

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

FORM 3

AMENDED REPORT 

<b>APPLICATION FOR PERMIT TO DRILL</b>						<b>1. WELL NAME and NUMBER</b> NBU 922-31I3CS	
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES	
<b>4. TYPE OF WELL</b> Gas Well Coalbed Methane Well: NO						<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> NATURAL BUTTES	
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.						<b>7. OPERATOR PHONE</b> 720 929-6587	
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217						<b>9. OPERATOR E-MAIL</b> mary.mondragon@anadarko.com	
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> UO 1530A			<b>11. MINERAL OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>			<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>	
<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>						<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>	
<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>						<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>	
<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b>			<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>			<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>	
<b>20. LOCATION OF WELL</b>	<b>FOOTAGES</b>	<b>QTR-QTR</b>	<b>SECTION</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>MERIDIAN</b>	
<b>LOCATION AT SURFACE</b>	1341 FSL 1125 FEL	NESE	31	9.0 S	22.0 E	S	
<b>Top of Uppermost Producing Zone</b>	1341 FSL 1125 FEL	NESE	31	9.0 S	22.0 E	S	
<b>At Total Depth</b>	2314 FSL 108 FEL	NESE	31	9.0 S	22.0 E	S	
<b>21. COUNTY</b> UINTAH			<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 1125			<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 203	
			<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 450			<b>26. PROPOSED DEPTH</b> MD: 9626 TVD: 9300	
<b>27. ELEVATION - GROUND LEVEL</b> 5034			<b>28. BOND NUMBER</b>			<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496	
<b>ATTACHMENTS</b>							
<b>VERIFY THE FOLLOWING ARE ATTACHED IN ACCORCANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES</b>							
<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			
<b>NAME</b> Kathy Schneebeck-Dulnoan			<b>TITLE</b> Staff Regulatory Analyst			<b>PHONE</b> 720 929-6007	
<b>SIGNATURE</b>			<b>DATE</b> 07/08/2009			<b>EMAIL</b> Kathy.SchneebeckDulnoan@anadarko.com	
<b>API NUMBER ASSIGNED</b> 43047503980000			<b>APPROVAL</b>  Permit Manager				

**Proposed Hole, Casing, and Cement**

<b>String</b>	<b>Hole Size</b>	<b>Casing Size</b>	<b>Top (MD)</b>	<b>Bottom (MD)</b>		
Prod	7.875	4.5	0	9626		
<b>Pipe</b>	<b>Grade</b>	<b>Length</b>	<b>Weight</b>			
	Grade I-80 LT&C	9626	11.6			

**Proposed Hole, Casing, and Cement**

<b>String</b>	<b>Hole Size</b>	<b>Casing Size</b>	<b>Top (MD)</b>	<b>Bottom (MD)</b>		
Surf	12.25	9.625	0	2300		
<b>Pipe</b>	<b>Grade</b>	<b>Length</b>	<b>Weight</b>			
	Grade J-55 LT&C	2300	36.0			

R 21 E R 22 E T9S, R22E, S.L.B.&M.

Kerr-McGee Oil & Gas Onshore LP

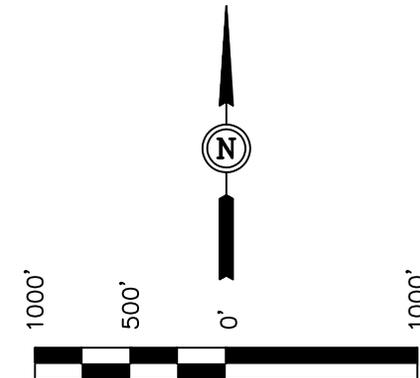
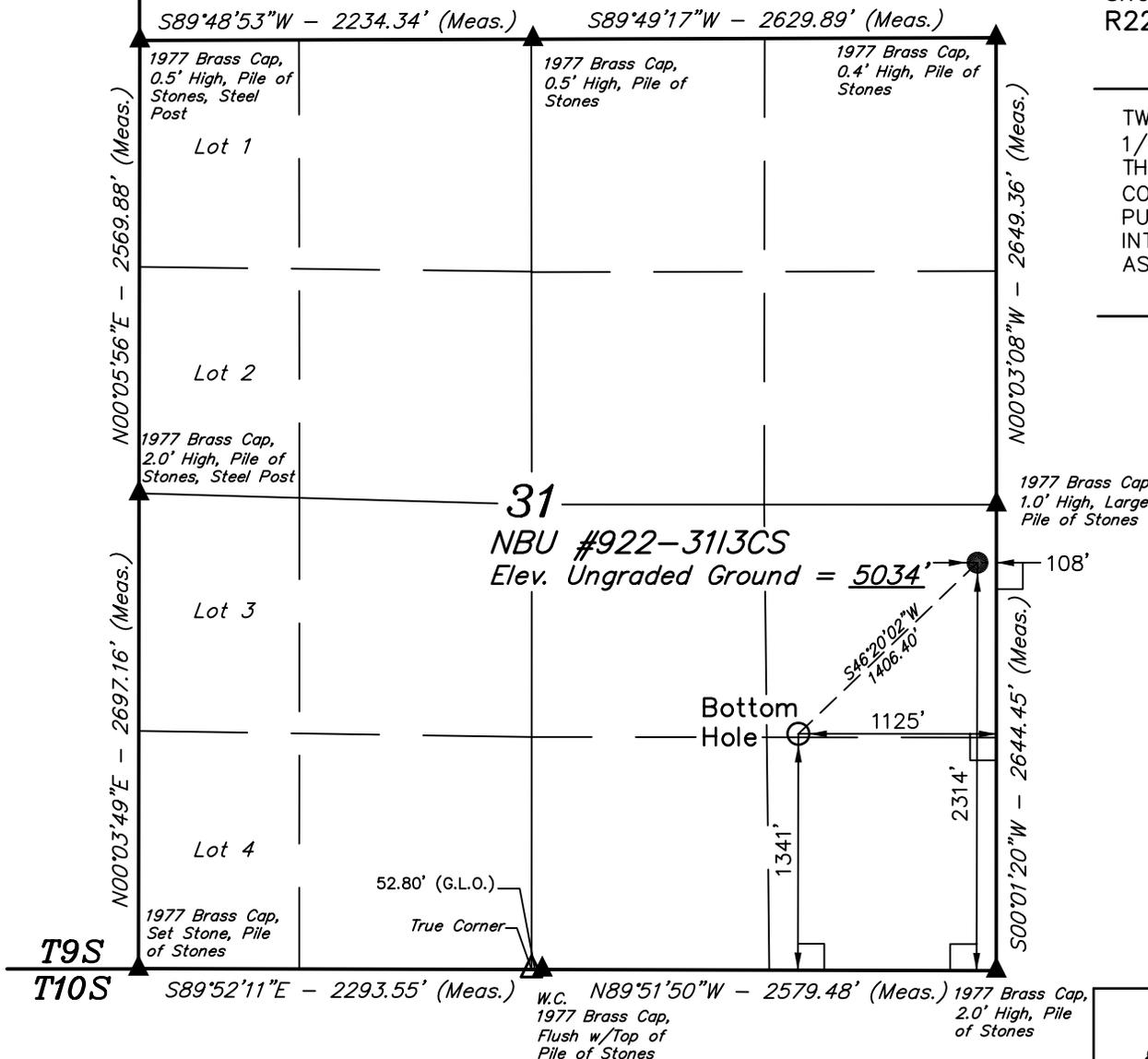
Well location, NBU #922-3113CS, located as shown in the NE 1/4 SE 1/4 of Section 31, T9S, R22E, S.L.B.&M., Uintah County, Utah.

BASIS OF ELEVATION

TWO WATER TRIANGULATION STATION LOCATED IN THE NW 1/4 OF SECTION 1, T10S, R21E, S.L.B.&M. TAKEN FROM THE BIG PACK MTN NE QUADRANGLE, UTAH, UINTAH COUNTY, 7.5 MINUTE SERIES (TOPOGRAPHICAL MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5238 FEET.

BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.



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.

ROBERT L. [Signature]  
 REGISTERED LAND SURVEYOR  
 REGISTRATION NO. 161319  
 STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING  
 85 SOUTH 200 EAST - VERNAL, UTAH 84078  
 (435) 789-1017

- LEGEND:
- └─┘ = 90° SYMBOL
  - = PROPOSED WELL HEAD.
  - ▲ = SECTION CORNERS LOCATED.
  - △ = SECTION CORNERS RE-ESTABLISHED. (Not Set on Ground)

NAD 83 (TARGET BOTTOM HOLE)	NAD 83 (SURFACE LOCATION)
LATITUDE = 39°59'20.17" (39.988936) LONGITUDE = 109°28'38.26" (109.477294)	LATITUDE = 39°59'29.77" (39.991603) LONGITUDE = 109°28'25.20" (109.473667)
NAD 27 (TARGET BOTTOM HOLE)	NAD 27 (SURFACE LOCATION)
LATITUDE = 39°59'20.30" (39.988972) LONGITUDE = 109°28'35.79" (109.476608)	LATITUDE = 39°59'29.90" (39.991639) LONGITUDE = 109°28'22.73" (109.472981)

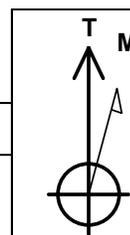
SCALE 1" = 1000'	DATE SURVEYED: 11-05-08	DATE DRAWN: 11-11-08
PARTY L.K. C.K. D.P.	REFERENCES G.L.O. PLAT	
WEATHER COOL	FILE Kerr-McGee Oil & Gas Onshore LP	

APIWellNo:43047503980000



**Scientific Drilling**  
Rocky Mountain Operations

Site: NBU 922-311 Pad  
Well: NBU 922-3113CS  
Wellbore: OH  
Design: Plan #1

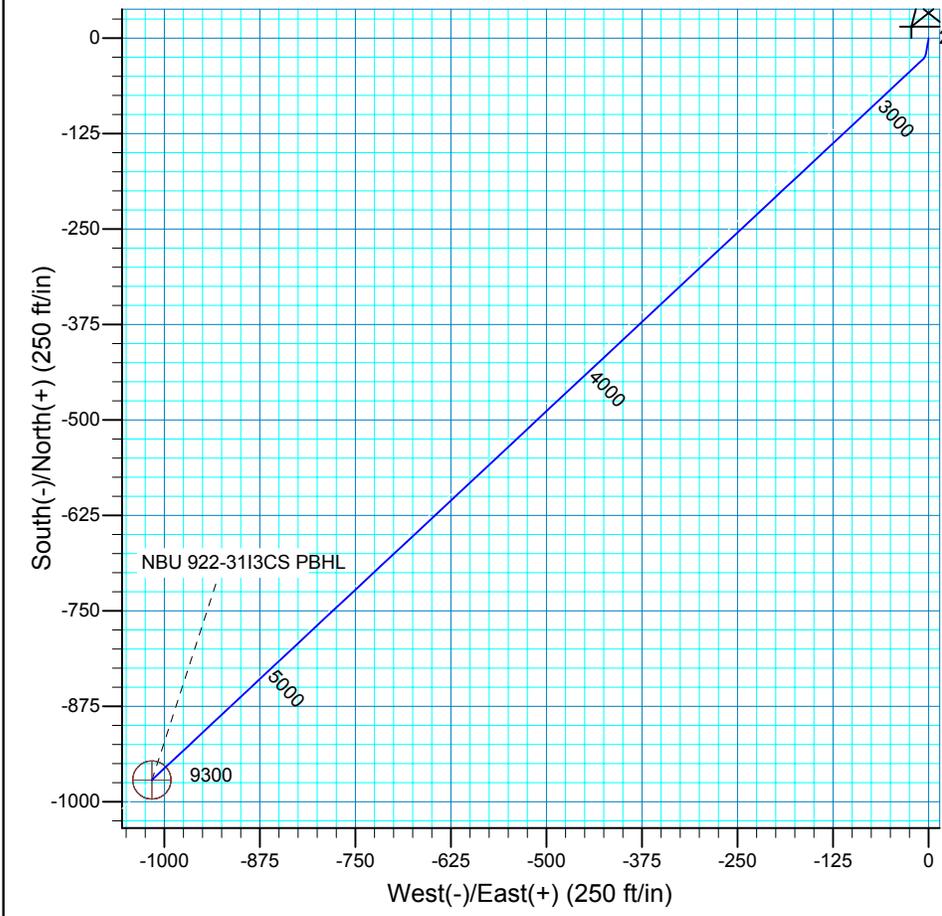
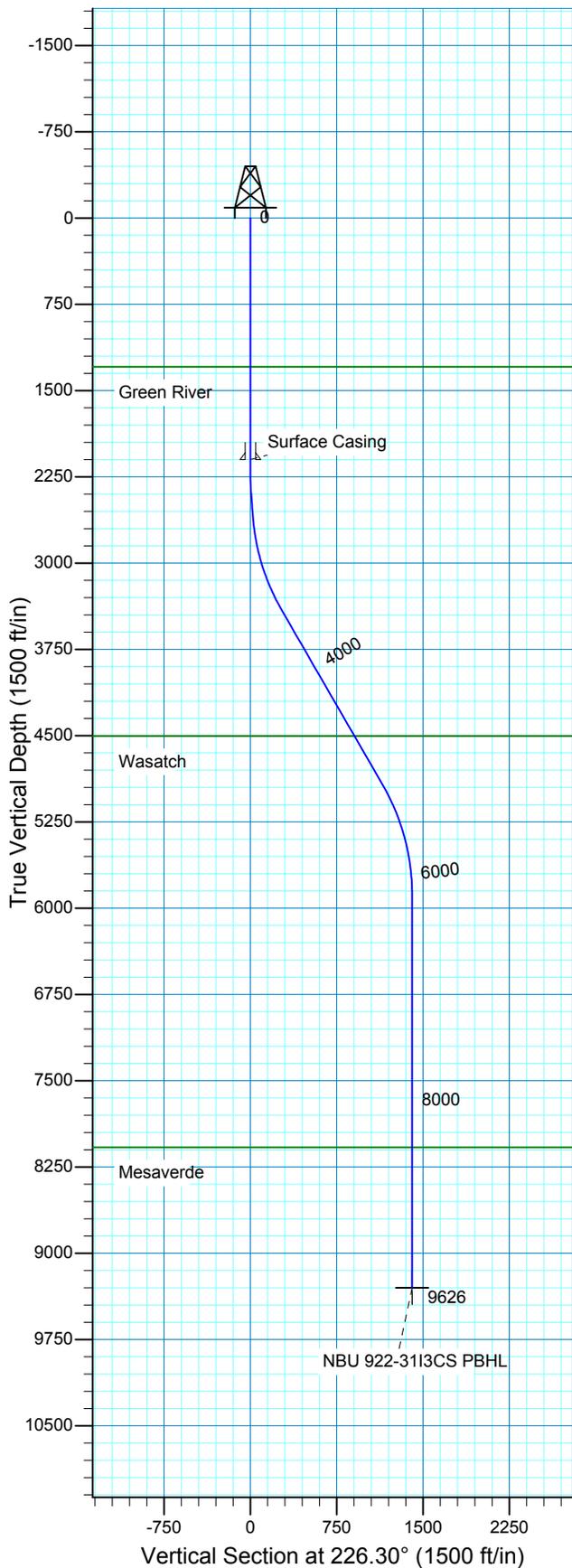


Azimuths to True North  
Magnetic North: 11.33°

Magnetic Field  
Strength: 52572.1snT  
Dip Angle: 65.93°  
Date: 2009-04-07  
Model: IGRF200510

WELL DETAILS: NBU 922-3113CS

GL 5034' & RKB 18' @ 5052.00ft 5034.00  
+N/-S 0.00 +E/-W 0.00 Northing 610436.02 Easting 2567881.22 Latitude 39° 59' 29.900 N Longitude 109° 28' 22.730 W



FORMATION TOP DETAILS			Plan: Plan #1 (NBU 922-3113CS/OH)	
TVDPath	MDPath	Formation	Created By:	Date:
1293.00	1293.00	Green River	Julie Cruse	2009-04-07
4503.00	4718.20	Wasatch	PROJECT DETAILS: Uintah County, UT NAD27	
8080.00	8406.03	Mesaverde	Geodetic System: US State Plane 1927 (Exact solution)	
			Datum: NAD 1927 (NADCON CONUS)	
			Ellipsoid: Clarke 1866	
			Zone: Utah Central 4302	
			Location: Sec 31 T9S R22E	
			System Datum: Mean Sea Level	
			Local North: True	

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	
2366.67	5.00	190.00	2366.46	-7.16	-1.26	3.00	190.00	5.86	
2516.67	5.00	190.00	2515.88	-20.03	-3.53	0.00	0.00	16.39	
2622.07	5.00	226.91	2620.91	-27.70	-7.69	3.00	108.39	24.69	NBU 922-3113CS PBHL
3455.40	30.00	226.91	3409.39	-197.52	-189.24	3.00	0.00	273.28	
5209.07	30.00	226.91	4928.11	-796.51	-829.60	0.00	0.00	150.06	
6209.07	0.00	0.00	5883.04	-971.30	-1016.46	3.00	180.00	1405.92	
9626.03	0.00	0.00	9300.00	-971.30	-1016.46	0.00	0.00	1405.92	NBU 922-3113CS PBHL



**Scientific Drilling**  
Rocky Mountain Operations

# **Kerr McGee Oil and Gas Onshore LP**

**Uintah County, UT NAD27  
NBU 922-311 Pad  
NBU 922-3113CS  
OH**

**Plan: Plan #1**

## **Standard Planning Report**

**07 April, 2009**



## Scientific Drilling Planning Report

<b>Database:</b>	EDM 2003.16 Multi User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 922-3113CS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5034' & RKB 18' @ 5052.00ft
<b>Project:</b>	Uintah County, UT NAD27	<b>MD Reference:</b>	GL 5034' & RKB 18' @ 5052.00ft
<b>Site:</b>	NBU 922-311 Pad	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-3113CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

<b>Project</b>	Uintah County, UT NAD27		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Utah Central 4302		

<b>Site</b>	NBU 922-311 Pad, Sec 31 T9S R22E				
<b>Site Position:</b>		<b>Northing:</b>	610,432.97 ft	<b>Latitude:</b>	39° 59' 29.879 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,567,841.59 ft	<b>Longitude:</b>	109° 28' 23.240 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	in	<b>Grid Convergence:</b>	1.30 °

<b>Well</b>	NBU 922-3113CS, 2314' FSL 108' FEL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	610,436.02 ft	<b>Latitude:</b>	39° 59' 29.900 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,567,881.22 ft	<b>Longitude:</b>	109° 28' 22.730 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,034.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	2009-04-07	11.33	65.93	52,572

<b>Design</b>	Plan #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	226.30

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,366.67	5.00	190.00	2,366.46	-7.16	-1.26	3.00	3.00	0.00	190.00	
2,516.67	5.00	190.00	2,515.88	-20.03	-3.53	0.00	0.00	0.00	0.00	
2,622.07	5.00	226.91	2,620.91	-27.70	-7.69	3.00	0.00	35.02	108.39	NBU 922-3113CS PBI
3,455.40	30.00	226.91	3,409.39	-197.52	-189.24	3.00	3.00	0.00	0.00	
5,209.07	30.00	226.91	4,928.11	-796.51	-829.60	0.00	0.00	0.00	0.00	
6,209.07	0.00	0.00	5,883.04	-971.30	-1,016.46	3.00	-3.00	0.00	180.00	
9,626.03	0.00	0.00	9,300.00	-971.30	-1,016.46	0.00	0.00	0.00	0.00	NBU 922-3113CS PBI



**Scientific Drilling**  
Planning Report

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<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5034' & RKB 18' @ 5052.00ft
<b>Project:</b>	Uintah County, UT NAD27	<b>MD Reference:</b>	GL 5034' & RKB 18' @ 5052.00ft
<b>Site:</b>	NBU 922-311 Pad	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-3113CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,293.00	0.00	0.00	1,293.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Green River</b>									
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Surface Casing</b>									
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	3.00	190.00	2,299.95	-2.58	-0.45	2.11	3.00	3.00	0.00
2,366.67	5.00	190.00	2,366.46	-7.16	-1.26	5.86	3.00	3.00	0.00
2,400.00	5.00	190.00	2,399.66	-10.02	-1.77	8.20	0.00	0.00	0.00
2,500.00	5.00	190.00	2,499.28	-18.60	-3.28	15.22	0.00	0.00	0.00
2,516.67	5.00	190.00	2,515.88	-20.03	-3.53	16.39	0.00	0.00	0.00
2,600.00	4.83	219.43	2,598.92	-26.32	-6.39	22.81	3.00	-0.20	35.32
2,622.07	5.00	226.91	2,620.91	-27.70	-7.69	24.69	3.00	0.76	33.89
2,700.00	7.34	226.91	2,698.39	-33.42	-13.80	33.06	3.00	3.00	0.00
2,800.00	10.34	226.91	2,797.19	-43.91	-25.02	48.42	3.00	3.00	0.00
2,900.00	13.34	226.91	2,895.05	-57.92	-40.00	68.94	3.00	3.00	0.00
3,000.00	16.34	226.91	2,991.70	-75.41	-58.70	94.54	3.00	3.00	0.00
3,100.00	19.34	226.91	3,086.89	-96.34	-81.07	125.17	3.00	3.00	0.00
3,200.00	22.34	226.91	3,180.33	-120.63	-107.04	160.73	3.00	3.00	0.00
3,300.00	25.34	226.91	3,271.79	-148.24	-136.56	201.14	3.00	3.00	0.00
3,400.00	28.34	226.91	3,361.01	-179.08	-169.52	246.28	3.00	3.00	0.00
3,455.40	30.00	226.91	3,409.39	-197.52	-189.24	273.28	3.00	3.00	0.00
3,500.00	30.00	226.91	3,448.01	-212.75	-205.53	295.58	0.00	0.00	0.00
3,600.00	30.00	226.91	3,534.61	-246.91	-242.04	345.57	0.00	0.00	0.00
3,700.00	30.00	226.91	3,621.21	-281.07	-278.56	395.57	0.00	0.00	0.00
3,800.00	30.00	226.91	3,707.82	-315.22	-315.07	445.57	0.00	0.00	0.00
3,900.00	30.00	226.91	3,794.42	-349.38	-351.59	495.57	0.00	0.00	0.00
4,000.00	30.00	226.91	3,881.02	-383.54	-388.10	545.56	0.00	0.00	0.00
4,100.00	30.00	226.91	3,967.63	-417.69	-424.62	595.56	0.00	0.00	0.00
4,200.00	30.00	226.91	4,054.23	-451.85	-461.13	645.56	0.00	0.00	0.00
4,300.00	30.00	226.91	4,140.83	-486.00	-497.65	695.55	0.00	0.00	0.00
4,400.00	30.00	226.91	4,227.43	-520.16	-534.16	745.55	0.00	0.00	0.00
4,500.00	30.00	226.91	4,314.04	-554.32	-570.68	795.55	0.00	0.00	0.00



**Scientific Drilling**  
Planning Report

<b>Database:</b>	EDM 2003.16 Multi User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 922-3113CS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5034' & RKB 18' @ 5052.00ft
<b>Project:</b>	Uintah County, UT NAD27	<b>MD Reference:</b>	GL 5034' & RKB 18' @ 5052.00ft
<b>Site:</b>	NBU 922-311 Pad	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-3113CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,600.00	30.00	226.91	4,400.64	-588.47	-607.19	845.55	0.00	0.00	0.00	
4,700.00	30.00	226.91	4,487.24	-622.63	-643.71	895.54	0.00	0.00	0.00	
4,718.20	30.00	226.91	4,503.00	-628.84	-650.35	904.64	0.00	0.00	0.00	
<b>Wasatch</b>										
4,800.00	30.00	226.91	4,573.84	-656.78	-680.22	945.54	0.00	0.00	0.00	
4,900.00	30.00	226.91	4,660.45	-690.94	-716.74	995.54	0.00	0.00	0.00	
5,000.00	30.00	226.91	4,747.05	-725.10	-753.26	1,045.53	0.00	0.00	0.00	
5,100.00	30.00	226.91	4,833.65	-759.25	-789.77	1,095.53	0.00	0.00	0.00	
5,200.00	30.00	226.91	4,920.25	-793.41	-826.29	1,145.53	0.00	0.00	0.00	
5,209.07	30.00	226.91	4,928.11	-796.51	-829.60	1,150.06	0.00	0.00	0.00	
5,300.00	27.27	226.91	5,007.91	-826.27	-861.42	1,193.63	3.00	-3.00	0.00	
5,400.00	24.27	226.91	5,097.95	-855.97	-893.17	1,237.11	3.00	-3.00	0.00	
5,500.00	21.27	226.91	5,190.15	-882.41	-921.43	1,275.81	3.00	-3.00	0.00	
5,600.00	18.27	226.91	5,284.24	-905.51	-946.14	1,309.63	3.00	-3.00	0.00	
5,700.00	15.27	226.91	5,379.97	-925.22	-967.21	1,338.48	3.00	-3.00	0.00	
5,800.00	12.27	226.91	5,477.09	-941.48	-984.59	1,362.28	3.00	-3.00	0.00	
5,900.00	9.27	226.91	5,575.31	-954.25	-998.24	1,380.97	3.00	-3.00	0.00	
6,000.00	6.27	226.91	5,674.39	-963.49	-1,008.11	1,394.49	3.00	-3.00	0.00	
6,100.00	3.27	226.91	5,774.03	-969.17	-1,014.19	1,402.81	3.00	-3.00	0.00	
6,200.00	0.27	226.91	5,873.97	-971.28	-1,016.45	1,405.90	3.00	-3.00	0.00	
6,209.07	0.00	0.00	5,883.04	-971.30	-1,016.46	1,405.92	3.00	-3.00	0.00	
6,300.00	0.00	0.00	5,973.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,073.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,173.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,273.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,373.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,473.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,573.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,673.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,773.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
7,200.00	0.00	0.00	6,873.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
7,300.00	0.00	0.00	6,973.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,073.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,173.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,273.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,373.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,473.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,573.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,673.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
8,100.00	0.00	0.00	7,773.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
8,200.00	0.00	0.00	7,873.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
8,300.00	0.00	0.00	7,973.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,073.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
8,406.03	0.00	0.00	8,080.00	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
<b>Mesaverde</b>										
8,500.00	0.00	0.00	8,173.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,273.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,373.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,473.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,573.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,673.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
9,100.00	0.00	0.00	8,773.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	
9,200.00	0.00	0.00	8,873.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00	



**Scientific Drilling**  
Planning Report

<b>Database:</b>	EDM 2003.16 Multi User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 922-3113CS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5034' & RKB 18' @ 5052.00ft
<b>Project:</b>	Uintah County, UT NAD27	<b>MD Reference:</b>	GL 5034' & RKB 18' @ 5052.00ft
<b>Site:</b>	NBU 922-311 Pad	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-3113CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,300.00	0.00	0.00	8,973.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00
9,400.00	0.00	0.00	9,073.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00
9,500.00	0.00	0.00	9,173.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00
9,600.00	0.00	0.00	9,273.97	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00
9,626.03	0.00	0.00	9,300.00	-971.30	-1,016.46	1,405.92	0.00	0.00	0.00

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
NBU 922-3113CS PBHL - hit/miss target - Shape - Circle (radius 25.00)	0.00	0.00	9,300.00	-971.30	-1,016.46	609,441.93	2,566,887.03	39° 59' 20.300 N	109° 28' 35.790 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,100.00	2,100.00	Surface Casing	9.625	13.500	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,293.00	1,293.00	Green River		0.00	
4,718.20	4,503.00	Wasatch		0.00	
8,406.03	8,080.00	Mesaverde		0.00	

**NBU 922-31I3CS**

Pad: NBU 922-31I

Surface: 2,314' FSL, 108' FEL (NE/4SE/4)

BHL: 1,341' FSL 1,125' FEL (NE/4SE/4)

Sec. 31 T9S R22E

Uintah, Utah

Mineral Lease: UO 1530A

**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	1,293'	
Birds Nest	1,607'	Water
Mahogany	2,088'	Water
Wasatch	4,503'	Gas
Mesaverde	7,083'	Gas
MVU2	8,080'	Gas
MVL1	8,622'	Gas
TVD	9,300'	
TD	9,626'	

**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 9,626' TD, approximately equals 5,747 psi (calculated at 0.60 psi/foot).

