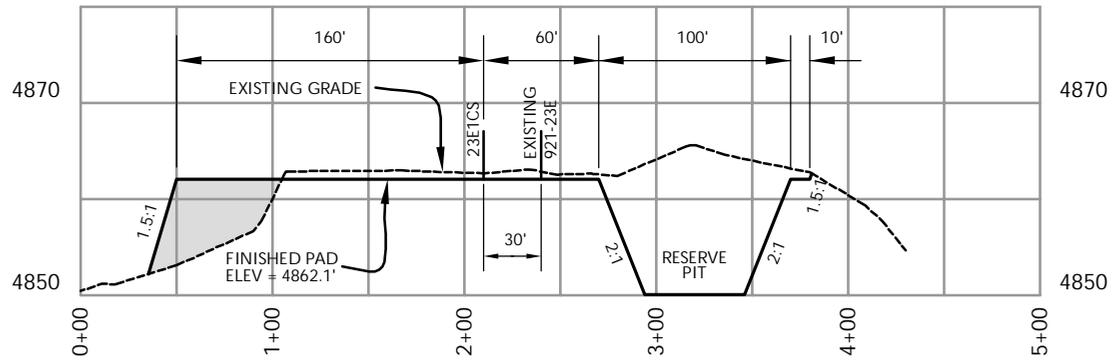
WELL PAD - LOCATION LAYOUT
 NBU 921-23L1BS, NBU 921-23E1CS,
 NBU 921-23F4CS & NBU 921-23E4BS
 LOCATED IN SECTION 23, T.9S., R.21E.
 S.L.B.&M., UINTAH COUNTY, UTAH

Scale: 1"=60'	Date: 3/19/09	SHEET NO:
REVISED:	RAW 5/4/09	6 6 OF 13

Timberline (435) 789-1365
Engineering & Land Surveying, Inc.
 38 WEST 100 NORTH VERNAL, UTAH 84078



CROSS SECTION A-A'



CROSS SECTION B-B'

NOTE: CROSS SECTION B-B' DEPICTS
MAXIMUM RESERVE PIT DEPTH.

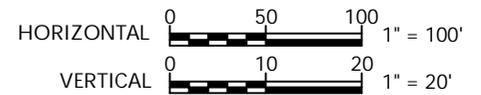
KERR-MCGEE OIL & GAS
ONSHORE L.P.
1099 18th Street - Denver, Colorado 80202



WELL PAD - CROSS SECTIONS
NBU 921-23L1BS, NBU 921-23E1CS,
NBU 921-23F4CS & NBU 921-23E4BS
LOCATED IN SECTION 23, T.9S., R.21E.
S.L.B.&M., Uintah County, Utah

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

Scale: 1"=100'	Date: 3/19/09	SHEET NO:
REVISED:	RAW 5/4/09	7 7 OF 13



Timberline (435) 789-1365
Engineering & Land Surveying, Inc.
38 WEST 100 NORTH VERNAL, UTAH 84078

'APIWELIN0:43047506130000'
 K:\ANADARKO\2008\27-NBU\DirectionalWells\DWGS\NBU FINAL SEC 18,19,28.dwg, 5/6/2009 11:02:47 AM

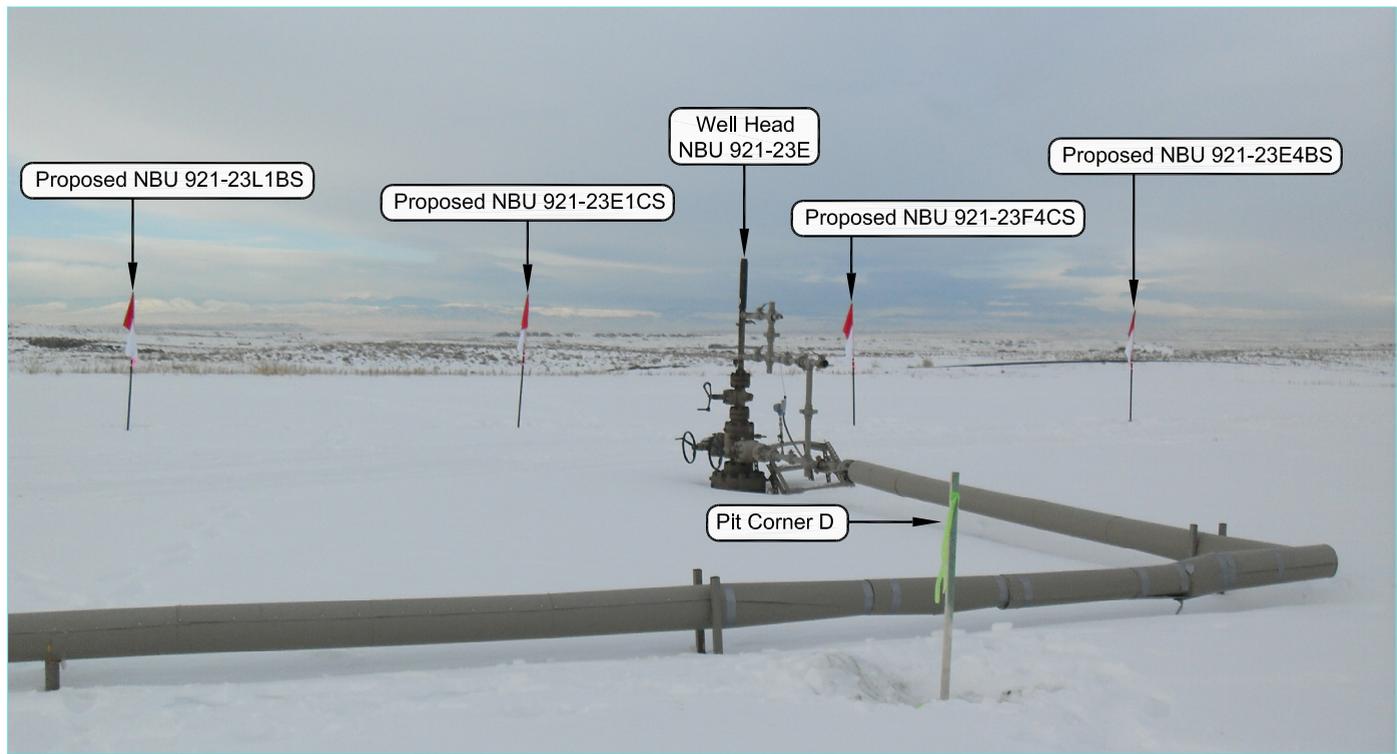


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKES

CAMERA ANGLE: NORTHERLY



PHOTO VIEW: FROM EXISTING ACCESS ROAD

CAMERA ANGLE: SOUTHWESTERLY

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



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

NBU 921-23L1BS, NBU 921-23E1CS,
 NBU 921-23F4CS & NBU 921-23E4BS
 LOCATED IN SECTION 23, T9S, R21E,
 S.L.B.&M. UINTAH COUNTY, UTAH.

LOCATION PHOTOS

TAKEN BY: M.S.B.

DRAWN BY: M.W.W.

DATE TAKEN: 01-06-09

DATE DRAWN: 02-16-09

REVISED: 04-23-09

Timberline (435) 789-1365
 Engineering & Land Surveying, Inc.
 209 NORTH 300 WEST VERNAL, UTAH 84078

SHEET
8
 OF 13

Kerr-McGee Oil & Gas Onshore, LP
NBU 921-23L1BS, NBU 921-23E1CS, NBU 921-23F4CS & NBU 921-23E4BS
Section 23, T9S, R21E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 11.2 MILES TO THE INTERSECTION OF THE GLEN BENCH ROAD (COUNTY B ROAD 3260). EXIT LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY, THEN NORTHEASTERLY DIRECTION ALONG THE GLEN BENCH ROAD APPROXIMATELY 11.4 MILES TO A CLASS D COUNTY ROAD TO THE SOUTHWEST. EXIT LEFT AND PROCEED IN A SOUTHWESTERLY DIRECTION ALONG THE CLASS D COUNTY ROAD APPROXIMATELY 1.8 MILES TO A SECOND CLASS D COUNTY ROAD TO THE NORTH. EXIT RIGHT AND PROCEED IN A NORTH BY NORTHWEST DIRECTION ALONG THE SECOND CLASS D COUNTY ROAD APPROXIMATELY 0.3 MILES TO A THIRD CLASS D COUNTY ROAD TO THE NORTH. EXIT RIGHT AND PROCEED IN A NORTHERLY, THEN NORTHEASTERLY DIRECTION ALONG THE THIRD CLASS D COUNTY ROAD APPROXIMATELY 1.2 MILES TO A SERVICE ROAD TO THE SOUTHEAST. EXIT RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 0.3 MILES TO A SECOND SERVICE ROAD TO THE EAST. EXIT LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHERLY DIRECTION ALONG THE SECOND SERVICE ROAD APPROXIMATELY 0.5 MILES TO THE NBU 921-23E WELL PAD.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 57.1 MILES IN A SOUTHERLY DIRECTION.

**Paleontological Assessment for Anadarko Petroleum Corporation
NBU 921-23E4BS, E1CS, L1BS, F4BS
Ouray SE Quadrangle
Uintah County, Utah**

Prepared for

Anadarko Petroleum Corporation

Granite Tower
1099 18th St. #1200
Denver, CO 80202

and

Ute Tribe

Energy and Minerals Department

P.O. Box 70
988 S. 7500 E., Annex Building
Fort Duchesne, UT 84026

Prepared by:

Benjamin John Burger, M.S., Justin J. Strauss, M.S., Paul C. Murphey, Ph.D.

SWCA Environmental Consultants

2028 West 500 North

Vernal, UT 84078

Phone: 435.789.9388

Fax: 435.789.9385

www.swca.com

SWCA #UT09-14314-37

CLASS I REVIEW OF KERR-MCGEE OIL & GAS
ONSHORE LP'S 51 PROPOSED WELL LOCATIONS
(T9S, R21E, SECTIONS 7, 8, 10, 11, 12,
17, 18, 19, 20, 23, 25, AND 30)
IN UINTAH COUNTY, UTAH

By:

Jacki A. Montgomery

Prepared For:

Ute Tribal Land
Uintah and Ouray Agency

Bureau of Land Management
Vernal Field Office

Prepared Under Contract With:

Kerr-McGee Oil & Gas Onshore LP
1368 South 1200 East
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.
P.O. Box 219
Moab, Utah 84532

MOAC Report No. 09-39

May 11, 2009

United States Department of Interior (FLPMA)
Permit No. 09-UT-60122

Public Lands Policy Coordination Office
Archaeological Survey Permit No. 117

Ute Tribal Permit No. A09-363

CLASS I REVIEW OF KERR-MCGEE OIL & GAS
ONSHORE LP'S 50 PROPOSED WELL LOCATIONS
IN T9S, R21E SECS. 19, 20, 21, 23, 28, 29 AND 30
UINTAH COUNTY, UTAH

By:

Jacki A. Montgomery

Prepared For:

Ute Tribal Land
Uintah and Ouray Agency

Bureau of Land Management
Vernal Field Office

Prepared Under Contract With:

Kerr-McGee Oil & Gas Onshore LP
1368 South 1200 East
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.
P.O. Box 219
Moab, Utah 84532

MOAC Report No. 09-11

February 23, 2009

United States Department of Interior (FLPMA)
Permit No. 08-UT-60122

Public Lands Policy Coordination Office
Archaeological Survey Permit No. 117

Ute Tribal Permit No. A08-363



Grasslands Consulting, Inc.

4800 Happy Canyon Road, Suite 110, Denver, CO 80237
(303) 759-5377 Office (303) 759-5324 Fax

SPECIAL STATUS PLANT AND WILDLIFE SPECIES REPORT

Report : GCI #34

Operator: Kerr-McGee Oil & Gas Onshore LP

Wells: NBU 921-23E Pad

(Bores: NBU 921-23E1CS, NBU 921-23E4BS, NBU 921-23L1BS, NBU 921-23F4CS)

Pipelines: N/A

Access Roads: N/A

Location: SW/NW Section 23, Township 9 South, Range 21 East; Uintah County, Utah

Survey-Species: Uinta Basin Hookless Cactus (*Sclerocactus wetlandicus*) and nesting raptors

Date: 06/17/2009

Observer(s): Grasslands Consulting, Inc. Biologists: Nick Hall, Dan Hamilton, Matt Kelahan, and Jonathan Sexauer. Technician: Chad Johnson.

Weather: Partly cloudy, 75-80°F, 0-5 mph winds with no precipitation.



Kerr-McGee Oil & Gas Onshore LP
P.O. Box 178779
DENVER, CO 80217-3779

June 9, 2009

Diana Mason
Utah Department of Oil, Gas & Mining
P.O. Box 145801
Salt Lake City, Utah 54114-6100

RE: Directional Drilling Letter R649-3-11
NBU 921-23E1CS
T9S-R21E
Section 23: SW/4NW/4 surface and bottom hole
2192' FNL, 495' FWL (surface)
1767' FNL, 665' FWL (bottom hole)
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 the Exception to Location and Siting of Wells.

- Kerr-McGee's NBU 921-23 E1CS is located within the Natural Buttes Unit Area.
- 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 road 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 to be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Joe Matney
Senior Staff Landman

'APIWellNo:43047506130000'

NBU 921-23E1CS

Surface: 2,192' FNL, 495' FWL (SW/4NW/4)
BHL: 1,767' FNL 665' FWL (SW/4NW/4)

NBU 921-23E4BS

Surface: 2,172' FNL, 530' FWL (SW/4NW/4)
BHL: 2,080' FNL 665' FWL (SW/4NW/4)

NBU 921-23F4CS

Surface: 2,182' FNL, 512' FWL (SW/4NW/4)
BHL: 2,425' FNL 1,985' FWL (SE/4NW/4)

NBU 921-23L1BS

Surface: 2,201' FNL, 477' FWL (SW/4NW/4)
BHL: 2,520' FSL 665' FWL (NW/4SW/4)

Pad: NBU 921-23E
Sec. 23 T9S R21E

Uintah, Utah
Mineral Lease: UTU 0149075

Surface Owner: Ute Indian Tribe

ONSHORE ORDER NO. 1

***MULTI-POINT SURFACE USE & OPERATIONS PLAN
SUBMITTED WITH SITE-SPECIFIC INFORMATION***

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 (OSO #1) and supporting Bureau of Land Management (BLM) and Bureau of Indian Affairs (BIA) documents. An NOS was submitted showing the surface locations in SW/4 NW/4 of Section 23 T9S R21E. The well names of the following wells have changed names, therefore some documents may reflect the old well name:

NBU 921-23E1CS was fka NBU 921-23E1BS
NBU 921-23E4BS was fka NBU 921-23E1CS
NBU 921-23F4CS was fka NBU 921-23F4BS

This Surface Use Plan of Operations (SUPO) or 13-point plan provides the site-specific information for the above-referenced wells. This information is to be incorporated by reference into the Master Development Plan (MDP) for Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee). The MDP is available upon request from the BIA-Ft Duchesne Office.

An on-site meeting was held on June 24, 2009. Present were:

- Verlyn Pindell and Dave Gordon – BLM;
- Bucky Secakuku – BIA
- Kolby Kay and Mitch Batty – Timberline Surveying, Inc.
- Nick Hall – Grasslands Consulting, Inc.
- Scott Carson – Smiling Lake Consulting
- Keith Montgomery – Montgomery Archaeological Consultants, Inc.
- Tony Kazeck, Jeff Samuels, Raleen White, David Liddell, and Hal Blanchard – Kerr-McGee

Directional Drilling:

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

1. Existing Roads:

- A) Refer to Topo Map A for directions to the location.
- B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

2. Planned Access Roads:

See MDP for additional details on road construction.

No new access road is proposed, as the road was previously included with the existing CIGE 46 well. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.

