

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

FORM 3

AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL						1. WELL NAME and NUMBER NBU 921-19E3AS								
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						3. FIELD OR WILDCAT NATURAL BUTTES								
4. TYPE OF WELL Gas Well Coalbed Methane Well: NO						5. UNIT or COMMUNITIZATION AGREEMENT NAME NATURAL BUTTES								
6. NAME OF OPERATOR KERR-MCGEE OIL & GAS ONSHORE, L.P.						7. OPERATOR PHONE 720 929-6100								
8. ADDRESS OF OPERATOR P.O. Box 173779, Denver, CO, 80217						9. OPERATOR E-MAIL Andy.Lytle@anadarko.com								
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) UTU 0581			11. MINERAL OWNERSHIP FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>			12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>								
13. NAME OF SURFACE OWNER (if box 12 = 'fee')						14. SURFACE OWNER PHONE (if box 12 = 'fee')								
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')						16. SURFACE OWNER E-MAIL (if box 12 = 'fee')								
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN') UTE TRIBE			18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>			19. SLANT VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>								
20. LOCATION OF WELL		FOOTAGES		QTR-QTR		SECTION		TOWNSHIP		RANGE		MERIDIAN		
LOCATION AT SURFACE		2606 FSL 1538 FWL		NWSW		19		9.0 S		21.0 E		S		
Top of Uppermost Producing Zone		2353 FNL 620 FWL		SWNW		19		9.0 S		21.0 E		S		
At Total Depth		2353 FNL 620 FWL		SWNW		19		9.0 S		21.0 E		S		
21. COUNTY UINTAH			22. DISTANCE TO NEAREST LEASE LINE (Feet) 620			23. NUMBER OF ACRES IN DRILLING UNIT 2400								
			25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 365			26. PROPOSED DEPTH MD: 11582 TVD: 11428								
27. ELEVATION - GROUND LEVEL 4826			28. BOND NUMBER WYB000291			29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 43-8496								
Hole, Casing, and Cement Information														
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement		Sacks	Yield	Weight			
Surf	11	8.625	0 - 2860	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 - 11582	11.6	HCP-110 LT&C	12.5	Premium Lite High Strength		350	3.38	12.0			
							50/50 Poz		1670	1.31	14.3			
ATTACHMENTS														
VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES														
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER						<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN								
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)						<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER								
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)						<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP								
NAME Joel Malefyt				TITLE Regulatory Analyst				PHONE 720 929-6828						
SIGNATURE				DATE 07/11/2014				EMAIL joel.malefyt@anadarko.com						
API NUMBER ASSIGNED 43047546030000				APPROVAL  Permit Manager										

Kerr-McGee Oil & Gas Onshore. L.P.**NBU 921-19E3AS**

Surface:	2606 FSL / 1538 FWL	NWSW
BHL:	2353 FNL / 620 FWL	SWNW

Section 19 T9S R21E

Unitah County, Utah
Mineral Lease: UTU 0581

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	1,649'	
Birds Nest	1,917'	Water
Mahogany	2,412'	Water
Wasatch	5,029'	Gas
Mesaverde	8,160'	Gas
Sego	10,404'	Gas
Castlegate	10,506'	Gas
Blackhawk	10,828'	Gas
TVD =	11,428'	
TD =	11,582'	

- 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

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

4. Proposed Casing & Cementing Program:

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

5. Drilling Fluids Program:

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

6. Evaluation Program:

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

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

Maximum anticipated bottom hole pressure calculated at 11428' TVD, approximately equals
7,314 psi (0.64 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 4,784 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 10404' TVD, approximately equals
6,346 psi (0.61 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 4,085 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



KERR-McGEE OIL & GAS ONSHORE LP
Blackhawk Drilling Program

CASING PROGRAM

							DESIGN FACTORS			
	SIZE	INTERVAL	WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION		
								LTC	DQX	
CONDUCTOR	14"	0-40'								
SURFACE	8-5/8"	0 to 2,860	28.00	IJ-55	LTC	3,390	1,880	348,000	N/A	
						1.88	1.40	4.96	N/A	
PRODUCTION	4-1/2"	0 to 5,000	11.60	HCP-110	DQX	10,690	8,650	279,000	367,174	
						1.19	1.16		3.38	
	4-1/2"	5,000 to 11,582'	11.60	HCP-110	LTC	1.19	1.16	4.52		

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	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
	Option 1 TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
NOTE: If well will circulate water to surface, option 2 will be utilized							
SURFACE	Option 2 LEAD	2,360'	Premium cmt + 16% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOC + GR 3 pps	290	35%	12.00	2.86
	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,522'	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	350	35%	12.00	3.38
	TAIL	7,060'	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	1,670	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

							DESIGN FACTORS			
	SIZE	INTERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	LTC	DQX
									TENSION	
CONDUCTOR	14"	0-40'								
							3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to 2,860	28.00	IJ-55	LTC	1.88	1.40	4.96	N/A
							10,690	8,650		367,174
PRODUCTION	4-1/2"	0	to 5,000	11.60	HCP-110	DQX	1.19	1.33		3.74
							10,690	8,650	279,000	
	4-1/2"	5,000	to 10,353'	11.60	HCP-110	LTC	1.19	1.33	5.50	

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
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Production casing:

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SURFACE		NOTE: If well will circulate water to surface, option 2 will be utilized					
	Option 2						
	LEAD	2,360'	Premium cmt + 16% Gel + 10 pps gilsonite	290	35%	12.00	2.86
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			+ .3% R-3 + .5 lbs/sk Kol-Seal + 6%Bentonite II +				
			1.2% Sodium Metasilicate + .05 lbs/sk Static Free				
	TAIL	5,830'	50/50 Poz/G + 10% salt + .05 lbs/sk Static Free	1,380	35%	14.30	1.31
			+ 1.2% Sodium Metasilicate + .5 % EC-1				
			+ .002 gps FP-6L + 2% Bentonite II				

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

Nick Spence / John Tuckwiller / Brian Cocchiere / Tyler Elliott

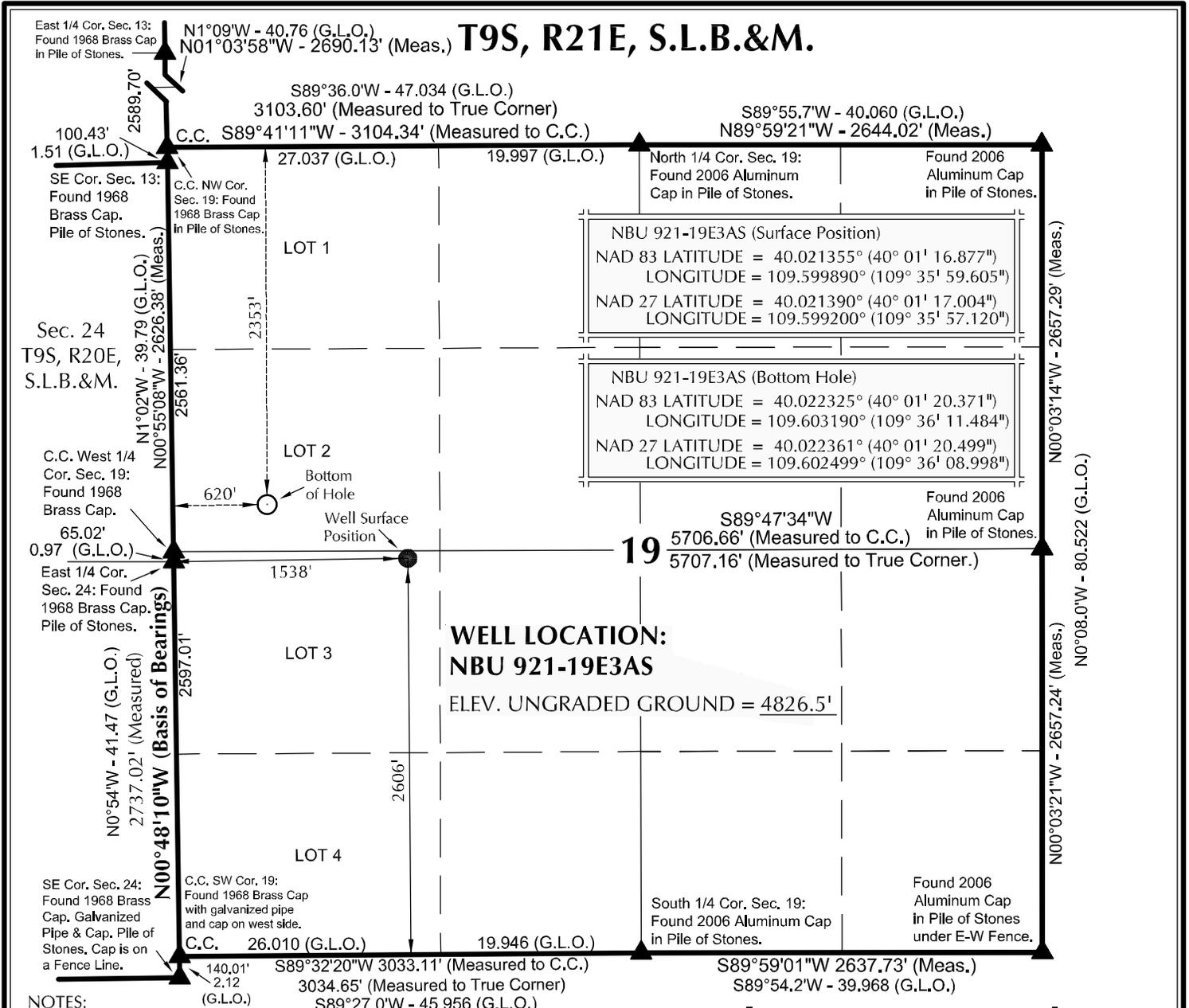
DATE:

DRILLING SUPERINTENDENT:

Kenny Gathings / Lovel Young

DATE:

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



**WELL LOCATION:
NBU 921-19E3AS**

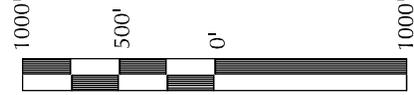
ELEV. UNGRADED GROUND = 4826.5'

19

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 N68°58'23"W 989.74' 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-Station "Two Water" located in Lot 4 of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Station is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

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



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.

John R. Slough
No. 6028691
JOHN R. SLOUGH
PROFESSIONAL LAND SURVEYOR
REGISTRATION No. 6028691
STATE OF 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 SURVEYED: 9-5-12	SURVEYED BY: A.F.	SHEET NO: 3
DATE DRAWN: 9-13-12	DRAWN BY: T.J.R.	
SCALE: 1" = 1000'		3 OF 20

WELL PAD: NBU 921-19L

**NBU 921-19E3AS
WELL PLAT**

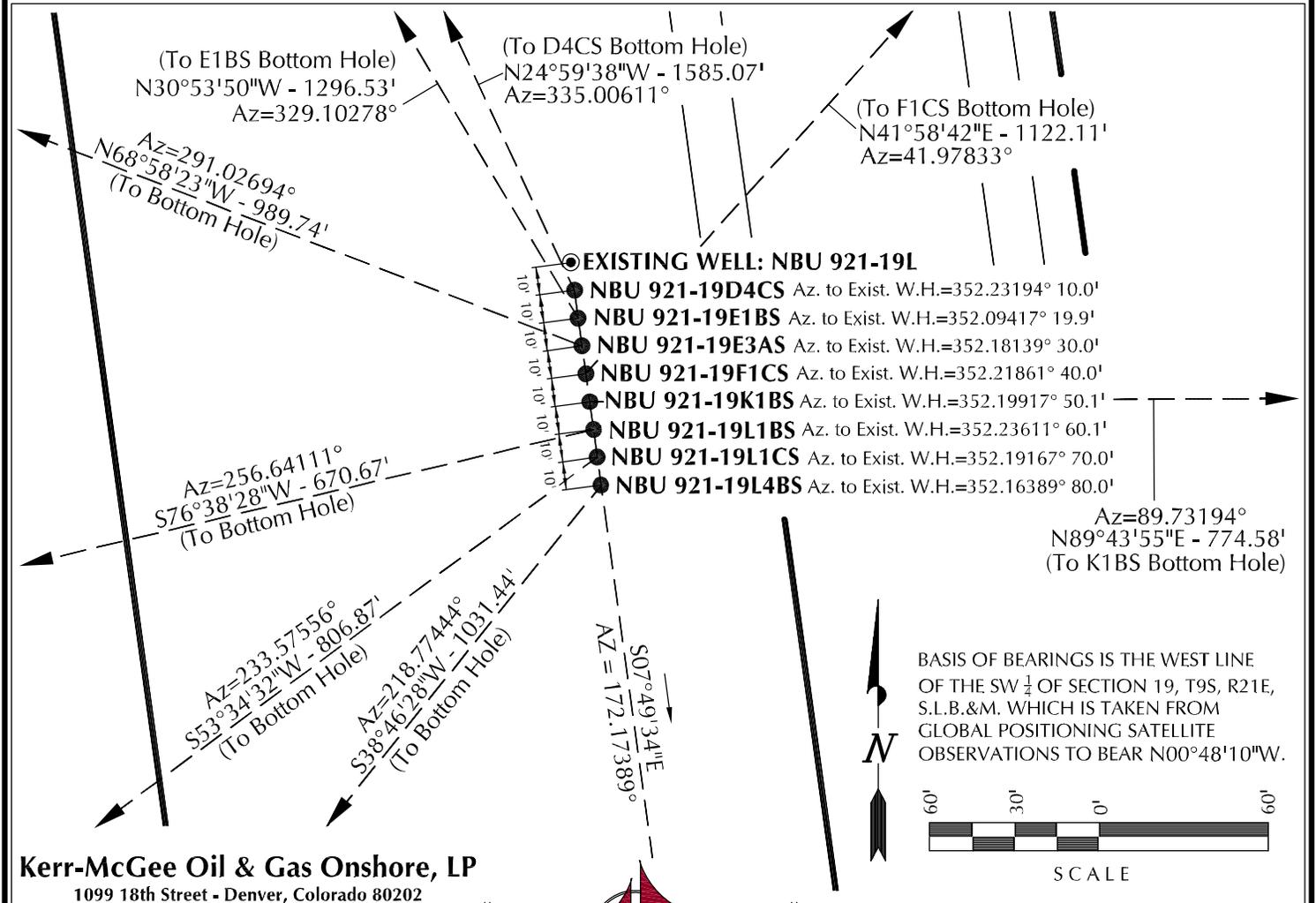
2353' FNL, 620' FWL (Bottom Hole)

**LOT 2 OF SECTION 19, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH.**

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
NBU 921-19D4CS	40°01'17.073"	109°35'59.641"	40°01'17.201"	109°35'57.155"	2626' FSL	40°01'31.257"	109°36'08.276"	40°01'31.384"	109°36'05.790"	1253' FNL
NBU 921-19E1BS	40°01'16.976"	109°35'59.623"	40°01'17.103"	109°35'57.137"	2616' FSL	40°01'27.957"	109°36'08.201"	40°01'28.085"	109°36'05.714"	1587' FNL
NBU 921-19E3AS	40°01'16.877"	109°35'59.605"	40°01'17.004"	109°35'57.120"	2606' FSL	40°01'20.371"	109°36'11.484"	40°01'20.499"	109°36'08.998"	2353' FNL
NBU 921-19F1CS	40°01'16.779"	109°35'59.588"	40°01'16.907"	109°35'57.102"	2597' FSL	40°01'25.032"	109°35'49.960"	40°01'25.159"	109°35'47.474"	1893' FNL
NBU 921-19K1BS	40°01'16.681"	109°35'59.570"	40°01'16.808"	109°35'57.084"	2587' FSL	40°01'16.728"	109°35'49.617"	40°01'16.855"	109°35'47.131"	2584' FSL
NBU 921-19L1BS	40°01'16.583"	109°35'59.553"	40°01'16.710"	109°35'57.067"	2577' FSL	40°01'15.042"	109°36'07.935"	40°01'15.169"	109°36'05.449"	2427' FSL
NBU 921-19L1CS	40°01'16.486"	109°35'59.535"	40°01'16.613"	109°35'57.049"	2567' FSL	40°01'11.742"	109°36'07.868"	40°01'11.870"	109°36'05.382"	2093' FSL
NBU 921-19L4BS	40°01'16.388"	109°35'59.517"	40°01'16.515"	109°35'57.031"	2557' FSL	40°01'08.433"	109°36'07.801"	40°01'08.560"	109°36'05.315"	1758' FSL
NBU 921-19L	40°01'17.171"	109°35'59.659"	40°01'17.298"	109°35'57.173"	2636' FSL	40.019009°	109.602167°	40.019045°	109.601476°	887' FWL

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST									
NBU 921-19D4CS	1436.6'	-669.7'	NBU 921-19E1BS	1112.5'	-665.8'	NBU 921-19E3AS	355.1'	-923.8'	NBU 921-19F1CS	834.2'	750.5'
NBU 921-19K1BS	3.6'	774.6'	NBU 921-19L1BS	-155.0'	-652.5'	NBU 921-19L1CS	-479.1'	-649.2'	NBU 921-19L4BS	-804.1'	-645.9'



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

WELL PAD - NBU 921-19L

WELL PAD INTERFERENCE PLAT
WELLS - NBU 921-19D4CS, NBU 921-19E1BS,
NBU 921-19E3AS, NBU 921-19F1CS,
NBU 921-19K1BS, NBU 921-19L1BS,
NBU 921-19L1CS & NBU 921-19L4BS
LOCATED IN SECTION 19, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH.



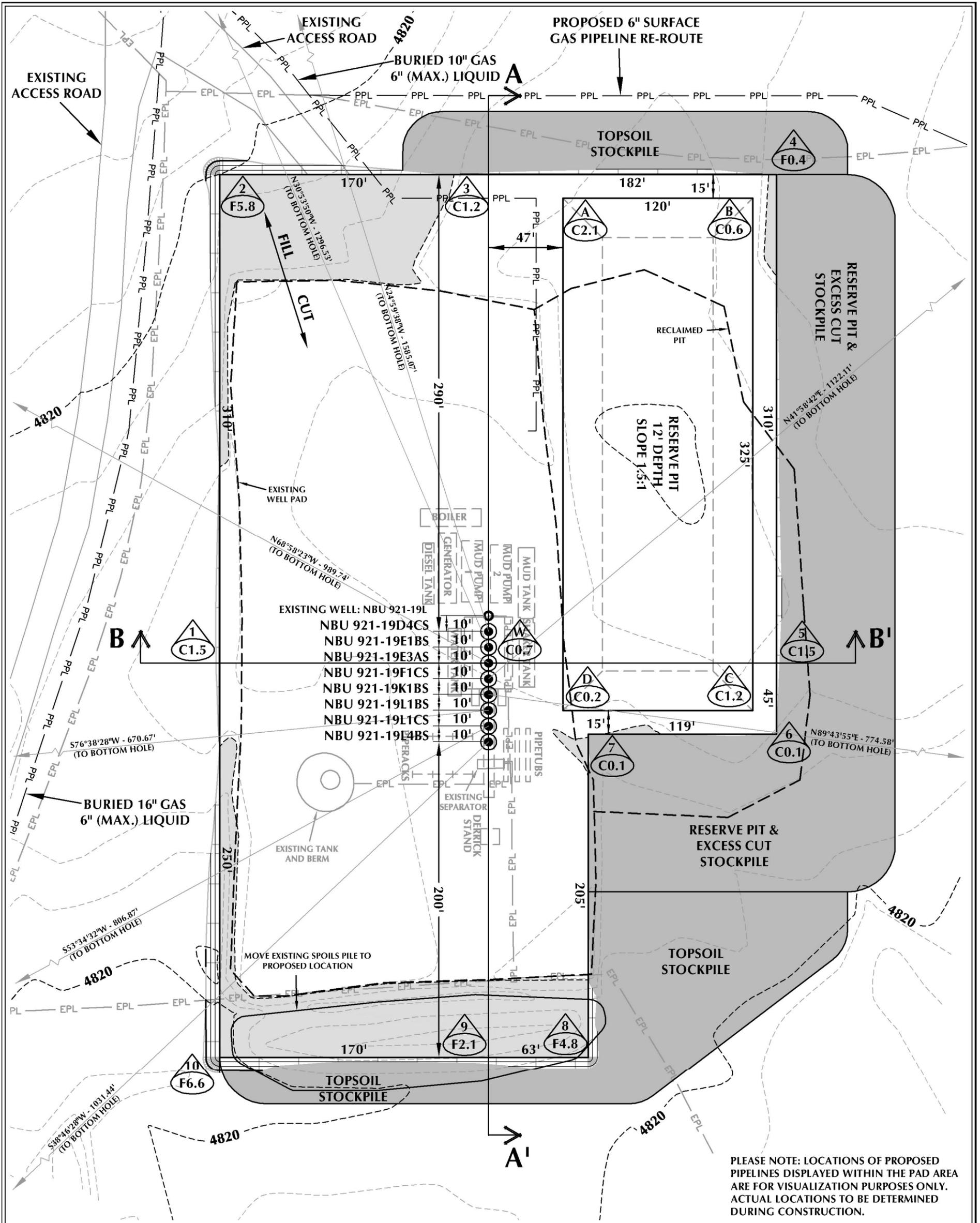
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DATE SURVEYED: 9-5-12	SURVEYED BY: A.F.	SHEET NO: 9
DATE DRAWN: 9-13-12	DRAWN BY: T.J.R.	
SCALE: 1" = 60'		9 OF 20



WELL PAD - NBU 921-19L DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 4826.5'
 FINISHED GRADE ELEVATION = 4825.8'
 CUT SLOPES = 1.5:1
 FILL SLOPES = 1.5:1
 TOTAL WELL PAD AREA = 4.11 ACRES
 TOTAL DISTURBANCE AREA = 5.86 ACRES
 SHRINKAGE FACTOR = 1.10
 SWELL FACTOR = 1.00

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

WELL PAD - NBU 921-19L
 WELL PAD - LOCATION LAYOUT
 NBU 921-19D4CS, NBU 921-19E1BS,
 NBU 921-19E3AS, NBU 921-19F1CS,
 NBU 921-19K1BS, NBU 921-19L1BS,
 NBU 921-19L1CS & NBU 921-19L4BS
 LOCATED IN SECTION 19, T9S, R21E,
 S.L.B.&M., UTAH COUNTY, UTAH



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

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 4,816 C.Y.
 TOTAL FILL FOR WELL PAD = 2,739 C.Y.
 TOPSOIL @ 6" DEPTH = 1,618 C.Y.
 EXCESS MATERIAL = 2,077 C.Y.