Maximum anticipated surface pressure equals approximately 3,507 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.*

***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.*

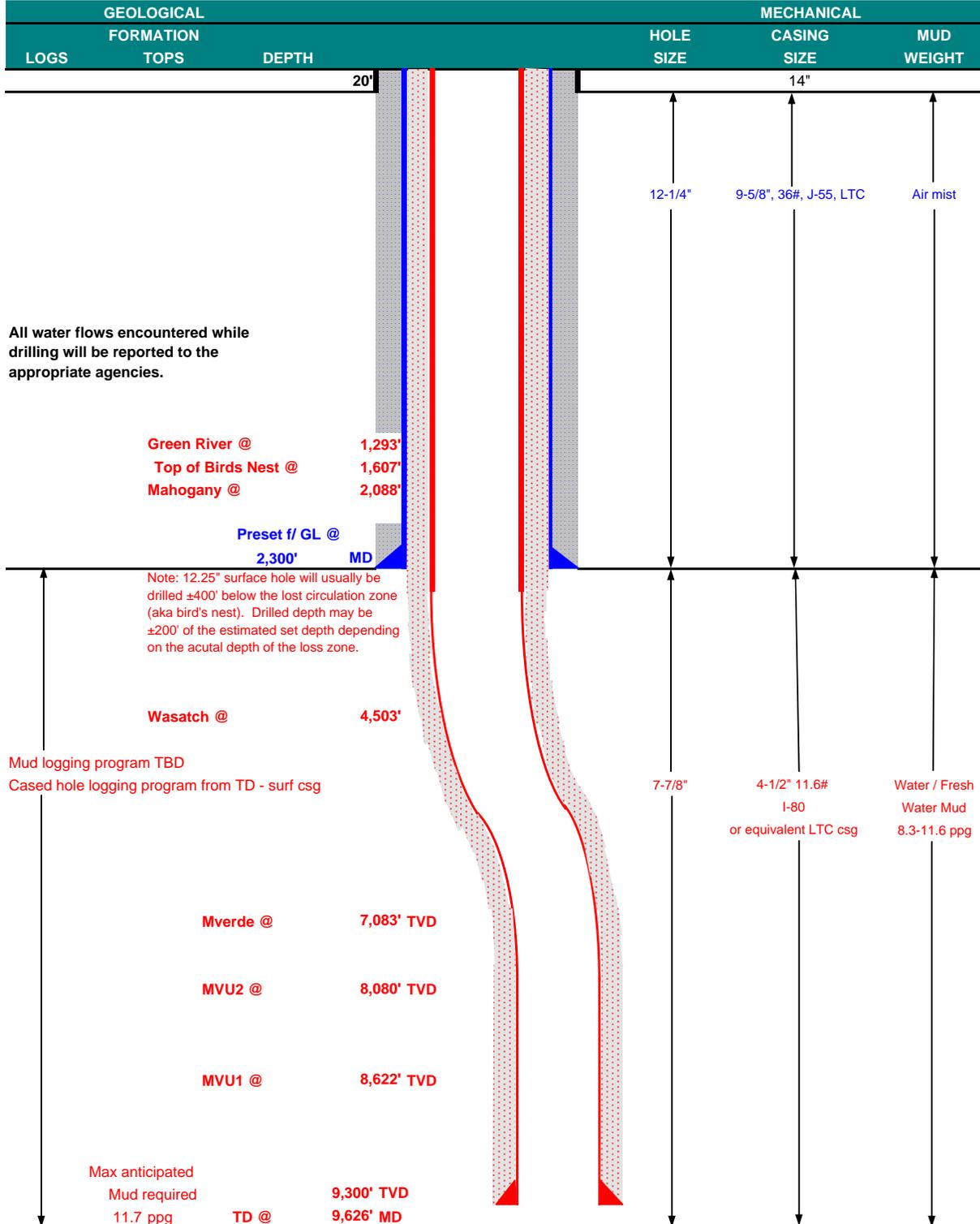
**10. Other Information:**

*Please refer to the attached Drilling Program.*



## KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	June 17, 2009			
WELL NAME	<b>NBU 922-3113CS</b>		TD	9,300'	TVD	9,626' MD	
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah	ELEVATION	5,034' GL KB 5,049'
SURFACE LOCATION	NE/4 SE/4	2,314' FSL	108' FEL	Sec 31	T 9S	R 22E	
	Latitude:	39.991639	Longitude:	-109.472981		NAD 27	
BTM HOLE LOCATION	NE/4 SE/4	1,341' FSL	1,125' FEL	Sec 31	T 9S	R 22E	
	Latitude:	39.988972	Longitude:	-109.476608		NAD 27	
OBJECTIVE ZONE(S)	Wasatch/Mesaverde						
ADDITIONAL INFO	Regulatory Agencies: SITLA (Minerals), UDOGM (Surface), 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 2,300	36.00	J-55	LTC	0.94	1.88	6.96
						7,780	6,350	201,000
PRODUCTION	4-1/2"	0 to 9,626	11.60	I-80	LTC	2.15	1.12	2.06

- 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 = 11.7 ppg) 0.22 psi/ft = gradient for partially evac wellbore  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoys.Fact. of water)  
**MASP 3,507 psi**
- 3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD  
 (Burst Assumptions: TD = 11.7 ppg) 0.60 psi/ft = bottomhole gradient  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoys.Fact. of water)  
**MABHP 5,747 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		<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>					
Option 2	LEAD	1,800'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	430	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	3,996'	Premium Lite II + 3% KCl + 0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	380	40%	11.00	3.38
	TAIL	5,630'	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.

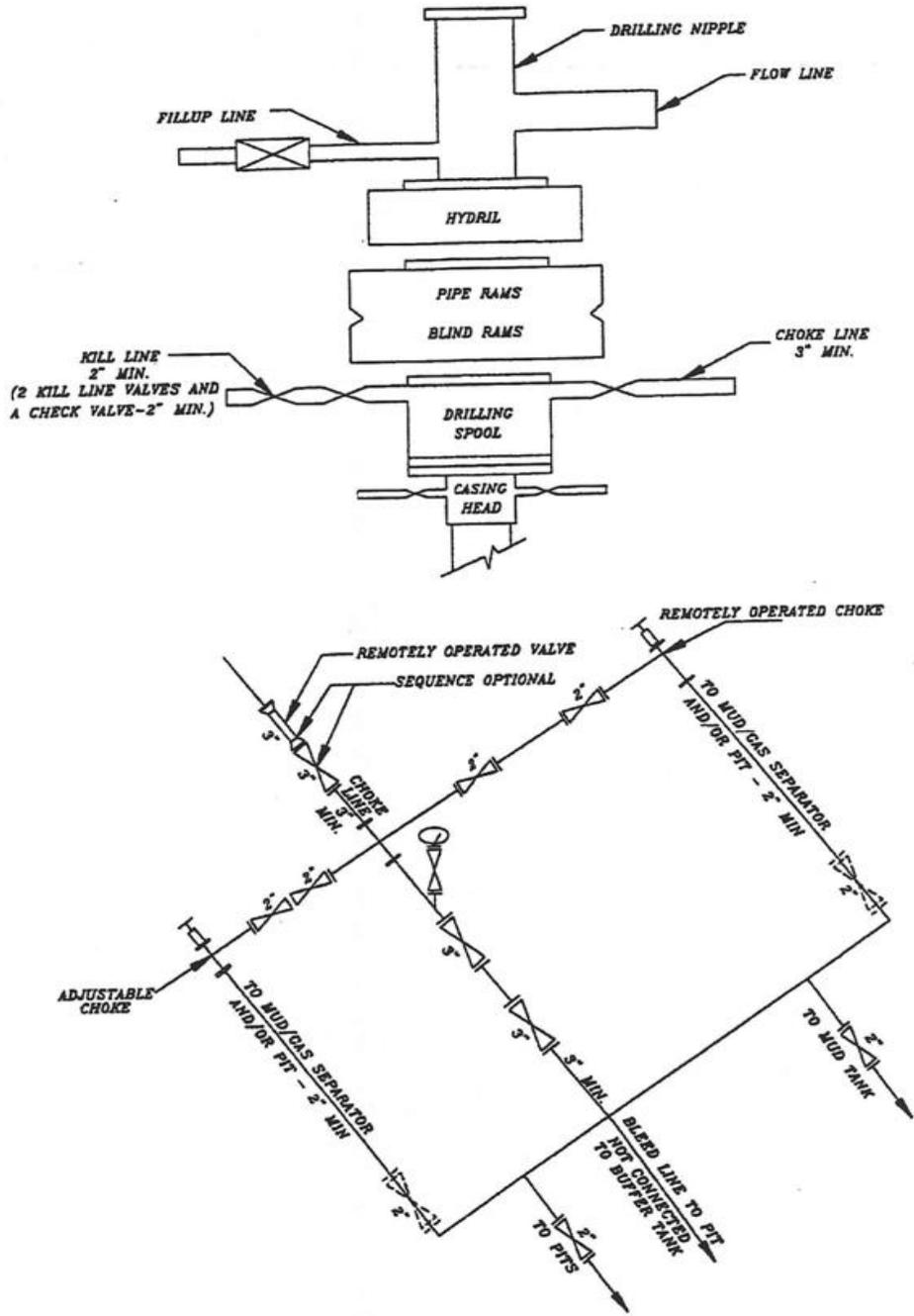
**ADDITIONAL INFORMATION**

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:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
 John Huycke / Emile Goodwin

**DRILLING SUPERINTENDENT:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
 John Merkel / Lovel Young

### EXHIBIT A NBU 922-31I3CS



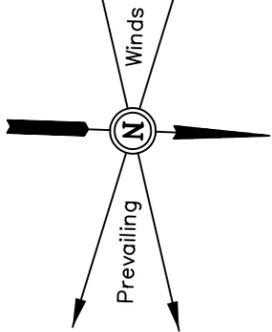
**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

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

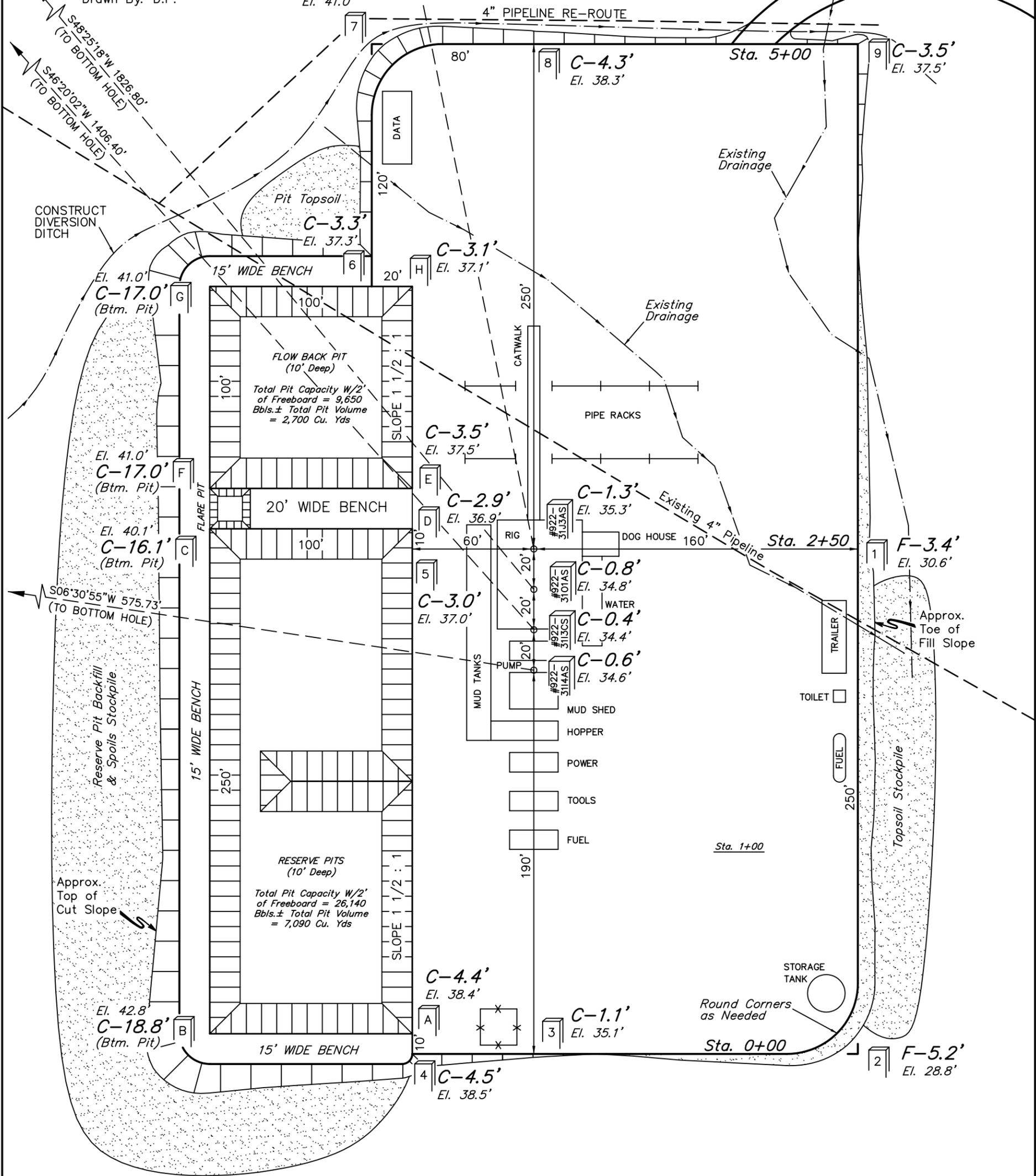
LOCATION LAYOUT FOR

NBU #922-31J3AS, #922-31I3CS, #922-31O1AS & #922-31I4AS  
SECTION 31, T9S, R22E, S.L.B.&M.  
NE 1/4 SE 1/4

FIGURE #1



SCALE: 1" = 50'  
DATE: 11-11-08  
Drawn By: D.P.



**NOTES:**

Elev. Ungraded Ground At #922-31J3AS At Loc. Stake = 5035.3'  
FINISHED GRADE ELEV. AT #922-31J3AS LOC. STAKE = 5034.0'

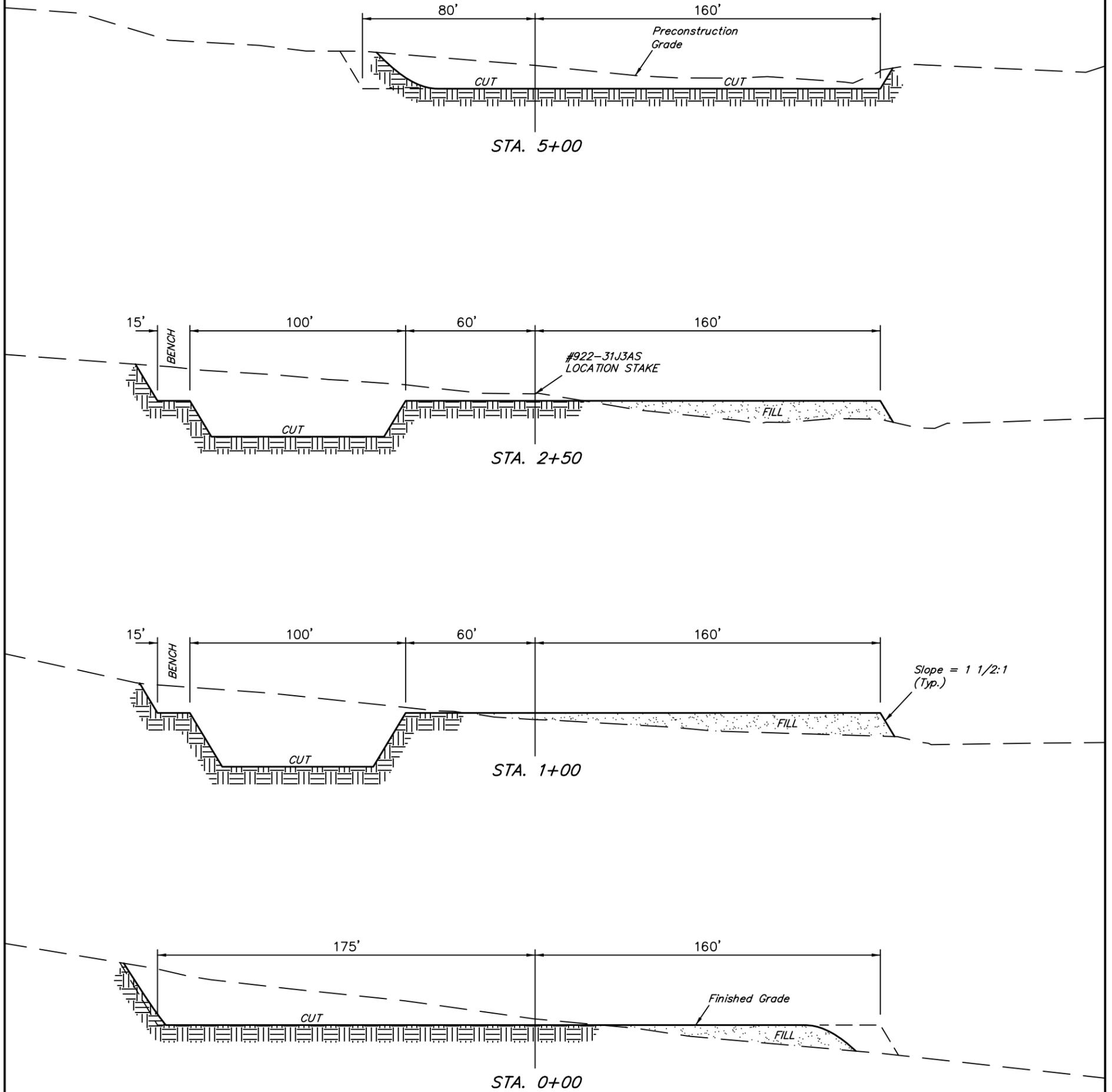
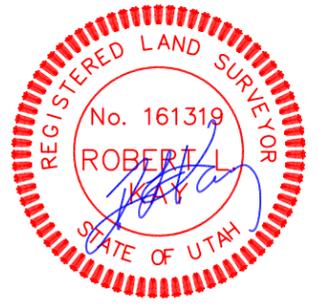
**Kerr-McGee Oil & Gas Onshore LP**

**FIGURE #2**

**TYPICAL CROSS SECTIONS FOR**

**NBU #922-31J3AS, #922-31I3CS, #922-31O1AS & #922-31I4AS**  
**SECTION 31, T9S, R22E, S.L.B.&M.**  
**NE 1/4 SE 1/4**

1" = 20'  
 X-Section  
 Scale  
 1" = 50'  
 DATE: 11-11-08  
 Drawn By: D.P.



**NOTE:**  
 Topsoil should not be Stripped Below Finished Grade on Substructure Area.

**\* NOTE:**  
 FILL QUANTITY INCLUDES 5% FOR COMPACTION

**APPROXIMATE ACREAGES**

WELL SITE DISTURBANCE	= ± 4.649 ACRES
ACCESS ROAD DISTURBANCE	= ± 0.419 ACRES
PIPELINE DISTURBANCE	= ± 0.344 ACRES
<b>TOTAL</b>	<b>= ± 5.412 ACRES</b>

**APPROXIMATE YARDAGES**

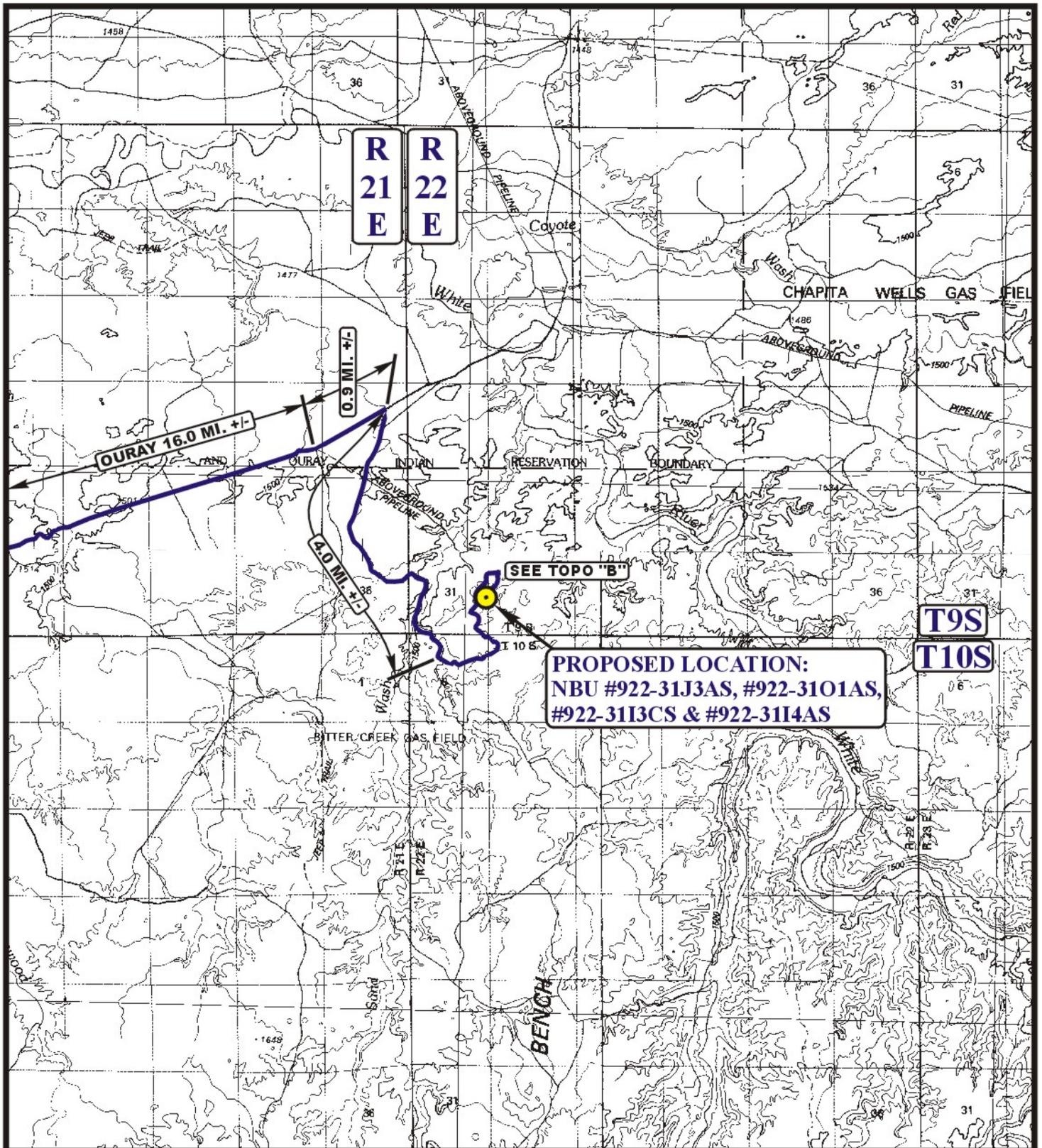
(6") Topsoil Stripping	= 3,240 Cu. Yds.
Remaining Location	= 20,190 Cu. Yds.
<b>TOTAL CUT</b>	<b>= 23,430 CU.YDS.</b>
<b>FILL</b>	<b>= 6,980 CU.YDS.</b>

EXCESS MATERIAL	= 16,450 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	= 8,140 Cu. Yds.
EXCESS UNBALANCE (After Interim Rehabilitation)	= 8,310 Cu. Yds.

**Kerr-McGee Oil & Gas Onshore LP**  
**NBU #922-31J3AS, #922-31O1AS, #922-31I3CS &**  
**#922-31I4AS**  
**SECTION 31, T9S, R22E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14.0 MILES TO THE JUNCTION OF STATE HIGHWAY 88; EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 17.0 MILES TO OURAY, UTAH; PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 6.9 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN LEFT AND PROCEED IN A SOUTHEASTERLY, THEN EASTERLY DIRECTION APPROXIMATELY 5.0 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHWEST; TURN LEFT AND PROCEED IN A NORTHWESTERLY DIRECTION APPROXIMATELY 0.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHEAST; TURN RIGHT AND PROCEED IN A NORTHEASTERLY DIRECTION APPROXIMATELY 3.8 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHEAST; PROCEED IN A NORTHEASTERLY DIRECTION APPROXIMATELY 0.9 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHWEST; TURN RIGHT AND PROCEED IN A SOUTHWESTERLY, THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 4.0 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN LEFT AND PROCEED IN A SOUTHEASTERLY, THEN EASTERLY, THEN NORTHWESTERLY DIRECTION APPROXIMATELY 1.5 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHEAST; TURN RIGHT AND PROCEED IN A NORTHEASTERLY, THEN EASTERLY DIRECTION APPROXIMATELY 0.6 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHWEST; TURN RIGHT AND PROCEED IN A SOUTHWESTERLY DIRECTION APPROXIMATELY 250' TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTH; TURN LEFT AND PROCEED IN A SOUTHERLY, THEN SOUTHWESTERLY DIRECTION APPROXIMATELY 0.3 MILES TO THE BEGINNING OF THE PROPOSED ROAD TO THE SOUTHWEST; FOLLOW ROAD FLAGS IN A SOUTHWESTERLY DIRECTION APPROXIMATELY 0.1 TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 54.4 MILES.



