

**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 1022-5H4CS
<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> 720 929-6515
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217		<b>9. OPERATOR E-MAIL</b> julie.jacobson@anadarko.com
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> UTU-01191-A	<b>11. MINERAL OWNERSHIP</b> FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>	
<b>12. SURFACE OWNERSHIP</b> FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input 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"/>

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	1950 FSL 166 FEL	NESE	5	10.0 S	22.0 E	S
Top of Uppermost Producing Zone	2432 FNL 493 FEL	SENE	5	10.0 S	22.0 E	S
At Total Depth	2432 FNL 493 FEL	SENE	5	10.0 S	22.0 E	S

<b>21. COUNTY</b> UINTAH	<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 224	<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 1363
<b>24. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 587	<b>25. PROPOSED DEPTH</b> MD: 10258    TVD: 10108	
<b>26. ELEVATION - GROUND LEVEL</b> 5062	<b>27. BOND NUMBER</b> WYB000291	<b>28. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> 43-8496

**Hole, Casing, and Cement Information**

String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Surf	11	8.625	0 - 2380	28.0	J-55 LT&C	0.2	Type V	180	1.15	15.8
							Class G	270	1.15	15.8
Prod	7.875	4.5	0 - 10258	11.6	HCP-110 LT&C	12.5	Premium Lite High Strength	300	3.38	12.0
							50/50 Poz	1520	1.31	14.3

**ATTACHMENTS**

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES

<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP

<b>NAME</b> Gina Becker	<b>TITLE</b> Regulatory Analyst II	<b>PHONE</b> 720 929-6086
<b>SIGNATURE</b>	<b>DATE</b> 02/06/2013	<b>EMAIL</b> gina.becker@anadarko.com
<b>API NUMBER ASSIGNED</b> 43047535720000	<b>APPROVAL</b>   Permit Manager	

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

<b><u>NBU 1022-5H4CS</u></b>		
Surface:	1950 FSL / 166 FEL	NESE
BHL:	2432 FNL / 493 FEL	SENE

Section 5 T10S R22E

Unitah County, Utah  
Mineral Lease: UTU-01191-A

### ONSHORE ORDER NO. 1

### DRILLING PROGRAM

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

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,152'	
Birds Nest	1,403'	Water
Mahogany	1,933'	Water
Wasatch	4,347'	Gas
Mesaverde	6,872'	Gas
Sego	8,998'	Gas
Castlegate	9,077'	Gas
Blackhawk	9,508'	Gas
TVD =	10,108'	
TD =	10,258'	

- 2.b** Kerr McGee Oil & Gas Onshore LP (Kerr McGee) may elect to drill to (i) the Blackhawk formation (part of the Mesaverde Group), (ii) to a shallower depth within the Mesaverde Group, or (iii) to the Wasatch Formation. If Kerr McGee drills to the Blackhawk formation, please refer to Blackhawk as the bottom formation. The attached Blackhawk Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the deeper formation.

If Kerr-McGee drills to a shallower depth in the Mesaverde Group or to the Wasatch Formation, please refer to the attached Wasatch/Mesaverde Drilling Program which includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the shallower formations.

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

Please refer to the Standard Operating Practices on file with the BLM Vernal Field Office.

12/21/2012

**RECEIVED:** February 04, 2013

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

Please refer to the Standard Operating Practices on file with the BLM Vernal Field Office.

**5. Drilling Fluids Program:**

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

**6. Evaluation Program:**

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

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

Maximum anticipated bottom hole pressure calculated at 10108' TVD, approximately equals  
6,469 psi (0.64 psi/ft = actual bottomhole gradient)

---

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

Maximum anticipated surface pressure equals approximately 4,231 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

---

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

**7.b Wasach Formation/Mesaverde Group**

Maximum anticipated bottom hole pressure calculated at 8998' TVD, approximately equals  
5,489 psi (0.61 psi/ft = actual bottomhole gradient)

---

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

Maximum anticipated surface pressure equals approximately 3,533 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

---

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

**8. Anticipated Starting Dates:**

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

**9. Variances:**

Please refer to the Standard Operating Practices on file with the BLM Vernal Field Office.

**10. Other Information:**

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

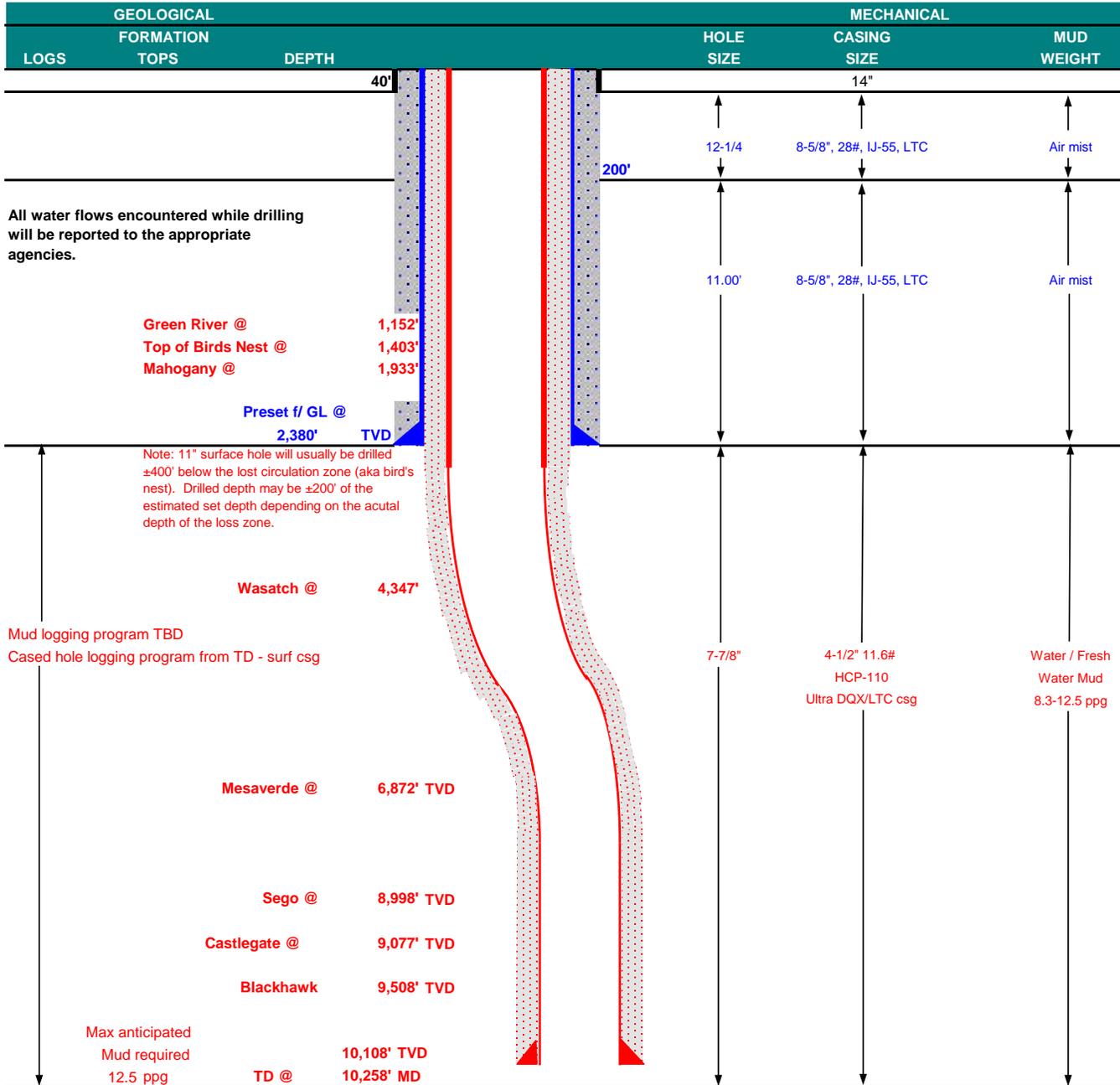
12/21/2012

RECEIVED: February 04, 2013



**KERR-McGEE OIL & GAS ONSHORE LP**  
**Blackhawk Drilling Program**

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	December 21, 2012	
WELL NAME	<b>NBU 1022-5H4CS</b>		TD	10,108'	10,258' MD
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah
SURFACE LOCATION	NESE	1950 FSL	166 FEL	Sec 5 T 10S R 22E	FINISHED ELEVATION 5,062'
	Latitude:	39.976092	Longitude:	-109.454856	NAD 83
BTM HOLE LOCATION	SENE	2432 FNL	493 FEL	Sec 5 T 10S R 22E	
	Latitude:	39.978584	Longitude:	-109.45604	NAD 83
OBJECTIVE ZONE(S)	BLACKHAWK (Part of the Mesaverde Group)				
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), BLM (Surface), UDOGM Tri-County Health Dept.				





**KERR-McGEE OIL & GAS ONSHORE LP**  
**Blackhawk Drilling Program**

**CASING PROGRAM**

						DESIGN FACTORS			
	SIZE	INTERVAL	WT.	GR.	CPLG.	LTC		DQX	
						BURST	COLLAPSE	TENSION	
CONDUCTOR	14"	0-40'							
SURFACE	8-5/8"	0 to 2,380	28.00	IJ-55	LTC	3,390	1,880	348,000	N/A
						10,690	8,650	279,000	367,174
PRODUCTION	4-1/2"	0 to 5,000	11.60	HCP-110	DQX	1.19	1.32		3.81
						1.19	1.32	5.65	

**Surface Casing:**

(Burst Assumptions: TD = 12.5 ppg) 0.73 psi/ft = frac gradient @ surface shoe  
Fracture at surface shoe with 0.1 psi/ft gas gradient above

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

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.64 psi/ft = bottomhole gradient

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

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE Option 1	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>							
SURFACE Option 2	LEAD	1,880'	Premium cmt + 16% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOC + GR 3 pps	280	35%	12.00	2.86
	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	170	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,838'	Premium Lite II +0.25 pps celloflake + .4% FL-52 + .3% R-3 + .5 lbs/sk Kol-Seal + 6%Bentonite II + 1.2% Sodium Metasilicate + .05 lbs/sk Static Free	300	35%	12.00	3.38
	TAIL	6,420'	50/50 Poz/G + 10% salt + .05 lbs/sk Static Free + 1.2% Sodium Metasilicate + .5 % EC-1 +.002 gps FP-6L + 2% Bentonite II	1,520	35%	14.30	1.31

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

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

**FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. 1 centralizer on the first 3 joints and one every third joint thereafter.

**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.

IF extreme mud losses are observed OR cement doesn't reach surface on a well on the pad, a DV Tool may be used. With Cement Baskets above and Below it.

**DRILLING ENGINEER:**

Nick Spence / John Tuckwiller / Brian Cocchiere / Tyler Elliott

**DATE:**

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

**DATE:**





**KERR-McGEE OIL & GAS ONSHORE LP**  
**Wasatch/Mesaverde Drilling Program**

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	LTC	DQX
								TENSION	
CONDUCTOR	14"	0-40'							
SURFACE	8-5/8"	0 to 2,380	28.00	IJ-55	LTC	3.390	1,880	348,000	N/A
						7,780	6,350		267,035
PRODUCTION	4-1/2"	0 to 5,000	11.60	I-80	DQX	1.11	1.13		3.08
						7,780	6,350	223,000	
	4-1/2"	5,000 to 9,148'	11.60	I-80	LTC	1.11	1.13	5.68	

**Surface Casing:**

(Burst Assumptions: TD = 12.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe  
 Fracture at surface shoe with 0.1 psi/ft gas gradient above  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.61 psi/ft = bottomhole gradient  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
Option 1 TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>						
SURFACE LEAD	1,880'	Premium cmt + 16% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOC + GR 3 pps	280	35%	12.00	2.86
TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps Flocele + 3% salt BWOC + GR 3 pps	150	35%	15.80	1.15
TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION LEAD	3,838'	Premium Lite II + 0.25 pps celloflake + .4% FL-52 + .3% R-3 + .5 lbs/sk Kol-Seal + 6%Bentonite II + 1.2% Sodium Metasilicate + .05 lbs/sk Static Free	300	35%	12.00	3.38
TAIL	5,310'	50/50 Poz/G + 10% salt + .05 lbs/sk Static Free + 1.2% Sodium Metasilicate + .5 % EC-1 + .002 gps FP-6L + 2% Bentonite II	1,260	35%	14.30	1.31

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained  
 \*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

**FLOAT EQUIPMENT & CENTRALIZERS**

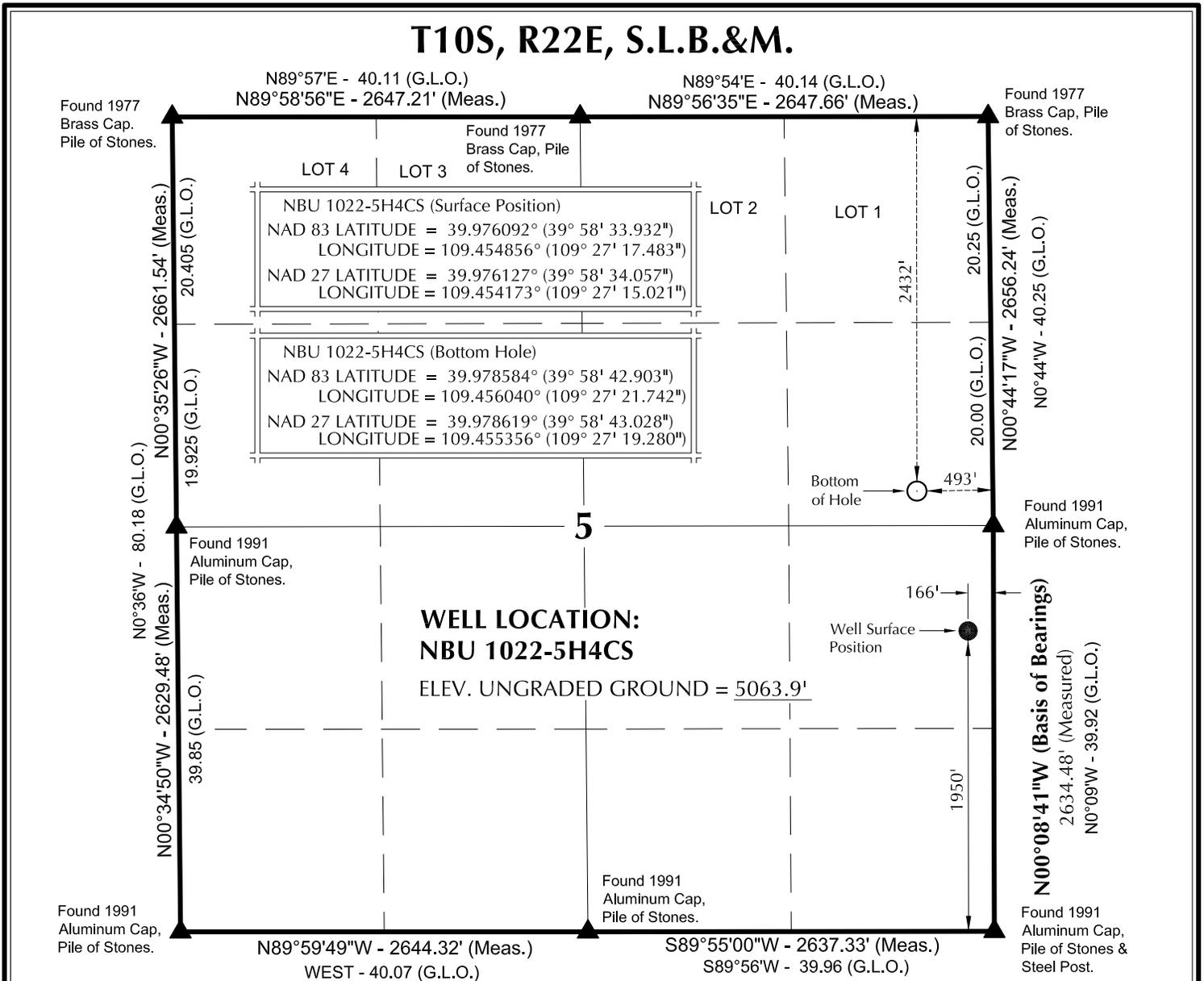
SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. 1 centralizer on the first 3 joints and one every third joint thereafter.

**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.  
 IF extreme mud losses are observed OR cement doesn't reach surface on a well on the pad, a DV Tool may be used. With Cement Baskets above and Below it.

**DRILLING ENGINEER:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
 Nick Spence / John Tuckwiller / Brian Cocchiere / Tyler Elliott  
**DRILLING SUPERINTENDENT:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
 Kenny Gathings/ Lovel Young

# T10S, R22E, S.L.B.&M.



**NOTES:**

- ▲ = Section Corners Located
- 1. Well footages are measured at right angles to the Section Lines. G.L.O. distances are shown in feet or chains.
- 2. 1 chain = 66 feet.
- 3. The Bottom of hole bears N20°04'18"W 966.62' from the Surface Position.
- 4. NAD 83 Latitude & Longitude are (CORS 96)(EPOCH:2002).
- 5. Bearings and Distances are based upon a Local Cartesian Grid, oriented to Geodetic North at the North 1/4 Corner of Section 8, T10S, R22E, S.L.B.&M. The Grid having a mean project height of 5300'. Lineal units used are U.S. Survey Foot.
- 6. Basis of elevation is Tri-Sta "Two Water" located in Lot 4 of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.



**SURVEYOR'S CERTIFICATE**

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

9-5-12  
 JOHN R. LAUGH  
 PROFESSIONAL LAND SURVEYOR  
 REGISTRATION No. 6028691  
 STATE OF UTAH

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

**WELL PAD: NBU 1022-5I**

**NBU 1022-5H4CS**  
**WELL PLAT**  
 2432' FNL, 493' FEL (Bottom Hole)  
 SE ¼ NE ¼ OF SECTION 5, T10S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH.

**609**

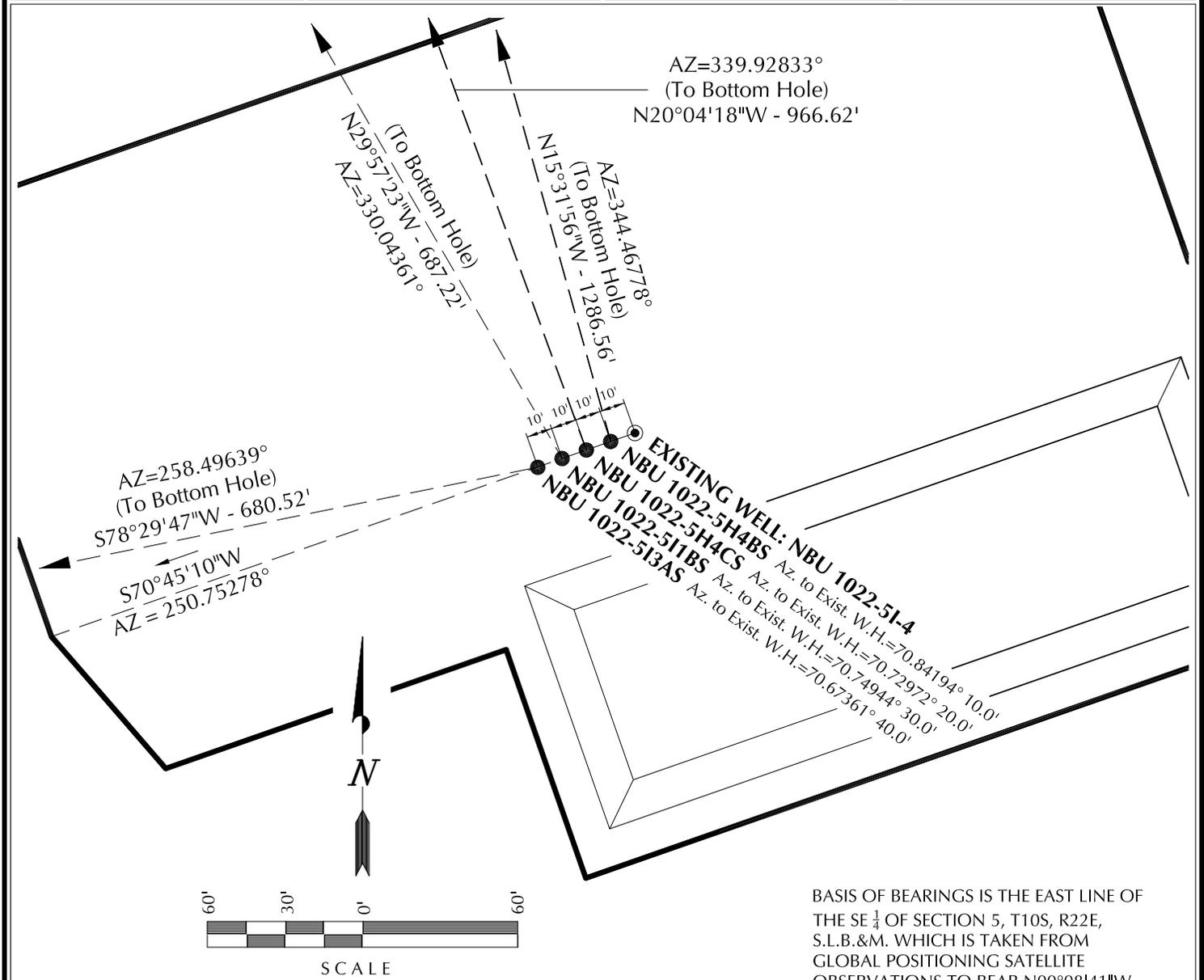
**CONSULTING, LLC**  
 2155 North Main Street  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

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

DATE SURVEYED: 8-8-12	SURVEYED BY: J.W.	SHEET NO: <b>2</b>
DATE DRAWN: 8-16-12	DRAWN BY: J.G.C.	
SCALE: 1" = 1000'		2 OF 16

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
NBU 1022-5H4BS	39°58'33.965"	109°27'17.362"	39°58'34.090"	109°27'14.900"	1954' FSL 156' FEL	39°58'46.212"	109°27'21.785"	39°58'46.337"	109°27'19.322"	2097' FNL 492' FEL
NBU 1022-5H4CS	39°58'33.932"	109°27'17.483"	39°58'34.057"	109°27'15.021"	1950' FSL 166' FEL	39°58'42.903"	109°27'21.742"	39°58'43.028"	109°27'19.280"	2432' FNL 493' FEL
NBU 1022-5I1BS	39°58'33.900"	109°27'17.604"	39°58'34.025"	109°27'15.143"	1947' FSL 175' FEL	39°58'39.783"	109°27'22.011"	39°58'39.908"	109°27'19.548"	2543' FSL 517' FEL
NBU 1022-5I3AS	39°58'33.867"	109°27'17.726"	39°58'33.991"	109°27'15.264"	1944' FSL 185' FEL	39°58'32.526"	109°27'26.290"	39°58'32.651"	109°27'23.827"	1809' FSL 852' FEL
NBU 1022-5I-4	39°58'33.998"	109°27'17.241"	39°58'34.122"	109°27'14.779"	1957' FSL 147' FEL	39°58'33.998"	109°27'17.241"	39°58'34.122"	109°27'14.779"	

RELATIVE COORDINATES - From Surface Position to Bottom Hole											
WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 1022-5H4BS	1239.6'	-344.5'	NBU 1022-5H4CS	907.9'	-331.7'	NBU 1022-5I1BS	595.4'	-343.2'	NBU 1022-5I3AS	-135.7'	-666.8'



BASIS OF BEARINGS IS THE EAST LINE OF THE SE ¼ OF SECTION 5, T10S, R22E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°08'41"W.

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

**WELL PAD - NBU 1022-5I**

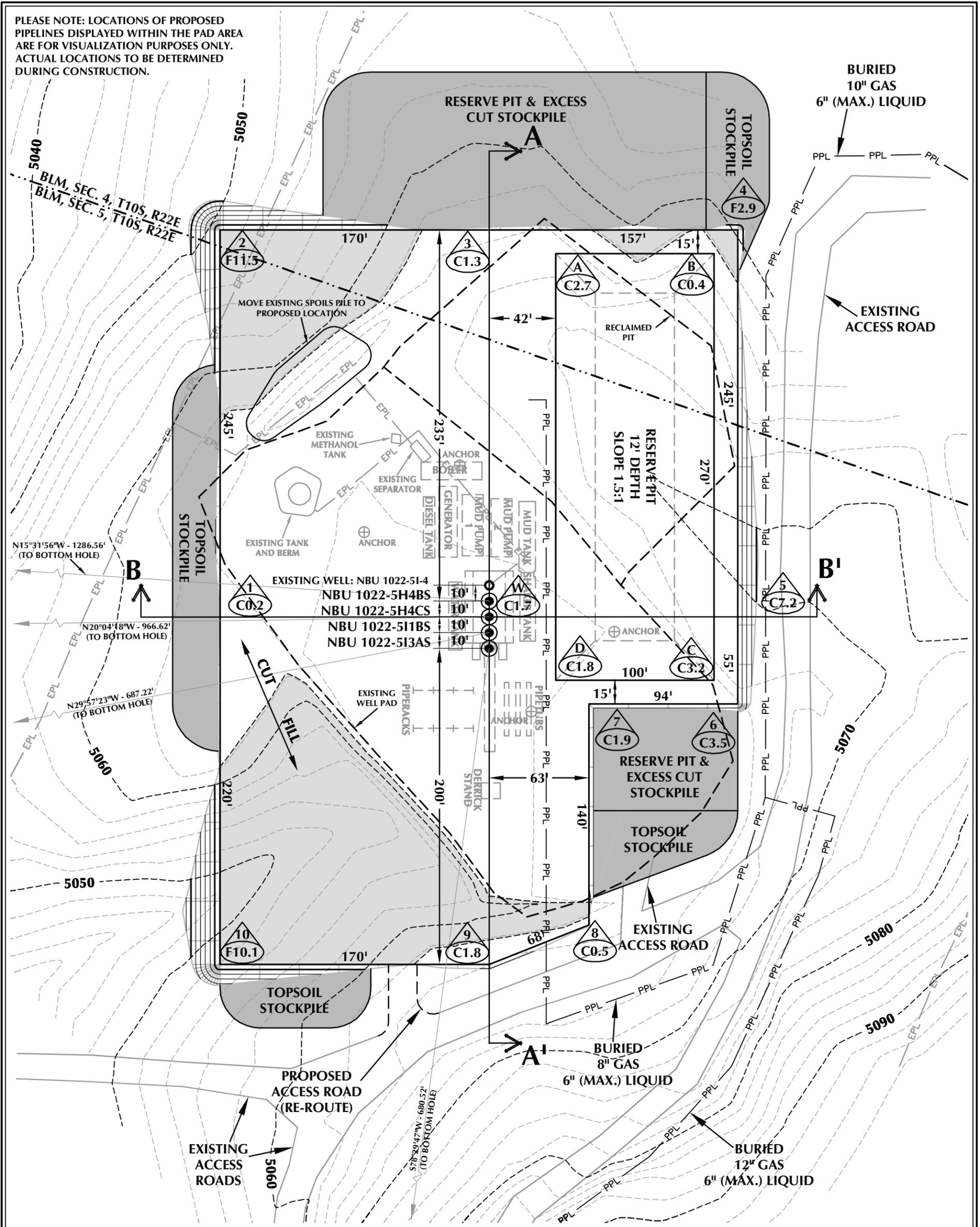
**WELL PAD INTERFERENCE PLAT**  
 WELLS - NBU 1022-5H4BS, NBU 1022-5H4CS, NBU 1022-5I1BS & NBU 1022-5I3AS LOCATED IN SECTION 5, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

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

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

DATE SURVEYED: 8-8-12	SURVEYED BY: J.W.	SHEET NO: <b>5</b> 5 OF 16
DATE DRAWN: 8-16-12	DRAWN BY: J.G.C.	
SCALE: 1" = 60'		Date Last Revised:

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



**WELL PAD - NBU 1022-51 DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 5063.9'  
 FINISHED GRADE ELEVATION = 5062.2'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1  
 TOTAL WELL PAD AREA = 3.33 ACRES  
 TOTAL DISTURBANCE AREA = 4.38 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00

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

**WELL PAD - NBU 1022-51**

WELL PAD - LOCATION LAYOUT  
 NBU 1022-5H4BS, NBU 1022-5H4CS,  
 NBU 1022-511BS & NBU 1022-513AS  
 LOCATED IN SECTION 5, T10S, R22E,  
 S.L.B.&M., UTAH COUNTY, UTAH



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

**WELL PAD QUANTITIES**

TOTAL CUT FOR WELL PAD = 10,475 C.Y.  
 TOTAL FILL FOR WELL PAD = 8,818 C.Y.  
 TOPSOIL @ 6" DEPTH = 1,677 C.Y.  
 EXCESS MATERIAL = 1,657 C.Y.