3. Location of Existing Wells Within a 1-Mile Radius:

Please refer to Topo Map C.

4. Location of Existing and Proposed Facilities:

See MDP for additional details on Existing and Proposed Facilities.

This pad will expand the existing pad for the NBU 921-23E, which is a producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records.

The following guidelines will apply if the well is productive.

Approximately ±1,825' (±0.35 miles) of pipeline is proposed. The existing pipeline, as shown on Topo D, will be upgraded to accommodate anticipated production from the proposed wells. The upgraded pipeline will follow the same route as the existing pipeline. Appropriate surface use agreements have been or will be obtained from the Ute Indian Tribe. Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place

Per the onsite meeting, the following items were requested:

- The equipment (new and old infrastructure) will be painted Shadow Grey.

- The existing pipeline will be moved off the damage area of the well pad.
- Diversion drainages will be constructed around the well pad.

5. Location and Type of Water Supply:

See MDP for additional details on 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.

No water well is to be drilled on this lease.

6. Source of Construction Materials:

See MDP for additional details on Source of Construction Materials.

7. Methods of Handling Waste Materials:

See MDP for additional details on Methods of Handling Waste Materials.

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

- RNI in Sec. 5 T9S R22E
- NBU #159 in Sec. 35 T9S R21E
- 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

8. Ancillary Facilities:

See MDP for additional details on Ancillary Facilities.

None are anticipated.

9. Well Site Layout: (See Location Layout Diagram)

See MDP for additional details on Well Site Layout.

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner 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.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

10. Plans for Reclamation of the Surface:

See MDP for additional details on Plans for Reclamation of the Surface.

Kerr-McGee shall call the BIA for the seed mixture prior to starting interim and/or final reclamation actions.

11. Surface/Mineral Ownership:

The well pad and access road are located on lands owned by:

Ute Indian Tribe
PO Box 70
Fort Duchesne, Utah 84026
435-722-5141

The mineral ownership is listed below:

United States of America
Bureau of Land Management
170 South 500 East
Vernal, UT 84078
435-781-4400

12. Other Information:

See MDP for additional details on Other Information.

At the time the Paleo report was prepared, the following wells had the following well names:

NBU 921-23E1CS was fka NBU 921-23E1BS
NBU 921-23E4BS was fka NBU 921-23E1CS
NBU 921-23F4CS was fka NBU 921-23F4BS

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

Kathy Schneebeck Dulnoan
Regulatory Analyst
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6007

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 pursuant to 43 CFR 3104 for lease activities is being provided 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.



Kathy Schneebeck Dulnoan

July 28, 2009

Date

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
 P.O. Box 45155
 Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:
 3160
 (UT-922)

August 7, 2009

Memorandum

To: Assistant District Manager Minerals, Vernal District
 From: Michael Coulthard, Petroleum Engineer
 Subject: 2009 Plan of Development Natural Buttes Unit
 Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2009 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50613	NBU 921-23E1CS	Sec 23 T09S R21E 2192 FNL 0495 FWL
	BHL	Sec 23 T09S R21E 1767 FNL 0665 FWL
43-047-50619	NBU 921-23E4BS	Sec 23 T09S R21E 2172 FNL 0530 FWL
	BHL	Sec 23 T09S R21E 2080 FNL 0665 FWL
43-047-50620	NBU 921-23F4CS	Sec 23 T09S R21E 2182 FNL 0512 FWL
	BHL	Sec 23 T09S R21E 2425 FNL 1985 FWL
43-047-50621	NBU 921-23L1BS	Sec 23 T09S R21E 2201 FNL 0477 FWL
	BHL	Sec 23 T09S R21E 2520 FSL 0665 FWL
43-047-50623	NBU 921-28C1CS	Sec 28 T09S R21E 0642 FNL 0844 FWL
	BHL	Sec 28 T09S R21E 0471 FNL 1985 FWL
43-047-50624	NBU 921-28C4BS	Sec 28 T09S R21E 0682 FNL 0844 FWL
	BHL	Sec 28 T09S R21E 0845 FNL 1985 FWL
43-047-50625	NBU 921-28C4CS	Sec 28 T09S R21E 0702 FNL 0844 FWL
	BHL	Sec 28 T09S R21E 1219 FNL 1985 FWL
43-047-50626	NBU 921-28D1BS	Sec 28 T09S R21E 0622 FNL 0844 FWL
	BHL	Sec 28 T09S R21E 0241 FNL 0665 FWL

Page 2

43-047-50627	NBU 920-21P	Sec 21 T09S R20E 0281 FSL 0524 FEL
43-047-50628	NBU 920-21N	Sec 21 T09S R20E 0460 FSL 1527 FWL
43-047-50629	NBU 920-21L	Sec 21 T09S R20E 2139 FSL 0979 FWL
43-047-50630	NBU 920-21M	Sec 21 T09S R20E 0734 FSL 0635 FWL

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File - Natural Buttes Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:8-7-09

WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 8/3/2009

API NO. ASSIGNED: 43047506130000

WELL NAME: NBU 921-23E1CS

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

PHONE NUMBER: 720 929-6007

CONTACT: Kathy Schneebeck-Dulnoan

PROPOSED LOCATION: SWNW 23 090S 210E

Permit Tech Review:

SURFACE: 2192 FNL 0495 FWL

Engineering Review:

BOTTOM: 1767 FNL 0665 FWL

Geology Review:

COUNTY: UINTAH

LATITUDE: 40.02284

LONGITUDE: -109.52592

UTM SURF EASTINGS: 625791.00

NORTHINGS: 4431123.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU 0149075

PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE

SURFACE OWNER: 2 - Indian

COALBED METHANE: NO

RECEIVED AND/OR REVIEWED:

- PLAT
- Bond: FEDERAL - WYB000291
- Potash
- Oil Shale 190-5
- Oil Shale 190-3
- Oil Shale 190-13
- Water Permit: Permit #43-8496
- RDCC Review:
- Fee Surface Agreement
- Intent to Commingle

Commingle Approved

LOCATION AND SITING:

- R649-2-3.
Unit: NATURAL BUTTES
- R649-3-2. General
- R649-3-3. Exception
- Drilling Unit
Board Cause No: Cause 173-14
Effective Date: 12/2/1999
Siting: 460' fr u bdry & uncomm. tract
- R649-3-11. Directional Drill

Comments: Presite Completed

Stipulations:
1 - Exception Location - dmason
3 - Commingle - ddoucet
4 - Federal Approval - dmason
15 - Directional - dmason
17 - Oil Shale 190-5(b) - dmason



JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
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: NBU 921-23E1CS
API Well Number: 43047506130000
Lease Number: UTU 0149075
Surface Owner: INDIAN
Approval Date: 8/11/2009

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 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE 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

Exception Location:

Appropriate information has been submitted to DOGM and administrative approval of the requested exception location is hereby granted.

Commingle:

In accordance with Board Cause No. 173-14, commingling the of 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:

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

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.

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 at 801-538-5284 (please leave a voicemail message if not available)
OR
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <http://oilgas.ogm.utah.gov>

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:



Gil Hunt
Associate Director, Oil & Gas

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9 5. LEASE DESIGNATION AND SERIAL NUMBER: UTU 0149075
---	--

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: UTE TR
1. TYPE OF WELL Gas Well	7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES	
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	8. WELL NAME and NUMBER: NBU 921-23E1CS	
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	PHONE NUMBER: 720 929-6007 Ext	9. API NUMBER: 43047506130000
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2192 FNL 0495 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNW Section: 23 Township: 09.0S Range: 21.0E Meridian: S	9. FIELD and POOL or WILDCAT: NATURAL 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 checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 8/12/2010	<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 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 checked="" 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.

Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.

Approved by the Utah Division of Oil, Gas and Mining

Date: August 23, 2010

By:

NAME (PLEASE PRINT) Danielle Piernot	PHONE NUMBER 720 929-6156	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 8/12/2010	



The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Request for Permit Extension Validation Well Number 43047506130000

API: 43047506130000

Well Name: NBU 921-23E1CS

Location: 2192 FNL 0495 FWL QTR SWNW SEC 23 TWNP 090S RNG 210E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Date Original Permit Issued: 8/11/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? Yes No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? Yes No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? Yes No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? Yes No
- Has the approved source of water for drilling changed? Yes No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? Yes No
- Is bonding still in place, which covers this proposed well? Yes No

Approved by the Utah Division of Oil, Gas and Mining

Signature: Danielle Piernot

Date: 8/12/2010

Title: Regulatory Analyst Representing: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Date: August 23, 2010

By: [Signature]

RECEIVED

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

AUG 03 2009

APPLICATION FOR PERMIT TO DRILL OR REENTER **BLM**

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU0149075
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator KERR MCGEE OIL & GAS ONSHORE		7. If Unit or CA Agreement, Name and No. UTU63047A
Contact: KATHY SCHNEEBECK DULNOAN Email: kathy.schneebeckdulnoan@anadarko.com		8. Lease Name and Well No. NBU 921-23E1CS
3a. Address 1368 SOUTH 1200 EAST VERNAL, UT 84078	3b. Phone No. (include area code) Ph: 720-929-6007 Fx: 720-929-7007	9. API Well No. 43-047-50013
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface SWNW 2192FNL 495FWL 40.02282 N Lat, 109.52665 W Lon At proposed prod. zone SWNW 1767FNL 665FWL 40.02398 N Lat, 109.52605 W Lon		10. Field and Pool, or Exploratory NATURAL BUTTES
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 27 MILES SOUTHEAST OF OURAY, UT		11. Sec., T., R., M., or Blk. and Survey or Area Sec 23 T9S R21E Mer SLB
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) APPROXIMATELY 665' TO LEASE LINE	16. No. of Acres in Lease 640.00	12. County or Parish UINTAH
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. APPROXIMATELY 315'	19. Proposed Depth 10034 MD 9960 TVD	13. State UT
21. Elevations (Show whether DF, KB, RT, GL, etc.) 4863 GL	22. Approximate date work will start 09/07/2009	17. Spacing Unit dedicated to this well
		20. BLM/BIA Bond No. on file WYB 0000291
		23. Estimated duration 60-90 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature (Electronic Submission)	Name (Printed/Typed) KATHY SCHNEEBECK DULNOAN Ph: 720-929-6007	Date 08/03/2009
Title STAFF REGULATORY ANALYST		
Approved by (Signature) 	Name (Printed/Typed) James H. Sparger	Date JAN 19 2011
Title Acting Assistant Field Manager Lands & Mineral Resources	Office VERNAL FIELD OFFICE	

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

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

Additional Operator Remarks (see next page)

UDOGM

Electronic Submission #72837 verified by the BLM Well Information System
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal
Committed to AFMSS for processing by GAIL JENKINS on 08/06/2009 (09GXJ5674AE)

NO RECORD APPROVAL

CONDITIONS OF APPROVAL ATTACHED

NOS APD POSTED 08-10-2009

FEB 01 2011

BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED

AFMSS# 09GXJ5674AE



UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company: Kerr McGee Oil & Gas Onshore LP Location: SWNW, Sec.23, T9S R21E
Well No: NBU 921-23E1CS Lease No: UTU-0149075
API No: 43-047-50613 Agreement: Natural Buttes

OFFICE NUMBER: (435) 781-4400

OFFICE FAX NUMBER: (435) 781-3420

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

NOTIFICATION REQUIREMENTS

Location Construction (Notify Environmental Scientist)	- Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	- Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	- Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to running casing and cementing all casing strings to: ut_vn_opreport@blm.gov .
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	- Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

***SURFACE USE PROGRAM
CONDITIONS OF APPROVAL (COAs)***

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO_x per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO_x per horsepower-hour.
- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.
- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.

Site-Specific Conditions of Approval:

- Paint new and old (existing) facilities "Shadow Gray."
- Move existing pipeline off the damaged area of the well pad.
- Construct diversion ditches around the well pad.
- In accordance with the guidelines specified in the Utah BLM Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002 (See Appendix D), a raptor survey should be conducted prior to expansion of the well pad or pipeline upgrade if construction would take place during raptor nesting season (January 01 through September 30) and conduct its operations according to specifications in the guidelines.
- If project construction operations are not initiated before June 17, 2010, KMG should conduct additional biological surveys in accordance with the guidelines specified in the USFWS Rare Plant Conservation Measures for Uinta Basin hookless cactus (See Appendix D) and conduct its operation according to its specifications.

BIA Standard Conditions of Approval:

- Soil erosion will be mitigated by reseeding all disturbed areas.
- The gathering pipelines will be constructed to lie on the surface. The surface pipelines will not be bladed or cleared of vegetation. Where pipelines are constructed parallel to roads they may be welded on the road and then lifted from the road onto the right-of-way. Where pipelines do not parallel roads but cross-country between sites, they shall be welded in place at well sites or on access roads and then pulled between stations with a suitable piece of equipment. Traffic will be restricted along these areas so that the pipeline right-of-way will not be used as an access road.
- An open drilling system shall be used, unless otherwise specified in 10.0 Additional Stipulations of this document and in the Application for Permit to Drill. A closed drilling system shall be used in all

flood plain areas, and other highly sensitive areas, recommended by the Ute Tribe Technician, BIA, and other agencies involved.

- The reserve pit shall be lined with a synthetic leak proof liner. After the drilling operation is complete, excess fluids shall be removed from the reserve pit and either hauled to an approved disposal site or shall be used to drill other wells. When the fluids are removed the pit shall be backfilled a minimum of 3.0' below the soil surface elevation.
- A closed production system shall be used. This means all produced water and oil field fluid wastes shall be contained in leak proof tanks. These fluids shall be disposed of in either approved injection wells or disposal pits.
- Major low water crossings will be armored with pit run material to protect them from erosion.
- All personnel should refrain from collecting any paleontological fossils and from disturbing any fossil resources in the area.
- If fossils are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.
- Before the site is abandoned the company will be required to restore the right-of-way to near its original state. The disturbed area will be reseeded with desirable perennial vegetation. If necessary, the Bureau of Indian Affairs or Bureau of Land Management will provide a suitable seed mixture.
- Noxious weeds will be controlled on all surface disturbances within the project area. If noxious weeds spread from the project area onto adjoining land, the company will also be responsible for their control.
- If project construction operations are scheduled to occur after December 31, 2009, KMG should conduct annual raptor surveys in accordance with the guidelines specified in the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002 (See appendix D) and conduct its operation according to applicable seasonal restriction and spatial offsets.
- USFWS threatened and endangered plant and animal conservation measures will be followed, as appropriate to the species identified by the biological resource survey (See Appendix D).
- All personnel should refrain from collecting artifacts and from disturbing any significant cultural resources in the area.
- If artifacts or any culturally sensitive materials are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.

**DOWNHOLE PROGRAM
CONDITIONS OF APPROVAL (COAs)**

SITE SPECIFIC DOWNHOLE COA's:

Gamma Ray Log shall be run from Total Depth to Surface.

Variations Granted

Air Drilling:

- Properly lubricated and maintained rotating head, variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
- Blooie line discharge 100' from the well bore, variance granted for blooie line discharge to be 45' from the well bore.
- Variance granted for two truck/trailer mounted air compressors located within 40 feet from the well bore and 60' from the blooie line.
- Mud Material Requirements. In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for kill fluid.
- Automatic igniter. Variance granted for igniter due to there being no productive formations while drilling with air.
- FIT test. Variance granted due to well geology and problems that can occur with FIT test.

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.

- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in LAS format to UT_VN_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- In accordance with 43 CFR 3162.4-3, this well shall be reported on the "Monthly Report of Operations" (Oil and Gas Operations Report ((OGOR)) starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report shall be filed in duplicate, directly with the Minerals Management Service, P.O. Box 17110, Denver, Colorado 80217-0110, or call 1-800-525-7922 (303) 231-3650 for reporting information.
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
 - Operator name, address, and telephone number.
 - Well name and number.
 - Well location ($\frac{1}{4}$ $\frac{1}{4}$, Sec., Twn, Rng, and P.M.).
 - Date well was placed in a producing status (date of first production for which royalty will be paid).
 - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
 - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
 - Unit agreement and/or participating area name and number, if applicable.
 - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4.

Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG
 Submitted By SHEILA WOPSOCK Phone Number 435.781.7024
 Well Name/Number NBU 921-23E1CS
 Qtr/Qtr SWNW Section 23 Township 9S Range 21E
 Lease Serial Number UTU-0149075
 API Number 4304750613

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

Date/Time 06/03/2011 1200 HRS AM PM

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

- Surface Casing
 Intermediate Casing
 Production Casing
 Liner
 Other

RECEIVED
 JUN 02 2011
 DIV. OF OIL, GAS & MINING

Date/Time 06/27/2011 0800 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 435.781.7048 FOR MORE

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU 0149075
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: UTE TR
		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 921-23E1CS	
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	9. API NUMBER: 43047506130000	
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	PHONE NUMBER: 720 929-6515 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2192 FNL 0495 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNW Section: 23 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"/> SUBSEQUENT REPORT Date of Work Completion: <input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 6/4/2011 <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> OTHER	
<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON 06/04/2011 AT 1300 HRS.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY		
NAME (PLEASE PRINT) Sheila Wopsock	PHONE NUMBER 435 781-7024	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 6/9/2011	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU 0149075
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: UTE TR
		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 921-23E1CS	
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	9. API NUMBER: 43047506130000	
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	PHONE NUMBER: 720 929-6515 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2192 FNL 0495 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNW Section: 23 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"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 6/30/2011	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> OTHER	
<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU AIR RIG ON JUNE 28, 2011. DRILLED SURFACE HOLE TO 2810'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY		
NAME (PLEASE PRINT) Andy Lytle	PHONE NUMBER 720 929-6100	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 7/7/2011	

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) 929-6100

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750619	NBU 921-23E4BS		SWNW	23	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
<i>B</i>	99999	<i>2900</i>	6/4/2011		<i>6/22/11</i>		
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL LOCATION ON 6/4/2011 AT 07:00 HRS. <i>BHL = SWNW</i>							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750620	NBU 921-23F4CS		SWNW	23	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
<i>B</i>	99999	<i>2900</i>	6/4/2011		<i>6/22/11</i>		
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL LOCATION ON 6/4/2011 AT 11:00 HRS. <i>BHL = SENW</i>							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750613	NBU 921-23E1CS		SWNW	23	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
<i>B</i>	99999	<i>2900</i>	6/4/2011		<i>6/22/11</i>		
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL LOCATION ON 6/4/2011 AT 13:00 HRS. <i>BHL = SWNW</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)

ANDY LYTLE

Name (Please Print)

Signature

REGULATORY ANALYST

6/7/2011

Title

Date

RECEIVED

JUN 07 2011

(5/2000)

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU 0149075
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: UTE TR
		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 921-23E1CS	
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	9. API NUMBER: 43047506130000	
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	PHONE NUMBER: 720 929-6515 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2192 FNL 0495 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNW Section: 23 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"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 8/31/2011		<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION
<input type="checkbox"/> SPUD REPORT Date of Spud:		<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION
<input type="checkbox"/> DRILLING REPORT Report Date:		<input type="checkbox"/> APD EXTENSION OTHER: RIG REL. - ACTS PIT
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU ROTARY RIG. FINISHED DRILLING FROM 2810' TO 10,085' ON AUGUST 28, 2011. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING TO 9635'. RAN 4 1/2" 11.6# P110 CSG FROM 9635' TO 10,074'. CEMENTED PRODUCTION CASING. RELEASED ENSIGN RIG 146 ON AUGUST 31, 2011 @ 00:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES. THE PIT ON THIS LOCATION WILL BE REFURBISHED AND UTILIZED AS PART OF THE ACTS SYSTEM.		
NAME (PLEASE PRINT) Andy Lytle		PHONE NUMBER 720 929-6100
SIGNATURE N/A		TITLE Regulatory Analyst
		DATE 8/31/2011

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

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9 5. LEASE DESIGNATION AND SERIAL NUMBER: UTU 0149075																														
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: UTE 7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES																														
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 921-23E1CS																															
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	9. API NUMBER: 43047506130000																															
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	PHONE NUMBER: 720 929-6515 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES																														
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2192 FNL 0495 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNW Section: 23 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"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 10/6/2011	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; border: none;"><input type="checkbox"/> ACIDIZE</td> <td style="width: 33%; border: none;"><input type="checkbox"/> ALTER CASING</td> <td style="width: 33%; border: none;"><input type="checkbox"/> CASING REPAIR</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> CHANGE TO PREVIOUS PLANS</td> <td style="border: none;"><input type="checkbox"/> CHANGE TUBING</td> <td style="border: none;"><input type="checkbox"/> CHANGE WELL NAME</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> CHANGE WELL STATUS</td> <td style="border: none;"><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS</td> <td style="border: none;"><input type="checkbox"/> CONVERT WELL TYPE</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> DEEPEN</td> <td style="border: none;"><input type="checkbox"/> FRACTURE TREAT</td> <td style="border: none;"><input type="checkbox"/> NEW CONSTRUCTION</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> OPERATOR CHANGE</td> <td style="border: none;"><input type="checkbox"/> PLUG AND ABANDON</td> <td style="border: none;"><input type="checkbox"/> PLUG BACK</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> PRODUCTION START OR RESUME</td> <td style="border: none;"><input type="checkbox"/> RECLAMATION OF WELL SITE</td> <td style="border: none;"><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> REPERFORATE CURRENT FORMATION</td> <td style="border: none;"><input type="checkbox"/> SIDETRACK TO REPAIR WELL</td> <td style="border: none;"><input type="checkbox"/> TEMPORARY ABANDON</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> TUBING REPAIR</td> <td style="border: none;"><input type="checkbox"/> VENT OR FLARE</td> <td style="border: none;"><input type="checkbox"/> WATER DISPOSAL</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> WATER SHUTOFF</td> <td style="border: none;"><input type="checkbox"/> SI TA STATUS EXTENSION</td> <td style="border: none;"><input type="checkbox"/> APD EXTENSION</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> WILDCAT WELL DETERMINATION</td> <td style="border: none;"><input type="checkbox"/> OTHER</td> <td style="border: none;">OTHER: <input style="width: 100px;" type="text"/></td> </tr> </table>		<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE	<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"/>
<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR																														
<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME																														
<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE																														
<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 10/06/2011 AT 2:00 PM. 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																																
NAME (PLEASE PRINT) Sheila Wopsock	PHONE NUMBER 435 781-7024	TITLE Regulatory Analyst																														
SIGNATURE N/A	DATE 10/6/2011																															

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No.
UTU0149075

1a. Type of Well Oil Well Gas Well Dry Other
 b. Type of Completion New Well Work Over Deepen Plug Back Diff. Resvr.
 Other _____

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.
UTU63047A

2. Name of Operator **KERR MCGEE OIL & GAS ONSHORE** Contact: JAIME L. SCHARNOWSKE
 Email: JAIME.SCHARNOWSKE@ANADARKO.COM

8. Lease Name and Well No.
NBU 921-23E1CS

3. Address **PO BOX 173779 DENVER, CO 80217** 3a. Phone No. (include area code)
 Ph: 720-929-6304

9. API Well No.
43-047-50613

4. Location of Well (Report location clearly and in accordance with Federal requirements)*
 At surface **SWNW 2192FNL 495FWL 40.022816 N Lat, 109.526653 W Lon**
 At top prod interval reported below **SWNW 1761FNL 661FWL**
 At total depth **SWNW 1762FNL 685FWL**

10. Field and Pool, or Exploratory
NATURAL BUTTES

11. Sec., T., R., M., or Block and Survey
or Area **Sec 23 T9S R21E Mer SLB**

12. County or Parish **UINTAH** 13. State
UT

14. Date Spudded **06/04/2011** 15. Date T.D. Reached **08/28/2011** 16. Date Completed
 D & A Ready to Prod. **10/06/2011**

17. Elevations (DF, KB, RT, GL)*
4862 GL

18. Total Depth: **MD 10085 TVD 10047** 19. Plug Back T.D.: **MD 10029 TVD 9991** 20. Depth Bridge Plug Set: **MD TVD**

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
HDIL/ZDL/CNCR/CBL/VDL/GR/CCL-CMI/GR/CCL 22. Was well cored? No Yes (Submit analysis)
 Was DST run? No Yes (Submit analysis)
 Directional Survey? No Yes (Submit analysis)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 STL	36.7	0	40		28			
12.250	9.625 J-55	40.0	0	2792		705		0	
7.875	4.500 I-80	11.6	0	9635		1980		860	
7.875	4.500 P-110	11.6	9635	10074					

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	9244							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) WASATCH	5451	7344	5451 TO 7344	0.360	72	OPEN
B) MESAVERDE	7959	9836	7959 TO 9836	0.360	120	OPEN
C)						
D)						

26. Perforation Record

Depth Interval	Amount and Type of Material
5451 TO 9836	PUMP 5,136 BBLs SLICK H2O & 102,207 LBS 30/50 OTTAWA SAND

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
10/06/2011	10/11/2011	24	→	0.0	2309.0	310.0			FLOWS FROM WELL

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

RECEIVED
NOV 22 2011

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

29. Disposition of Gas(Sold, used for fuel, vented, etc.)
SOLD

30. 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.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				GREEN RIVER	1585
				BIRD'S NEST	1880
				MAHOGANY	2274
				WASATCH	4957
				MESAVERDE	7940

32. Additional remarks (include plugging procedure):

Attached is the chronological well history, perforation report & final survey.

33. Circle enclosed attachments:

- 1. Electrical/Mechanical Logs (1 full set req'd.)
- 2. Geologic Report
- 3. DST Report
- 4. Directional Survey
- 5. Sundry Notice for plugging and cement verification
- 6. Core Analysis
- 7. Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

**Electronic Submission #123215 Verified by the BLM Well Information System.
For KERR MCGEE OIL & GAS ONSHORE,L, sent to the Vernal**

Name (please print) JAIME L. SCHARNOWSKE Title REGULATORY ANALYST

Signature (Electronic Submission) Date 11/14/2011

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

**** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ****

US ROCKIES REGION
Operation Summary Report

Well: NBU 921-23E1CS YELLOW	Spud Conductor: 6/4/2011	Spud Date: 6/29/2011
Project: UTAH-UINTAH	Site: NBU 921-23E PAD	Rig Name No: ENSIGN 146/146, PROPETRO 11/11
Event: DRILLING	Start Date: 5/25/2011	End Date: 8/31/2011
Active Datum: RKB @4,876.00usft (above Mean Sea Level)		UWI: SW/NW/0/9/S/21/E/23/0/0/26/PM/N/2,192.00/W/0/495.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
6/28/2011	21:00 - 23:00	2.00	MIRU	01	C	P		MOVE RIG IN OFF THE NBU 921-23F4CS
	23:00 - 0:00	1.00	MIRU	01	B	P		INSTALL DIVERter HEAD AND BLOOIE LINE. BUILD DITCH. MOVE RIG OVER HOLE AND RIG UP
6/29/2011	0:00 - 1:30	1.50	MIRU	01	B	P		FINISH R/U,PRIME PIT PUMP & MUD PUMP
	1:30 - 2:00	0.50	DRLSUR	06	A	P		P/U 1.83 DEG BENT HOUSING HUNTING MTR SN 8060 . 7/8 LOBE .17 RPM. M/U 12.25" Q507 SN 7020485 2ND RUN, W/ 7-18'S. INSTALL RUBBER
	2:00 - 3:30	1.50	DRLSUR	02	B	P		SPUD SURFACE 06/29/2011 @ 02:00 HRS. DRILL 12.1/4" SURFACE HOLE F/40'-210' (170' @ 113'/HR) PSI ON/ OFF 700/450, UP/ DOWN/ ROT 27/22/25. 532 GPM, 45 RPM ON TOP DRIVE,90 RPM ON MM, 15-18K WOB
	3:30 - 4:00	0.50	DRLSUR	06	A	P		TOH
	4:00 - 5:30	1.50	DRLSUR	06	A	P		P/U DIR TOOLS & SCRIBE, TIH T/210'
	5:30 - 15:00	9.50	DRLSUR	02	D	P		DRILL/ SLIDE 12 1/4" SURFACE HOLE F/210' T/ 1430' (1220' @ 128'/HR)PSI ON/OFF, 1500/1220 UP/ DOWN/ ROT 60/50/55, 130 SPM, 532 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE,90 RPM ON MM, CIRCULATING RESERVE PIT
	15:00 - 19:30	4.50	DRLSUR	02	D	P		DRILL/ SLIDE 12 1/4" SURFACE HOLE F/1430' T/ 1730' (300' @ 67'/HR)PSI ON/OFF,1630/1390 UP/ DOWN/ ROT 70/51/60, 130 SPM, 532 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE,90 RPM ON MM, CIRCULATING RESERVE PIT
	19:30 - 20:30	1.00	ALL	08	B	Z		WORK ON MUD PUMP
	20:30 - 0:00	3.50	DRLSUR	02	D	P		DRILL/ SLIDE 12 1/4" SURFACE HOLE F/1730' T/ 2030' (300' @ 86'/HR)PSI ON/OFF,1120/1000 UP/ DOWN/ ROT 75/55/65, 130 SPM, 532 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE,90 RPM ON MM,LOST PARTIAL RETURNS @ 1790',RUN AIR AS NEEDED TO MAINTAIN CIRCULATION & RESERVE PIT LEVEL
	6/30/2011	0:00 - 5:30	5.50	DRLSUR	02	D	P	
	5:30 - 16:00	10.50	DRLSUR	02	D	P		DRILL/ SLIDE 12 1/4" SURFACE HOLE F/2330' T/ 2810' (480' @ 46'/HR)PSI ON/OFF,1930/1730 UP/ DOWN/ ROT 85/70/75, 130 SPM, 532 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE,90 RPM ON MM,RUN AIR AS NEEDED TO MAINTAIN CIRCULATION & RESERVE PIT LEVEL(TD 12 1/4" DIR. SURF. HOLE)
	16:00 - 18:00	2.00	DRLSUR	05	C	P		CIRC & COND HOLE F/LAY DOWN & 9 5/8" 40# SURF. CSG RUN
	18:00 - 21:30	3.50	DRLSUR	06	D	P		L/D DRILLSTRING,BHA & DIR TOOLS
	21:30 - 23:00	1.50	CSG	12	A	P		MOVE CATWALK AND PIPE RACKS,MOVE CSG OVER TO WORK AREA,R/U T/RUN 9 5/8" 40# SURF. CSG