**LEGEND:**

 PROPOSED LOCATION

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

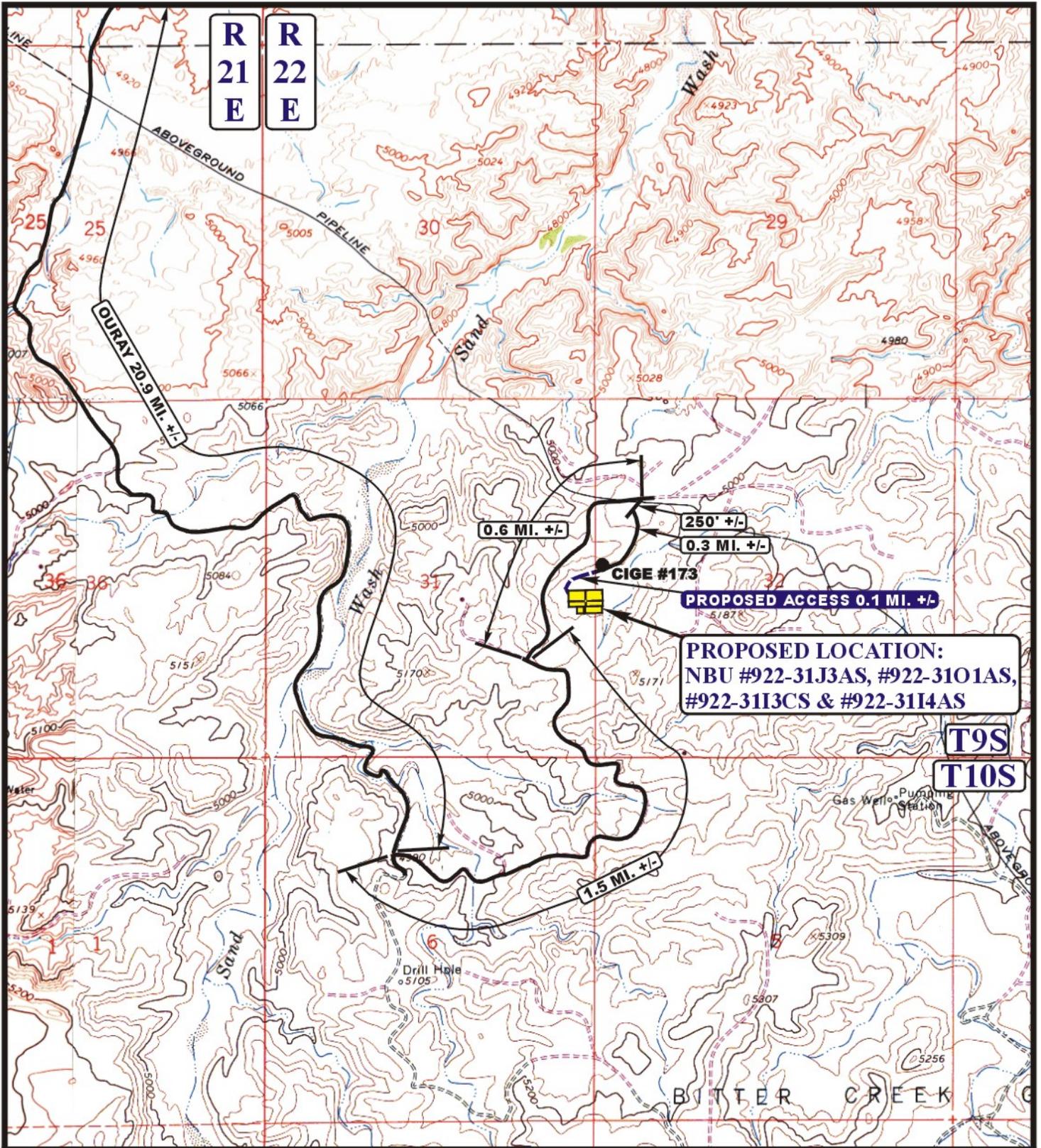
NBU #922-31J3AS, #922-31I1AS, #922-31I3CS & #922-31I4AS  
SECTION 31, T9S, R22E, S.L.B.&M.  
NE 1/4 SE 1/4

**UETS** Uintah Engineering & Land Surveying  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813



**TOPOGRAPHIC MAP** 11 11 08  
MONTH DAY YEAR  
SCALE: 1:100,000 DRAWN BY: J.J. REVISED: 00-00-00





**LEGEND:**

-  EXISTING ROAD
-  PROPOSED ACCESS ROAD

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

NBU #922-31J3AS, #922-31I1AS, #922-31I3CS & #922-31I4AS  
SECTION 31, T9S, R22E, S.L.B.&M.  
NE 1/4 SE 1/4



Utah Engineering & Land Surveying  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813

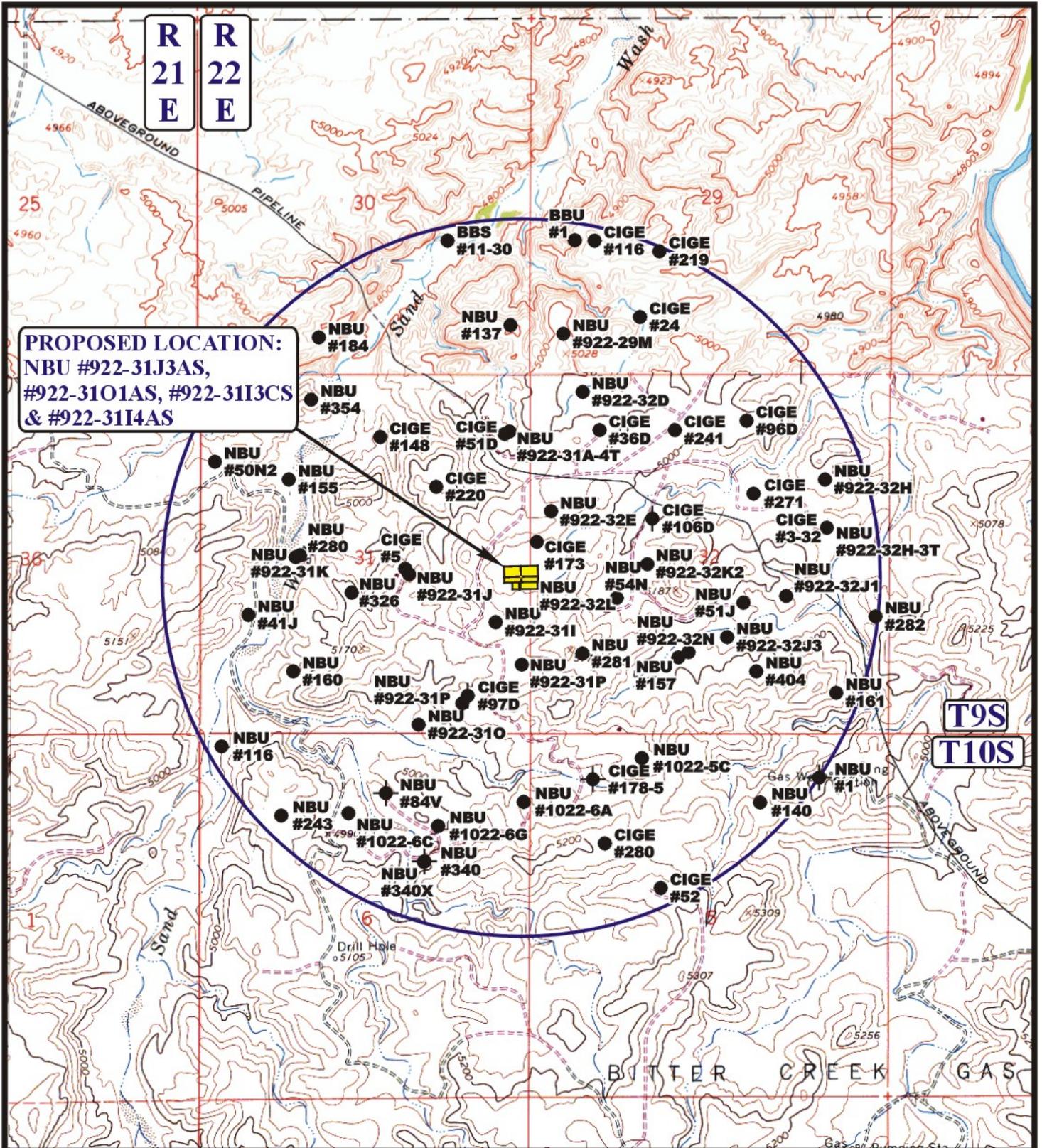


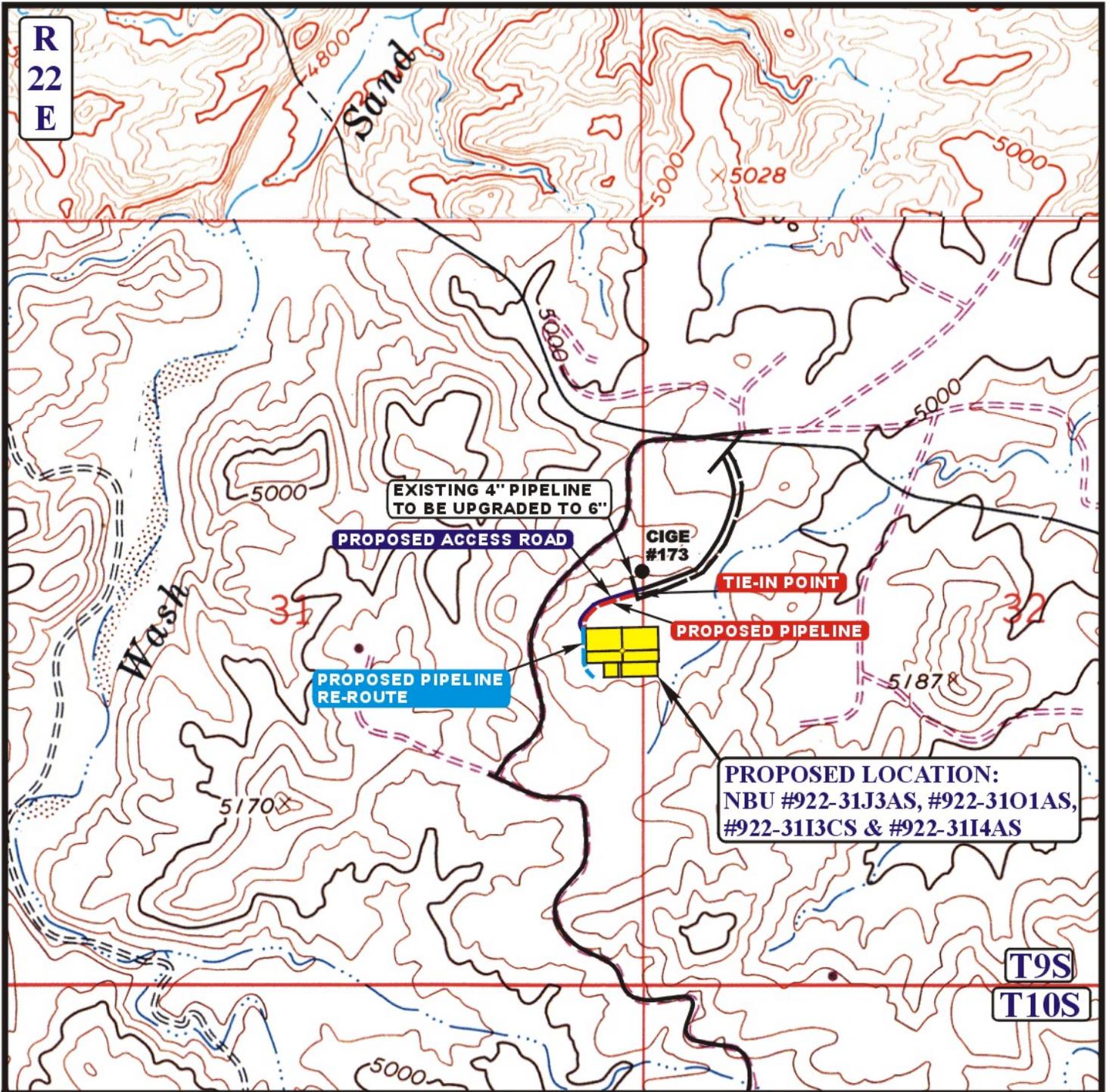
**TOPOGRAPHIC**  
**MAP**

**11 11 08**  
MONTH DAY YEAR

SCALE: 1" = 2000' DRAWN BY: J.J. REVISED: 00-00-00

**B**  
**TOPO**





APPROXIMATE TOTAL PIPELINE RE-ROUTE DISTANCE = 392' +/-

APPROXIMATE TOTAL PIPELINE UPGRADE DISTANCE = 1,870' +/-

APPROXIMATE TOTAL PIPELINE DISTANCE = 500' +/-

**LEGEND:**

- PROPOSED ACCESS ROAD
- EXISTING PIPELINE
- PROPOSED PIPELINE
- PROPOSED PIPELINE RE-ROUTE

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

NBU #922-31J3AS, #922-31I1AS, #922-31I3CS & #922-31I4AS  
SECTION 31, T9S, R22E, S.L.B.&M.  
NE 1/4 SE 1/4

**U&L S** Uintah Engineering & Land Surveying  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813



**TOPOGRAPHIC MAP** 11 11 08  
MONTH DAY YEAR  
SCALE: 1" = 1000' DRAWN BY: J.J. REVISED: 00-00-00

**D**  
TOPO

# Kerr-McGee Oil & Gas Onshore LP

NBU #922-31J3AS, #922-31O1AS, #922-31I3CS & #922-31I4AS  
LOCATED IN UINTAH COUNTY, UTAH  
SECTION 31, T9S, R22E, S.L.B.&M.

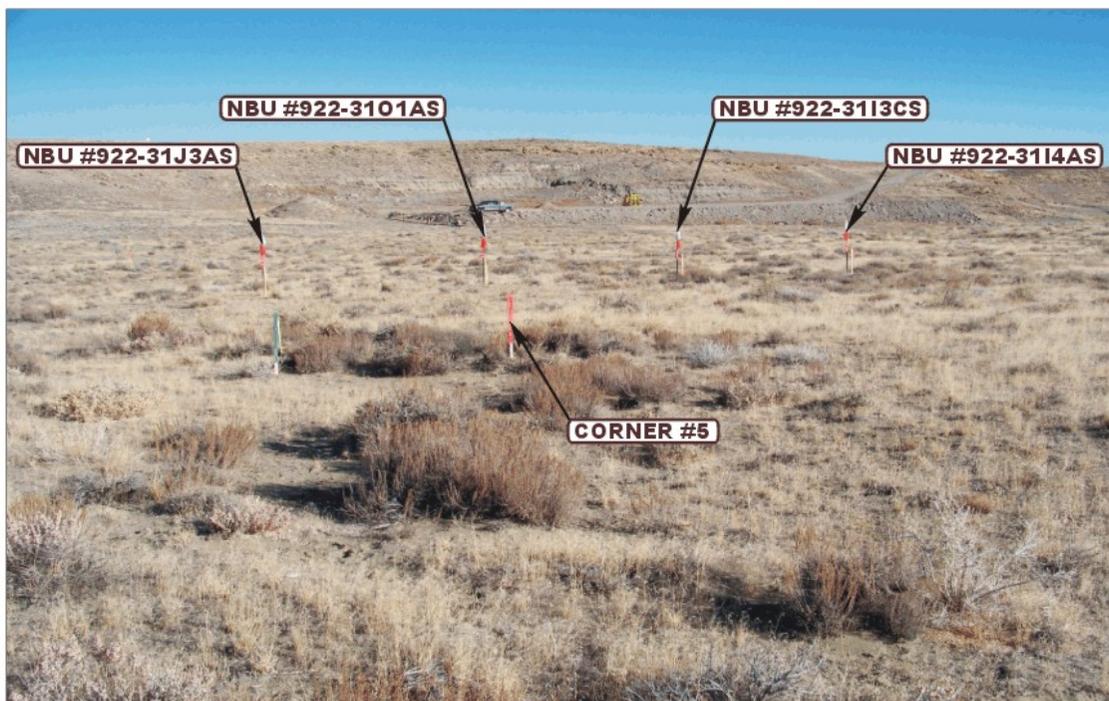


PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKES

CAMERA ANGLE: NORTHERLY



PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS

CAMERA ANGLE: WESTERLY



**U  
E  
L  
S** Uintah Engineering & Land Surveying  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813

LOCATION PHOTOS	11	11	08	PHOTO
	MONTH	DAY	YEAR	
TAKEN BY: L.K.	DRAWN BY: J.J.		REVISED: 00-00-00	

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

**NBU 922-31I3CS**

Surface: 2,314' FSL, 108' FEL (NE/4SE/4)

BHL: 1,341' FSL 1,125' FEL (NE/4SE/4)

Minerals: State – UO 1530A

**NBU 922-31I4AS**

Surface: 2,315' FSL, 88' FEL (NE/4SE/4)

BHL: 1,743' FSL 153' FEL (NE/4SE/4)

Minerals: State – UO 1530A

**NBU 922-31J3AS**

Surface: 2,313' FSL, 148' FEL (NE/4SE/4)

BHL: 1,871' FSL 1,973' FEL (NW/4SE/4)

Minerals: State – UO 1207A

**NBU 922-31O1AS**

Surface: 2,314' FSL, 128' FEL (NE/4SE/4)

BHL: 1,098' FSL 1,494' FEL (SW/4SE/4)

Minerals: State – UO 1207A

Section 31 Township 9 South Range 22 East

Pad: NBU 922-31I

Uintah, Utah

Surface: State

**ONSHORE ORDER NO. 1**

***MULTI-POINT SURFACE USE & OPERATIONS PLAN***

**Directional Drilling:**

In accordance with 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:**

Refer to Topo Map A for directions to the location.

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

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

All existing roads will be maintained and kept in good repair during all drilling and completion operations associated with this well.

**2. Planned Access Roads:**

Approximately  $\pm 0.1$  mi. of new access road is proposed. Please refer to the attached Topo Map B.

The upgraded and new portions of the access road will be crowned and ditched with a running surface of 18 feet and a maximum disturbed width of 30 feet. Appropriate water control will be installed to control erosion.

*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.*

The access road was centerline flagged during time of staking.

Surfacing material may be necessary, depending upon weather conditions.

Surface disturbance and vehicular traffic will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.

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

Please refer to Topo Map C.

**4. Location of Existing & Proposed Facilities:**

*The following guidelines will apply if the well is productive.*

All production facilities will be located on the disturbed portion of the well pad and at a minimum of 25 feet from the toe of the back slope or the top of the fill slope.

A dike will be constructed completely around those production facilities which contain fluids (i.e., production tanks, produced water tanks, and/or heater/treater). These dikes will be constructed of compacted subsoil, be impervious, hold 100% of the capacity of the largest tank, and be independent of the back cut.

All permanent (on-site six months or longer) above the ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the five state Rocky Mountain Inter-Agency Committee.

All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The required color is Shadow Gray, a non-reflective earthtone.

Any necessary pits will be properly fenced to protect livestock and prevent wildlife entry.

**5. Location and Type of Water Supply:**

Water for drilling purposes will be obtained from Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim #43-8496, Application #53617.

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

No water well is to be drilled on this lease.

**6. Source of Construction Materials:**

Surface and subsoil materials in the immediate area will be utilized.

Any gravel will be obtained from a commercial source.

**7. Methods of Handling Waste Materials:**

Drill cuttings will be contained and buried in the reserve pit.

Drilling fluids, including salts and chemicals, will be contained in the reserve pit. Upon termination of drilling and completion operations, the liquid contents of the reserve pit will be removed and disposed of at an approved waste disposal facility within 120 days after drilling is terminated.

The reserve pit will be constructed on the location and will not be located within natural drainage, where a flood hazard exists or surface runoff will destroy or damage the pit walls. The reserve pit will be constructed so that it will not leak, break, or allow discharge of liquids.

A plastic reinforced liner and felt will be used; it will be a minimum of 20 mil thick, with sufficient bedding used to cover any rocks. The liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash or scrap that could puncture the liner will be disposed of in the pit. Any spills of oil, gas, salt water, or other noxious fluids will be immediately cleaned up and removed to an approved disposal site.

A chemical porta-toilet will be furnished with the drilling rig.

Garbage, trash, and other waste materials will be collected in a portable, self-contained, fully enclosed trash cage during operations. No trash will be burned on location.

All debris and other waste material not contained in the trash cage will be cleaned up and removed from the location immediately after removal of the drilling rig.

Any open pits will be fenced during the operations. The fencing will be maintained until such time as the pits are backfilled.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

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:**

None are anticipated.

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

The attached Location Layout Diagram describes drill pad cross-sections, cuts and fills, and locations of the mud tanks, reserve pit, flare pit, pipe racks, trailer parking, spoil dirt stockpile(s), and surface material stockpile(s).

Please see the attached diagram to describe rig orientation, parking areas, and access roads.

The reserve pit will be lined, and when the reserve pit is closed, the pit liner will be buried below plow depth.

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

39 inch net wire 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.

The reserve pit fencing will be on three sides during drilling operations, and on the fourth side when the rig moves off location. Pits will be fenced and maintained until cleanup.

Location size may change prior to the drilling of the well due to current rig availability. If the proposed location is not large enough to accommodate the drilling rig the location will be re-surveyed and a Form 9 shall be submitted.

**10. Plans for Reclamation of the Surface:**

*Producing Location:*

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, materials, trash, and debris not required for production.

Immediately upon well completion, any hydrocarbons in the pit shall be removed in accordance with 43 CFR 3162.7-1.

A plastic, nylon reinforced liner will be used, it shall be torn and perforated before backfilling of the reserve pit.

Before any dirt work associated with location restoration takes place, the reserve pit shall be as dry as possible. All debris in it will be removed. Other waste and spoil materials will be disposed of immediately upon completion of operations.

The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 90 days from the date of well completion, weather permitting.

To prevent surface water(s) from standing (ponding) on the reclaimed reserve pit area, final reclamation of the reserve pit will consist of "mounding" the surface three feet above surrounding ground surface to allow the reclaimed pit area to drain effectively.

Upon completion of backfilling, leveling, and recontouring, the stockpiled topsoil will be spread evenly over the reclaimed area(s).

*Dry Hole/Abandoned Location:*

Abandoned well sites, roads, and other disturbed areas will be restored as near as practical to their original condition. Where applicable, these conditions include the re-establishment of irrigation systems, the re-establishment of appropriate soil conditions, and re-establishment of vegetation as specified.

All disturbed surfaces will be recontoured to the approximate natural contours, with reclamation of the well pad and access road to be performed as soon as practical after final abandonment. Reseeding operations will be performed after completion of other reclamation operations.

**11. Surface/Mineral Ownership:**

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

**12. Other Information:**

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, the approved Plan of Operations, and any applicable Notice of Lessees. The Operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

The Operator will control noxious weeds along Rights-Of-Way for roads, pipelines, well sites, or other applicable facilities.

A Class III archaeological survey report and paleontological survey report is attached.

**Kerr-McGee Oil & Gas Onshore LP**  
NBU 922-31I3CS/ 31I4AS/ 31J3AS/ 31O1AS

Page 7  
Surface Use and Operations Plan

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

Kathy Schneebeck Dulnoan  
Staff Regulatory Analyst  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6226

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 State Surety Bond 22013542.

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

April 20, 2009  
Date

**IPC #08-305**

## **Paleontological Reconnaissance Survey Report**

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**Survey of Kerr McGee's Proposed Directional & Multi-Well Pads,  
Access Roads & Pipelines for "NBU #922-31J3AS, 31I3CS,  
31O1AS & 31I4AS" (Sec. 31 & 32, T 9 S, R 22 E), "NBU  
#1022-4E3, 4E2S, 5I2S & 5H4" & "NBU  
#1022-7O4AS, 7O4DS, 7N1S &  
7N4S" (Sec. 4, 5, 7, 17 & 18,  
T 10 S, R 22 E)**

Archy Bench  
Topographic Quadrangle  
Uintah County, Utah

March 6, 2009

Prepared by Stephen D. Sandau  
Paleontologist for  
Intermountain Paleo-Consulting  
P. O. Box 1125  
Vernal, Utah 84078

## INTRODUCTION

At the request of Raleen White of Kerr McGee Onshore LP and authorized by the BLM Vernal Field Office and James Kirkland of the Office of the State Paleontologist, a paleontological reconnaissance survey of Kerr McGee's proposed directional & multi-well pads, access roads & pipelines for "NBU #922-31J3AS, 31I3CS, 31O1AS & 31I4AS" (Sec. 31 & 32, T 9 S, R 22 E), "NBU #1022-4E3, 4E2S, 5I2S & 5H4" and "NBU #1022-7O4AS, 7O4DS, 7N1S & 7N4S" (Sec. 4, 5, 7, 17 & 18, T 10 S, R 22 E) was conducted by Stephen Sandau, Simon Masters, and Tom Temme on November 12 & 13, 2008. The reconnaissance survey was conducted under the Utah BLM Paleontological Resources Use Permit #UT08-006C and Utah Paleontological Investigations Permit #07-356. This survey to locate, identify and evaluate paleontological resources was done to meet requirements of the National Environmental Policy Act of 1969 and other State and Federal laws and regulations that protect paleontological resources.

## FEDERAL AND STATE REQUIREMENTS

As mandated by the Federal and State government, paleontologically sensitive geologic formations on State lands that are considered for exchange or may be impacted due to ground disturbance require paleontological evaluation. This requirement complies with:

- 1) The National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 et. Seq., P.L. 91-190);
- 2) The Federal Land Policy and Management Act (FLPMA) of 1976 (90 Stat. 2743, 43 U.S.C. § 1701-1785, et. Seq., P.L. 94-579);
- 3) The National Historic Preservation Act. 16 U.S.C. § 470-1, P.L. 102-575 in conjunction with 42 U.S.C. § 5320; and
- 4) The Utah Geological Survey. S. C. A.: 63-73-1. (1-21) and U.C.A.: 53B-17-603

BLM, 2008: BLM IM 2009-011 Assessment and Mitigation of Potential Impacts to Paleontological Resources. USDI – BLM Washington Office directive, October 29, 2008 replaces the Condition Classification System from Handbook H-8270-1. The following section outlines the new Potential Fossil Yield Classification (PFYC) System. Geologic units are classified based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts, with a higher class number indicating a higher potential.

- **Class 1 – Very Low.** Geologic units (igneous, metamorphic, or Precambrian) not likely to contain recognizable fossil remains.
- **Class 2 – Low.** Sedimentary geologic units not likely to contain vertebrate fossils or scientifically significant non-vertebrate fossils. (Including modern eolian, fluvial, and colluvial deposits etc...)
- **Class 3 – Moderate or Unknown.** Fossiliferous sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence; or sedimentary units of unknown fossil potential.

- **Class 3a – Moderate Potential.** The potential for a project to be sited on or impact a significant fossil locality is low, but is somewhat higher for common fossils.
- **Class 3b – Unknown Potential.** Units exhibit geologic features and preservational conditions that suggest significant fossils could be present, but little information about the paleontological resources of the unit or the area is known.
- **Class 4 – High.** Geologic units containing a high occurrence of vertebrate fossils or scientifically significant invertebrate or plant fossils, but may vary in abundance and predictability.
  - **Class 4a** – Outcrop areas with high potential are extensive (greater than two acres) and paleontological resources may be susceptible to adverse impacts from surface disturbing actions.
  - **Class 4b** – Areas underlain by geologic units with high potential but have lowered risks of disturbance due to moderating circumstances such as a protective layer of soil or alluvial material; or outcrop areas are smaller than two contiguous acres.
- **Class 5 – Very High.** Highly fossiliferous geologic units that consistently and predictably produce vertebrate fossils or scientifically significant invertebrate or plant fossils.
  - **Class 5a** - Outcrop areas with very high potential are extensive (greater than two acres) and paleontological resources may be susceptible to adverse impacts from surface disturbing actions.
  - **Class 5b** - Areas underlain by geologic units with very high potential but have lowered risks of disturbance due to moderating circumstances such as a protective layer of soil or alluvial material; or outcrop areas are smaller than two contiguous acres.

It should be noted that many fossils, though common and unimpressive in and of themselves, can be important paleo-environmental, depositional, and chronostratigraphic indicators.

## LOCATION

Kerr McGee's proposed directional & multi-well pads, access roads & pipelines for "NBU #922-31J3AS, 31I3CS, 31O1AS & 31I4AS" (Sec. 31 & 32, T 9 S, R 22 E), "NBU #1022-4E3, 4E2S, 5I2S & 5H4" and "NBU #1022-7O4AS, 7O4DS, 7N1S & 7N4S" (Sec. 4, 5, 7, 17 & 18, T 10 S, R 22 E) are on lands managed by the BLM and the State of Utah Trust Lands Administration (SITLA), in the Sand Wash area, approximately 2-3 miles west of the White River, and about 18-22 miles west of Bonanza, UT. The project area can be found on the Archy Bench 7.5 minute U. S. Geological Survey Quadrangle Map, Uintah County, Utah.

## PREVIOUS WORK

The basins of western North America have long produced some of the richest fossil collections in the world. Early Cenozoic sediments are especially well represented throughout the western interior. Paleontologists started field work in Utah's Uinta Basin as early as 1870 (Betts, 1871; Marsh, 1871, 1875a, 1875b). The Uinta Basin is located in the northeastern corner of Utah and covers approximately 31,000 sq. km (12,000 sq. miles) ranging in elevation from 1,465 to 2,130 m (4,800 to 7,000 ft) (Marsell, 1964; Hamblin et al., 1987). Middle to late Eocene time marked a period of dramatic change in the climate, flora, (Stucky, 1992) and fauna (Black and Dawson, 1966) of North America.

## GEOLOGICAL AND PALEONTOLOGICAL OVERVIEW

Early in the geologic history of Utah, some 1,000 to 600 Ma, an east-west trending basin developed creating accommodation for 25,000 feet of siliclastics. Uplift of that filled-basin during the early Cenozoic formed the Uinta Mountains (Rasmussen et al., 1999). With the rise of the Uinta Mountains the asymmetrical synclinal Uinta Basin is thought to have formed through the effects of down warping in connection with the uplift. Throughout the Paleozoic and Mesozoic deposition fluctuated between marine and non-marine environments laying down a thick succession of sediments in the area now occupied by the Uinta Basin. Portions of these beds crop out on the margins of the basin due to tectonic events during the late Mesozoic.