**RESERVE PIT QUANTITIES**

TOTAL CUT FOR RESERVE PIT  
 +/- 9,230 C.Y.  
 RESERVE PIT CAPACITY (2' OF FREEBOARD)  
 +/- 35,180 BARRELS

**WELL PAD LEGEND**

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

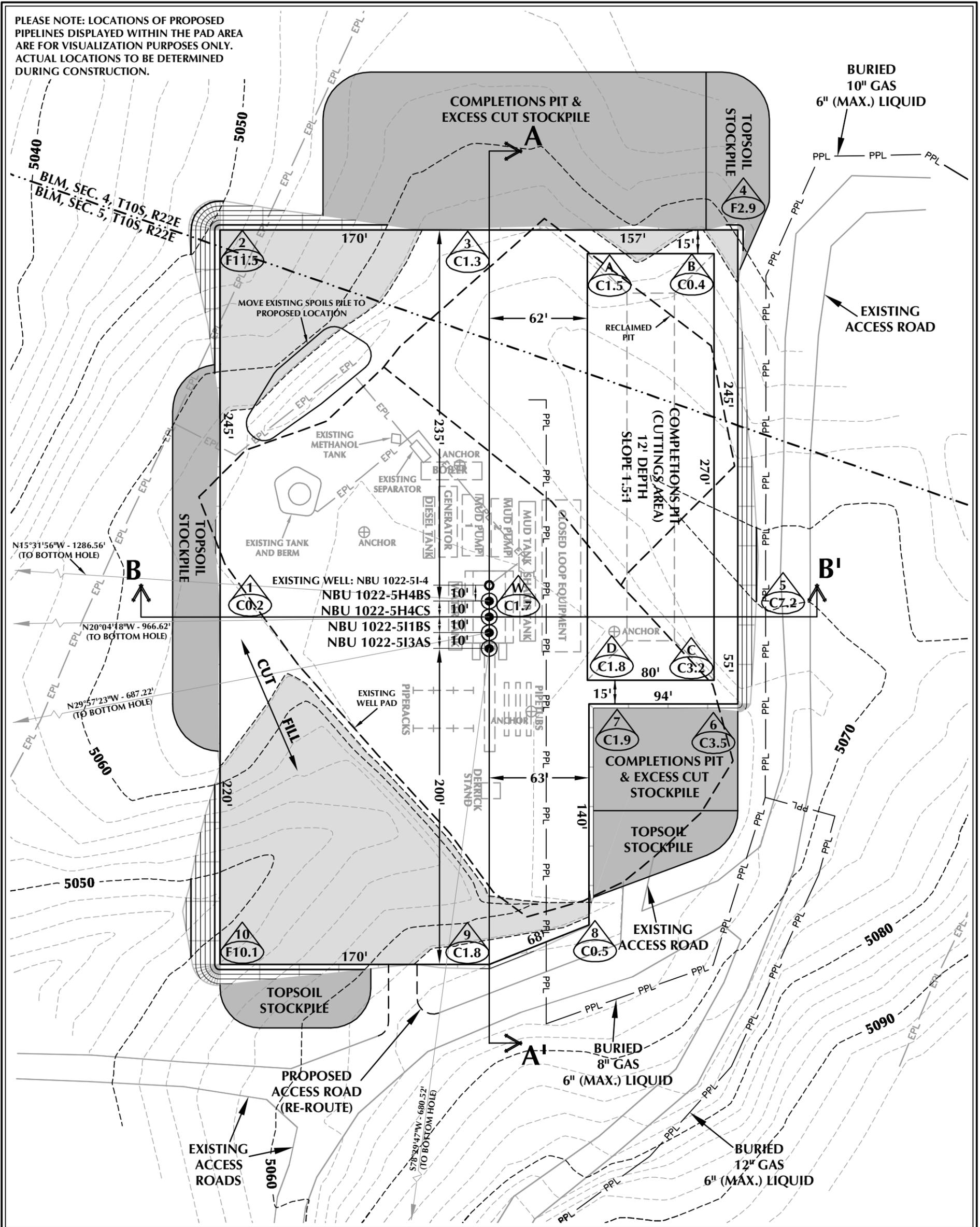


HORIZONTAL 0 30' 60' 1" = 60'  
 2' CONTOURS

SCALE: 1"=60' DATE: 9/4/12 SHEET NO:  
 REVISED: APF 11/15/12 **6** 6 OF 16

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

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



**WELL PAD - NBU 1022-51 (CLOSED LOOP) DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 5063.9'  
 FINISHED GRADE ELEVATION = 5062.2'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1  
 TOTAL WELL PAD AREA = 3.33 ACRES  
 TOTAL DISTURBANCE AREA = 4.38 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00

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

**WELL PAD - NBU 1022-51**

WELL PAD - LOCATION LAYOUT  
 NBU 1022-5H4BS, NBU 1022-5H4CS,  
 NBU 1022-511BS & NBU 1022-513AS  
 LOCATED IN SECTION 5, T10S, R22E,  
 S.L.B.&M., UTAH COUNTY, UTAH



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

**WELL PAD QUANTITIES**

TOTAL CUT FOR WELL PAD = 10,475 C.Y.  
 TOTAL FILL FOR WELL PAD = 8,818 C.Y.  
 TOPSOIL @ 6" DEPTH = 1,677 C.Y.  
 EXCESS MATERIAL = 1,657 C.Y.

**COMPLETIONS PIT QUANTITIES**

TOTAL CUT FOR COMPLETIONS PIT  
 +/- 6,990 C.Y.  
 COMPLETIONS PIT CAPACITY  
 (2' OF FREEBOARD)  
 +/- 26,310 BARRELS

**WELL PAD LEGEND**

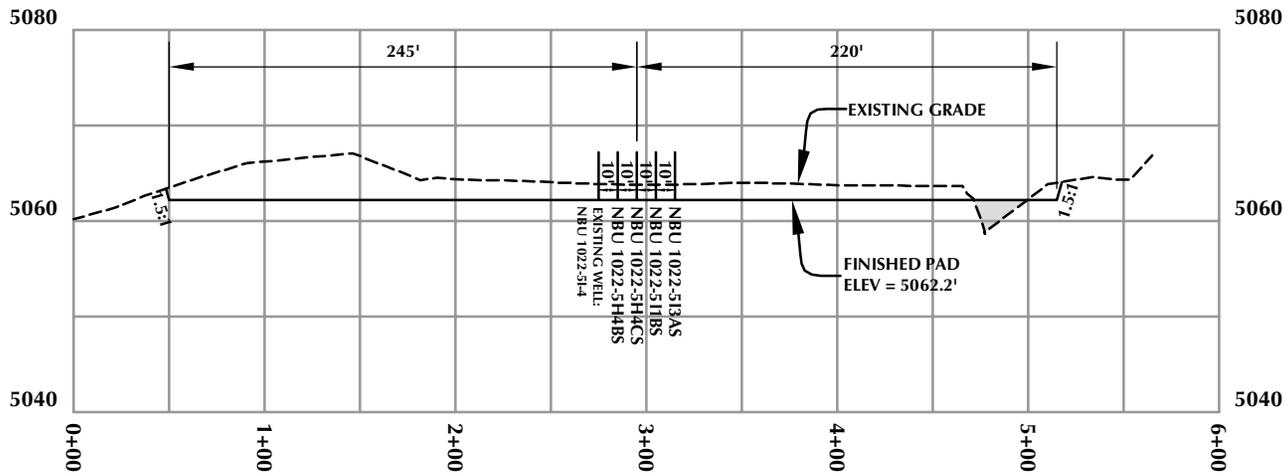
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PROPOSED PIPELINE
- EXISTING PIPELINE



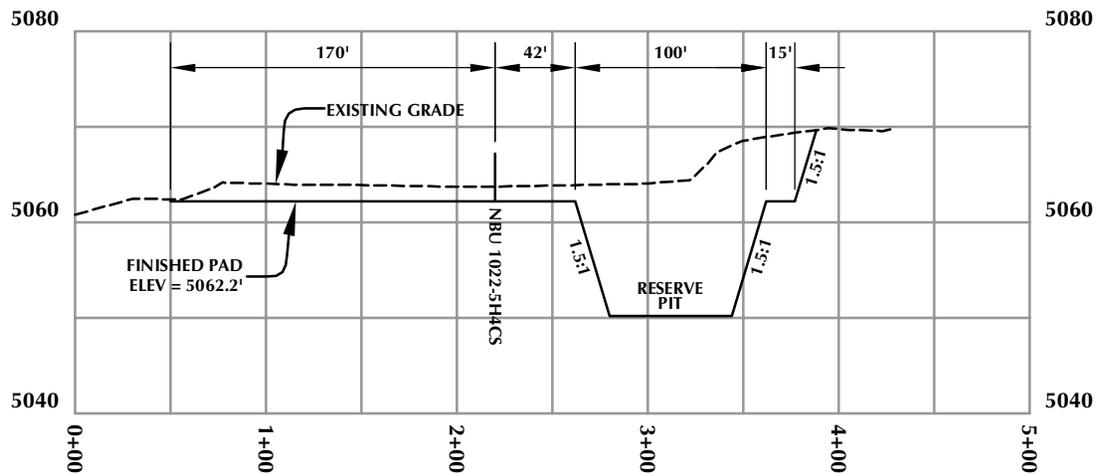
HORIZONTAL 0 30' 60' 1" = 60'  
 2' CONTOURS

SCALE: 1"=60' DATE: 10/29/12 SHEET NO:  
 REVISED: APF 11/15/12 **6B** 6B OF 16

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



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

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

**WELL PAD - NBU 1022-5I**

**WELL PAD - CROSS SECTIONS**  
NBU 1022-5H4BS, NBU 1022-5H4CS,  
NBU 1022-5H4S & NBU 1022-5H4AS  
LOCATED IN SECTION 5, T10S, R22E,  
S.L.B.&M., UINTAH COUNTY, UTAH



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

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

(435) 789-1365



Scale: 1"=100'

Date: 9/4/12

SHEET NO:

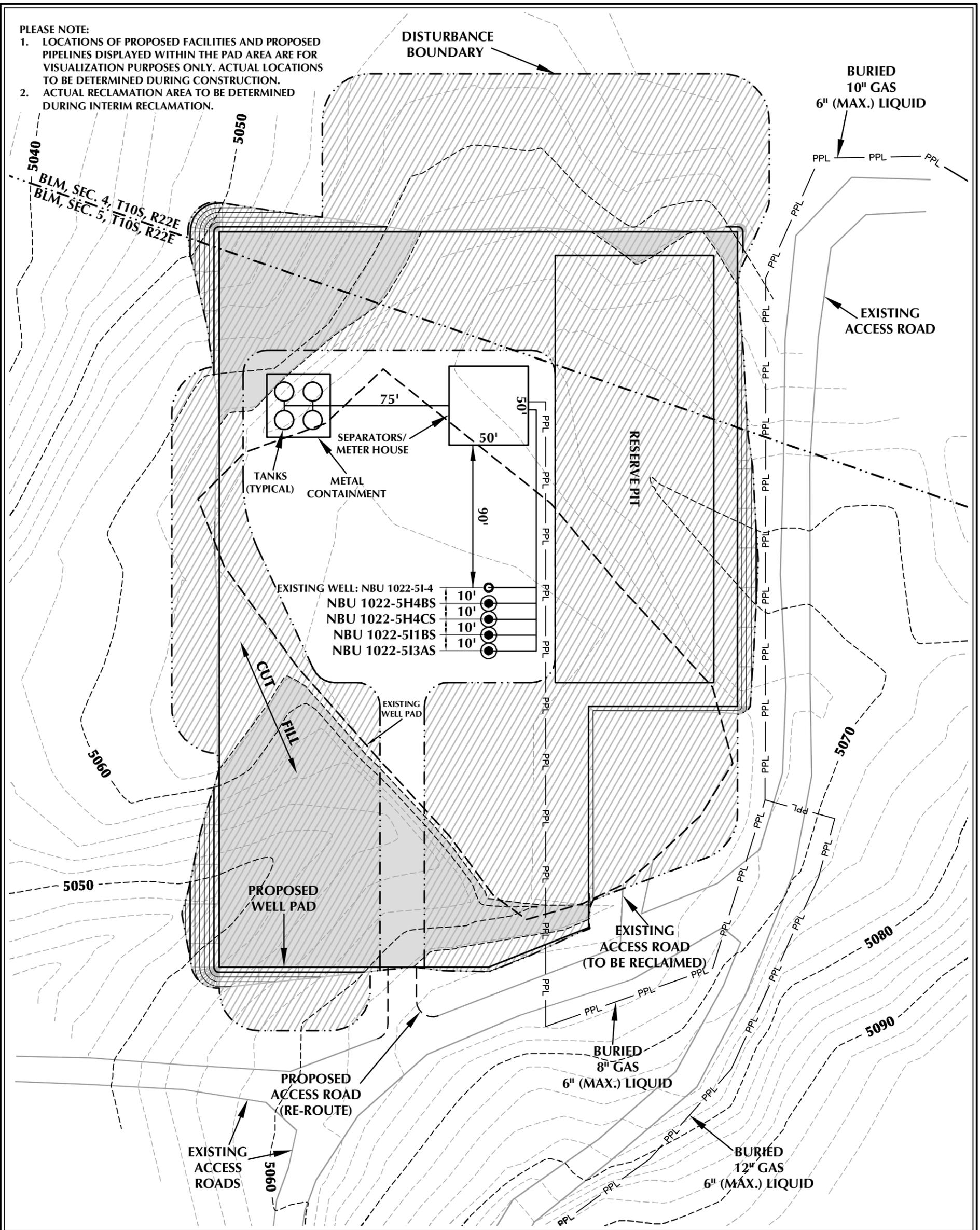
REVISED:

**7**

7 OF 16

**PLEASE NOTE:**

1. LOCATIONS OF PROPOSED FACILITIES AND PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.
2. ACTUAL RECLAMATION AREA TO BE DETERMINED DURING INTERIM RECLAMATION.



**WELL PAD - NBU 1022-51 DESIGN SUMMARY**

TOTAL DISTURBANCE AREA = 4.38 ACRES (INCLUDING EXISTING)  
 RECLAMATION AREA = 3.44 ACRES  
 TOTAL WELL PAD AREA AFTER RECLAMATION = 0.94 ACRES

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

WELL PAD - NBU 1022-51

WELL PAD - RECLAMATION LAYOUT  
 NBU 1022-5H4BS, NBU 1022-5H4CS,  
 NBU 1022-511BS & NBU 1022-513AS  
 LOCATED IN SECTION 5, T10S, R22E,  
 S.L.B.&M., UTAH COUNTY, UTAH



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

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

(435) 789-1365

- WELL PAD LEGEND**
- EXISTING WELL LOCATION
  - PROPOSED WELL LOCATION
  - EXISTING CONTOURS (2' INTERVAL)
  - PROPOSED CONTOURS (2' INTERVAL)
  - PROPOSED PIPELINE
  - EXISTING PIPELINE
  - RECLAMATION AREA



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

SCALE: 1"=60'	DATE: 9/4/12	SHEET NO:
REVISED:	APF 11/15/12	<b>8</b> 8 OF 16

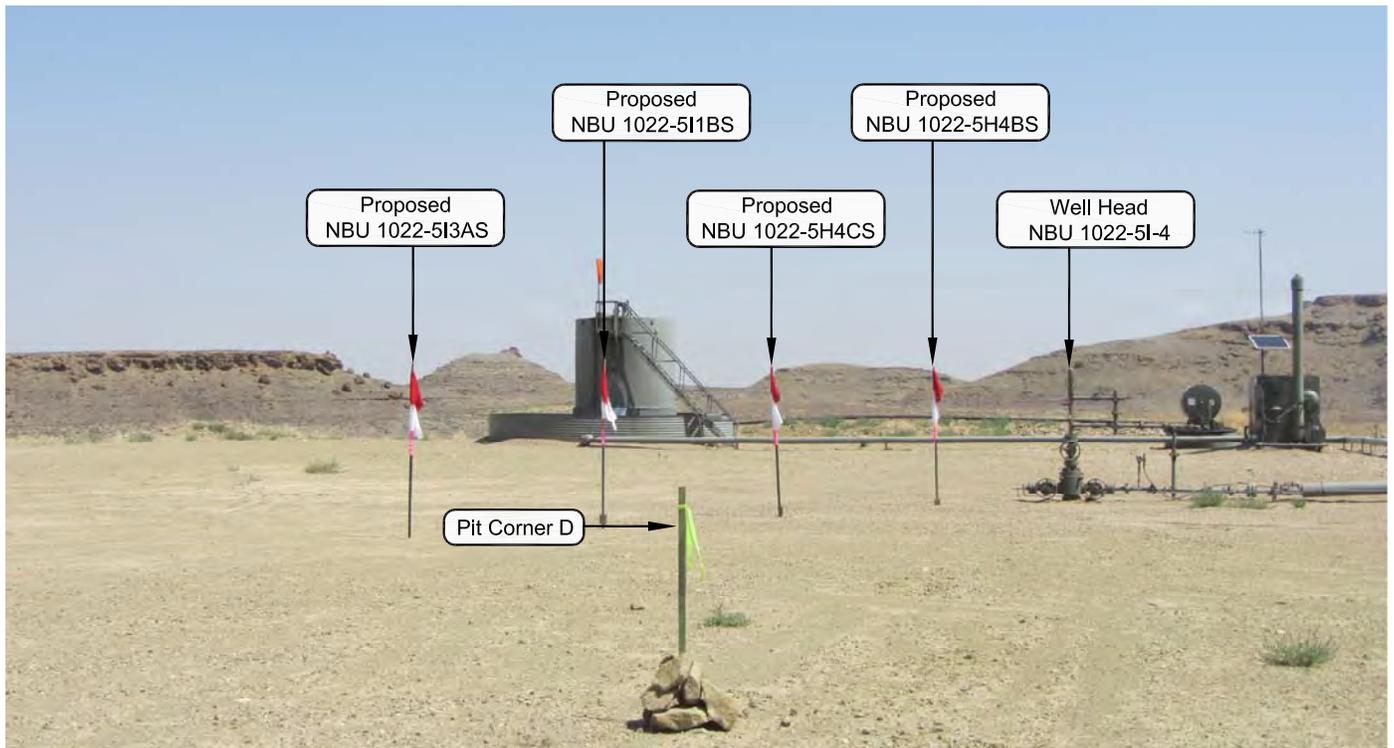


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: NORTHEASTERLY



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: NORTHEASTERLY

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

**WELL PAD - NBU 1022-5I**

**LOCATION PHOTOS**

**NBU 1022-5H4BS, NBU 1022-5H4CS,  
 NBU 1022-5I1BS & NBU 1022-5I3AS  
 LOCATED IN SECTION 5, T10S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH.**



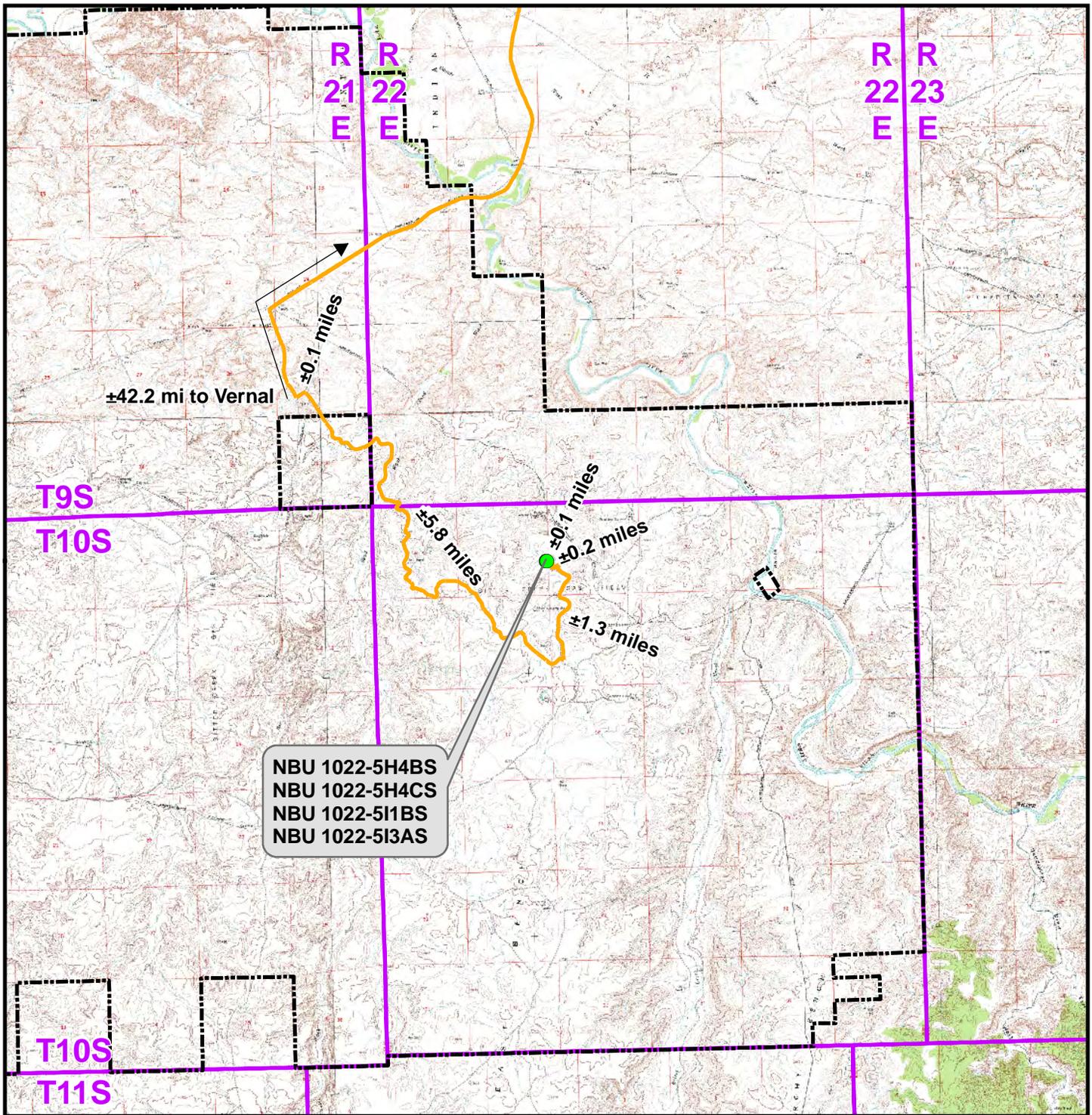
**CONSULTING, LLC**  
 2155 North Main Street  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

**TIMBERLINE**

(435) 789-1365

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

DATE PHOTOS TAKEN: 8-8-12	PHOTOS TAKEN BY: J.W.	SHEET NO: <b>9</b> 9 OF 16
DATE DRAWN: 8-16-12	DRAWN BY: J.G.C.	
Date Last Revised:		



File: K:\ANADARKO\2012\2012\_53\_NBU\_1022-5\_FOCUS\GIS\Maps\_ABCDENBU\_1022-5I\_A.mxd, 9/10/2012 1:58:16 PM

**Legend**

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

Distance From Well Pad - NBU 1022-5I To Unit Boundary: ±8,629ft

**WELL PAD - NBU 1022-5I**

**TOPO A**  
 NBU 1022-5H4BS, NBU 1022-5H4CS,  
 NBU 1022-5I1BS & NBU 1022-5I3AS  
 LOCATED IN SECTION 5, T10S, R22E  
 S.L.B.&M., UINTAH COUNTY, UTAH

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

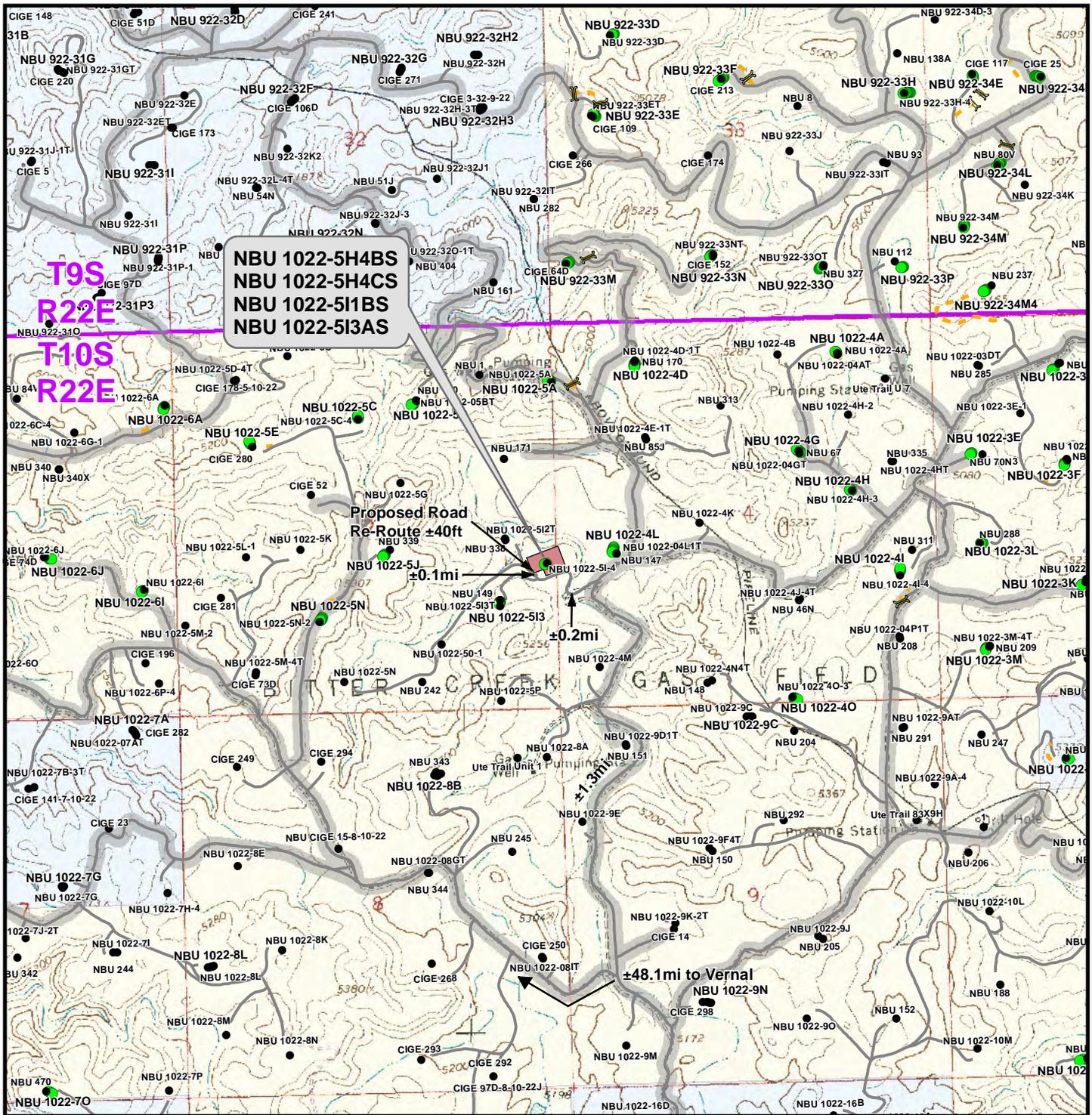
1099 18th Street  
 Denver, Colorado 80202