RESERVE PIT QUANTITIES

TOTAL CUT FOR RESERVE PIT
 +/- 13,970 C.Y.
 RESERVE PIT CAPACITY (2' OF FREEBOARD)
 +/- 53,750 BARRELS

WELL PAD LEGEND

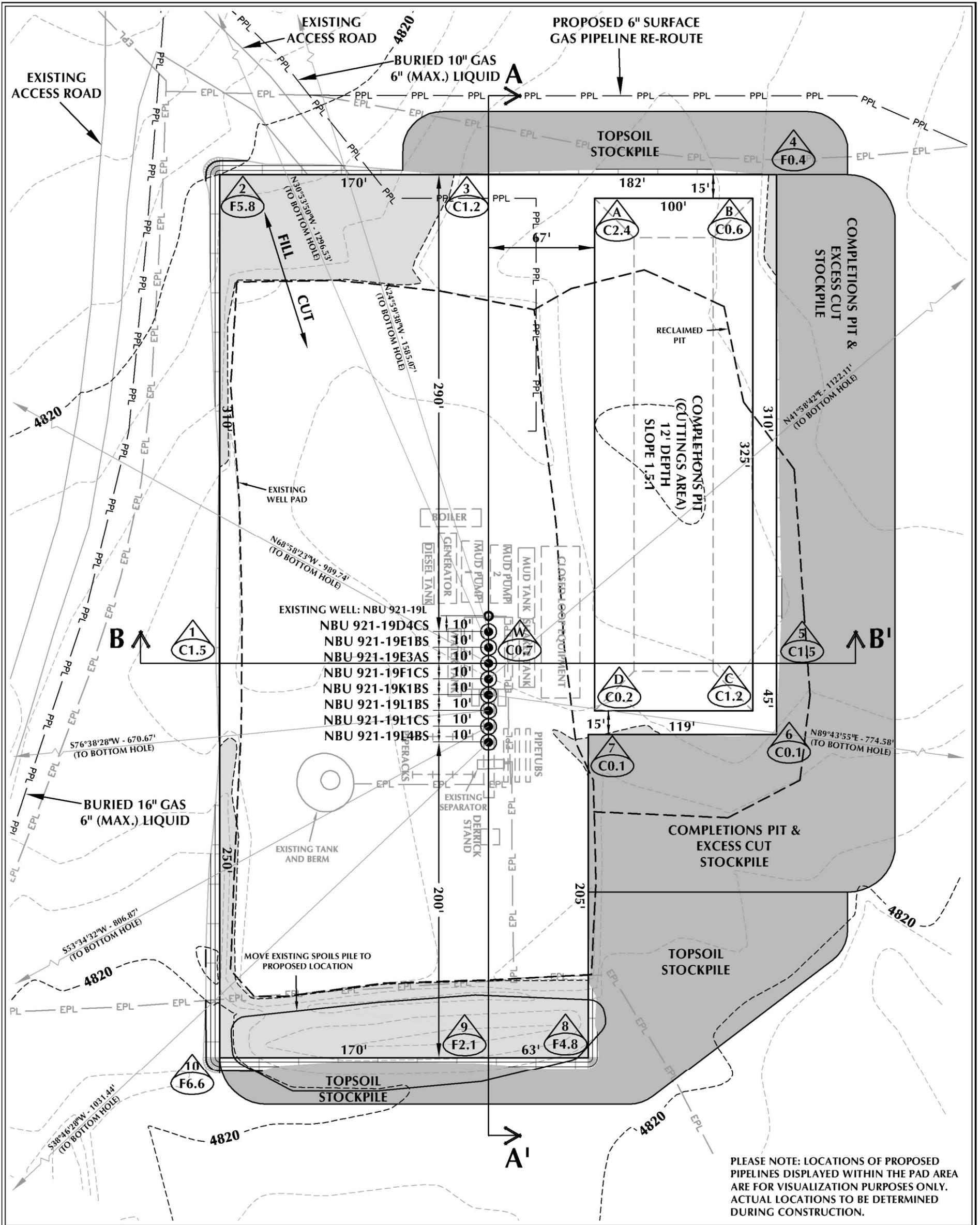
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PROPOSED PIPELINE
- EXISTING PIPELINE



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

SCALE: 1"=60' DATE: 10/1/12 SHEET NO:
 REVISED: **10** 10 OF 20

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 921-19L (CLOSED LOOP) DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 4826.5'
 FINISHED GRADE ELEVATION = 4825.8'
 CUT SLOPES = 1.5:1
 FILL SLOPES = 1.5:1
 TOTAL WELL PAD AREA = 4.11 ACRES
 TOTAL DISTURBANCE AREA = 5.86 ACRES
 SHRINKAGE FACTOR = 1.10
 SWELL FACTOR = 1.00

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

WELL PAD - NBU 921-19L
 WELL PAD - LOCATION LAYOUT
 NBU 921-19D4CS, NBU 921-19E1BS,
 NBU 921-19E3AS, NBU 921-19F1CS,
 NBU 921-19K1BS, NBU 921-19L1BS,
 NBU 921-19L1CS & NBU 921-19L4BS
 LOCATED IN SECTION 19, T9S, R21E,
 S.L.B.&M., UTAH COUNTY, UTAH



609 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 = 4,816 C.Y.
 TOTAL FILL FOR WELL PAD = 2,739 C.Y.
 TOPSOIL @ 6" DEPTH = 1,618 C.Y.
 EXCESS MATERIAL = 2,077 C.Y.

COMPLETIONS PIT QUANTITIES
 TOTAL CUT FOR COMPLETIONS PIT
 +/- 11,240 C.Y.
 COMPLETIONS PIT CAPACITY
 (2' OF FREEBOARD)
 +/- 42,290 BARRELS

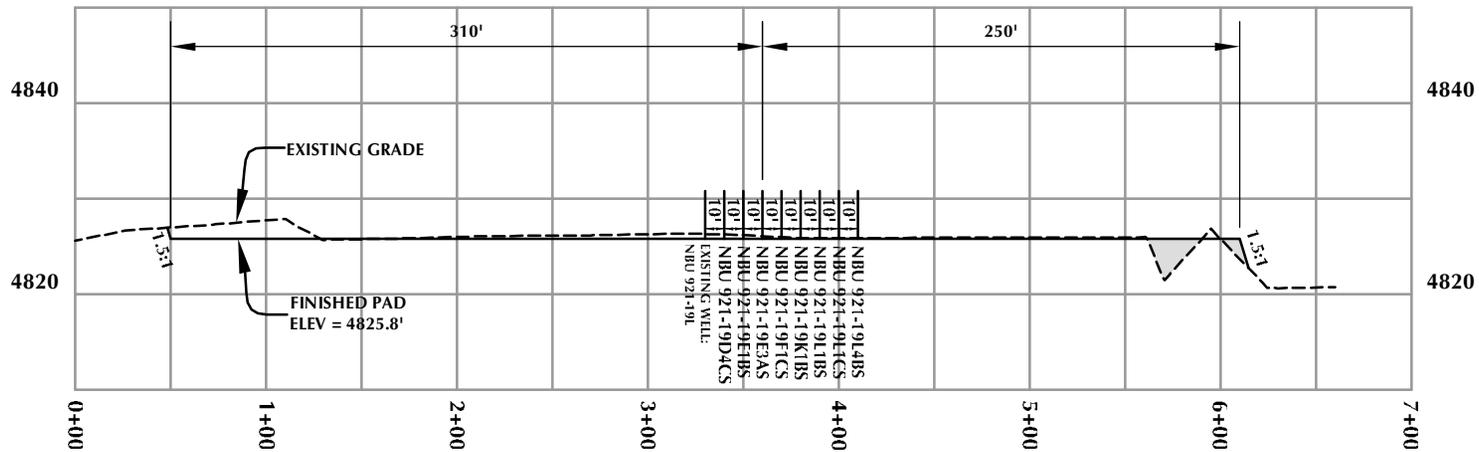
- WELL PAD LEGEND**
- EXISTING WELL LOCATION
 - PROPOSED WELL LOCATION
 - PROPOSED BOTTOM HOLE LOCATION
 - EXISTING CONTOURS (2' INTERVAL)
 - PROPOSED CONTOURS (2' INTERVAL)
 - PROPOSED PIPELINE
 - EXISTING PIPELINE



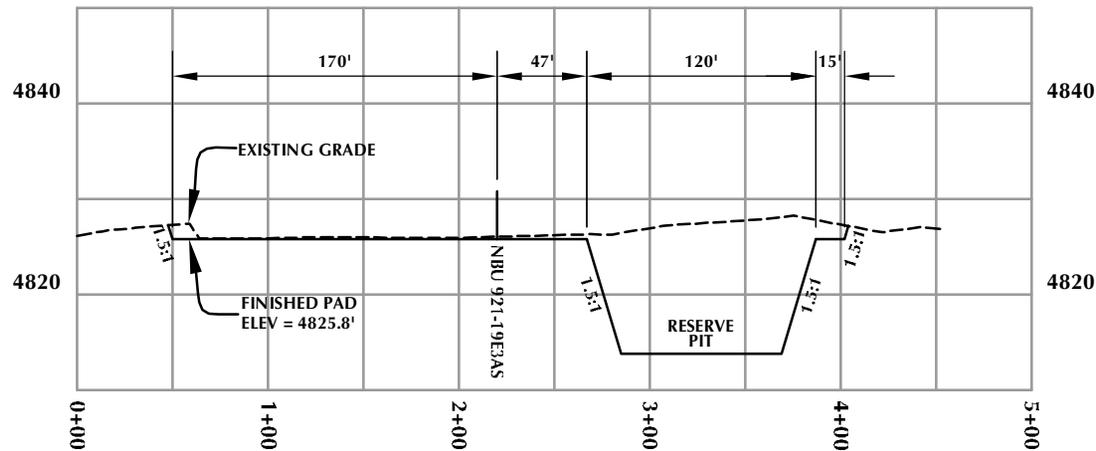
HORIZONTAL 0 30' 60' 1" = 60'
 2' CONTOURS

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

SCALE: 1"=60' DATE: 10/1/12 SHEET NO: **10B** 10B OF 20
 REVISED:



CROSS SECTION A-A'



CROSS SECTION B-B'

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WELL PAD - NBU 921-19L

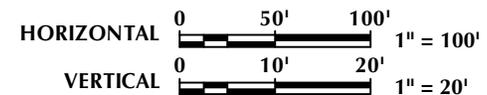
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NBU 921-19E3AS, NBU 921-19F1CS,
NBU 921-19K1BS, NBU 921-19L1BS,
NBU 921-19L1CS & NBU 921-19L4BS
LOCATED IN SECTION 19, T9S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH



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

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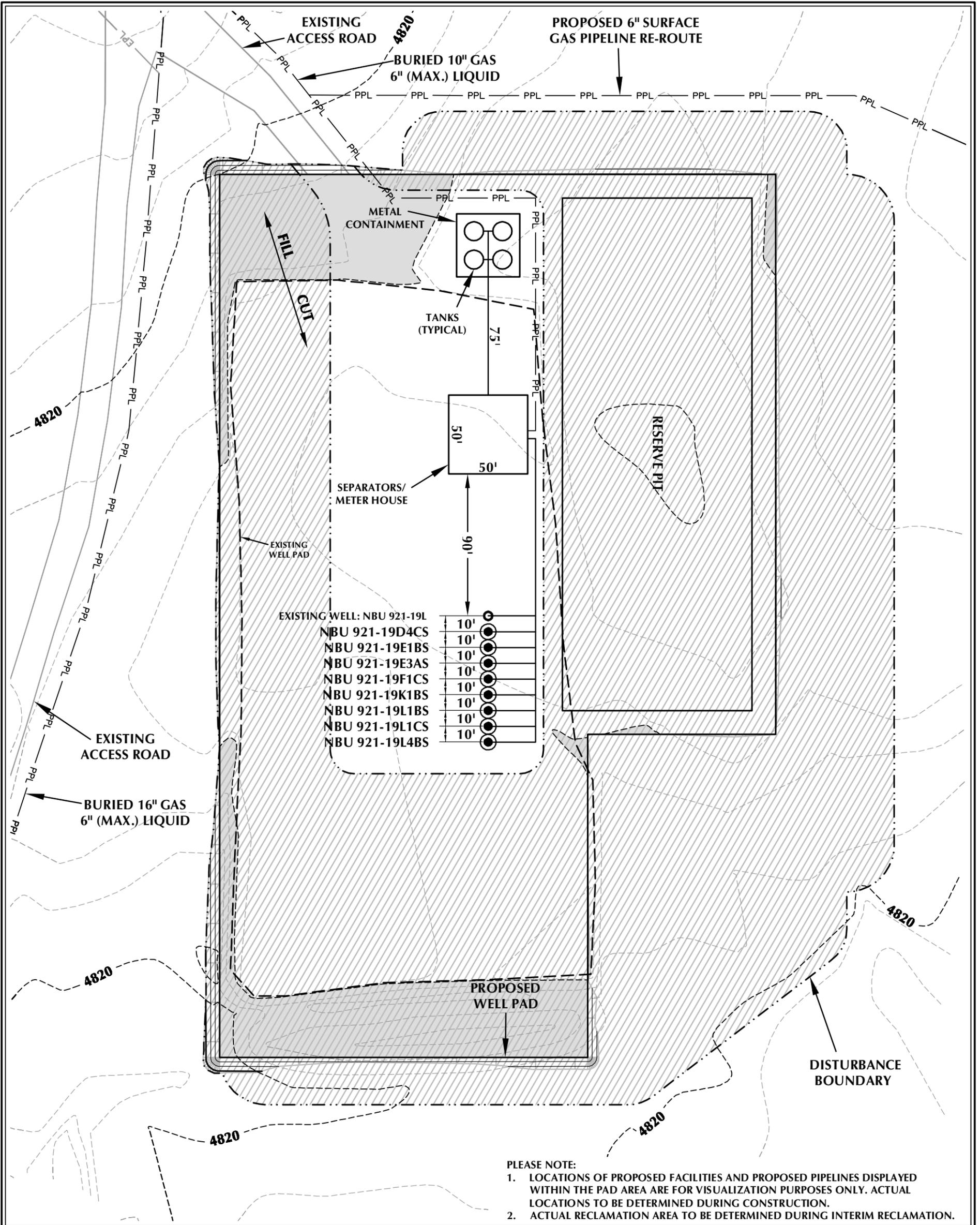
Scale: 1"=100'

Date: 10/1/12

SHEET NO:

REVISED:

11 11 OF 20



- 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 921-19L RECLAMATION DESIGN SUMMARY

TOTAL DISTURBANCE AREA = 5.86 ACRES (INCLUDING EXISTING)
 RECLAMATION AREA = 4.69 ACRES
 TOTAL WELL PAD AREA AFTER RECLAMATION = 1.17 ACRES

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 1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-19L

WELL PAD - RECLAMATION LAYOUT
 NBU 921-19D4CS, NBU 921-19E1BS,
 NBU 921-19E3AS, NBU 921-19F1CS,
 NBU 921-19K1BS, NBU 921-19L1BS,
 NBU 921-19L1CS & NBU 921-19L4BS
 LOCATED IN SECTION 19, T9S, R21E,
 S.L.B.&M., UTAH COUNTY, UTAH



CONSULTING, LLC
 2155 North Main Street
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 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

0 30' 60' 1" = 60'

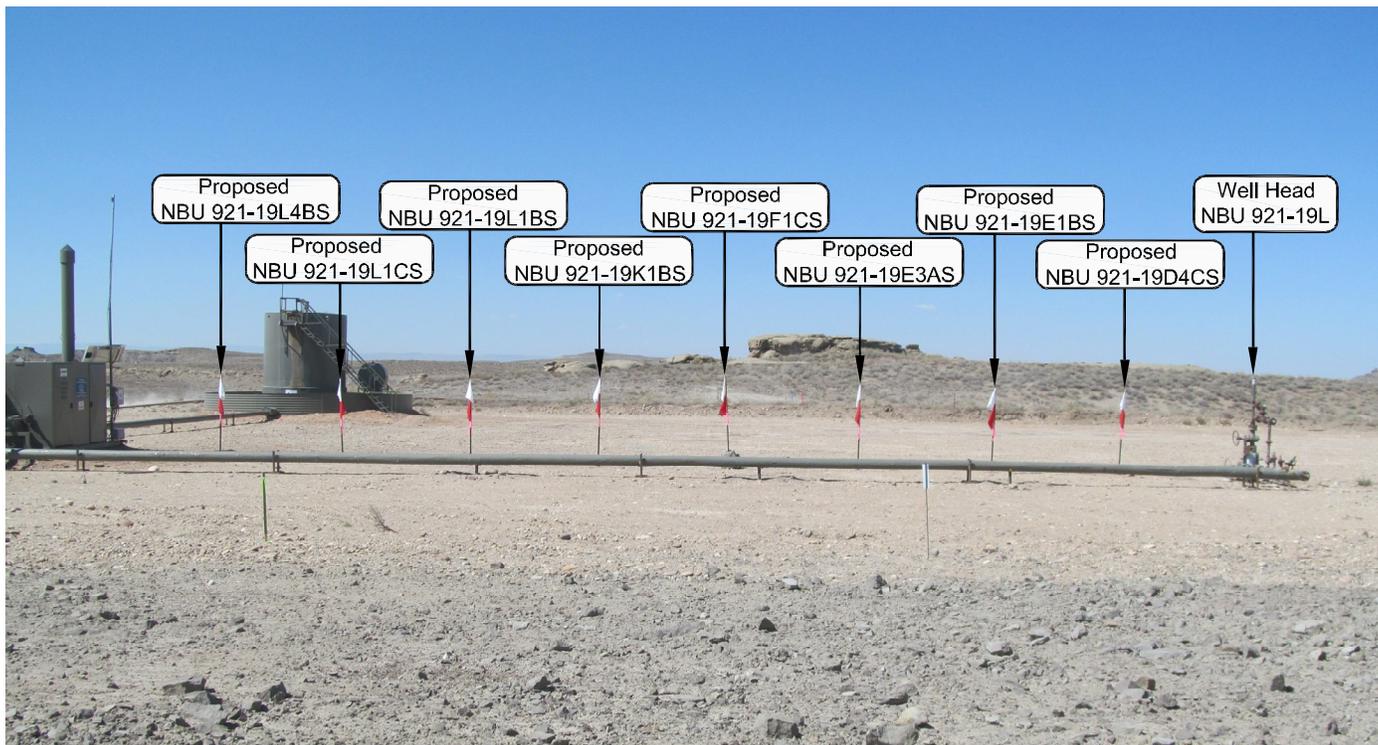
HORIZONTAL

2' CONTOURS

SCALE: 1"=60' DATE: 10/1/12 SHEET NO: 12 OF 20

REVIS: 12

RECEIVED: July 09, 2014



Proposed NBU 921-19L4BS Proposed NBU 921-19L1BS Proposed NBU 921-19F1CS Proposed NBU 921-19E1BS Well Head NBU 921-19L