US ROCKIES REGION
Operation Summary Report

Well: NBU 921-23E1CS YELLOW		Spud Conductor: 6/4/2011		Spud Date: 6/29/2011	
Project: UTAH-UINTAH		Site: NBU 921-23E PAD		Rig Name No: ENSIGN 146/146, PROPETRO 11/11	
Event: DRILLING		Start Date: 5/25/2011		End Date: 8/31/2011	
Active Datum: RKB @4,876.00usft (above Mean Sea Level)			UWI: SW/NW/0/9/S/21/E/23/0/0/26/PM/N/2,192.00/W/0/495.00/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	23:00 - 0:00	1.00	ALL	08	B	Z		HYDRAULIC FLUID LEVEL T/TOPHEAD MAIN HYDRAULIC PUMPS LOW, WAIT ON MORE HYDRAULIC FLUID F/YARD
7/1/2011	0:00 - 1:00	1.00	ALL	08	B	Z		WAIT ON HYDRAULIC FLUID F/YARD, FILL HYDRAULIC TANK T/THE PROPER WORKING LEVEL
	1:00 - 5:30	4.50	CSG	12	C	P		HOLD SAFETY MEETING, RUN FLOAT SHOE, SHOE JNT, BAFFLE & 64 JNTS 9 5/8" 40# LT&C CSG W/THE SHOE SET @2782' & THE BAFFLE @2737'
	5:30 - 7:00	1.50	CSG	12	B	P		RUN 200' 1" PIPE DOWN ANNULUS INSTALL CEMENT HEAD, R/U PRO PETRO CEMENTERS
	7:00 - 8:30	1.50	CSG	12	E	P		HOLD SAFETY MEETING. TEST LINES TO 2000 PSI. PUMP 50 BBLs OF 8.4# H2O AHEAD, NO RETURNS PUMP 20 BBLs OF 8.4# GEL WATER AHEAD. PUMP 250 SX(170 BBLs) 11# 3.82 YIELD LEAD CEMENT, PUMP 200 SX (41 BBLs) OF 15.8# 1.15 YIELD TAIL(2% CALC, 1/4# /SK OF FLOCELE). DROP PLUG ON FLY AND DISPLACE W/206 BBLs OF 8.4# H2O. LIFT PRESSURE WAS 500 PSI, BUMP PLUG AND HOLD 900 PSI FOR 5 MIN. FLOAT HELD, NO RETURNS THRU OUT JOB, NO CEMENT TO SURF
	8:30 - 9:00	0.50	CSG	12	F	P		TOP OUT THRU 1" PIPE W/100 SKS 15.8 PPG, CLASS "G" CEMENT W/4% CACL2 & 1/4#/SK FLOCELE, NO CEMENT TO SURF.
	9:00 - 10:30	1.50	CSG	13	A	P		WAIT ON CEMENT
	10:30 - 11:00	0.50	CSG	12	F	P		TOP OUT W/125 SKS 15.8 PPG, CLASS "G" CEMENT W/4% CACL2 & 1/4#/SK FLOCELE, NO CEMENT TO SURF. (RELEASE RIG @ 11:00 07/01/2011)(7/12/2011, TOP OUT W/30 SKS 15.8 PPG CLASS "G" CEMENT, W/4% CACL2 & 1/4#/SK FLOCELE CEMENT TO SURF, STAYED @ SURF.)
	11:00 - 11:00	0.00	CSG					CONDUCTOR CASING: Cond. Depth set:40' Cement sx used:28
								SPUD DATE/TIME:6/29/2011 2:00
								SURFACE HOLE: Surface From depth:40' Surface To depth:2810' Total SURFACE hours:35.00 Surface Casing size:9 5/8" 40# # of casing joints ran:65 Casing set MD:2,782.0 # sx of cement:250,200,255 Cement blend (ppg):11.0/15.8/15.8 Cement yield (ft3/sk):3.82/1.15/1.15 # of bbls to surface: Describe cement issues:NONE Describe hole issues:NONE
8/22/2011	13:30 - 15:30	2.00	MIRU	01	C	P		SKID THE RIG OVER F/ NBU 921-23L1BS
	15:30 - 17:00	1.50	MIRU	14	A	P		NU THE BOP

US ROCKIES REGION
Operation Summary Report

Well: NBU 921-23E1CS YELLOW	Spud Conductor: 6/4/2011	Spud Date: 8/29/2011
Project: UTAH-UINTAH	Site: NBU 921-23E PAD	Rig Name No: ENSIGN 146/146, PROPETRO 11/11
Event: DRILLING	Start Date: 5/25/2011	End Date: 8/31/2011
Active Datum: RKB @4,876.00usft (above Mean Sea Level)	UWI: SW/NW/0/9/S/21/E/23/0/0/26/PM/N/2,192.00/W/0/495.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
8/23/2011	17:00 - 21:30	4.50	DRLPRO	15	A	P		TEST BOPE, RAMS, CHOKE, CHOKE LINE, MANUAL VALVES, FLOOR VALVES, HCR & IBOP 250 LOW 5000 HIGH, ANNULAR 250 LOW 2500 HIGH, CASING 1500
	21:30 - 22:00	0.50	MIRU	14	B	P		INSTALL THE WEAR BUSHING
	22:00 - 0:00	2.00	MIRU	06	A	P		PU/SCRIBE DIRECTIONAL TOOLS. TIH
	0:00 - 1:00	1.00	DRLPRO	06	A	P		TIH W/ DRILLING ASSY.
	1:00 - 3:30	2.50	MAINT	09	A	P		CUT / SLIP DRILLING LINE CENTER/ LEVEL RIG
	3:30 - 5:30	2.00	DRLPRO	02	F	P		DRILLING CEMENT AND FLOAT EQUIP. TAGGED CEMENT @ 2753'
	5:30 - 15:00	9.50	DRLPRO	02	D	P		DRILL/SLIDE F/ 2820'-4126' (1306' @ 137.5fph) CIRC. THE RESERVE PIT EZ MUD SWEEPS, WOB 24, RPM 50, MM RPM 103, TQ 8/6, SPM 105, GPM 515, PSI OFF/ON 1310/1630, PU/SO/ROT 152/133/143 SLIDE - 42' / .67 HR 7.9%, 62.7/HR ROT - 1264' / 8.83 HR., 92.1%, 143/HR RIG SERVICE
8/24/2011	15:00 - 15:30	0.50	MAINT	07	A	P		
	15:30 - 0:00	8.50	DRLPRO	02	D	P		DRILL/SLIDE F/ 4126'-5326' (1200' @ 141.2fph) CIRC. THE RESERVE PIT EZ MUD SWEEPS, WOB 24, RPM 50, MM RPM 103, TQ 8/6, SPM 105, GPM 515, PSI OFF/ON 1545/1820, PU/SO/ROT 162/143/148 SLIDE - 24' / .58 HR , 62.7/HR 7.9% TOT ROT - 1176' / 7.92 HR., 148.5/HR 92.1% TOT
	0:00 - 16:30	16.50	DRLPRO	02	D	P		DRILL/SLIDE F/5326' TO 7117' (1791' @ 108fph) MW 9.0, VIS 35, WOB 20, RPM 45, MM RPM 108, TQ 7/10, SPM 105, GPM 515, PSI OFF/ON 1525/1900, PU 193, SO 157, ROT 171, SLIDE 6211 6225, 6392 6406, 6845 6859, 6936 6950 (SLIDE 56'/1 hr 6% - ROT 1735'/15.5 hrs 94%) - (STARTED MUD UP @ 5848' - DISPLACED HOLE WITH FRESH WATER) RIG SER
	16:30 - 17:00	0.50	DRLPRO	07	A	P		
	17:00 - 0:00	7.00	DRLPRO	02	D	P		DRILL/SLIDE F/717' TO 7575' (450' @ 66fph) MW 9.2, VIS 35, WOB 20, RPM 45, MM RPM 108, TQ 7/10, SPM 105, GPM 515, PSI OFF/ON 1900/2165, PU 210, SO 150, ROT 177, SLIDE 7208 74215, 7661 7675 (SLIDE 21'/1.50 hrs 7% - ROT 4729/6.5 hrs 93%)
8/25/2011	0:00 - 15:00	15.00	DRLPRO	02	D	P		DRILL/SLIDE F/7575' TO 8477' (902' @ 60fph) MW 11.1, VIS 39, LCM 5%, WOB 20, RPM 45, MM RPM 108, TQ 8/10, SPM 105, GPM 515, PSI OFF/ON 2200/2525, PU 213, SO 171, ROT 108, SLIDE 7661 7675 (SLIDE 24'/1.25 hrs 8% - ROT 878'/13.75 hrs 92%) (BYPASSED SHAKER @ 8358' RAISE LCM TO 5% TO CONTROL SEEPAGE) RIG SER
	15:00 - 15:30	0.50	DRLPRO	07	A	P		
	15:30 - 0:00	8.50	DRLPRO	02	D	P		DRILL/SLIDE F/8477' TO 8875' (398' @ 47fph) MW 11.3, VIS 40, LCM 5%, WOB 20, RPM 45, MM RPM 108, TQ 7/10, SPM 105, GPM 515, PSI OFF/ON 24252675, PU 230, SO 165, ROT 187, SLIDE 8749 8759, 8839 8855 (SLIDE 26'/1.75 hrs 20% - ROT 372'/6.75 hrs 80%)

US ROCKIES REGION
Operation Summary Report

Well: NBU 921-23E1CS YELLOW	Spud Conductor: 6/4/2011	Spud Date: 8/29/2011
Project: UTAH-UINTAH	Site: NBU 921-23E PAD	Rig Name No: ENSIGN 146/146, PROPETRO 11/11
Event: DRILLING	Start Date: 5/25/2011	End Date: 8/31/2011
Active Datum: RKB @4,876.00usft (above Mean Sea Level)		UWI: SW/NW/0/9/S/21/E/23/0/0/26/PM/N/2,192.00/W/0/495.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
8/26/2011	0:00 - 15:00	15.00	DRLPRO	02	D	P		DRILL/SLIDE F/8875' TO 9474' (599' @ 40fph) MW 11.6, VIS 42, LCM 5%, WOB 22, RPM 35, MM RPM 100, TQ 7/11, SPM 98, GPM 480, PSI OFF/ON 2500/2750, PU 220, SO 176, ROT 193, SLIDE 8930 8935, 9383 9395(SLIDE 17'/1.50 hrs 1% - ROT 582'/13.5 hrs 99%)
	15:00 - 15:30	0.50	DRLPRO	07	A	P		RIG SER
	15:30 - 18:30	3.00	DRLPRO	02	D	P		DRILL/SLIDE F/9474' TO 9500' (26' @ 9fph) MW 12.0, VIS 42, LCM 5%, WOB 25, RPM 35, MM RPM 100, TQ 7/10, SPM 98, GPM 480, PSI OFF/ON 2500/2750, PU 220, SO 176, ROT 193, SLIDE 9474 9492 (SLIDE 18'/1.75 hrs 58% - ROT 8'/1.25 hrs 42%)
	18:30 - 20:00	1.50	DRLPRO	06	A	P		TRIP FOR NEW BIT - POOH F/9500' TO 7800'
	20:00 - 23:00	3.00	DRLPRO	08	A	Z		LOST COMMUNICATIONS WITH IRON DERRICKHAND - BLOWN FUSE FOR TOP LEFT GRIPPER
	23:00 - 0:00	1.00	DRLPRO	06	A	P		CONTINUE POOH FROM 7800' TO 6100' AT REPORT TIME
8/27/2011	0:00 - 5:30	5.50	DRLPRO	06	A	P		POOH F/6100' TO SURFACE - L/DN MUD MOTOR & BIT - TIGHT AREA @ 4873' ON POOH
	5:30 - 8:00	2.50	DRLPRO	06	A	P		P/UP HUNTING .16 RPG 150 DEG MUD MOTOR & HUGHES Q506F BIT - SCRIBE & ORIENT
	8:00 - 8:30	0.50	DRLPRO	07	A	P		DIRECTIONAL TOOLS - SURFACE CHECK - CIRC THRU BHA @ 1400', "OK" - RIH TO 2800' - BREAK CIRC
	8:30 - 11:00	2.50	DRLPRO	08	A	Z		RIG SER
	11:00 - 16:00	5.00	DRLPRO	06	A	P		IRON DERRICKHAND - COMMUNICATION FAILURE WITH UPPER GRIPPERS - TECH ON LOCATION - CHANGED OUT 2 - 5 AMP FUSES - UNABLE TO DETERMINE CAUSE OF FUSE PROBLEM
	16:00 - 0:00	8.00	DRLPRO	02	D	P		CONTINUE TRIP IN HOLE F/2800' TO 9476' - WASH F/9476' TO 9500' BREAK CIRC @ 6680' - (TIGHT @ 8300', 9050' & 9220')
8/28/2011	0:00 - 5:00	5.00	DRLPRO	02	D	P		DRILL/SLIDE F/9500' TO 9800' (300' @ 38fph) MW 12.4, VIS 46, LCM 5%, WOB 20, RPM 35, MM RPM 72, TQ 7/10, SPM 92, GPM 450, PSI 2450/2775, PU 240, SO 170, ROT 200, SLIDE 9567 9582, 9658 9668 (25'/3 hrs 37% - ROT 275'/5 hrs 63%)
	5:00 - 6:30	1.50	DRLPRO	05	C	P		DRILL/SLIDE F/9800' TO 10,085' (285' @ 57fph) MW 12.4, VIS 46, LCM 5%, WOB 20, RPM 35, MM RPM 72, TQ 7/10, SPM 92, GPM 450, PSI 2450/2775, PU 240, SO 170, ROT 200 (ROT 100%)
	6:30 - 12:30	6.00	DRLPRO	06	E	P		CIRC
	12:30 - 17:00	4.50	DRLPRO	06	E	P		W/TRIP - POOH F/10,085' TO 9 5/8" CASING SHOE @ 2792' - TIGHT @ 4825'
	17:00 - 18:30	1.50	DRLPRO	05	C	P		W/TRIP - RIH F/2792' TO 10,020' - WASH F/10,020' TO 10,085' - TIGHT @ 6400' & 6520'

US ROCKIES REGION
Operation Summary Report

Well: NBU 921-23E1CS YELLOW		Spud Conductor: 6/4/2011		Spud Date: 6/29/2011	
Project: UTAH-UINTAH			Site: NBU 921-23E PAD		Rig Name No: ENSIGN 146/146, PROPETRO 11/11
Event: DRILLING			Start Date: 5/25/2011		End Date: 8/31/2011
Active Datum: RKB @4,876.00usft (above Mean Sea Level)			UWI: SW/NW/0/9/S/21/E/23/0/0/26/PM/N/2,192.00/W/0/495.00/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:30 - 0:00	5.50	DRLPRO	06	B	P		POOH FOR OPEN HOLE LOGS - RACK DRILL STRING IN DERRICK - NO PROBLEMS ON POOH - 2690' @ MIDNIGHT (RACKED DRILL STRING IN DERRICK IN CASE WE DIDN'T GET TO BOTTOM ON OPEN HOLE LOGGING RUN - TALKED TO GEOLOGIST BEN KESSEL AND WAS INFORMED THAT ONLY 1 WELL HAD GOOD LOGS TO BOTTOM ON THE PAD - DISCUSSED W/DRILLING FORMAN & ENGINEER)
8/29/2011	0:00 - 2:30	2.50	DRLPRO	06	B	P		POOH FOR OPEN HOLE LOGS RACKING DRILL STRING IN DERRICK - L/DN MM, BIT & DIRECTIONAL TOOLS
	2:30 - 7:30	5.00	DRLPRO	11	D	P		HPJSM, R/UP BAKER ATLAS & RUN TRIPLE COMBO TO LOGGERS TD @ 10,082'
	7:30 - 9:30	2.00	DRLPRO	06	F	P		P/UP BIT SUB & TRI-CONE 7.875 BIT - RIH TO 2094'
	9:30 - 10:00	0.50	DRLPRO	08	A	Z		REPLACE HYD HOSE IRON ROUGHNECK
	10:00 - 16:30	6.50	DRLPRO	06	F	P		CONTINUE RIH F/2094' TO 10,036' - WASH F/10,036' TO 10,085'
	16:30 - 18:00	1.50	DRLPRO	05	C	P		CIRC HOLE CLEAN
	18:00 - 0:00	6.00	DRLPRO	06	A	P		POOH LDDP F/10 085' TO 2800' @ MIDNIGHT
8/30/2011	0:00 - 2:00	2.00	DRLPRO	06	A	P		LDDP F/2800' TO 1000'
	2:00 - 2:30	0.50	DRLPRO	06	A	P		RIH 8 STANDS FROM DERRICK TO 1720'
	2:30 - 4:00	1.50	DRLPRO	06	A	P		CONTINUE LDDP & HWDP
	4:00 - 4:30	0.50	DRLPRO	14	B	P		RETRIEVE WEARBUSHING
	4:30 - 14:30	10.00	CSG	12	C	P		HPJSM, R/UP & RUN 10 JTS P110 & 230 JTS I-80 11.60 BTC 4.5" CASING, FLOAT SHOE 10,074', FLOAT COLLAR 10,027', MESAVERDE MKR 7846', WASATCH MKR 4919'
	14:30 - 16:00	1.50	CSG	05	D	P		CIRC CASING
	16:00 - 19:00	3.00	CSG	12	E	P		HPJSM, R/UP BJ & CEMENT 4.5" PROD CASING, TEST LINES 5000 PSI, PUMP 15 BBLS FRESH WATER, 10 BBLS 20 SKS SCAVENGER 11.4 PPG 2.69 YIELD, 690 SKS LEAD 12.4 PPG 2.03 YIELD, TAIL 1290 SKS 14.3 PPG, 1.31 YIELD, DROPPED PLUG & DISPLACED W/156 BBLS FRESH WATER W/0.1 gal/bbl CLAYFIX II & 0.01 gal/bbl ALDACIDE G @ 3180 PSI, BUMPED PLUG @ 3810 PSI - FLOATS HELD W/1.5 BBLS RETURN, GOOD RETURNS DURING CMT JOB W/15 BBLS LEAD CEMENT TO SURFACE - R/DN BJ
	19:00 - 20:00	1.00	CSG	12	C	P		WASH OUT BOP - SET C-22 SLIPS W/100K STRING WT - WEATHERFORD REP VAN SCOTT
	20:00 - 23:59	3.98	CSG	14	A	P		N/DN BOPE, MAKE ROUGH CUT 4.5" CASING & L/OUT SAME, CLEAN RIG TANKS - RELEASE RIG @ 00:00 8/31/00