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



SCALE: 1:100,000	NAD83 USP Central	SHEET NO:
DRAWN: TL	DATE: 4 Sept 2012	<b>10</b>
REVISED:	DATE:	



File: K:\ANADARKO\2012\2012\_53\_NBU\_1022-5\NBU 1022-5I1BS.mxd, 10/29/2012 5:55:30 PM

**Legend**

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

Total Proposed Road Re-Route Length: ±40ft

**WELL PAD - NBU 1022-5I**

**TOPO B**  
 NBU 1022-5H4BS, NBU 1022-5H4CS,  
 NBU 1022-5I1BS & NBU 1022-5I3AS  
 LOCATED IN SECTION 5, T10S, R22E  
 S.L.B.&M., UINTAH COUNTY, UTAH

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

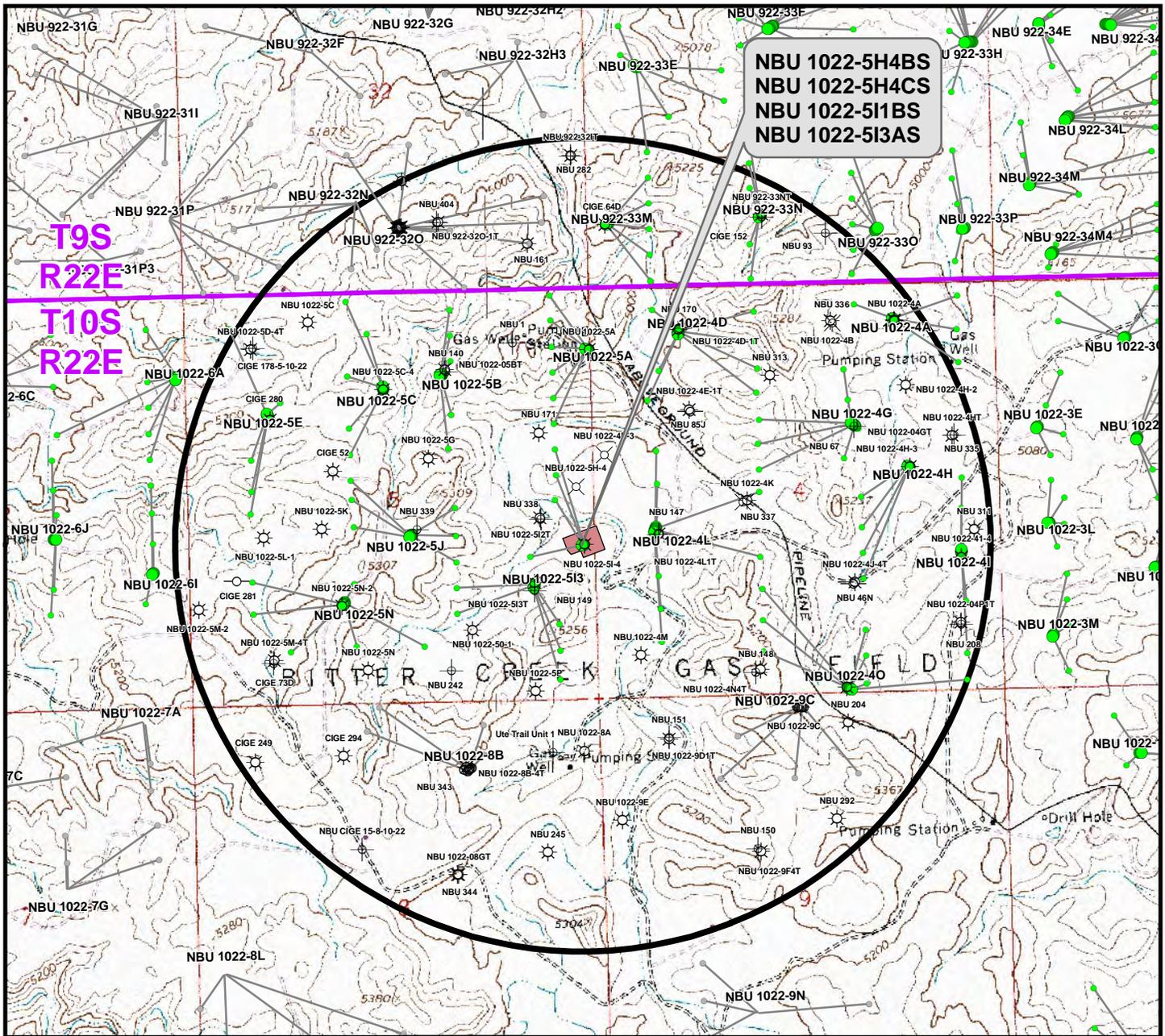
1099 18th Street  
 Denver, Colorado 80202



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



SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO:	<b>11</b>
DRAWN: TL	DATE: 29 Oct 2012	11 OF 16	
REVISED:	DATE:		



**NBU 1022-5H4BS  
NBU 1022-5H4CS  
NBU 1022-5I1BS  
NBU 1022-5I3AS**

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

Proposed Well	Nearest Well Bore	Footage
NBU 1022-5H4BS	NBU 171	307ft
NBU 1022-5H4CS	NBU 1022-5I2T	587ft
NBU 1022-5I1BS	NBU 1022-5I2T	304ft
NBU 1022-5I3AS	NBU 1022-5I3T	353ft

**Legend**

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

**WELL PAD - NBU 1022-5I**

**TOPO C**  
NBU 1022-5H4BS, NBU 1022-5H4CS,  
NBU 1022-5I1BS & NBU 1022-5I3AS  
LOCATED IN SECTION 5, T10S, R22E  
S.L.B.&M., Uintah County, Utah

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

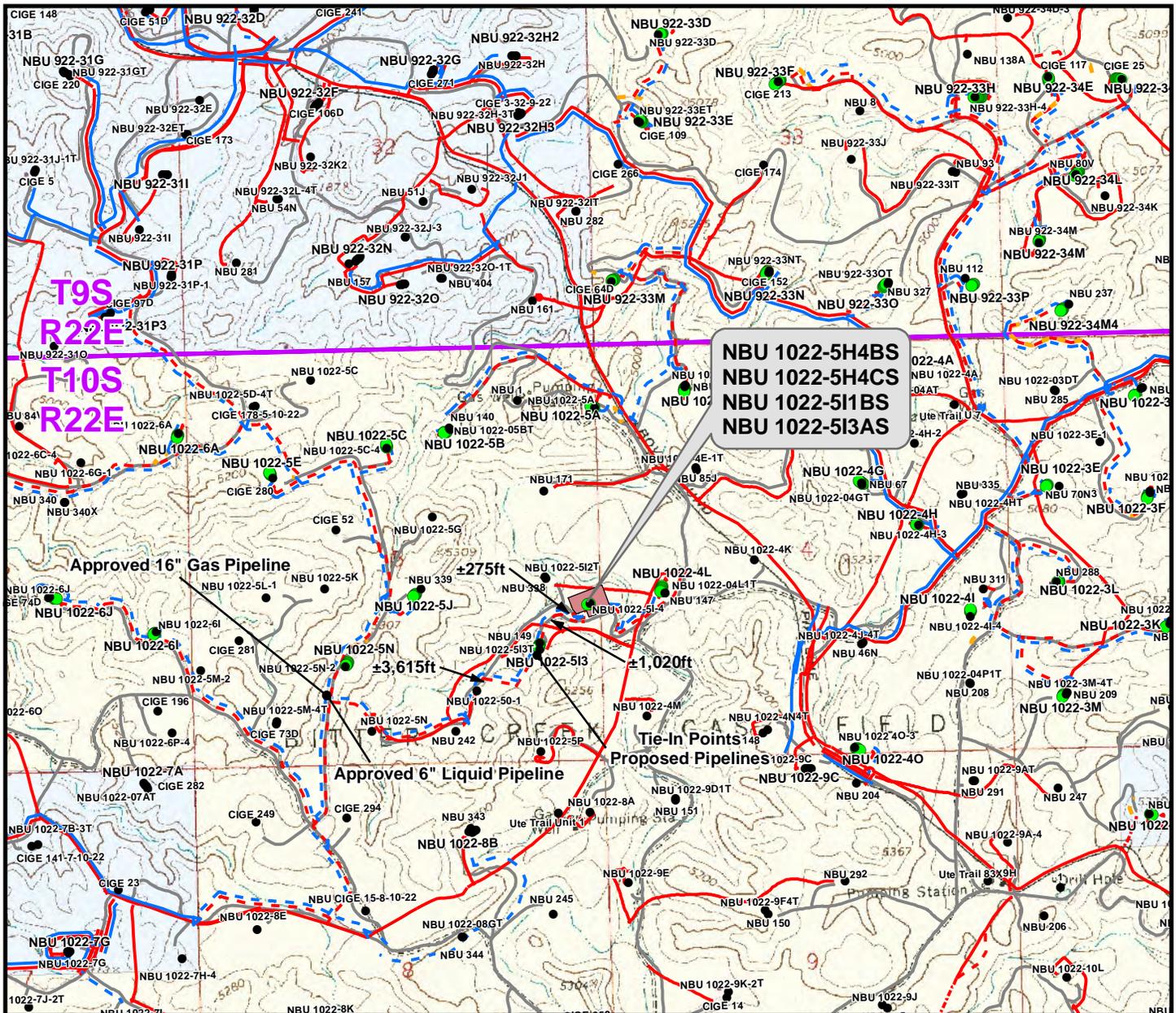
1099 18th Street  
Denver, Colorado 80202



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



SCALE: 1" = 2,000ft	NAD83 USP Central	<b>12</b>
DRAWN: TL	DATE: 29 Oct 2012	
REVISED:	DATE:	



**NBU 1022-5H4BS  
NBU 1022-5H4CS  
NBU 1022-5I1BS  
NBU 1022-5I3AS**

Proposed Liquid Pipeline	Length	Proposed Gas Pipeline	Length
Buried 6" (Max.) (Separator to Edge of Pad)	±355ft	Buried 8" (Meter House to Edge of Pad)	±355ft
Buried 6" (Max.) (Edge of Pad to 1022-4L Intersection)	±275ft	Buried 8" (Edge of Pad to 1022-4L Intersection)	±275ft
Buried 6" (Max.) (1022-4L Intersection to 5I3 Intersection)	±1,020ft	Buried 12" (1022-4L Intersection to 5I3 Intersection)	±1,020ft
<b>TOTAL PROPOSED BURIED LIQUID PIPELINE =</b>	<b>±1,650ft</b>	<b>TOTAL PROPOSED BURIED GAS PIPELINE =</b>	<b>±1,650ft</b>

**Legend**

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

**WELL PAD - NBU 1022-5I**

**TOPO D**  
**NBU 1022-5H4BS, NBU 1022-5H4CS,**  
**NBU 1022-5I1BS & NBU 1022-5I3AS**  
**LOCATED IN SECTION 5, T10S, R22E**  
**S.L.B.&M., Uintah County, Utah**

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

**1099 18th Street**  
**Denver, Colorado 80202**

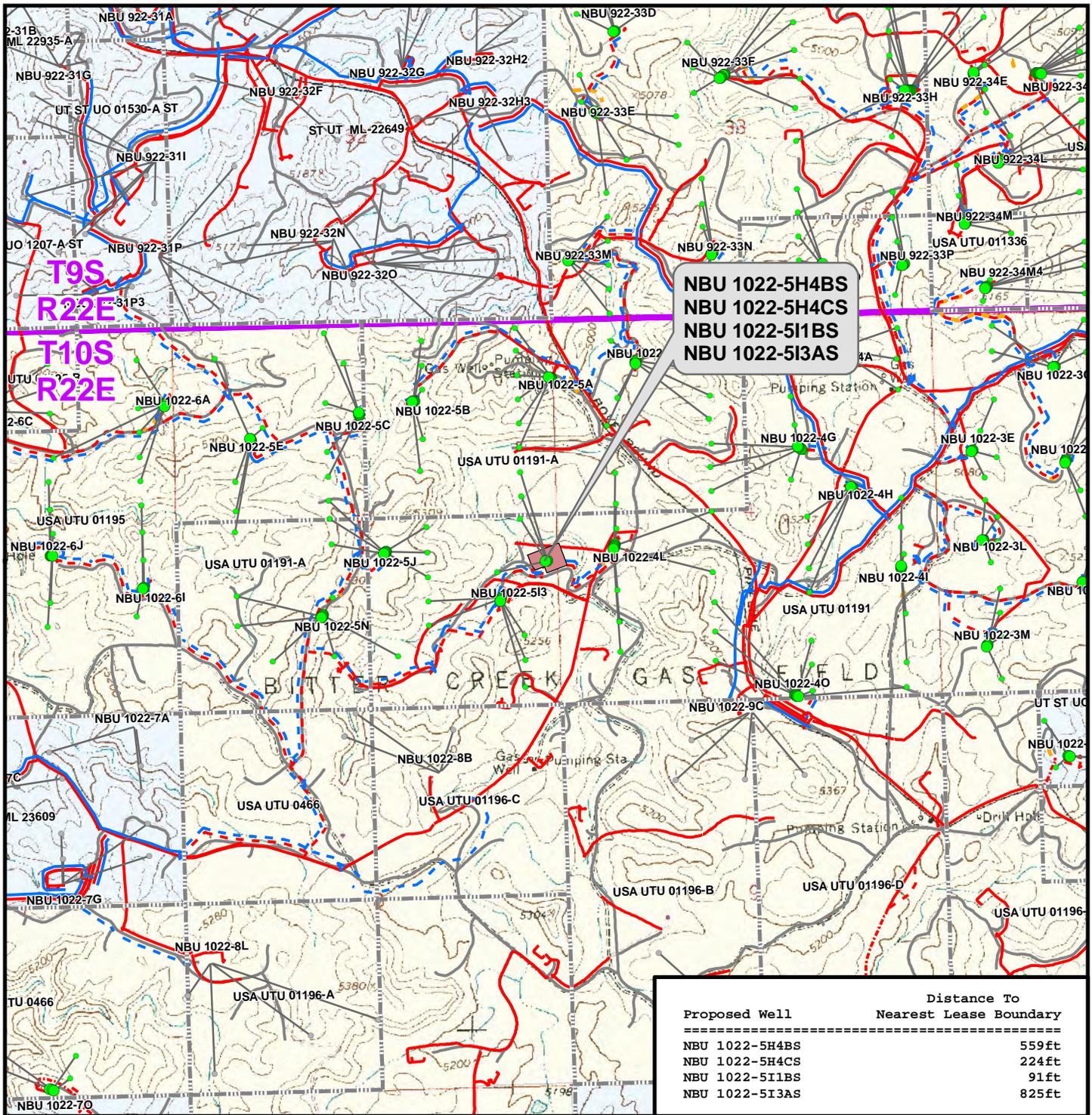


**609 CONSULTING, LLC**  
 2155 North Main Street  
 Sheridan, Wyoming 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

SCALE: 1" = 2,000ft	NAD83 USP Central	<b>13</b> 13 OF 16
DRAWN: TL	DATE: 29 Oct 2012	
REVISED: KGS	DATE: 15 Nov 2012	

File: K:\ANADARKO\2012\2012\_53\_NBU\_1022-5\_FOCUS\GIS\Maps\_ABCDENBU\_1022-5I.D.mxd, 11/15/2012 8:25:15 AM





**NBU 1022-5H4BS  
NBU 1022-5H4CS  
NBU 1022-5I1BS  
NBU 1022-5I3AS**

Proposed Well	Distance To Nearest Lease Boundary
NBU 1022-5H4BS	559ft
NBU 1022-5H4CS	224ft
NBU 1022-5I1BS	91ft
NBU 1022-5I3AS	825ft

File: K:\ANADARKO\2012\2012\_53\_NBU\_1022-5\_FOCUS\GIS\Maps\_ABCDENBU\_1022-5\1\_E.mxd, 10/29/2012 6:13:16 PM

**Legend**

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

**WELL PAD - NBU 1022-5I**

**TOPO E**  
**NBU 1022-5H4BS, NBU 1022-5H4CS,**  
**NBU 1022-5I1BS & NBU 1022-5I3AS**  
**LOCATED IN SECTION 5, T10S, R22E**  
**S.L.B.&M., Uintah County, Utah**

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

**1099 18th Street**  
**Denver, Colorado 80202**

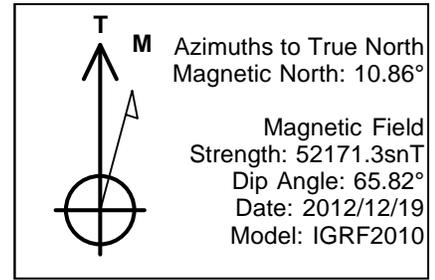
**CONSULTING, LLC**  
 2155 North Main Street  
 Sheridan, Wyoming 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

SCALE: 1" = 2,000ft	NAD83 USP Central	<b>15</b> 15 OF 16
DRAWN: TL	DATE: 29 Oct 2012	
REVISED: KGS	DATE: 15 Nov 2012	

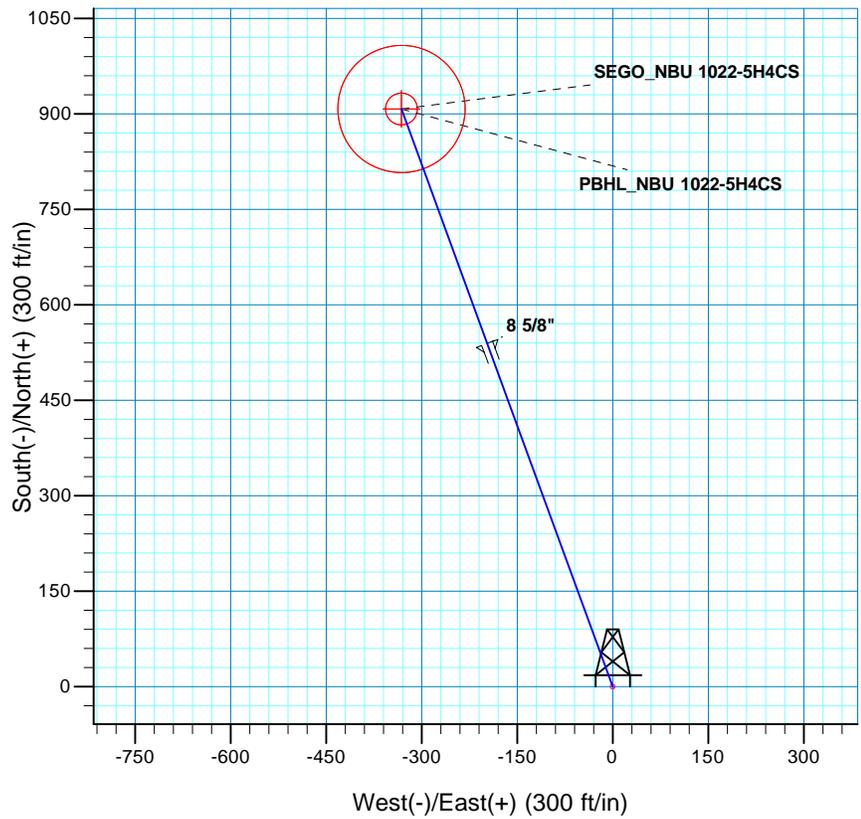
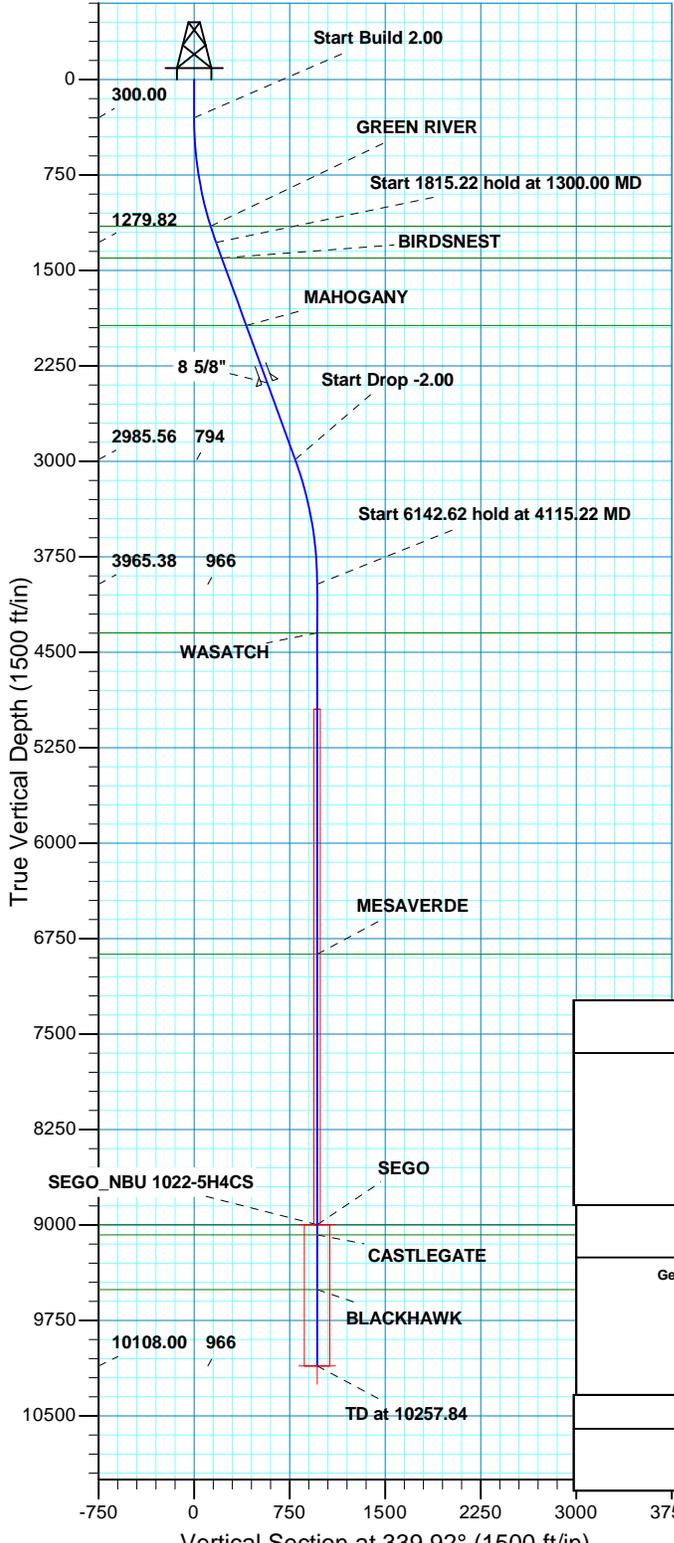
**Kerr-McGee Oil & Gas Onshore, LP**  
**WELL PAD – NBU 1022-5I**  
**WELLS - NBU 1022-5H4BS, NBU 1022-5H4CS,**  
**NBU 1022-5I1BS & NBU 1022-5I3AS**  
**Section 5, T10S, R22E, S.L.B.&M.**

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45; exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 18.7 miles to a Class D County Road to the northeast. Exit left and proceed in a northeasterly direction along the Class D County Road approximately 0.1 miles to a second Class D County Road to the southeast. Exit right and proceed in a southeasterly direction along the second Class D County Road approximately 5.8 miles to a third Class D County Road to the north. Exit left and proceed in a northerly direction along the third Class D County Road approximately 1.3 miles to a service road to the west. Exit left and proceed in a westerly direction approximately 0.2 miles to second service road to the northwest. Exit right and proceed in a northwesterly direction approximately 0.1 miles to the proposed access road to the northeast. Follow road flags in a northeasterly direction approximately 40 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 49.7 miles in a southerly direction.