Early Tertiary Uinta Basin sediments were deposited in alternating lacustrine and fluvial environments. Large shallow lakes periodically covered most of the basin and surrounding areas during early to mid Eocene time (Abbott, 1957). These lacustrine sediments show up in the western part of the basin, dipping 2-3 degrees to the northeast and are lost in the subsurface on the east side. The increase of cross-bedded, coarse-grained sandstone and conglomerates preserved in paleo-channels indicates a transition to a fluvial environment toward the end of the epoch.

Four Eocene formations are recognized in the Uinta Basin: the Wasatch, Green River, Uinta and Duchesne River, respectively (Wood, 1941). The Uinta Formation is subdivided into two lithostratigraphic units namely: the Wagonhound Member (Wood, 1934), formerly known as Uinta A and B (Osborn, 1895, 1929) and the Myton Member previously regarded as the Uinta C.

Within the Uinta Basin in northeast Utah, the Uinta Formation in the western part of the basin is composed primarily of lacustrine sediments inter-fingering with over-bank deposits of silt and mudstone and westward flowing channel sands and fluvial clays, muds, and sands in the east (Bryant et al, 1990; Ryder et al, 1976). Stratigraphic work done by early geologists and paleontologists within the Uinta Formation focused on the definition of rock units and attempted to define a distinction between early and late Uintan faunas (Riggs, 1912; Peterson and Kay, 1931; Kay 1934). More recent work focused on magnetostratigraphy, radioscopic chronology and continental biostratigraphy (Flynn, 1986; Prothero, 1996). Well-known for its fossiliferous nature and distinctive mammalian fauna of mid-Eocene Age, the Uinta Formation is the type formation for the Uintan Land Mammal Age (Wood et al, 1941).

The Duchesne River Formation of the Uinta Basin in northeastern Utah is composed of a succession of fluvial and flood plain deposits composed of mud, silt and sandstone. The source area for these late Eocene deposits is from the Uinta Mountains indicated by paleocurrent data (Anderson and Picard, 1972). In Peterson's (1931c) paper, the name "Duchesne Formation" was applied to the formation and it was later changed to the "Duchesne River Formation" by Kay (1934). The formation is divided up into four members: the Brennan Basin, Dry Gulch Creek, LaPoint and Starr Flat (Anderson and Picard, 1972). Debates concerning the Duchesne River Formation, as to whether its age was late Eocene or early Oligocene, have surfaced throughout the literature of the last century (Wood et al., 1941; Scott 1945). Recent paleo-magnetostratigraphic work (Prothero, 1996) shows that the Duchesne River Formation is late Eocene in time.

## **FIELD METHODS**

In order to determine if the proposed project area contained any paleontological resources, a reconnaissance survey was performed. An on-site observation of the proposed areas undergoing surficial disturbance is necessary because judgments made from topographic maps alone are often unreliable. Areas of low relief have potential to be erosional surfaces with the possibility of bearing fossil materials rather than surfaces covered by unconsolidated sediment or soils.

When found within the proposed construction areas, outcrops and erosional surfaces were checked to determine if fossils were present and to assess needs. Careful effort is made during surveys to identify and evaluate significant fossil materials or fossil horizons when they are found. Microvertebrates, although rare, are occasionally found in anthills or upon erosional surfaces and are of particular importance.

## **PROJECT AREA**

The project area is situated in the Wagonhound Member (Uinta A & B) of the Uinta Formation. The following list provides a description of the individual wells and their associated pipelines and access roads.

### **NBU #922-31J3AS, 31I3CS, 31O1AS & 31I4AS**

The proposed multi well pad is located in the NE/SE quarter-quarter section of Sec. 31 and the NW/SW quarter-quarter section of Sec. 32, T 9 S, R 22 E (Figure 1). The proposed access road and pipeline begin at an existing well pad in the NE/SE quarter-quarter section of Sec. 31 and travel a few hundred feet southwest to the proposed well pad.

The proposed construction site sits in a low area surrounded by hills. Green sandstone outcrops were observed along the proposed access road and pipeline. The proposed well pad consists of sandstone colluvium over green and gray siltstone/mudstone. No fossils were found.

**NBU #1022-4E3, 4E2S, 5I2S & 5H4**

The proposed pipeline upgrade begins in the SW/NW quarter-quarter section of Sec. 4, T 10 S, R 22 E and travels west for about a quarter of a mile to where it ties in to the proposed pipeline in the SE/NE quarter-quarter section of Sec. 5. The proposed pipeline heads southwest from the tie in for about a tenth of a mile then turns northeast and travels a few hundred feet before tying in to the proposed well pad in the SE/NE quarter-quarter section of Sec. 5. The proposed well pad is located in the SE/NE quarter-quarter section of Sec. 5 and the SW/NW quarter-quarter section of Sec. 4 (Figure 2).

The proposed pipeline and road travel through outcrops of green siltstone/mudstone. The lithology of the proposed well pad consists of a thin sandstone colluvium over a massive coarse-grained, sandstone outcrop with large (10-50 cm) dark concretions. A few unidentifiable bone fragments were found along the pipeline and access road but no other fossils were found.

**NBU #1022-7O4AS, 7O4DS, 7N1S & 7N4S**

The proposed multi wells are located on an existing well pad in the SW/SE quarter-quarter section of Sec. 7 and the NW/NE quarter-quarter section of Sec. 18, T 10 S, R 22 E (Figure 2). The proposed pipeline ties in to the well pad on its northeast corner in the SW/SE quarter-quarter section of Sec. 7 and heads southwest for about a mile and a half to where it ties in to an existing pipeline in the SE/SW quarter-quarter section of Sec. 17.

The proposed well pad is staked on an existing well pad and over previously disturbed sediments with some outcrops of yellow and green, medium-grained sandstone and maroon and purple mudstone/ siltstone. The proposed pipeline parallels an existing road for a majority of the way. The pipeline passes through hills and slopes over soil and tan to green siltstones and sandstones. As it continues southeast, the pipeline route traverses a thick layer of brown to tan, fluvial sandstone and coarse-grained, yellow sandstone with desert varnished concretions. Farther southeast the route is covered in a thin colluvium overlying purple, green, and gray sandstones, siltstones, and mudstones.

A possible fragmented crocodylian (limb bone?) along with scattered turtle fragments (*Echmatemys* sp. and *Apalone* sp.) were found in a red siltstone/mudstone on the slope of a prominent rise in the NE/SW quarter-quarter section of Sec. 17, T 10 S, R 22 E (Figure 2). The area where these fossils were found in was previously referred to vertebrate fossils locality "42Un1876V" (Sandau, 2005).

A few small crocodylian jaw fragments and turtle shell fragments (*Echmatemys* sp.) were found in a small knoll of gray-green mudstone/siltstone overlain by weathered tan sandstone fragments just east of the proposed pipeline corridor in the SW/NW quarter-quarter section of Sec. 17, T 10 S, R 22 E (Figure 2). Across the road in the same area, ichnofossils of burrowing mud-loving beetles (*Planolites*) were observed in the upturned boulders excavated during the construction of the existing road. The area where these fossils were discovered is designated as the new vertebrate fossils locality "42Un2527V"

Finally, a 75% complete turtle carapace and plastron (*Echmatemys?*) was discovered during the survey on the northwest end of the well pad preserved on the end of a rat-hole drilling core composed of green siltstone and medium-grained sandstone. The area where these fossils were discovered is designated as the new vertebrate fossils locality "42Un2528V"

**SURVEY RESULTS**

<b>PROJECT</b>	<b>GEOLOGY</b>	<b>PALEONTOLOGY</b>
<p>"NBU #922-31J3AS, 31I3CS, 31O1AS &amp; 31I4AS" (Sec. 31 &amp; 32, T 9 S, R 22 E)</p>	<p>The proposed construction site sits in a low area surrounded by hills. A green sandstone outcrops along the proposed access road and pipeline. The proposed well pad consists of sandstone colluvium over green and gray siltstone/mudstone.</p>	<p>No fossils were found. <b>Class 3a</b></p>
<p>"NBU #1022-4E3, 4E2S, 5I2S &amp; 5H4" (Sec. 4 &amp; 5, T 10 S, R 22 E)</p>	<p>The proposed pipeline and road travel through outcrops of green siltstone/mudstone. The lithology of the proposed well pad consists of a thin sandstone colluvium over a massive coarse-grained, sandstone outcrop with large (10-50 cm) dark concretions. A few bone fragments were found along the pipeline and access road but no other fossils were found.</p>	<p>A few unidentifiable bone fragments were found along the pipeline and access road but no other fossils were found. <b>Class 3a</b></p>

<p><b>“NBU #470, #1022-7O4AS, 7O4DS, 7N1S &amp; 7N4S”</b> (Sec. 7, 17 &amp; 18, T 10 S, R 22 E)</p>	<p>The proposed staked well pad is over previously disturbed sediments with some outcrops of yellow and green, medium-grained sandstone and maroon and purple mudstone/ siltstone. For the most part the proposed pipeline parallels an existing road. The pipeline passes through some hills and slopes over soil and some tan to green siltstones and sandstones. As it continues southeast the pipeline route traverses a thick layer of brown to tan, fluvial sandstone and coarse-grained, yellow sandstone with desert varnished concretions. Farther southeast the route is covered in a thin colluvium overlying purple, green, and gray sandstones, siltstones, and mudstones.</p>	<p><b>A possible fragmented crocodilian (limb bone?) along with scattered turtle fragments (<i>Echmatemys</i> sp. and <i>Apalone</i> sp.) were found in a red siltstone/mudstone on the slope of a prominent rise in the NE/SW quarter-quarter section of Sec. 17, T 10 S, R 22 E (Figure 2). The area where these fossils were found in was previously referred to vertebrate fossils locality “42Un1876V” (Sandau, 2005).</b></p> <p><b>A few small crocodilian jaw fragments and turtle shell fragments (<i>Echmatemys</i> sp.) were found in a small knoll of gray-green mudstone/siltstone overlain by weathered tan sandstone fragments just east of the proposed pipeline corridor in the SW/NW quarter-quarter section of Sec. 17, T 10 S, R 22 E (Figure 2). Across the road in the same area, ichnofossils of burrowing mud-loving beetles (<i>Planolites</i>) were observed in the upturned boulders excavated during the construction of the existing road. The area where these fossils were discovered is designated as the new vertebrate fossils locality “42Un2527V”</b></p> <p><b>Finally, a 75% complete turtle carapace and plastron (<i>Echmatemys</i>?) was discovered during the survey on the northwest end of the well pad preserved on the end of a rat-hole drilling core composed of green siltstone and medium-grained sandstone. The area where these fossils were discovered is designated as the new vertebrate fossils locality “42Un2528V”</b>  <b>Class 5a</b></p>
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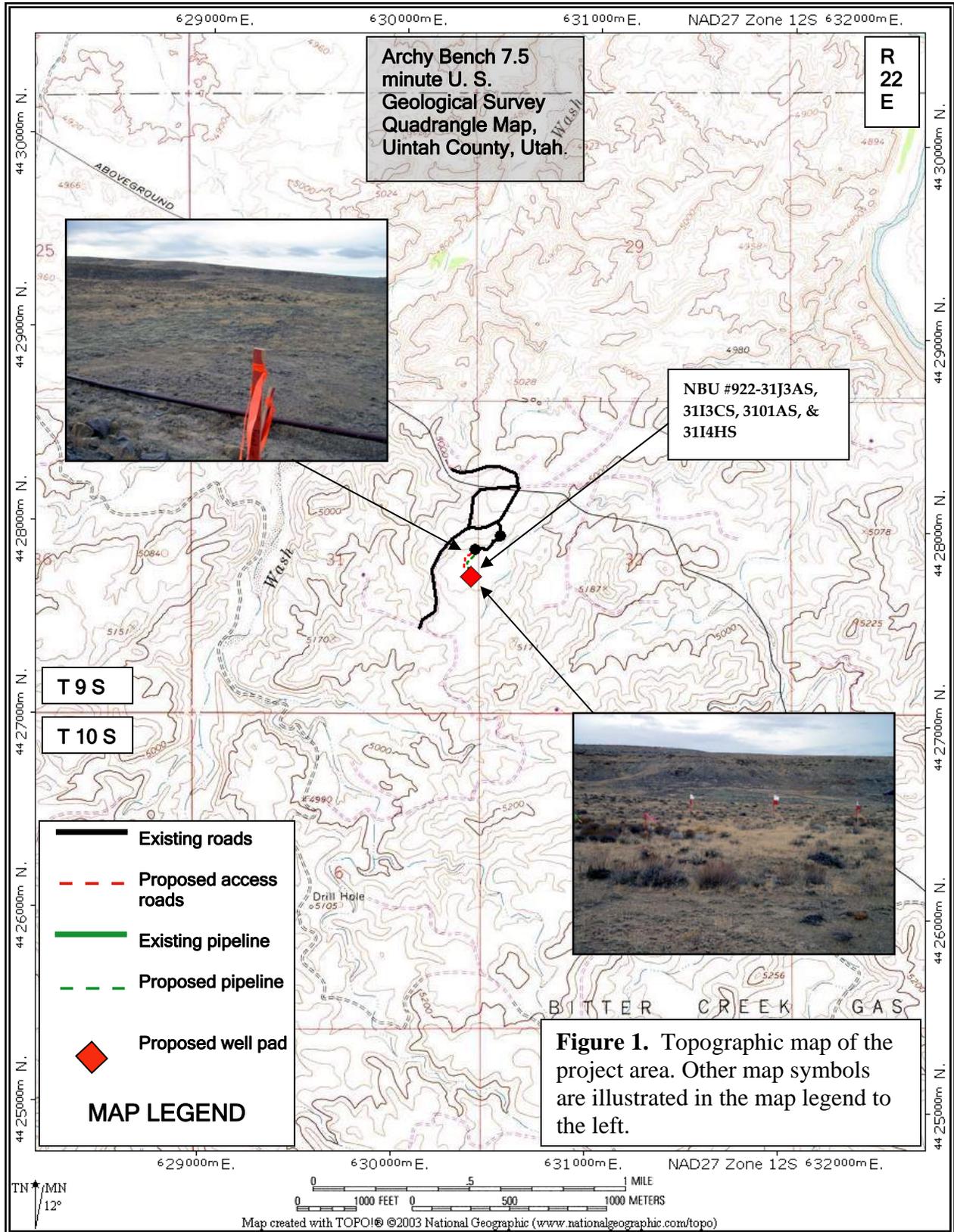
## RECOMMENDATIONS

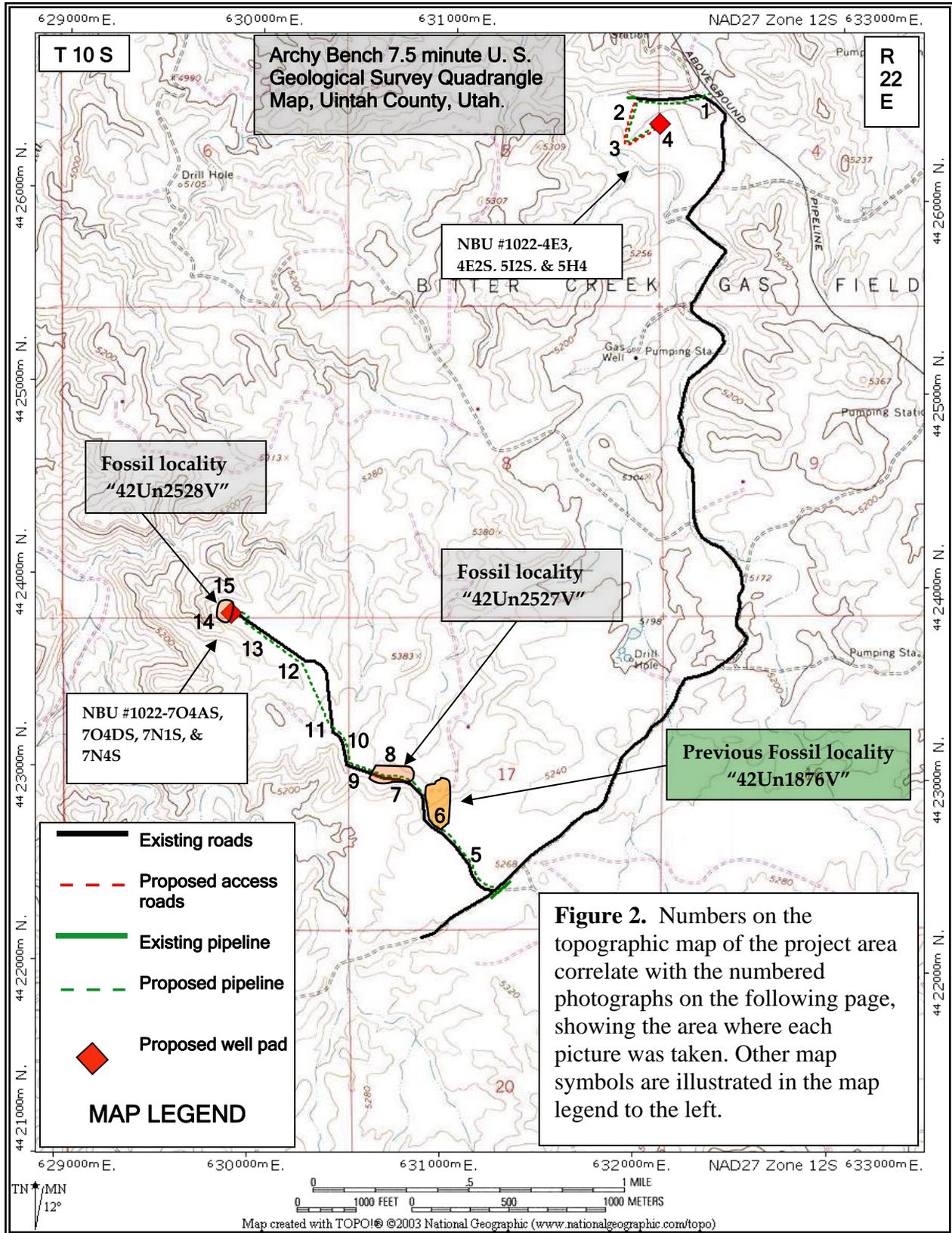
A reconnaissance survey was conducted for Kerr McGee's proposed directional & multi-well pads, access roads & pipelines for "NBU #922-31J3AS, 31I3CS, 31O1AS & 31I4AS" (Sec. 31 & 32, T 9 S, R 22 E), "NBU #1022-4E3, 4E2S, 5I2S & 5H4" and "NBU #1022-7O4AS, 7O4DS, 7N1S & 7N4S" (Sec. 4, 5, 7, 17 & 18, T 10 S, R 22 E). The directional and multi-well pads and the associated access roads and pipelines covered in this report showed some signs of vertebrate fossils, therefore, we advise the following recommendations.

**Due to the amount of exposed fossiliferous Wagonhound Member of the Uinta Formation and the occurrence of vertebrate along the proposed pipeline corridor and on the well pad for "#1022-7O4AS, 7O4DS, 7N1S & 7N4S" (Sec. 4, 5, 7, 17 & 18, T 10 S, R 22 E), we recommend that a permitted paleontologist be present to monitor the construction process.**

**Furthermore, we recommend that no other paleontological restrictions should be placed on the development of the remaining projects included in this report.**

Nevertheless, if any vertebrate fossil(s) are found during construction within the project area, Operator (Lease Holder) will report all occurrences of paleontological resources discovered to a geologist with the Vernal Field Office of the BLM and the Office of the State Paleontologist. The operator is responsible for informing all persons in the areas who are associated with this project of the requirements for protecting paleontological resources. Paleontological resources found on the public lands are recognized by the BLM and State as constituting a fragile and nonrenewable scientific record of the history of life on earth, and so represent an important and critical component of America's natural heritage. These resources are afforded protection under 43 CFR 3802 and 3809, and penalties possible for the collection of vertebrate fossils are under 43 CFR 8365.1-5.





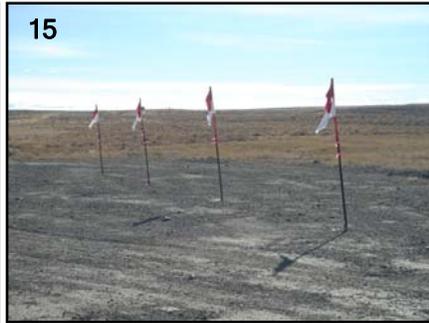
**Figure 2.** *continued...*



Figure 2. continued...



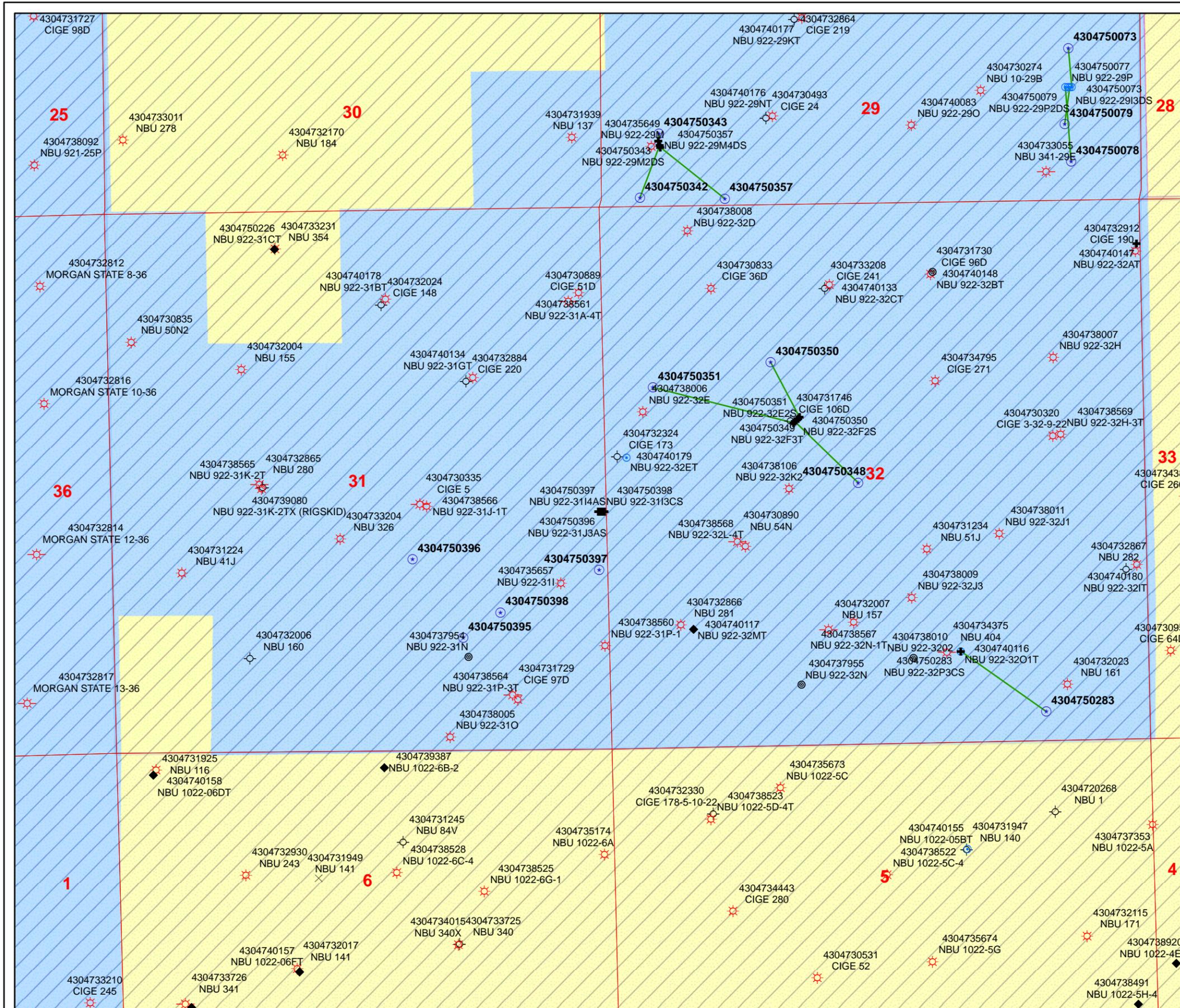
Figure 2. continued...