US ROCKIES REGION
Operation Summary Report

Well: NBU 921-23E1CS YELLOW		Spud Conductor: 6/4/2011	Spud Date: 6/29/2011
Project: UTAH-UINTAH		Site: NBU 921-23E PAD	Rig Name No: ENSIGN 146/146, PROPETRO 11/11
Event: DRILLING		Start Date: 5/25/2011	End Date: 8/31/2011
Active Datum: RKB @4,876.00usft (above Mean Sea Level)		UWI: SW/NW/0/9/S/21/E/23/0/0/26/PM/N/2,192.00/W/0/495.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
------	----------------	---------------	-------	------	----------	-----	----------------	-----------

23:59 - 0:00 0.02 CSG

CONDUCTOR CASING:

Cond. Depth set:40
Cement sx used:25

SPUD DATE/TIME:6/29/2011 2:00

SURFACE HOLE:

Surface From depth:40
Surface To depth:2,810
Total SURFACE hours:35.00
Surface Casing size:9 5/8
of casing joints ran:65
Casing set MD:2,782.0
sx of cement:250,200,255
Cement blend (ppg:)
11.0/15.8/15.8
Cement yield (ft3/sk):3.82/1.15/1.15
of bbls to surface:
Describe cement issues:NONE
Describe hole issues:NONE

PRODUCTION:

Rig Move/Skid start date/time:8/22/2011 13:30
Rig Move/Skid finish date/time:8/22/2011 15:30
Total MOVE hours:2.0
Prod Rig Spud date/time:8/23/2011 5:30
Rig Release date/time:8/31/2011 0:00
Total SPUD to RR hours:186.5
Planned depth MD10,059
Planned depth TVD10,022
Actual MD:10,085
Actual TVD:10,047
Open Wells \$:
AFE \$:
Open wells \$/ft:

PRODUCTION HOLE:

Prod. From depth:2,820
Prod. To depth:10,085
Total PROD hours: 96
Log Depth:10,082
Float Collar Top Depth:10,027
Production Casing size:4 1/2
of casing joints ran:240
Casing set MD:10,074.0
Stage 1
sx of cement:SCAV 20, LEAD 690, TAIL 1290
Cement density (ppg:)
SCAV 11.4, LEAD 12.4, TAIL 14.3
Cement yield (ft3/sk):SCAV 2.03, LEAD 2.03, TAIL 1.31
Stage 2
sx of cement:
Cement density (ppg:)
Cement yield (ft3/sk):
Top Out Cmt
sx of cement:

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-23E1CS YELLOW		Spud Conductor: 6/4/2011	Spud Date: 6/29/2011
Project: UTAH-UINTAH		Site: NBU 921-23E PAD	Rig Name No: ENSIGN 146/146, PROPETRO 11/11
Event: DRILLING		Start Date: 5/25/2011	End Date: 8/31/2011
Active Datum: RKB @4,876.00usft (above Mean Sea Level)		UWI: SW/NW/0/9/S/21/E/23/0/0/26/PM/N/2,192.00/W/0/495.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								Cement density (ppg): Cement yield (ft3/sk): Est. TOC (Lead & Tail) or 2 Stage :4476 Describe cement issues:15 BBLS LEAD CEMENT TO SURFACE Describe hole issues:MINIMAL LOSSES DIRECTIONAL INFO: KOP:210 Max angle:11.88 Departure:475.62 Max dogleg MD:3170' - 2.3

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 921-23E1CS YELLOW	Wellbore No.	OH
Well Name	NBU 921-23E1CS	Wellbore Name	NBU 921-23E1CS
Report No.	1	Report Date	9/27/2011
Project	UTAH-JUNTAH	Site	NBU 921-23E PAD
Rig Name/No.		Event	COMPLETION
Start Date	9/27/2011	End Date	10/6/2011
Spud Date	6/29/2011	Active Datum	RKB @4,876.00usft (above Mean Sea Level)
UWI	SW/NW/0/9/S/21/E/23/0/0/26/PM/N/2,192.00/W/0/495.00/0/0		

1.3 General

Contractor	CASEHOLE SOLUTIONS	Job Method	PERFORATE	Supervisor	KEN WARREN
Perforated Assembly	PRODUCTION CASING	Conveyed Method	WIRELINE		

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	5,451.0 (usft)-9,836.0 (usft)	Start Date/Time	9/28/2011 12:00AM
No. of Intervals	24	End Date/Time	9/28/2011 12:00AM
Total Shots	0	Net Perforation Interval	50.00 (usft)
Avg Shot Density	0.00 (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	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/28/2011 12:00AM	WASATCH/			5,451.0	5,457.0			0.360	EXP/	3.375	90.00			23.00	PRODUCTIO N

2.1 Perforated Interval (Continued)

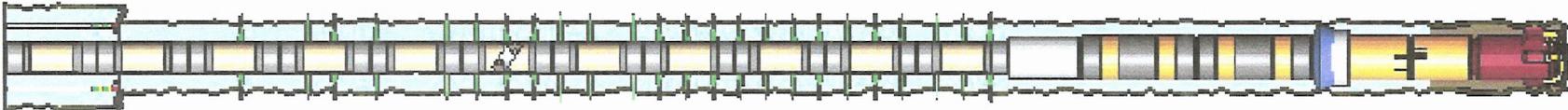
Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/28/2011 12:00AM	WASATCH/			6,778.0	6,782.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	WASATCH/			6,798.0	6,800.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	WASATCH/			7,338.0	7,344.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			7,959.0	7,963.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			8,110.0	8,112.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			8,256.0	8,257.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			8,334.0	8,336.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			8,356.0	8,357.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			8,470.0	8,472.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			9,040.0	9,041.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			9,064.0	9,065.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			9,107.0	9,108.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			9,171.0	9,172.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			9,187.0	9,188.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			9,210.0	9,212.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			9,261.0	9,262.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			9,281.0	9,282.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			9,349.0	9,350.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			9,450.0	9,453.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			9,471.0	9,472.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			9,750.0	9,752.0			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 /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/28/2011 12:00AM	MESAVERDE/			9,795.0	9,797.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/28/2011 12:00AM	MESAVERDE/			9,834.0	9,836.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

3 Plots

3.1 Wellbore Schematic



US ROCKIES REGION

Operation Summary Report

Well: NBU 921-23E1CS YELLOW	Spud Conductor: 6/4/2011	Spud Date: 6/29/2011
Project: UTAH-UINTAH	Site: NBU 921-23E PAD	Rig Name No: GWS 1/1
Event: COMPLETION	Start Date: 9/27/2011	End Date: 10/6/2011
Active Datum: RKB @4,876.00usft (above Mean Sea Level)	UWI: SW/NW/0/9/S/21/E/23/0/0/26/PM/N/2,192.00/W/0/495.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
9/27/2011	7:00 - 15:00	8.00	COMP	33	C	P		MIRU B&C TESTERS, HAVE RNI FILL SURFACE CSG, HOOK UP TESTERS TO 4-1/2 CSG & PRESWSURE TEST. 1000# W/ 18# LOSS IN 15 MIN. 3500# W/ 28# LOSS IN 15 MIN. 7000# W/ 164# LOSS IN 30 MIN. 7000# W/ 106# LOSS IN 30 MIN. 7000# W/ 106# LOSS IN 30 MIN. NO COMMUNICATION ON SURFACE CSG.
9/28/2011	7:00 - 9:30	2.50	COMP	36	B	P		HSM, R/U & PRE FRAC REVIEW, MIRU CASED HOLE SOLUTIONS & SUPERIOR FRAC EQUIP,
	9:30 - 18:00	8.50	COMP	36	B	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 STG #1 P/U RIH W/ PERF GUN, PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW FRAC STG #1] WHP=1,27#, BRK DN PERFS=3,849#, @=4.7 BPM, INJ RT=50.8, INJ PSI=6,053#, INITIAL ISIP=2,686#, INITIAL FG=.71, FINAL ISIP=2,842#, FINAL FG=.73, AVERAGE RATE=51, AVERAGE PRESSURE=5,442#, MAX RATE=51.7, MAX PRESSURE=6,178#, NET PRESSURE INCREASE=156#, 22/24 90% CALC PERFS OPEN. X OVER TO WIRE LINE PERF STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,502', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW FRAC STG #2] WHP=1,233#, BRK DN PERFS=3,878#, @=4.5 BPM, INJ RT=46.9, INJ PSI=6,185#, INITIAL ISIP=2,985#, INITIAL FG=.76, FINAL ISIP=2,985#, FINAL FG=.76, AVERAGE RATE=48.2, AVERAGE PRESSURE=5,716#, MAX RATE=51.1, MAX PRESSURE=6,332#, NET PRESSURE INCREASE=0#, 19/24 81% CALC PERFS OPEN. X OVER TO WIRE LINE PERF STG #3] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,242', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW. SWMFN. HSM,
9/29/2011	6:45 - 7:00	0.25	COMP	48	B	P		HSM,

US ROCKIES REGION
Operation Summary Report

Well: NBU 921-23E1CS YELLOW		Spud Conductor: 6/4/2011	Spud Date: 6/29/2011
Project: UTAH-UINTAH		Site: NBU 921-23E PAD	Rig Name No: GWS 1/1
Event: COMPLETION		Start Date: 9/27/2011	End Date: 10/6/2011
Active Datum: RKB @4,876.00usft (above Mean Sea Level)		UWI: SW/NW/0/9/S/21/E/23/0/0/26/PM/N/2,192.00/W/0/495.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 18:00	11.00	COMP	36	B	P		<p>FRAC STG #3] WHP=2,247#, BRK DN PERFS=3,373#, @=4.5 BPM, INJ RT=50.2, INJ PSI=5,677#, INITIAL ISIP=2,771#, INITIAL FG=.74, FINAL ISIP=2,881#, FINAL FG=.75, AVERAGE RATE=50.3, AVERAGE PRESSURE=5,100#, MAX RATE=51.5, MAX PRESSURE=5,972#, NET PRESSURE INCREASE=110#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #4] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,502', 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=1,170#, BRK DN PERFS=3,198#, @=4.6 BPM, INJ RT=50.7, INJ PSI=5,269#, INITIAL ISIP=1,969#, INITIAL FG=.67, FINAL ISIP=2,584#, FINAL FG=.75, AVERAGE RATE=51, AVERAGE PRESSURE=5,004#, MAX RATE=51.5, MAX PRESSURE=6,048#, NET PRESSURE INCREASE=615#, 20/24 85% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #5] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,142', 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 #5] WHP=785#, BRK DN PERFS=2,909#, @=4.4 BPM, INJ RT=51.2, INJ PSI=4,791#, INITIAL ISIP=1,559#, INITIAL FG=.63, FINAL ISIP=2,510#, FINAL FG=.75, AVERAGE RATE=51.2, AVERAGE PRESSURE=4,926#, MAX RATE=51.6, MAX PRESSURE=5,685#, NET PRESSURE INCREASE=951#, 21/24 87% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #6] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,374', 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 #6] WHP=366#, BRK DN PERFS=2,560#, @=4.6 BPM, INJ RT=51.1, INJ PSI=4,835#, INITIAL ISIP=1,867#, INITIAL FG=.69, FINAL ISIP=2,222#, FINAL FG=.74, AVERAGE RATE=51.3, AVERAGE PRESSURE=4,511#, MAX RATE=52.6, MAX PRESSURE=5,302#, NET PRESSURE INCREASE=355#, 22/24 90% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #7] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=6,830', PERF WASATCH USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p>

US ROCKIES REGION
Operation Summary Report

Well: NBU 921-23E1CS YELLOW	Spud Conductor: 6/4/2011	Spud Date: 6/29/2011
Project: UTAH-UINTAH	Site: NBU 921-23E PAD	Rig Name No: GWS 1/1
Event: COMPLETION	Start Date: 9/27/2011	End Date: 10/6/2011
Active Datum: RKB @4,876.00usft (above Mean Sea Level)		UWI: SW/NW/0/9/S/21/E/23/0/0/26/PM/N/2,192.00/W/0/495.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								FRAC STG #7] WHP=1,484#, BRK DN PERFS=2,460#, @=3.8 BPM, INJ RT=51.2, INJ PSI=4,081#, INITIAL ISIP=1,766#, INITIAL FG=.70, FINAL ISIP=1.609#, FINAL FG=.68, AVERAGE RATE=50.7, AVERAGE PRESSURE=3,450#, MAX RATE=51.6, MAX PRESSURE=4,656#, NET PRESSURE INCREASE=-157#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE SWMFN.
9/30/2011	6:45 - 7:00	0.25	COMP	48		P		HSM,
	7:00 - 7:00	0.00	COMP	36	B	P		PERF STG #8] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=5,487', PERF WASATCH USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #8] WHP=272#, BRK DN PERFS=2,109#, @=4.2, INITIAL ISIP=544#, INITIAL FG=.54, X OVER TO WIRE LINE [DID NOT FRAC]
								P/U RIH W/ HALIBURTON 8K CBP, SET FOR TOP KILL @=5,401'
								TOTAL FLUID PUMP'D=5,136 BBLS TOTAL SAND PUMP'D=102,207#
10/5/2011	7:00 - 7:15	0.25	COMP	48		P		HSM, SLIPS, TRIPS & FALLS, P/U TBG, PRESS TESTING BOP

US ROCKIES REGION
Operation Summary Report

Well: NBU 921-23E1CS YELLOW		Spud Conductor: 6/4/2011	Spud Date: 6/29/2011
Project: UTAH-UINTAH		Site: NBU 921-23E PAD	Rig Name No: GWS 1/1
Event: COMPLETION		Start Date: 9/27/2011	End Date: 10/6/2011
Active Datum: RKB @4,876.00usft (above Mean Sea Level)		UWI: SW/NW/0/9/S/21/E/23/0/0/26/PM/N/2,192.00/W/0/495.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 -		COMP	31	I	P		<p>MIRU, SPOT EQUIP, N/D WH, N/U 5K BOP, R/U FLOOR & TBG EQUIP, R/U HAL 9000 & FLOWLINE TO PIT, SPOT TBG TRAILER, P/U TBG, REMOVE THREAD PROTECTORS, TALLY & DRIFT TBG TO KILL PLUG, R/U P/S, FILL TBG, BREAK CIRC, PRESS TEST BOP TO 3,000 PSI FOR 15 MIN, LOST 0 PSI, SURFACE CSG VALVE OPEN & LOCKED, START DRLG PLUGS.</p> <p>C/O 0' SAND, TAG 1ST PLUG @ 5,401' DRL PLUG IN 15 MIN. 0 PSI INCREASE RIH, CSG PRESS 0 PSI. NOTE: THIS ZONE WAS NOT FRACED.</p> <p>C/O 5' SAND, TAG 2ND PLUG @ 5,487' DRL PLUG IN 10 MIN. 0 PSI INCREASE RIH, CSG PRESS 0 PSI. NO FLOW W/O PUMP.</p> <p>C/O 20' SAND, TAG 3RD PLUG @ 6,830' DRL PLUG IN 9 MIN. 0 PSI INCREASE RIH, CSG PRESS 50 PSI. WELL FINALLY FLOWING.</p> <p>C/O 30' SAND, TAG 4TH PLUG @ 7,374' DRL PLUG IN 8 MIN. 250 PSI INCREASE RIH, CSG PRESS 100 PSI.</p> <p>C/O 35' SAND, TAG 5TH PLUG @ 8,142' DRL PLUG IN 9 MIN. 100 PSI INCREASE RIH, CSG PRESS 250 PSI.</p> <p>C/O 40' SAND, TAG 6TH PLUG @ 8,502' DRL PLUG IN 10 MIN. 100 PSI INCREASE RIH, CSG PRESS 300 PSI.</p> <p>CIRC & LET WELL CLEAN UP FOR 30 MIN, D/O REMAINING PLUGS IN AM, SET P/S BACK RIH, EOT @ 8,900', SWI, SDFN.</p>
10/6/2011	7:00 - 7:15	0.25	COMP	48		P		HSM, SLIPS, TRIPS & FALLS, D/O PLUGS & LANDING TBG.