WELL DETAILS: NBU 1022-5H4CS								
GL 5062 & KB 4 @ 5066.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14521105.22	2073498.58	39.97861266	-109.4541722			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	8998.00	907.65	-331.74	14522006.99	2073151.16	39.9786187	-109.4553561	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10108.00	907.65	-331.74	14522006.99	2073151.16	39.9786187	-109.4553561	Circle (Radius: 100.00)
- plan hits target center								



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1300.00	20.00	339.92	1279.82	162.27	-59.31	2.00	339.92	172.77	
3115.22	20.00	339.92	2985.56	745.38	-272.43	0.00	0.00	793.61	
4115.22	0.00	0.00	3965.38	907.65	-331.74	2.00	180.00	966.38	
10257.84	0.00	0.00	10108.00	907.65	-331.74	0.00	0.00	966.38	PBHL_NBU 1022-5H4CS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N	
Geodetic System: Universal Transverse Mercator (US Survey Feet)	
Datum: NAD 1927 (NADCON CONUS)	
Ellipsoid: Clarke 1866	
Zone: Zone 12N (114 W to 108 W)	
Location: SECTION 5 T10S R22E	
System Datum: Mean Sea Level	

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1152.00	1165.09	GREEN RIVER
1403.00	1431.09	BIRDSNEST
1933.00	1995.10	MAHOGANY
4347.00	4496.84	WASATCH
6872.00	7021.84	MESAVERDE
8998.00	9147.84	SEGO
9077.00	9226.84	CASTLEGATE
9508.00	9657.84	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
2383.00	2473.98	8 5/8"	8.625

RECEIVED :



# Scientific Drilling

## **US ROCKIES REGION PLANNING**

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

**NBU 1022-5I PAD**

**NBU 1022-5H4CS**

**OH**

**Plan: PLAN #1 PRELIMINARY**

## **Standard Planning Report**

**19 December, 2012**





<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-5H4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5062 & KB 4 @ 5066.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5062 & KB 4 @ 5066.00ft (ASSUMED)
<b>Site:</b>	NBU 1022-5I PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-5H4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

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

<b>Site</b>	NBU 1022-5I PAD, SECTION 5 T10S R22E				
<b>Site Position:</b>	<b>Northing:</b>	14,521,098.34 usft	<b>Latitude:</b>	39.9761086	
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,073,479.64 usft	<b>Longitude:</b>	-109.4542402
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.99 °

<b>Well</b>	NBU 1022-5H4CS, 1950 FSL 166 FEL					
<b>Well Position</b>	<b>+N/-S</b>	6.56 ft	<b>Northing:</b>	14,521,105.23 usft	<b>Latitude:</b>	39.9761266
	<b>+E/-W</b>	19.05 ft	<b>Easting:</b>	2,073,498.58 usft	<b>Longitude:</b>	-109.4541722
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	5,062.00 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>
	IGRF2010	2012/12/19	10.86	65.82	52,171

<b>Design</b>	PLAN #1 PRELIMINARY			
<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	339.92

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	20.00	339.92	1,279.82	162.27	-59.31	2.00	2.00	0.00	339.92	
3,115.22	20.00	339.92	2,985.56	745.38	-272.43	0.00	0.00	0.00	0.00	
4,115.22	0.00	0.00	3,965.38	907.65	-331.74	2.00	-2.00	0.00	180.00	
10,257.84	0.00	0.00	10,108.00	907.65	-331.74	0.00	0.00	0.00	0.00	PBHL_NBU 1022-5H4



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-5H4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5062 & KB 4 @ 5066.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5062 & KB 4 @ 5066.00ft (ASSUMED)
<b>Site:</b>	NBU 1022-5I PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-5H4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
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	
<b>Start Build 2.00</b>										
400.00	2.00	339.92	399.98	1.64	-0.60	1.75	2.00	2.00	0.00	
500.00	4.00	339.92	499.84	6.55	-2.40	6.98	2.00	2.00	0.00	
600.00	6.00	339.92	599.45	14.74	-5.39	15.69	2.00	2.00	0.00	
700.00	8.00	339.92	698.70	26.19	-9.57	27.88	2.00	2.00	0.00	
800.00	10.00	339.92	797.47	40.88	-14.94	43.52	2.00	2.00	0.00	
900.00	12.00	339.92	895.62	58.80	-21.49	62.60	2.00	2.00	0.00	
1,000.00	14.00	339.92	993.06	79.93	-29.21	85.10	2.00	2.00	0.00	
1,100.00	16.00	339.92	1,089.64	104.23	-38.10	110.98	2.00	2.00	0.00	
1,165.09	17.30	339.92	1,152.00	121.75	-44.50	129.63	2.00	2.00	0.00	
<b>GREEN RIVER</b>										
1,200.00	18.00	339.92	1,185.27	131.69	-48.13	140.21	2.00	2.00	0.00	
1,300.00	20.00	339.92	1,279.82	162.27	-59.31	172.77	2.00	2.00	0.00	
<b>Start 1815.22 hold at 1300.00 MD</b>										
1,400.00	20.00	339.92	1,373.78	194.39	-71.05	206.97	0.00	0.00	0.00	
1,431.09	20.00	339.92	1,403.00	204.38	-74.70	217.60	0.00	0.00	0.00	
<b>BIRDSNEST</b>										
1,500.00	20.00	339.92	1,467.75	226.52	-82.79	241.17	0.00	0.00	0.00	
1,600.00	20.00	339.92	1,561.72	258.64	-94.53	275.37	0.00	0.00	0.00	
1,700.00	20.00	339.92	1,655.69	290.76	-106.27	309.58	0.00	0.00	0.00	
1,800.00	20.00	339.92	1,749.66	322.89	-118.01	343.78	0.00	0.00	0.00	
1,900.00	20.00	339.92	1,843.63	355.01	-129.75	377.98	0.00	0.00	0.00	
1,995.10	20.00	339.92	1,933.00	385.56	-140.92	410.51	0.00	0.00	0.00	
<b>MAHOGANY</b>										
2,000.00	20.00	339.92	1,937.60	387.14	-141.49	412.18	0.00	0.00	0.00	
2,100.00	20.00	339.92	2,031.57	419.26	-153.23	446.38	0.00	0.00	0.00	
2,200.00	20.00	339.92	2,125.54	451.38	-164.97	480.59	0.00	0.00	0.00	
2,300.00	20.00	339.92	2,219.51	483.51	-176.72	514.79	0.00	0.00	0.00	
2,400.00	20.00	339.92	2,313.48	515.63	-188.46	548.99	0.00	0.00	0.00	
2,473.98	20.00	339.92	2,383.00	539.40	-197.14	574.29	0.00	0.00	0.00	
<b>8 5/8"</b>										
2,500.00	20.00	339.92	2,407.45	547.75	-200.20	583.19	0.00	0.00	0.00	
2,600.00	20.00	339.92	2,501.42	579.88	-211.94	617.39	0.00	0.00	0.00	
2,700.00	20.00	339.92	2,595.39	612.00	-223.68	651.60	0.00	0.00	0.00	
2,800.00	20.00	339.92	2,689.35	644.12	-235.42	685.80	0.00	0.00	0.00	
2,900.00	20.00	339.92	2,783.32	676.25	-247.16	720.00	0.00	0.00	0.00	
3,000.00	20.00	339.92	2,877.29	708.37	-258.90	754.20	0.00	0.00	0.00	
3,100.00	20.00	339.92	2,971.26	740.50	-270.64	788.40	0.00	0.00	0.00	
3,115.22	20.00	339.92	2,985.56	745.38	-272.43	793.61	0.00	0.00	0.00	
<b>Start Drop -2.00</b>										
3,200.00	18.30	339.92	3,065.65	771.51	-281.98	821.42	2.00	-2.00	0.00	
3,300.00	16.30	339.92	3,161.12	799.44	-292.19	851.17	2.00	-2.00	0.00	
3,400.00	14.30	339.92	3,257.57	824.23	-301.25	877.56	2.00	-2.00	0.00	
3,500.00	12.30	339.92	3,354.88	845.85	-309.15	900.57	2.00	-2.00	0.00	
3,600.00	10.30	339.92	3,452.93	864.26	-315.87	920.17	2.00	-2.00	0.00	
3,700.00	8.30	339.92	3,551.61	879.44	-321.42	936.34	2.00	-2.00	0.00	
3,800.00	6.30	339.92	3,650.80	891.38	-325.79	949.05	2.00	-2.00	0.00	
3,900.00	4.30	339.92	3,750.36	900.06	-328.96	958.30	2.00	-2.00	0.00	
4,000.00	2.30	339.92	3,850.19	905.48	-330.94	964.06	2.00	-2.00	0.00	



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-5H4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5062 & KB 4 @ 5066.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5062 & KB 4 @ 5066.00ft (ASSUMED)
<b>Site:</b>	NBU 1022-5I PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-5H4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,100.00	0.30	339.92	3,950.16	907.62	-331.72	966.34	2.00	-2.00	0.00	
4,115.22	0.00	0.00	3,965.38	907.65	-331.74	966.38	2.00	-2.00	0.00	
<b>Start 6142.62 hold at 4115.22 MD</b>										
4,200.00	0.00	0.00	4,050.16	907.65	-331.74	966.38	0.00	0.00	0.00	
4,300.00	0.00	0.00	4,150.16	907.65	-331.74	966.38	0.00	0.00	0.00	
4,400.00	0.00	0.00	4,250.16	907.65	-331.74	966.38	0.00	0.00	0.00	
4,496.84	0.00	0.00	4,347.00	907.65	-331.74	966.38	0.00	0.00	0.00	
<b>WASATCH</b>										
4,500.00	0.00	0.00	4,350.16	907.65	-331.74	966.38	0.00	0.00	0.00	
4,600.00	0.00	0.00	4,450.16	907.65	-331.74	966.38	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,550.16	907.65	-331.74	966.38	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,650.16	907.65	-331.74	966.38	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,750.16	907.65	-331.74	966.38	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,850.16	907.65	-331.74	966.38	0.00	0.00	0.00	
5,100.00	0.00	0.00	4,950.16	907.65	-331.74	966.38	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,050.16	907.65	-331.74	966.38	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,150.16	907.65	-331.74	966.38	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,250.16	907.65	-331.74	966.38	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,350.16	907.65	-331.74	966.38	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,450.16	907.65	-331.74	966.38	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,550.16	907.65	-331.74	966.38	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,650.16	907.65	-331.74	966.38	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,750.16	907.65	-331.74	966.38	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,850.16	907.65	-331.74	966.38	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,950.16	907.65	-331.74	966.38	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,050.16	907.65	-331.74	966.38	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,150.16	907.65	-331.74	966.38	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,250.16	907.65	-331.74	966.38	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,350.16	907.65	-331.74	966.38	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,450.16	907.65	-331.74	966.38	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,550.16	907.65	-331.74	966.38	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,650.16	907.65	-331.74	966.38	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,750.16	907.65	-331.74	966.38	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,850.16	907.65	-331.74	966.38	0.00	0.00	0.00	
7,021.84	0.00	0.00	6,872.00	907.65	-331.74	966.38	0.00	0.00	0.00	
<b>MESAVERDE</b>										
7,100.00	0.00	0.00	6,950.16	907.65	-331.74	966.38	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,050.16	907.65	-331.74	966.38	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,150.16	907.65	-331.74	966.38	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,250.16	907.65	-331.74	966.38	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,350.16	907.65	-331.74	966.38	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,450.16	907.65	-331.74	966.38	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,550.16	907.65	-331.74	966.38	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,650.16	907.65	-331.74	966.38	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,750.16	907.65	-331.74	966.38	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,850.16	907.65	-331.74	966.38	0.00	0.00	0.00	
8,100.00	0.00	0.00	7,950.16	907.65	-331.74	966.38	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,050.16	907.65	-331.74	966.38	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,150.16	907.65	-331.74	966.38	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,250.16	907.65	-331.74	966.38	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,350.16	907.65	-331.74	966.38	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,450.16	907.65	-331.74	966.38	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,550.16	907.65	-331.74	966.38	0.00	0.00	0.00	



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-5H4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5062 & KB 4 @ 5066.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5062 & KB 4 @ 5066.00ft (ASSUMED)
<b>Site:</b>	NBU 1022-5I PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-5H4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,800.00	0.00	0.00	8,650.16	907.65	-331.74	966.38	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,750.16	907.65	-331.74	966.38	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,850.16	907.65	-331.74	966.38	0.00	0.00	0.00	
9,100.00	0.00	0.00	8,950.16	907.65	-331.74	966.38	0.00	0.00	0.00	
9,147.84	0.00	0.00	8,998.00	907.65	-331.74	966.38	0.00	0.00	0.00	
<b>SEGO - SEGO_NBU 1022-5H4CS</b>										
9,200.00	0.00	0.00	9,050.16	907.65	-331.74	966.38	0.00	0.00	0.00	
9,226.84	0.00	0.00	9,077.00	907.65	-331.74	966.38	0.00	0.00	0.00	
<b>CASTLEGATE</b>										
9,300.00	0.00	0.00	9,150.16	907.65	-331.74	966.38	0.00	0.00	0.00	
9,400.00	0.00	0.00	9,250.16	907.65	-331.74	966.38	0.00	0.00	0.00	
9,500.00	0.00	0.00	9,350.16	907.65	-331.74	966.38	0.00	0.00	0.00	
9,600.00	0.00	0.00	9,450.16	907.65	-331.74	966.38	0.00	0.00	0.00	
9,657.84	0.00	0.00	9,508.00	907.65	-331.74	966.38	0.00	0.00	0.00	
<b>BLACKHAWK</b>										
9,700.00	0.00	0.00	9,550.16	907.65	-331.74	966.38	0.00	0.00	0.00	
9,800.00	0.00	0.00	9,650.16	907.65	-331.74	966.38	0.00	0.00	0.00	
9,900.00	0.00	0.00	9,750.16	907.65	-331.74	966.38	0.00	0.00	0.00	
10,000.00	0.00	0.00	9,850.16	907.65	-331.74	966.38	0.00	0.00	0.00	
10,100.00	0.00	0.00	9,950.16	907.65	-331.74	966.38	0.00	0.00	0.00	
10,200.00	0.00	0.00	10,050.16	907.65	-331.74	966.38	0.00	0.00	0.00	
10,257.84	0.00	0.00	10,108.00	907.65	-331.74	966.38	0.00	0.00	0.00	
<b>TD at 10257.84 - PBHL_NBU 1022-5H4CS</b>										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
SEGO_NBU 1022-5H4C - hit/miss target - Shape - Circle (radius 25.00)	0.00	0.00	8,998.00	907.65	-331.74	14,522,006.99	2,073,151.16	39.9786187	-109.4553561	
PBHL_NBU 1022-5H4C - plan hits target center - Circle (radius 100.00)	0.00	0.00	10,108.00	907.65	-331.74	14,522,006.99	2,073,151.16	39.9786187	-109.4553561	

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)		Name	Casing Diameter (in)	Hole Diameter (in)	
2,473.98	2,383.00	8 5/8"		8.625	11.000	



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-5H4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5062 & KB 4 @ 5066.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5062 & KB 4 @ 5066.00ft (ASSUMED)
<b>Site:</b>	NBU 1022-5I PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-5H4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,165.09	1,152.00	GREEN RIVER				
1,431.09	1,403.00	BIRDSNEST				
1,995.10	1,933.00	MAHOGANY				
4,496.84	4,347.00	WASATCH				
7,021.84	6,872.00	MESAVERDE				
9,147.84	8,998.00	SEGO				
9,226.84	9,077.00	CASTLEGATE				
9,657.84	9,508.00	BLACKHAWK				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
300.00	300.00	0.00	0.00	Start Build 2.00	
1,300.00	1,279.82	162.27	-59.31	Start 1815.22 hold at 1300.00 MD	
3,115.22	2,985.56	745.38	-272.43	Start Drop -2.00	
4,115.22	3,965.38	907.65	-331.74	Start 6142.62 hold at 4115.22 MD	
10,257.84	10,108.00	907.65	-331.74	TD at 10257.84	

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 1022-5I PAD**

<b><u>API #</u></b>	<b><u>NBU 1022-5H4BS</u></b>	
	Surface: 1954 FSL / 156 FEL	NESE
	BHL: 2097 FNL / 492 FEL	SENE
<b><u>API #</u></b>	<b><u>NBU 1022-5H4CS</u></b>	
	Surface: 1950 FSL / 166 FEL	NESE
	BHL: 2432 FNL / 493 FEL	SENE
<b><u>API #</u></b>	<b><u>NBU 1022-5I1BS</u></b>	
	Surface: 1947 FSL / 175 FEL	NESE
	BHL: 2543 FSL / 517 FEL	NESE
<b><u>API #</u></b>	<b><u>NBU 1022-5I3AS</u></b>	
	Surface: 1944 FSL / 185 FEL	NESE
	BHL: 1809 FSL / 852 FEL	NESE

This Surface Use Plan of Operations (SUPO) or 13-point plan provides site-specific information for the above-referenced wells.

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

An on-site meeting was held on October 10-11, 2012. Present were:

- Dave Gordon, Lynn Dehner, Aaron Roe and Melissa Wardle - BLM;
- Mitch Batty - Timberline Engineering & Land Surveying, Inc.;
- Jacob Dunham - 609 Consulting, LLC.;
- Alan Rabinoff - ICF International;
- Gina Becker, Tony Kazeck, Casey McKee, Charles Chase and Randy Townley- Kerr-McGee

**A. Existing Roads:**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

Please refer to Topo B for existing roads.

**B. New or Reconstructed Access Roads:**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

**The following segments are "on-lease"**

±40' (0.01 miles) – Section 5 T10S R22E (NE/4 SE/4) – On-lease UTU01191, County Road  
Re-Route from the edge of pad to the existing road to the southeast.

**C. Location of Existing Wells:**

Please refer to Topo C for existing wells.

**D. Location of Existing and/or Proposed Facilities:**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

This pad will expand the existing pad for the NBU 1022-5I-4, which is a producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on December 11, 2012. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

**GAS GATHERING**

*Please refer to Exhibit A and Topo D2- Pad and Pipeline Detail.*

The total gas gathering pipeline distance from the meter to the tie in point is ±5265' and the individual segments are broken up as follows:

**The following segments are "onlease", no ROW needed.**

- ±355' (0.07 miles) – Section 5 T10S R22E (NE/4 SE/4) – On-lease UTU01191, BLM surface, New 8" buried gas gathering pipeline from the meter to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.
- ±275' (0.05 miles) – Section 5 T10S R22E (NE/4 SE/4) – On-lease UTU01191, BLM surface, New 8" buried gas gathering pipeline from the edge of the pad to tie-in to the proposed 12" gas pipeline at the 1022-4L intersection. Please refer to Exhibit A, Line 6.
- ±1,020' (0.2 miles) – Section 5 T10S R22E (SE/4) – On-lease UTU01191, BLM surface, New 12" buried gas gathering pipeline from the 1022-4L intersection to tie-in to the 1022-5I3 Pad intersection. Please refer to Exhibit A, Line 5.
- ±3,615' (0.7 miles) – Section 5 T10S R22E (S/2) – On-lease UTU01191 & UTU01191A, BLM surface, New 12" buried gas gathering pipeline from the 1022-5I3 intersection traveling west to tie-in to the approved 16" pipeline in the SE/4 SW/4. 1,345 feet of this pipeline segment will be cross country. This pipeline will be used concurrently with the NBU 1022-4L and NBU 1022-5I3 Pads. Please refer to Exhibit A, Line 4, 3, 2 and 1.

**LIQUID GATHERING**

*Please refer to Exhibit B and Topo D2- Pad and Pipeline Detail.*

The total liquid gathering pipeline distance from the separator to the tie in point is ±5265' and the individual segments are broken up as follows:

**The following segments are "onlease", no ROW needed.**

- ±355' (0.07 miles) – Section 5 T10S R22E (NE/4 SE/4) – On-lease UTU01191, BLM surface, New 6" buried liquid gathering pipeline from the separator to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.
- ±275' (0.05 miles) – Section 5 T10S R22E (NE/4 SE/4) – On-lease UTU01191, BLM surface, New 6" buried liquid gathering pipeline from the edge of the pad to tie-in to the proposed 6" liquid pipeline at the 1022-4L intersection. Please refer to Exhibit B, Line 6.
- ±1,020' (0.2 miles) – Section 5 T10S R22E (SE/4) – On-lease UTU01191, BLM surface, New 6" buried liquid gathering pipeline from the 1022-4L intersection to tie-in to the 1022-5I3 Pad intersection. Please refer to Exhibit B, Line 5.
- ±3,615' (0.7 miles) – Section 5 T10S R22E (S/2) – On-lease UTU01191 & UTU01191A, BLM surface, New 6" buried liquid gathering pipeline from the 1022-5I3 intersection traveling west to tie-in to the approved 6" pipeline in the SE/4 SW/4. 1,345 feet of this pipeline segment will be cross country. This pipeline will be used concurrently with the NBU 1022-4L and NBU 1022-5I3 Pads. Please refer to Exhibit B, Line 4, 3, 2 and 1.

**Pipeline Gathering Construction**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

**The Anadarko Completions Transportation System (ACTS) information:**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

Please refer to Exhibit C for ACTS Lines

**E. Location and Types of Water Supply:**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

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

**F. Construction Materials:**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

**G. Methods for Handling Waste:**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

**Materials Management**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

**H. Ancillary Facilities:**

No additional ancillary facilities are planned for this location.

**I. Well Site Layout:**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

**J. Plans for Surface Reclamation:**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

**Interim Reclamation**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

**Final Reclamation**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

**Measures Common to Interim and Final Reclamation**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

**Weed Control**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

**Monitoring**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

**K. Surface/Mineral Ownership:**

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

**L. Other Information:**

**Cultural and Paleontological Resources**

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

**Resource Reports:**

A Class I literature survey report was completed on October 31, 2012 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 12-311.

A paleontological reconnaissance survey was completed October 24-26, 2012 by SWCA Environmental Consultants. For additional details please refer to report UT12-14314-194.

Biological field survey was completed October 18-November 9, 2012 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-859.

**Proposed Action Annual Emissions Tables:**

Please refer to the Appendix in the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

NBU 1022-5H4BS/ 1022-5H4CS/ 1022-5I1BS  
NBU 1022-5I3AS

Surface Use Plan of Operations  
6 of 6

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

Gina T. Becker  
Senior Regulatory Analyst  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6086

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

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

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

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

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

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



Gina T. Becker

December 18, 2012

Date

# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office

P.O. Box 45155

Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:

3160

(UT-922)

February 26, 2013

Memorandum

To: Assistant Field Office Manager Minerals,  
Vernal Field Office

From: Michael Coulthard, Petroleum Engineer

Subject: 2013 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 2013 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
-------	-----------	----------

(Proposed PZ WASATCH-MESA VERDE)

**NBU 1022-5A PAD**

43-047-53530	NBU 1022-5A1BS	Sec 05 T10S R22E 0808 FNL 0014 FEL
	BHL	Sec 05 T10S R22E 0100 FNL 0497 FEL

43-047-53531	NBU 1022-5A4BS	Sec 05 T10S R22E 0794 FNL 0062 FEL
	BHL	Sec 05 T10S R22E 0756 FNL 0492 FEL

43-047-53532	NBU 1022-5A1CS	Sec 05 T10S R22E 0805 FNL 0024 FEL
	BHL	Sec 05 T10S R22E 0420 FNL 0492 FEL

43-047-53589	NBU 1022-5H1CS	Sec 05 T10S R22E 0802 FNL 0033 FEL
	BHL	Sec 05 T10S R22E 1761 FNL 0492 FEL

43-047-53590	NBU 1022-5H1BS	Sec 05 T10S R22E 0799 FNL 0043 FEL
	BHL	Sec 05 T10S R22E 1426 FNL 0492 FEL

43-047-53591	NBU 1022-5A4CS	Sec 05 T10S R22E 0797 FNL 0053 FEL
	BHL	Sec 05 T10S R22E 1091 FNL 0492 FEL

**NBU 1022-5J PAD**

43-047-53563	NBU 1022-5J1BS	Sec 05 T10S R22E 2136 FSL 2386 FEL
	BHL	Sec 05 T10S R22E 2464 FSL 1817 FEL

43-047-53564	NBU 1022-5F4CS	Sec 05 T10S R22E 2115 FSL 2408 FEL
	BHL	Sec 05 T10S R22E 2439 FNL 2143 FWL

43-047-53598	NBU 1022-5K1CS	Sec 05 T10S R22E 2102 FSL 2423 FEL
	BHL	Sec 05 T10S R22E 2246 FSL 2160 FWL

43-047-53599	NBU 1022-5K1BS	Sec 05 T10S R22E 2109 FSL 2415 FEL
	BHL	Sec 05 T10S R22E 2604 FSL 2144 FWL

RECEIVED: February 26, 2013

API #	WELL NAME			LOCATION						
(Proposed PZ WASATCH-MESA VERDE)										
<b>NBU 1022-5J PAD</b>										
43-047-53600	NBU 1022-5J4BS	Sec	05	T10S	R22E	2122	FSL	2400	FEL	
	BHL	Sec	05	T10S	R22E	1765	FSL	1816	FEL	
43-047-53601	NBU 1022-5J1CS	Sec	05	T10S	R22E	2129	FSL	2393	FEL	
	BHL	Sec	05	T10S	R22E	2101	FSL	1816	FEL	
<b>NBU 1022-5I3 PAD</b>										
43-047-53565	NBU 1022-5P4CS	Sec	05	T10S	R22E	1410	FSL	0824	FEL	
	BHL	Sec	05	T10S	R22E	0205	FSL	0499	FEL	
43-047-53566	NBU 1022-5P4BS	Sec	05	T10S	R22E	1420	FSL	0821	FEL	
	BHL	Sec	05	T10S	R22E	0586	FSL	0494	FEL	
43-047-53567	NBU 1022-5P1CS	Sec	05	T10S	R22E	1429	FSL	0818	FEL	
	BHL	Sec	05	T10S	R22E	0921	FSL	0494	FEL	
43-047-53568	NBU 1022-5O1BS	Sec	05	T10S	R22E	1439	FSL	0815	FEL	
	BHL	Sec	05	T10S	R22E	1093	FSL	1818	FEL	
43-047-53569	NBU 1022-5J4CS	Sec	05	T10S	R22E	1448	FSL	0812	FEL	
	BHL	Sec	05	T10S	R22E	1429	FSL	1817	FEL	
<b>NBU 1022-5I PAD</b>										
43-047-53570	NBU 1022-5I3AS	Sec	05	T10S	R22E	1944	FSL	0185	FEL	
	BHL	Sec	05	T10S	R22E	1809	FSL	0852	FEL	
43-047-53571	NBU 1022-5I1BS	Sec	05	T10S	R22E	1947	FSL	0175	FEL	
	BHL	Sec	05	T10S	R22E	2543	FSL	0517	FEL	
43-047-53572	NBU 1022-5H4CS	Sec	05	T10S	R22E	1950	FSL	0166	FEL	
	BHL	Sec	05	T10S	R22E	2432	FNL	0493	FEL	
43-047-53573	NBU 1022-5H4BS	Sec	05	T10S	R22E	1954	FSL	0156	FEL	
	BHL	Sec	05	T10S	R22E	2097	FNL	0492	FEL	
<b>NBU 1022-5E PAD</b>										
43-047-53575	NBU 1022-5E4CS	Sec	05	T10S	R22E	1568	FNL	1089	FWL	
	BHL	Sec	05	T10S	R22E	2555	FNL	0846	FWL	
43-047-53576	NBU 1022-5E4BS	Sec	05	T10S	R22E	1559	FNL	1085	FWL	
	BHL	Sec	05	T10S	R22E	2150	FNL	0854	FWL	
43-047-53577	NBU 1022-5E1AS	Sec	05	T10S	R22E	1550	FNL	1080	FWL	
	BHL	Sec	05	T10S	R22E	1410	FNL	1260	FWL	
43-047-53578	NBU 1022-5D2DS	Sec	05	T10S	R22E	1542	FNL	1075	FWL	
	BHL	Sec	05	T10S	R22E	0435	FNL	0628	FWL	
<b>NBU 1022-5C Pad</b>										
43-047-53579	NBU 1022-5F4BS	Sec	05	T10S	R22E	1261	FNL	2602	FWL	
	BHL	Sec	05	T10S	R22E	2102	FNL	2143	FWL	
43-047-53580	NBU 1022-5F1CS	Sec	05	T10S	R22E	1251	FNL	2600	FWL	
	BHL	Sec	05	T10S	R22E	1766	FNL	2142	FWL	
43-047-53581	NBU 1022-5C4BS	Sec	05	T10S	R22E	1241	FNL	2597	FWL	
	BHL	Sec	05	T10S	R22E	1081	FNL	2140	FWL	
43-047-53582	NBU 1022-5C1DS	Sec	05	T10S	R22E	1222	FNL	2593	FWL	
	BHL	Sec	05	T10S	R22E	0532	FNL	2413	FWL	
43-047-53583	NBU 1022-5C1BS	Sec	05	T10S	R22E	1232	FNL	2595	FWL	
	BHL	Sec	05	T10S	R22E	0115	FNL	2150	FWL	