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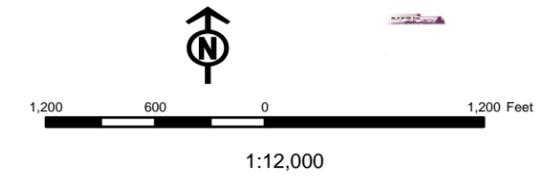
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**API Number: 4304750398**  
**Well Name: NBU 922-3113CS**  
**Township 09.0 S Range 22.0 E Section 31**  
**Meridian: SLBM**  
 Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:  
 Map Produced by Diana Mason

<b>Units</b>	<b>Wells Query Events</b>
<b>STATUS</b>	✖ <all other values>
ACTIVE	<b>GIS_STAT_TYPE</b>
EXPLORATORY	◆ <Null>
GAS STORAGE	◆ APD
NF PP OIL	◆ DRL
NF SECONDARY	◆ GI
PI OIL	◆ GS
PP GAS	◆ LA
PP GEOTHERML	◆ NEW
PP OIL	◆ OPS
SECONDARY	◆ PA
TERMINATED	◆ PGW
<b>Fields</b>	◆ POW
STATUS	◆ RET
ACTIVE	◆ SGW
COMBINED	◆ SOW
Sections	◆ TA
	◆ TW
	◆ WD
	◆ WI
	◆ WS



APIWellNo:43047503980000

# 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)**

May 8, 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)		
43-047-50383	NBU 921-25M3DS	Sec 25 T09S R21E 1855 FSL 0231 FWL
	BHL	Sec 25 T09S R21E 0244 FSL 0587 FWL
43-047-50384	NBU 921-25M2DS	Sec 25 T09S R21E 1860 FSL 0251 FWL
	BHL	Sec 25 T09S R21E 0740 FSL 0623 FWL
43-047-50385	NBU 921-25M2AS	Sec 25 T09S R21E 1865 FSL 0270 FWL
	BHL	Sec 25 T09S R21E 1245 FSL 0643 FWL
43-047-50386	NBU 921-25L4BS	Sec 25 T09S R21E 1870 FSL 0290 FWL
	BHL	Sec 25 T09S R21E 1733 FSL 0677 FWL
43-047-50387	NBU 1022-14F4S	Sec 14 T10S R22E 1435 FNL 1470 FWL
	BHL	Sec 14 T10S R22E 2035 FNL 2255 FWL
43-047-50388	NBU 1022-14F2T	Sec 14 T10S R22E 1407 FNL 1417 FWL
43-047-50389	NBU 1022-14D3S	Sec 14 T10S R22E 1397 FNL 1400 FWL
	BHL	Sec 14 T10S R22E 0900 FNL 0410 FWL
43-047-50390	NBU 1022-14C4S	Sec 14 T10S R22E 1426 FNL 1453 FWL
	BHL	Sec 14 T10S R22E 1290 FNL 1975 FWL

43-047-50391 NBU 922-36H2DS Sec 36 T09S R22E 1846 FNL 1491 FEL  
 BHL Sec 36 T09S R22E 1720 FNL 0795 FEL

43-047-50392 NBU 922-36H2AS Sec 36 T09S R22E 1829 FNL 1501 FEL  
 BHL Sec 36 T09S R22E 1360 FNL 0700 FEL

43-047-50393 NBU 922-36G1T Sec 36 T09S R22E 1812 FNL 1512 FEL

43-047-50394 NBU 922-36A4BS Sec 36 T09S R22E 1795 FNL 1522 FEL  
 BHL Sec 36 T09S R22E 0980 FNL 0630 FEL

43-047-50395 NBU 922-31O1AS Sec 31 T09S R22E 2314 FSL 0128 FEL  
 BHL Sec 31 T09S R22E 1098 FSL 1494 FEL

43-047-50396 NBU 922-31J3AS Sec 31 T09S R22E 2313 FSL 0148 FEL  
 BHL Sec 31 T09S R22E 1871 FSL 1973 FEL

43-047-50397 NBU 922-31I4AS Sec 31 T09S R22E 2315 FSL 0088 FEL  
 BHL Sec 31 T09S R22E 1743 FSL 0153 FEL

43-047-50398 NBU 922-31I3CS Sec 31 T09S R22E 2314 FSL 0108 FEL  
 BHL Sec 31 T09S R22E 1341 FSL 1125 FEL

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:5-8-09



## Kerr-McGee Oil & Gas Onshore LP

1099 18th Street, Suite 1800  
Denver, CO 80202-1918  
P.O. Box 173779  
Denver, CO 80217-3779  
720-929-6000

May 20, 2009

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

Re: Directional Drilling R649-3-11  
NBU 922-3113CS  
T9S-R22E  
Section 31: NESE/NESE  
Surface: 2314' FSL, 108' FEL  
Bottom Hole: 1341' FSL, 1125' FEL  
Uintah County, Utah

Dear Mrs. Mason:

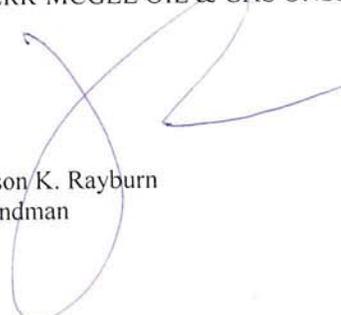
Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

- Kerr-McGee's NBU 922-3113CS 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 be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP



Jason K. Rayburn  
Landman

**From:** Jim Davis  
**To:** Bonner, Ed; Mason, Diana  
**Date:** 6/1/2009 2:12 PM  
**Subject:** Kerr McGee Approvals (16)

**CC:** Garrison, LaVonne  
The following wells have been approved by SITLA including arch and paleo clearance.

- NBU 922-36A4BS (4304750394)
- NBU 922-36G1T (4304750393)
- NBU 922-36H2AS (4304750392)
- NBU 922-36H2DS (4304750391)

- NBU 921-25M3DS (4304750383)
- NBU 921-25M2DS (4304750384)
- NBU 921-25M2AS (4304750385)
- NBU 921-25L4BS (4304750386)

- NBU 922-31O1AS (4304750395)
- NBU 922-31J3AS (4304750396)
- NBU 922-31I3CS (4304750398)
- NBU 922-31I4AS (4304750397)

- NBU 1022-19P1AS (4304750418)
- NBU 1022-20M4CS (4304750422)
- NBU 1022-20M1DS (4304750421)
- NBU 1022-20M4DS (4304750423)

-Jim

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

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 922-3113CS 4304750398		
String	Surf	Prod	
Casing Size(")	9.625	4.500	
Setting Depth (TVD)	2300	9300	
Previous Shoe Setting Depth (TVD)	20	2300	
Max Mud Weight (ppg)	8.4	11.7	
BOPE Proposed (psi)	500	5000	
Casing Internal Yield (psi)	3520	7780	
Operators Max Anticipated Pressure (psi)	5747	11.9	

Calculations	Surf String	9.625	"
Max BPH (psi)	$.052 * \text{Setting Depth} * \text{MW} =$	1005	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	$\text{Max BHP} - (0.12 * \text{Setting Depth}) =$	729	NO
MASP (Gas/Mud) (psi)	$\text{Max BHP} - (0.22 * \text{Setting Depth}) =$	499	YES OK
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	$\text{Max BHP} - .22 * (\text{Setting Depth} - \text{Previous Shoe Depth}) =$	503	NO Reasonable depth in area
Required Casing/BOPE Test Pressure=		2300	psi
*Max Pressure Allowed @ Previous Casing Shoe=		20	psi *Assumes 1psi/ft frac gradient

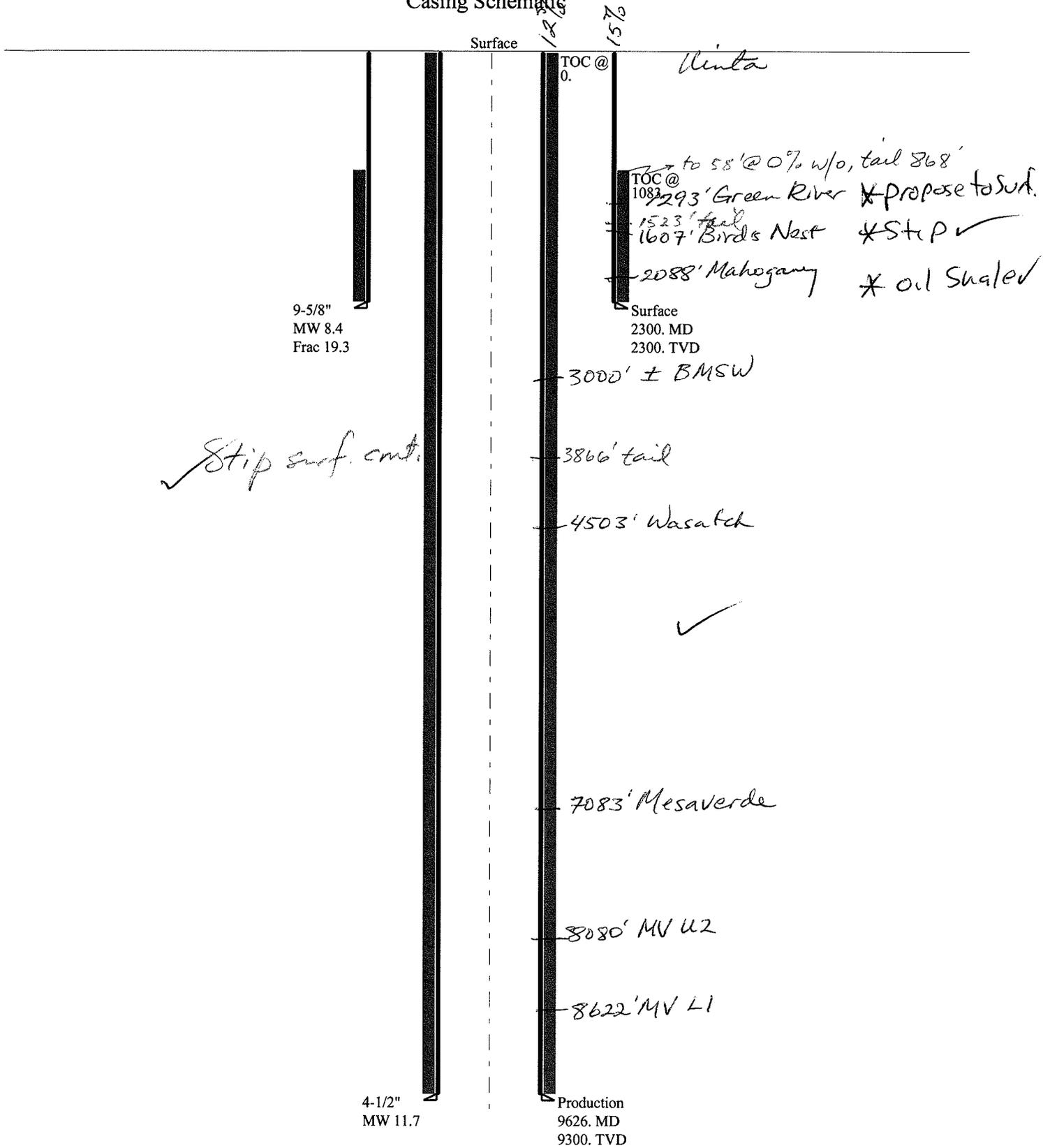
Calculations	Prod String	4.500	"
Max BPH (psi)	$.052 * \text{Setting Depth} * \text{MW} =$	5658	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	$\text{Max BHP} - (0.12 * \text{Setting Depth}) =$	4542	YES
MASP (Gas/Mud) (psi)	$\text{Max BHP} - (0.22 * \text{Setting Depth}) =$	3612	YES OK
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	$\text{Max BHP} - .22 * (\text{Setting Depth} - \text{Previous Shoe Depth}) =$	4118	NO Reasonable, note max allowed pressure
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2300	psi *Assumes 1psi/ft frac gradient

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

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

# 43047503980000 NBU 922-31I3CS

## Casing Schematic



Well name:	<b>43047503980000 NBU 922-3113CS</b>	
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>	
String type:	Surface	Project ID: 43-047-50398
Location:	UINTAH COUNTY	

**Design parameters:**

**Collapse**

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

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 106 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft  
Cement top: 1,083 ft

**Burst**

Max anticipated surface pressure: 728 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 1,004 psi  
  
No backup mud specified.

**Tension:**

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

Tension is based on air weight.  
Neutral point: 2,014 ft

**Directional Info - Build & Hold**

Kick-off point 2200 ft  
Departure at shoe: 3 ft  
Maximum dogleg: 3 °/100ft  
Inclination at shoe: 3 °

**Re subsequent strings:**

Next setting depth: 0 ft  
Next mud weight: 11.700 ppg  
Next setting BHP: 0 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 2,300 ft  
Injection pressure: 2,300 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2300	9.625	36.00	J-55	LT&C	2300	2300	8.796	18807
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	1004	1948	1.941	1004	3520	3.51	82.8	453	5.47 J

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

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

Date: June 15, 2009  
Salt Lake City, Utah

Remarks:  
Collapse is based on a vertical depth of 2300 ft, a mud weight of 8.4 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.  
Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Well name:	<b>43047503980000 NBU 922-3113CS</b>		
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>		
String type:	Production	Project ID:	43-047-50398
Location:	UINTAH COUNTY		

**Design parameters:**

**Collapse**

Mud weight: 11.700 ppg  
 Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
 Surface temperature: 74 °F  
 Bottom hole temperature: 204 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 1,000 ft  
 Cement top: Surface

**Burst**

Max anticipated surface pressure: 3,606 psi  
 Internal gradient: 0.220 psi/ft  
 Calculated BHP 5,652 psi

No backup mud specified.

**Tension:**

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

Tension is based on air weight.  
 Neutral point: 7,999 ft

**Directional Info - Build & Drop**

Kick-off point 2200 ft  
 Departure at shoe: 1406 ft  
 Maximum dogleg: 3 °/100ft  
 Inclination at shoe: 0 °

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	9626	4.5	11.60	I-80	LT&C	9300	9626	3.875	127063
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	5652	6360	1.125	5652	7780	1.38	107.9	212	1.97 J

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

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

Date: June 15, 2009  
 Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 9300 ft, a mud weight of 11.7 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

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

# ON-SITE PREDRILL EVALUATION

## Utah Division of Oil, Gas and Mining

**Operator** KERR-MCGEE OIL & GAS ONSHORE, L.P.  
**Well Name** NBU 922-31I3CS  
**API Number** 43047503980000      **APD No** 1487      **Field/Unit** NATURAL BUTTES  
**Location: 1/4,1/4** NESE      **Sec** 31      **Tw** 9.0S      **Rng** 22.0E      2314      FSL 108      FEL  
**GPS Coord (UTM)**      **Surface Owner**

**Participants**

Floyd Bartlett (DOGM), Jim Davis (SITLA), Raleen White, Griz Oleen, Clay Einerson, Charles Chase and Tony Kzneck (Kerr McGee), Ben Williams (UDWR) and Kolby Kay (Timberline Engineering and Land Surveying).

**Regional/Local Setting & Topography**

The general area is the Natural Buttes Unit in the lower portion of the Sand Wash Drainage of Uintah, County, approximately 34 air miles and 54 road miles south of Vernal, Utah. Access is by State of Utah Highways, Uintah County and existing oilfield development roads to within 0.1 miles of the site where new construction will be required. Topography of the Sand Wash area is characterized by broad open flats dissected by numerous sub-drainages, which often become steep with ridges and draws with exposed sandstone layers. No perennial streams occur in the drainage. Individual draws or washes are ephemeral with spring runoff or flows from sometimes-intense summer rainstorms. No springs exist in the area. An occasional constructed pond occurs furnishing water for antelope or livestock.

Four directional wells will be drilled from the proposed pad. They are the NBU 922-31O1AS; J3AS; I3CS; I4AS. The location is in the south side of a bowl or basin that extends north to a shallow, wide drainage. A portion of the pad will cover existing drainages on the southwest and northwest corners. A diversion ditch will be constructed beginning on the southwest corner of the reserve pit spoils stockpile extending along the west side of the location to the north. The site is surrounded by medium hills, which have exposed sandstone ledges or cliffs. The White River is approximately 3 miles down drainage. A Backflow Pit is included on the Location Layout Sheet. If it is to be constructed Kerr McGee will request it under a separate application.

Both the surface and minerals are owned by SITLA. Jim Davis represented SITLA at the pre-site investigation. Mr. Davis had no concerns pertaining to this location. The selected location appears to be a suitable site for drilling and operating additional wells.

**Surface Use Plan**

**Current Surface Use**

- Grazing
- Recreational
- Wildlfe Habitat

<b>New Road Miles</b>	<b>Well Pad</b>	<b>Src Const Material</b>	<b>Surface Formation</b>
0.1	<b>Width</b> 335 <b>Length</b> 440	Onsite	UNTA

**Ancillary Facilities** N

**Waste Management Plan Adequate?**

**Environmental Parameters**

**Affected Floodplains and/or Wetlands** N

**Flora / Fauna**

Vegetation is a fair desert shrub type, which includes curly mesquite grass, prickly pear, black sage brush, bud sage, horsebrush, cheatgrass, shadscale, halogeton and spring annuals.

Antelope, sheep during the winter, rabbits, coyotes, and small mammals, birds and raptors.

**Soil Type and Characteristics**

Deep sandy loam.

**Erosion Issues** N

**Sedimentation Issues** Y

A portion of the pad will cover existing drainages on the southwest and northwest corners

**Site Stability Issues** N

**Drainage Diversion Required?** Y

A diversion ditch will be constructed beginning on the southwest corner of the reserve pit spoils stockpile extending along the west side of the location to the north.

**Berm Required?** N

**Erosion Sedimentation Control Required?** N

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

**Reserve Pit**

<b>Site-Specific Factors</b>	<b>Site Ranking</b>	
<b>Distance to Groundwater (feet)</b>	>200	0
<b>Distance to Surface Water (feet)</b>	>1000	0
<b>Dist. Nearest Municipal Well (ft)</b>	>5280	0
<b>Distance to Other Wells (feet)</b>	300 to 1320	10
<b>Native Soil Type</b>	Mod permeability	10
<b>Fluid Type</b>	Fresh Water	5
<b>Drill Cuttings</b>	Normal Rock	0
<b>Annual Precipitation (inches)</b>		0
<b>Affected Populations</b>		
<b>Presence Nearby Utility Conduits</b>	Not Present	0
	<b>Final Score</b>	25      1 Sensitivity Level

**Characteristics / Requirements**

The proposed reserve pit is 100' x 250' x 12' deep located in a cut on the southeast corner of the location. Kerr McGee plans a 30-mil liner with a double felt sub-liner. A Backflow Pit is included on the Location Layout Sheet. If it is to be constructed Kerr McGee will request it under a separate application.

**Closed Loop Mud Required?** N    **Liner Required?** Y    **Liner Thickness** 30    **Pit Underlayment Required?** Y

**Other Observations / Comments**

Floyd Bartlett  
**Evaluator**

5/20/2009  
**Date / Time**

# Application for Permit to Drill Statement of Basis

6/25/2009

**Utah Division of Oil, Gas and Mining**

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<b>APD No</b>	<b>API WellNo</b>	<b>Status</b>	<b>Well Type</b>	<b>Surf Owner</b>	<b>CBM</b>
1487	43047503980000	LOCKED	GW	S	No
<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>Surface Owner-APD</b>		
<b>Well Name</b>	NBU 922-31I3CS		<b>Unit</b>	NATURAL BUTTES	
<b>Field</b>	NATURAL BUTTES		<b>Type of Work</b>	DRILL	
<b>Location</b>	NESE 31 9S 22E S 2314 FSL 108 FEL		<b>GPS Coord (UTM)</b>	630377E 4427736N	

**Geologic Statement of Basis**

Kerr McGee proposes to set 2,300' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 3,000'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of section 31. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought to above the base of the moderately saline groundwater in order to isolate it from fresher waters uphole.

Brad Hill  
**APD Evaluator**

6/3/2009  
**Date / Time**

**Surface Statement of Basis**

The general area is the Natural Buttes Unit in the lower portion of the Sand Wash Drainage of Uintah, County, approximately 34 air miles and 54 road miles south of Vernal, Utah. Access is by State of Utah Highways, Uintah County and existing oilfield development roads to within 0.1 miles of the site where new construction will be required. Topography of the Sand Wash area is characterized by broad open flats dissected by numerous sub-drainages, which often become steep with ridges and draws with exposed sandstone layers. No perennial streams occur in the drainage. Individual draws or washes are ephemeral with spring runoff or flows from sometimes-intense summer rainstorms. No springs exist in the area. An occasional constructed pond occurs furnishing water for antelope or livestock.

Four directional wells will be drilled from the proposed pad. They are the NBU 922-31O1AS; J3AS; I3CS; I4AS. The location is in the south side of a bowl or basin that extends north to a shallow, wide drainage. A portion of the pad will cover existing drainages on the southwest and northwest corners. A diversion ditch will be constructed beginning on the southwest corner of the reserve pit spoils stockpile extending along the west side of the location to the north. The site is surrounded by medium hills, which have exposed sandstone ledges or cliffs. The White River is approximately 3 miles down drainage. A Backflow Pit is included on the Location Layout Sheet. If it is to be constructed Kerr McGee will request it under a separate application.

Both the surface and minerals are owned by SITLA. Jim Davis represented SITLA at the pre-site investigation. Mr. Davis had no concerns pertaining to this location. The selected location appears to be a suitable site for drilling and operating additional wells.

Ben Williams of the Utah Division of Wildlife Resources also attended the pre-site. Mr. Williams stated no wildlife values would be significantly affected by drilling and operating the wells at this location.

Floyd Bartlett  
**Onsite Evaluator**

5/20/2009  
**Date / Time**

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# Application for Permit to Drill Statement of Basis

6/25/2009

Utah Division of Oil, Gas and Mining

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<b>Category</b>	<b>Condition</b>
Pits	A synthetic liner with a minimum thickness of 30 mils with a felt subliner shall be properly installed and maintained in the reserve pit.
Surface	Drainages adjacent to the proposed pad shall be diverted around the location.
Surface	The reserve pit shall be fenced upon completion of drilling operations.

**WORKSHEET  
APPLICATION FOR PERMIT TO DRILL**

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**APD RECEIVED:** 5/3/2009

**API NO. ASSIGNED:** 43047503980000

**WELL NAME:** NBU 922-31I3CS

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

**PHONE NUMBER:** 720 929-6007

**CONTACT:** Kathy Schneebeck-Dulnoan

**PROPOSED LOCATION:** NESE 31 090S 220E

**Permit Tech Review:**

**SURFACE:** 2314 FSL 0108 FEL

**Engineering Review:**

**BOTTOM:** 1341 FSL 1125 FEL

**Geology Review:**

**COUNTY:** UINTAH

**LATITUDE:** 39.99164

**LONGITUDE:** -109.47287

**UTM SURF EASTINGS:** 630377.00

**NORTHINGS:** 4427736.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 3 - State

**LEASE NUMBER:** UO 1530A

**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

**SURFACE OWNER:** 3 - State

**COALBED METHANE:** NO

---

**RECEIVED AND/OR REVIEWED:**

- PLAT
- Bond: STATE/FEE - 22013542
- Potash
- Oil Shale 190-5
- Oil Shale 190-3
- Oil Shale 190-13
- Water Permit: 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:**  
3 - Commingle - ddoucet  
5 - Statement of Basis - bhill  
15 - Directional - dmason  
17 - Oil Shale 190-5(b) - dmason  
25 - Surface Casing - hmacdonald



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 922-3113CS  
**API Well Number:** 43047503980000  
**Lease Number:** UO 1530A  
**Surface Owner:** STATE  
**Approval Date:** 7/8/2009

**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

**Commingling:**

In accordance with Board Cause No. 173-14, completion into and commingling of production from the Wasatch and Mesaverde formations 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:**

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.

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

Surface casing shall be cemented to the surface.

**Additional Approvals:**

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

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

**Notification Requirements:**

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

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

**Contact Information:**

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

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office  
801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office  
801-942-0871 - after office hours

**Reporting Requirements:**

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

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

**Approved By:**



Gil Hunt  
Associate Director, Oil & Gas

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>  <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UO 1530A
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<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  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.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  <b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
--	--

<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 922-3113CS
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<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047503980000
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<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6007 Ext	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
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<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 2318 FSL 0138 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 31 Township: 09.0S Range: 22.0E Meridian: S	<b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH
---	---

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input checked="" type="checkbox"/> <b>SPUD REPORT</b> Date of Spud: 8/14/2009	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: _____

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 LOCATION ON 08/14/2009 AT 09:00 HRS.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 August 17, 2009

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 8/17/2009

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>  <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UO 1530A
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  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.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  <b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 922-3113CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047503980000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6007 Ext
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2318 FSL 0138 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 31 Township: 09.0S Range: 22.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES  <b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> 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"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 8/19/2009	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: _____

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

MIRU PROPETRO AIR RIG ON 08/18/2009. DRILLED 12 1/4" SURFACE HOLE TO 2310'. RAN 9 5/8" 36# J-55 SURFACE CSG. PMP 350 SX PREM LITE II @15.8 PPG 1.15 YIELD. DROP PLUG ON FLY DISPLACE W/173 BBLs OF H2O 200 PSI OF LIFT BUMP PLUG 700 PSI FLOAT HELD. PMP 100 SX (20.4 BBLs) PREM CLASS G @15.8 PPG 1.15 YIELD. CMT DOWN BACKSIDE NO CMT TO SURFACE PMP 100 SX PREM CLASS G @15.8 PPG 1.15 YIELD. NO CMT TO SURFACE. WORT.

Accepted by the  
 Utah Division of  
 Oil, Gas and Mining  
 FOR RECORD ONLY  
 August 24, 2009

<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 8/21/2009	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>  <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UO 1530A
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  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.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  <b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 922-3113CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047503980000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6007 Ext
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2318 FSL 0138 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 31 Township: 09.0S Range: 22.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES  <b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> 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"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 10/27/2009	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: _____

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

FINISHED DRILLING FROM 2310' TO 9565' ON 10/26/2009. RAN 4-1/2" 11.6# I-80 PRODUCTION CSG. PUMP 40 BBLS H2O. LEAD CMT W/581 SX CLASS G PREM LITE @ 12.4 PPG, 2.03 YIELD. TAILED CMT W/1297 SX CLASS G 50/50 POZ MIX @ 14.3 PPG, 1.31 YIELD. DROP PLUG & DISPLACE W/1400 BBLS H2O + ADDITIVES, GOOD RETURNS TO 107 BBLS DISPLACEMENT. RETURNS DROPPED BY 70%, REDUCED PUMP RATE TO 3.2 BBLS/MIN W/PARTIAL RETURNS, COMPLETE LOSS OF RETURNS @ 137 BBLS INTO DISPLACEMENT. RETURNED 5 BBLS PRE-FLUSH TO RESERVE PIT & NO CMT TO SURFACE. LIFT PRESSURE @ 2500 PSI, BUMP PLUG W/2900 PSI, HOLD 5 MINUTES W/ NO LOSS. PLUG DOWN @ 19:11 HRS. FLOATS HELD W/1.5 BBLS BACK TO INVENTORY. RELEASE H&P 298 RIG ON 10/27/2009 AT 22:00 HRS.

Accepted by the  
 Utah Division of  
 Oil, Gas and Mining  
**FOR RECORD ONLY**  
 November 02, 2009

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 10/29/2009

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>  <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UO 1530A
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  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.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  <b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 922-3113CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047503980000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6007 Ext
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2318 FSL 0138 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 31 Township: 09.0S Range: 22.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES  <b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

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<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> 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"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 2/16/2010	<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"/> <b>PRODUCTION START OR RESUME</b>	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
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	<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: _____

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**  
 THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 2/16/2010 AT 11:00 A.M.

Accepted by the  
 Utah Division of  
 Oil, Gas and Mining  
**FOR RECORD ONLY**  
 February 17, 2010

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 2/17/2010

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

AMENDED REPORT  FORM 8  
(highlight changes)

5. LEASE DESIGNATION AND SERIAL NUMBER:  
**UO-1530A**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT or CA AGREEMENT NAME  
**UTU63047A**

8. WELL NAME and NUMBER:  
**NBU 922-3113CS**

9. API NUMBER:  
**4304750398**

10. FIELD AND POOL, OR WILDCAT  
**NATURAL BUTTES**

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:  
**NESE 31 9S 22E**

12. COUNTY  
**UINTAH**

13. STATE  
**UTAH**

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

1a. TYPE OF WELL: OIL WELL  GAS WELL  DRY  OTHER \_\_\_\_\_

b. TYPE OF WORK: NEW WELL  HORIZ. LATS.  DEEP-EN  RE-ENTRY  DIFF. RESVR.  OTHER \_\_\_\_\_

2. NAME OF OPERATOR:  
**KERR McGEE OIL & GAS ONSHORE LP**

3. ADDRESS OF OPERATOR: P.O. BOX 173779 CITY **DENVER** STATE **CO** ZIP **80217** PHONE NUMBER: **(720) 929-6100**

4. LOCATION OF WELL (FOOTAGES)  
AT SURFACE: **NESE 2318 FSL & 138 FEL**  
AT TOP PRODUCING INTERVAL REPORTED BELOW: **NESE 1352 FSL & 1141 FEL SEC.31-9S-22E**  
AT TOTAL DEPTH: **NESE 1324 FSL & 1117 FEL SEC.31-9S-22E**

14. DATE SPURRED: **8/14/2009** 15. DATE T.D. REACHED: **10/26/2009** 16. DATE COMPLETED: **2/16/2010** ABANDONED  READY TO PRODUCE

17. ELEVATIONS (DF, RKB, RT, GL):  
**5034' GL**

18. TOTAL DEPTH: MD **9,565** TVD **9,306** 19. PLUG BACK T.D.: MD **9,520** TVD **9,261** 20. IF MULTIPLE COMPLETIONS, HOW MANY? \*

21. DEPTH BRIDGE MD PLUG SET: TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)  
**BHV-SDL/DSN/ACTR**

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

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

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#		40		28			
12 1/4"	9 5/8 J-55	36#		2,306		550			
7 7/8"	4 1/2 I-80	11.6#		9,563		1878		764	

**25. TUBING RECORD**

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	7,219							

**26. PRODUCING INTERVALS**

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A) MESAVERDE	7,416	9,510			7,416 9,510	0.36	180	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(B)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

**27. PERFORATION RECORD**

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

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
7416-9510	PMP 9,728 BBLs SLICK H2O & 364,575 LBS 30/50 SD.

29. ENCLOSED ATTACHMENTS:  
 ELECTRICAL/MECHANICAL LOGS  
 SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION  
 GEOLOGIC REPORT  
 CORE ANALYSIS  
 DST REPORT  
 OTHER: \_\_\_\_\_  
 DIRECTIONAL SURVEY

30. WELL STATUS:  
**PROD**

**RECEIVED**  
**MAR 23 2010**

31. INITIAL PRODUCTION

INTERVAL A (As shown in item #26)

DATE FIRST PRODUCED: 2/16/2010		TEST DATE: 2/21/2010		HOURS TESTED: 24		TEST PRODUCTION RATES: →		OIL - BBL: 2	GAS - MCF: 1,798	WATER - BBL: 600	PROD. METHOD: FLOWING
CHOKE SIZE: 20/64	TBG. PRESS. 1,505	CSG. PRESS. 2,124	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL - BBL: 2	GAS - MCF: 1,798	WATER - BBL: 600	INTERVAL STATUS: PROD	

INTERVAL B (As shown in item #26)

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

INTERVAL C (As shown in item #26)

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

INTERVAL D (As shown in item #26)

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

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

**SOLD**

33. SUMMARY OF POROUS ZONES (Include Aquifers):

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

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
GREEN RIVER	1,307				
MAHOGANY	2,114				
WASATCH	4,721	7,337			
MESAVERDE	7,337	9,565			

35. ADDITIONAL REMARKS (Include plugging procedure)

ATTACHED TO THIS COMPLETION REPORT IS THE CHRONOLOGICAL WELL HISTORY AND FINAL SURVEY.