US ROCKIES REGION
Operation Summary Report

Well: NBU 921-23E1CS YELLOW		Spud Conductor: 6/4/2011		Spud Date: 6/29/2011	
Project: UTAH-UINTAH		Site: NBU 921-23E PAD		Rig Name No: GWS 1/1	
Event: COMPLETION		Start Date: 9/27/2011		End Date: 10/6/2011	
Active Datum: RKB @4,876.00usft (above Mean Sea Level)			UWI: SW/NW/0/9/S/21/E/23/0/0/26/PM/N/2,192.00/W/0/495.00/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 15:00	7.75	COMP	44	C	P		<p>SICP 2,400 PSI, OPEN WELL BLEED OFF PRESS, OPEN RAMS, FINISH D/O REMAINING 2 PLUGS, SURFACE CSG VALVE OPEN & LOCKED. RAINING & WIND BLOWING.</p> <p>C/O 25' SAND, TAG 7TH PLUG @ 9,242' DRL PLUG IN 9 MIN. 0 PSI INCREASE RIH, CSG PRESS 200 PSI.</p> <p>C/O 30' SAND, TAG 8TH PLUG @ 9,502' DRL PLUG IN 10 MIN. NEGATIVE 100 PSI DECREASE RIH, CSG PRESS 200 PSI.</p> <p>PBTD @ 10,027', BTM PERF @ 9,836', RIH TAG @ 9,970', 134' PAST BTM PERF W/ 314 JTS 2 3/8" L-80 TBG, LD 23 JTS, PU & STRIP IN TBG HANGER & LAND TBG W/ 291 JTS 2 3/8" L-80, EOT 9,244.02'.</p> <p>RD POWER SWIVEL, FLOOR & TBG EQUIP, ND BOPS, NU WH, DROP BALL TO SHEAR OFF BIT W/ 2,200 PSI, LET BIT FALL FOR 20 MIN.</p> <p>TURN OVER TO FLOW BACK CREW, WIND BLOWING TOO HARD TO RD.</p> <p>KB= 25' 4 1/16" WEATHERFORD HANGER= .83' TBG DELIVERED 321 JTS 291 JTS 2 3/8" L-80 = 9,226.99' TBG USED 291 JTS POBS= 2.20' TBG RETURNED 30 JTS EOT @ 9,244.02'</p> <p>TWTR= 5,136 BBLS TWR= 1,200 BBLS TWLTR= 3,936 BBLS</p>
	14:00 - 14:00	0.00	PROD	50				WELL TURNED TO SALES @ 1400 HR ON 10/6/11 - 1410 MCFD, 1920 BWPD, CP 2000#, FTP 1700#, CK 20/64"
10/11/2011	7:00 -			50				WELL IP'D ON 10/11/11 - 2309 MCFD, 0 BOPD, 310 BWPD, CP 1439#, FTP 1104#, CK 20/64", LP 73#, 24 HRS

Project: UTAH - UTM (feet), NAD27, Zone 12N
 Site: UINTAH_NBU 921-23E PAD
 Well: NBU 921-23E1CS
 Wellbore: NBU 921-23E1CS
 Section:
 SHL:
 Design: NBU 921-23E1CS (wp02) ENSIGN 146
 Latitude: 40.022851
 Longitude: -109.525965
 GL: 4862.00
 KB: 14' RKB + 4862' GL @ 4876.00ft (ENSIGN 146)

FORMATION TOP DETAILS

TVDPATH	MDPATH	FORMATION
4939.00	4975.87	Top Wasatch (TOP OF CYLINDER)
7803.00	7839.90	Top Mesaverde
8752.00	8788.91	MVU21
9231.00	9267.92	MVL1



Weatherford



Azimuths to True North
 Magnetic North: 11.09°

Magnetic Field
 Strength: 52337.2snT
 Dip Angle: 65.88°
 Date: 6/21/2011
 Model: IGRF2010

WELL DETAILS: NBU 921-23E1CS

+N/-S	+E/-W	Northing	Ground Level: Easting	Latitude	Longitude	Slot
0.00	0.00	14537779.51	2053102.75	40.022851	-109.525965	

CASING DETAILS

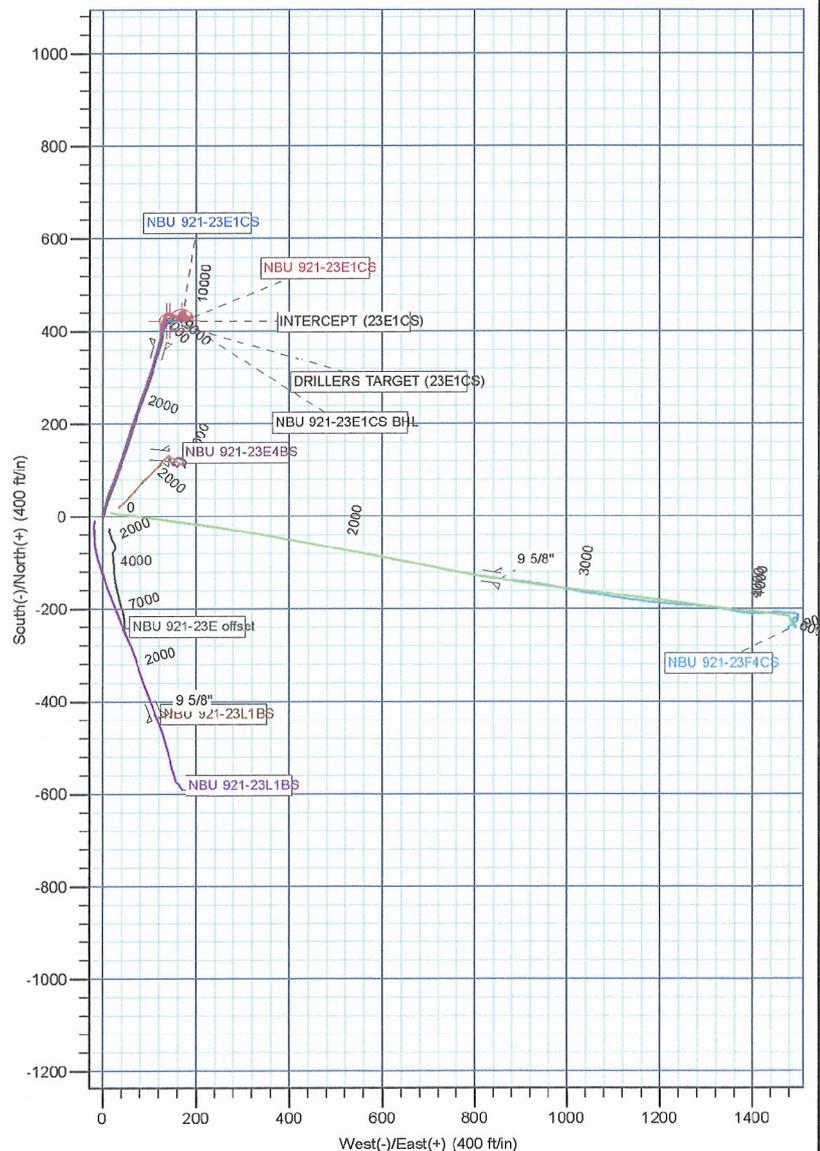
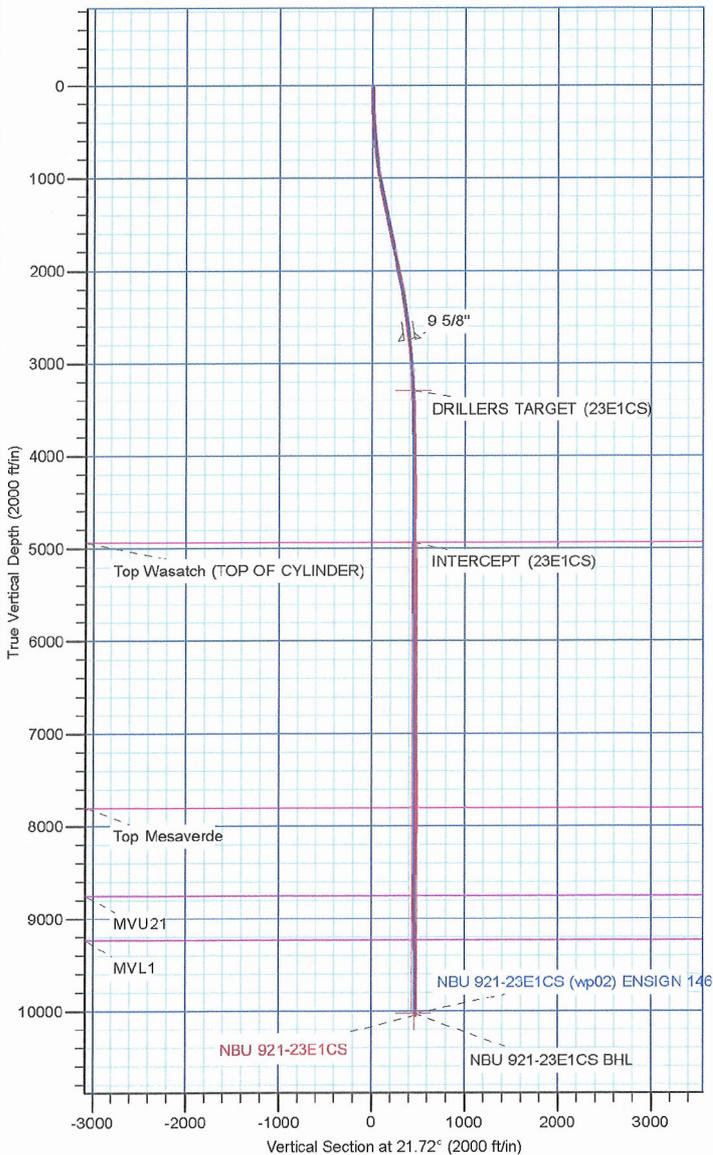
TVD	MD	Name	Size
2748.00	2782.50	9 5/8"	9-5/8

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
DRILLERS TARGET (23E1CS)	3296.40	422.64	136.52	14538204.35	2053232.26	40.024011	-109.525477	Circle (Radius: 15.00)
INTERCEPT (23E1CS)	4939.00	422.98	144.36	14538204.83	2053240.09	40.024012	-109.525449	Point
NBU 921-23E1CS BHL	10022.00	423.94	168.85	14538206.19	2053264.56	40.024015	-109.525362	Circle (Radius: 25.00)

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
2754.00	7.60	14.70	2719.75	375.90	123.07	0.00	0.00	394.76
2904.00	7.60	14.70	2868.43	395.09	128.11	0.00	0.00	414.45
3333.92	0.28	87.77	3297.07	422.67	136.38	1.75	177.96	443.13
9965.99	0.28	87.77	9929.07	423.93	168.62	0.00	0.00	456.23
10058.92	0.00	0.00	10022.00	423.94	168.85	0.30	180.00	456.32





Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well NBU 921-23E1CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	TVD Reference:	14' RKB + 4862' GL @ 4876.00ft (ENSIGN 146)
Site:	UINTAH_NBU 921-23E PAD	MD Reference:	14' RKB + 4862' GL @ 4876.00ft (ENSIGN 146)
Well:	NBU 921-23E1CS	North Reference:	True
Wellbore:	NBU 921-23E1CS	Survey Calculation Method:	Minimum Curvature
Design:	NBU 921-23E1CS	Database:	edm5000p

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	UINTAH_NBU 921-23E PAD				
Site Position:		Northing:	14,537,799.03 ft	Latitude:	40.022903
From:	Lat/Long	Easting:	2,053,137.43 ft	Longitude:	-109.525840
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.95 °

Well	NBU 921-23E1CS					
Well Position	+N/-S	0.00 ft	Northing:	14,537,779.52 ft	Latitude:	40.022851
	+E/-W	0.00 ft	Easting:	2,053,102.74 ft	Longitude:	-109.525965
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,862.00 ft

Wellbore	NBU 921-23E1CS				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/21/2011	11.09	65.88	52,337

Design	NBU 921-23E1CS				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	10.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	10.00	0.00	0.00	18.13	

Survey Program	Date	8/30/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
186.00	2,754.00	Survey #1 (NBU 921-23E1CS)	MWD	MWD - Standard	
2,807.00	10,085.00	Survey #2 (NBU 921-23E1CS)	MWD	MWD - Standard	

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)
10.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
186.00	0.52	359.03	186.00	0.80	-0.01	0.75	0.30	0.30	0.00
270.00	1.33	7.59	269.99	2.15	0.11	2.07	0.98	0.96	10.19
354.00	2.50	10.75	353.94	4.91	0.58	4.85	1.40	1.39	3.76
444.00	3.69	14.00	443.80	9.65	1.65	9.68	1.34	1.32	3.61
534.00	5.00	19.50	533.54	16.16	3.66	16.49	1.53	1.46	6.11
624.00	5.94	17.75	623.13	24.29	6.38	25.07	1.06	1.04	-1.94
714.00	7.06	19.62	712.55	33.94	9.66	35.26	1.27	1.24	2.08
804.00	8.13	20.62	801.76	45.10	13.76	47.15	1.20	1.19	1.11
894.00	9.31	18.25	890.72	57.97	18.28	60.78	1.37	1.31	-2.63



Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 921-23E PAD
Well: NBU 921-23E1CS
Wellbore: NBU 921-23E1CS
Design: NBU 921-23E1CS

Local Co-ordinate Reference: Well NBU 921-23E1CS
TVD Reference: 14' RKB + 4862' GL @ 4876.00ft (ENSIGN 146)
MD Reference: 14' RKB + 4862' GL @ 4876.00ft (ENSIGN 146)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: edm5000p