API #	WELL NAME	LOCATION									
(Proposed PZ WASATCH-MESA VERDE)											
<b>NBU 1022-5B PAD</b>											
43-047-53584	NBU 1022-5G4BS	Sec 05	T10S	R22E	1087	FNL	1961	FEL			
	BHL	Sec 05	T10S	R22E	2052	FNL	1878	FEL			
43-047-53585	NBU 1022-5G1BS	Sec 05	T10S	R22E	1084	FNL	1951	FEL			
	BHL	Sec 05	T10S	R22E	1617	FNL	1823	FEL			
43-047-53586	NBU 1022-5B4BS	Sec 05	T10S	R22E	1075	FNL	1923	FEL			
	BHL	Sec 05	T10S	R22E	0921	FNL	1811	FEL			
43-047-53587	NBU 1022-5B1CS	Sec 05	T10S	R22E	1078	FNL	1932	FEL			
	BHL	Sec 05	T10S	R22E	0586	FNL	1810	FEL			
43-047-53588	NBU 1022-5B1BS	Sec 05	T10S	R22E	1081	FNL	1942	FEL			
	BHL	Sec 05	T10S	R22E	0247	FNL	1804	FEL			
<b>NBU 1022-5N PAD</b>											
43-047-53592	NBU 1022-5O3AS	Sec 05	T10S	R22E	1269	FSL	2004	FWL			
	BHL	Sec 05	T10S	R22E	0680	FSL	2260	FEL			
43-047-53593	NBU 1022-5N1CS	Sec 05	T10S	R22E	1260	FSL	1999	FWL			
	BHL	Sec 05	T10S	R22E	0701	FSL	2151	FWL			
43-047-53594	NBU 1022-5M4AS	Sec 05	T10S	R22E	1235	FSL	1982	FWL			
	BHL	Sec 05	T10S	R22E	0638	FSL	1295	FWL			
43-047-53595	NBU 1022-5M1BS	Sec 05	T10S	R22E	1243	FSL	1988	FWL			
	BHL	Sec 05	T10S	R22E	1141	FSL	0825	FWL			
43-047-53596	NBU 1022-5L4CS	Sec 05	T10S	R22E	1252	FSL	1993	FWL			
	BHL	Sec 05	T10S	R22E	1557	FSL	0826	FWL			
43-047-53597	NBU 1022-5K4CS	Sec 05	T10S	R22E	1277	FSL	2009	FWL			
	BHL	Sec 05	T10S	R22E	1508	FSL	2148	FWL			
<b>NBU 921-21B PAD</b>											
43-047-53604	NBU 921-21A1BS	Sec 21	T09S	R21E	0651	FNL	2056	FEL			
	BHL	Sec 21	T09S	R21E	0085	FNL	0495	FEL			
43-047-53608	NBU 921-21B4CS	Sec 21	T09S	R21E	0650	FNL	2086	FEL			
	BHL	Sec 21	T09S	R21E	1243	FNL	1822	FEL			
43-047-53609	NBU 921-21B1BS	Sec 21	T09S	R21E	0650	FNL	2066	FEL			
	BHL	Sec 21	T09S	R21E	0249	FNL	1822	FEL			
43-047-53622	NBU 921-21B4BS	Sec 21	T09S	R21E	0650	FNL	2076	FEL			
	BHL	Sec 21	T09S	R21E	0911	FNL	1822	FEL			
<b>NBU 921-21C PAD</b>											
43-047-53605	NBU 921-21C4BS	Sec 21	T09S	R21E	0978	FNL	1707	FWL			
	BHL	Sec 21	T09S	R21E	0745	FNL	2153	FWL			
43-047-53606	NBU 921-21C1CS	Sec 21	T09S	R21E	0975	FNL	1698	FWL			
	BHL	Sec 21	T09S	R21E	0414	FNL	2152	FWL			
43-047-53607	NBU 921-21C1BS	Sec 21	T09S	R21E	0972	FNL	1688	FWL			
	BHL	Sec 21	T09S	R21E	0084	FNL	2152	FWL			
43-047-53613	NBU 921-21D4CS	Sec 21	T09S	R21E	0969	FNL	1679	FWL			
	BHL	Sec 21	T09S	R21E	1240	FNL	0826	FWL			

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
<b>NBU 921-21D PAD</b>		
43-047-53610	NBU 921-21D1CS	Sec 21 T09S R21E 0243 FNL 1065 FWL
	BHL	Sec 21 T09S R21E 0578 FNL 0826 FWL
43-047-53611	NBU 921-21D1BS	Sec 21 T09S R21E 0240 FNL 1056 FWL
	BHL	Sec 21 T09S R21E 0248 FNL 0826 FWL
43-047-53623	NBU 921-21D4BS	Sec 21 T09S R21E 0246 FNL 1075 FWL
	BHL	Sec 21 T09S R21E 0929 FNL 0826 FWL
<b>NBU 921-21G PAD</b>		
43-047-53624	NBU 921-21H1CS	Sec 21 T09S R21E 1766 FNL 1748 FEL
	BHL	Sec 21 T09S R21E 1743 FNL 0495 FEL
43-047-53625	NBU 921-21G4BS	Sec 21 T09S R21E 1760 FNL 1768 FEL
	BHL	Sec 21 T09S R21E 2237 FNL 1823 FEL
43-047-53626	NBU 921-21G1CS	Sec 21 T09S R21E 1757 FNL 1777 FEL
	BHL	Sec 21 T09S R21E 1906 FNL 1822 FEL
43-047-53627	NBU 921-21G1BS	Sec 21 T09S R21E 1754 FNL 1787 FEL
	BHL	Sec 21 T09S R21E 1574 FNL 1822 FEL
<b>NBU 921-21F PAD</b>		
43-047-53628	NBU 921-21F4BS	Sec 21 T09S R21E 1613 FNL 2171 FWL
	BHL	Sec 21 T09S R21E 2070 FNL 2154 FWL
43-047-53629	NBU 921-21F1CS	Sec 21 T09S R21E 1612 FNL 2161 FWL
	BHL	Sec 21 T09S R21E 1739 FNL 2153 FWL
43-047-53630	NBU 921-21F1BS	Sec 21 T09S R21E 1615 FNL 2181 FWL
	BHL	Sec 21 T09S R21E 1407 FNL 2153 FWL
43-047-53631	NBU 921-21C4CS	Sec 21 T09S R21E 1616 FNL 2191 FWL
	BHL	Sec 21 T09S R21E 1076 FNL 2153 FWL

Michael L. Coulthard

Digitally signed by Michael L. Coulthard  
 DN: cn=Michael L. Coulthard, o=Bureau of Land  
 Management, ou=Branch of Minerals,  
 email=Michael\_Coulthard@blm.gov, c=US  
 Date: 2013.02.26 08:11:16 -0700

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

MCoulthard:mc:2-26-13

RECEIVED: February 26, 2013

API NUMBER	WELL NAME	SURFACE LOCATION
43-047-53530	NBU 1022-5A1BS	Sec 05 T10S R22E 0808 FNL 0014 FEL
43-047-53531	NBU 1022-5A4BS	Sec 05 T10S R22E 0794 FNL 0062 FEL
43-047-53532	NBU 1022-5A1CS	Sec 05 T10S R22E 0805 FNL 0024 FEL
43-047-53563	NBU 1022-5J1BS	Sec 05 T10S R22E 2136 FSL 2386 FEL
43-047-53564	NBU 1022-5F4CS	Sec 05 T10S R22E 2115 FSL 2408 FEL
43-047-53565	NBU 1022-5P4CS	Sec 05 T10S R22E 1410 FSL 0824 FEL
43-047-53566	NBU 1022-5P4BS	Sec 05 T10S R22E 1420 FSL 0821 FEL
43-047-53567	NBU 1022-5P1CS	Sec 05 T10S R22E 1429 FSL 0818 FEL
43-047-53568	NBU 1022-5O1BS	Sec 05 T10S R22E 1439 FSL 0815 FEL
43-047-53569	NBU 1022-5J4CS	Sec 05 T10S R22E 1448 FSL 0812 FEL
43-047-53570	NBU 1022-5I3AS	Sec 05 T10S R22E 1944 FSL 0185 FEL
43-047-53571	NBU 1022-5I1BS	Sec 05 T10S R22E 1947 FSL 0175 FEL
43-047-53572	NBU 1022-5H4CS	Sec 05 T10S R22E 1950 FSL 0166 FEL
43-047-53573	NBU 1022-5H4BS	Sec 05 T10S R22E 1954 FSL 0156 FEL
43-047-53575	NBU 1022-5E4CS	Sec 05 T10S R22E 1568 FNL 1089 FWL
43-047-53576	NBU 1022-5E4BS	Sec 05 T10S R22E 1559 FNL 1085 FWL
43-047-53577	NBU 1022-5E1AS	Sec 05 T10S R22E 1550 FNL 1080 FWL
43-047-53578	NBU 1022-5D2DS	Sec 05 T10S R22E 1542 FNL 1075 FWL
43-047-53579	NBU 1022-5F4BS	Sec 05 T10S R22E 1261 FNL 2602 FWL
43-047-53580	NBU 1022-5F1CS	Sec 05 T10S R22E 1251 FNL 2600 FWL
43-047-53581	NBU 1022-5C4BS	Sec 05 T10S R22E 1241 FNL 2597 FWL
43-047-53582	NBU 1022-5C1DS	Sec 05 T10S R22E 1222 FNL 2593 FWL
43-047-53583	NBU 1022-5C1BS	Sec 05 T10S R22E 1232 FNL 2595 FWL
43-047-53584	NBU 1022-5G4BS	Sec 05 T10S R22E 1087 FNL 1961 FEL
43-047-53585	NBU 1022-5G1BS	Sec 05 T10S R22E 1084 FNL 1951 FEL
43-047-53586	NBU 1022-5B4BS	Sec 05 T10S R22E 1075 FNL 1923 FEL
43-047-53587	NBU 1022-5B1CS	Sec 05 T10S R22E 1078 FNL 1932 FEL
43-047-53588	NBU 1022-5B1BS	Sec 05 T10S R22E 1081 FNL 1942 FEL
43-047-53589	NBU 1022-5H1CS	Sec 05 T10S R22E 0802 FNL 0033 FEL
43-047-53590	NBU 1022-5H1BS	Sec 05 T10S R22E 0799 FNL 0043 FEL
43-047-53591	NBU 1022-5A4CS	Sec 05 T10S R22E 0797 FNL 0053 FEL
43-047-53592	NBU 1022-5O3AS	Sec 05 T10S R22E 1269 FSL 2004 FWL
43-047-53593	NBU 1022-5N1CS	Sec 05 T10S R22E 1260 FSL 1999 FWL
43-047-53594	NBU 1022-5M4AS	Sec 05 T10S R22E 1235 FSL 1982 FWL
43-047-53595	NBU 1022-5M1BS	Sec 05 T10S R22E 1243 FSL 1988 FWL
43-047-53596	NBU 1022-5L4CS	Sec 05 T10S R22E 1252 FSL 1993 FWL
43-047-53597	NBU 1022-5K4CS	Sec 05 T10S R22E 1277 FSL 2009 FWL
43-047-53598	NBU 1022-5K1CS	Sec 05 T10S R22E 2102 FSL 2423 FEL
43-047-53599	NBU 1022-5K1BS	Sec 05 T10S R22E 2109 FSL 2415 FEL
43-047-53600	NBU 1022-5J4BS	Sec 05 T10S R22E 2122 FSL 2400 FEL
43-047-53601	NBU 1022-5J1CS	Sec 05 T10S R22E 2129 FSL 2393 FEL
43-047-53604	NBU 921-21A1BS	Sec 21 T09S R21E 0651 FNL 2056 FEL
43-047-53605	NBU 921-21C4BS	Sec 21 T09S R21E 0978 FNL 1707 FWL
43-047-53606	NBU 921-21C1CS	Sec 21 T09S R21E 0975 FNL 1698 FWL
43-047-53607	NBU 921-21C1BS	Sec 21 T09S R21E 0972 FNL 1688 FWL

API NUMBER	WELL NAME	SURFACE LOCATION
43-047-53608	NBU 921-21B4CS	Sec 21 T09S R21E 0650 FNL 2086 FEL
43-047-53609	NBU 921-21B1BS	Sec 21 T09S R21E 0650 FNL 2066 FEL
43-047-53610	NBU 921-21D1CS	Sec 21 T09S R21E 0243 FNL 1065 FWL
43-047-53611	NBU 921-21D1BS	Sec 21 T09S R21E 0240 FNL 1056 FWL
43-047-53613	NBU 921-21D4CS	Sec 21 T09S R21E 0969 FNL 1679 FWL
43-047-53622	NBU 921-21B4BS	Sec 21 T09S R21E 0650 FNL 2076 FEL
43-047-53623	NBU 921-21D4BS	Sec 21 T09S R21E 0246 FNL 1075 FWL
43-047-53624	NBU 921-21H1CS	Sec 21 T09S R21E 1766 FNL 1748 FEL
43-047-53625	NBU 921-21G4BS	Sec 21 T09S R21E 1760 FNL 1768 FEL
43-047-53626	NBU 921-21G1CS	Sec 21 T09S R21E 1757 FNL 1777 FEL
43-047-53627	NBU 921-21G1BS	Sec 21 T09S R21E 1754 FNL 1787 FEL
43-047-53628	NBU 921-21F4BS	Sec 21 T09S R21E 1613 FNL 2171 FWL
43-047-53629	NBU 921-21F1CS	Sec 21 T09S R21E 1612 FNL 2161 FWL
43-047-53630	NBU 921-21F1BS	Sec 21 T09S R21E 1615 FNL 2181 FWL
43-047-53631	NBU 921-21C4CS	Sec 21 T09S R21E 1616 FNL 2191 FWL



## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 2/6/2013

API NO. ASSIGNED: 43047535720000

WELL NAME: NBU 1022-5H4CS

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

PHONE NUMBER: 720 929-6086

CONTACT: Gina Becker

PROPOSED LOCATION: NESE 05 100S 220E

Permit Tech Review: 

SURFACE: 1950 FSL 0166 FEL

Engineering Review: 

BOTTOM: 2432 FNL 0493 FEL

Geology Review: 

COUNTY: UINTAH

LATITUDE: 39.97597

LONGITUDE: -109.45487

UTM SURF EASTINGS: 631941.00

NORTHINGS: 4426233.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU-01191-A

PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE

SURFACE OWNER: 1 - Federal

COALBED METHANE: NO

## RECEIVED AND/OR REVIEWED:

- PLAT
- Bond: FEDERAL - WYB000291
- Potash
- Oil Shale 190-5
- Oil Shale 190-3
- Oil Shale 190-13
- Water Permit: 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: Suspends General Siting
- R649-3-11. Directional Drill

Comments: Presite Completed

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



GARY R. HERBERT  
*Governor*

GREGORY S. BELL  
*Lieutenant Governor*

# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

## Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 1022-5H4CS  
**API Well Number:** 43047535720000  
**Lease Number:** UTU-01191-A  
**Surface Owner:** FEDERAL  
**Approval Date:** 3/12/2013

### 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

### Commingle:

In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

### General:

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

### Conditions of Approval:

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

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

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

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

**Notification Requirements:**

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

- Within 24 hours following the spudding of the well - contact Carol Daniels at 801-538-5284

(please leave a voicemail message if not available)

OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website

at <http://oilgas.ogm.utah.gov>

**Reporting Requirements:**

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

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

**Approved By:**



For John Rogers  
Associate Director, Oil & Gas

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**RECEIVED**

JAN 08 2013

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

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

**BLM**

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU01191A
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator KERR-MCGEE OIL & GAS ONSHORE Contact: GINA T BECKER Email: GINA.BECKER@ANADARKO.COM		7. If Unit or CA Agreement, Name and No. UTU63047A
3a. Address P.O. BOX 173779 DENVER, CO 80202-3779		8. Lease Name and Well No. NBU 1022-5H4CS
3b. Phone No. (include area code) Ph: 720-929-6086 Fx: 720-929-7086		9. API Well No. 43-047-53512
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface NESE 1950FSL 166FEL 39.976092 N Lat, 109.454856 W Lon At proposed prod. zone SENE 2432FNL 493FEL 39.978584 N Lat, 109.456040 W Lon		10. Field and Pool, or Exploratory NATURAL BUTTES
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 50 MILES SOUTHEAST OF VERNAL, UTAH		11. Sec., T., R., M., or Blk. and Survey or Area Sec 5 T10S R22E Mer SLB
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 224	16. No. of Acres in Lease 1363.20	12. County or Parish UINTAH
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 587	19. Proposed Depth 10258 MD 10108 TVD	13. State UT
21. Elevations (Show whether DF, KB, RT, GL, etc.) 5062 GL	22. Approximate date work will start 06/01/2012	17. Spacing Unit dedicated to this well
		20. BLM/BIA Bond No. on file WYB000291
		23. Estimated duration 60-90 DAYS

24. Attachments

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

- |   |  |
|---|--|
| 1. Well plat certified by a registered surveyor.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.   | 5. Operator certification  |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature (Electronic Submission)	Name (Printed/Typed) GINA T BECKER Ph: 720-929-6086	Date 12/27/2012
--	--	--------------------

Title  
REGULATORY ANALYST II

Approved by (Signature) 	Name (Printed/Typed) Jerry Kenczka	Date JUN 18 2013
-----------------------------	---------------------------------------	---------------------

Title  
Assistant Field Manager  
Lands & Mineral Resources

Office  
VERNAL FIELD OFFICE

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

**CONDITIONS OF APPROVAL ATTACHED**

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

**RECEIVED**

Additional Operator Remarks (see next page)

Electronic Submission #171752 verified by the BLM Well Information System JUN 25 2013  
For KERR-MCGEE OIL & GAS ONSHORE, sent to the Vernal  
Committed to AFMSS for processing by ROBIN R. HANSEN on 01/14/2013 DIV. OF OIL, GAS & MINING

NOTICE OF APPROVAL

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

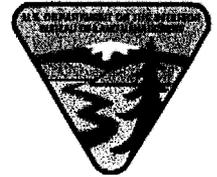


UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



**CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL**

Company: Kerr McGee Oil & Gas Onshore, LP      Location: NESE, Sec. 5, T10S, R22E  
Well No: NBU 1022-5H4CS      Lease No: UTU-01191A  
API No: 43-047-53572      Agreement: Natural Butte

**OFFICE NUMBER:                    (435) 781-4400**

**OFFICE FAX NUMBER:            (435) 781-3420**

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

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

**NOTIFICATION REQUIREMENTS**

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

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

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.
- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.
- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.
- Mitigation measures can be found in Appendix B, Table B-2, of the GNB ROD (BLM 2012b) under the following sections of the table:
  - Air Quality
  - Soils
  - Vegetation: *Sclerocactus wetlandicus*
  - Wildlife: Colorado River Fish
- Where populations or individuals of *Sclerocactus wetlandicus* are located within 300 feet of the proposed edge of project ROWs, the following actions will be taken to minimize impacts:
  - Silt fencing will be used to protect cacti that are within 300 feet and downslope or downwind of surface disturbance. Fencing is intended to prevent sedimentation or dust deposition and will be evaluated for effectiveness by a qualified botanist.
  - A qualified botanist will be on site to monitor surface-disturbing activities when cacti are within 300 feet of any surface disturbance.
  - Dust abatement (consisting of water only) will occur during construction where plants are closer than 300 feet from surface-disturbing activities.
  - Cacti within 300 feet of proposed surface disturbance will be flagged immediately prior to surface-disturbing activities and flags will be removed immediately after surface-disturbing activities are completed. Leaving cacti flagged for as short a time as possible will minimize drawing attention to the cacti location and reduce potential for theft.
  - Pipelines will be sited to maximize distance from adjacent cacti locations.
  - Project personnel associated with construction activities will be instructed to drive at a speed limit of 15 miles per hour on unpaved roads and remain in existing roadway ROWs at all times.
- For permanent surface pipelines, KMG will adhere to existing cacti survey/buffer guidelines of 300 feet, or amended guidelines if developed by the BLM and USFWS. In areas where avoidance by 300 feet is not feasible and populations or individuals of *Sclerocactus wetlandicus* are within 50 feet of proposed project components, the following actions will be taken to minimize impacts:
  - Prior to construction, flag individual cactus. Once pipe installation is complete, remove the flagging.

- Prior to construction, install protective fencing around the cacti if they are down gradient of the surface pipe. Once pipe installation is complete, remove the protective fencing.
- A qualified botanist will be present during construction to monitor surface line installation.
- The following considerations are required for those wells where KMG deems completion fluid recycling is appropriate based on new well density and topography:
  - Temporary lines associated with recycling of completion water will be sited in existing ROWs. The pressure in the lines is less than 50 pounds per square inch and the lines are constructed of rigid aluminum; therefore, virtually no movement will occur during operation.
  - If surface water completion lines are placed within the footprint of a road disturbance where vegetation does not grow, *Sclerocactus wetlandicus* surveys will not be necessary.
  - A qualified botanist will survey a 50-foot-wide corridor along roads where temporary lines are planned to ensure *Sclerocactus wetlandicus* is not present.
  - If cacti are present within the 50-foot-wide survey corridor and avoidance is necessary (to ensure the line is more than 50 feet away from identified cactus), the new alignment will, if possible, be such that the cacti are topographically higher than the re-aligned line so a potential spill from the line will not impact the identified cacti.
  - If it is not possible to re-align the surface lines to avoid individuals or populations of the *Sclerocactus wetlandicus* that are within 50 feet of surface disturbance, the following actions will be taken to minimize impacts:
    - Prior to construction, KMG will flag individual cacti. Once pipe installation is complete, remove the flagging.
    - Prior to construction, KMG will install protective fencing around the cacti if they are down gradient of the surface pipe. Once pipe installation is complete, remove the protective fencing.
    - A qualified botanist will be present during construction to monitor surface line installation.
- Avoidance of cactus by 300 feet will take priority in the expansion of pads within the cactus core conservation areas. When the 300-foot buffer cannot be avoided in pad expansion, KMG will notify the USFWS and work with the BLM to determine pad expansion that places a priority on avoiding cactus impacts.
- KMG will follow existing ROWs and/or roads in constructing new buried pipelines within the cactus core conservation areas. For instance, where a new buried pipeline is unable to follow an existing ROW and/or road and exceeds 600 feet in length, KMG will work with the USFWS and the BLM to determine a route that places a priority on avoiding cactus impacts.
- Maintenance activities on pipelines within cactus core conservation areas will avoid impacts to cactus, to the extent possible.
- All vehicles and equipment shall be cleaned either through power-washing, or other approved method, if the vehicles or equipment were previously operated outside the Uinta Basin, to prevent weed seed introduction.
- All disturbance areas shall be monitored for noxious weeds annually, for a minimum of three growing seasons following completion of project or until desirable vegetation is established. Noxious and invasive weeds will be controlled throughout the area of project disturbance.

- Noxious weeds will be inventoried and reported to BLM in the annual reclamation report. Where an integrated pest management program is applicable, coordination has been undertaken with the state and local management program (if existing). A copy of the pest management plan will be submitted for each project.
- A pesticide use permit (PUP) will be obtained for the project, if applicable.
- Bird exclusion netting will be installed over reserve pits containing water that are left open for more than 30 days to reduce possibility of exposure to hazardous chemicals (BLM 2012b).
- KMG will install bird-excluding devices that prevent the perching and entry of migratory birds on or into its new fired vessel exhaust stacks (BLM 2012b).
- Tree removal within pinyon-juniper habitat will occur outside of the nesting season for migratory birds (approximately 4/1 to 7/31 (BLM 2012b).
- Damage to livestock and livestock facilities will be reported as quickly as possible to the BLM and affected livestock operators. Operators will develop and employ prevention measures to avoid damaging fences, gates, and cattle guards, including upgrading cattle guard gate widths and load-bearing requirements and fencing all open pits and cellars.
- If partial or complete removal of a fence cannot be avoided, the fence will be braced and tied off per the BLM guidance. Where the fence is crossed by a road, the fence will be braced and a cattle guard and gate installed per BLM guidance.

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

**SITE SPECIFIC DOWNHOLE COAs:**

- Gamma Ray Log shall be run from Total Depth to Surface.
- CBL will be run from TD to TOC.
- Kerr-McGee Oil & Gas Onshore L.P.. shall adhere to all referenced requirements in the SOP (version: "Standard Operating Practice Agreement for the Greater Natural Buttes Field", Oct 21, 2012). The operator shall also comply with applicable laws and regulations; with lease terms Onshore Oil and Gas Orders, NTL's; and with other orders and instructions of the, authorized officer.

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

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.

- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in CD (compact disc) format to the Vernal BLM Field Office. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

## OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at [www.ONRR.gov](http://www.ONRR.gov).
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location ( $\frac{1}{4}$ , Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs,

core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

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

<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>	
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>1. TYPE OF WELL</b> Gas Well	<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU-01191-A
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>PHONE NUMBER:</b> 720 929-6100	<b>8. WELL NAME and NUMBER:</b> NBU 1022-5H4CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1950 FSL 0166 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 05 Township: 10.0S Range: 22.0E Meridian: S	<b>9. API NUMBER:</b> 43047535720000
	<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 checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 3/12/2014	<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 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 checked="" type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

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

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

**Date:** February 12, 2014

**By:** 

<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> 2/5/2014	



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

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

**Request for Permit Extension Validation Well Number 43047535720000**

API: 43047535720000

Well Name: NBU 1022-5H4CS

Location: 1950 FSL 0166 FEL QTR NESE SEC 05 TWNP 100S RNG 220E MER S

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

Date Original Permit Issued: 3/12/2013

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

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

Signature: Teena Paulo

Date: 2/5/2014

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

<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> UTU-01191-A	
<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 1022-5H4CS	
<b>9. API NUMBER:</b> 43047535720000	
<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> 720 929-6100</span>	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1950 FSL 0166 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 05 Township: 10.0S 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 type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 3/14/2014	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

Spud well 03/14/2014 @ 15:00. Drill 24" conductor hole to 40', run 14" X .250 wall conductor pipe, cement with 81 sacks ready mix. Anticipated surface spud date and surface casing cement 03/21/2014.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 March 17, 2014

<b>NAME (PLEASE PRINT)</b> Doreen Green	<b>PHONE NUMBER</b> 435 781-9758	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 3/17/2014	

<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> UTU-01191-A	
<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 1022-5H4CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047535720000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6100
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1950 FSL 0166 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 05 Township: 10.0S 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"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 7/1/2014	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

Well drilled to TD 10,240 ft.

**Accepted by the  
 Utah Division of  
 Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 July 01, 2014

<b>NAME (PLEASE PRINT)</b> Kay E. Kelly	<b>PHONE NUMBER</b> 720 929 6582	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 7/1/2014	

State of Utah - Notification Form

Operator KERR MCGEE OIL AND GAS Rig Name/# SST 57  
Submitted By MICAH BEALE Phone Number 435-790-2921  
Well Name/Number NBU 1022-5H4CS  
Qtr/Qtr NE/SE Section 5 Township 10S Range 22E  
Lease Serial Number UTU-01191A  
API Number 43-047-53572

Casing – Time casing run starts, not cementing times.