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

NAME (PLEASE PRINT) ANDY LYTLE

TITLE REGULATORY ANALYST

SIGNATURE 

DATE 3/18/2010

This report must be submitted within 30 days of

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

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

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

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

Phone: 801-538-5340

Fax: 801-359-3940

# 1 General

## 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

## 1.2 Well Information

Well	NBU 922-3113CS (GREEN)	Wellbore No.	OH
Well Name	NBU 922-3113CS	Common Name	NBU 922-3113CS
Project	UTAH-UINTAH	Site	NBU 922-311 PAD
Vertical Section Azimuth	225.34 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	8/18/2009	UWI	NE/SE/0/9/S/22/E/31/0/0/26/PM/S/2,318.00/E/0/138.00/0/0
Active Datum	RKB @5,060.00ft (above Mean Sea Level)		

# 2 Survey Name

## 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	WEATHERFORD
Started	8/18/2009	Ended	
Tool Name	MWD	Engineer	Anadarko

### 2.1.1 Tie On Point

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)
22.00	0.00	0.00	22.00	0.00	0.00

### 2.1.2 Survey Stations

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
8/18/2009	Tie On	22.00	0.00	0.00	22.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/18/2009	NORMAL	157.00	0.25	217.51	157.00	-0.23	-0.18	0.29	0.19	0.19	0.00	217.51
	NORMAL	247.00	0.42	125.10	247.00	-0.58	-0.03	0.43	0.55	0.19	-102.68	-122.53
	NORMAL	337.00	0.09	312.47	337.00	-0.72	0.19	0.37	0.57	-0.37	-191.81	-178.70
	NORMAL	427.00	0.19	209.08	427.00	-0.80	0.06	0.52	0.25	0.11	-114.88	-125.94
	NORMAL	517.00	0.25	305.71	517.00	-0.82	-0.17	0.70	0.37	0.07	107.37	131.39
	NORMAL	607.00	0.13	51.83	607.00	-0.64	-0.25	0.63	0.35	-0.13	117.91	156.42
	NORMAL	697.00	0.31	19.96	697.00	-0.35	-0.08	0.31	0.23	0.20	-35.41	-50.85
	NORMAL	787.00	0.38	303.21	787.00	0.04	-0.25	0.15	0.48	0.08	-85.28	-121.07
	NORMAL	877.00	0.50	356.96	876.99	0.60	-0.52	-0.05	0.46	0.13	59.72	101.81
	NORMAL	967.00	0.44	276.83	966.99	1.03	-0.88	-0.10	0.67	-0.07	-89.03	-134.40
	NORMAL	1,057.00	0.19	8.08	1,056.99	1.22	-1.21	0.00	0.54	-0.28	101.39	156.84
	NORMAL	1,147.00	0.69	332.08	1,146.99	1.85	-1.44	-0.27	0.61	0.56	-40.00	-47.76
	NORMAL	1,237.00	0.50	314.20	1,236.98	2.60	-1.97	-0.42	0.29	-0.21	-19.87	-144.37
	NORMAL	1,327.00	1.44	263.21	1,326.97	2.74	-3.38	0.48	1.32	1.04	-56.66	-70.03
	NORMAL	1,417.00	1.06	246.33	1,416.95	2.27	-5.26	2.15	0.58	-0.42	-18.76	-144.13
	NORMAL	1,507.00	0.63	163.96	1,506.94	1.46	-5.89	3.16	1.29	-0.48	-91.52	-147.40
	NORMAL	1,597.00	1.50	135.96	1,596.92	0.14	-4.93	3.41	1.10	0.97	-31.11	-45.40
	NORMAL	1,687.00	0.38	112.21	1,686.91	-0.82	-3.84	3.31	1.29	-1.24	-26.39	-172.43
	NORMAL	1,777.00	0.25	102.46	1,776.91	-0.98	-3.37	3.08	0.16	-0.14	-10.83	-162.42

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
8/18/2009	NORMAL	1,867.00	0.25	68.96	1,866.91	-0.95	-3.00	2.80	0.16	0.00	-37.22	-106.75
8/19/2009	NORMAL	1,957.00	0.19	82.08	1,956.91	-0.86	-2.67	2.50	0.09	-0.07	14.58	146.42
	NORMAL	2,137.00	0.56	145.58	2,136.91	-1.77	-2.44	2.98	0.48	0.20	-56.67	-93.63
	NORMAL	2,227.00	0.69	195.33	2,226.90	-2.66	-2.33	3.53	0.60	0.14	55.28	102.23
	NORMAL	2,277.00	0.56	202.33	2,276.90	-3.17	-2.51	4.01	0.30	-0.26	14.00	153.04
8/19/2009	NORMAL	2,047.00	0.38	196.58	2,046.91	-1.12	-2.60	2.64	0.54	0.21	127.22	135.15

2.2 Survey Name: Survey #2

Survey Name	Survey #2	Company	WEATHERFORD
Started	10/21/2009	Ended	
Tool Name	MWD	Engineer	Anadarko

2.2.1 Tie On Point

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)
2,277.00	0.56	202.33	2,277.00	-3.21	-2.54

2.2.2 Survey Stations

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)	
10/21/2009	Tie On	2,277.00	0.56	202.33	2,277.00	-3.21	-2.54	4.06	0.00	0.00	0.00	0.00	
10/21/2009	NORMAL	2,381.00	0.92	194.72	2,380.99	-4.49	-2.95	5.25	0.36	0.35	-7.32	-19.10	
	NORMAL	2,476.00	2.41	209.70	2,475.95	-6.96	-4.13	7.83	1.62	1.57	15.77	23.86	
	NORMAL	2,571.00	5.53	226.50	2,570.71	-11.85	-8.44	14.33	3.47	3.28	17.68	28.97	
	NORMAL	2,665.00	7.88	224.46	2,664.06	-19.57	-16.24	25.30	2.51	2.50	-2.17	-6.80	
	NORMAL	2,760.00	10.69	229.96	2,757.81	-29.88	-27.55	40.60	3.10	2.96	5.79	20.26	
	NORMAL	2,855.00	13.50	225.21	2,850.69	-43.37	-42.17	60.48	3.14	2.96	-5.00	-21.84	
	NORMAL	2,950.00	16.19	226.58	2,942.52	-60.29	-59.66	84.81	2.86	2.83	1.44	8.10	
	NORMAL	3,045.00	19.44	222.21	3,032.95	-81.11	-79.91	113.85	3.70	3.42	-4.60	-24.45	
	NORMAL	3,139.00	22.00	224.21	3,120.87	-105.32	-102.70	147.07	2.83	2.72	2.13	16.39	
	NORMAL	3,234.00	24.75	225.46	3,208.06	-132.02	-129.28	184.76	2.94	2.89	1.32	10.80	
	NORMAL	3,329.00	25.06	225.83	3,294.23	-159.99	-157.89	224.76	0.37	0.33	0.39	26.85	
	NORMAL	3,424.00	26.13	223.96	3,379.90	-189.07	-186.84	265.80	1.41	1.13	-1.97	-37.90	
	NORMAL	3,518.00	27.25	225.46	3,463.89	-219.07	-216.55	308.01	1.39	1.19	1.60	31.70	
	NORMAL	3,612.00	26.56	225.83	3,547.71	-248.80	-246.97	350.55	0.76	-0.73	0.39	166.53	
	NORMAL	3,707.00	26.13	226.58	3,632.85	-277.98	-277.39	392.70	0.57	-0.45	0.79	142.59	
	NORMAL	3,802.00	24.94	224.83	3,718.57	-306.57	-306.71	433.65	1.48	-1.25	-1.84	-148.42	
	NORMAL	3,897.00	23.75	221.83	3,805.12	-335.03	-333.59	472.77	1.81	-1.25	-3.16	-135.26	
	10/22/2009	NORMAL	3,992.00	23.88	222.83	3,892.03	-363.39	-359.42	511.08	0.45	0.14	1.05	72.61
		NORMAL	4,086.00	24.75	225.08	3,977.70	-391.23	-386.29	549.76	1.35	0.93	2.39	47.83
NORMAL		4,181.00	24.63	227.58	4,064.01	-418.63	-414.99	589.43	1.11	-0.13	2.63	97.69	
NORMAL		4,276.00	23.06	229.08	4,150.90	-444.17	-443.66	627.78	1.77	-1.65	1.58	159.57	
NORMAL		4,371.00	24.31	230.96	4,237.90	-468.68	-472.91	665.81	1.54	1.32	1.98	32.00	
NORMAL		4,465.00	25.44	231.08	4,323.18	-493.55	-503.65	705.16	1.20	1.20	0.13	2.61	
NORMAL		4,559.00	23.19	229.83	4,408.83	-518.17	-533.50	743.70	2.46	-2.39	-1.33	-167.68	
NORMAL		4,653.00	22.13	226.46	4,495.58	-542.31	-560.48	779.86	1.78	-1.13	-3.59	-130.78	
NORMAL		4,748.00	21.56	223.58	4,583.76	-567.28	-585.49	815.19	1.28	-0.60	-3.03	-119.34	
NORMAL		4,843.00	23.31	225.21	4,671.57	-593.17	-610.86	851.44	1.95	1.84	1.72	20.32	
NORMAL		4,937.00	23.38	228.33	4,757.88	-618.68	-637.99	888.66	1.32	0.07	3.32	88.19	
NORMAL	5,032.00	24.88	230.21	4,844.57	-644.00	-667.43	927.40	1.77	1.58	1.98	27.99		
NORMAL	5,127.00	25.38	229.46	4,930.58	-670.02	-698.26	967.62	0.62	0.53	-0.79	-32.84		
NORMAL	5,222.00	24.13	227.33	5,016.85	-696.42	-728.01	1,007.34	1.62	-1.32	-2.24	-145.45		
NORMAL	5,317.00	23.00	227.46	5,103.93	-722.13	-755.96	1,045.29	1.19	-1.19	0.14	177.43		

2.2.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
10/22/2009	NORMAL	5,412.00	21.75	227.46	5,191.77	-746.58	-782.61	1,081.43	1.32	-1.32	0.00	180.00
	NORMAL	5,506.00	20.69	226.96	5,279.40	-769.69	-807.58	1,115.44	1.14	-1.13	-0.53	-170.54
	NORMAL	5,601.00	19.44	226.46	5,368.63	-792.03	-831.31	1,148.02	1.33	-1.32	-0.53	-172.42
	NORMAL	5,696.00	17.88	227.08	5,458.64	-812.85	-853.45	1,178.40	1.66	-1.64	0.65	173.05
	NORMAL	5,791.00	16.63	227.46	5,549.36	-831.98	-874.14	1,206.57	1.32	-1.32	0.40	175.03
	NORMAL	5,885.00	15.44	225.71	5,639.70	-849.81	-893.01	1,232.52	1.37	-1.27	-1.86	-158.73
	NORMAL	5,980.00	13.75	224.21	5,731.63	-866.73	-909.94	1,256.46	1.82	-1.78	-1.58	-168.12
	NORMAL	6,075.00	12.50	223.21	5,824.15	-882.32	-924.85	1,278.02	1.34	-1.32	-1.05	-170.19
	NORMAL	6,170.00	10.50	223.46	5,917.24	-896.10	-937.84	1,296.95	2.11	-2.11	0.26	178.69
	NORMAL	6,264.00	9.19	221.83	6,009.85	-907.91	-948.74	1,313.00	1.42	-1.39	-1.73	-168.79
	NORMAL	6,359.00	7.00	216.08	6,103.90	-918.24	-957.21	1,326.29	2.45	-2.31	-6.05	-162.54
10/23/2009	NORMAL	6,454.00	5.06	222.83	6,198.37	-925.99	-963.47	1,336.19	2.17	-2.04	7.11	163.26
	NORMAL	6,549.00	4.88	224.08	6,293.01	-931.97	-969.13	1,344.41	0.22	-0.19	1.32	149.59
	NORMAL	6,643.00	4.56	220.46	6,386.69	-937.68	-974.34	1,352.13	0.46	-0.34	-3.85	-138.84
	NORMAL	6,737.00	4.31	213.33	6,480.41	-943.48	-978.70	1,359.31	0.64	-0.27	-7.59	-117.92
	NORMAL	6,832.00	5.00	232.08	6,575.11	-949.01	-983.93	1,366.91	1.75	0.73	19.74	75.15
	NORMAL	6,927.00	4.69	231.21	6,669.77	-953.98	-990.22	1,374.89	0.34	-0.33	-0.92	-167.10
	NORMAL	7,022.00	4.00	230.08	6,764.49	-958.54	-995.79	1,382.05	0.73	-0.73	-1.19	-173.49
	NORMAL	7,117.00	3.13	222.58	6,859.31	-962.58	-1,000.09	1,387.95	1.04	-0.92	-7.89	-155.52
	NORMAL	7,212.00	1.06	217.46	6,954.24	-965.19	-1,002.38	1,391.41	2.19	-2.18	-5.39	-177.39
	NORMAL	7,306.00	0.69	244.46	7,048.23	-966.12	-1,003.42	1,392.80	0.58	-0.39	28.72	144.87
	NORMAL	7,401.00	0.56	199.83	7,143.22	-966.80	-1,004.09	1,393.76	0.52	-0.14	-46.98	-126.53
10/24/2009	NORMAL	7,496.00	0.13	237.33	7,238.22	-967.30	-1,004.34	1,394.29	0.49	-0.45	39.47	170.17
	NORMAL	7,591.00	0.63	107.71	7,333.22	-967.52	-1,003.93	1,394.15	0.76	0.53	-136.44	-137.62
	NORMAL	7,686.00	0.56	112.96	7,428.22	-967.86	-1,003.01	1,393.73	0.09	-0.07	5.53	144.69
	NORMAL	7,780.00	0.94	119.71	7,522.21	-968.42	-1,001.91	1,393.35	0.41	0.40	7.18	16.48
	NORMAL	7,875.00	1.13	119.83	7,617.19	-969.27	-1,000.42	1,392.89	0.20	0.20	0.13	0.71
	NORMAL	7,970.00	0.19	32.71	7,712.18	-969.60	-999.53	1,392.49	1.20	-0.99	-91.71	-170.39
	NORMAL	8,065.00	0.19	95.58	7,807.18	-969.49	-999.28	1,392.23	0.21	0.00	66.18	121.43
	NORMAL	8,160.00	0.19	115.71	7,902.18	-969.57	-998.98	1,392.08	0.07	0.00	21.19	100.06
	NORMAL	8,254.00	0.00	254.46	7,996.18	-969.64	-998.84	1,392.02	0.20	-0.20	0.00	180.00
	NORMAL	8,348.00	0.31	157.96	8,090.18	-969.87	-998.75	1,392.12	0.33	0.33	0.00	157.96
	NORMAL	8,443.00	0.25	146.96	8,185.18	-970.28	-998.54	1,392.26	0.08	-0.06	-11.58	-143.55
10/25/2009	NORMAL	8,538.00	0.19	174.46	8,280.18	-970.62	-998.41	1,392.40	0.13	-0.06	28.95	132.88
	NORMAL	8,633.00	0.44	97.71	8,375.18	-970.82	-998.03	1,392.28	0.46	0.26	-80.79	-101.76
	NORMAL	8,728.00	0.94	77.21	8,470.17	-970.70	-996.91	1,391.40	0.58	0.53	-21.58	-36.77
	NORMAL	8,823.00	1.19	86.68	8,565.16	-970.47	-995.17	1,389.99	0.32	0.26	9.97	39.94
	NORMAL	8,882.00	1.41	96.88	8,624.14	-970.52	-993.84	1,389.08	0.54	0.37	17.29	51.62
10/27/2009	NORMAL	9,565.00	3.96	165.00	9,306.46	-994.31	-979.38	1,395.53	0.54	0.37	9.97	88.94

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-3113CS (GREEN)	Spud Conductor: 8/14/2009	Spud Date: 8/18/2009
Project: UTAH-UINTAH	Site: NBU 922-311 PAD	Rig Name No: PROPETRO/, H&P 298/298
Event: DRILLING	Start Date: 7/21/2009	End Date: 10/27/2009
Active Datum: RKB @5,060.00ft (above Mean Sea Level) UWI: NE/SE/0/9/S/22/E/31/0/0/26/PM/S/2,318.00/E/0/138.00/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
8/18/2009	0:00 - 2:30	2.50	MIRU	01	B	P		RURT
	2:30 - 4:30	2.00	DRLSUR	02	A	P		HAMMER DRILL F/40 TO 180'
	4:30 - 7:30	3.00	DRLSUR	06	A	P		POOH,P/U DIR TOOLS TIH
8/19/2009	7:30 - 0:00	16.50	DRLSUR	02	D	P		DIR DRILL F/180' TO 1920',SURVEY EVERY 90'
	0:00 - 6:00	6.00	DRLSUR	02	B	P		DA 1920 TO TD 2310,SURVEY EVERY 90'
	6:00 - 7:00	1.00	DRLSUR	05	C	P		CIRC TO LDDP
	7:00 - 11:00	4.00	CSG	06	E	P		LDDP & BHA ,& DIR TOOLS
	11:00 - 13:00	2.00	CSG	12	C	P		RUN 52 JTS OF 9-5/8 36# J-55 LTC CSG, LAND SHOE @ 2284' , BAFFLE RAN TOP OF FIRST JT 2240'. PUMP THROUGH SHOE 700' AND 1700'
	13:00 - 13:30	0.50	CSG	01	E	P		RIG DOWN RIG, MOVE OFF WELL. RELEASE RIG 13:30 8/19/2009
	13:30 - 17:00	3.50	CSG	12	E	P		HOLD SAFETY MEETING WITH PRO-PETRO CEMENTERS. RIG UP CEMENTERS AND CEMENT. PUMP 155 BBLS OF FLUSH H2O, PUMP 20 BBLS OF GEL WATER, PUMP 350 SX (71.6 BBLS) OF 15.8#, 1.15 YD. 5 GAL/SK, PREMIUM CEM. DROP PLUG ON FLY. DISPLACE W/ 173 BBLS OF H2O, 200 PSI OF LIFT, BUMP PLUG 700 PSI, FLOAT HELD. PUMP 100 SX (20.4 BBLS) OF 15.8#, 1.15 YD, 5 GAL SX PREM. 4% CALC CEMENT DOWN BACK SIDE. NO CEMENT TO SURFACE. WAIT 2 HRS, PUMP 100 SX OF SAME DOWN BACK SIDE. NO CEMENT TO SURFACE. WILL TOP OUT ON NEXT JOB.
10/21/2009	3:30 - 4:00	0.50	MIRU	01	A	P		RIG DOWN EQUIPMENT TO SKID
	4:00 - 4:30	0.50	MIRU	01	C	P		SKID EQUIPMENT TO THE NBU 922-3113CS
	4:30 - 5:00	0.50	MIRU	01	B	P		RIG UP EQUIPMENT TO DRILL / RIG BACK ON DAY RATE @ 05:00 HRS 10/21/2009
	5:00 - 5:30	0.50	PRPSPD	14	A	P		NIPPLE UP B.O.P.E. + FLOW LINES
	5:30 - 6:00	0.50	PRPSPD	15	A	P		CHANGE OUT CASING BAILS TO DRILLING BAILS & ELEVATORS
	6:00 - 10:00	4.00	PRPSPD	15	A	P		PRESSURE TEST PIPE RAMS, BLIND RAMS, IBOP, FLOOR VALVE, KILL LINES & KILL LINE VALVES, BOP WING VALVES , HCR VALVE + CHOKE LINE; INNER AND OUTER CHOKE VALVES & MANIFOLD TO 250 PSI LOW @ 5 MINUTES + 5000 PSI HIGH @ 10 MINUTES / TEST ANNULAR TO 250 PSI LOW @ 5 MINUTES + 2500 PSI HIGH @ 10 MINUTES / TEST SUPER CHOKE + SURFACE CASING TO 1500 PSI @ 30 MINUTES / FUNCTION TEST CLOSING UNIT - PASSED
	10:00 - 10:30	0.50	PRPSPD	14	B	P		INSTALL WEAR BUSHING / VISUAL INSPECTION ON B.O.P.E.
	10:30 - 11:00	0.50	PRPSPD	07	A	P		RIG SERVICE / PRE-SPUD INSPECTION
	11:00 - 12:00	1.00	PRPSPD	06	A	P		PICK UP MOTOR (1.83* - .22 REV/GAL), BIT #1 & DIRECTIONAL TOOLS / ORIENTATE & SHALLOW TEST MWD TOOL
	12:00 - 13:00	1.00	PRPSPD	06	A	P		TIH / INSTALL ROTATING RUBBER & CORRISION RING / TAG CEMENT @ 2201' / TEST PUMPS & LINES TO 2500 PSI
13:00 - 14:00	1.00	PRPSPD	02	F	P		DRILL FLOAT TRAC F/ 2201' - T/ 2332'	

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 922-3113CS (GREEN)	Spud Conductor: 8/14/2009	Spud Date: 8/18/2009
Project: UTAH-UINTAH	Site: NBU 922-311 PAD	Rig Name No: PROPETRO/, H&P 298/298
Event: DRILLING	Start Date: 7/21/2009	End Date: 10/27/2009
Active Datum: RKB @5,060.00ft (above Mean Sea Leve		
UWI: NE/SE/O/9/S/22/E/31/O/0/26/PM/S/2,318.00/E/0/138.00/O/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	14:00 - 18:00	4.00	DRLPRO	02	D	P		DRILL/SURVEY (ROTATE-SLIDE) F/ 2332' - T/ 2716" = 384' @ 96.0 FPH / WOB 15K-18K / TOP DRIVE RPM 35-44 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 1370/1120 PSI / MUD MOTOR RPM 109 / PU/SO/ROT WT 95/87/92 / TORQUE ON/OFF BOTTOM 6K/2K / SLIDE 105' IN 1.16 HRS = 27.3% OF FOOTAGE DRILLED & 29.0% OF HOURS DRILL / H2O + POLYMER W/ WEIGHTED SWEEPS @ +/- 2.0 PPG
	18:00 - 0:00	6.00	DRLPRO	02	D	P		DRILL/SURVEY (ROTATE-SLIDE) F/ 2716' - T/ 3445" = 729' @ 121.5 FPH / WOB 17K-18K / TOP DRIVE RPM 38-42 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 1750/1375 PSI / MUD MOTOR RPM 109 / PU/SO/ROT WT 110/95/101 / TORQUE ON/OFF BOTTOM 5K/2K / SLIDE 244' IN 2.58 HRS = 33.4% OF FOOTAGE DRILLED & 43.0% OF HOURS DRILL / H2O + POLYMER W/ WEIGHTED SWEEPS @ +/- 2.0 PPG
10/22/2009	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL/SURVEY (ROTATE-SLIDE) F/ 3445' - T/ 4170" = 725' @ 120.8 FPH / WOB 17K-19K / TOP DRIVE RPM 38-42 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 1775/1395 PSI / MUD MOTOR RPM 109 / PU/SO/ROT WT 128/95/110 / TORQUE ON/OFF BOTTOM 6K/4K / SLIDE 236' IN 2.68 HRS = 32.5% OF FOOTAGE DRILLED & 44.6% OF HOURS DRILL / H2O + POLYMER W/ WEIGHTED SWEEPS @ +/- 2.0 PPG
	6:00 - 16:30	10.50	DRLPRO	02	D	P		DRILL/SURVEY (ROTATE-SLIDE) F/ 4170' - T/ 5178" = 1008' @ 96.0 FPH / WOB 17K-19K / TOP DRIVE RPM 38-42 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 1750/1410 PSI / MUD MOTOR RPM 109 / PU/SO/ROT WT 155/112/125 / TORQUE ON/OFF BOTTOM 10K/5K / SLIDE 371' IN 4.52 HRS = 36.8% OF FOOTAGE DRILLED & 43% OF HOURS DRILL / H2O + POLYMER W/ WEIGHTED SWEEPS @ +/- 2.0 PPG
	16:30 - 17:00	0.50	DRLPRO	07	A	P		SERVICE RIG & EQUIPMENT / WORK PIPE RAMS / VISUAL INSPECTION ON B.O.P.E.
	17:00 - 0:00	7.00	DRLPRO	02	D	P		DRILL/SURVEY (ROTATE) F/ 5178' - T/ 6126" = 948 @ 135.4 FPH / WOB 17K-19K / TOP DRIVE RPM 38-42 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2000/1725 PSI / MUD MOTOR RPM 109 / PU/SO/ROT WT 190/110/139 / TORQUE ON/OFF BOTTOM 11K/8K / ROTATE = 100% OF FOOTAGE DRILLED / STARTED MUD UP @ 6000' / 29 VIS - 9.0 PPG
10/23/2009	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL/SURVEY (ROTATE/SLIDE) F/ 6126' - T/ 6520" = 395' @ 65.8 FPH / WOB 17K-19K / TOP DRIVE RPM 38-42 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2070/1750 PSI / MUD MOTOR RPM 109 / PU/SO/ROT WT 200/115/146 / TORQUE ON/OFF BOTTOM 10K/8K / SLIDE 62' IN 1.25 HOURS = 17.2% OF FOOTAGE DRILLED AND 20.8% OF HOURS DRILLED / 36 VIS - 9.3 PPG / NO APPARENT LOSSES TO HOLE

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-3113CS (GREEN) Spud Conductor: 8/14/2009 Spud Date: 8/18/2009  
 Project: UTAH-UINTAH Site: NBU 922-311 PAD Rig Name No: PROPETRO/, H&P 298/298  
 Event: DRILLING Start Date: 7/21/2009 End Date: 10/27/2009  
 Active Datum: RKB @5,060.00ft (above Mean Sea Leve UWI: NE/SE/O/9/S/22/E/31/O/0/26/PM/S/2,318.00/E/0/138.00/O/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	6:00 - 16:00	10.00	DRLPRO	02	D	P		DRILL/SURVEY (ROTATE/SLIDE) F/ 6520' - T/ 6978' = 458' @ 45.8 FPH / WOB 18K-22K / TOP DRIVE RPM 35-45 / PUMP 100 SPM = 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 1640/1490 PSI / MUD MOTOR RPM 99 / PU/SO/ROT WT 210/126/153 / TORQUE ON/OFF BOTTOM 10K/9K / SLIDE 40' IN 1.5 HOURS = 8.7% OF FOOTAGE DRILLED AND 15% OF HOURS DRILLED / 40 VIS - 9.4 PPG / NO APPARENT MUD LOSSES TO HOLE
	16:00 - 16:30	0.50	DRLPRO	07	A	P		SERVICE RIG & EQUIPMENT / VISUAL INSPECTION ON B.O.P.E.
	16:30 - 0:00	7.50	DRLPRO	02	D	P		DRILL/SURVEY (ROTATE/SLIDE) F/ 6978' - T/ 7355' = 377' @ 50.26 FPH / WOB 18K-22K / TOP DRIVE RPM 35-45 / PUMP 100 SPM = 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 1930/1725 PSI / MUD MOTOR RPM 99 / PU/SO/ROT WT 230/120/160 / TORQUE ON/OFF BOTTOM 11K/10K / SLIDE 75' IN 2.0 HOURS = 19.8% OF FOOTAGE DRILLED AND 26.6% OF HOURS DRILLED / 40 VIS - 9.4 PPG / NO APPARENT MUD LOSSES TO HOLE
10/24/2009	0:00 - 6:00	6.00	DRLSUR	02	D	P		DRILL/SURVEY (ROTATE/SLIDE) F/ 7355' - T/ 7547' = 192' @ 32.0 FPH / WOB 18K-22K / TOP DRIVE RPM 35-45 / PUMP 100 SPM = 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2028/1800 PSI / MUD MOTOR RPM 99 / PU/SO/ROT WT 238/120/163 / TORQUE ON/OFF BOTTOM 12K/10K / SLIDE 44' IN 1.75 HOURS = 22.9% OF FOOTAGE DRILLED AND 29.1% OF HOURS DRILLED / 42 VIS - 10.0 PPG / NO APPARENT MUD LOSSES TO HOLE
	6:00 - 16:00	10.00	DRLSUR	02	D	P		DRILL/SURVEY (ROTATE/SLIDE) F/ 7547' - T/ 8022' = 475' @ 47.5 FPH / WOB 18K-22K / TOP DRIVE RPM 35-45 / PUMP 100 SPM = 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2100/1880 PSI / MUD MOTOR RPM 99 / PU/SO/ROT WT 238/133/168 / TORQUE ON/OFF BOTTOM 11K/10K / SLIDE 40' IN 2.25 HOURS = 8.4% OF FOOTAGE DRILLED AND 22.5% OF HOURS DRILLED / 43 VIS - 10.6 PPG / LOST APPROXIMATELY 25 BBLS MUD TO HOLE - PUMPING 10% LCM SWEEPS TO CONTROL
	16:00 - 16:30	0.50	DRLSUR	07	A	P		SERVICE RIG & EQUIPMENT / VISUAL INSPECTION ON B.O.P.E.
	16:30 - 0:00	7.50	DRLSUR	02	D	P		DRILL/SURVEY (ROTATE) F/ 8022' - T/ 8484' = 462' @ 61.6 FPH / WOB 18K-22K / TOP DRIVE RPM 35-45 / PUMP 100 SPM = 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2326/2150 PSI / MUD MOTOR RPM 99 / PU/SO/ROT WT 245/140/169 / TORQUE ON/OFF BOTTOM 14K/12+K / ROTATING = 100% OF FOOTAGE DRILLED / 44 VIS - 11.0 PPG / LOST APPROXIMATELY 20 BBLS MUD TO HOLE - BY-PASSED SHAKERS @ 8450' ADDED 3% LCM TO CONTROL LOSSES
10/25/2009	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL/SURVEY (ROTATE) F/ 8484' - T/ 8779' = 295' @ 49.1 FPH / WOB 18K-22K / TOP DRIVE RPM 35-45 / PUMP 100 SPM = 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2335/2160 PSI / MUD MOTOR RPM 99 / PU/SO/ROT WT 247/141/176 / TORQUE ON/OFF BOTTOM 15K/12K / ROTATING = 100% OF FOOTAGE DRILLED / 44 VIS - 11.0 PPG - 2% LCM