Proposed NBU 921-19L1CS Proposed NBU 921-19K1BS Proposed NBU 921-19E3AS Proposed NBU 921-19D4CS

PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: WESTERLY



Existing Access Road

PHOTO VIEW: FROM EXISTING ACCESS ROAD

CAMERA ANGLE: SOUTHEASTERLY

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1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-19L

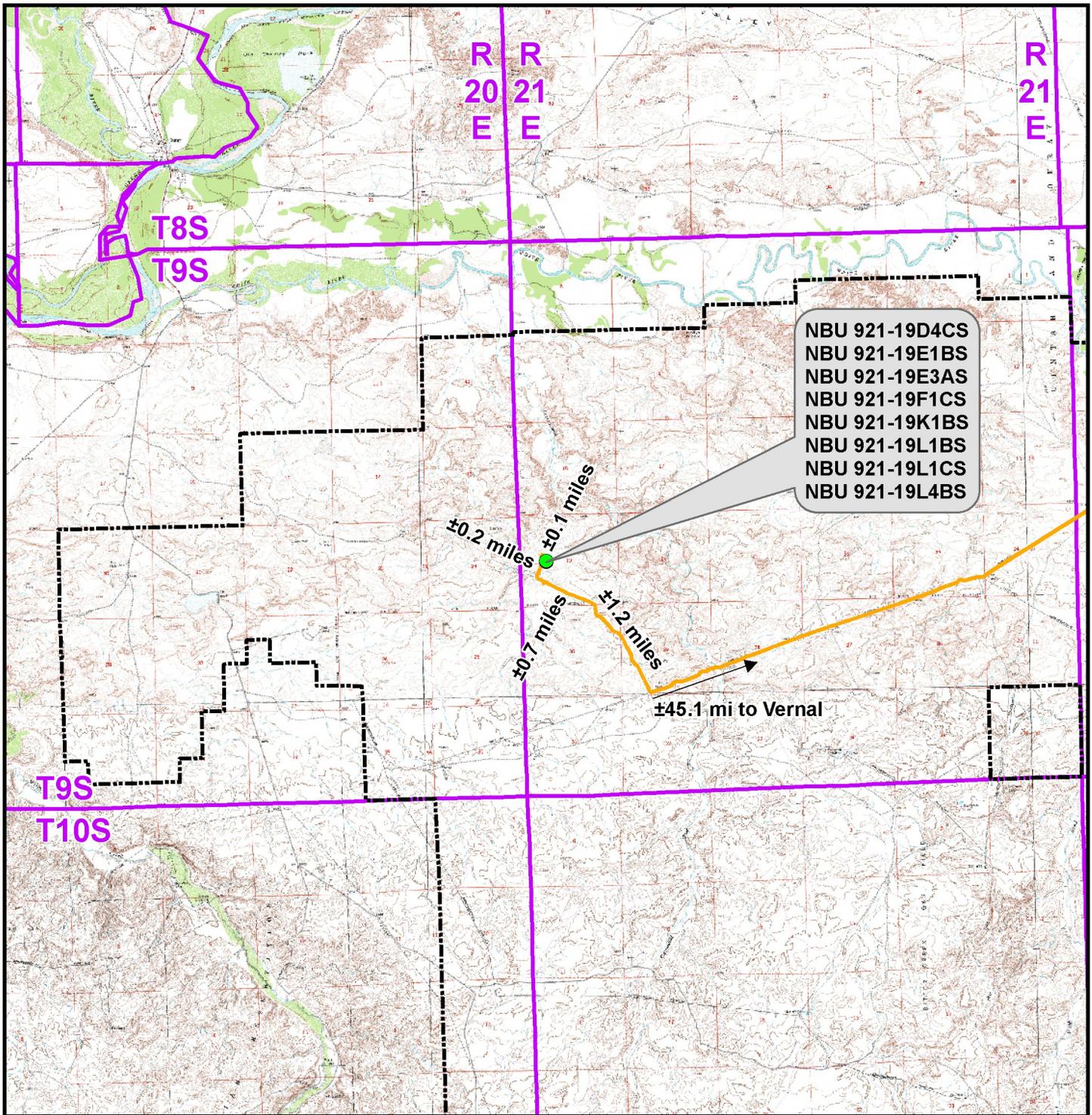
LOCATION PHOTOS
NBU 921-19D4CS, NBU 921-19E1BS,
NBU 921-19E3AS, NBU 921-19F1CS,
NBU 921-19K1BS, NBU 921-19L1BS,
NBU 921-19L1CS & NBU 921-19L4BS
LOCATED IN SECTION 19, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH.



CONSULTING, LLC
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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: 9-5-12	PHOTOS TAKEN BY: A.F.	SHEET NO: 13
DATE DRAWN: 9-13-12	DRAWN BY: T.J.R.	
Date Last Revised:		13 OF 20



File: K:\ANADARKO\2012\2012_76_NEU_921-19-30_FOCUS\GIS\Maps_APC\NEU 921-19L\NEU 921-19L_A.mxd, 10/2/2012 6:41:18 PM

Legend

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

Distance From Well Pad - NBU 921-19L To Unit Boundary: ±10,406ft

WELL PAD - NBU 921-19L

TOPO A
 NBU 921-19D4CS, NBU 921-19E1BS,
 NBU 921-19E3AS, NBU 921-19F1CS,
 NBU 921-19K1BS, NBU 921-19L1BS,
 NBU 921-19L1CS & NBU 921-19L4BS
 LOCATED IN SECTION 19, T9S, R21E,
 S.L.B.&M., UINTAH COUNTY, UTAH

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 Gas Onshore L.P.**

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 Denver, Colorado 80202



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 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

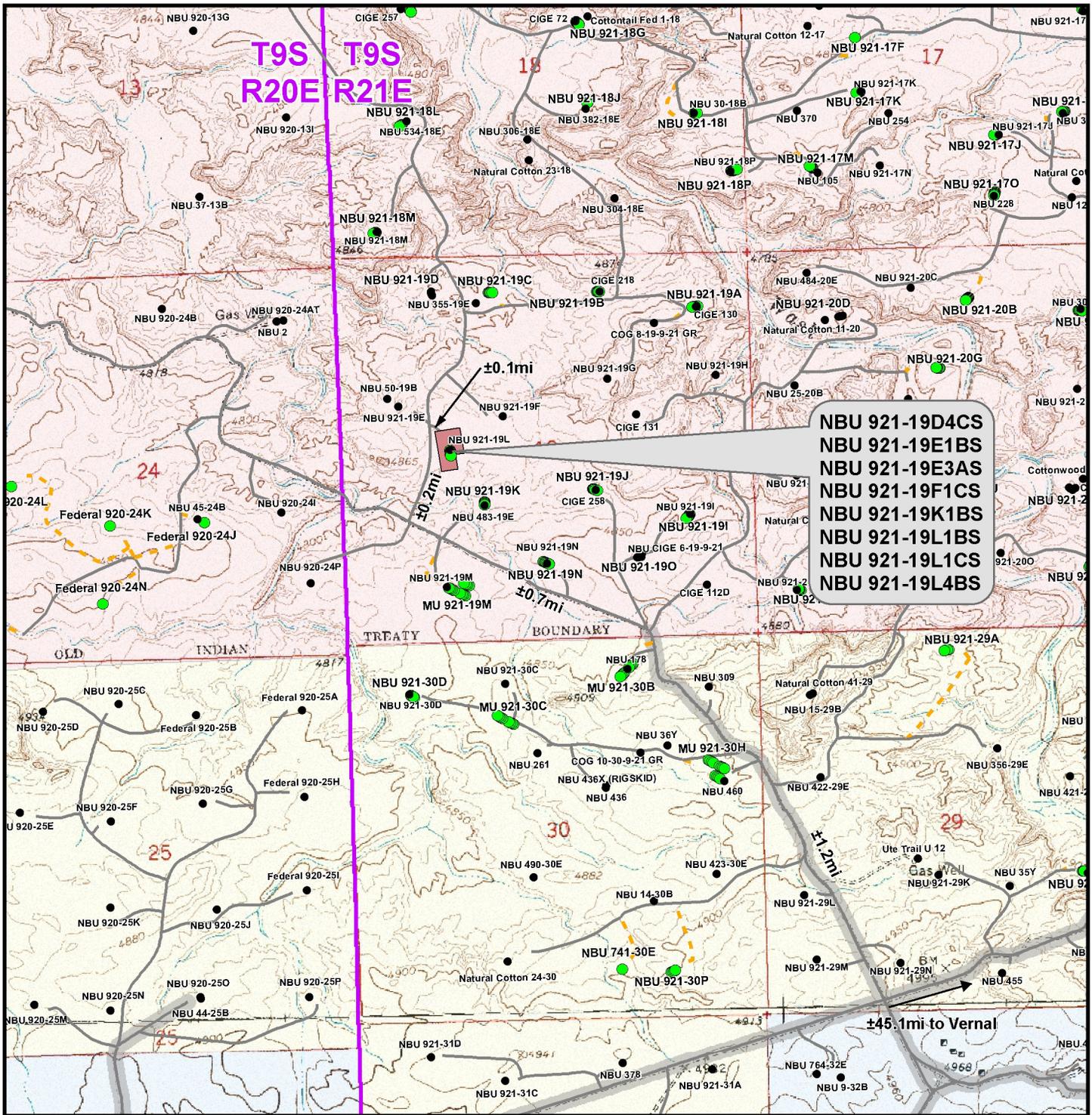
DATE: 28 Sep 2012

14

REVISED:

DATE:

14 OF 20



NBU 921-19D4CS
NBU 921-19E1BS
NBU 921-19E3AS
NBU 921-19F1CS
NBU 921-19K1BS
NBU 921-19L1BS
NBU 921-19L1CS
NBU 921-19L4BS

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Legend

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

Total Proposed Road Length: ±0ft

WELL PAD - NBU 921-19L

TOPO B
 NBU 921-19D4CS, NBU 921-19E1BS,
 NBU 921-19E3AS, NBU 921-19F1CS,
 NBU 921-19K1BS, NBU 921-19L1BS,
 NBU 921-19L1CS & NBU 921-19L4BS
 LOCATED IN SECTION 19, T9S, R21E,
 S.L.B.&M., UINTAH COUNTY, UTAH

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

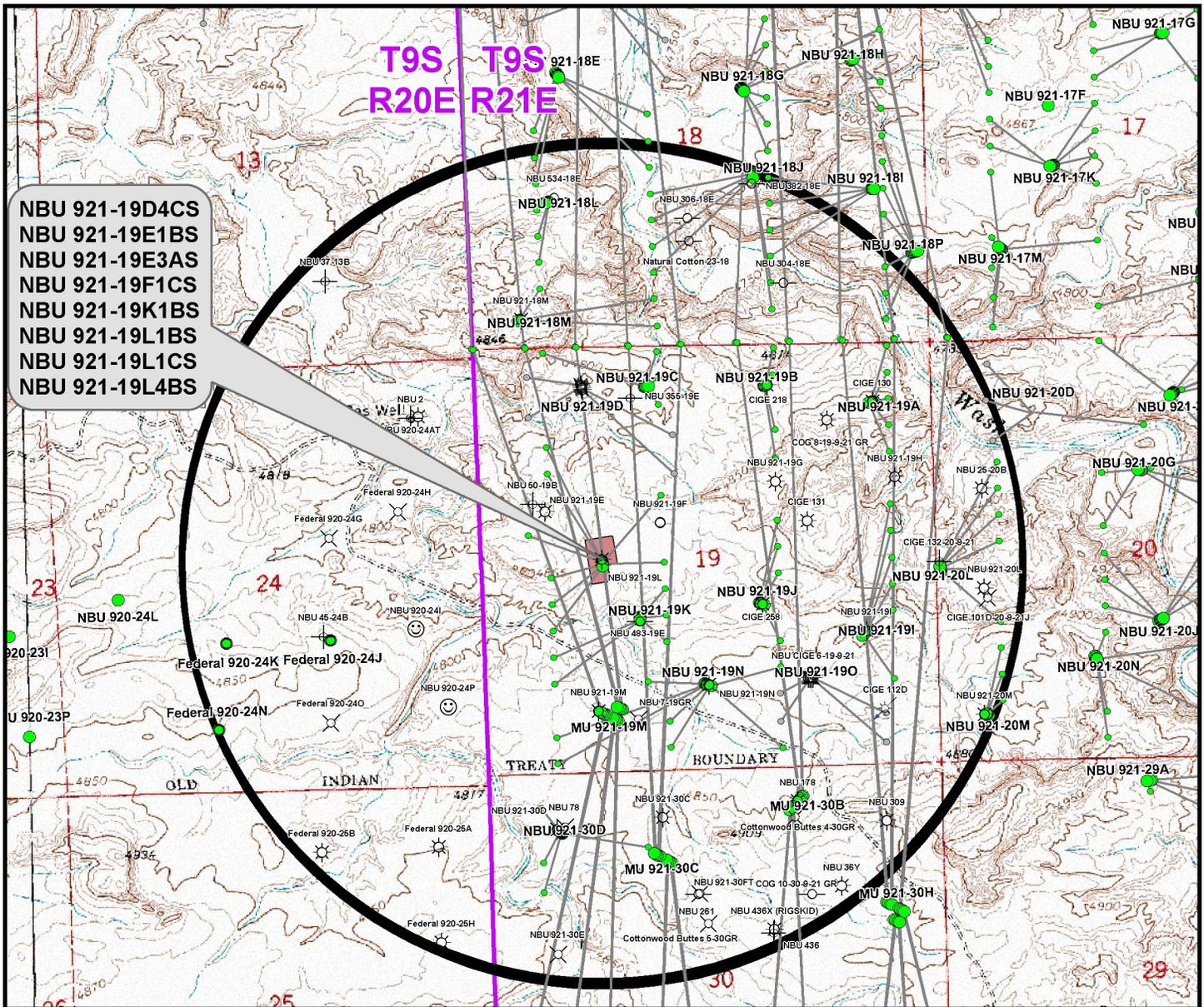
1099 18th Street
 Denver, Colorado 80202



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

SCALE: 1" = 2,000ft	NAD83 USP Central	15
DRAWN: TL	DATE: 28 Sep 2012	
REVISED:	DATE:	

SHEET NO:
15
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NBU 921-19D4CS
 NBU 921-19E1BS
 NBU 921-19E3AS
 NBU 921-19F1CS
 NBU 921-19K1BS
 NBU 921-19L1BS
 NBU 921-19L1CS
 NBU 921-19L4BS

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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 921-19D4CS	NBU 921-19D3AS BH	437ft
NBU 921-19E1BS	NBU 50-19B	415ft
NBU 921-19E3AS	NBU 921-19E	365ft
NBU 921-19F1CS	NBU 921-19F1BS BH	324ft
NBU 921-19K1BS	NBU 921-19L	782ft
NBU 921-19L1BS	NBU 921-19L	679ft
NBU 921-19L1CS	NBU 921-19L	842ft
NBU 921-19L4BS	NBU 921-19L	1,088ft

Legend

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

WELL PAD - NBU 921-19L

TOPO C
 NBU 921-19D4CS, NBU 921-19E1BS,
 NBU 921-19E3AS, NBU 921-19F1CS,
 NBU 921-19K1BS, NBU 921-19L1BS,
 NBU 921-19L1CS & NBU 921-19L4BS
 LOCATED IN SECTION 19, T9S, R21E,
 S.L.B.&M., Uintah County, Utah

Kerr-McGee Oil & Gas Onshore L.P.

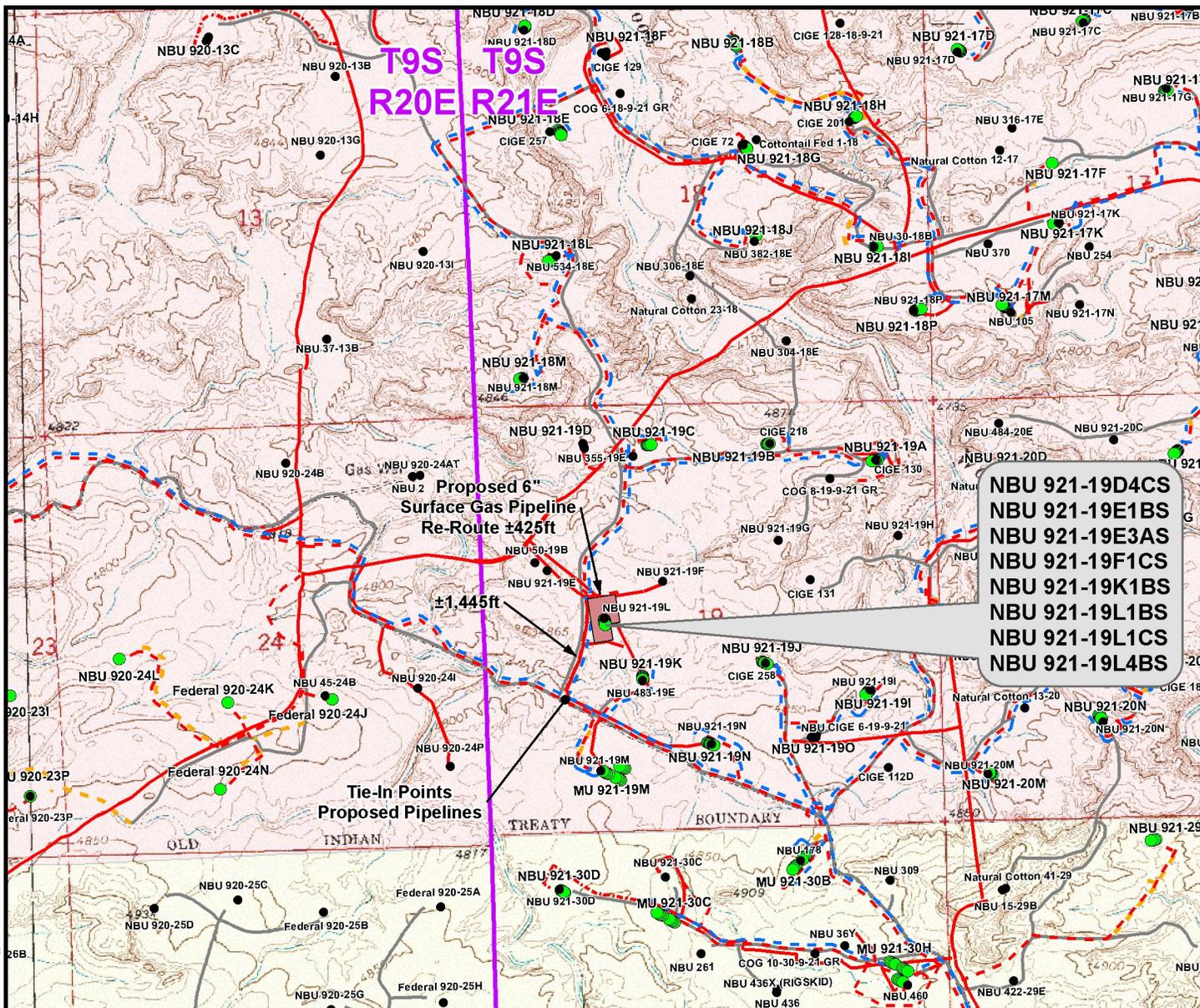
1099 18th Street
 Denver, Colorado 80202



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

SCALE: 1" = 2,000ft	NAD83 USP Central	16
DRAWN: TL	DATE: 28 Sep 2012	
REVISED:	DATE:	

SHEET NO:
16 OF 20



NBU 921-19D4CS
NBU 921-19E1BS
NBU 921-19E3AS
NBU 921-19F1CS
NBU 921-19K1BS
NBU 921-19L1BS
NBU 921-19L1CS
NBU 921-19L4BS

Proposed Liquid Pipeline	Length
Buried 6" (Max.) (Separator to Edge of Pad)	±265ft
Buried 6" (Max.) (Edge of Pad to 921-19C Intersection)	±195ft
Buried 6" (Max.) (921-19C Intersection to Proposed 6" Liquid Pipeline)	±1,445ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±1,905ft

Proposed Gas Pipeline	Length
Buried 10" (Meter House to Edge of Pad)	±265ft
Buried 10" (Edge of Pad to 921-19C Intersection)	±195ft
Buried 16" (921-19C Intersection to Proposed 16" Gas Pipeline)	±1,445ft
Surface 6" (Pipeline Re-Route)	±425ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±1,905ft
TOTAL PROPOSED SURFACE GAS PIPELINE =	±425ft