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)
984.00	10.38	18.50	979.39	72.58	23.13	76.17	1.19	1.19	0.28
1,074.00	10.84	19.77	1,067.86	88.23	28.57	92.74	0.57	0.51	1.41
1,164.00	11.19	20.37	1,156.20	104.38	34.47	109.92	0.41	0.39	0.67
1,254.00	11.38	18.62	1,244.46	120.98	40.35	127.53	0.44	0.21	-1.94
1,344.00	11.38	19.37	1,332.69	137.77	46.13	145.29	0.16	0.00	0.83
1,434.00	10.81	18.37	1,421.01	154.16	51.73	162.60	0.67	-0.63	-1.11
1,524.00	10.56	15.87	1,509.45	170.10	56.65	179.28	0.59	-0.28	-2.78
1,614.00	10.63	17.37	1,597.91	185.96	61.38	195.82	0.32	0.08	1.67
1,704.00	11.44	18.00	1,686.25	202.37	66.62	213.05	0.91	0.90	0.70
1,794.00	11.69	17.87	1,774.42	219.53	72.17	231.09	0.28	0.28	-0.14
1,884.00	11.81	20.98	1,862.54	236.81	78.27	249.41	0.72	0.13	3.46
1,974.00	11.50	20.00	1,950.68	253.84	84.63	267.57	0.41	-0.34	-1.09
2,064.00	11.81	19.37	2,038.82	270.96	90.76	285.75	0.37	0.34	-0.70
2,154.00	11.88	18.62	2,126.91	288.43	96.77	304.22	0.19	0.08	-0.83
2,244.00	10.44	17.00	2,215.20	305.01	102.11	321.64	1.64	-1.60	-1.80
2,334.00	9.44	16.62	2,303.85	319.88	106.61	337.17	1.11	-1.11	-0.42
2,424.00	8.56	17.12	2,392.74	333.35	110.69	351.24	0.98	-0.98	0.56
2,514.00	7.88	15.12	2,481.82	345.71	114.27	364.10	0.82	-0.76	-2.22
2,604.00	7.31	16.75	2,571.03	357.15	117.53	375.99	0.68	-0.63	1.81
2,694.00	7.56	17.00	2,660.27	368.29	120.91	387.63	0.28	0.28	0.28
2,754.00	7.60	14.70	2,719.75	375.90	123.07	395.54	0.51	0.07	-3.83
tie on point									
2,807.00	7.23	11.52	2,772.30	382.56	124.63	402.35	1.04	-0.70	-6.00
2,898.00	5.94	2.80	2,862.70	392.88	126.00	412.58	1.79	-1.42	-9.58
2,988.00	4.30	356.25	2,952.34	400.90	126.01	420.20	1.93	-1.82	-7.28
3,079.00	3.38	351.99	3,043.14	406.96	125.41	425.78	1.06	-1.01	-4.68
3,170.00	4.06	23.36	3,133.95	412.57	126.31	431.39	2.32	0.75	34.47
3,260.00	3.50	24.86	3,223.76	417.99	128.73	437.29	0.63	-0.62	1.67
3,351.00	2.94	21.61	3,314.61	422.68	130.76	442.38	0.65	-0.62	-3.57
3,442.00	2.31	15.86	3,405.52	426.61	132.12	446.54	0.75	-0.69	-6.32
3,532.00	1.75	10.49	3,495.46	429.71	132.87	449.72	0.66	-0.62	-5.97
3,623.00	1.06	3.36	3,586.43	431.91	133.17	451.91	0.78	-0.76	-7.84
3,713.00	0.31	17.99	3,676.43	432.98	133.29	452.96	0.85	-0.83	16.26
3,804.00	0.00	99.49	3,767.43	433.21	133.37	453.20	0.34	-0.34	0.00
3,895.00	1.44	46.36	3,858.42	434.00	134.20	454.21	1.58	1.58	0.00
3,985.00	1.00	52.74	3,948.40	435.26	135.64	455.85	0.51	-0.49	7.09
4,076.00	0.63	46.36	4,039.39	436.08	136.63	456.95	0.42	-0.41	-7.01
4,167.00	2.00	79.99	4,130.36	436.70	138.56	458.14	1.67	1.51	36.96
4,257.00	1.56	84.24	4,220.32	437.10	141.33	459.38	0.51	-0.49	4.72
4,348.00	1.38	92.36	4,311.29	437.18	143.65	460.17	0.30	-0.20	8.92
4,439.00	1.38	112.11	4,402.26	436.72	145.76	460.40	0.52	0.00	21.70
4,529.00	1.50	122.36	4,492.23	435.68	147.76	460.03	0.32	0.13	11.39
4,620.00	1.38	125.24	4,583.21	434.41	149.66	459.42	0.15	-0.13	3.16



Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 921-23E PAD
Well: NBU 921-23E1CS
Wellbore: NBU 921-23E1CS
Design: NBU 921-23E1CS

Local Co-ordinate Reference: Well NBU 921-23E1CS
TVD Reference: 14' RKB + 4862' GL @ 4876.00ft (ENSIGN 146)
MD Reference: 14' RKB + 4862' GL @ 4876.00ft (ENSIGN 146)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: edm5000p

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)
4,711.00	1.69	131.11	4,674.17	432.90	151.57	458.57	0.38	0.34	6.45
4,801.00	1.38	90.61	4,764.14	432.01	153.65	458.38	1.22	-0.34	-45.00
4,892.00	1.38	112.99	4,855.12	431.57	155.76	458.62	0.59	0.00	24.59
4,983.00	1.38	116.49	4,946.09	430.66	157.75	458.36	0.09	0.00	3.85
5,073.00	1.49	121.40	5,036.06	429.56	159.72	457.94	0.18	0.12	5.46
5,164.00	1.38	129.61	5,127.03	428.25	161.57	457.26	0.26	-0.12	9.02
5,255.00	1.63	50.61	5,218.01	428.37	163.41	457.95	2.11	0.27	-86.81
5,345.00	1.25	49.74	5,307.98	429.82	165.15	459.87	0.42	-0.42	-0.97
5,436.00	0.88	53.74	5,398.97	430.87	166.47	461.28	0.41	-0.41	4.40
5,526.00	0.88	69.24	5,488.96	431.53	167.68	462.28	0.26	0.00	17.22
5,617.00	0.69	87.61	5,579.95	431.80	168.88	462.91	0.34	-0.21	20.19
5,708.00	0.94	97.86	5,670.94	431.72	170.16	463.24	0.32	0.27	11.26
5,798.00	0.88	117.61	5,760.93	431.30	171.51	463.25	0.35	-0.07	21.94
5,889.00	1.00	120.24	5,851.91	430.57	172.81	462.97	0.14	0.13	2.89
5,980.00	1.06	124.61	5,942.90	429.70	174.19	462.57	0.11	0.07	4.80
6,070.00	1.13	129.86	6,032.88	428.65	175.56	462.00	0.14	0.08	5.83
6,161.00	1.31	141.49	6,123.86	427.27	176.90	461.10	0.34	0.20	12.78
6,252.00	0.19	108.86	6,214.85	426.40	177.69	460.52	1.27	-1.23	-35.86
6,342.00	0.56	153.99	6,304.85	425.96	178.02	460.21	0.50	0.41	50.14
6,433.00	0.88	335.61	6,395.85	426.20	177.93	460.40	1.58	0.35	-196.02
6,523.00	0.50	325.49	6,485.84	427.15	177.42	461.15	0.44	-0.42	-11.24
6,614.00	0.38	307.86	6,576.84	427.66	176.96	461.49	0.20	-0.13	-19.37
6,705.00	0.44	230.49	6,667.84	427.62	176.45	461.30	0.57	0.07	-85.02
6,795.00	0.63	189.24	6,757.83	426.92	176.10	460.52	0.46	0.21	-45.83
6,886.00	0.25	358.61	6,848.83	426.62	176.02	460.21	0.96	-0.42	186.12
6,977.00	1.75	354.11	6,939.82	428.20	175.87	461.67	1.65	1.65	-4.95
7,067.00	1.38	351.24	7,029.78	430.64	175.56	463.89	0.42	-0.41	-3.19
7,158.00	0.94	346.74	7,120.76	432.45	175.22	465.50	0.49	-0.48	-4.95
7,248.00	1.75	5.61	7,210.74	434.54	175.19	467.48	1.01	0.90	20.97
7,339.00	1.31	9.49	7,301.71	436.94	175.50	469.86	0.50	-0.48	4.26
7,430.00	1.25	5.61	7,392.68	438.96	175.77	471.86	0.12	-0.07	-4.26
7,520.00	0.81	4.99	7,482.67	440.57	175.92	473.44	0.49	-0.49	-0.69
7,611.00	0.44	354.11	7,573.66	441.56	175.94	474.38	0.43	-0.41	-11.96
7,702.00	1.63	291.24	7,664.65	442.37	174.69	474.77	1.63	1.31	-69.09
7,792.00	1.44	277.11	7,754.62	442.98	172.38	474.62	0.47	-0.21	-15.70
7,883.00	1.13	245.99	7,845.59	442.75	170.42	473.80	0.83	-0.34	-34.20
7,974.00	1.25	235.36	7,936.58	441.82	168.79	472.41	0.28	0.13	-11.68
8,064.00	1.31	220.61	8,026.55	440.49	167.31	470.68	0.37	0.07	-16.39
8,155.00	1.31	214.11	8,117.53	438.83	166.05	468.72	0.16	0.00	-7.14
8,245.00	1.56	206.49	8,207.50	436.89	164.93	466.52	0.35	0.28	-8.47
8,336.00	1.69	188.36	8,298.47	434.45	164.18	463.97	0.58	0.14	-19.92
8,427.00	1.56	181.49	8,389.43	431.88	163.95	461.46	0.26	-0.14	-7.55
8,517.00	1.69	176.49	8,479.39	429.33	164.00	459.05	0.21	0.14	-5.56

APC
Survey Report



Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 921-23E PAD
Well: NBU 921-23E1CS
Wellbore: NBU 921-23E1CS
Design: NBU 921-23E1CS

Local Co-ordinate Reference: Well NBU 921-23E1CS
TVD Reference: 14' RKB + 4862' GL @ 4876.00ft (ENSIGN 146)
MD Reference: 14' RKB + 4862' GL @ 4876.00ft (ENSIGN 146)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: edm5000p

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)
8,608.00	1.69	165.99	8,570.35	426.69	164.41	456.67	0.34	0.00	-11.54
8,699.00	1.94	154.99	8,661.31	424.00	165.39	454.41	0.47	0.27	-12.09
8,789.00	1.06	142.49	8,751.28	421.95	166.54	452.83	1.04	-0.98	-13.89
8,880.00	1.44	55.24	8,842.26	421.94	167.99	453.26	1.92	0.42	-95.88
8,971.00	1.94	37.49	8,933.22	423.81	169.87	455.63	0.79	0.55	-19.51
9,061.00	1.88	41.99	9,023.17	426.12	171.78	458.42	0.18	-0.07	5.00
9,152.00	1.63	55.86	9,114.13	427.95	173.85	460.80	0.54	-0.27	15.24
9,242.00	1.63	65.11	9,204.09	429.21	176.07	462.69	0.29	0.00	10.28
9,333.00	1.81	82.49	9,295.05	429.94	178.67	464.19	0.60	0.20	19.10
9,424.00	1.75	106.61	9,386.01	429.73	181.43	464.85	0.82	-0.07	26.51
9,517.00	1.56	114.24	9,478.97	428.81	183.94	464.76	0.31	-0.20	8.20
9,608.00	0.56	86.11	9,569.96	428.33	185.51	464.79	1.21	-1.10	-30.91
9,698.00	0.69	45.36	9,659.95	428.74	186.34	465.44	0.50	0.14	-45.28
9,789.00	0.75	47.36	9,750.94	429.53	187.17	466.45	0.07	0.07	2.20
9,879.00	0.81	71.24	9,840.93	430.13	188.20	467.34	0.36	0.07	26.53
9,970.00	0.31	112.11	9,931.93	430.25	189.04	467.71	0.67	-0.55	44.91
10,035.00	0.69	97.49	9,996.93	430.13	189.59	467.77	0.61	0.58	-22.49
last mwd survey									
10,085.00	0.98	86.24	10,046.92	430.12	190.32	467.98	0.66	0.58	-22.50
projection									

Checked By: _____ Approved By: _____ Date: _____

US ROCKIES REGION PLANNING

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

UINTAH_NBU 921-23E PAD

NBU 921-23E1CS

NBU 921-23E1CS

Design: NBU 921-23E1CS

Survey Report - Geographic

30 August, 2011



Weatherford®

APC
Survey Report - Geographic



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well NBU 921-23E1CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	TVD Reference:	14' RKB + 4862' GL @ 4876.00ft (ENSIGN 146)
Site:	UINTAH_NBU 921-23E PAD	MD Reference:	14' RKB + 4862' GL @ 4876.00ft (ENSIGN 146)
Well:	NBU 921-23E1CS	North Reference:	True
Wellbore:	NBU 921-23E1CS	Survey Calculation Method:	Minimum Curvature
Design:	NBU 921-23E1CS	Database:	edm5000p

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	UINTAH_NBU 921-23E PAD				
Site Position:		Northing:	14,537,799.03 ft	Latitude:	40.022903
From:	Lat/Long	Easting:	2,053,137.43 ft	Longitude:	-109.525840
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.95 °

Well	NBU 921-23E1CS					
Well Position	+N-S	0.00 ft	Northing:	14,537,779.52 ft	Latitude:	40.022851
	+E-W	0.00 ft	Easting:	2,053,102.74 ft	Longitude:	-109.525965
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,862.00 ft

Wellbore	NBU 921-23E1CS				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/21/2011	11.09	65.88	52,337

Design	NBU 921-23E1CS				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	10.00
Vertical Section:	Depth From (TVD) (ft)	+N-S (ft)	+E-W (ft)	Direction (°)	
	10.00	0.00	0.00	18.13	

Survey Program	Date	8/30/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
186.00	2,754.00	Survey #1 (NBU 921-23E1CS)	MWD	MWD - Standard	
2,807.00	10,085.00	Survey #2 (NBU 921-23E1CS)	MWD	MWD - Standard	

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
10.00	0.00	0.00	10.00	0.00	0.00	14,537,779.52	2,053,102.74	40.022851	-109.525965
186.00	0.52	359.03	186.00	0.80	-0.01	14,537,780.32	2,053,102.72	40.022853	-109.525965
270.00	1.33	7.59	269.99	2.15	0.11	14,537,781.67	2,053,102.82	40.022857	-109.525965
354.00	2.50	10.75	353.94	4.91	0.58	14,537,784.44	2,053,103.24	40.022865	-109.525963
444.00	3.69	14.00	443.80	9.65	1.65	14,537,789.19	2,053,104.23	40.022878	-109.525959
534.00	5.00	19.50	533.54	16.16	3.66	14,537,795.73	2,053,106.13	40.022895	-109.525952
624.00	5.94	17.75	623.13	24.29	6.38	14,537,803.91	2,053,108.73	40.022918	-109.525942
714.00	7.06	19.62	712.55	33.94	9.66	14,537,813.61	2,053,111.84	40.022944	-109.525931
804.00	8.13	20.62	801.76	45.10	13.76	14,537,824.84	2,053,115.76	40.022975	-109.525916
894.00	9.31	18.25	890.72	57.97	18.28	14,537,837.78	2,053,120.06	40.023010	-109.525900
984.00	10.38	18.50	979.39	72.58	23.13	14,537,852.47	2,053,124.67	40.023050	-109.525883