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-3113CS (GREEN) Spud Conductor: 8/14/2009 Spud Date: 8/18/2009  
 Project: UTAH-UINTAH Site: NBU 922-311 PAD Rig Name No: PROPETRO/, H&P 298/298  
 Event: DRILLING Start Date: 7/21/2009 End Date: 10/27/2009  
 Active Datum: RKB @5,060.00ft (above Mean Sea Level) UWI: NE/SE/O/9/S/22/E/31/O/O/26/PM/S/2,318.00/E/O/138.00/O/O

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	6:00 - 15:30	9.50	DRLPRO	02	D	P		DRILL/SURVEY (ROTATE) F/ 8779' - T/ 8933' = 154 @ 16.21 FPH / WOB 18K-23K / TOP DRIVE RPM 35-45 / PUMP 100 SPM = 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2200/2165 PSI / MUD MOTOR RPM 99 / PU/SO/ROT WT 260/142/178 / TORQUE ON/OFF BOTTOM 14K/10K / ROTATING = 100% OF FOOTAGE DRILLED / 43 VIS - 11.8 PPG - 3% LCM / LOST APPROXIMATELY 15 BBLS MUD TO HOLE / MIX WEIGHT PILL
	15:30 - 21:00	5.50	DRLPRO	06	A	P		BACK REAM F/ 8933' - T/ 8113' / PUMP PILL / P.O.O.H. FOR BIT #2 / BREAK BIT #1 / LAY DOWN DIRECTIONAL TOOLS & MUD MOTOR / TIGHT - STICKY @ 4762' & @ 4530' - WORKED THROUGH / WORK BLIND & PIPE RAMS
	21:00 - 23:00	2.00	DRLPRO	06	A	P		PICK UP MOTOR / STRAIGHTEN MOTOR BEND TO 0 DEGREES / MAKE UP BIT #2 / T.I.H. TO SHOE (2300')
	23:00 - 23:30	0.50	DRLPRO	07	A	P		SERVICE RIG & EQUIPMENT / VISUAL INSPECTION ON B.O.P.E. / BREAK CIRCULATION
	23:30 - 0:00	0.50	DRLPRO	06	A	P		T.I.H. - BREAKING CIRCULATION AT SELECTED INTERVALS
10/26/2009	0:00 - 2:00	2.00	DRLPRO	06	A	P		T.I.H. TO 8907' BREAKING CIRCULATION AT SELECTED INTERVALS / NO APPARENT MUD LOST ON TRIP
	2:00 - 2:30	0.50	DRLPRO	03	D	P		FILL PIPE - PRE-CAUTIONARY WASH & REAM TO 8933' W/ 6' OF FILL
	2:30 - 6:00	3.50	DRLPRO	02	D	P		DRILL/SURVEY (ROTATE) F/ 8933' - T/ 9160' = 227 @ 64.8 FPH / WOB 18K-20K / TOP DRIVE RPM 35-45 / PUMP 100 SPM = 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2397/2130 PSI / MUD MOTOR RPM 72 / PU/SO/ROT WT 258/149/176 / TORQUE ON/OFF BOTTOM 12K/10K / ROTATING = 100% OF FOOTAGE DRILLED / 45 VIS - 11.8 PPG - 3% LCM
	6:00 - 13:00	7.00	DRLPRO	02	D	P		DRILL/SURVEY (ROTATE) F/ 9160' - T/ 9565' = 405 @ 57.8 FPH / WOB 18K-22K / TOP DRIVE RPM 35-45 / PUMP 100 SPM = 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2400/2250 PSI / MUD MOTOR RPM 72 / PU/SO/ROT WT 265/155/185 / TORQUE ON/OFF BOTTOM 14K/12K / ROTATING = 100% OF FOOTAGE DRILLED / 45 VIS - 12.2 PPG - 3% LCM / LOST APPROXIMATELY 60 BBLS MUD TO THE HOLE
	13:00 - 15:00	2.00	EVALPR	05	C	P		CIRCULATE & CONDITION HOLE + MUD FOR SHORT TRIP / RAISE WEIGHT TO 12.4 TO CONTROL GAS / RAISE LCM TO 4% TO CONTROL LOSSES / LOST APPROXIMATELY 40 BBLS MUD TO THE HOLE WHILE RAISING MUD WEIGHT
	15:00 - 22:00	7.00	EVALPR	06	E	P		BACK REAM F/ 9565 - T/ 8647 / T.O.H. TO CASING SHOE (2300') / T.I.H. BREAKING CIRCULATION AT SELECTED INTERVALS / LOST APPROXIMATELY 8 BBLS MUD TO THE HOLE ON SHORT TRIP
	22:00 - 23:00	1.00	EVALPR	05	C	P		CIRCULATE & CONDITION HOLE FOR LOGS
	23:00 - 23:30	0.50	EVALPR	10	B	P		DROP SINGLE SHOT SURVEY TOOL
	23:30 - 0:00	0.50	EVALPR	06	B	P		BACK REAM F/ 9565 - T/ 8647' - PULL OUT OF HOLE FOR LOGS

**US ROCKIES REGION**

**Operation Summary Report**

Well: NBU 922-3113CS (GREEN)		Spud Conductor: 8/14/2009		Spud Date: 8/18/2009	
Project: UTAH-UINTAH		Site: NBU 922-311 PAD		Rig Name No: PROPETRO/, H&P 298/298	
Event: DRILLING		Start Date: 7/21/2009		End Date: 10/27/2009	
Active Datum: RKB @5,060.00ft (above Mean Sea Level) UWI: NE/SE/09/S/22/E/31/0/0/26/PM/S/2,318.00/E/0/138.00/0/0					

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
10/27/2009	0:00 - 4:00	4.00	EVALPR	06	B	P		P.O.O.H. / BREAK BIT / LAY DOWN MUD MOTOR / RECOVER SINGLE SHOT SURVEY TOOL - NO INFORMATION RECORDED (MIS-FIRE) / FINAL SURVEY WAS PROJECTED TO T.D. DUE TO MIS-FIRE ON SINGLE SHOT SURVEY / BASED ON INFORMATION FROM LAST SURVEY WITH M.W.D. TOOLS SHOW PROJECTIONS FROM WEATHERFORD ARE AS FOLLOWS: M.D.=9565', INC=3.96, AZI=165.00 & T.V.D.=9306.46 / 20' SOUTH AND 7' EAST OF TARGET CENTER.
	4:00 - 9:00	5.00	EVALPR	11	D	P		SAFETY MEETING / M.I.R.U. HALLIBURTON EQUIPMENT / RUN TRIPLE COMBO LOGS F/ 9571' - SURFACE / R.D.M.O. LOGGING EQUIPMENT PULL WEAR BUSHING
	9:00 - 9:30	0.50	EVALPR	14	B	P		SAFETY MEETING / CHANGE DRILLING BAILS TO CASING BAILS / M.I.R.U. WEATHERFORD EQUIPMENT
	9:30 - 10:30	1.00	CSG	12	A	P		RUN 226 JOINTS OF 4 1/2 #11.6, I-80 BT&C CASING + RELATED TOOLS TO 9562' BREAKING CIRCULATION AT SELECTED INTERVALS
	10:00 - 15:30	5.50	CSG	12	C	P		INSTALL MANDREL + ROTATING RUBBER / HOLD CASING @ 9562' TO CIRCULATE & CEMENT CIRCULATE & CONDITION HOLE FOR CEMENT / R.D.M.O. WEATHERFORD EQUIPMENT
	15:30 - 16:00	0.50	CSG	12	C	P		SAFETY MEETING (REVIEW J.S.A.) M.I.R.U. BJ EQUIPMENT / TEST PUMPS & LINES TO 3500 PSI / PUMP 40 BBLS H2O + 581 SX LEAD CEMENT @ 12.4 ppg (PREM LITE II + .25 pps CELLO FLAKE + 5 pps KOL SEAL + .05 lb/sx STATIC FREE + 10% bwoc BENTONITE + .2% bwoc SODIUM META SILICATE + .4 % R-3 + 149.48 BBLS FRESH WATER / (10.81 gal/sx, 2.03 yield) + 1297 SX TAIL @ 14.3 ppg (CLS G 50/50 POZ + 10% SALT + .05lbs/sx STATIC FREE + .2% R3 + .002 GPS FP-6L + 2% BENTONITE + 182.65 BBLS H2O / (5.90 gal/sx, 1.31 yield) / DROP PLUG & DISPLACE W/ 147.6 BBLS H2O + ADDITIVES / GOOD RETURNS TO 107 BBLS DISPLACEMENT - RETURNS DROPPED BY 70% - REDUCED PUMP RATE TO 3.2 BBLS/MIN W/ PARTIAL RETURNS (APPROX 10%) COMPLETE LOSS OF RETURNS @ 137 BBLS INTO DISPLACEMENT / RETURNED 5 BBLS PRE-FLUSH TO RESERVE PIT & NO CEMENT TO SURFACE / LIFT PRESSURE @ 2500 PSI (CALC TOP OF TAIL @ 3960') / BUMP PLUG W/ 2900 PSI / HOLD 5 MINUTES W/ NO LOSS / PLUG DOWN @ 19:11 HOURS / FLOATS HELD W/ 1.5 BBLS BACK TO INVENTORY / R.D.M.O. CEMENT EQUIPMENT NOTE: LOGS TO 9571' - CEMENT VOLUMES WERE CALCULATED W/ 10% EXCESS FOR TAIL CEMENT & 5% FOR LEAD CEMENT BASED ON INFORMATION FROM CALIPER LOGS
	20:00 - 21:30	1.50	CSG	14	B	P		LAND MANDREL W/ 112K ON BOWL - CASING SHOE SET @ 9563.56, TOP OF FLOAT COLLAR @ 9520.10 & TOP OF MARKER JOINT @ 4212.38' / WASH & CLEAN B.O.P.E. / LAY DOWN LANDING JOINT / CHANGE CASING BAILS TO DRILLING BAILS
	21:30 - 22:00	0.50	SUSPEN	14	A	P		NIPPLE DOWN B.O.P.E TO SKID RIG / RIG RELEASED @ 22:00 10/27/2009

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 922-3113CS (GREEN)	Spud Conductor: 8/14/2009	Spud Date: 8/18/2009
Project: UTAH-UINTAH	Site: NBU 922-311 PAD	Rig Name No: LEED 733/733
Event: COMPLETION	Start Date: 2/5/2010	End Date: 2/12/2010
Active Datum: RKB @5,060.00ft (above Mean Sea Level) UWI: NE/SE/O/9/S/22/E/31/O/O/26/PM/S/2,318.00/E/O/138.00/O/O		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
2/5/2010	7:00 - 7:15	0.25	COMP	48		P		HSM
	7:15 - 17:00	9.75	COMP	47	A	P		ROAD RIG FROM STATE 1021-31M TO NBU 922-311 PAD, MIRU, N/D WELL HEAD, N/U BOPS, R/U TBG EQUIP. P/U 3-7/8 BIT, RIH W/ 278 JNTS 2-3/8 L-80 TBG, EOT @ 8800', POOH W/ 10 JNTS EOT @ 8500', DRAIN EQUIP SWIFN.
2/6/2010	7:00 - 7:15	0.25	COMP	48		P		HSM, JSA #2
	7:15 - 16:00	8.75	COMP	47		P		OPEN WELL CONTINUE TO RIH W/ TBG, TAG @ 9472', P/U PWR SWVL, C/O & DRL THROUGH FLOAT COLLAR @ 9520' CONTINUE TO C/O TO 9535' CIRC HOLE CLEAN, R/D PWR SWVL, POOH L/D TBG [311 JNTS ON TRAILER W/ 4 BAD JNTS ON GROUND] N/D BOPS, N/U FRAC VALVES, P/T CSG & FRAC VALVES TO 7000# [GOOD TEST] RDMO.
2/8/2010	-	-	COMP					STG #2] P/U RIH W/ 3-3/8 EXPEND, [SLICK] 23 GRM, 0.36" HOLE, PERF MESAVERDE.
	7:00 - 7:15	0.25	COMP	48		P		STG #2]WHP=#, BRK DN PERFS=#, INJ RT=, INJ PSI=#, ISIP=#, FG=., PUMP'D BBLs SLK WTR W/ # 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=# FG=., AR=#, AP=#, MR=#, MP=#, NPI=#, HSM, PERF & FRAC
	7:15 - 11:55	4.67	COMP	36	E	P		STG #1]P/U RIH W/ BKR 8K CBP & PERF GUN, SET CBP @ 9249' PERF MESAVERDE USING 3-3/8 EXPEND [SLICK] 23 GRM, 0.36" HOLE. 9507'-9510' 3 SPF, 120* PH, 9 HOLES. 9497'-9499' 3 SPF, 120* PH, 6 HOLES. 9330'-9333' 3 SPF, 120* PH, 9 HOLES. [24 HOLES]
	11:55 - 16:30	4.58	COMP					STG #1]WHP=1796#, BRK DN PERFS=3284#, INJ RT=46, INJ PSI=6130#, ISIP=3005#, FG=.75, PUMP'D 1176 BBLs SLK WTR W/ 39734# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2700#, FG=.72, AR=48.9, AP=5800#, MR=50.5, MP=6453#, NPI=-305#, 24/24 CALC PERFS OPEN 100% STG #2] P/U RIH W/ BKR 8K CBP & PERF GUN, SET CBP @ 8818', PERF MESAVERDE USING 3-3/8 EXPEND, [SLICK] 23 GRM, 0.36" 9218'-9219' 3 SPF. 120* PH, 3 HOLES. 9130'-9132' 3 SPF, 120* PH, 6 HOLES. 9044'-9045' 4 SPF, 90* PH, 4 HOLES. 9032'-9033' 3 SPF, 120* PH, 3 HOLES. 8966'-8968' 3 SPF, 120* PH, 6 HOLES. [22 HOLES]
2/9/2010	7:00 - 8:55	1.92	COMP	48		P		STG #2]WHP=2018#, BRK DN PERFS=3523#, INJ RT=51.6, INJ PSI=5688#, ISIP=2567#, FG=.72, PUMP'D 924 BBLs SLK WTR W/ 34490# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2497#, FG=.71, AR=46.8, AP=5076#, MR=49.7, MP=6390#, NPI=-70#, 22/22 CALC PERFS OPEN 100% HSM

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 922-3113CS (GREEN)		Spud Conductor: 8/14/2009	Spud Date: 8/18/2009
Project: UTAH-UINTAH		Site: NBU 922-311 PAD	Rig Name No: LEED 733/733
Event: COMPLETION		Start Date: 2/5/2010	End Date: 2/12/2010
Active Datum: RKB @5,060.00ft (above Mean Sea Level) UWI: NE/SE/O/9/S/22/E/31/O/0/26/PM/S/2,318.00/E/0/138.00/O/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	8:55 - 11:50	2.92	COMP	36	E	P		STG #3]FRAC MESA VERDE 8578'-8788' [24 HOLES] WHP=750#, BRK DN PERFS=3150#, INJ RT=52, INJ PSI=5637#, ISIP=2071#, FG=67, PUMP'D 2399 BBLs SLK WTR W/ 96089# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2048#, FG=67, AR=55.1, AP=5270#, MR=56.5, MP=6464#, NPI=-23# 24/24 CALC PERFS OPEN 100%
	11:50 - 12:50	1.00	COMP					STG #4] P/U RIH W/ BKR 8K CBP & PERF GUN, SET CBP @ 8558' PERF MESAVERDE USING 3-3/8 EXPEND [SLICK] 23 GRM, 0.36" HOLE. 8527'-8528' 4 SPF, 90* PH, 4 HOLES. 8502'-8504' 3 SPF, 120* PH, 6 HOLES. 8480'-8481' 3 SPF, 120* PH, 3 HOLES. 8454'-8455' 3 SPF, 120* PH, 3 HOLES. 8443'-8444' 4 SPF, 90* PH, 4 HOLES. 8398'-8399' 3 SPF, 120* PH, 3 HOLES. [23 HOLES]
	13:00 - 16:20	3.33	COMP					STG #4] WHP=1869#, BRK DN PERFS=2214#, INJ RT=52, INJ PSI=4850#, ISIP=1970#, FG=67, PUMP'D 1997 BBLs SLK WTR W/ 77239# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2173#, FG=69, AR=51.4, AP=4333#, MR=52.3, MP=6369#, NPI=203#, 23/23 CALC PERFS OPEN. STG #5] P/U RIH W/ BKR 8K CBP & PERF GUN, SET CBP @ 8368' PERF MESAVERDE USING 3-3/8 EXPEND [SLICK] 23 GRM, 0.36" HOLE. 8336'-8338' 3 SPF, 120* PH, 6 HOLES. 8322'-8324' 3 SPF, 120* PH, 6 HOLES. 8240'-8242' 3 SPF, 120* PH, 6 HOLES. 8159'-8160' 3 SPF, 120* PH, 3 HOLES [21 HOLES]
	14:50 - 15:00	0.17	COMP					STG #5] WHP=1350#, BRK DN PERFS=3560#, INJ RT=42, INJ PSI=3500#, ISIP=2315#, FG=71, PUMP'D 681 BBLs SLK WTR W/ 24717# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2220#, FG=70, AR=50.3, AP=4145#, MR=53.8, MP=5975#, NPI=-95#, 21/21 CALC PERFS OPEN 100%
	16:20 - 16:50	0.50	COMP					STG #6] P/U RIH W/ BKR 8K CBP & PERF GUN, SET CBP @ 8046' PERF MESAVERDE USING 3-3/8 EXPEND [SLICK] 23 GRM, 0.36" HOLE. 8012'-8016' 4 SPF, 90* PH, 16 HOLES. 7944'-7946' 4 SPF, 90* PH, 8 HOLES. [24 HOLES]
								STG #6] WHP=792#, BRK DN PERFS=2685#, INJ RT=46, INJ PSI=5300#, ISIP=2012#, FG=69, PUMP'D 861 BBLs SLK WTR W/ 30300# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2321#, FG=72, AR=51.8, AP=4280#, MR=52.3, MP=5738#, NPI=309#, 21/24 CALC PERFS OPEN 88%. HSM, FROZE LINES
2/10/2010	7:00 - 7:15	0.25	COMP	48		P		
	7:15 - 8:00	0.75	COMP	37	B	P		STG #7] P/U RIH W/ BKR 8K CBP & PERF GUN, SET CBP @ 7859' PERF MESAVERDE USING 3-3/8 EXPEND [SLICK] 23 GRM, 0.36" HOLE. 7828'-7829' 3 SPF, 120* PH, 3 HOLES. 7775'-7777' 3 SPF, 120* PH, 6 HOLES. 7714'-7716' 3 SPF, 120* PH, 6 HOLES. 7643'-7645' 3 SPF, 120* PH, 6 HOLES [21 HOLES]
	8:00 - 9:15	1.25	COMP					

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-3113CS (GREEN) Spud Conductor: 8/14/2009 Spud Date: 8/18/2009  
 Project: UTAH-UINTAH Site: NBU 922-311 PAD Rig Name No: LEED 733/733  
 Event: COMPLETION Start Date: 2/5/2010 End Date: 2/12/2010  
 Active Datum: RKB @5,060.00ft (above Mean Sea Level) UWI: NE/SE/0/9/S/22/E/31/0/0/26/PM/S/2,318.00/E/0/138.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	9:15 - 15:00	5.75	COMP	36	E	P		<p>FRAC STG #7] WHP=385#, BRK DN PERFS=3159#, INJ RT=53, INJ PSI=5530#, ISIP=1719#, FG=66, PUMP'D 916 BBLs SLK WTR W/ 35819# 30/50 MESH W/ 5000# RESIN COAT IN TAIL. ISIP=2040#, FG=.70, AR=53.2, AP=4420#, MR=53.7, MP=6258#, NPI=321#, 21/21 CALC PERFS OPEN 100%</p> <p>STG #8] P/U RIH W/ BKR 8K CBP &amp; PERF GUN, SET CBP @ 7560' PERF MESAVERDE USING 3-3/8 EXPEND [SLICK] 23 GRM, 0.36" HOLE. 7526'-7530' 4 SPF, 90* PH, 16 HOLES. 7416'-7418' 4 SPF, 90* PH, 8 HOLES [24 HOLES]</p> <p>WHP=570#, BRK DN PERFS=4030#, INJ RT=38, INJ PSI=5830#, ISIP=1885#, FG=69, PUMP'D 774 BBLs SLK WTR W/ 26287# 30/50 MESH W/ 5000# RESIN COAT IN TAIL. ISIP=2116#, FG=.72, AR=50.5, AP=4020#, MR=54.8, MP=6365#, NPI=231#, 14/24 CALC PERFS OPEN 56%</p>
2/11/2010	13:00 - 18:00	5.00	COMP	31	I	P		<p>P/U RIH W/ BKR 8K CBP FOR TOP KILL SET @ 7366', POOH R/D SCHLUMBERGER WIRE LINE &amp; FRAC TECH EQUIP, ROAD RIG AND EQUIP FROM NBU 1022-4J-4T TO LOCATION. SPOT AND RUSU. BLEED OFF WELL. ND FRAC VALVES. NU BOP. RU FLOOR AND TBG EQUIP. MU 3-7/8" BITM, POBS, 1.87" XN AND RIH AS MEAS AND PU 2-3/8" L-80 TBG. RAN 93-JTS, EOT AT 2929'. SDFN. DRAIN LINES.</p>
2/12/2010	6:45 - 7:00	0.25	COMP	48		P		JSA- D/O PLUGS

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-3113CS (GREEN) Spud Conductor: 8/14/2009 Spud Date: 8/18/2009  
 Project: UTAH-UINTAH Site: NBU 922-311 PAD Rig Name No: LEED 733/733  
 Event: COMPLETION Start Date: 2/5/2010 End Date: 2/12/2010  
 Active Datum: RKB @5,060.00ft (above Mean Sea Level) UWI: NE/SE/O/9/S/22/E/31/O/O/26/PM/S/2,318.00/E/O/138.00/O/O

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:00 - 20:00	13.00	COMP	44	C	P		<p>CONT RIH W/ BIT AS MEAS AND PU TBG. TAG SAND AT 7331' W/ 231-JTS IN. RU DRLG EQUIP. FILL HOLE AND P-TEST TO 3000 PSI. GOOD. EST CIRC AND D/O PLUGS.</p> <p>#1- C/O 35' SAND TO PLUG AT 7366'. D/O CBP IN 10 MIN. 0# INC. RIH.                      #2- C/O 30' SAND TO PLUG AT 7560'. D/O CBP IN 18 MIN. 100# INC. RIH.                      #3- C/O 65' SAND TO PLUG AT 7859'. D/O CBP IN 20 MIN. 0# INC. RIH.                      #4- C/O 25' SAND TO PLUG AT 8040'. D/O CBP IN 20 MIN. 100# INC. RIH                      #5- C/O 25' SAND TO PLUG AT 8368'. D/O CBP IN 20 MIN. 25# INC. RIH.                      #6- C/O 15' SAND TO PLUG AT 8544'. D/O CBP IN 15 MIN. 200# INC. RIH.                      #7- C/O 70' SAND TO PLUG AT 8818'. D/O CBP IN 23 MIN. 25# INC. RIH                      #8- C/O 150' SAND TO PLUG AT 9249'. D/O CBP IN 25 MIN. 25# INC. RIH.                      PBSD- C/O 35' SAND TO PBSD AT 9535' W/ 301-JTS IN. (25' RATHOLE)</p> <p>CIRC CLEAN. RD PWR SWIVEL. POOH AS LD 74-JTS TBG. PU 7" 5K CAMERON HANGER. LUB IN AND LAND 227-JTS 2-3/8" L-80 W/ EOT AT 7219.36'. DROP BALL. RD FLOOR. ND BOP. NU WH. PMP OFF BIT AT 1800#. SHUT WELL IN FOR 30-MIN. TURN WELL OVER TO PROD W/ 800 SITP AND 2000 SICP. DRAIN EQUIP.</p> <p>TBG DETAIL KB 26.00                      7-1/16" 5K HNGR 1.00                      227-JTS 2-3/8" L-80 7190.16                      1.87" XN (FE POBS) 2.20                      EOT 7219.36</p> <p>315 JTS DELIVERED                      83 JTS RETURNED                      5 JTS BAD.</p>
2/13/2010	7:00 -			33	A			<p>PMP 9728, RCVR 3875, LTR 5853                      7 AM FLBK REPORT: CP 2650#, TP 1825#, 20/64"                      CK, 55 BWPH, HEAVY SAND, - GAS                      TTL BBLS RECOVERED: 4915                      BBLS LEFT TO RECOVER: 4813</p>
2/14/2010	7:00 -			33	A			<p>7 AM FLBK REPORT: CP 3100#, TP 1950#, 20/64"                      CK, 53 BWPH, HEAVY SAND, - GAS                      TTL BBLS RECOVERED: 6193                      BBLS LEFT TO RECOVER: 3535</p>
2/15/2010	7:00 -			33	A			<p>7 AM FLBK REPORT: CP 2900#, TP 1900#, 20/64"                      CK, 42 BWPH, MEDIUM SAND, - GAS                      TTL BBLS RECOVERED: 7223                      BBLS LEFT TO RECOVER: 2505</p>
2/16/2010	7:00 -			33	A			<p>7 AM FLBK REPORT: CP 2675#, TP 1825#, 20/64"                      CK, 37 BWPH, LIGHT SAND, - GAS                      TTL BBLS RECOVERED: 8205                      BBLS LEFT TO RECOVER: 1523</p>
	11:00 -		PROD	50				<p>WELL TURNED TO SALES @ 1100 HR ON 2/16/10 - 1900 MCFD, 888 BWPD, CP 2800#, FTP 1950#, CK 20/64"</p>

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 922-3113CS (GREEN)		Spud Conductor: 8/14/2009	Spud Date: 8/18/2009
Project: UTAH-UINTAH		Site: NBU 922-311 PAD	Rig Name No: LEED 733/733
Event: COMPLETION		Start Date: 2/5/2010	End Date: 2/12/2010
Active Datum: RKB @5,060.00ft (above Mean Sea Leve			
UWI: NE/SE/0/9/S/22/E/31/0/0/26/PM/S/2,318.00/E/0/138.00/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
2/17/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2550#, TP 1725#, 20/64" CK, 27 BWPH, TRACE SAND, - GAS TTL BBLS RECOVERED: 8867 BBLS LEFT TO RECOVER: 861
2/18/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2425#, TP 1650#, 20/64" CK, 25 BWPH, TRACE SAND, 1.9 GAS TTL BBLS RECOVERED: 9490 BBLS LEFT TO RECOVER: 238

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

FORM 9

**5. LEASE DESIGNATION AND SERIAL NUMBER:**  
UO 1530A

**SUNDRY NOTICES AND REPORTS ON WELLS**

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

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7. UNIT or CA AGREEMENT NAME:**  
NATURAL BUTTES

**1. TYPE OF WELL**  
Gas Well

**8. WELL NAME and NUMBER:**  
NBU 922-31I3CS

**2. NAME OF OPERATOR:**  
KERR-MCGEE OIL & GAS ONSHORE, L.P.

**9. API NUMBER:**  
43047503980000

**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:**  
2318 FSL 0138 FEL  
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:**  
Qtr/Qtr: NESE Section: 31 Township: 09.0S Range: 22.0E 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 checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 3/17/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<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 type="checkbox"/> OTHER	<input checked="" type="checkbox"/> <b>CASING REPAIR</b> <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 type="text"/>

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

The operator requests approval to conduct wellhead/casing repair operations on the subject well location. Please find the attached procedures for the proposed repair work on the subject well location.