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 921-19L

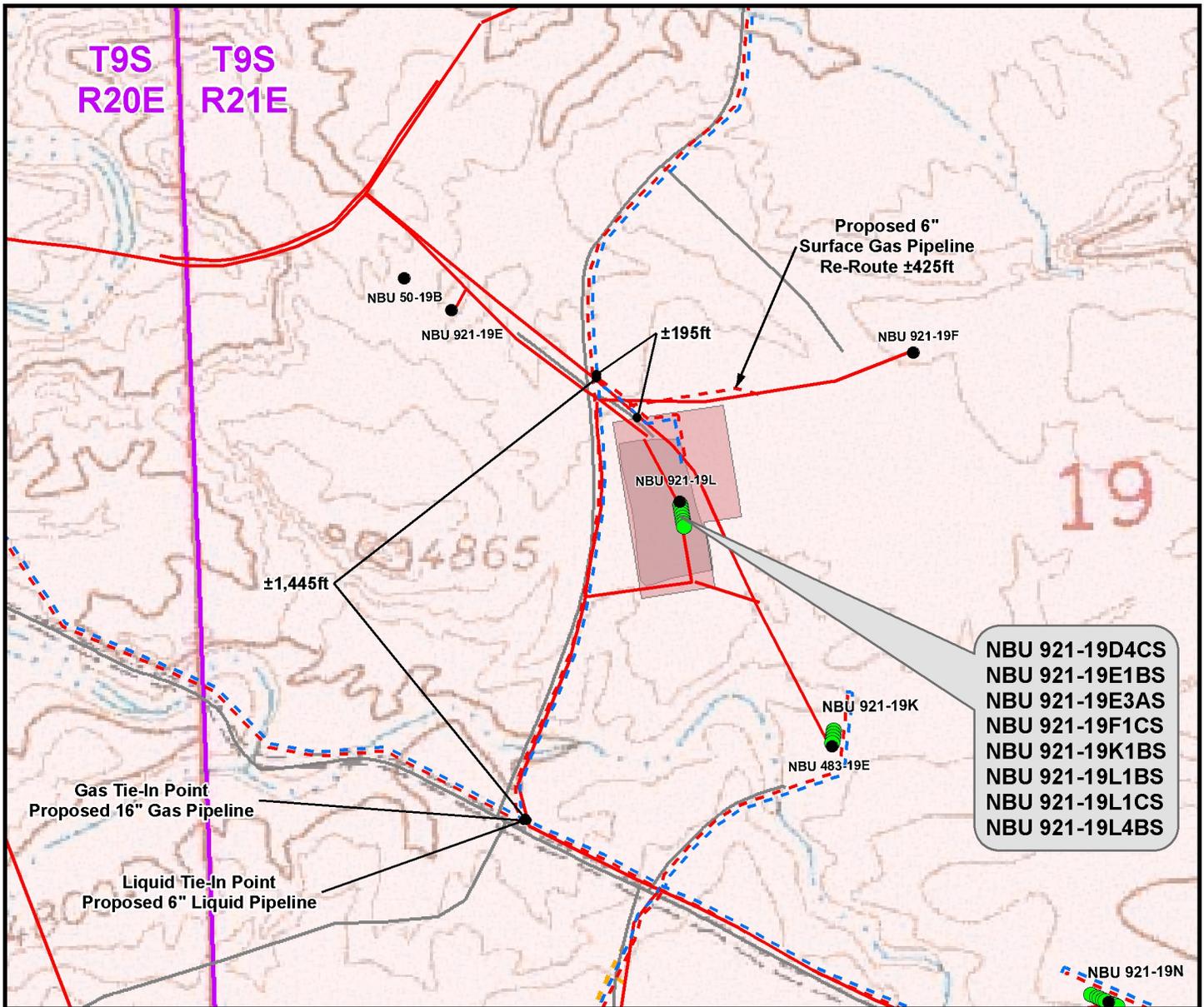
TOPO D
NBU 921-19D4CS, NBU 921-19E1BS,
NBU 921-19E3AS, NBU 921-19F1CS,
NBU 921-19K1BS, NBU 921-19L1BS,
NBU 921-19L1CS & NBU 921-19L4BS
LOCATED IN SECTION 19, T9S, R21E,
S.L.B.&M., Uintah County, Utah

Kerr-McGee Oil & Gas Onshore L.P.
1099 18th Street
Denver, Colorado 80202



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SCALE: 1" = 2,000ft	NAD83 USP Central	17 17 OF 20
DRAWN: TL	DATE: 28 Sep 2012	
REVISED:	DATE:	



- NBU 921-19D4CS
- NBU 921-19E1BS
- NBU 921-19E3AS
- NBU 921-19F1CS
- NBU 921-19K1BS
- NBU 921-19L1BS
- NBU 921-19L1CS
- NBU 921-19L4BS

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Proposed Liquid Pipeline	Length
Buried 6" (Max.) (Separator to Edge of Pad)	±265ft
Buried 6" (Max.) (Edge of Pad to 921-19C Intersection)	±195ft
Buried 6" (Max.) (921-19C Intersection to Proposed 6" Liquid Pipeline)	±1,445ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±1,905ft

Proposed Gas Pipeline	Length
Buried 10" (Meter House to Edge of Pad)	±265ft
Buried 10" (Edge of Pad to 921-19C Intersection)	±195ft
Buried 16" (921-19C Intersection to Proposed 16" Gas Pipeline)	±1,445ft
Surface 6" (Pipeline Re-Route)	±425ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±1,905ft
TOTAL PROPOSED SURFACE GAS PIPELINE =	±425ft

Legend

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

WELL PAD - NBU 921-19L

TOPO D2 (PAD & PIPELINE DETAIL)
 NBU 921-19D4CS, NBU 921-19E1BS,
 NBU 921-19E3AS, NBU 921-19F1CS,
 NBU 921-19K1BS, NBU 921-19L1BS,
 NBU 921-19L1CS & NBU 921-19L4BS
 LOCATED IN SECTION 19, T9S, R21E,
 S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

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

SCALE: 1" = 500ft

DRAWN: TL

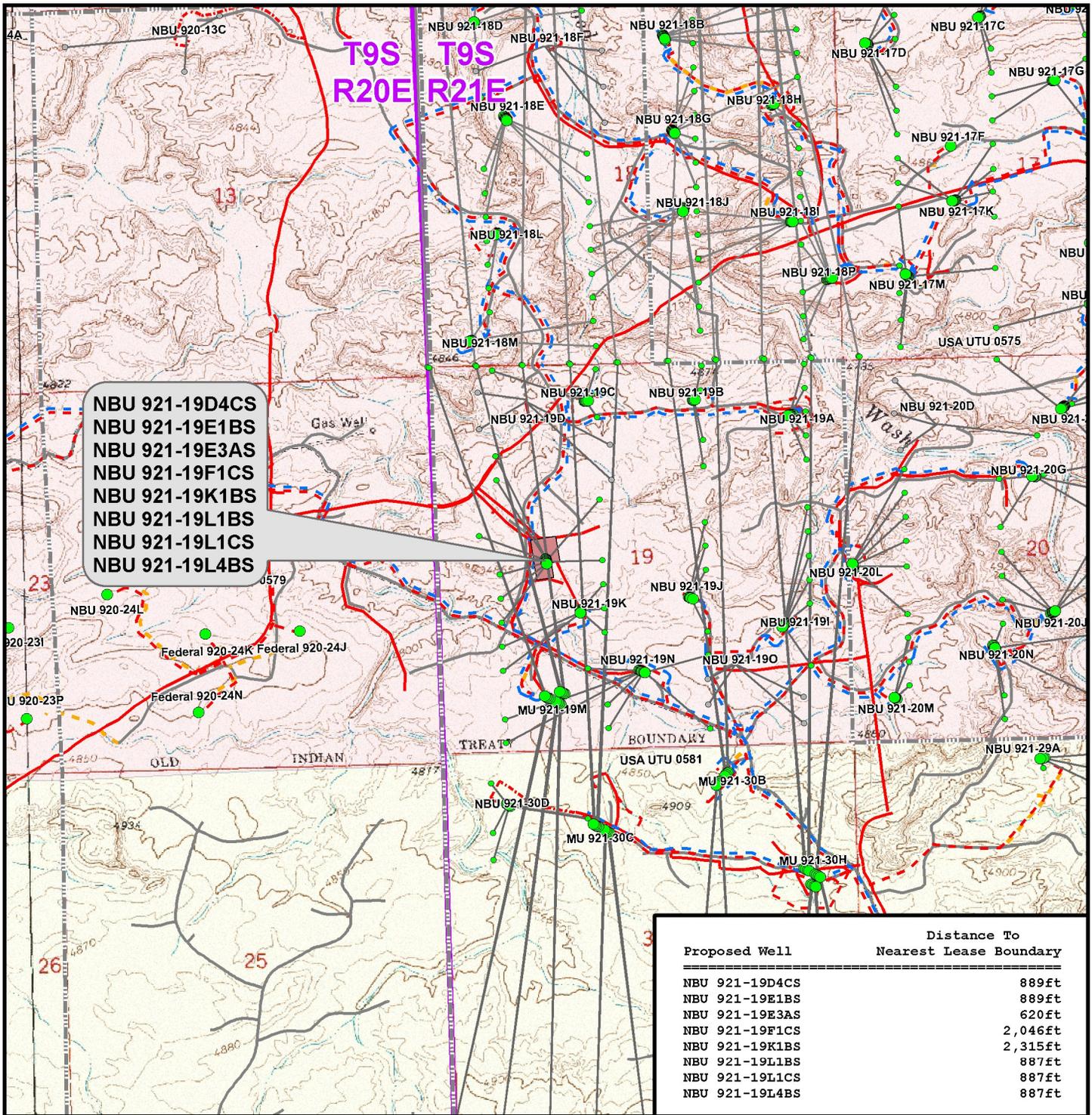
REVISED:

NAD83 USP Central

DATE: 28 Sep 2012

DATE:

SHEET NO:
18
 18 OF 20



NBU 921-19D4CS
 NBU 921-19E1BS
 NBU 921-19E3AS
 NBU 921-19F1CS
 NBU 921-19K1BS
 NBU 921-19L1BS
 NBU 921-19L1CS
 NBU 921-19L4BS

Proposed Well	Distance To Nearest Lease Boundary
NBU 921-19D4CS	889ft
NBU 921-19E1BS	889ft
NBU 921-19E3AS	620ft
NBU 921-19F1CS	2,046ft
NBU 921-19K1BS	2,315ft
NBU 921-19L1BS	887ft
NBU 921-19L1CS	887ft
NBU 921-19L4BS	887ft

Legend

- Well - Proposed (Green dot)
- Bottom Hole - Proposed (Green circle)
- Bottom Hole - Existing (Grey circle)
- Well Path (Black line)
- Well Pad (Red shaded area)
- Lease Boundary (Black dashed line)
- Gas Pipeline - Proposed (Red dashed line)
- Gas Pipeline - To Be Upgraded (Red dotted line)
- Gas Pipeline - Existing (Red solid line)
- Liquid Pipeline - Proposed (Blue dashed line)
- Liquid Pipeline - Existing (Blue solid line)
- Road - Proposed (Yellow dashed line)
- Road - Existing (Grey solid line)
- Bureau of Land Management (Yellow shaded area)
- Indian Reservation (Red shaded area)
- State (Blue shaded area)
- Private (White shaded area)

WELL PAD - NBU 921-19L

TOPO E
 NBU 921-19D4CS, NBU 921-19E1BS,
 NBU 921-19E3AS, NBU 921-19F1CS,
 NBU 921-19K1BS, NBU 921-19L1BS,
 NBU 921-19L1CS & NBU 921-19L4BS
 LOCATED IN SECTION 19, T9S, R21E,
 S.L.B.&M., Uintah County, UTAH

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

1099 18th Street
 Denver, Colorado 80202



CONSULTING, LLC
 2155 North Main Street
 Sheridan, Wyoming 82801
 Phone 307-674-0609
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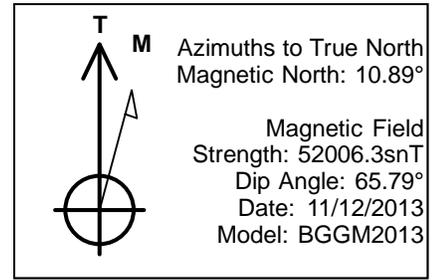
SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 19 19 OF 20
DRAWN: TL	DATE: 28 Sep 2012	
REVISED:	DATE:	

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**Kerr-McGee Oil & Gas Onshore, LP
WELL PAD - NBU 921-19L
WELLS – NBU 921-19D4CS, NBU 921-19E1BS,
NBU 921-19E3AS, NBU 921-19F1CS,
NBU 921-19K1BS, NBU 921-19L1BS,
NBU 921-19L1CS & NBU 921-19L4BS
Section 19, T9S, R21E, S.L.B.&M.**

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 17.7 miles to a Class D County Road to the southwest. Exit right and proceed in a southwesterly direction along the Class D County Road approximately 3.9 miles to a second Class D County Road to the northwest. Exit right and proceed in a northwesterly direction along the second Class D County Road approximately 1.2 miles to the intersection of a Tribal Road. Exit left and proceed in a northwesterly direction along the Tribal Road approximately 0.7 miles to a second Tribal Road to the north. Exit right and proceed in a northerly direction along the second Tribal Road approximately 0.2 miles to a service road to the southeast. Exit right and proceed in a southeasterly direction along the service road approximately 0.1 miles to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 47.3 miles in a southerly direction.



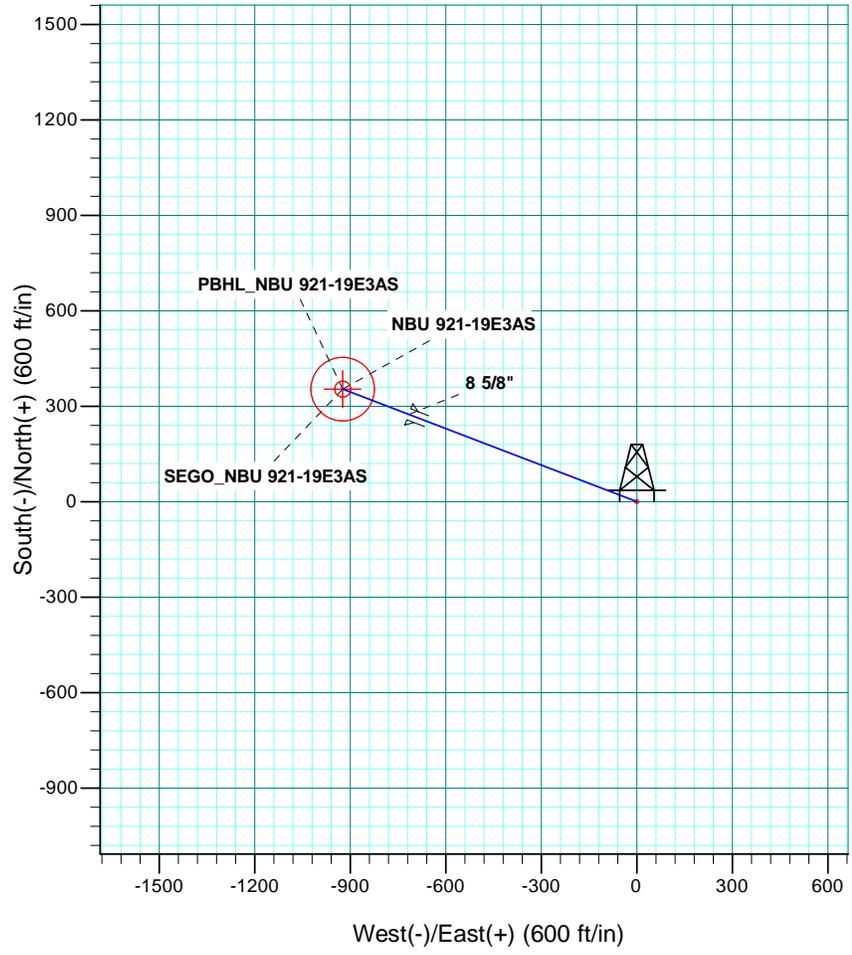
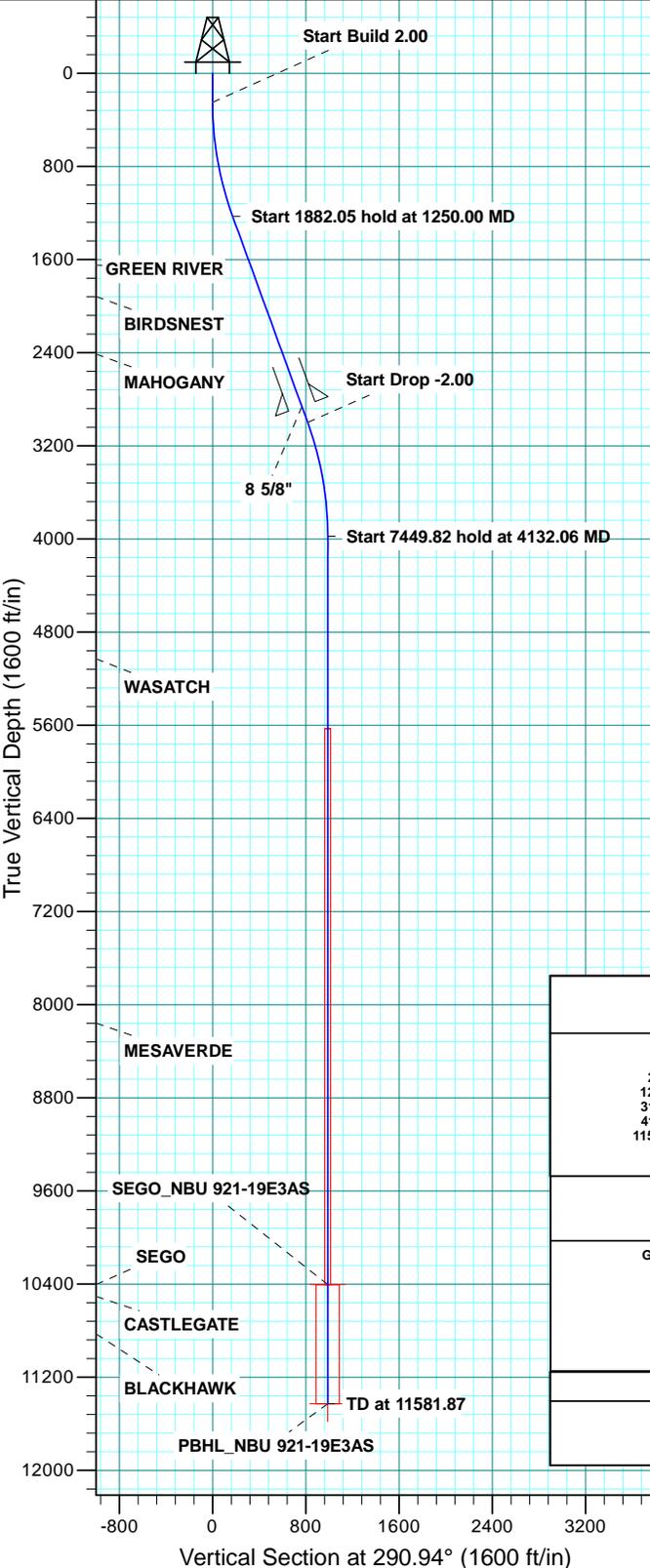
WELL DETAILS: NBU 921-19E3AS

GL 4827 & KB 4 @ 4831.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14536916.75	2032606.89	40.0213904	-109.5991995

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10404.00	353.51	-923.91	14537255.69	2031677.53	40.0223610	-109.6024990	Circle (25' Radius)
PBHL	11428.00	353.51	-923.91	14537255.69	2031677.53	40.0223610	-109.6024990	Circle (Radius: 100.00)



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Ddeg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
1250.00	20.00	290.94	1229.82	61.74	-161.36	2.00	290.94	172.77	
3132.05	20.00	290.94	2998.37	291.77	-762.55	0.00	0.00	816.47	
4132.06	0.00	0.00	3978.18	353.51	-923.91	2.00	180.00	989.24	
11581.87	0.00	0.00	11428.00	353.51	-923.91	0.00	0.00	989.24	PBHL_NBU 921-19E3AS

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 19 T9S R21E		
System Datum: Mean Sea Level		

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1649.00	1696.09	GREEN RIVER
1917.00	1981.29	BIRDSNEST
2412.00	2508.05	MAHOGANY
5029.00	5182.87	WASATCH
8160.00	8313.87	MESAVERDE
10404.00	10557.87	SEGO
10506.00	10659.87	CASTLEGATE
10828.00	10981.87	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
2862.00	2986.93	8 5/8"	8.625

RECEIVED



US ROCKIES REGION PLANNING

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

NBU 921-19L PAD

NBU 921-19E3AS

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

12 November, 2013





Database:	Denver Sales Office	Local Co-ordinate Reference:	Well NBU 921-19E3AS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4827 & KB 4 @ 4831.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 4827 & KB 4 @ 4831.00ft (ASSUMED)
Site:	NBU 921-19L PAD	North Reference:	True
Well:	NBU 921-19E3AS	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