APC
Survey Report - Geographic



Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 921-23E PAD
Well: NBU 921-23E1CS
Wellbore: NBU 921-23E1CS
Design: NBU 921-23E1CS

Local Co-ordinate Reference: Well NBU 921-23E1CS
TVD Reference: 14' RKB + 4862' GL @ 4876.00ft (ENSGN 146)
MD Reference: 14' RKB + 4862' GL @ 4876.00ft (ENSGN 146)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: edm5000p

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude	
1,074.00	10.84	19.77	1,067.86	88.23	28.57	14,537,868.21	2,053,129.85	40.023093	-109.525863	
1,164.00	11.19	20.37	1,156.20	104.38	34.47	14,537,884.45	2,053,135.48	40.023138	-109.525842	
1,254.00	11.38	18.62	1,244.46	120.98	40.35	14,537,901.15	2,053,141.08	40.023183	-109.525821	
1,344.00	11.38	19.37	1,332.69	137.77	46.13	14,537,918.03	2,053,146.58	40.023229	-109.525801	
1,434.00	10.81	18.37	1,421.01	154.16	51.73	14,537,934.51	2,053,151.92	40.023274	-109.525781	
1,524.00	10.56	15.87	1,509.45	170.10	56.65	14,537,950.53	2,053,156.57	40.023318	-109.525763	
1,614.00	10.63	17.37	1,597.91	185.96	61.38	14,537,966.46	2,053,161.04	40.023362	-109.525746	
1,704.00	11.44	18.00	1,686.25	202.37	66.62	14,537,982.96	2,053,166.00	40.023407	-109.525727	
1,794.00	11.69	17.87	1,774.42	219.53	72.17	14,538,000.22	2,053,171.27	40.023454	-109.525708	
1,884.00	11.81	20.98	1,862.54	236.81	78.27	14,538,017.59	2,053,177.08	40.023501	-109.525686	
1,974.00	11.50	20.00	1,950.68	253.84	84.63	14,538,034.72	2,053,183.17	40.023548	-109.525663	
2,064.00	11.81	19.37	2,038.82	270.96	90.76	14,538,051.94	2,053,189.00	40.023595	-109.525641	
2,154.00	11.88	18.62	2,126.91	288.43	96.77	14,538,069.51	2,053,194.73	40.023643	-109.525620	
2,244.00	10.44	17.00	2,215.20	305.01	102.11	14,538,086.17	2,053,199.79	40.023689	-109.525601	
2,334.00	9.44	16.62	2,303.85	319.88	106.61	14,538,101.11	2,053,204.04	40.023729	-109.525585	
2,424.00	8.56	17.12	2,392.74	333.35	110.69	14,538,114.65	2,053,207.90	40.023766	-109.525570	
2,514.00	7.88	15.12	2,481.82	345.71	114.27	14,538,127.07	2,053,211.28	40.023800	-109.525557	
2,604.00	7.31	16.75	2,571.03	357.15	117.53	14,538,138.56	2,053,214.35	40.023832	-109.525546	
2,694.00	7.56	17.00	2,660.27	368.29	120.91	14,538,149.76	2,053,217.54	40.023862	-109.525533	
2,754.00	7.60	14.70	2,719.75	375.90	123.07	14,538,157.41	2,053,219.58	40.023883	-109.525526	
tie on point										
2,807.00	7.23	11.52	2,772.30	382.56	124.63	14,538,164.09	2,053,221.02	40.023901	-109.525520	
2,898.00	5.94	2.80	2,862.70	392.88	126.00	14,538,174.42	2,053,222.23	40.023930	-109.525515	
2,988.00	4.30	356.25	2,952.34	400.90	126.01	14,538,182.44	2,053,222.10	40.023952	-109.525515	
3,079.00	3.38	351.99	3,043.14	406.96	125.41	14,538,188.49	2,053,221.40	40.023968	-109.525517	
3,170.00	4.06	23.36	3,133.95	412.57	126.31	14,538,194.12	2,053,222.21	40.023984	-109.525514	
3,260.00	3.50	24.86	3,223.76	417.99	128.73	14,538,199.58	2,053,224.54	40.023999	-109.525506	
3,351.00	2.94	21.61	3,314.61	422.68	130.76	14,538,204.30	2,053,226.49	40.024012	-109.525498	
3,442.00	2.31	15.86	3,405.52	426.61	132.12	14,538,208.26	2,053,227.79	40.024022	-109.525493	
3,532.00	1.75	10.49	3,495.46	429.71	132.87	14,538,211.36	2,053,228.48	40.024031	-109.525491	
3,623.00	1.06	3.36	3,586.43	431.91	133.17	14,538,213.58	2,053,228.75	40.024037	-109.525490	
3,713.00	0.31	17.99	3,676.43	432.98	133.29	14,538,214.64	2,053,228.85	40.024040	-109.525489	
3,804.00	0.00	99.49	3,767.43	433.21	133.37	14,538,214.88	2,053,228.93	40.024041	-109.525489	
3,895.00	1.44	46.36	3,858.42	434.00	134.20	14,538,215.68	2,053,229.74	40.024043	-109.525486	
3,985.00	1.00	52.74	3,948.40	435.26	135.64	14,538,216.96	2,053,231.16	40.024046	-109.525481	
4,076.00	0.63	46.36	4,039.39	436.08	136.63	14,538,217.80	2,053,232.14	40.024048	-109.525477	
4,167.00	2.00	79.99	4,130.36	436.70	138.56	14,538,218.45	2,053,234.06	40.024050	-109.525470	
4,257.00	1.56	84.24	4,220.32	437.10	141.33	14,538,218.90	2,053,236.82	40.024051	-109.525461	
4,348.00	1.38	92.36	4,311.29	437.18	143.65	14,538,219.01	2,053,239.14	40.024051	-109.525452	
4,439.00	1.38	112.11	4,402.26	436.72	145.76	14,538,218.59	2,053,241.26	40.024050	-109.525445	
4,529.00	1.50	122.36	4,492.23	435.68	147.76	14,538,217.59	2,053,243.28	40.024047	-109.525438	
4,620.00	1.38	125.24	4,583.21	434.41	149.66	14,538,216.35	2,053,245.20	40.024044	-109.525431	
4,711.00	1.69	131.11	4,674.17	432.90	151.57	14,538,214.86	2,053,247.13	40.024040	-109.525424	
4,801.00	1.38	90.61	4,764.14	432.01	153.65	14,538,214.02	2,053,249.23	40.024037	-109.525417	
4,892.00	1.38	112.99	4,855.12	431.57	155.76	14,538,213.61	2,053,251.34	40.024036	-109.525409	
4,983.00	1.38	116.49	4,946.09	430.66	157.75	14,538,212.73	2,053,253.34	40.024034	-109.525402	
5,073.00	1.49	121.40	5,036.06	429.56	159.72	14,538,211.67	2,053,255.33	40.024031	-109.525395	
5,164.00	1.38	129.61	5,127.03	428.25	161.57	14,538,210.38	2,053,257.20	40.024027	-109.525388	
5,255.00	1.63	50.61	5,218.01	428.37	163.41	14,538,210.54	2,053,259.05	40.024027	-109.525382	
5,345.00	1.25	49.74	5,307.98	429.82	165.15	14,538,212.01	2,053,260.76	40.024031	-109.525375	
5,436.00	0.88	53.74	5,398.97	430.87	166.47	14,538,213.09	2,053,262.06	40.024034	-109.525371	
5,526.00	0.88	69.24	5,488.96	431.53	167.68	14,538,213.76	2,053,263.26	40.024036	-109.525366	
5,617.00	0.69	87.61	5,579.95	431.80	168.88	14,538,214.05	2,053,264.45	40.024037	-109.525362	
5,708.00	0.94	97.86	5,670.94	431.72	170.16	14,538,213.99	2,053,265.74	40.024036	-109.525358	
5,798.00	0.88	117.61	5,760.93	431.30	171.51	14,538,213.59	2,053,267.09	40.024035	-109.525353	

APC
Survey Report - Geographic



Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 921-23E PAD
Well: NBU 921-23E1CS
Wellbore: NBU 921-23E1CS
Design: NBU 921-23E1CS

Local Co-ordinate Reference: Well NBU 921-23E1CS
TVD Reference: 14' RKB + 4862' GL @ 4876.00ft (ENSIGN 146)
MD Reference: 14' RKB + 4862' GL @ 4876.00ft (ENSIGN 146)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: edm5000p

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude	
5,889.00	1.00	120.24	5,851.91	430.57	172.81	14,538,212.89	2,053,268.41	40.024033	-109.525348	
5,980.00	1.06	124.61	5,942.90	429.70	174.19	14,538,212.04	2,053,269.80	40.024031	-109.525343	
6,070.00	1.13	129.86	6,032.88	428.65	175.56	14,538,211.02	2,053,271.19	40.024028	-109.525338	
6,161.00	1.31	141.49	6,123.86	427.27	176.90	14,538,209.65	2,053,272.54	40.024024	-109.525334	
6,252.00	0.19	108.86	6,214.85	426.40	177.69	14,538,208.80	2,053,273.35	40.024022	-109.525331	
6,342.00	0.56	153.99	6,304.85	425.96	178.02	14,538,208.36	2,053,273.69	40.024021	-109.525330	
6,433.00	0.88	335.61	6,395.85	426.20	177.93	14,538,208.60	2,053,273.59	40.024021	-109.525330	
6,523.00	0.50	325.49	6,485.84	427.15	177.42	14,538,209.54	2,053,273.07	40.024024	-109.525332	
6,614.00	0.38	307.86	6,576.84	427.66	176.96	14,538,210.05	2,053,272.60	40.024025	-109.525333	
6,705.00	0.44	230.49	6,667.84	427.62	176.45	14,538,210.00	2,053,272.09	40.024025	-109.525335	
6,795.00	0.63	189.24	6,757.83	426.92	176.10	14,538,209.29	2,053,271.76	40.024023	-109.525336	
6,886.00	0.25	358.61	6,848.83	426.62	176.02	14,538,208.99	2,053,271.68	40.024022	-109.525337	
6,977.00	1.75	354.11	6,939.82	428.20	175.87	14,538,210.57	2,053,271.50	40.024027	-109.525337	
7,067.00	1.38	351.24	7,029.78	430.64	175.56	14,538,213.00	2,053,271.16	40.024034	-109.525338	
7,158.00	0.94	346.74	7,120.76	432.45	175.22	14,538,214.81	2,053,270.79	40.024038	-109.525340	
7,248.00	1.75	5.61	7,210.74	434.54	175.19	14,538,216.89	2,053,270.72	40.024044	-109.525340	
7,339.00	1.31	9.49	7,301.71	436.94	175.50	14,538,219.31	2,053,270.99	40.024051	-109.525339	
7,430.00	1.25	5.61	7,392.68	438.96	175.77	14,538,221.32	2,053,271.22	40.024056	-109.525338	
7,520.00	0.81	4.99	7,482.67	440.57	175.92	14,538,222.94	2,053,271.35	40.024061	-109.525337	
7,611.00	0.44	354.11	7,573.66	441.56	175.94	14,538,223.93	2,053,271.35	40.024063	-109.525337	
7,702.00	1.63	291.24	7,664.65	442.37	174.69	14,538,224.72	2,053,270.09	40.024066	-109.525341	
7,792.00	1.44	277.11	7,754.62	442.98	172.38	14,538,225.29	2,053,267.77	40.024067	-109.525350	
7,883.00	1.13	245.99	7,845.59	442.75	170.42	14,538,225.03	2,053,265.82	40.024067	-109.525357	
7,974.00	1.25	235.36	7,936.58	441.82	168.79	14,538,224.07	2,053,264.20	40.024064	-109.525362	
8,064.00	1.31	220.61	8,026.55	440.49	167.31	14,538,222.71	2,053,262.74	40.024061	-109.525368	
8,155.00	1.31	214.11	8,117.53	438.83	166.05	14,538,221.04	2,053,261.51	40.024056	-109.525372	
8,245.00	1.56	206.49	8,207.50	436.89	164.93	14,538,219.07	2,053,260.42	40.024051	-109.525376	
8,336.00	1.69	188.36	8,298.47	434.45	164.18	14,538,216.62	2,053,259.71	40.024044	-109.525379	
8,427.00	1.56	181.49	8,389.43	431.88	163.95	14,538,214.06	2,053,259.53	40.024037	-109.525380	
8,517.00	1.69	176.49	8,479.39	429.33	164.00	14,538,211.51	2,053,259.62	40.024030	-109.525380	
8,608.00	1.69	165.99	8,570.35	426.69	164.41	14,538,208.87	2,053,260.07	40.024023	-109.525378	
8,699.00	1.94	154.99	8,661.31	424.00	165.39	14,538,206.19	2,053,261.09	40.024015	-109.525375	
8,789.00	1.06	142.49	8,751.28	421.95	166.54	14,538,204.17	2,053,262.27	40.024010	-109.525371	
8,880.00	1.44	55.24	8,842.26	421.94	167.99	14,538,204.18	2,053,263.73	40.024010	-109.525365	
8,971.00	1.94	37.49	8,933.22	423.81	169.87	14,538,206.08	2,053,265.57	40.024015	-109.525359	
9,061.00	1.88	41.99	9,023.17	426.12	171.78	14,538,208.42	2,053,267.45	40.024021	-109.525352	
9,152.00	1.63	55.86	9,114.13	427.95	173.85	14,538,210.29	2,053,269.49	40.024026	-109.525344	
9,242.00	1.63	65.11	9,204.09	429.21	176.07	14,538,211.58	2,053,271.69	40.024030	-109.525336	
9,333.00	1.81	82.49	9,295.05	429.94	178.67	14,538,212.36	2,053,274.27	40.024032	-109.525327	
9,424.00	1.75	106.61	9,386.01	429.73	181.43	14,538,212.20	2,053,277.03	40.024031	-109.525317	
9,517.00	1.56	114.24	9,478.97	428.81	183.94	14,538,211.31	2,053,279.56	40.024028	-109.525308	
9,608.00	0.56	86.11	9,569.96	428.33	185.51	14,538,210.86	2,053,281.14	40.024027	-109.525303	
9,698.00	0.69	45.36	9,659.95	428.74	186.34	14,538,211.28	2,053,281.96	40.024028	-109.525300	
9,789.00	0.75	47.36	9,750.94	429.53	187.17	14,538,212.09	2,053,282.78	40.024030	-109.525297	
9,879.00	0.81	71.24	9,840.93	430.13	188.20	14,538,212.71	2,053,283.80	40.024032	-109.525293	
9,970.00	0.31	112.11	9,931.93	430.25	189.04	14,538,212.83	2,053,284.64	40.024032	-109.525290	
10,035.00	0.69	97.49	9,996.93	430.13	189.59	14,538,212.73	2,053,285.19	40.024032	-109.525288	
last mwd survey										
10,085.00	0.98	86.24	10,046.92	430.12	190.32	14,538,212.73	2,053,285.92	40.024032	-109.525286	
projection										

APC
Survey Report - Geographic



Company: US ROCKIES REGION PLANNING	Local Co-ordinate Reference: Well NBU 921-23E1CS	
Project: UTAH - UTM (feet), NAD27, Zone 12N	TVD Reference: 14' RKB + 4862' GL @ 4876.00ft (ENSIGN 146)	
Site: UINTAH_NBU 921-23E PAD	MD Reference: 14' RKB + 4862' GL @ 4876.00ft (ENSIGN 146)	
Well: NBU 921-23E1CS	North Reference: True	
Wellbore: NBU 921-23E1CS	Survey Calculation Method: Minimum Curvature	
Design: NBU 921-23E1CS	Database: edm5000p	

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,754.00	2,719.75	375.90	123.07	tie on point
10,035.00	9,996.93	430.13	189.59	last mwd survey
10,085.00	10,046.92	430.12	190.32	projection

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------