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

**Date:** 03/21/2011  
**By:** Derek Quist

**NAME (PLEASE PRINT)** Gina Becker **PHONE NUMBER** 720 929-6086 **TITLE** Regulatory Analyst II

**SIGNATURE** N/A **DATE** 3/17/2011

**WORKORDER #:** 88122144

3/3/11

**Name:** NBU 922-31I3CS - 922-31I PAD  
**Surface Location:** NESE SEC.31, T9S, R22E  
Uintah County, UT

**API:** 4304750398      **LEASE#:** UO-1530A

**ELEVATIONS:** 5034' GL      5060' KB

**TOTAL DEPTH:** 9565'      **PBTD:** 9520'

**SURFACE CASING:** 9 5/8", 36# J-55 @ 2306'

**PRODUCTION CASING:** 4 1/2", 11.6#, I-80 @ 9563'  
TOC @ 764' per CBL

**PERFORATIONS:** Mesaverde 7416' - 9510'

Tubular/Borehole	Drift inches	Collapse psi	Burst psi	Capacities		
				Gal./ft.	Cuft/ft.	Bbl./ft.
2.375" 4.7# J-55 tbg.	1.901	8100	7700	0.1624	0.02173	0.00387
4.5" 11.6# I-80	3.875	6350	7780	0.6528	0.0872	0.01554
9.625" 36# J-55	8.921	2020	3520	3.247	0.434	0.0773
<b>Annular Capacities</b>						
2.375" tbg. X 4 1/2" 11.6# csg				0.4227	0.0565	0.01006

**GEOLOGICAL MARKERS, TOPS:**

1307' Green River  
2114' Mahogany  
4721' Wasatch  
7337' Mesaverde

## **NBU 922-31I3CS - WELLHEAD REPLACEMENT PROCEDURE**

### **PREP-WORK PRIOR TO MIRU:**

1. Dig out down to the 2" surface casing valve or to the valve on the riser off the surface casing.
2. Install a tee with 2 valves, with a pressure gauge and sensor on one valve.
3. Open casing valve and record pressures.
4. Install nipple and steel hose on the other valve, the relief valve,. Do not use hammer unions. No impact equipment or tools to be used for any of this installation. Extend hose and hard piping to a downwind location at least 100' from the wellhead. Consider installing a manifold so that vent area could be in two locations approx. 90 degrees apart from the wellhead.
5. Open the relief valve and blow well down to the atmosphere.
6. Make a determination of amount of gas flow, either by installation of a choke nipple, bucket test or other.
7. Shut well in. Observe for rate of build-up by utilizing sensor data. Do not build-up for more than 24 hours. Vent gas through the vent line and leave open to the atmosphere.

### **WORKOVER PROCEDURE:**

1. MIRU workover rig.
2. Kill well with 10# brine / KCL (dictated by well pressure ).
3. Remove tree, install double BOP with blind and 2 3/8" pipe rams, with accumulator closing unit and manual back-ups. Function test BOP system.
4. POOH w/ tubing laying down extra tubing.
5. Rig up wireline service. RIH and set CBP @ ~7366'. Dump bail 4 sx cement on top of plug. POOH and RD wireline service. TIH w/ tubing and seating nipple. Land tubing ±60' above cement. RDMO.
6. Monitor well pressures. If surface casing is dead. MIRU. ND WH and NU BOP. POOH w/ tubing.
7. Depending on conditions at wellsite, continue with either CUT/PATCH Procedure or BACK-OFF Procedure.

### **CUT/PATCH PROCEDURE:**

1. PU internal casing cutters and RIH. Cut casing at +/- 30' from surface.
2. POOH, LD cutters and casing.
3. PU 7 3/8" overshoot with 4 1/2" right hand standard wicker grapple, 1 - 4 3/4" drill collar with 3 1/2" IF threads, pup joint, manual bumper sub, and crossovers. If casing cut is deeper than ±30' utilize >7000 ft-lb torque pipe as needed. Pull a minimum of 10,000# to keep grapple engaged if cement top is high (<~900'). If cement top is low (>~900'), more weight will be required to put casing in neutral. Torque casing string to ±7000 ft-lbs, count number of turns to make-up, and document in the daily report. Ensure that tongs are safely anchored to rig and that all personnel are at a safe working distance from the tongs during torque-up and torque release. After initial make-up, place pipe torque to neutral and mark pipe. Place ±7000 ft-lbs on casing a second time, count turns, then return pipe torque to neutral and count turns. Repeat if torque-up turns do not equal torque release turns. Once torque-in equals torque-out, release overshoot, POOH, and lay down.
4. TIH w/ skirted mill and dress off the fish top for approximately 1/2 hour. TOO. H.
5. PU & RIH w/ 4 1/2" 10k external casing patch on 4 1/2" P-110 casing. Ensure that sliding sleeve assembly shifts ±3' and casing tags no-go portion of patch. NOTE: Shear pins will shear at 3500 to 4500 lbs.
6. Latch fish, PU to 100,000# tension. RU B&C. Cycle pressure test to 7,000# / 9,000# psi.
7. Install slips. Land casing w/ 80,000# tension.
8. Cut-off and dress 4 1/2" casing stub.
9. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~7316'. Clean out to PBTD (9520').
10. POOH, land tbg and pump off POBS.
11. NUWH, RDMO. Turn well over to production ops.

### **BACK-OFF PROCEDURE:**

1. PU internal casing cutters and RIH. Cut casing at +/- 6' from surface.
2. POOH, LD cutters and casing.
3. PU 4 1/2" overshoot. RIH, latch fish. Pick string weight to neutral.
4. MIRU casing crew and wireline services. RIH and shoot string shot at casing collar @ ± 46'.
5. Back-off casing, POOH.

6. PU new casing joint with buttress threads and entry guide and RIH. Tag casing top. Thread into casing and torque up to  $\pm 7000$  ft-lbs, count number of additional turns to make-up, and document in the daily report. Ensure that tongs are safely anchored to rig and that all personnel are at a safe working distance from the tongs during torque-up and torque release. After initial make-up, place pipe torque to neutral and mark pipe. Place  $\pm 7000$  ft-lbs on casing a second time, count turns, then return pipe torque to neutral and count turns. Repeat if torque-up turns do not equal torque release turns. Once torque-in equals torque-out go to step 7.
7. PU 100,000# tension string weight. RU B&C. Cycle pressure test to 7,000# / 9,000# psi.
8. Install slips. Land casing w/ 80,000# tension.
9. Cut-off and dress 4 1/2" casing stub.
10. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~7316'. Clean out to PBTD (9520').
11. POOH, land tbg and pump off POBS.
12. NUWH, RDMO. Turn well over to production ops.



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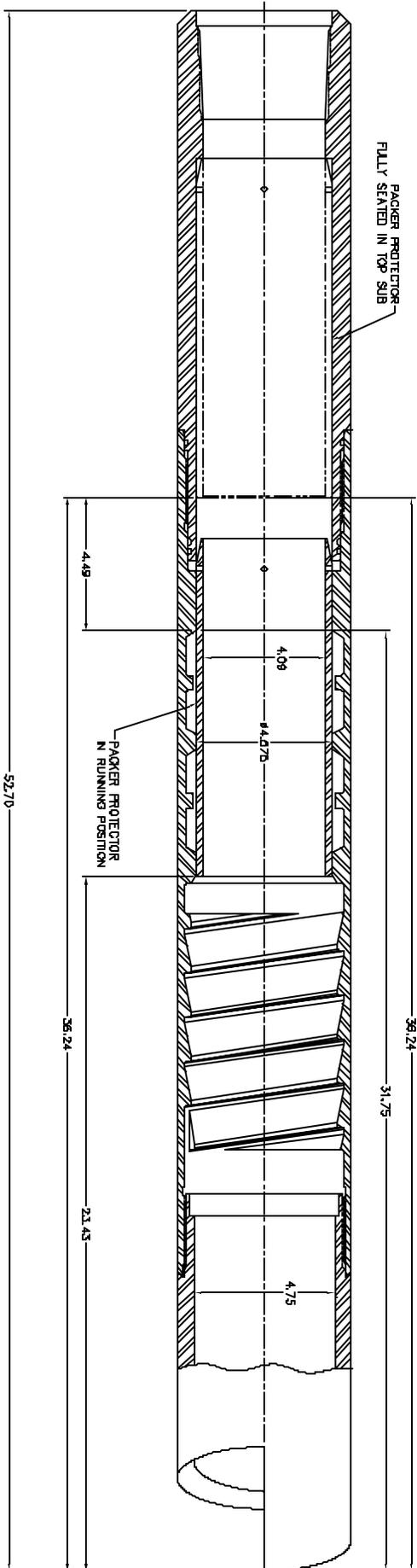
## **Logan High Pressure Casing Patches Assembly Procedure**

All parts should be thoroughly greased before being assembled.

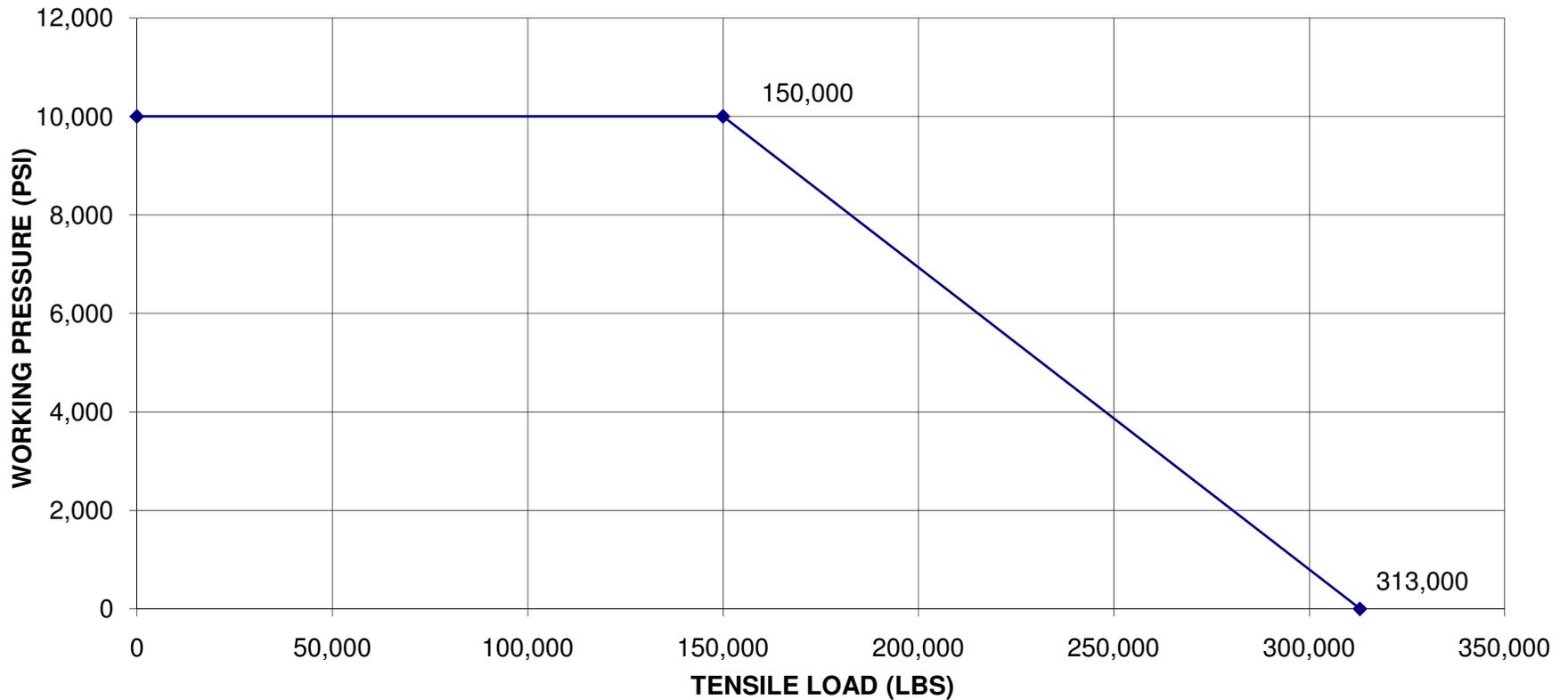
1. Install all four Logan Type "L" Packers in the spaces provided in the Casing Patch Bowl. Refer to diagram provided for proper installation.
2. Install Packer Protector from the Basket Grapple end of the Bowl. The beveled end of the Packer Protector goes in first. Carefully push the Packer Protector through the four Type "L" Packers.
3. Align Shear Pin Holes in Packer Protector so that the holes have just passed into the counter bore at the Top Sub end, refer to diagram. The Packer Protector is provided with four Shear Pin Holes. Use only two holes, 180 degrees apart and install the pins.
4. Screw the Basket Grapple in from the lower end of the Bowl, using left-hand rotation. The Tang Slot in the Basket Grapple must land in line with the slot in the Bowl.
5. Insert the Basket Grapple Control into the end of the Bowl. Align Tang on the Basket Grapple Control with the Tang Slot of the Bowl and Basket Grapple. This secures the Bowl and the Basket Grapple together.
6. Install the Cutlipped Guide into the lower end of the Bowl.
7. Install O-Rings on the two five-foot long Extensions. Screw the first Extension into the top end of the Bowl. Screw the second Extension into the top end of the first Extension.
8. Install O-Ring on Top Sub. Screw Top Sub into top end of second Extension.

Follow recommended Make-Up Torque as provided in chart.

510L-005-001 4-1/2" LOGAN HP CASING PATCH



**STRENGTH DATA FOR LOGAN 5.88" OD "L" TYPE CSG PATCH  
4-1/2 CASING, 10K PSI MAX WP 125K YIELD MAT'L  
LOGAN ASSEMBLY NO. 510L-005 -000**



COLLAPSE PRESSURE:  
11,222 PSI @ 0 TENSILE  
8,634 PSI @ 220K TENSILE

Tensile Strength @ Yield:  
Tensile Strength w/ 0 Int. Press.= 472,791lbs.  
Tensile Strength w/ 10K Int. Press.= 313,748lbs.

DATA BY SLS 11/16/2009

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UO 1530A
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.		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 922-31I3CS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047503980000	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6515 Ext	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2318 FSL 0138 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 31 Township: 09.0S Range: 22.0E Meridian: S	<b>COUNTY:</b> UINTAH	
		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 5/9/2011  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input type="checkbox"/> DRILLING REPORT Report Date:	<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"/> 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 type="text" value="Wellhead Repair"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
<p>The operator has concluded wellhead/casing repairs on the subject well location. Please see the attached chronological history for details of the operations.</p> <p style="text-align: right;"><b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY</b></p>		
<b>NAME (PLEASE PRINT)</b> Gina Becker	<b>PHONE NUMBER</b> 720 929-6086	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 5/9/2011	

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-3113CS (GREEN) Spud Conductor: 8/14/2009 Spud Date: 8/18/2009  
 Project: UTAH-UINTAH Site: NBU 922-311 PAD Rig Name No: MILES-GRAY 1/1  
 Event: WELL WORK EXPENSE Start Date: 4/12/2011 End Date:  
 Active Datum: RKB @5,060.00ft (above Mean Sea Level) UWI: NE/SE/0/9/S/22/E/31/0/0/26/PM/S/2,318.00/E/0/138.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
4/13/2011	7:00 -		PROD	35	G	P		Travel to location rig up ran g1 tool set down @ 9225 came out with the bypass plunger ran jdc set down @ 9225jar spring out came out with the titanium spring spring and plunger looks good left spring and plunger out for the work over rig rig down travel to the next loc  FLUID LEVEL gas cut SEAT NIPPLE DEPTH 9225 SN TYPE X TD (Max Depth) 9225  JOB DETAILS SPRING AND/OR PRODUCTION TOOL DETAIL  Spring Out Used-Titanium Spring In None  Stuck Spring No, it came free Corrosion on Spring No Bailed Acid No Broken Spring No Scale on Spring Drop Down Menu Production Tools None Depth of Tool  Other Hardware None PLUNGER DETAIL Stuck Plunger No, it came free Corrosion on Plunger No Broken PlungerNo Scale on Plunger No SOLIDS DETAIL Tight Spots None Severity of Trash None  Solid sample to turn in Drop Down Menu Solid Sample SourceDrop Down Menu Speculated Type of Solid Drop Down Menu Speculated Depth of Solid LOST SLICKLINE TOOLS Slickline Tools Lost Drop Down Menu Depth of Tool
4/19/2011	7:00 - 7:15	0.25	WO/REP	48	A	P		JSA-SAFETY MEETING, TRIP TBG
	7:15 - 8:30	1.25	WO/REP	30	A	P		MIRU, PUMP 40 BBLS WTR DN TBG AND 60 BBLS DN CSG, N/D WH, N/U BOPS AND TBG EQUIP, TOOH W/ 2 3/8" TBG, TALLEY OUT OF WELL,
	8:30 - 11:00	2.50	WO/REP	31	I	P		R/U CUTTER WIRELINE RIH W/ GAUGE RING TO @ 7400', RIH W/ BAKER 10K CBP, SET CBP @ 7350', RIH DUMP BAIL 4 SACKS CEMENT ON TOP OF CBP, R/D WIRELINE, PREPARE TO REPAIR CSG HANGER AND CSG IN AM, SDFN
	11:00 - 15:00	4.00	WO/REP	34	I	P		JSA-SAFETY MEETING W/ FRANKS CSG, RBS FISHING, CAMERON WELL HEAD AND RIG CREW, 100# ON WELL BLOW WELL TO TK W/ UNLOAD WTR, FILL CSG BACK UP W/ WTR, WELL STILL BLOWING GAS, POSSIBLE CBP LEAKING, BLOW WELL TO TK WAITING FOR WIRELINE,
4/20/2011	7:00 - 7:30	0.50	WO/REP	48		P		R/U CUTTER WIRELINE RIH W/ BAKER 10K CBP, SET CBP @ 7190', R/D WIRELINE
	7:30 - 9:30	2.00	WO/REP	30		P		
	9:30 - 10:30	1.00	WO/REP	34	I	P		

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 922-3113CS (GREEN)	Spud Conductor: 8/14/2009	Spud Date: 8/18/2009
Project: UTAH-UINTAH	Site: NBU 922-311 PAD	Rig Name No: MILES-GRAY 1/1
Event: WELL WORK EXPENSE	Start Date: 4/12/2011	End Date:
Active Datum: RKB @5,060.00ft (above Mean Sea Leve) UWI: NE/SE/0/9/S/22/E/31/0/0/26/PM/S/2,318.00/E/0/138.00/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	10:30 - 15:00	4.50	WO/REP	30		P		N/D BOPS AND TBG SPOOL AND CSG BOWL, FILL CSG W/ WTR, R/U CSG TONG AND POWER SWIVEL, RIH CUT 4 1/2" CSG OFF 6' BELOW SURFACE, P/O LAY DN CSG HANGER AND CSG STUB, P/U OVERSHOT RIH LATCH ONTO CSG, TORQUE CSG UP TO 6500# W/ 20 TURN, TRY TO GET OFF OVERSHOT W/ OVER SHOT NOT RELEASEING, R/U CUTTER WIRELINE RIH W/ STRING SHOT, SET @ 52', ACROSS COLLAR, PUT LEFT HAND TORQUE IN CSG SHOT STRING SHOT, BACK CSG OUT 1 JT DOWN, R/D WIRELINE, P/O LAY DN 1 JT AND FISHING TOOLS, P/U 1 JT 4 1/2" SKIRTED PIN AND 10' SUB 4 1/2" CSG, RIH SCREWED BACK INTO CSG W/ TORQUE UP TO 7000#, IN TOTAL HAD 23 EXTRA TURN IN CSG, PULLED CSG TO TO 90,000#,
	15:00 - 16:30	1.50	WO/REP	33	C	P		R/U B & C QUICK TEST, PRESSURE TEST CSG W/ LOW TEST 1000# 15 MIN OK, HIGH TEST 3500# 30 MIN LOST 33# IN 30 MIN, TEST PLUG HAD SMALL LEAK, OK TEST, R/D TESTER
	16:30 - 18:00	1.50	WO/REP	30		P		P/U TO 90,000# SET CAMERON SLIPS W/ 88,000# SET DN, CUT OFF CSG STUB, N/U CSG BOWL AND TBG SPOOL, TEST SPOOL OK, N/U BOPS AND TBG EQUIP, SHUT WELL IN SDFN,
4/21/2011	7:00 - 7:15	0.25	WO/REP	48		P		JSA-SAFETY MEETING, DRILL OUT W/ FOAM UNIT
	7:15 - 10:00	2.75	WO/REP	31	I	P		50# ON WELL, BLOW DN TO TK, P/U 3 7/8" BIT & POBS TIH W 2 3/8" L-80 TBG W/ BROACH TBG IN HOLE, TAG CBP @ 7190',
	10:00 - 17:00	7.00	WO/REP	44	C	P		R/U POWER SWIVEL & FOAM UNIT, PRESSURE TEST BOPS TO 3000# OK, ESTB CICR W/ FOAM UNIT, DRILL OUT CBP IN 3 MIN, RIH TAG CEMENT @7310', DRILL OUT CEMENT TO 7350', DRILL OUT CBP #2 IN 10 MIN, CIRC WELL CLEAN, TIH W/ TBG FILL @ 9510', C/O FILL TO 9520' PBTD, CIRC WELL CLEAN, P/O LAY DN 9 JT ON TRAILER, LAND TBG W/ HANGER, EOT @ 9234.61', N/D BOPS AND TBG EQUIP, N/U WELL HEAD, PUMP BIT OFF @ 1200#, SICIP =300#, SITP = ZERO #, SHUT WELL IN, PREPARE IN R/D, SDFWE, 75 BBLS WTR LTR
								KB = 26.00' HANGER = .83' 291 JTS 2 3/8" L-80 TBG = 9205.58' XN-NIPPLE = 2.20'
								EOT = 9234.61'



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
4304750397	NBU 922-3114AS		NESE	31	9S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
<u>B</u>	99999	<u>2900</u>	8/14/2009		<u>8/25/09</u>		
Comments: MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 08/14/2009 AT 07:00 HRS. <u>BHL= NESE</u>							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750398	NBU 922-3113CS		NESE	31	9S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
<u>B</u>	99999	<u>2900</u>	8/14/2009		<u>8/25/09</u>		
Comments: MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 08/14/2009 AT 09:00 HRS. <u>BHL= NESE</u>							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750395	NBU 922-3101AS		NESE	31	9S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
<u>B</u>	99999	<u>2900</u>	8/14/2009		<u>8/25/09</u>		
Comments: MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 08/14/2009 AT 11:00 HRS. <u>BHL= NWNW</u>							

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

Title

8/17/2009

Date

RECEIVED

AUG 17 2009

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UO 1530A	
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>	
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.	
<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>	
<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES	
<b>8. WELL NAME and NUMBER:</b> NBU 922-3113CS	
<b>9. API NUMBER:</b> 43047503980000	
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
<b>1. TYPE OF WELL</b> Gas Well	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 <span style="float: right;"><b>PHONE NUMBER:</b> 720 929-6111</span>	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2318 FSL 0138 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 31 Township: 09.0S Range: 22.0E Meridian: S	
<b>COUNTY:</b> UINTAH	
<b>STATE:</b> UTAH	

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 1/17/2014	<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 type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input checked="" type="checkbox"/> OTHER	OTHER: <input type="text" value="Production Enhancement"/>

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

The operator conducted the following workover/wellbore cleanout on the subject well on 1/17/2014. Please see the attached chronological well history for details. Thank you.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 February 20, 2014

<b>NAME (PLEASE PRINT)</b> Teena Paulo	<b>PHONE NUMBER</b> 720 929-6236	<b>TITLE</b> Staff Regulatory Specialist
<b>SIGNATURE</b> N/A	<b>DATE</b> 2/18/2014	

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 922-3113CS (GREEN)		Spud Conductor: 8/14/2009		Spud Date: 8/18/2009				
Project: UTAH-UINTAH			Site: NBU 922-311 PAD			Rig Name No: MILES 3/3		
Event: WELL WORK EXPENSE			Start Date: 1/16/2014			End Date: 1/17/2014		
Active Datum: RKB @5,060.00usft (above Mean Sea Level)				UWI: NE/SE/0/9/S/22/E/31/0/0/26/PM/S/2,318.00/E/0/138.00/0/0				

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/16/2014	7:00 - 7:30	0.50	WO/REP	48		P		HSM, SCANNING TBG
	7:30 - 9:30	2.00	WO/REP	30	A	P		SICP & SITP 126 PSI, RIGGED UP RIG, CONTROL TBG W/ 25 BBLs, CSG W/ 30 BBLs, UNLAND TBG IT WAS STUCK WORK TBG TO 75,000# GOT TBG MOVING, RELAND NU BOPS RU FLOOR.
	9:30 - 17:30	8.00	WO/REP	31	I	P		RU SCANTECH, SCAN & S.L.M OUT OF HOLE W/ 291 JTS, 229 JTS BAD, 33 YELLOW, 29 BLUE. HOLES IN JTS # 214,217, 225. BAD PIPE WAS ID PITTING INTERNAL SCALE. RD SCAN TECH.SWI SDFN
1/17/2014	7:00 - 7:30	0.50	WO/REP	48		P		HSM, WORKING W/ FOAM UNIT.
	7:30 - 13:30	6.00	WO/REP	31	I	P		SICP 117, CONTROL CSG W/ 40 BBLs T-MAC, PU 37/8 BIT, POBS, 150 JTS 23/8 J-55, 6' L-80 PUP JT, 150 JTS 23/8 L-80 TAG UP @ 9477', RU SWIVEL.
	13:30 - 19:30	6.00	WO/REP	44	D	P		BROKE CIRC W/ AIR/FOAM IN 1 HR 45 MIN, C/O SAND F/ 9477' TO 9528', CIRC CLN KILL TBG, RD SWIVEL L/D 30 JTS 23/8 L-80.LAND TBG, ND BOPS NU WH PUMPED OFF BIT, SWI DRAIN UP SDFWE.
KB = 26' 7/1/16 HANGER = .83' 122 JTS 23/8 L-80 = 3867.23' ( TOP 60 JTS NEW ) L-80 PUP JT = 6.13' ( NEW ) 150 JTS 23/8 J-55 = 4693.82' ( NEW ) POBS W/ 1.875 X/N = 2.20' EOT @ 8596.21'  TWLTR 60 BBLs								