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

Site	NBU 921-19L PAD, SECTION 19 T9S R21E				
Site Position:	Northing:	14,536,936.37 usft	Latitude:	40.0214444	
From:	Lat/Long	Easting:	2,032,603.78 usft	Longitude:	-109.5992095
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.90 °

Well	NBU 921-19E3AS					
Well Position	+N/-S	-19.67 ft	Northing:	14,536,916.75 usft	Latitude:	40.0213904
	+E/-W	2.80 ft	Easting:	2,032,606.89 usft	Longitude:	-109.5991995
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,827.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	11/12/2013	10.89	65.79	52,006

Design	PLAN #1 PRELIMINARY			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	290.94

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,250.00	20.00	290.94	1,229.82	61.74	-161.36	2.00	2.00	0.00	290.94	
3,132.05	20.00	290.94	2,998.37	291.77	-762.55	0.00	0.00	0.00	0.00	
4,132.06	0.00	0.00	3,978.18	353.51	-923.91	2.00	-2.00	0.00	180.00	
11,581.87	0.00	0.00	11,428.00	353.51	-923.91	0.00	0.00	0.00	0.00	PBHL_NBU 921-19E3



Database:	Denver Sales Office	Local Co-ordinate Reference:	Well NBU 921-19E3AS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4827 & KB 4 @ 4831.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 4827 & KB 4 @ 4831.00ft (ASSUMED)
Site:	NBU 921-19L PAD	North Reference:	True
Well:	NBU 921-19E3AS	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00										
300.00	1.00	290.94	300.00	0.16	-0.41	0.44	2.00	2.00	2.00	0.00
400.00	3.00	290.94	399.93	1.40	-3.67	3.93	2.00	2.00	2.00	0.00
500.00	5.00	290.94	499.68	3.90	-10.18	10.90	2.00	2.00	2.00	0.00
600.00	7.00	290.94	599.13	7.63	-19.94	21.35	2.00	2.00	2.00	0.00
700.00	9.00	290.94	698.15	12.60	-32.94	35.27	2.00	2.00	2.00	0.00
800.00	11.00	290.94	796.63	18.81	-49.16	52.63	2.00	2.00	2.00	0.00
900.00	13.00	290.94	894.44	26.24	-68.58	73.42	2.00	2.00	2.00	0.00
1,000.00	15.00	290.94	991.46	34.88	-91.17	97.62	2.00	2.00	2.00	0.00
1,100.00	17.00	290.94	1,087.58	44.73	-116.91	125.18	2.00	2.00	2.00	0.00
1,200.00	19.00	290.94	1,182.68	55.78	-145.77	156.08	2.00	2.00	2.00	0.00
1,250.00	20.00	290.94	1,229.82	61.74	-161.36	172.77	2.00	2.00	2.00	0.00
Start 1882.05 hold at 1250.00 MD										
1,300.00	20.00	290.94	1,276.80	67.85	-177.33	189.87	0.00	0.00	0.00	0.00
1,400.00	20.00	290.94	1,370.77	80.07	-209.27	224.07	0.00	0.00	0.00	0.00
1,500.00	20.00	290.94	1,464.74	92.30	-241.22	258.27	0.00	0.00	0.00	0.00
1,600.00	20.00	290.94	1,558.71	104.52	-273.16	292.47	0.00	0.00	0.00	0.00
1,696.09	20.00	290.94	1,649.00	116.26	-303.86	325.34	0.00	0.00	0.00	0.00
GREEN RIVER										
1,700.00	20.00	290.94	1,652.68	116.74	-305.11	326.68	0.00	0.00	0.00	0.00
1,800.00	20.00	290.94	1,746.65	128.96	-337.05	360.88	0.00	0.00	0.00	0.00
1,900.00	20.00	290.94	1,840.62	141.18	-368.99	395.08	0.00	0.00	0.00	0.00
1,981.29	20.00	290.94	1,917.00	151.12	-394.96	422.88	0.00	0.00	0.00	0.00
BIRDSNEST										
2,000.00	20.00	290.94	1,934.59	153.41	-400.94	429.28	0.00	0.00	0.00	0.00
2,100.00	20.00	290.94	2,028.55	165.63	-432.88	463.48	0.00	0.00	0.00	0.00
2,200.00	20.00	290.94	2,122.52	177.85	-464.82	497.69	0.00	0.00	0.00	0.00
2,300.00	20.00	290.94	2,216.49	190.07	-496.77	531.89	0.00	0.00	0.00	0.00
2,400.00	20.00	290.94	2,310.46	202.30	-528.71	566.09	0.00	0.00	0.00	0.00
2,500.00	20.00	290.94	2,404.43	214.52	-560.65	600.29	0.00	0.00	0.00	0.00
2,508.05	20.00	290.94	2,412.00	215.50	-563.23	603.05	0.00	0.00	0.00	0.00
MAHOGANY										
2,600.00	20.00	290.94	2,498.40	226.74	-592.60	634.49	0.00	0.00	0.00	0.00
2,700.00	20.00	290.94	2,592.37	238.96	-624.54	668.70	0.00	0.00	0.00	0.00
2,800.00	20.00	290.94	2,686.34	251.19	-656.48	702.90	0.00	0.00	0.00	0.00
2,900.00	20.00	290.94	2,780.31	263.41	-688.43	737.10	0.00	0.00	0.00	0.00
2,986.93	20.00	290.94	2,862.00	274.03	-716.20	766.83	0.00	0.00	0.00	0.00
8 5/8"										
3,000.00	20.00	290.94	2,874.28	275.63	-720.37	771.30	0.00	0.00	0.00	0.00
3,100.00	20.00	290.94	2,968.25	287.85	-752.32	805.50	0.00	0.00	0.00	0.00
3,132.05	20.00	290.94	2,998.37	291.77	-762.55	816.47	0.00	0.00	0.00	0.00
Start Drop -2.00										
3,200.00	18.64	290.94	3,062.49	299.80	-783.55	838.95	2.00	-2.00	2.00	0.00
3,300.00	16.64	290.94	3,157.78	310.63	-811.85	869.25	2.00	-2.00	2.00	0.00
3,400.00	14.64	290.94	3,254.07	320.27	-837.03	896.21	2.00	-2.00	2.00	0.00
3,500.00	12.64	290.94	3,351.24	328.69	-859.06	919.79	2.00	-2.00	2.00	0.00
3,600.00	10.64	290.94	3,449.18	335.91	-877.90	939.97	2.00	-2.00	2.00	0.00
3,700.00	8.64	290.94	3,547.77	341.89	-893.54	956.72	2.00	-2.00	2.00	0.00
3,800.00	6.64	290.94	3,646.87	346.64	-905.96	970.01	2.00	-2.00	2.00	0.00



Database:	Denver Sales Office	Local Co-ordinate Reference:	Well NBU 921-19E3AS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4827 & KB 4 @ 4831.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 4827 & KB 4 @ 4831.00ft (ASSUMED)
Site:	NBU 921-19L PAD	North Reference:	True
Well:	NBU 921-19E3AS	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,900.00	4.64	290.94	3,746.38	350.15	-915.14	979.84	2.00	-2.00	0.00
4,000.00	2.64	290.94	3,846.18	352.42	-921.07	986.19	2.00	-2.00	0.00
4,100.00	0.64	290.94	3,946.13	353.45	-923.75	989.06	2.00	-2.00	0.00
4,132.06	0.00	0.00	3,978.18	353.51	-923.91	989.24	2.00	-2.00	0.00
Start 7449.82 hold at 4132.06 MD									
4,200.00	0.00	0.00	4,046.13	353.51	-923.91	989.24	0.00	0.00	0.00
4,300.00	0.00	0.00	4,146.13	353.51	-923.91	989.24	0.00	0.00	0.00
4,400.00	0.00	0.00	4,246.13	353.51	-923.91	989.24	0.00	0.00	0.00
4,500.00	0.00	0.00	4,346.13	353.51	-923.91	989.24	0.00	0.00	0.00
4,600.00	0.00	0.00	4,446.13	353.51	-923.91	989.24	0.00	0.00	0.00
4,700.00	0.00	0.00	4,546.13	353.51	-923.91	989.24	0.00	0.00	0.00
4,800.00	0.00	0.00	4,646.13	353.51	-923.91	989.24	0.00	0.00	0.00
4,900.00	0.00	0.00	4,746.13	353.51	-923.91	989.24	0.00	0.00	0.00
5,000.00	0.00	0.00	4,846.13	353.51	-923.91	989.24	0.00	0.00	0.00
5,100.00	0.00	0.00	4,946.13	353.51	-923.91	989.24	0.00	0.00	0.00
5,182.87	0.00	0.00	5,029.00	353.51	-923.91	989.24	0.00	0.00	0.00
WASATCH									
5,200.00	0.00	0.00	5,046.13	353.51	-923.91	989.24	0.00	0.00	0.00
5,300.00	0.00	0.00	5,146.13	353.51	-923.91	989.24	0.00	0.00	0.00
5,400.00	0.00	0.00	5,246.13	353.51	-923.91	989.24	0.00	0.00	0.00
5,500.00	0.00	0.00	5,346.13	353.51	-923.91	989.24	0.00	0.00	0.00
5,600.00	0.00	0.00	5,446.13	353.51	-923.91	989.24	0.00	0.00	0.00
5,700.00	0.00	0.00	5,546.13	353.51	-923.91	989.24	0.00	0.00	0.00
5,800.00	0.00	0.00	5,646.13	353.51	-923.91	989.24	0.00	0.00	0.00
5,900.00	0.00	0.00	5,746.13	353.51	-923.91	989.24	0.00	0.00	0.00
6,000.00	0.00	0.00	5,846.13	353.51	-923.91	989.24	0.00	0.00	0.00
6,100.00	0.00	0.00	5,946.13	353.51	-923.91	989.24	0.00	0.00	0.00
6,200.00	0.00	0.00	6,046.13	353.51	-923.91	989.24	0.00	0.00	0.00
6,300.00	0.00	0.00	6,146.13	353.51	-923.91	989.24	0.00	0.00	0.00
6,400.00	0.00	0.00	6,246.13	353.51	-923.91	989.24	0.00	0.00	0.00
6,500.00	0.00	0.00	6,346.13	353.51	-923.91	989.24	0.00	0.00	0.00
6,600.00	0.00	0.00	6,446.13	353.51	-923.91	989.24	0.00	0.00	0.00
6,700.00	0.00	0.00	6,546.13	353.51	-923.91	989.24	0.00	0.00	0.00
6,800.00	0.00	0.00	6,646.13	353.51	-923.91	989.24	0.00	0.00	0.00
6,900.00	0.00	0.00	6,746.13	353.51	-923.91	989.24	0.00	0.00	0.00
7,000.00	0.00	0.00	6,846.13	353.51	-923.91	989.24	0.00	0.00	0.00
7,100.00	0.00	0.00	6,946.13	353.51	-923.91	989.24	0.00	0.00	0.00
7,200.00	0.00	0.00	7,046.13	353.51	-923.91	989.24	0.00	0.00	0.00
7,300.00	0.00	0.00	7,146.13	353.51	-923.91	989.24	0.00	0.00	0.00
7,400.00	0.00	0.00	7,246.13	353.51	-923.91	989.24	0.00	0.00	0.00
7,500.00	0.00	0.00	7,346.13	353.51	-923.91	989.24	0.00	0.00	0.00
7,600.00	0.00	0.00	7,446.13	353.51	-923.91	989.24	0.00	0.00	0.00
7,700.00	0.00	0.00	7,546.13	353.51	-923.91	989.24	0.00	0.00	0.00
7,800.00	0.00	0.00	7,646.13	353.51	-923.91	989.24	0.00	0.00	0.00
7,900.00	0.00	0.00	7,746.13	353.51	-923.91	989.24	0.00	0.00	0.00
8,000.00	0.00	0.00	7,846.13	353.51	-923.91	989.24	0.00	0.00	0.00
8,100.00	0.00	0.00	7,946.13	353.51	-923.91	989.24	0.00	0.00	0.00
8,200.00	0.00	0.00	8,046.13	353.51	-923.91	989.24	0.00	0.00	0.00
8,300.00	0.00	0.00	8,146.13	353.51	-923.91	989.24	0.00	0.00	0.00
8,313.87	0.00	0.00	8,160.00	353.51	-923.91	989.24	0.00	0.00	0.00
MESAVERDE									
8,400.00	0.00	0.00	8,246.13	353.51	-923.91	989.24	0.00	0.00	0.00
8,500.00	0.00	0.00	8,346.13	353.51	-923.91	989.24	0.00	0.00	0.00



Database:	Denver Sales Office	Local Co-ordinate Reference:	Well NBU 921-19E3AS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4827 & KB 4 @ 4831.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 4827 & KB 4 @ 4831.00ft (ASSUMED)
Site:	NBU 921-19L PAD	North Reference:	True
Well:	NBU 921-19E3AS	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,600.00	0.00	0.00	8,446.13	353.51	-923.91	989.24	0.00	0.00	0.00
8,700.00	0.00	0.00	8,546.13	353.51	-923.91	989.24	0.00	0.00	0.00
8,800.00	0.00	0.00	8,646.13	353.51	-923.91	989.24	0.00	0.00	0.00
8,900.00	0.00	0.00	8,746.13	353.51	-923.91	989.24	0.00	0.00	0.00
9,000.00	0.00	0.00	8,846.13	353.51	-923.91	989.24	0.00	0.00	0.00
9,100.00	0.00	0.00	8,946.13	353.51	-923.91	989.24	0.00	0.00	0.00
9,200.00	0.00	0.00	9,046.13	353.51	-923.91	989.24	0.00	0.00	0.00
9,300.00	0.00	0.00	9,146.13	353.51	-923.91	989.24	0.00	0.00	0.00
9,400.00	0.00	0.00	9,246.13	353.51	-923.91	989.24	0.00	0.00	0.00
9,500.00	0.00	0.00	9,346.13	353.51	-923.91	989.24	0.00	0.00	0.00
9,600.00	0.00	0.00	9,446.13	353.51	-923.91	989.24	0.00	0.00	0.00
9,700.00	0.00	0.00	9,546.13	353.51	-923.91	989.24	0.00	0.00	0.00
9,800.00	0.00	0.00	9,646.13	353.51	-923.91	989.24	0.00	0.00	0.00
9,900.00	0.00	0.00	9,746.13	353.51	-923.91	989.24	0.00	0.00	0.00
10,000.00	0.00	0.00	9,846.13	353.51	-923.91	989.24	0.00	0.00	0.00
10,100.00	0.00	0.00	9,946.13	353.51	-923.91	989.24	0.00	0.00	0.00
10,200.00	0.00	0.00	10,046.13	353.51	-923.91	989.24	0.00	0.00	0.00
10,300.00	0.00	0.00	10,146.13	353.51	-923.91	989.24	0.00	0.00	0.00
10,400.00	0.00	0.00	10,246.13	353.51	-923.91	989.24	0.00	0.00	0.00
10,500.00	0.00	0.00	10,346.13	353.51	-923.91	989.24	0.00	0.00	0.00
10,557.87	0.00	0.00	10,404.00	353.51	-923.91	989.24	0.00	0.00	0.00
SEGO - SEGO_NBU 921-19E3AS									
10,600.00	0.00	0.00	10,446.13	353.51	-923.91	989.24	0.00	0.00	0.00
10,659.87	0.00	0.00	10,506.00	353.51	-923.91	989.24	0.00	0.00	0.00
CASTLEGATE									
10,700.00	0.00	0.00	10,546.13	353.51	-923.91	989.24	0.00	0.00	0.00
10,800.00	0.00	0.00	10,646.13	353.51	-923.91	989.24	0.00	0.00	0.00
10,900.00	0.00	0.00	10,746.13	353.51	-923.91	989.24	0.00	0.00	0.00
10,981.87	0.00	0.00	10,828.00	353.51	-923.91	989.24	0.00	0.00	0.00
BLACKHAWK									
11,000.00	0.00	0.00	10,846.13	353.51	-923.91	989.24	0.00	0.00	0.00
11,100.00	0.00	0.00	10,946.13	353.51	-923.91	989.24	0.00	0.00	0.00
11,200.00	0.00	0.00	11,046.13	353.51	-923.91	989.24	0.00	0.00	0.00
11,300.00	0.00	0.00	11,146.13	353.51	-923.91	989.24	0.00	0.00	0.00
11,400.00	0.00	0.00	11,246.13	353.51	-923.91	989.24	0.00	0.00	0.00
11,500.00	0.00	0.00	11,346.13	353.51	-923.91	989.24	0.00	0.00	0.00
11,581.87	0.00	0.00	11,428.00	353.51	-923.91	989.24	0.00	0.00	0.00
TD at 11581.87 - PBHL_NBU 921-19E3AS									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SEGO_NBU 921-19E3A - hit/miss target - Shape	0.00	0.00	10,404.00	353.51	-923.91	14,537,255.69	2,031,677.53	40.0223610	-109.6024990
- plan hits target center - Circle (radius 25.00)									
PBHL_NBU 921-19E3A - hit/miss target - Shape	0.00	0.00	11,428.00	353.51	-923.91	14,537,255.69	2,031,677.53	40.0223610	-109.6024990
- plan hits target center - Circle (radius 100.00)									



Database:	Denver Sales Office	Local Co-ordinate Reference:	Well NBU 921-19E3AS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4827 & KB 4 @ 4831.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 4827 & KB 4 @ 4831.00ft (ASSUMED)
Site:	NBU 921-19L PAD	North Reference:	True
Well:	NBU 921-19E3AS	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,986.93	2,862.00	8 5/8"	8.625	11.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,696.09	1,649.00	GREEN RIVER			
1,981.29	1,917.00	BIRDSNEST			
2,508.05	2,412.00	MAHOGANY			
5,182.87	5,029.00	WASATCH			
8,313.87	8,160.00	MESAVERDE			
10,557.87	10,404.00	SEGO			
10,659.87	10,506.00	CASTLEGATE			
10,981.87	10,828.00	BLACKHAWK			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
250.00	250.00	0.00	0.00	Start Build 2.00
1,250.00	1,229.82	61.74	-161.36	Start 1882.05 hold at 1250.00 MD
3,132.05	2,998.37	291.77	-762.55	Start Drop -2.00
4,132.06	3,978.18	353.51	-923.91	Start 7449.82 hold at 4132.06 MD
11,581.87	11,428.00	353.51	-923.91	TD at 11581.87

Kerr-McGee Oil & Gas Onshore. L.P.**NBU 921-19L Pad**

<u>API #</u>	<u>NBU 921-19D4CS</u>		
	Surface: 2626 FSL / 1536 FWL	NWSW	Lot
	BHL: 1253 FNL / 889 FWL	NWNW	Lot
<u>API #</u>	<u>NBU 921-19E1BS</u>		
	Surface: 2616 FSL / 1357 FWL	NWSW	Lot
	BHL: 1587 FNL / 889 FWL	SWNW	Lot
<u>API #</u>	<u>NBU 921-19E3AS</u>		
	Surface: 2606 FSL / 1538 FWL	NWSW	Lot
	BHL: 2353 FNL / 620 FWL	SWNW	Lot
<u>API #</u>	<u>NBU 921-19F1CS</u>		
	Surface: 2597 FSL / 1539 FWL	NWSW	Lot
	BHL: 1893 FNL / 2303 FWL	SEW	Lot
<u>API #</u>	<u>NBU 921-19K1BS</u>		
	Surface: 2587 FSL / 1540 FWL	NWSW	Lot
	BHL: 2584 FSL / 2315 FWL	NESW	Lot
<u>API #</u>	<u>NBU 921-19L1BS</u>		
	Surface: 2577 FSL / 1542 FWL	NWSW	Lot
	BHL: 2427 FSL / 887 FWL	NWSW	Lot
<u>API #</u>	<u>NBU 921-19L1CS</u>		
	Surface: 2567 FSL / 1543 FWL	NWSW	Lot
	BHL: 2093 FSL / 887	NWSW	Lot
<u>API #</u>	<u>NBU 921-19L4BS</u>		
	Surface: 2557 FSL / 1544 FWL		Lot
	BHL: 1758 FSL / 887 FWL		Lot

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 24, 2012. Present were:

- Tyler Cox - BLM;
- Antonio Pingree - BIA;
- Brad Pincoose - Ute Indian Tribe;
- Amy Ackman - Montgomery Archeological Consultants Inc.;
- Scott Carson - Smiling Lake Consulting;
- Mitch Batty - Timberline Engineering & Land Surveying, Inc.;
- Danielle Piernot, Raleen White, Cara Mahler, Justin Brady, Doyle Holmes, Rod Anderson, Charles Chase - Kerr-McGee
- Nick Hall Grasslands Consulting, Inc.
- Justin Strauss - SWCA Environmental Consultants

A. Existing Roads:

Existing roads consist of county and improved/unimproved access roads (two-tracks). In accordance with Onshore Order #1, Kerr-McGee will, in accordance with BMPs, improve or maintain existing roads in a condition

that is the same as or better than before operations began. New or reconstructed proposed access roads are discussed in Section B.