- Production Casing  
 Other

Date/Time 7/1/14 11:00 AM  PM

BOPE

- Initial BOPE test at surface casing point  
 Other

Date/Time \_ \_ AM  PM

Rig Move

Location To: \_

Date/Time \_ \_ AM  PM

Remarks \_\_\_\_\_

TIME IS APPROXIMATE

<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>  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>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU-01191-A
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 1022-5H4CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1950 FSL 0166 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 05 Township: 10.0S Range: 22.0E Meridian: S		<b>9. API NUMBER:</b> 43047535720000
<b>PHONE NUMBER:</b> 720 929-6100		<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		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 9/12/2014	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input 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"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Started completing the well. Well TD at 10,240 ft. Thank you.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY          September 12, 2014</b>		
<b>NAME (PLEASE PRINT)</b> Kay E. Kelly	<b>PHONE NUMBER</b> 720 929 6582	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 9/12/2014	

<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>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-01191-A
1. TYPE OF WELL Gas Well	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	8. WELL NAME and NUMBER: NBU 1022-5H4CS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1950 FSL 0166 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 05 Township: 10.0S Range: 22.0E Meridian: S	9. API NUMBER: 43047535720000
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH	STATE: UTAH

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 12/17/2014	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  
 THE WELL IS TD AT 10,240'. WAITING ON COMPLETION OPERATIONS TO BEGIN. THANK YOU.

**Accepted by the  
 Utah Division of  
 Oil, Gas and Mining  
 FOR RECORD ONLY  
 December 19, 2014**

<b>NAME (PLEASE PRINT)</b> Kay E. Kelly	<b>PHONE NUMBER</b> 720 929 6582	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 12/17/2014	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU-01191-A
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 1022-5H4CS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047535720000	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6100	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1950 FSL 0166 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 05 Township: 10.0S 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: 2/25/2015  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input checked="" type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> APD EXTENSION <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> OTHER: <input style="width: 100px; height: 15px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
The NBU 1022-5H4CS was placed on production 02/25/2015 after a new well completion. Producing from the MESAVERDE/BLACKHAWK.		
<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY February 26, 2015</b>		
<b>NAME (PLEASE PRINT)</b> Doreen Green	<b>PHONE NUMBER</b> 435 781-9758	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 2/26/2015	

Form 3160-4  
(August 2007)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

5. Lease Serial No.  
UTU01191A

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

6. If Indian, Allottee or Tribe Name \_\_\_\_\_

7. Unit or CA Agreement Name and No.  
UTU63047A

2. Name of Operator  
KERR-MCGEE OIL AND GAS ONSHORE  
Contact: JENNIFER THOMAS  
Email: jennifer.thomas@anadarko.com

8. Lease Name and Well No.  
NBU 1022-5H4CS

3. Address P.O. BOX 173779  
DENVER, CO 80217

3a. Phone No. (include area code)  
Ph: 720-929-6808

9. API Well No.  
43-047-53572

4. Location of Well (Report location clearly and in accordance with Federal requirements)\*  
 At surface NESE 1950FSL 166FEL 39.976092 N Lat, 109.454856 W Lon  
 At top prod interval reported below SENE 2418FNL 496FEL  
 At total depth SENE 2470FNL 485FEL 39.978619 N Lat, 109.455356 W Lon

10. Field and Pool, or Exploratory  
NATURAL BUTTES

11. Sec., T., R., M., or Block and Survey or Area  
Sec 5 T10S R22E Mer SLB

12. County or Parish  
UINTAH

13. State  
UT

14. Date Spudded  
03/14/2014

15. Date T.D. Reached  
06/30/2014

16. Date Completed  
 D & A  Ready to Prod.  
02/25/2015

17. Elevations (DF, KB, RT, GL)\*  
5080 KB

18. Total Depth: MD 10240 TVD 10130

19. Plug Back T.D.: MD 10182 TVD 10072

20. Depth Bridge Plug Set: MD TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)  
TRIPLE COMBO, RADIAL CEMENT BOND GAMMA RAY CCL TEM

22. Was well cored?  No  Yes (Submit analysis)  
 Was DST run?  No  Yes (Submit analysis)  
 Directional Survey?  No  Yes (Submit analysis)

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

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
24.000	14.000 STL	36.7	0	40		81			
11.000	8.625 J55	28.0	18	2457		650		0	
7.875	4.500 P110	11.6	18	10230		1915		0	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	8868							

25. Producing Intervals

26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESA VERDE	7078	9083	7078 TO 9083	0.410	168	OPEN
B) BLACKHAWK	9744	9917	9744 TO 9917	0.410	24	OPEN
C)						
D)						

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

Depth Interval	Amount and Type of Material
7078 TO 9917	PUMP 14811 BBLS SLICKWATER, 48 BBLS GAL HCL ACID (12.5%-18%), 325516 LBS 30/50 MESH SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
02/25/2015	03/14/2015	24	→	8.0	2435.0	408.0			FLOWS FROM WELL
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
20/64	SI 1948	2594.0	→	8	2435	408		PGW	

28a. Production - Interval B

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

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #296307 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

**\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\***

28b. Production - Interval C									
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

28c. Production - Interval D									
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

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

<p>30. Summary of Porous Zones (Include Aquifers):</p> <p>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.</p>	<p>31. Formation (Log) Markers</p>
---	------------------------------------

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				GREEN RIVER	1232
				BIRD'S NEST	1519
				MAHOGANY	1984
				WASATCH	4473
				MESA VERDE	6824

32. Additional remarks (include plugging procedure):

33. Circle enclosed attachments:

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

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

**Electronic Submission #296307 Verified by the BLM Well Information System.  
 For KERR-MCGEE OIL AND GAS ONSHORE, sent to the Vernal**

Name (please print) JENNIFER THOMAS Title REGULATORY SPECIALIST III

Signature (Electronic Submission) Date 03/26/2015

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

**\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\***

US ROCKIES REGION  
Operation Summary Report

US ROCKIES REGION									
Operation Summary Report									
Well: NBU 1022-5H4CS BLUE					Spud date: 3/20/2014				
Project: UTAH-UINTAH			Site: NBU 1022-5I PAD			Rig name no.: PROPETRO 12/12, SST 57/57			
Event: DRILLING			Start date: 3/20/2014			End date: 7/2/2014			
Active datum: RKB @5,080.00usft (above Mean Sea Level)				UWI: NE/SE/0/10/S/22/E/5/0/0/26/PM/S/1950/E/0/166/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation	
3/20/2014	0:00 - 7:00	7.00	MIRU	01	A	P	58	WAIT ON DAYLIGHT TO MOVE RIG, CLEAN MUD TANKS WITH BLACK OUT ENERGY, HAULED 3 400 BBL UPRIGHTS TO NEW LOCATION, HAULED DRILL WATER TO NEW LOCATION, HAULED RIG AND MISC. ITEMS TO NEW LOCATION.	
	7:00 - 7:30	0.50	MIRU	23		P	58	ONSITE SAFETY MEETING WITH RIG MOVERS AND RIG CREW.	
	7:30 - 11:00	3.50	MIRU	01	A	P	58	MOVE 3.9 MILES TO NBU 1022-5I PAD. MOVE IN AND RIG UP CAMPS AND SET IN CLOSED LOOP SYSTEM. STALLION 2 SEMI-TRUCKS, 2 CREW TRUCKS, J.D FIELD SERVICE HAD 4 BEDTRUCKS, 6 HAUL TRUCKS, 1 PUSHER, 1 SAFETY MAN, 2 SWAMPERS, 1 FORKLIFT, PROPETRO 4 SEMI LOADS, 1 RIG, 1 CREW RIDE, 1 TRUCK PUSHER.	
	11:00 - 17:30	6.50	MIRU	01	A	P	58	RIG UP MUD TANKS AND CLEAN HARBOR CLOSED LOOP SYSTEM. CHANGE OUT BOTH CLEAN HARBOR CENTRIFUGES DUE TO MAX ALLOWABLE HOURS. SERVICE RIG. CHANGE OUT BRAKES ON TOP DRIVE. SPOT RIG MAT OVER WELL, SPOT RIG OVER WELL. RIG UP DIVERTER & FLOW LINE, SET CAT WALK & PIPE RACKS. HOOK UP AND PRIME PUMP, SPOT 3 UP RIGHT TANKS AND RIG UP MANIFOLD. SPOT IN AND RIG UP 3 FRESH WATER FRAC TANKS.	
	17:30 - 18:00	0.50	MIRU	23		P	58	PRE TOUR SAFETY MEETING. TOPIC: RIG UP AND PREPARE TO SPUD.	
	18:00 - 19:00	1.00	MIRU	01	A	P	58	FINISH RIGGING UP PITS AND SPOT BHA ON CATWALK.	
	19:00 - 20:30	1.50	DRLSUR	02	B	P	58	PICK UP NOV 1.83 DEGREE BENT MOTOR (RUN # 1) .17 REV/GAL PICK UP 12 1/2" DRILL BIT. SPUD @ 03/20/2014 19:00. DRILL 12.25" HOLE 44' TO 210' (166' @ 111 FPH). WEIGHT ON BIT 5-15 K. STROKES PER MINUTE=120, GALLONS PER MINUTE=491. PRESSURE ON/OFF (BOTTOM) 800/600. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROTATE 25/25/25 K. DRAG 0 K. CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER. RUNNING VOLUME THROUGH 2 CENTRIFUGES DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS.	

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 1022-5H4CS BLUE

Spud date: 3/20/2014

Project: UTAH-UINTAH

Site: NBU 1022-5I PAD

Rig name no.: PROPETRO 12/12, SST 57/57

Event: DRILLING

Start date: 3/20/2014

End date: 7/2/2014

Active datum: RKB @5,080.00usft (above Mean Sea Level)

UWI: NE/SE/0/10/S/22/E/5/0/0/26/PM/S/1950/E/0/166/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	20:30 - 23:00	2.50	DRLSUR	06	A	P	224	PRE JOB SAFETY MEETING, CIRC 15 MINUTES AND, TRIP OUT TO CHANGE ASSEMBLY. BREAK 12 1/4" BIT. MAKE UP BAKER HUGHES 11" BIT. PICK UP 8" DIRECTIONAL ASSEMBLY SCIBE MOTOR. INSTALL EM TOOL, TRIP IN HOLE.
	23:00 - 0:00	1.00	DRLSUR	02	B	P	224	DRILL 11" SURFACE HOLE FROM 210' TO 270' (60' @ 60 FPH). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=120, GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 900/700. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 55/47/50 K. DRAG 5 K. FROM DIRECTIONAL PLAN WE ARE CURRENTLY 0' HIGH & 0' LEFT OF THE LINE WITH 0' OF SLIDE @ 0%. CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER RUNNING VOLUME THROUGH 2 CENTRIFUGE DE WATERING AND RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
3/21/2014	0:00 - 5:30	5.50	DRLSUR	02	B	P	284	DRILL 11" SURFACE HOLE FROM 270' TO 880' (610' @ 111 FPH). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=120, GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 900/700. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 55/47/50 K. DRAG 5 K. FROM DIRECTIONAL PLAN WE ARE CURRENTLY 2.4' HIGH & 1.2' RIGHT OF THE LINE WITH 115' OF SLIDE @ 13%. CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER. RUNNING VOLUME THROUGH 2 CENTRIFUGE DE WATERING AND RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	5:30 - 6:00	0.50	DRLSUR	23		P	894	CONDUCT PRE TOUR SAFETY MEETING. TOPIC: MAKING CONNECTIONS.

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 1022-5H4CS BLUE

Spud date: 3/20/2014

Project: UTAH-UINTAH

Site: NBU 1022-5I PAD

Rig name no.: PROPETRO 12/12, SST 57/57

Event: DRILLING

Start date: 3/20/2014

End date: 7/2/2014

Active datum: RKB @5,080.00usft (above Mean Sea Level)

UWI: NE/SE/0/10/S/22/E/5/0/0/26/PM/S/1950/E/0/166/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	6:00 - 17:30	11.50	DRLSUR	02	B	P	894	DRILL 11" SURFACE HOLE FROM 880' TO 1990' (1110' @ 97 FPH). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=120, GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1200/1000. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 73/65/70 K. DRAG 3 K. FROM DIRECTIONAL PLAN WE ARE CURRENTLY .7' LOW & 1.9' LEFT OF THE LINE WITH 155' OF SLIDE @ 14%. CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER. RUNNING VOLUME THROUGH 2 CENTRIFUGE DE WATERING AND RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	17:30 - 18:00	0.50	DRLSUR	23		P	2004	CONDUCT PRE TOUR SAFETY MEETING. TOPIC: MAKING CONNECTIONS.
	18:00 - 23:00	5.00	DRLSUR	02	B	P	2004	DRILL 11" SURFACE HOLE FROM 1990' TO 2470' (480' @ 96 FPH). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=120, GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1400/1200. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 85/61/70 K. DRAG 15 K. FROM DIRECTIONAL PLAN WE ARE CURRENTLY 2.1' LOW & 3.6 LEFT OF THE LINE WITH 100' OF SLIDE @ 20%. CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER. RUNNING VOLUME THROUGH 2 CENTRIFUGE DE WATERING AND RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	23:00 - 0:00	1.00	DRLSUR	05	C	P	2484	CIRCULATE AND CONDITION HOLE, VOLUME IS CLEAN COMING OVER SHAKERS, 4-400 BBL UPRIGHT'S FULL AND 2-400 BBL UPRIGHTS EMPTY, 1,000 BBLs OF FRESH WATER ON LOCATION FOR CEMENT JOB.
3/22/2014	0:00 - 1:00	1.00	DRLSUR	05	C	P	2484	CIRCULATE AND CONDITION HOLE, VOLUME IS CLEAN COMING OVER SHAKERS, 4-400 BBL UPRIGHT'S FULL AND 2-400 BBL UPRIGHTS EMPTY, 1,000 BBLs OF FRESH WATER ON LOCATION FOR CEMENT JOB.
	1:00 - 5:30	4.50	DRLSUR	06	A	P	2484	PRE JOB SAFETY MEETING, TRIP OUT OF HOLE, LAY DOWN DRILL STRING, BOTTOM HOLE ASSEMBLY, LAY DOWN DIRECTIONAL TOOLS, MOTOR, AND, BIT. CLEAR TOOL AREA. SPOT SURFACE CASING FOR 8 5/8" CASING RUN.

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 1022-5H4CS BLUE

Spud date: 3/20/2014

Project: UTAH-UINTAH

Site: NBU 1022-5I PAD

Rig name no.: PROPETRO 12/12, SST 57/57

Event: DRILLING

Start date: 3/20/2014

End date: 7/2/2014

Active datum: RKB @5,080.00usft (above Mean Sea Level)

UWI: NE/SE/0/10/S/22/E/5/0/0/26/PM/S/1950/E/0/166/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	5:30 - 6:00	0.50	DRLSUR	23		P	2484	CONDUCT PRE TOUR SAFETY MEETING. TOPIC: RUN SURFACE CASING.
	6:00 - 8:00	2.00	CSGSUR	12	C	P	2484	RUN 55 JOINTS OF 8-5/8" 28# J-55 LTC CASING. RAN 1 CENTRALIZER ON FIRST THREE JOINTS, AND EVERY OTHER JOINT FOR 2 JOINTS FOR A TOTAL OF 5 CENTRALIZERS. RUN CASING TO BOTTOM WITHOUT ANY PROBLEMS. SET FLOAT SHOE @ 2,438' KB. SET TOP OF BAFFLE PLATE @ 2,393'.
	8:00 - 10:00	2.00	CSGSUR	12	E	P	2484	PRE JOB SAFETY MEETING WITH PRO PETRO CEMENTERS. RAN 200' OF 1". PIPE DOWN BACK-SIDE OF CASING. PRESSURE TEST LINES TO 2,500 PSI. PUMP 100 BBLs OF WATER AHEAD CLEARING SHOE. MIX AND PUMP 20 BBLs OF GEL WATER FLUSH AHEAD OF CEMENT. MIX & PUMP 300 SX OF PREMIUM TAIL CEMENT WITH 2% CACL2 & 0.25 LB/SX FLOCELE. 61.4 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. DROP PLUG ON FLY. DISPLACE WITH 149 BBLs OF FRESH WATER. NO RETURNS THROUGH OUT JOB. FINAL LIFT OF 310 PSI AT 3.5 BBL/MINUTE. BUMPED PLUG @ 650 PSI. HELD @ 650 PSI FOR 5 MINUTES WITHOUT BLEED OFF. TESTED FLOAT AND FLOAT HELD. SHUT DOWN AND WASH UP.  RELEASE RIG @ 03/22/2014 1000  TOP JOB # 1: PUMP CEMENT DOWN ONE INCH PIPE WITH 150 SX (30.7 BBLs) PREMIUM CEMENT WITH 4% CACL2 & .25 LB/SX FLOCELE. 30.7 BBLs OF SLURRY MIXED AT 15.8 PPG WITH YIELD OF 1.15 CF/SX. NO CEMENT RETURNS TO SURFACE SHUT DOWN AND WASH UP. WAIT 3.5 HOURS ON CEMENT. TOP JOB # 2 : PUMP CEMENT DOWN BACKSIDE W/ 200 SX (40.9 BBLs) PREMIUM CEMENT WITH 4% CACL2 & .25 LB/SX FLOCELE. 30.7 BBLs OF SLURRY MIXED AT 15.8 PPG WITH YIELD OF 1.15 CF/SX. 1 BBL CEMENT RETURNS TO SURFACE. CEMENT STAYED AT SURFACE. RIG DOWN CEMENTERS. (CEMENT JOB FINISHED @ 03/22/2014 13:00)
6/24/2014	22:00 - 23:00	1.00	MIRU3	01	C	P	2484	RIG DOWN - SKID RIG - RIG UP
	23:00 - 0:00	1.00	PRPSPD	14	A	P	2484	NIPPLE UP BOP'S - CHOKE & KILL LINES / ROTATING HEAD & FLOW LINE
6/25/2014	0:00 - 1:00	1.00	PRPSPD	14	A	P	2484	NIPPLE UP BOP'S - CHOKE & KILL LINES / ROTATING HEAD & FLOW LINE

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 1022-5H4CS BLUE

Spud date: 3/20/2014

Project: UTAH-UINTAH

Site: NBU 1022-5I PAD

Rig name no.: PROPETRO 12/12, SST 57/57

Event: DRILLING

Start date: 3/20/2014

End date: 7/2/2014

Active datum: RKB @5,080.00usft (above Mean Sea Level)

UWI: NE/SE/O/10/S/22/E/5/O/0/26/PM/S/1950/E/0/166/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	1:00 - 4:30	3.50	PRSPD	15	A	P	2484	HOLD SAFETY MEETING, RUN TEST ASSY, TEST BOP WITH A-1 TESTERS - TEST ANNULAR TO 250 PSI LOW/ 5 MIN 2500 PSI HIGH 10 MIN, PIPE & BLIND RAMS, FLOOR VALVES, IBOP, HCR VALVE, KILL LINE VALVES, TEST BOP'S, CHOKE MANIFOLD TO 250 PSI LOW/ 5 MIN - 5000 PSI HIGH 10 MIN, HOLD ACCUMULATOR FUNCTION TEST, TEST CSG 1500 PSI - 30 MIN, RIG DOWN BLM HAND WITNESSED BOP TEST
	4:30 - 5:30	1.00	PRSPD	09	A	P	2484	SLIP & CUT 82' OF DRILLING LINE
	5:30 - 6:00	0.50	PRSPD	14	B	P	2484	INSTALL WEAR BUSHING
	6:00 - 6:30	0.50	PRSPD	06	J	P	2484	PICK UP SCIENTIFIC 6 1/2", 1.5 BEND, HR, 7/8 LOBE, 3.3 STAGE 0.14 RPG MUD MOTOR, ( SER #6571-NBR) - MAKE UP SECURITY MM65D PDC BIT, DRESSED WITH 6 X 16 JETS, (TFA = 1.178), SER #12455018 - INSTALL MWD TOOL, ORIENT & SCRIBE
	6:30 - 7:30	1.00	PRSPD	06	A	P	2484	TRIP IN HOLE TO TOC AT 2310' / INSTALL ROTATING RUBBER
	7:30 - 9:00	1.50	DRLPRC	02	F	P	2484	DRILL CEMENT & FLOAT EQUIPMENT, CLEAN OUT TO 2484'
	9:00 - 15:00	6.00	DRLPRC	02	D	P	2484	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 2484' TO / 3220' = 736' @ 122.7' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 2 PUMP @ 60/60 GALLONS PER MINUTE = 590 MUD MOTOR RPM = 85, TOP DRIVE RPM = 50-70, TOTAL RPM = 123-143 FT/LBS TORQUE = 4-9K STAND PIPE PRESSURE ON BOTTOM = 1500 STAND PIPE PRESSURE OFF BOTTOM = 1,200 STRING WEIGHT UP/DOWN/ROTATING = 120K / 90K / 112K DRAG = 8K HOLE IN GOOD CONDITION SLIDE 8% OF TIME AND 10% OF FOOTAGE BOS DE-WATERING - RUNNING CENTRIFUGE - RUNNING DE-SANDER - RUNNING MUD WEIGHT = 9.2 PPG VISCOSITY = 29 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB
	15:00 - 15:30	0.50	DRLPRC	07	A	P	3220	LUBRICATE RIG

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 1022-5H4CS BLUE

Spud date: 3/20/2014

Project: UTAH-UINTAH

Site: NBU 1022-5I PAD

Rig name no.: PROPETRO 12/12, SST 57/57

Event: DRILLING

Start date: 3/20/2014

End date: 7/2/2014

Active datum: RKB @5,080.00usft (above Mean Sea Level)

UWI: NE/SE/0/10/S/22/E/5/0/0/26/PM/S/1950/E/0/166/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	15:30 - 0:00	8.50	DRLPRC	02	D	P	3220	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 3220' TO / 4268' = 1048' @ 123.3' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 2 PUMP @ 60/60 GALLONS PER MINUTE = 590 MUD MOTOR RPM = 85, TOP DRIVE RPM = 50-70, TOTAL RPM = 123-143 FT/LBS TORQUE = 5-11K STAND PIPE PRESSURE ON BOTTOM = 1550 STAND PIPE PRESSURE OFF BOTTOM = 1250 STRING WEIGHT UP/DOWN/ROTATING = 150K / 100K / 130K DRAG = 20K HOLE IN GOOD CONDITION SLIDE 32% OF TIME AND 30% OF FOOTAGE BOS DE-WATERING - RUNNING CENTRIFUGE - RUNNING DE-SANDER - RUNNING MUD WEIGHT = 8.9 PPG VISCOSITY = 28 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB
6/26/2014	0:00 - 8:00	8.00	DRLPRC	02	D	P	4268	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 4268' TO / 5050' = 782' @ 97.8' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 2 PUMP @ 60/60 GALLONS PER MINUTE = 590 MUD MOTOR RPM = 83 TOP DRIVE RPM = 50-70, TOTAL RPM = 123-143 FT/LBS TORQUE = 5-11K STAND PIPE PRESSURE ON BOTTOM = 1650 STAND PIPE PRESSURE OFF BOTTOM = 1400 STRING WEIGHT UP/DOWN/ROTATING = 16CK / 110K / 138K DRAG = 22K HOLE IN GOOD CONDITION BOS DE-WATERING - RUNNING CENTRIFUGE - RUNNING DE-SANDER - RUNNING MUD WEIGHT = 9 PPG VISCOSITY = 28 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 1022-5H4CS BLUE		Spud date: 3/20/2014	
Project: UTAH-UINTAH		Site: NBU 1022-5I PAD	Rig name no.: PROPETRO 12/12, SST 57/57
Event: DRILLING		Start date: 3/20/2014	End date: 7/2/2014
Active datum: RKB @5,080.00usft (above Mean Sea Level)		UWI: NE/SE/0/10/S/22/E/5/0/0/26/PM/S/1950/E/0/166/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	8:00 - 15:30	7.50	DRLPRC	02	D	P	5050	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 5050' TO / 5886' = 836' @ 111.5' PER HOUR WEIGHT ON BIT = 18-24K STROKES PER MINUTE 2 PUMP @ 60/60 GALLONS PER MINUTE = 590 MUD MOTOR RPM = 83 TOP DRIVE RPM = 50-70, TOTAL RPM = 123-143 FT/LBS TORQUE = 5-11K STAND PIPE PRESSURE ON BOTTOM = 1800 STAND PIPE PRESSURE OFF BOTTOM = 1450 STRING WEIGHT UP/DOWN/ROTATING = 16CK / 110K / 138K DRAG = 22K HOLE IN GOOD CONDITION BOS DE-WATERING - RUNNING CENTRIFUGE - RUNNING DE-SANDER - RUNNING MUD WEIGHT = 9 PPG VISCOSITY = 30 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB
	15:30 - 16:00	0.50	DRLPRC	07	A	P	5886	LUBRICATE RIG
	16:00 - 0:00	8.00	DRLPRC	02	D	P	5886	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 5886' TO / 6730' = 844' @ 106' PER HOUR WEIGHT ON BIT = 16-25K STROKES PER MINUTE 2 PUMP @ 60/60 GALLONS PER MINUTE = 590 MUD MOTOR RPM = 83 TOP DRIVE RPM = 60-65 TOTAL RPM = 85-150 FT/LBS TORQUE = 9-14K STAND PIPE PRESSURE ON BOTTOM = 1800 STAND PIPE PRESSURE OFF BOTTOM = 1500 STRING WEIGHT UP/DOWN/ROTATING = 24CK / 142K / 178K HOLE IN GOOD CONDITION BOS CONVENTIONAL - RUNNING CENTRIFUGE - RUNNING DE-SANDER - RUNNING MUD WEIGHT = 9.0 PPG VISCOSITY = 32 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 1022-5H4CS BLUE

Spud date: 3/20/2014

Project: UTAH-UINTAH

Site: NBU 1022-5I PAD

Rig name no.: PROPETRO 12/12, SST 57/57

Event: DRILLING

Start date: 3/20/2014

End date: 7/2/2014

Active datum: RKB @5,080.00usft (above Mean Sea Level)

UWI: NE/SE/0/10/S/22/E/5/0/0/26/PM/S/1950/E/0/166/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
6/27/2014	0:00 - 8:00	8.00	DRLPRV	02	B	P	6730	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 6730' TO / 7446' = 716' @ 90' PER HOUR WEIGHT ON BIT = 18-28K STROKES PER MINUTE 2 PUMP @ 60/60 GALLONS PER MINUTE = 590 MUD MOTOR RPM = 83 TOP DRIVE RPM = 55-65 TOTAL RPM = 83-148 FT/LBS TORQUE = 11-18K STAND PIPE PRESSURE ON BOTTOM = 2000 STAND PIPE PRESSURE OFF BOTTOM = 1700 STRING WEIGHT UP/DOWN/ROTATING = 245K / 145K / 182K HOLE IN GOOD CONDITION BOS CONVENTIONAL - RUNNING CENTRIFUGE - RUNNING DE-SANDER - RUNNING MUD WEIGHT = 9.1 PPG VISCOSITY = 33 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB
	8:00 - 15:00	7.00	DRLPRV	02	B	P	7446	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 7446' TO / 7981' = 535' @ 76' PER HOUR WEIGHT ON BIT = 17-27K STROKES PER MINUTE 2 PUMP @ 60/60 GALLONS PER MINUTE = 590 MUD MOTOR RPM = 83 TOP DRIVE RPM = 55-65 TOTAL RPM = 83-148 FT/LBS TORQUE = 13-19K STAND PIPE PRESSURE ON BOTTOM = 2100 STAND PIPE PRESSURE OFF BOTTOM = 1800 STRING WEIGHT UP/DOWN/ROTATING = 265K / 139K / 189K HOLE IN GOOD CONDITION BOS CONVENTIONAL - RUNNING CENTRIFUGE - RUNNING DE-SANDER - RUNNING MUD WEIGHT = 9.1 PPG VISCOSITY = 33 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB
	15:00 - 15:30	0.50	DRLPRV	07	A	P	7981	RIG SERVICE