The existing roads will be maintained in a safe and usable condition. Maintenance for existing roads will continue until final abandonment and reclamation of well pads and/or other facilities, as applicable. Road maintenance will include, but is not limited to, blading, ditching, and/or culvert installation and cleanout. To ensure safe operating conditions, gravel surfacing will be performed where excessive rutting or erosion may occur. Dust control will be performed as necessary to ensure safe operating conditions.

Roads, gathering lines and electrical distribution lines will occupy common disturbance corridors where possible. Where available, roadways will be used as the staging area and working space for installation of gathering lines. All disturbances located in the same corridor will overlap each other to the maximum extent possible, while maintaining safe and sound construction and installation practices. Unless otherwise approved or requested in site specific documents, in no case will the maximum disturbance widths of the access road and utility corridors exceed the widths specified in Part D of this document.

Please refer to Topo B, for existing roads.

B. New or Reconstructed Access Roads:

All new or reconstructed roads will be located, designed, and maintained to meet the standards of the BIA.

Each new well pad or pad expansion may require construction of a new access road and/or de-commissioning of an older road. Plans, routes, and distances for new roads and road improvements are provided in design packages, exhibits and maps for a project. Project-specific maps are submitted to depict the locations of existing, proposed, and/or decommissioned and include the locations for supporting structures, including, but not limited to, culverts, bridges, low water crossings, range infrastructure, and haul routes, as per OSO 1. Designs for cuts and fills, including spoils source and storage areas, are provided with the road designs, as necessary.

Where safety objectives can be met, Kerr-McGee may use unimproved and/or two-track roads for lease operations, to lessen total disturbance.

Road designs will be based on the road safety requirements, traffic characteristics, environmental conditions, and the vehicles the road is intended to carry. Generally, newly constructed unpaved lease roads will be crowned and ditched with the running surfaces of the roads approximately 12-18 feet wide and a total road corridor width not to exceed 45 feet, except where noted in the road design for a specific project. Maximum grade will generally not exceed 8%. Borrow ditches will be back sloped 3:1 or less. Construction BMPs will be employed to control onsite and offsite erosion.

Where topography would direct storm water runoff to an access road or well pad, drainage ditches or other common drainage control facilities maybe constructed to divert surface water runoff. Drainage features, including culverts, may be constructed or installed prior to commencing other operations, including drilling or facilities placement. Riprap will be placed at the inlet and outlet at the culvert(s), as necessary.

Prior to construction, new access road(s) will be staked according to the requirements of OSO 1. Construction activity will not be conducted using frozen or saturated materials or during periods when significant watershed damage

(e.g. rutting, extensive sheet soil erosion, formation of rills/gullies, etc.) is likely to occur. Vegetative debris will not be placed in or under fill embankments.

New road maintenance will include, but is not limited to, blading, ditching, culvert installation and cleanout, gravel surfacing where excessive rutting or erosion may occur and dust control, as necessary to ensure safe operating conditions. All vehicular traffic, personnel movement, construction/restoration operations will be confined to the approved area and to existing roadways and/or access routes.

Snow removal will be conducted on an as-needed basis to accommodate safe travel. Snow removal will occur as necessary throughout the year, as will necessary drainage ditch construction. Removed snow may be stored on permitted well pads to reduce hauling distances and/or at the aerial extent of approved disturbance boundaries to facilitate snow removal for the remainder of the season.

If a county road crossing or encroachment permit is needed, it will be obtained prior to construction.

The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.

There is no new road proposed.

C. Location of Existing Wells:

A) Refer to Topo C.

D. Location of Existing and/or Proposed Facilities:

This pad will expand the existing pad for the NBU 921-19L, which is a Producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on December 4, 2013. 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).

Should the well(s) prove productive, production facilities will be installed on the disturbed portion of each well pad. A berm will be constructed completely around production components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will generally be constructed of to hold the capacity of the largest tank and have sufficient freeboard to accommodate a 25 year rainfall event. Aboveground structures constructed or installed onsite for 6 months or longer, will be painted a flat, non-reflective, earth-tone color chosen at the onsite (typically Shadow Gray). A production facility layout is provided as part of a project-specific APD, ROW or NOS submission.

GAS GATHERING

Please refer to Topo D2- Pad and Pipeline Detail.

The gas gathering pipeline material: Steel line pipe. Surface = Bare pipe. Buried = Coated with fusion bonded epoxy coating (or equivalent). The total gas gathering pipeline distance from the meter to the tie in point is ±1905' and the individual segments are broken up as follows:

The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.

±1905' (.36) – Section 19 T9S R21E– On-lease UTU 0581, Ute Indian Tribe Surface,
New 10" and 16" buried gas gathering pipeline from the meter to the proposed 16" AUM gas pipeline.
Please refer to Topo D2- Pad and Pipeline detail.

Surface Gas Pipeline Re-Route
±425' (.08) – Section 19 T9S R21E Surface 6" Pipeline Re-Route.

LIQUID GATHERING

Please refer to Topo D2- Pad and Pipeline Detail.

The total liquid gathering pipeline distance from the separator to the tie in point is ±1905' and the individual segments are broken up as follows:

The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.

±1905' (.36) – Section 19 T9S R21E– On-lease UTU 0581, Ute Indian Tribe Surface,
New 6" buried liquid gathering pipeline from the meter to the proposed 6" liquid pipeline.
Please refer to Topo D2- Pad and Pipeline detail.

Pipeline Gathering Construction

Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee. Gas gathering pipeline(s), gas lift, or liquids pipelines may be constructed to lie on the surface or be buried. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. The area of disturbance during construction from the edge of road or well pad will typically be 30' in width. Where pipelines run cross country, the width of disturbance will typically be 45 ft for buried lines and 30 ft for surface lines. In addition, Kerr-McGee requests for a permanent 30' disturbance width that will be maintained for the portion adjacent to the road. The need for the 30' permanent disturbance width is for maintenance and repairs. Cross country permanent disturbance width also are required to be 30ft.

Above-ground installation will generally not require clearing of vegetation or blading of the surface, except where safety considerations necessitate earthwork. In some surface pipeline installation instances pipe cannot be constructed where it will lay. In these cases where an above-ground pipeline is constructed parallel and adjacent to a road, it will be welded/fused on the road and then lifted from the road to the pipeline route. In other cases where a pipeline route is not parallel and adjacent to a road (cross-country between sites), it will be welded/fused in place at a well pad, access road, or designated work area and pulled between connection locations with a suitable piece of equipment.

Buried pipelines will generally be installed parallel and adjacent to existing and/or newly constructed roads and within the permitted disturbance corridor. Buried pipelines may vary from 2 inches (typically fuel gas lines) to 24 inches (typically transportation lines) in diameter, but 6 to 16 inches is typical for a buried gas line. The diameter of liquids pipelines may vary from 2 inches to 12 inches, but 6 inches is the typical diameter. Gas lift lines may vary from 2 to 12 inches in diameter, but 6-inch diameter pipes are generally used for gas lift. If two or more pipelines are present (gas gathering, gas lift, and fluids), they will share a common trench where possible.

When installing a buried pipeline, typically topsoil will be removed, windrowed and placed on the non-working side of the route for later reclamation. Because working room is limited, the spoil may be spread out across the working side and construction will take place on the spoil. The working side of the corridor will be used for pipe stringing, bending, welding and equipment travel. Small areas on the working side displaying ruts or uneven ground will be groomed to facilitate the safe passage of equipment. After the pipelines are installed, spoil will be placed back into the trench, and the topsoil will be redistributed over the disturbed corridor prior to final reclamation. Typical depth of the trench will be 6 feet, but depths may vary according to site-specific conditions (presence of bedrock, etc.). The proposed trench width for the pipeline would range from 18-48 inches.

The pipeline will be welded along the proposed route and lowered into place. Trenching equipment will cut through the soil or into the bedrock and create good backfill, eliminating the need to remove large rocks. The proposed buried pipeline will be visually and radiographically inspected and the entire pipeline will be pneumatically or hydrostatically tested before being placed into service. Routine vehicle traffic will be prevented from using pipeline routes as travel ways by posting signs at the route's intersection with an access road.

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

If pipelines or roads encounter a drainage that could be subject to flooding or surface water during extreme precipitation events, Kerr-McGee will apply all applicable Army Corps mandates as well as the BLM's Hydraulic Considerations for Pipeline Crossings of Stream Channels (BLM Technical Note 423, April 2007). In addition, all stream and drainage crossings will be evaluated to determine the need for stream alteration permits from the State of Utah Division of Water Rights and if necessary, required permits will be secured. Similarly, where a road or pipeline crossing exists the pipe will be butt welded and buried to a depth between 24 and 48 inches or more. Dirt roads will be cut and restored to a condition equivalent to the existing condition. All Uintah County road encroachment and crossing permits, where applicable, will be obtained prior to crossing construction. In no case will pressure testing of pipelines result in discharge of liquids to the surface.

Pipeline signs will be installed along the route to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves and lateral T's will be installed at various locations for production integrity and safety purposes.

Upon completion of the proposed buried pipeline, the entire area of disturbance will be reclaimed to the standards proposed in the Green River District Reclamation Guidelines. Please refer to section J for more details regarding final reclamation. When no longer deemed necessary by the operator, Kerr-McGee or its successor will consult with the Vernal BIA Office before terminating of the use of the pipeline(s).

The Anadarko Completions Transportation System (ACTS) information:

Kerr-McGee will use either a closed loop drilling system that will require one pit and one storage area to be constructed on the drilling pad or a traditional drilling operation with one pit. The storage area will be used to contain only the de-watered drill cuttings and will be lined and reclaimed according to traditional pit closure standards. The pit will be constructed to

allow for completion operations. The completion operations pit is lined and will be used for the wells drilled on the pad or used as part of our Anadarko Completions Transportation (ACTS) system which is discussed in more detail below. Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completion pit.

If Kerr-McGee does not use a closed loop system, it will construct a drilling reserve pit to contain drill cuttings and for use in completion operations. Depending on the location of the pit, its relation to future drilling locations, the reserve/completion pit will be utilized for the completion of the wells on that pad and/or be used as part of our ACTS system.

Kerr-McGee will use ACTS to optimize the completion processes for multiple pads across the project area which may include up to a section of development. ACTS will facilitate management of frac fluids by utilizing existing reserve pits and temporary, surface-laid aluminum liquids transfer lines between frac locations. The pit will be refurbished as follows when a traditional drill pit is used: mix and pile up drill cuttings with dry dirt, bury the original liner in the pit, walk bottom of pit with cat. Kerr-McGee will reline the pit with a 30 mil liner and double felt padding. A refurbished or newly constructed pit will be smaller as specified in the originally approved ROW/APD. The pit refurb will be done in a normal procedure and there will be no modification to the pit.

All four sides of the completions pit will be fenced in according to standard pit fencing procedures. Netting will be installed over all pits.

Any hydrocarbons collected will be treated and sold at approved sales facilities. A loading/unloading rack with will also be installed where water trucks would unload and load to prevent damage caused from pulling hoses in and out of the pit .

ACTS will require temporarily laying multiple 6" aluminum water transfer lines on the surface between either existing or refurbished reserve pits. The temporary aluminum transfer lines will be utilized to transport frac fluid being injected and/or recovered during the completion process and will be laid adjacent to existing access roads or pipeline corridors. Upon completion of the frac operation, the liquids transfer lines will be flushed with fresh water and purged with compressed air. The contents of the transfer lines will be flushed into a water truck for delivery to another ACTS location or a reserve pit.

The temporary ACTS lines will be permitted under a separate cover to the Ute Indian Tribe.

The volume of frac fluid transported through a water transfer line will vary, but volume is projected to be approximately 1.75 bbls per 50-foot joint. Although the maximum working pressure is 125 psig, the liquids transfer lines will be operated at a pressure of approximately 30 to 40 psig. Kerr-McGee requests to keep the netted pit open for one year from first production of the first produced well on the pad. During this time the surrounding well location completion fluids may be recycled in this pit and utilized for other frac jobs in the area. After one year Kerr-McGee will backfill the pit and reclaim. If the pit is not needed for an entire year it will be backfilled and reclaimed earlier. Kerr-McGee understands that due to the temporary nature of this system, BIA considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BIA.

E. Location and Types of Water Supply:

Water for drilling and completion operations will be obtained from the following sources:

JD Field Services:

Green River: 1087' FSL & 1020' FEL, Sec. 15 – T2N – R22E

RN Industries:

High Pressure: 705' FNL & 675' FWL, Sec. 1 – T6S – R22E
1057' FNL & 390' FWL, Sec. 1 – T6S – R22E
1239' FNL & 52' FEL, Sec. 6 – T6S – R23EWhite River: 501' FNL & 1676' FEL, Sec. 9 – T8S – R20E
471' FNL & 1676' FEL, Sec. 9 – T8S – R20E
900' FNL & 550' FEL, Sec. 35 – T9S – R22E
200' FNL & 950' FEL, Sec. 2 – T10S – R22E
275' FSL & 2275' FEL, Sec. 2 – T10S – R22E
122' FSL & 1350' FEL, Sec. 11 – T10S – R22E
1670' FSL & 500' FEL, Sec. 12 – T10S – R22E
959' FNL & 705' FEL, Sec. 13 – T10S – R22E
600' FSL & 900' FEL, Sec. 13 – T10S – R22EWater Plant: 481' FNL & 2176' FEL, Sec. 9 – T8S – R20E
471' FNL & 2176' FEL, Sec. 9 – T8S – R20EFrog Pond: 4820' FNL & 1200' FWL, Sec. 33 – T8S – R20E
4850' FNL & 700' FWL, Sec. 33 – T8S – R20E

Blue Tanks: 200' FNL & 405' FEL, Sec. 32 – T4S – R3E

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

No water well is to be drilled on this lease.

F. Construction Materials:

Construction operations will typically be completed with native materials found on location. Construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source (described in site-specific documents). No construction materials will be removed from Tribal lands without prior approval from the BIA. A source location other than an on-location construction site will be designated either via a map or narrative within the project specific materials provided to the BIA.

G. Methods for Handling Waste:

All wastes subject to regulation will be handled in compliance with applicable laws to minimize the potential for leaks or spills to the environment. Kerr-McGee also maintains a Spill Control and Countermeasure Plan, which includes notification requirements, including the BIA, for all reportable spills of oil, produced liquids, and hazardous materials.

Any accidental release, such as a leak or spill in excess of the reportable quantity, as established by 40 CFR Part 117.3, will be reported as per the requirements of CERCLA, Section 102 B. If a release involves petroleum hydrocarbons or produced liquids, Kerr-McGee will comply with the notification requirements of NTL-3A. Drill cuttings and/or drilling fluids will be contained in the reserve/frac pit whether a closed loop system is used or not. Cuttings will be buried in pit(s) upon closure. Unless specifically approved by the BIA, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface precipitation runoff into the pit (via appropriate placement of subsoil storage areas and/or construction of berms, ditches, etc.). Should unexpected liquid petroleum hydrocarbons (crude oil or condensate) be encountered during drilling, completions or well testing, liquid petroleum hydrocarbons will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by the BIA. Should timely removal not be feasible, the pit will be netted as soon as practical. Similarly, hydrocarbon removal will take place prior to the closure of the pit, unless authorization is provided for disposal via alternate pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with an impermeable liner. The liner will be a synthetic material 30 mil or thicker. The bottom and side walls of the pit will be void of any sharp rocks that could puncture the liner. The liner

will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. After evaporation and when dry, the reserve pit liners will be cut off, ripped and/or folded back (as safety considerations allow) as near to the mud surface as possible and buried on location or hauled to a landfill prior to backfilling the pit with a minimum of five feet of soil material.

Where necessary and if conditions (freeboard, etc.) allow, produced liquids from newly completed wells may be temporarily disposed of into pits for a period not to exceed 90 days as per OSO 7. Subsequently, permanent approved produced water disposal methods will be employed in accordance with OSO 7 and/or as described in a Water Management Plan (WMP). Otherwise, fluids disposal locations and associated haul routes, for ROW consideration, are typically depicted on Topo A of individual projects. Revisions to the water source or method of transportation will be subject to written approval from the BIA.

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

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after one year from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility. Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash receptacles will be collected and removed from the well location.

For the protection of livestock and wildlife, all open pits (excluding flare pits) will be fenced to prevent wildlife or livestock entry.

Maximum distance between any 2 fence posts shall be no greater than 16 feet. Siphons, catchments, and absorbent pads will be installed to keep hydrocarbons produced by the drilling rig or other equipment on location from entering the reserve pit. Hydrocarbons, contaminated pads, and/or soils will be disposed of in accordance with state and federal requirements.

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

Materials Management

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

Hazardous materials may be contained in some grease or lubricants, solvents, acids, paint, and herbicides, among others as defined above. Kerr-McGee maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used during the course of construction, drilling, completion, and production operations for this project. The transport, use, storage and handling of hazardous materials will follow procedures specified by federal and state regulations. Transportation of hazardous materials to the well location is regulated by the Department of Transportation (DOT) under 49 CFR, Parts 171-180. DOT regulations pertain to the packing, container handling, labeling, vehicle placarding, and other safety aspects.

Potentially hazardous materials used in the development or operation of wells will be kept in limited quantities on well sites and at the production facilities for short periods of time. Chemicals meeting the criteria for being an acutely hazardous material/substance or meet the quantities criteria per BLM Instruction Memorandum No. 93-344 will not be used.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities (crude oil/condensate, produced water). They may also be kept in limited quantities on drilling sites (barite, diesel fuel, cement, cottonseed hulls etc.) for short periods of time during drilling or completion activities.

Any produced water separated from recoverable condensate from the proposed well will be contained in a water tank and will then be transported by pipeline and/or truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E
 NBU #159 in Sec. 35 T9S R21E
 Ace Oilfield in Sec. 2 T6S R20E
 MC&MC in Sec. 12 T6S R19E
 Pipeline Facility in Sec. 36 T9S R20E
 Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E
 Bonanza Evaporation Pond in Sec. 2 T10S R23E

Or to one of the following Kerr-McGee active Salt Water Disposal (SWD) wells:

NBU 159 SWD in Sec. 35 T9S R21E
 CIGE 112D SWD in Sec. 19 T9S R21E
 CIGE 114 SWD in Sec. 34 T9S R21E
 NBU 921-34K SWD in Sec. 34 T9S R21E
 NBU 921-33F SWD in Sec. 34 T9S R21E

H. Ancillary Facilities:

No additional ancillary facilities are planned for this location.

I. Well Site Layout:

The location, orientation and aerial extent of each drill pad, reserve/completion/flare pit (for closed loop or non-closed loop operations), access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure, proposed cuts and fills, and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment depending on whether a closed loop system is used. Surface distance may be less if using closed loop. But in either case, the area of disturbance will not exceed the maximum disturbance outlined in the attached exhibits.

Each well will utilize either a centralized tank battery, centralized fluids management system, or have tanks installed on its pad. Production/ Produced Liquid tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks will be kept reasonably free from surface accumulations of liquid hydrocarbons. The tanks are not to be used for disposal of liquids from additional sources without prior approval of BIA.

J. Plans for Surface Reclamation:

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

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

Interim Reclamation

Interim reclamation may include pit evaporation, fluid removal, pit solidification, re-contouring, ripping, spreading top soil, seeding, and/or weed control. Interim reclamation will be performed in accordance with OSO 1, or written notification will be provided to the BIA for approval. Where feasible, drilling locations, reserve pits, or access routes not utilized for production operations will be re-contoured to a natural appearance.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and

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

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit. Disposal of pit fluids and linings is discussed in Section G.

Final Reclamation

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

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

Reclamation of roads will be performed at the discretion of the BIA/Tribe. All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded in accordance with the seeding specifications as proposed below in "Measures Common to Interim and Final Reclamation".

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to the BIA/Tribe.

Measures Common to Interim and Final Reclamation

Soil preparation will be conducted using a disk for areas in need of more soil preparation following site preparation. This will provide primary soil tillage to a depth no greater than 6 inches. Prior to reseeding, compacted areas will be scarified by ripping or chiseling to loosen compacted soils, promote water infiltration, and improve soil aeration and root penetration.

Seeding will occur year-round as conditions allow and will typically be accomplished through the use of a no-till rangeland style seed drill with a "picker box" in order to seed "fluffy" seed. Where drill seeding is not the preferred method, seed will be broadcast and then raked into the ground at double the rate of drill seeding. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for

re-vegetation. The seed mixes will be selected from a list provided by or approved by the BIA/Tribe or a specific seed mix will be proposed by Kerr-McGee to the BIA/Tribe and used after its approval. The selected specific seed mix for each well location and road segment will be utilized while performing interim and final reclamation for each project. All seed will be certified and tags will be maintained by Kerr-McGee. Every effort will be made to obtain "cheat grass free seed".

Seed Mix to be used for Well Site, Access Road, and Pipeline (as applicable):

Natural Buttes Area

Mix Option 1:

	<u>Pure Live Seed lbs/acre</u>
Indian Ricegrass	3
Thick Spike	2
Sandberg	0.5
Bottlebrush	1

Crested	1
Winterfat	0.25
Shadscale	1.5
Four-wing	0.75
Forage Kochia	0.25

Total 10.25

Natural Buttes Area**Mix Option 2:****Pure Live Seed lbs/acre**

Great Basin Wildrye	2.50
Indian Ricegrass (Nezpar)	0.50
Crested Wheatgrass	2.00
Siberian Wheatgrass	2.00
Bottlebrush Squirreltail	1.00
Munro Globemallow	0.50
Palmer Penstemon	0.10
Rocky Mtn beeplant	0.50
Western yarrow	0.10
Shadscale	0.50
Forage Kochia	0.50

Total 10.20

Natural Buttes Area Mix Option 3:**Pure Live Seed lbs/acre**

Galleta Grass	2.00
Sandberg bluegrass	0.50
Shadscale	0.50
Bluebunch (secar)	2.00
Indian Ricegrass (Nezpar)	2.00
Western Wheatgrass (Arriba)	2.00
Palmer penstemon	0.25
Munro Globemallow	0.15
Black Sage	0.25
Winterfat	0.25
Forage Kochia	0.25

Total 10.15

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Where severe erosion can become a problem and/or the use of machine and raked with twice the specified amount of seed. Slopes will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to: erosion control blankets, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

Weed Control

Noxious weeds will be controlled in appropriate areas in accordance with all applicable rules and regulations.

K. Surface/Mineral Ownership:

Ute Indian Tribe	United States of America
P.O. Box 70	Bureau of Land Management
988 South 7500 East Annex Building	170 South 500 East
Fort Duschesne, UT 84026	Vernal, UT 84078
(435) 722-4307	(435)781-4400

L. Other Information:**Onsite Specifics:****Cultural and Paleontological Resources**

All personnel are strictly prohibited from collecting artifacts, any paleontological specimens or fossils, and from disturbing any significant cultural resources in the area. If artifacts, fossils, or any culturally sensitive materials are exposed or identified in the area of construction, all construction operations that would affect the newly discovered resource will cease, and Kerr-McGee will provide immediate notification to the BIA.

Resource Reports:

A Class I literature survey was completed on November 7, 2012 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 12-283.

A paleontological reconnaissance survey was completed on January 1, 2013 by SWCA Environmental Consultants. For additional details please refer to report UT13-14314-185

Biological field survey was completed on September 26, 2012 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-856.

Proposed Action Annual Emissions Tables:

Table 1: Proposed Action Annual Emissions (tons/year)¹			
Pollutant	Development	Production	Total
NOx	3.8	0.12	3.92
CO	2.2	0.11	2.31
VOC	0.1	4.9	5
SO ₂	0.005	0.0043	0.0093
PM ₁₀	1.7	0.11	1.81
PM _{2.5}	0.4	0.025	0.425
Benzene	2.2E-03	0.044	0.046
Toluene	1.6E-03	0.103	0.105
Ethylbenzene	3.4E-04	0.005	0.005
Xylene	1.1E-03	0.076	0.077
n-Hexane	1.7E-04	0.145	0.145
Formaldehyde	1.3E-02	8.64E-05	1.31E-02

¹ Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory ^a (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NOx	31.36	16,547	0.19%
VOC	40	127,495	0.03%

^a http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html

Uintah Basin Data

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

Cara Mahler
Regulatory Analyst I
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6156

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

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

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

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

Bond coverage 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.



Cara Mahler

December 12, 2013

Date

Kerr-McGee Oil & Gas Onshore L.P., wholly owned subsidiary of Anadarko Petroleum Corporation, Standard Operating Practice Agreement for the Greater Natural Buttes Field

Drilling Program

All lease and/or unit operations will be conducted in such a manner that full compliance is made with applicable laws, regulations, Onshore Oil and Gas Orders, and the approved plan of operation. As Operator, KMG is fully responsible for actions of subcontractors. A copy of these Standard Operating Practices will be furnished to the field representatives to insure compliance.

Bureau of Land Management Notification Requirements:

Location Constructions: At least 48 hours prior to construction of location and access roads including notification, if applicable, to other surface management agencies, such as Ute Tribe Energy and Mineral Department, State of Utah, or private surface owner(s).

Location Completion: Prior to moving on the drilling rig

Spud Notice: At least 24 hours prior to spudding the well.

Casing String and Cementing: At least 24 hours prior to running casing and cementing all casing.

Blow Out Preventer & Related Equipment Tests: At least 24 hours prior to initiating pressure tests.

First Production Notice: Within 5 days after a new well begins production; or, within 5 days of when production resumes after a well has been off production for more than 90 days.

Details of the on-site inspection, including date, time, weather conditions, and individuals present, will be submitted with the site-specific Application for Permit to Drill (APD).

1. Estimated Tops of Important Geologic Markers:

Formation and depths will be submitted with site-specific APDs.

2. Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

Formation and depths will be submitted with site-specific APDs.

3. Pressure Control Equipment:

Pressure Control Equipment Schematic is attached as appendix F. Any variance will be included in the site-specific APDs.

4. Proposed Casing & Cementing Program:

Proposed casing and cementing will be submitted with site-specific APDs.

5. Drilling Fluids Program:

Proposed drilling fluids will be submitted with site-specific APDs.

6. Evaluation Program:

Evaluation program will be submitted with site-specific APDs.

7. Abnormal Conditions:

Any abnormal condition will be submitted with site specific APDs.

8. Anticipated Starting Dates:

Drilling is planned to commence within the administrative period of an approved application.

9. Variances:

KMG respectfully requests a variance to several requirements associated with air drilling outlined in OSO 2:

Variance for air drilling

Air rig is only used by KMG to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig and is used to drill and construct the majority of the wellbore.

KMG typically utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 3,200 MD. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig

also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

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

Variance for BOPE Requirements

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

Variance for Mud Material Requirements

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

Variance for Special Drilling Operation (surface equipment placement)

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

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

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

boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

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

Variance for FIT Requirements

KMG also respectfully requests a variance to OSO 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). These wells are not exploratory wells and are being drilled in an area where the formation integrity is well known.

10. Other Information:

Drilling Program will be submitted with site-specific APDs.

SURFACE USE PROGRAM

A. Existing Roads:

Existing roads consist of county and improved/unimproved access roads (two-tracks). In accordance with OSO 1, KMG will improve or maintain existing roads in a condition that is the same as or better than before operations began. New or reconstructed proposed access roads are discussed in Section B.

The existing roads will be maintained in a safe and usable condition. Maintenance for existing roads will continue until final abandonment and reclamation of well pads and/or other facilities, as applicable. Road maintenance will include, but is not limited to, blading, ditching, and/or culvert installation and cleanout. To ensure safe operating conditions, gravel surfacing may be performed where excessive rutting or erosion may occur. Dust control may be performed as necessary to ensure safe operating conditions.

Roads, gathering lines and electrical distribution lines may occupy common disturbance corridors where possible. Where available, roadways may be used as the staging area and working space for installation of gathering lines. All disturbances located in the same corridor may overlap each other to the maximum extent possible, while maintaining safe and sound construction and installation practices. Unless otherwise approved or requested in site specific documents, in no case will the maximum disturbance widths of the access road and utility corridors exceed the widths specified in Part D of this document.

Within individual APDs, please refer to Topo B, for existing roads.

B. New or Reconstructed Access Roads:

All new or reconstructed roads will be located, designed, and maintained to meet the standards of the BLM's Surface Operating Standards for Oil and Gas Exploration and Development, 4th Edition (Gold Book) (USDI and USDA, 2007). The BLM Manual Section 9113 (1985) will be considered in consultation with the BLM in the design, construction, improvement and maintenance of all new or reconstructed roads. If a new road would cross a water of the United States, KMG will adhere to all applicable US Army Corps of Engineers requirements in cooperation with the Utah Division of Water Rights.

New well pads or pad expansions may require construction of a new access road and/or de-commissioning of an older road. Plans, routes, and distances for new roads and road improvements are provided in design packages, exhibits and maps for a project. Project-specific maps are submitted to depict the locations of existing, proposed, and/or decommissioned and include the locations for supporting structures, including, but not limited to, culverts, bridges, low water crossings, range infrastructure, and haul routes, per OSO 1. Designs for cuts and fills, including spoils source and storage areas, are provided with the road designs, as necessary.

Where safety objectives can be met KMG may use unimproved and/or two-track roads for lease operations and to lessen total disturbance. Road designs will be based on the road safety requirements, traffic characteristics, environmental conditions, and the vehicles the road is intended to carry. Generally, newly constructed unpaved lease roads will be crowned and ditched with the running surfaces of the roads approximately 12-18 feet wide and a total road corridor width not to exceed 45 feet, except where noted in the road design for a specific project. Maximum grade will generally not exceed 8%. Borrow ditches will be back sloped 3:1 or less. Construction BMPs will be employed to control onsite and offsite erosion.

Where topography would direct storm water runoff to an access road or well pad, drainage ditches or other common drainage control facilities may be constructed to divert surface water runoff. Drainage features, including culverts, may be constructed or installed prior to commencing other operations, including drilling for facilities placement. Riprap will be placed at the inlet and outlet at the culvert(s). Drainage features will meet the standards of the BLM's Surface Operating Standards for Oil and Gas Exploration and Development, 4th Edition (Gold Book) (USDI and USDA, 2007).

Prior to construction, new access road(s) will be staked according to the requirements of OSO 1. Construction activities will not be conducted using frozen or saturated materials or during periods when significant watershed damage (e.g. rutting, extensive sheet soil erosion, formation of rills/gullies, etc.) is likely to occur. Vegetative debris will not be placed in or under fill embankments.

New road maintenance will include, but is not limited to, blading, ditching, culvert installation and cleanout, gravel surfacing where excessive rutting or erosion may occur and dust control, as necessary to ensure safe operating conditions. All vehicular traffic, personnel movement and construction/restoration operations will be confined to the approved area and to existing roadways and/or access routes.

Snow removal will be conducted on an as-needed basis to accommodate safe travel. Snow removal will occur as necessary throughout the year, as will necessary drainage ditch construction. Removed snow may be stored on permitted well pads to reduce hauling distances and/or at the aerial extent of approved disturbance boundaries to facilitate snow removal for the remainder of the season.

If a county road crossing or encroachment permit is needed, it will be obtained prior to construction.

For individual APDs, refer to Topo B.

C. Location of Existing Wells:

For individual APDs, refer to Topo C

D. Location of Existing and/or Proposed Facilities:

The following will apply if the well is productive: 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 (KMG). Should the well(s) prove productive, production facilities will be installed on the disturbed portion of each well pad.

A berm may be constructed completely around production components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed to hold the capacity of the largest tank and have sufficient freeboard to accommodate a 25 year rainfall event. This includes pumping units. Aboveground structures constructed or installed onsite for 6 months or longer, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with the BLM (typically Shadow Gray). A production facility layout is provided as part of a project- specific APD, ROW or NOS submission.

Gas Gathering

The gas gathering pipeline is made of steel line pipe, surface is bare pipe and buried is of coated with fusion bonded epoxy coating (or equivalent). The individual segments will be denoted in site-specific APDs.

Liquid Gathering

The individual segments will be denoted in site-specific APDs.

Pipeline Gathering Construction

Gas gathering pipeline(s), gas lift, or liquids pipelines may be constructed to lie on the surface or be buried. The road and/or well pad may be utilized for construction activities and staging when the pipeline is adjacent to the road or well pad. The area of disturbance during construction from

the edge of road or well pad and for surface and buried pipelines including cross country will typically be 45' temporary disturbance. In addition, KMG requests a permanent 30' disturbance width that will be maintained for the portion adjacent to the road as well as cross country lines. The need for the 30' of permanent disturbance width is for maintenance and repairs.

Above-ground installation will generally not require clearing of vegetation or blading of the surface, except where safety considerations necessitate earthwork. If installation cannot occur on the exact location, pipe may be constructed parallel and adjacent to a road and lifted from the road to the pipeline route. In other cases where a pipeline route is not parallel and adjacent to a road (cross-country between sites), it will be welded/fused in place at a well pad, access road, or designated work area and pulled between connection locations with a suitable piece of equipment. Buried pipelines will generally be installed parallel and adjacent to existing and/or newly constructed roads and within the permitted disturbance corridor. Buried pipelines may vary from 2" (typically fuel gas lines) to 24" (typically transportation lines) in diameter, but 6" to 16 "is typical for a buried gas line. The diameter of liquids pipelines may vary from 2" to 12", but 6" is the typical diameter. Gas lift lines may vary from 2" to 12" diameter, but 6" diameter pipes are generally used for gas lift. If two or more pipelines are present (gas gathering, gas lift, and fluids), they will share a common trench where possible.

When installing a buried pipeline, typically topsoil will be removed, windrowed and placed on the non-working side of the route for later reclamation. Because working room is limited, the spoil may be spread out across the working side and construction will take place on the spoil. The working side of the corridor will be used for pipe stringing, bending, welding and equipment travel. Small areas on the working side displaying ruts or uneven ground will be groomed to facilitate the safe passage of equipment. After the pipelines are installed, spoil will be placed back into the trench, and the topsoil will be redistributed over the disturbed corridor prior to final reclamation. Typical depth of the trench will be 6', but depths may vary according to site-specific conditions (presence of bedrock, etc.). The proposed trench width for the pipeline would range from 18"-48".

The pipeline will be welded along the proposed route and lowered into place. Trenching equipment will cut through the soil or into the bedrock and create good backfill, eliminating the need to remove large rocks. The proposed buried pipeline will be visually and radio-graphically inspected and the entire pipeline will be pneumatically or hydrostatically tested before being placed into service. Routine vehicle traffic will be prevented from using pipeline routes as travel ways by posting signs at the route's intersection with an access road.

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

If pipelines or roads encounter a drainage that could be subject to flooding or surface water during extreme precipitation events, KMG will apply all applicable Army Corps mandates as

well as the BLM's Hydraulic Considerations for pipeline Crossings of Stream Channels (BLM Technical Note 423, April 2007). In addition, all stream and drainage crossings will be evaluated to determine the need for stream alteration permits from the State of Utah Division of Water Rights and if necessary, required permits will be secured. Similarly, where a road or pipeline crossing exists the pipe will be butt welded and buried to a depth between 24 and 48 inches or more. Dirt roads will be cut and restored to a condition equivalent to the existing condition. All Uintah County road encroachment and crossing permits, where applicable, will be obtained prior to crossing construction. In no case will pressure testing of pipelines result in discharge of liquids to the surface.

Pipeline signs will be installed along the route to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves and lateral T's will be installed at various locations for production integrity and safety purposes.

Upon completion of the proposed buried pipeline, the entire area of disturbance will be reclaimed to the standards proposed in the Green River District Reclamation Guidelines. Please refer to section J for more details regarding final reclamation.

When no longer deemed necessary by the operator, KMG or its successor will consult with the BLM, Vernal Field Office before terminating of the use of the pipeline(s).

The Anadarko Completions Transportation System (ACTS) information:

For individual APDs, refer to Exhibit C for the proposed placement of the ACTS temporary lines.

KMG will use either a closed loop drilling system that will require one pit and one storage area to be constructed on the drilling pad or a traditional drilling operation with one pit. The storage area will be used to contain only the de-watered drill cuttings and will be lined and reclaimed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion pit is lined and will be used for the wells drilled on the pad or used as part of our ACTS system which is discussed in more detail below. Using the closed loop drilling system will allow KMG to decrease the amount of disturbance/footprint on location compared to a single large drilling/completion pit.

If KMG does not use a closed loop system, it will construct a drilling reserve pit to contain drill cuttings and for use in completion operations. Depending on the location of the pit, its relation to future drilling locations, the reserve/completion pit may be utilized for the completion of the wells on that pad and/or be used as part of our ACTS system. KMG will use ACTS to optimize the completion processes for multiple pads across the project area which may include up to a section of development. ACTS will facilitate management of completion fluids by utilizing existing reserve pits, or newly constructed completion pits, as well as temporary, surface-laid aluminum liquids transfer lines between pad locations. The pit will be refurbished as follows when a traditional drill pit is used, including mix and pile up drill cuttings with dry dirt, bury the original liner in the pit, walk bottom of pit with cat. KMG will reline the pit with a 30 mil liner and double felt padding. The refurbished or newly constructed pit will be the same size or

smaller as specified in the originally approved ROW/APD. The pit refurbish will be done in a normal procedure and there will be no modification to the pit. All four sides of the completions pit will be fenced in according to standard pit fencing procedures. Netting will be installed over all pits.

Any hydrocarbons collected will be treated and sold at approved sales facilities. A loading/unloading rack with drip containment will also be installed where water trucks would unload and load to prevent damage caused from pulling hoses in and out of the pit.

ACTS will require temporarily laying multiple 6 inch aluminum water transfer lines on the surface between either existing or refurbished reserve pits. The temporary aluminum transfer lines will be utilized to transport completion fluid being injected and/or recovered during the completion process and will be laid adjacent to existing access roads or pipeline corridors. Upon conclusion of the completion operation, the liquids transfer lines will be flushed with fresh water and purged with compressed air. The contents of the transfer lines will be flushed into a water truck for delivery to another ACTS location or a reserve pit.

The volume of frac fluid transported through a water transfer line will vary, but volume is projected to be approximately 1.75 bbls per 50-foot joint. Although the maximum working pressure is 125 psig, the liquids transfer lines will be operated at a pressure of approximately 30 to 40 psig. KMG will keep the netted pit open for one year from first production of the first produced well on the pad. During this time the surrounding well location completion fluids may be recycled in this pit and utilized for other completion jobs in the area. After one year KMG will backfill the pit and reclaim. If the pit is not needed for an entire year it will be backfilled and reclaimed earlier. KMG understands that due to the temporary nature of this system, BLM considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BLM.

E. Location and Types of Water Supply:

Water for drilling and completion operations will be obtained from the following sources:
JD Field Services:

Green River: 1087' FSL & 1020' FEL, Sec. 15 – T2N – R22E

RN Industries:

High Pressure: 705' FNL & 675' FWL, Sec. 1 – T6S – R22E
1057' FNL & 390' FWL, Sec. 1 – T6S – R22E
1239' FNL & 52' FEL, Sec. 6 – T6S – R23E

White River: 501' FNL & 1676' FEL, Sec. 9 – T8S – R20E
471' FNL & 1676' FEL, Sec. 9 – T8S – R20E
900' FNL & 550' FEL, Sec. 35 – T9S – R22E
200' FNL & 950' FEL, Sec. 2 – T10S – R22E
275' FSL & 2275' FEL, Sec. 2 – T10S – R22E
122' FSL & 1350' FEL, Sec. 11 – T10S – R22E
1670' FSL & 500' FEL, Sec. 12 – T10S – R22E

Water Plant: 959' FNL & 705' FEL, Sec. 13 – T10S – R22E
600' FSL & 900' FEL, Sec. 13 – T10S – R22E
481' FNL & 2176' FEL, Sec. 9 – T8S – R20E
471' FNL & 2176' FEL, Sec. 9 – T8S – R20E

Frog Pond: 4820' FNL & 1200' FWL, Sec. 33 – T8S – R20E
4850' FNL & 700' FWL, Sec. 33 – T8S – R20E

Blue Tanks: 200' FNL & 405' FEL, Sec. 32 – T4S – R3E

Bugsy's Water Source:
Green River: N 2090' & W 30' from E1/4 corner of Sec. 33 – T8S – R20E

Underground Water Well: N 1850' & W 425' from E1/4 corner of Sec. 33 – T8S – R20E

Water will be hauled to location over the roads marked in the individual APD's Maps A and B.

F. Construction Materials:

Construction operations will typically be completed with native materials found on location. Construction materials imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source (described in site-specific documents). No construction materials will be removed from Federal lands without notifying the BLM. A proposed source location other than an on-location construction site will be designated either via a map or narrative within the project specific materials provided to the BLM.

G. Methods for Handling Waste:

All wastes subject to regulation will be handled in compliance with applicable laws to minimize the potential for leaks or spills to the environment. KMG maintains a Spill Control and Countermeasure Plan for each applicable location, which includes notification requirements, to the BLM and other appropriate agencies, for all reportable spills of oil, produced liquids, and hazardous materials.

Any accidental release, such as a leak or spill in excess of the reportable quantity, as established by 40 CFR Part 117.3, will be reported as per the requirements of Comprehensive Environmental Response, Compensation, and Liability Act, Section 102 B. If a release involves petroleum hydrocarbons or produced liquids, KMG will comply with the notification requirements of NTL-3A.