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 1022-5H4CS BLUE		Spud date: 3/20/2014	
Project: UTAH-UINTAH		Site: NBU 1022-5I PAD	Rig name no.: PROPETRO 12/12, SST 57/57
Event: DRILLING		Start date: 3/20/2014	End date: 7/2/2014
Active datum: RKB @5,080.00usft (above Mean Sea Level)		UWI: NE/SE/0/10/S/22/E/5/0/0/26/PM/S/1950/E/0/166/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	15:30 - 0:00	8.50	DRLPRV	02	B	P	7981	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 7981' TO / 8650' = 669' @ 79' PER HOUR WEIGHT ON BIT = 13-25K STROKES PER MINUTE 2 PUMP @ 60/60 GALLONS PER MINUTE = 590 MUD MOTOR RPM = 83 TOP DRIVE RPM = 55-65 TOTAL RPM = 83-148 FT/LBS TORQUE = 15-21K STAND PIPE PRESSURE ON BOTTOM = 2700 STAND PIPE PRESSURE OFF BOTTOM = 2100 STRING WEIGHT UP/DOWN/ROTATING = 26CK / 155K / 198K HOLE IN GOOD CONDITION BOS CONVENTIONAL - RUNNING CENTRIFUGE - RUNNING DE-SANDER - RUNNING MUD WEIGHT = 11.5 PPG VISCOSITY = 35 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB
6/28/2014	0:00 - 9:00	9.00	DRLPRV	02	B	P	8650	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 8650' TO / 9075' = 425' @ 47' PER HOUR WEIGHT ON BIT = 17-25K STROKES PER MINUTE 1 PUMP @ 100/0 GALLONS PER MINUTE = 491 MUD MOTOR RPM = 69 TOP DRIVE RPM = 55-65 TOTAL RPM = 69-134 FT/LBS TORQUE = 14-20K STAND PIPE PRESSURE ON BOTTOM = 2450 STAND PIPE PRESSURE OFF BOTTOM = 1950 STRING WEIGHT UP/DOWN/ROTATING = 278K / 158K / 204K HOLE IN GOOD CONDITION BOS CONVENTIONAL - RUNNING CENTRIFUGE - RUNNING DE-SANDER - RUNNING MUD WEIGHT = 11.8 PPG VISCOSITY = 36 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 1022-5H4CS BLUE

Spud date: 3/20/2014

Project: UTAH-UINTAH

Site: NBU 1022-5I PAD

Rig name no.: PROPETRO 12/12, SST 57/57

Event: DRILLING

Start date: 3/20/2014

End date: 7/2/2014

Active datum: RKB @5,080.00usft (above Mean Sea Level)

UWI: NE/SE/0/10/S/22/E/5/0/0/26/PM/S/1950/E/0/166/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	9:00 - 13:30	4.50	DRLPRV	02	B	P	9075	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 9075' TO / 9219' = 144' @ 32' PER HOUR WEIGHT ON BIT = 15-20K STROKES PER MINUTE 1 PUMP @ 100/0 GALLONS PER MINUTE = 491 MUD MOTOR RPM = 69 TOP DRIVE RPM = 40-50 TOTAL RPM = 69-119 FT/LBS TORQUE = 14-20K STAND PIPE PRESSURE ON BOTTOM = 2350 STAND PIPE PRESSURE OFF BOTTOM = 2000 STRING WEIGHT UP/DOWN/ROTATING = 30CK / 165K / 210K HOLE IN GOOD CONDITION BOS CONVENTIONAL - RUNNING CENTRIFUGE - RUNNING DE-SANDER - RUNNING MUD WEIGHT = 11.7 PPG VISCOSITY = 35 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB
	13:30 - 14:00	0.50	DRLPRV	07	A	P	9219	RIG SERVICE
	14:00 - 0:00	10.00	DRLPRV	02	B	P	9219	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 9219' TO / 9440' = 221' @ 22' PER HOUR WEIGHT ON BIT = 17-24K STROKES PER MINUTE 1 PUMP @ 100/0 GALLONS PER MINUTE = 491 MUD MOTOR RPM = 69 TOP DRIVE RPM = 40-50 TOTAL RPM = 69-119 FT/LBS TORQUE = 13-15K STAND PIPE PRESSURE ON BOTTOM = 2650 STAND PIPE PRESSURE OFF BOTTOM = 2150 STRING WEIGHT UP/DOWN/ROTATING = 28CK / 165K / 208K HOLE IN GOOD CONDITION BOS CONVENTIONAL - RUNNING CENTRIFUGE - RUNNING DE-SANDER - RUNNING MUD WEIGHT = 11.8 PPG VISCOSITY = 38 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 1022-5H4CS BLUE		Spud date: 3/20/2014	
Project: UTAH-UINTAH		Site: NBU 1022-5I PAD	Rig name no.: PROPETRO 12/12, SST 57/57
Event: DRILLING		Start date: 3/20/2014	End date: 7/2/2014
Active datum: RKB @5,080.00usft (above Mean Sea Level)		UWI: NE/SE/0/10/S/22/E/5/0/0/26/PM/S/1950/E/0/166/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
6/29/2014	0:00 - 8:00	8.00	DRLPRV	02	B	P	9440	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 9440' TO / 9586' = 146' @ 18' PER HOUR WEIGHT ON BIT = 18-25K STROKES PER MINUTE 1 PUMP @ 104/0 GALLONS PER MINUTE = 511 MUD MOTOR RPM = 69 TOP DRIVE RPM = 50-55 TOTAL RPM = 69-119 FT/LBS TORQUE = 12-17K STAND PIPE PRESSURE ON BOTTOM = 2700 STAND PIPE PRESSURE OFF BOTTOM = 2200 STRING WEIGHT UP/DOWN/ROTATING = 29CK / 166K / 210K HOLE IN GOOD CONDITION BOS CONVENTIONAL - RUNNING CENTRIFUGE - RUNNING DE-SANDER - RUNNING MUD WEIGHT = 11.9 PPG VISCOSITY = 38 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB
	8:00 - 12:00	4.00	DRLPRV	02	B	P	9586	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 9586' TO / 9695' = 109' @ 27' PER HOUR WEIGHT ON BIT = 20-25K STROKES PER MINUTE 1 PUMP @ 0/104 GALLONS PER MINUTE = 511 MUD MOTOR RPM = 72 TOP DRIVE RPM = 50-55 TOTAL RPM = 69-121 FT/LBS TORQUE = 14-17K STAND PIPE PRESSURE ON BOTTOM = 2800 STAND PIPE PRESSURE OFF BOTTOM = 2300 STRING WEIGHT UP/DOWN/ROTATING = 295K / 170K / 212K HOLE IN GOOD CONDITION BOS CONVENTIONAL - RUNNING CENTRIFUGE - RUNNING DE-SANDER - RUNNING MUD WEIGHT = 11.8 PPG VISCOSITY = 37 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB
	12:00 - 12:30	0.50	DRLPRV	07	A	P	9695	RIG SERVICE

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 1022-5H4CS BLUE

Spud date: 3/20/2014

Project: UTAH-UINTAH

Site: NBU 1022-5I PAD

Rig name no.: PROPETRO 12/12, SST 57/57

Event: DRILLING

Start date: 3/20/2014

End date: 7/2/2014

Active datum: RKB @5,080.00usft (above Mean Sea Level)

UWI: NE/SE/0/10/S/22/E/5/0/0/26/PM/S/1950/E/0/166/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	12:30 - 0:00	11.50	DRLPRV	02	B	P	9695	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 9695' TO / 10043' = 348' @ 30' PER HOUR WEIGHT ON BIT = 19-25K STROKES PER MINUTE 1 PUMP @ 104/0 GALLONS PER MINUTE = 511 MUD MOTOR RPM = 72 TOP DRIVE RPM = 50-55 TOTAL RPM = 69-121 FT/LBS TORQUE = 14-19K STAND PIPE PRESSURE ON BOTTOM = 2800 STAND PIPE PRESSURE OFF BOTTOM = 2350 STRING WEIGHT UP/DOWN/ROTATING = 29CK / 168K / 220K HOLE IN GOOD CONDITION BOS CONVENTIONAL - RUNNING CENTRIFUGE - RUNNING DE-SANDER - RUNNING MUD WEIGHT = 12.1 PPG VISCOSITY = 40 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB
6/30/2014	0:00 - 6:30	6.50	DRLPRV	02	B	P	10,043	DIRECTIONAL DRILL 7 7/8 PRODUCTION HOLE FROM / 10043' TO / 10240' = 197' @ 30' PER HOUR WEIGHT ON BIT = 19-25K STROKES PER MINUTE 1 PUMP @ 104/0 GALLONS PER MINUTE = 511 MUD MOTOR RPM = 72 TOP DRIVE RPM = 50-55 TOTAL RPM = 69-121 FT/LBS TORQUE = 14-18K STAND PIPE PRESSURE ON BOTTOM = 2850 STAND PIPE PRESSURE OFF BOTTOM = 2400 STRING WEIGHT UP/DOWN/ROTATING = 294K / 162K / 220K HOLE IN GOOD CONDITION BOS CONVENTIONAL - RUNNING CENTRIFUGE - RUNNING DE-SANDER - RUNNING MUD WEIGHT = 12.3 PPG VISCOSITY = 40 SECONDS DRILLING WITH FLOWZAN MUD SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB
	6:30 - 8:00	1.50	DRLPRV	05	C	P	10,240	CIRCULATE BEFORE WIPER TRIP. HIGH VIS SWEEP
	8:00 - 13:30	5.50	DRLPRV	06	E	P	10,240	WIPER TRIP TO CASING SHOE. PUMP 14 STANDS OFF BOTTOM. PULL 325K ON FIRST DRY STAND. WORK TIGHT HOLE FROM 4380' TO 4265'.
	13:30 - 14:30	1.00	DRLPRV	09	A	P	10,240	SLIP AND CUT 72' OF DRILL LINE
	14:30 - 17:00	2.50	DRLPRV	06	E	P	10,240	TIH FROM WIPER TRIP. NO TIGHT SPOTS ENCOUNTERED. FILL PIPE @ 2363', 5410', AND 8267'
	17:00 - 18:30	1.50	DRLPRV	05	C	P	10,240	CIRCULATE BEFORE TOOH FOR LOGS. HIGH VIS SWEEP RETURNED 10% CUTTINGS AND FINES
	18:30 - 0:00	5.50	DRLPRV	06	B	P	10,240	TOOH TO RUN SHUTTLE LOGS. PUMP 10 STANDS OFF BOTTOM. PULL 330K OFF BOTTOM. WORK THROUGH TIGHT SPOT @ 4150'

US ROCKIES REGION  
Operation Summary Report

Well: NBU 1022-5H4CS BLUE

Spud date: 3/20/2014

Project: UTAH-UINTAH

Site: NBU 1022-5I PAD

Rig name no.: PROPETRO 12/12, SST 57/57

Event: DRILLING

Start date: 3/20/2014

End date: 7/2/2014

Active datum: RKB @5,080.00usft (above Mean Sea Level)

UWI: NE/SE/0/10/S/22/E/5/0/0/26/PM/S/1950/E/0/166/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
7/1/2014	0:00 - 1:30	1.50	DRLPRV	06	B	P	10,240	FINISH TOOH WITH BHA
	1:30 - 2:30	1.00	DRLPRV	06	B	P	10,240	LD DIRECTIONAL BHA. BIT GRADED 1-1-WT
	2:30 - 4:30	2.00	EVALPR	11	D	P	10,240	RU AND PICK UP SHUTTLE LOGS
	4:30 - 10:00	5.50	EVALPR	11	D	P	10,240	TIH WITH SHUTTLE LOGS. FILL PIPE @ 2400', 4300', 6200', AND 8100'
	10:00 - 11:00	1.00	EVALPR	11	D	P	10,240	FILL PIPE, DROP DART, DEPLOY LOGGING TOOLS.
	11:00 - 12:30	1.50	EVALPR	05	B	P	10,240	CIRCULATE OUT TRIP GAS. RAISE MUD WEIGHT 0.1# TO 12.5#
	12:30 - 21:00	8.50	EVALPR	11	D	P	10,240	LOG OUT OF THE HOLE @ 30 FT/MIN TO CASING SHOE. TOOH REMAINDER.
	21:00 - 22:00	1.00	EVALPR	11	D	P	10,240	LD LOGGING TOOLS AND RD WEATHERFORD
	22:00 - 22:30	0.50	EVALPR	14	B	P	10,240	PULL WEAR BUSHING
	22:30 - 23:30	1.00	CSGPRO	12	A	P	10,240	RU WYOMING CASERS LD TRUCK, FLAGPOLE, TONGS, HOSES, AND TORQUE TURN
	23:30 - 0:00	0.50	CSGPRO	12	C	P	10,240	RUN 116 JTS + 1 MARKER JTS 4 1/2", 11.6#. P110, LT&C CASING + 114 JTS + CROSSOVER + PUP JT, 4 1/2", 11.6#, P110, DQX CASING, SET @ 10230", PLUG BACK @ 10182', RAN 15 CENT'S - TOP OF MESEVERDE MK JT 7014'
7/2/2014	0:00 - 9:00	9.00	CSGPRO	12	C	P	10,240	RUN 116 JTS + 1 MARKER JTS 4 1/2", 11.6#. P110, LT&C CASING + 114 JTS + CROSSOVER + PUP JT, 4 1/2", 11.6#, P110, DQX CASING, SET @ 10230", PLUG BACK @ 10182', RAN 15 CENT'S - TOP OF MESEVERDE MK JT 7014'. ABOUT 60% OF ALL THE DQX HAD TO TORQUED TWICE AT IT WOULD NOT SHOULDER UP THE FIRST TIME.
	9:00 - 10:00	1.00	CSGPRO	05	D	P	10,240	CIRCULATE CASING BEFORE CEMENTING AND GET GAS OUT OF THE HOLE. RD CASERS, RU CEMENTERS
	10:00 - 13:00	3.00	CSGPRO	12	E	P	10,240	CEMENT W/ BAKER - HOLD SAFETY MEETING - TEST LINES TO 5080 PSI - PUMP 25 BBLs WATER SPACER - 187 BBLs LEAD CEMENT 590 SKS @ 12.5 PPG W/ 1.98 YIELD, MIX & PUMP 262 BBLs TAIL CEMENT 1325 SKS @ 14.3 PPG W/ 1.34 YIELD - WASH UP LINES - DISPLACE W/ 142.7 BBLs WATER - BUMP PLUG TO 3372 PSI - HAD 2800 PSI LIFT PRESSURE PRIOR TO BUMP PLUG / GOOD RETURNS THROUGHOUT JOB - 18 BBLs CEMENT TO SURFACE - RIG DOWN CEMENTERS PUMPED 25% EXCESS OF HOLE VOLUME ON LEAD & TAIL CEMENT LEAD TO SURFACE' EST TOP OF TAIL IS 4079'
	13:00 - 13:30	0.50	CSGPRO	12	B	P	10,240	RD BAKER CEMENT TRUCKS, HOSES, AND CEMENT HEAD
	13:30 - 14:00	0.50	CSGPRO	14	B	P	10,240	SET PACKOFF AND TEST
	14:00 - 15:00	1.00	RDMO	14	A	P	10,240	ND BOP, RIG DOWN, RELEASE RIG

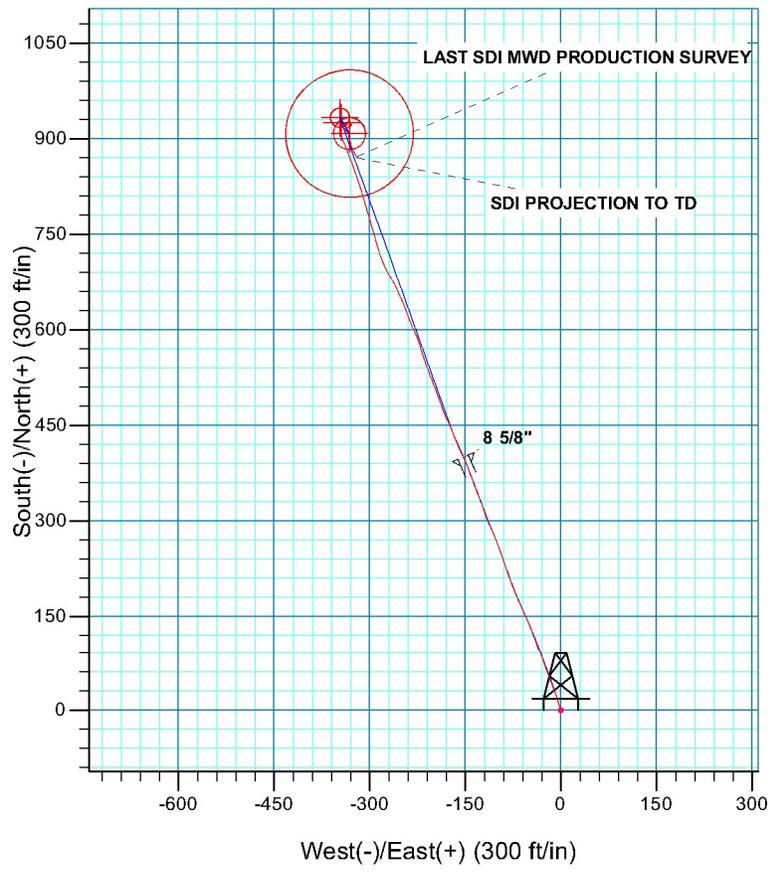
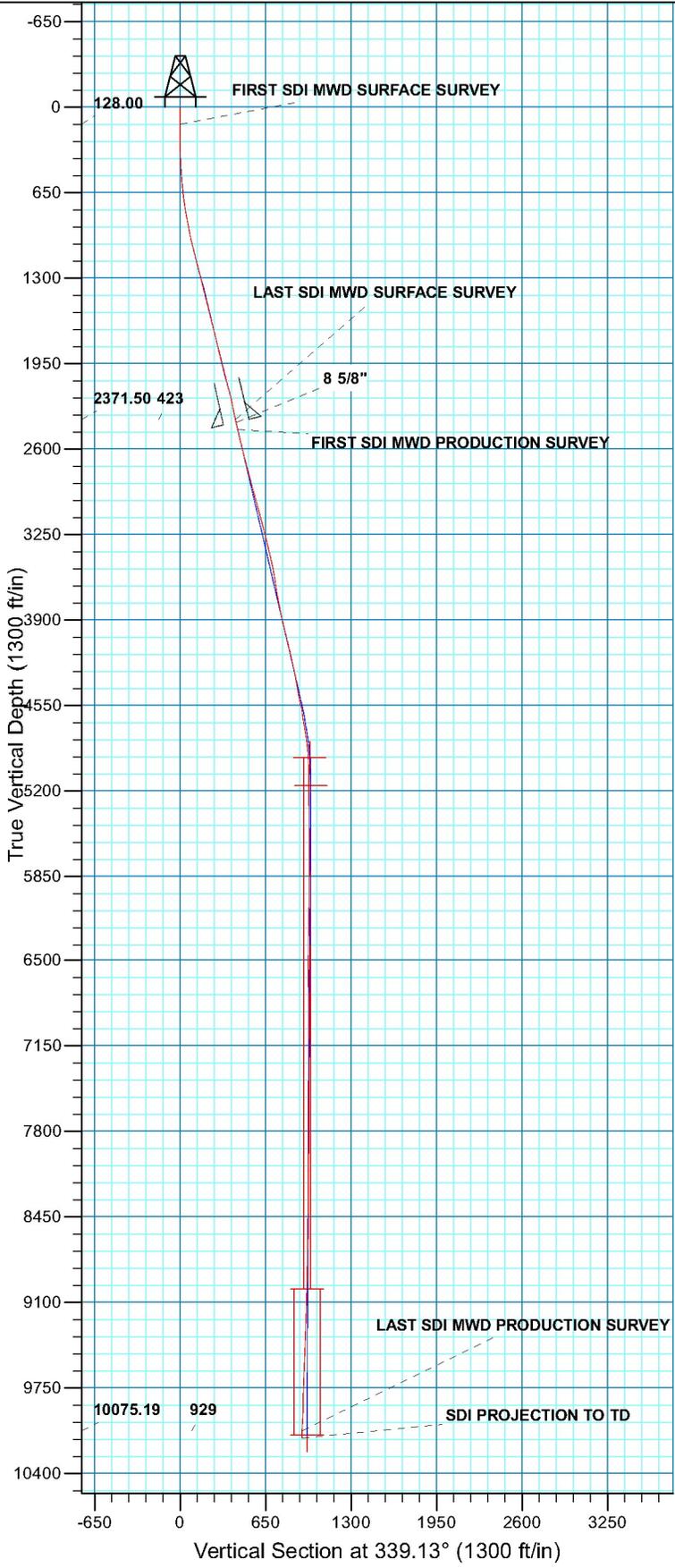


WELL DETAILS: NBU 1022-5H4CS

GL 5062 & KB 18 @ 5080.00ft (SST 57)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14521105.36	2073498.36	39.9761270	-109.4541730

**T** Azimuths to True North  
**M** Magnetic North: 10.79°  
 Magnetic Field  
 Strength: 51960.1snT  
 Dip Angle: 65.77°  
 Date: 3/13/2014  
 Model: BGGM2013





**Scientific Drilling**

## **US ROCKIES REGION PLANNING**

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

NBU 1022-5I PAD

NBU 1022-5H4CS

OH

Design: OH

## **Standard Survey Report**

07 July, 2014





Survey Report



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-5H4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 5062 & KB 18 @ 5080.00ft (SST 57)
<b>Site:</b>	NBU 1022-5I PAD	<b>MD Reference:</b>	GL 5062 & KB 18 @ 5080.00ft (SST 57)
<b>Well:</b>	NBU 1022-5H4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales

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

<b>Site</b>	NBU 1022-5I PAD, SECTION 5 T10S R22E				
<b>Site Position:</b>		<b>Northing:</b>	14,521,098.34 usft	<b>Latitude:</b>	39.9761086
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,073,479.64 usft	<b>Longitude:</b>	-109.4542402
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.99 °

<b>Well</b>	NBU 1022-5H4CS, 1950 FSL 166 FEL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,521,105.37 usft	<b>Latitude:</b>	39.9761270
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,073,498.35 usft	<b>Longitude:</b>	-109.4541730
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,062.00 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>
	BGGM2013	3/13/2014	10.79	65.77	51,960

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<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	339.13	

<b>Survey Program</b>	Date 7/7/2014			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
14.00	2,419.00	Survey #1 SDI MWD SURFACE (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1
2,499.00	10,240.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
14.00	0.00	0.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	
128.00	0.09	326.49	128.00	0.07	-0.05	0.09	0.08	0.08	0.00	
<b>FIRST SDI MWD SURFACE SURVEY</b>										
213.00	0.44	230.78	213.00	-0.08	-0.34	0.05	0.54	0.41	-112.60	
295.00	0.91	346.29	295.00	0.36	-0.74	0.60	1.43	0.57	140.87	
379.00	2.46	344.77	378.96	2.75	-1.37	3.05	1.85	1.85	-1.81	
469.00	3.34	346.35	468.84	7.16	-2.50	7.58	0.98	0.98	1.76	
559.00	5.10	340.90	558.59	13.48	-4.42	14.18	2.00	1.96	-6.06	
649.00	6.60	342.31	648.12	22.19	-7.30	23.34	1.67	1.67	1.57	



## Survey Report



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-5H4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 5062 & KB 18 @ 5080.00ft (SST 57)
<b>Site:</b>	NBU 1022-5I PAD	<b>MD Reference:</b>	GL 5062 & KB 18 @ 5080.00ft (SST 57)
<b>Well:</b>	NBU 1022-5H4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
739.00	8.09	339.58	737.38	33.06	-11.09	34.84	1.70	1.66	-3.03	
829.00	10.29	339.67	826.22	46.53	-16.09	49.21	2.44	2.44	0.10	
919.00	11.91	340.06	914.53	62.80	-22.05	66.53	1.80	1.80	0.43	
1,009.00	12.84	340.64	1,002.44	80.96	-28.53	85.82	1.04	1.03	0.64	
1,099.00	13.84	340.45	1,090.01	100.54	-35.45	106.58	1.11	1.11	-0.21	
1,189.00	14.51	339.23	1,177.27	121.23	-43.05	128.61	0.82	0.74	-1.36	
1,279.00	14.07	336.16	1,264.49	141.78	-51.47	150.81	0.97	-0.49	-3.41	
1,369.00	14.51	334.93	1,351.70	162.00	-60.67	172.98	0.59	0.49	-1.37	
1,459.00	14.07	337.21	1,438.92	182.30	-69.68	195.16	0.79	-0.49	2.53	
1,549.00	13.54	341.25	1,526.32	202.36	-77.31	216.62	1.22	-0.59	4.49	
1,639.00	13.21	339.99	1,613.88	222.00	-84.21	237.43	0.49	-0.37	-1.40	
1,729.00	14.07	341.52	1,701.34	242.04	-91.20	258.65	1.04	0.96	1.70	
1,819.00	13.40	337.83	1,788.77	262.07	-98.60	280.00	1.23	-0.74	-4.10	
1,909.00	13.81	337.56	1,876.24	281.66	-106.64	301.17	0.46	0.46	-0.30	
1,999.00	14.09	337.78	1,963.59	301.73	-114.88	322.86	0.32	0.31	0.24	
2,089.00	14.07	339.32	2,050.89	322.10	-122.89	344.75	0.42	-0.02	1.71	
2,179.00	14.33	340.02	2,138.14	342.81	-130.56	366.83	0.35	0.29	0.78	
2,269.00	13.54	339.94	2,225.49	363.17	-137.98	388.50	0.88	-0.88	-0.09	
2,359.00	13.10	338.00	2,313.07	382.52	-145.41	409.23	0.70	-0.49	-2.16	
2,419.00	13.10	336.60	2,371.50	395.07	-150.66	422.82	0.53	0.00	-2.33	
<b>LAST SDI MWD SURFACE SURVEY</b>										
2,499.00	12.40	336.57	2,449.53	411.27	-157.67	440.46	0.88	-0.88	-0.04	
<b>FIRST SDI MWD PRODUCTION SURVEY</b>										
2,594.00	13.18	336.69	2,542.17	430.58	-166.02	461.47	0.82	0.82	0.13	
2,688.00	13.28	335.42	2,633.68	450.24	-174.75	482.95	0.33	0.11	-1.35	
2,784.00	14.86	337.88	2,726.80	471.67	-183.97	506.26	1.76	1.65	2.56	
2,879.00	15.35	340.22	2,818.51	494.79	-192.81	531.01	0.82	0.52	2.46	
2,974.00	15.21	338.50	2,910.16	518.21	-201.63	556.05	0.50	-0.15	-1.81	
3,070.00	15.56	341.93	3,002.72	542.17	-210.24	581.50	1.02	0.36	3.57	
3,165.00	14.68	342.02	3,094.43	565.73	-217.91	606.25	0.93	-0.93	0.09	
3,260.00	13.28	338.41	3,186.61	587.33	-225.64	629.18	1.74	-1.47	-3.80	
3,356.00	13.71	337.07	3,279.96	608.06	-234.13	651.58	0.55	0.45	-1.40	
3,451.00	13.66	339.42	3,372.27	628.93	-242.46	674.04	0.59	-0.05	2.47	
3,546.00	12.58	337.07	3,464.79	648.96	-250.44	695.60	1.27	-1.14	-2.47	
3,641.00	10.90	333.14	3,557.80	666.50	-258.53	714.88	1.96	-1.77	-4.14	
3,737.00	9.28	328.70	3,652.31	681.22	-266.65	731.52	1.87	-1.69	-4.63	
3,832.00	8.97	331.82	3,746.11	694.29	-274.13	746.40	0.61	-0.33	3.28	
3,927.00	11.96	341.05	3,839.53	710.13	-280.82	763.59	3.60	3.15	9.72	
4,023.00	13.45	342.72	3,933.17	730.20	-287.37	784.67	1.60	1.55	1.74	
4,118.00	14.25	344.83	4,025.41	752.04	-293.71	807.33	1.00	0.84	2.22	
4,213.00	13.05	342.31	4,117.73	773.54	-300.03	829.68	1.41	-1.26	-2.65	
4,308.00	12.84	344.56	4,210.31	793.94	-306.10	850.89	0.57	-0.22	2.37	
4,403.00	11.78	344.13	4,303.13	813.44	-311.56	871.06	1.12	-1.12	-0.45	



## Survey Report



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-5H4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 5062 & KB 18 @ 5080.00ft (SST 57)
<b>Site:</b>	NBU 1022-5I PAD	<b>MD Reference:</b>	GL 5062 & KB 18 @ 5080.00ft (SST 57)
<b>Well:</b>	NBU 1022-5H4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,499.00	10.64	341.58	4,397.29	831.27	-317.04	889.68	1.29	-1.19	-2.66	
4,594.00	11.61	340.70	4,490.51	848.62	-322.97	908.00	1.04	1.02	-0.93	
4,689.00	10.55	340.70	4,583.74	865.85	-329.01	926.25	1.12	-1.12	0.00	
4,785.00	9.22	337.73	4,678.31	881.26	-334.83	942.72	1.48	-1.39	-3.09	
4,880.00	7.63	334.71	4,772.28	894.01	-340.41	956.62	1.74	-1.67	-3.18	
4,975.00	6.07	345.71	4,866.60	904.58	-344.34	967.90	2.14	-1.64	11.58	
5,071.00	3.43	8.38	4,962.27	912.34	-345.17	975.45	3.32	-2.75	23.61	
5,166.00	1.58	35.75	5,057.18	916.21	-343.99	978.65	2.27	-1.95	28.81	
5,261.00	1.44	36.04	5,152.15	918.24	-342.53	980.02	0.15	-0.15	0.31	
5,355.00	1.14	47.66	5,246.13	919.83	-341.14	981.01	0.42	-0.32	12.36	
5,450.00	1.23	46.70	5,341.11	921.16	-339.70	981.74	0.10	0.09	-1.01	
5,545.00	1.19	38.08	5,436.08	922.64	-338.35	982.64	0.20	-0.04	-9.07	
5,640.00	0.97	51.98	5,531.07	923.91	-337.11	983.39	0.36	-0.23	14.63	
5,735.00	0.87	43.05	5,626.06	924.93	-335.98	983.94	0.18	-0.11	-9.40	
5,831.00	0.62	72.81	5,722.05	925.62	-334.99	984.23	0.47	-0.26	31.00	
5,926.00	0.62	107.88	5,817.04	925.61	-334.01	983.87	0.39	0.00	36.92	
6,022.00	0.79	111.65	5,913.03	925.21	-332.90	983.10	0.18	0.18	3.93	
6,117.00	0.62	120.80	6,008.03	924.70	-331.85	982.26	0.21	-0.18	9.63	
6,212.00	0.67	131.01	6,103.02	924.08	-330.99	981.36	0.13	0.05	10.75	
6,308.00	0.79	130.11	6,199.01	923.28	-330.06	980.29	0.13	0.13	-0.94	
6,403.00	1.06	138.02	6,294.00	922.21	-328.97	978.90	0.31	0.28	8.33	
6,498.00	0.09	146.11	6,389.00	921.49	-328.34	978.00	1.02	-1.02	8.52	
6,593.00	0.35	118.60	6,483.99	921.29	-328.04	977.71	0.29	0.27	-28.96	
6,689.00	0.44	245.07	6,579.99	921.00	-328.12	977.46	0.74	0.09	131.74	
6,784.00	0.44	272.14	6,674.99	920.86	-328.82	977.58	0.22	0.00	28.49	
6,879.00	0.53	321.19	6,769.99	921.21	-329.46	978.14	0.43	0.09	51.63	
6,974.00	0.26	343.43	6,864.99	921.76	-329.79	978.77	0.32	-0.28	23.41	
7,069.00	0.07	78.51	6,959.99	921.98	-329.80	978.98	0.29	-0.20	100.08	
7,164.00	0.33	116.68	7,054.98	921.87	-329.50	978.77	0.29	0.27	40.18	
7,259.00	0.70	127.21	7,149.98	921.39	-328.79	978.07	0.40	0.39	11.08	
7,355.00	0.79	238.83	7,245.98	920.70	-328.89	977.46	1.28	0.09	116.27	
7,450.00	0.78	225.73	7,340.97	919.91	-329.91	977.08	0.19	-0.01	-13.79	
7,545.00	0.70	213.78	7,435.96	918.97	-330.70	976.49	0.18	-0.08	-12.58	
7,640.00	0.96	261.71	7,530.95	918.38	-331.81	976.33	0.75	0.27	50.45	
7,735.00	0.62	244.72	7,625.94	918.04	-333.06	976.46	0.43	-0.36	-17.88	
7,831.00	0.88	254.30	7,721.93	917.62	-334.24	976.49	0.30	0.27	9.98	
7,926.00	0.79	245.86	7,816.92	917.15	-335.54	976.52	0.16	-0.09	-8.88	
8,021.00	1.03	209.87	7,911.91	916.15	-336.56	975.94	0.64	0.25	-37.88	
8,116.00	0.20	254.89	8,006.91	915.36	-337.15	975.41	0.95	-0.87	47.39	
8,211.00	0.40	263.18	8,101.90	915.28	-337.64	975.51	0.21	0.21	8.73	
8,307.00	0.34	193.51	8,197.90	914.96	-338.04	975.36	0.44	-0.06	-72.57	
8,402.00	0.35	177.66	8,292.90	914.40	-338.09	974.85	0.10	0.01	-16.68	
8,497.00	0.50	152.26	8,387.90	913.74	-337.89	974.16	0.25	0.16	-26.74	
8,592.00	0.86	135.47	8,482.89	912.87	-337.19	973.10	0.43	0.38	-17.67	



Survey Report



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-5H4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 5062 & KB 18 @ 5080.00ft (SST 57)
<b>Site:</b>	NBU 1022-5I PAD	<b>MD Reference:</b>	GL 5062 & KB 18 @ 5080.00ft (SST 57)
<b>Well:</b>	NBU 1022-5H4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,687.00	0.70	130.29	8,577.88	911.98	-336.25	971.94	0.18	-0.17	-5.45	
8,782.00	0.88	150.41	8,672.87	910.97	-335.45	970.71	0.35	0.19	21.18	
8,879.00	0.79	144.35	8,769.86	909.78	-334.69	969.33	0.13	-0.09	-6.25	
8,974.00	0.98	139.45	8,864.85	908.63	-333.78	967.93	0.22	0.20	-5.16	
9,069.00	1.35	163.11	8,959.83	906.95	-332.93	966.05	0.63	0.39	24.91	
9,164.00	1.67	173.03	9,054.80	904.50	-332.43	963.59	0.43	0.34	10.44	
9,259.00	1.88	171.66	9,149.75	901.58	-332.04	960.72	0.23	0.22	-1.44	
9,355.00	1.76	167.64	9,245.71	898.59	-331.50	957.73	0.18	-0.13	-4.19	
9,450.00	1.76	161.40	9,340.66	895.78	-330.72	954.82	0.20	0.00	-6.57	
9,545.00	2.11	163.86	9,435.61	892.72	-329.77	951.62	0.38	0.37	2.59	
9,640.00	1.83	163.67	9,530.55	889.58	-328.85	948.37	0.29	-0.29	-0.20	
9,735.00	2.25	158.25	9,625.49	886.39	-327.74	944.99	0.49	0.44	-5.71	
9,830.00	1.95	159.49	9,720.43	883.15	-326.48	941.51	0.32	-0.32	1.31	
9,925.00	1.93	156.48	9,815.37	880.17	-325.27	938.30	0.11	-0.02	-3.17	
10,021.00	1.93	148.04	9,911.32	877.31	-323.77	935.10	0.30	0.00	-8.79	
10,116.00	2.33	151.34	10,006.25	874.26	-322.00	931.61	0.44	0.42	3.47	
10,185.00	2.42	150.06	10,075.19	871.77	-320.60	928.78	0.15	0.13	-1.86	
<b>LAST SDI MWD PRODUCTION SURVEY</b>										
10,240.00	2.42	150.06	10,130.14	869.76	-319.44	926.49	0.00	0.00	0.00	
<b>SDI PROJECTION TO TD</b>										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N-S (ft)	+E-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
PBHL_NBU 1022-5H4C:	0.00	0.00	10,108.00	907.62	-331.48	14,522,007.10	2,073,151.19	39.9786190	-109.4553560	
- actual wellpath misses target center by 38.78ft at 10216.24ft MD (10106.40 TVD, 870.62 N, -319.94 E)										
- Circle (radius 100.00)										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N-S (ft)	+E-W (ft)		
128.00	128.00	0.07	-0.05	FIRST SDI MWD SURFACE SURVEY	
2,419.00	2,371.50	395.07	-150.66	LAST SDI MWD SURFACE SURVEY	
2,499.00	2,449.53	411.27	-157.67	FIRST SDI MWD PRODUCTION SURVEY	
10,185.00	10,075.19	871.77	-320.60	LAST SDI MWD PRODUCTION SURVEY	
10,240.00	10,130.14	869.76	-319.44	SDI PROJECTION TO TD	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

US ROCKIES REGION  
**Operation Summary Report**

Well: NBU 1022-5H4CS BLUE

Spud date: 3/20/2014

Project: UTAH-UINTAH

Site: NBU 1022-5I PAD

Rig name no.:

Event: COMPLETION

Start date: 9/4/2014

End date: 2/25/2015

Active datum: RKB @5,080.00usft (above Mean Sea Level)

UWI: NE/SE/0/10/S/22/E/5/0/0/26/PM/S/1950/E/0/166/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
7/29/2014	-							
9/4/2014	12:30 - 13:30	1.00	SUBSPR	52	B	P		FILL SURFACE CSG. MIRU CAMERON QUICK TEST. PRESSURE TEST CSG 1ST PSI TEST T/ 9000 PSI. HELD FOR 15 MIN LOST -71 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. ( BLACK HAWK )  PRESSURE TEST 8 5/8 X 4 1/2 TO 500 PSI HELD FOR 5 MIN LOST -99 PSI, BLED PSI OFF, REINSTALLED POP OFF SWIFN 325 # PRESSURE ON SURFACE CASING LAYED LINE TO PIT BLED WELL DOWN 5 MIN RECOVERED 1-2 BBLs DRILLING MUD , NO FLOW FILLED SURFACE WITH 3 BBLs H2O
2/4/2015	9:00 - 10:00	1.00	SUBSPR	52	B	P		MIRU CAMERON QUICK TEST. PRESSURE TEST CSG & FRAC VALVES 1ST PSI TEST T/ 9000 PSI. HELD FOR 15 MIN LOST -70 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. TESTED SURFACE ON 9-4-14
2/13/2015	8:00 - 9:00	1.00	SUBSPR	37	E	P		PU 3 1/8 EXP GUN, 19 GM, .40 HOLE SIZE. RIH PERFWELL, AS PER PERF DESIGN. POOH. SWIFW
2/16/2015	6:30 - 6:45	0.25	FRAC	48		P		HSM-JSA
	6:45 - 13:20	6.58	FRAC	36	H	P		GOT BRK & STARTED PUMPING PAD, HAD TO SHUT DOWN & CLEAN AIR FILTERS ON 2 PUMPS. CLEAN AIR FILTERS ON 2 PUMPS
	13:20 - 13:55	0.58	FRAC	46	E	Z		
	13:55 - 17:30	3.58	FRAC	36	F	P		FRAC STG #1) WHP 1733 PSI, BRK 5044 PSI @ 5.2 BPM. ISIP 3700 PSI, FG. 0.82 ISIP 3675 PSI, FG. 0.81, NPI -25 PSI, X/O TO WL. SET CBP & PERF STG #2 AS DESIGNED, SWI, SDFN
2/17/2015	6:15 - 6:30	0.25	FRAC	48		P		HSM-JSA
	6:30 - 17:30	11.00	FRAC	36	F	P		FRAC STG #2) WHP 1730 PSI, BRK 3561 PSI @ 3.9 BPM. ISIP 2385 PSI, FG. 0.7 ISIP 2615 PSI, FG. 0.73, NPI 230 PSI, X/O TO WL. SET CBP & PERF STG #3 AS DESIGNED, X/O TO FRAC. FRAC STG #3) WHP 2206 PSI, BRK 3151 PSI @ 3.6 BPM. ISIP 2455 PSI, FG. 0.72 ISIP 2655 PSI, FG. 0.74, NPI 200 PSI. X/O TO WL. SET CBP & PERF STG #4 AS DESIGNED, X/O TO FRAC. FRAC STG #4) WHP 705 PSI, BRK 2719 PSI @ 3.6 BPM. ISIP 1900 PSI, FG. 0.67 ISIP 2640 PSI, FG. 0.75, NPI 740 PSI, X/O TO WL. SET CBP & PERF STG #5 AS DESIGNED, X/O TO FRAC. FRAC STG #5) WHP 1913 PSI, BRK 3085 PSI @ 5.7 BPM. ISIP 2075 PSI, FG. 0.69 ISIP 2175 PSI, FG. 0.71, NPI 100 PSI, SWI, SDFN.
2/18/2015	6:15 - 6:30	0.25	FRAC	48		P		HSM-JSA

US ROCKIES REGION  
**Operation Summary Report**

Well: NBU 1022-5H4CS BLUE		Spud date: 3/20/2014	
Project: UTAH-UINTAH		Site: NBU 1022-5I PAD	Rig name no.:
Event: COMPLETION		Start date: 9/4/2014	End date: 2/25/2015
Active datum: RKB @5,080.00usft (above Mean Sea Level)		UWI: NE/SE/O/10/S/22/E/5/O/0/26/PM/S/1950/E/0/166/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	6:30 - 10:15	3.75	FRAC	36	H	P		SET CBP & PERF STG #6 AS DESIGNED, SWI, SDFN.
2/19/2015	6:15 - 6:30	0.25	FRAC	48		P		HSM-JSA
	6:30 - 14:00	7.50	FRAC	36	H	P		FRAC STG #6) WHP 1058 PSI, BRK 2289 PSI @ 4.1 BPM. ISIP 1585 PSI, FG. 0.64 ISIP 2325 PSI, FG. 0.73, NPI 740 PSI, X/O TO WL. SET CBP & PERF STG #7 AS DESIGNED, X/O TO FRAC. FRAC STG #7) WHP 567 PSI, BRK 2567 PSI @ 3.6 BPM. ISIP 1605 PSI, FG. 0.65 ISIP 2335 PSI, FG. 0.75, NPI 730 PSI, X/O TO WL. SET CBP & PERF STG #8 AS DESIGNED, X/O TO FRAC. FRAC STG #8) WHP 450 PSI, BRK 2259 PSI @ 3.7 BPM. ISIP 1830 PSI, FG. 0.69 ISIP 2260 PSI, FG. 0.75, NPI 430 PSI, X/O TO WL. SET KILL PLUG. RDMO WL & FRAC EQUIP. TOTAL FLUID= 14859 BBLS TOTAL SAND= 325516 LBS
2/24/2015	7:00 - 7:30	0.50	DRLOUT	48		P		HSM, RIGGING DOWN & RIGGING UP RIG & EQUIP.
	7:30 - 11:30	4.00	DRLOUT	30	A	P		2 OF 4, RD OFF RED WELL, MOVED OVER & RIGGED UP. ND WH NU 10K BOPS, OPEN BOP DOORS CHECKED ALL RAMS, RU FLOOR & TBG EQUIP.
	11:30 - 15:00	3.50	DRLOUT	31	I	P		TALLY & PU 37/8 BIT, POBS, 220 JTS 23/8 P-110 TAG @ 6991.57', RU DRLG EQUIP, PREP TO D/O IN AM SWI SDFN.
2/25/2015	7:00 - 7:30	0.50	DRLOUT	48		P		HSM, DRILLING CBPS W/ SWIVEL & LOOK FOR LEAKS.
	7:30 - 17:00	9.50	DRLOUT	44	C	P		2 OF 4, BROKE CIRC CONV, TEST BOPS TO 3,000 PSI, RIH. C/O 5' SAND TAG 1ST PLUG @ 6984' DRL PLG IN 10 MIN, 500 PSI INCREASE RIH. C/O 25' SAND TAG 2ND PLUG @ 7392' DRL PLG IN 15 MIN, 450 PSI INCREASE RIH. C/O 30' SAND TAG 3RD PLUG @ 7753' DRL PLG IN 15 MIN, 500 PSI INCREASE RIH. C/O 30' SAND TAG 4TH PLUG @ 8040' DRL PLG IN 10 MIN, 100 PSI INCREASE RIH. C/O 25' SAND TAG 5TH PLUG @ 8241' DRL PLG IN 15 MIN, 0 PSI INCREASE RIH. C/O 25' SAND TAG 6TH PLUG @ 8543' DRL PLG IN 15 MIN, 500 PSI INCREASE RIH. C/O 25' SAND TAG 7TH PLUG @ 8878' DRL PLG IN 15 MIN, 700 PSI INCREASE RIH. C/O 25' SAND TAG 8TH PLUG @ 9113' DRL PLG IN 10 MIN, 400 PSI INCREASE RIH. C/O TO 10,017', PBTD @ 10,182', CIRC CLN, RD SWIVEL, L/D 37 JTS, LAND TBG, ND BOPS NU WH, TEST FL, PUMPED OFF BIT, TURN WELL TO FB CREW. RIG DWN MOVED OVER TO 3 OF 4, SPOT RIG SDFN KB = 18' 41/16 HANGER = .83' ( SURFACE OPEN & LOCKED ) JTS 23/8 P-110 = 8846.65' ( SICP 2600, FTP 100, ) POBS W/ 1.875 X/N = 2.20' EOT @ 8867.68' TWTR 14,859 BBLS TWR 1400 BBLS TWLTR 13,459 BBLS 324 JT HAULED OUT, P-110 279 LANDED 45 TO RETURN
	17:00 - 17:00	0.00	DRLOUT	50		P		WELL ON SALES @ 8:00 HR ON 2/25/2015 - 300MCFD, FCP 2658#, FTP 2474#, 1440 BWPD, 20/64 CK.

US ROCKIES REGION

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 1022-5H4CS BLUE	Wellbore No.	00
Well Name	NBU 1022-5H4CS	Wellbore Name	NBU 1022-5H4CS
Report no.	1	Report date	2/12/2015
Project	UTAH-UJINTAH	Site	NBU 1022-5J PAD
Rig Name/No.		Event	COMPLETION
Start date	9/4/2014	End date	2/25/2015
Spud date	3/20/2014	Active datum	RKB @5,080.00usft (above Mean Sea Level)
UWI	NE/SE/0/10/S/22/E/5/0/26/PM/S/1950/E/0/166/0/0		

1.3 General

Contractor		Job method		Supervisor	
Perforated Assembly		Conveyed method			

1.4 Initial Conditions

Fluid type	Fluid density	Gross Interval	7.078.0	(usft)-9.917.0	(usft)	Start Date/Time	2/13/2015 12:00AM
Surface press.	Estimate res press	No. of intervals	60	End Date/Time	2/13/2015 12:00AM		
TVD fluid top	Fluid head	Total shots	192	Net perforation interval			64.00 (usft)
Hydrostatic press.	Press. difference	Avg. shot density	3.00	(shot/ft)	Final surface pressure		
Balance Cond	NEUTRAL				Final press. date		

1.5 Summary

Fluid density	Shot density (shot/ft)	Shot	3.00
Estimate res press	Misfires/ Add. Shot		
Fluid head			
Press. difference			

2 Intervals

2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD top (usft)	MD base (usft)	Shot density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr type /Stage No	Carr size (in)	Phasing (°)	Charge desc. /Charge manufacturer	Charge weight (gram)	Reason	Misrun	How Guns Conveyed
2/13/2015 12:00AM	M E S A VERDE/			7,078.0	7,079.0	3.00		0.410 EXP/		3.125	120.00	19.00 PRODUCTION				

US ROCKIES REGION

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD top (usft)	MD base (usft)	Shot density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr type /Stage No	Carr size (in)	Phasing (°)	Charge desc. /Charge manufacturer	Charge weight (gram)	Reason	Misrun	How Guns Conveyed
2/13/2015 12:00AM	M E S A VERDE/			7,254.0	7,255.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,295.0	7,296.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,306.0	7,307.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,321.0	7,322.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,334.0	7,335.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,344.0	7,345.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,366.0	7,367.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,442.0	7,443.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,478.0	7,479.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,567.0	7,568.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,576.0	7,577.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,661.0	7,663.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,694.0	7,695.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,712.0	7,713.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,815.0	7,816.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,868.0	7,869.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,902.0	7,903.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,923.0	7,924.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,961.0	7,962.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			7,973.0	7,974.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,007.0	8,008.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,024.0	8,025.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		

US ROCKIES REGION

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD top (usft)	MD base (usft)	Shot density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr type /Stage No	Carr size (in)	Phasing (°)	Charge desc. /Charge manufacturer	Charge weight (gram)	Reason	Misrun	How Guns Conveyed
2/13/2015 12:00AM	M E S A VERDE/			8,064.0	8,065.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,084.0	8,085.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,102.0	8,103.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,122.0	8,124.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,174.0	8,175.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,204.0	8,206.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,282.0	8,283.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,303.0	8,304.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,326.0	8,327.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,348.0	8,349.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,386.0	8,387.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,441.0	8,442.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,492.0	8,493.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,502.0	8,503.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,619.0	8,620.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,642.0	8,643.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,679.0	8,680.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,795.0	8,796.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,802.0	8,803.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,814.0	8,815.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,838.0	8,839.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,852.0	8,853.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		

US ROCKIES REGION

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD top (usft)	MD base (usft)	Shot density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr type /Stage No	Carr size (in)	Phasing (°)	Charge desc. /Charge manufacturer	Charge weight (gram)	Reason	Misrun	How Guns Conveyed
2/13/2015 12:00AM	M E S A VERDE/			8,897.0	8,898.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,928.0	8,929.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			8,986.0	8,987.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			9,001.0	9,002.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			9,034.0	9,035.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			9,048.0	9,049.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			9,070.0	9,071.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			9,082.0	9,083.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			9,744.0	9,745.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			9,774.0	9,775.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			9,799.0	9,800.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			9,831.0	9,832.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			9,849.0	9,850.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			9,899.0	9,900.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		
2/13/2015 12:00AM	M E S A VERDE/			9,915.0	9,917.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION		

3 Plots

Sundry Number: 61855 API Well Number: 4304753572000

Well Name:	NBU 1022-5H4CS	Field Name:	GNB_NATURAL BUTTES	TD:	10240	ST#:	00
Wellbore Name:	NBU 1022-5H4CS	Lat:	39.976126	TVD:	10130	Working Interest:	100.00
WINS No:	F7644	Long:	-109.454172	PBTD:	10182	Ground Elevation:	5,062.00
API No:	4304753572	Spud Date:	03/20/2014	PB TVD:	10072	KB Height:	5080
State:	UTAH	TD Date:	06/30/2014	Target Formation: BLACKHAWK			
County:	UINTAH	Location Description: NE SE 5 10S 22E 1,950' FSL 166' FEL					

PERFORATIONS

Date	Formation	Zone	Top	Btm	SPF	No. Holes	Diameter	Phasing	Reason	Status	Comments
02/13/2015	MESA VERDE	MESAVERDE	7078	7079	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7254	7255	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7295	7296	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7306	7307	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7321	7322	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7334	7335	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7344	7345	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7366	7367	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7442	7443	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7478	7479	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7567	7568	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7576	7577	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7661	7663	3	6	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7694	7695	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7712	7713	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7815	7816	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7868	7869	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7902	7903	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7923	7924	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7961	7962	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	7973	7974	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8007	8008	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8024	8025	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8064	8065	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8084	8085	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8102	8103	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8122	8124	3	6	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8174	8175	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8204	8206	3	6	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8282	8283	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8303	8304	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8326	8327	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8348	8349	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8386	8387	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8441	8442	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8492	8493	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8502	8503	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8619	8620	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8642	8643	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8679	8680	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8795	8796	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8802	8803	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8814	8815	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8838	8839	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8852	8853	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8897	8898	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8928	8929	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	8986	8987	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	9001	9002	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	9034	9035	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	9048	9049	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	9070	9071	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	MESAVERDE	9082	9083	3	3	0.41	120	PRODUCTION	OPEN	
02/13/2015	MESA VERDE	BLACKHAWK	9744	9745	3	3	0.41	120	PRODUCTION	OPEN	

Sundry Number: 61855 API Well Number: 43047535720000

<b>Well Name:</b> NBU 1022-5H4CS	<b>Field Name:</b> GNB_NATURAL BUTTES	<b>TD:</b> 10240	<b>ST#:</b> 00
<b>Wellbore Name:</b> NBU 1022-5H4CS	<b>Lat:</b> 39.976126	<b>TVD:</b> 10130	<b>Working Interest:</b> 100.00
<b>WINS No:</b> F7644	<b>Long:</b> -109.454172	<b>PBTD:</b> 10182	<b>Ground Elevation:</b> 5,062.00
<b>API No:</b> 4304753572	<b>Spud Date:</b> 03/20/2014	<b>PB TVD:</b> 10072	<b>KB Height:</b> 5080
<b>State:</b> UTAH	<b>TD Date:</b> 06/30/2014	<b>Target Formation:</b> BLACKHAWK	
<b>County:</b> UINTAH	<b>Location Description:</b> NE SE 5 10S 22E 1,950' FSL 166' FEL		

02/13/2015	MESA VERDE	BLACKHAWK	9774	9775	3	3	0.41	120	PRODUCTION	OPEN
02/13/2015	MESA VERDE	BLACKHAWK	9799	9800	3	3	0.41	120	PRODUCTION	OPEN
02/13/2015	MESA VERDE	BLACKHAWK	9831	9832	3	3	0.41	120	PRODUCTION	OPEN
02/13/2015	MESA VERDE	BLACKHAWK	9849	9850	3	3	0.41	120	PRODUCTION	OPEN
02/13/2015	MESA VERDE	BLACKHAWK	9899	9900	3	3	0.41	120	PRODUCTION	OPEN
02/13/2015	MESA VERDE	BLACKHAWK	9915	9917	3	6	0.41	120	PRODUCTION	OPEN

<b>Well Directions:</b>	<b>Battery Directions:</b>
-------------------------	----------------------------