Drill cuttings and/or drilling fluids may be contained in a reserve/completion pit whether a closed loop system is or isn't utilized and cuttings may be buried in the pit(s) upon closure. Unless specifically approved by the BLM, no oil or other oil-based drilling additives,

chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

If utilizing a closed loop system, drill cuttings and/or drilling fluids may be stored in above ground containers while on the location. All used drilling fluids may be hauled to Anadarko Petroleum Corporation's Mud Plant where it may be recycled for use at future well locations, hauled to a permitted disposal facility, or solidified for incorporation into the pad during interim reclamation practices. Drill cuttings from a closed loop system may be either hauled to an approved Utah Department of Oil, Gas and Mining Commercial Landfarm Disposal Facility or incorporated into the pad location during interim reclamation.

Pits will be constructed to eliminate the accumulation of surface precipitation runoff into the pit (via appropriate placement of subsoil storage areas and/or construction of berms, ditches, etc). Should unexpected liquid petroleum hydrocarbons (crude oil or condensate) be encountered during drilling, completions or well testing, liquid petroleum hydrocarbons will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Netting will be placed over pits before any liquids are discharged into pit. Should hydrocarbons be released into a reserve/completion pit, they will be removed as soon as practical and before the netting is removed from the pit. Similarly, hydrocarbon removal will take place prior to the closure of the pit, unless authorization is provided for disposal via alternate pit closure methods (e.g. solidification).

The reserve and/or completion pit will be lined with a synthetic material 30 mil or thicker liner. The bottom and side walls of the pit will be void of any sharp rocks that could puncture the liner. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. After evaporation and when dry, the reserve pit liners will be cut off, ripped and/or folded back (as safety considerations allow) as near to the mud surface as possible and buried on location or hauled to a landfill prior to backfilling the pit with a minimum of five feet of soil material.

Where necessary and if conditions allow, produced liquids from newly completed wells may be temporarily disposed of into pits for a period not to exceed 90 days as per OSO 7. Subsequently, permanent approved produced water disposal methods will be employed in accordance with OSO 7 and/or as described in a Water Management Plan (WMP). Revisions to the water source or method of transportation will be subject to written approval from the BLM.

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

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after one year from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and

the pit reclaimed. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility. Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash receptacles will be collected and removed from the well location.

For the protection of livestock and wildlife, all open pits (excluding flare pits) will be fenced or netted to prevent wildlife or livestock entry.

Maximum distance between fence posts shall be no greater than 16 feet. Siphons, catchments, and absorbent pads will be installed to keep hydrocarbons produced by the drilling rig or other equipment on location from entering the reserve pit. Hydrocarbons, contaminated pads, and/or soils will be disposed of in accordance with state and federal requirements.

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

Materials Management

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

Hazardous materials may be contained in some grease or lubricants, solvents, acids, paint, and herbicides, among others as defined above. KMG maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used during the course of construction, drilling, completion, and production operations for this project. The transport, use, storage and handling of hazardous materials will follow procedures specified by federal and state regulations. Transportation of hazardous materials to the well location is regulated by the Department of Transportation (DOT) under 49 CFR, Parts 171-180. DOT regulations pertain to the packing, container handling, labeling, vehicle placarding, and other safety aspects.

Potentially hazardous materials used in the development or operation of wells will be kept in limited quantities on well sites and at the production facilities for short periods of time.

Chemicals meeting the criteria for being an acutely hazardous material/substance or meet the quantities criteria per BLM Instruction Memorandum No. 93-344 will not be used. Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities (crude oil/condensate, produced water). They may also be kept in limited quantities on drilling sites (barite, diesel fuel, cement, cottonseed hulls etc.) for short periods of time during drilling or completion activities.

Any produced water separated from recoverable condensate during well operations will be contained in a water tank and will then be transported by pipeline and/or truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E
NBU #159 in Sec. 35 T9S R21E
Ace Oilfield in Sec. 2 T6S R20E
MC&MC in Sec. 12 T6S R19E
Pipeline Facility in Sec. 36 T9S R20E
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E
Bonanza Evaporation Pond in Sec. 2 T10S R23E

Or to one of the following KMG active Salt Water Disposal (SWD) wells:

NBU 159 SWD in Sec. 35 T9S R21E
CIGE 112D SWD in Sec. 19 T9S R21E
CIGE 114 SWD in Sec. 34 T9S R21E
NBU 921-34K SWD in Sec. 34 T9S R21E
NBU 921-33F SWD in Sec. 34 T9S R21E

H. Ancillary Facilities:

If additional ancillary facilities are planned they will be depicted on site specific APDs.

I. Well Site Layout:

The location, orientation and aerial extent of each drill pad, reserve/completion/flare pit (for closed loop or non-closed loop operations), access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure, proposed cuts and fills, and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable.

Site-specific conditions may require slight deviation in actual equipment depending on whether a closed loop system is used. Surface distance may be less if using closed loop. But in either case, the area of disturbance will not exceed the maximum disturbance outlined in the attached exhibits of the APDs.

Each well will utilize either a centralized tank battery, centralized fluids management system, or have tanks installed on its pad. Production/Produced Liquid tanks will be constructed,

maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks will be kept reasonably free from surface accumulations of liquid hydrocarbons. The tanks are not to be used for disposal of liquids from additional sources without prior approval of BLM.

J. Plans for Surface Reclamation:

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

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

Interim Reclamation

Interim reclamation may include pit evaporation, fluid removal, pit solidification, re-contouring, incorporation of cuttings, ripping, spreading top soil, seeding, and/or weed control. Interim reclamation will be performed in accordance with OSO 1, or written notification will be provided to the BLM for approval. Where feasible, drilling locations, reserve pits, or access routes not utilized for production operations will be re-contoured to a natural appearance.

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

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit. Disposal of pit fluids and linings is discussed in Section G.

Final Reclamation

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

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as close as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring the site and prior to replacing topsoil, final grading and site preparation will be conducted over the entire surface of the well site and access road. The area will be ripped to a depth no greater than 6 inches on 18 to 24-inch centers and the surface soil material will be uniformly pitted with longitudinal depressions perpendicular to the natural flow of water where practical. Following site preparation, topsoil will be spread on the location and prepared for seeding.

Reclamation of roads will be performed at the discretion of the BLM. All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 6 to 24 inches where practical, re-contoured to approximate the original contour of the ground and seeded in accordance with the seeding specifications of the BLM.

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

Measures Common to Interim and Final Reclamation

Soil tillage will be conducted using a disk in areas needing additional seedbed preparation following site preparation. This will provide primary soil tillage to a depth no greater than 6 inches. Prior to reseeding, compacted areas will be scarified by ripping or chiseling to loosen compacted soils, promote water infiltration, and improve soil aeration and root penetration.

Seeding will occur during optimal soil conditions and will typically be accomplished through the use of a no-till rangeland style seed drill with a "picker box." Additionally an imprinter seeder may be used. An imprinter seeder creates divots to roughen the surface and collect moisture to aid in seed germination. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The seed mixes will be selected from a list provided by or approved by the BLM, or a specific seed mix will be proposed by KMG to the BLM and used after its approval. The selected specific seed mix for each well location and road segment will be utilized while performing interim and final reclamation for each project. All seed will be certified and tags will be

maintained by KMG. Every effort will be made to obtain “cheat grass free seed” and noxious weed free seed.

Seed Mix to be used for Well Site, Access Road, and Pipeline (as applicable):

Bonanza Area Mix **Pure Live Seed lbs/acre**

Crested Wheat (Hycrest)	1.5
Bottlebrush Squirreltail	1
Western Wheatgrass (Arriba)	1
Thick Spike Wheatgrass	1.5
Indian Ricegrass	1
Fourwing Saltbush	2
Shadscale	2
Forage Kochia	0.25
Rocky Mountain Bee Plant	0.5
Total	10.75

Natural Buttes Area Mix Option 1: **Pure Live Seed lbs/acre**

Indian Ricegrass (Nezpar)	3
Thick Spike Wheatgrass	2
Sandberg bluegrass	0.5
Bottlebrush squirreltail	1
Crested wheatgrass (Hycrest)	1
Winterfat	0.25
Shadscale	1.5
Four-wing saltbush	0.75
Forage Kochia	0.25
Total	10.25

Natural Buttes Area Mix Option 2: **Pure Live Seed lbs/acre**

Galleta Grass	0.5
Great Basin Wildrye	0.5
Thickspike Wheatgrass	2.5
Indian Ricegrass (Nezpar)	1
Crested Wheatgrass	1
Siberian Wheatgrass	1
Bottlebrush Squirreltail	1
Munro Globemallow	0.1
Palmer Penstemon	0.1
Rocky Mtn beeplant	0.5
Western yarrow	0.1
Shadscale	0.5
Forage Kochia	0.5
Total	9.3

Natural Buttes Area Mix Option 3: **Pure Live Seed lbs/acre**

Galleta Grass	2
Sandberg bluegrass	0.5
Shadscale	0.5
Bluebunch (secar)	2
Indian Ricegrass (Nezpar)	2
Western Wheatgrass (Arriba)	2
Palmer penstemon	0.25
Munro Globemallow	0.15
Black Sage	0.25
Winterfat	0.25
Forage Kochia	0.25
Total	10.15

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Where severe erosion can become a problem and/or the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. Slopes will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to: erosion control blankets, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage. Soil amendments such as "Sustain" (an organic fertilizer that will be applied at the rate 1,800 – 2,100 lbs/acre with seed) may also be dry broadcast or applied with hydro-seeding equipment.

Weed Control

All weed management will be done in accordance with the Vernal BLM Surface Disturbance Weed Policy. Noxious weeds will be controlled, as applicable, on project areas. Monitoring and management of noxious and/or invasive weeds of concern will be completed annually until the project is deemed successfully reclaimed by the surface management agency and/or owner according to the Anadarko Integrated Weed Management Plan. Noxious weed infestations will be mapped using a GPS unit and submitted to the BLM with information required in the Vernal BLM Surface Disturbance Weed Policy. If herbicide is to be applied it will be done according to an approved Pesticide Use Proposal (PUP), inclusive of applicable locations. All pesticide applications will be recorded using a Pesticide Application Record (PAR) and will be submitted along with a Pesticide Use Report (PUR) annually prior to Dec. 31.

Monitoring

Monitoring of reclaimed project areas will be completed annually during the growing season and actions to ensure reclamation success will be taken as needed. During the first two growing seasons an ocular methodology will be used to determine the success of the reclamation activities. During the 3rd growing season a 100 point line intercept (quantitative) methodology will be used to obtain basal cover. The goal is to have the reclaimed area reach 30% basal cover when compared to the reference site. If after three growing seasons the area has not reached 30% basal cover, additional reclamation activities may be necessary. Monitoring will continue until the reclaimed area reaches 75% basal cover of desirable vegetation when compared to the reference site. (Green River District Reclamation Guidelines).

All monitoring reports will be submitted electronically to the Vernal BLM in the form of a geo-database no later than March 1st of the calendar year following the data collection.

K. Surface/Mineral Ownership:

Depicted on site specific APDs.

L. Other Information:

Cultural and Paleontological Resources

All personnel are strictly prohibited from collecting artifacts, any paleontological specimens or fossils, and from disturbing any significant cultural resources in the area. If artifacts, fossils, or any culturally sensitive materials are exposed or identified in the area of construction, all construction operations that would affect the newly discovered resource will cease, and KMG will provide immediate notification to the BLM or appropriate SMA.

Resource Reports

Appropriate archaeological and paleontological reconnaissance surveys and biological field surveys will be completed and provide to the BLM for individual APDs.

Proposed Action Annual Emissions Tables:

Appendix A through G contains the emission table per pad based on well count.

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

Depicted on site specific APDs.

Appendix A:

Proposed Action Annual Emissions Tables: 4 Well Pad

Table 1: Proposed Action Annual Emissions (tons/year)¹			
Pollutant	Development	Production	Total
NO _x	3.8	1.2	5
CO	2.2	1.08	3.28
VOC	0.1	6.8	6.9
SO ₂	0.005	0.01	0.02
PM ₁₀	1.7	0.11	1.81
PM _{2.5}	0.4	0.05	0.45
Benzene	2.20E-03	0.12	0.12
Toluene	1.60E-03	0.2	0.2
Ethylbenzene	3.40E-04	0.01	0.01
Xylene	1.10E-03	0.09	0.09
n-Hexane	1.70E-04	0.51	0.51
Formaldehyde	1.30E-02	1.30E-04	1.31E-02

¹ Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory ^a (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NO _x	5	16,547	0.03%
VOC	6.9	127,495	0.01%

^a http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html

Uintah Basin Data

Appendix B:

Proposed Action Annual Emissions Tables: 5 Well Pad

Table 1: Proposed Action Annual Emissions (tons/year) ¹			
Pollutant	Development	Production	Total
NO _x	3.8	1.5	5.3
CO	2.2	1.08	3.28
VOC	0.1	8.5	8.6
SO ₂	0.005	0.01	0.02
PM ₁₀	1.7	0.11	1.81
PM _{2.5}	0.4	0.05	0.45
Benzene	2.20E-03	0.12	0.12
Toluene	1.60E-03	0.2	0.2
Ethylbenzene	3.40E-04	0.01	0.01
Xylene	1.10E-03	0.09	0.09
n-Hexane	1.70E-04	0.51	0.51
Formaldehyde	1.30E-02	1.30E-04	1.31E-02

¹ Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory ^a (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NOx	5.3	16,547	0.03%
VOC	8.6	127,495	0.01%

^a http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html

Uintah Basin Data

Appendix C:

Proposed Action Annual Emissions Tables: 6 Well Pad

Table 1: Proposed Action Annual Emissions (tons/year) ¹			
Pollutant	Development	Production	Total
NOx	3.8	1.8	5.6
CO	2.2	1.08	3.28
VOC	0.1	10.2	10.3
SO ₂	0.005	0.01	0.02
PM ₁₀	1.7	0.11	1.81
PM _{2.5}	0.4	0.05	0.45
Benzene	2.20E-03	0.12	0.12
Toluene	1.60E-03	0.2	0.2
Ethylbenzene	3.40E-04	0.01	0.01
Xylene	1.10E-03	0.09	0.09
n-Hexane	1.70E-04	0.51	0.51
Formaldehyde	1.30E-02	1.30E-04	1.31E-02

¹ Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison			
Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory ^a (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NOx	5.6	16,547	0.03%
VOC	10.3	127,495	0.01%

^a http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.htmlUintah Basin
Data**Appendix D:****Proposed Action Annual Emissions Tables: 7 Well Pad**

Table 1: Proposed Action Annual Emissions (tons/year)¹			
Pollutant	Development	Production	Total
NOx	3.8	2.1	5.9
CO	2.2	1.08	3.28
VOC	0.1	11.9	12
SO ₂	0.005	0.01	0.02
PM ₁₀	1.7	0.11	1.81
PM _{2.5}	0.4	0.05	0.45
Benzene	2.20E-03	0.12	0.12
Toluene	1.60E-03	0.2	0.2
Ethylbenzene	3.40E-04	0.01	0.01
Xylene	1.10E-03	0.09	0.09
n-Hexane	1.70E-04	0.51	0.51
Formaldehyde	1.30E-02	1.30E-04	1.31E-02

¹ Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison			
Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory^a (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NOx	5.9	16,547	0.03%
VOC	12	127,495	0.01%

^a http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.htmlUintah Basin
Data**Appendix E:****Proposed Action Annual Emissions Tables: 8 Well Pad**

Table 1: Proposed Action Annual Emissions (tons/year)¹
--

Pollutant	Development	Production	Total
NOx	3.8	2.4	6.2
CO	2.2	1.08	3.28
VOC	0.1	13.6	13.7
SO ₂	0.005	0.01	0.02
PM ₁₀	1.7	0.11	1.81
PM _{2.5}	0.4	0.05	0.45
Benzene	2.20E-03	0.12	0.12
Toluene	1.60E-03	0.2	0.2
Ethylbenzene	3.40E-04	0.01	0.01
Xylene	1.10E-03	0.09	0.09
n-Hexane	1.70E-04	0.51	0.51
Formaldehyde	1.30E-02	1.30E-04	1.31E-02

¹ Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison			
Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory ^a (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NOx	6.2	16,547	0.03%
VOC	13.7	127,495	0.01%

^a http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html

Uintah Basin
Data

Appendix F:

Proposed Action Annual Emissions Tables: 10 Well Pad

Table 1: Proposed Action Annual Emissions (tons/year)¹			
Pollutant	Development	Production	Total
NOx	3.8	3	6.8
CO	2.2	1.08	3.28
VOC	0.1	17	17.1
SO ₂	0.005	0.01	0.02

PM ₁₀	1.7	0.11	1.81
PM _{2.5}	0.4	0.05	0.45
Benzene	2.20E-03	0.12	0.12
Toluene	1.60E-03	0.2	0.2
Ethylbenzene	3.40E-04	0.01	0.01
Xylene	1.10E-03	0.09	0.09
n-Hexane	1.70E-04	0.51	0.51
Formaldehyde	1.30E-02	1.30E-04	1.31E-02

¹ Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory ^a (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NO _x	6.8	16,547	0.03%
VOC	17.1	127,495	0.01%

^a http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html

Uintah Basin Data

Appendix G:

Proposed Action Annual Emissions Tables: 12 Well Pad

Pollutant	Development	Production	Total
NO _x	3.8	3.6	7.4
CO	2.2	1.08	3.28
VOC	0.1	20.4	20.5
SO ₂	0.005	0.01	0.02
PM ₁₀	1.7	0.11	1.81
PM _{2.5}	0.4	0.05	0.45

Benzene	2.20E-03	0.12	0.12
Toluene	1.60E-03	0.2	0.2
Ethylbenzene	3.40E-04	0.01	0.01
Xylene	1.10E-03	0.09	0.09
n-Hexane	1.70E-04	0.51	0.51
Formaldehyde	1.30E-02	1.30E-04	1.31E-02

¹ Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory ^a (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NOx	7.4	16,547	0.03%
VOC	20.5	127,495	0.01%

^a http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html

Uintah Basin
Data

Appendix G:

Proposed Action Annual Emissions Tables: 15 Well Pad

Pollutant	Development	Production	Total
NOx	3.8	4.5	8.3
CO	2.2	1.08	3.28
VOC	0.1	25.5	25.6
SO ₂	0.005	0.01	0.02
PM ₁₀	1.7	0.11	1.81
PM _{2.5}	0.4	0.05	0.45
Benzene	2.20E-03	0.12	0.12
Toluene	1.60E-03	0.2	0.2
Ethylbenzene	3.40E-04	0.01	0.01
Xylene	1.10E-03	0.09	0.09
n-Hexane	1.70E-04	0.51	0.51
Formaldehyde	1.30E-02	1.30E-04	1.31E-02

¹ Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory^a (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NOx	8.3	16,547	0.03%
VOC	25.6	127,495	0.01%

^a http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html

Uintah Basin
Data

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
440 West 200 South, Suite 500
Salt Lake City, UT 84101

IN REPLY REFER TO:
3160
(UT-922)

July 21, 2014

Memorandum

To: Assistant Field Office Manager Minerals,
Vernal Field Office

From: Michael Coulthard, Petroleum Engineer

Subject: 2014 Plan of Development Natural Buttes Unit
Uintah County, Utah.

Pursuant to email between Diana Mason, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2014 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
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(Proposed PZ WASATCH-MESA VERDE)

NBU 921-19K PAD

43-047-54592	NBU 921-19M1BS	Sec 19 T09S R21E 1863 FSL 1985 FWL
	BHL	Sec 19 T09S R21E 1089 FSL 0886 FWL

43-047-54594	NBU 921-19K4BS	Sec 19 T09S R21E 1892 FSL 1989 FWL
	BHL	Sec 19 T09S R21E 1917 FSL 2314 FWL

43-047-54595	NBU 921-19K1CS	Sec 19 T09S R21E 1902 FSL 1991 FWL
	BHL	Sec 19 T09S R21E 2251 FSL 2315 FWL

43-047-54597	NBU 921-19L4CS	Sec 19 T09S R21E 1873 FSL 1986 FWL
	BHL	Sec 19 T09S R21E 1424 FSL 0886 FWL

43-047-54598	NBU 921-19K4CS	Sec 19 T09S R21E 1883 FSL 1988 FWL
	BHL	Sec 19 T09S R21E 1584 FSL 2313 FWL

NBU 921-19C PAD

43-047-54593	NBU 921-19C1CS	Sec 19 T09S R21E 0521 FNL 2183 FWL
	BHL	Sec 19 T09S R21E 0417 FNL 2321 FWL

43-047-54617	NBU 921-19D1BS	Sec 19 T09S R21E 0523 FNL 2153 FWL
	BHL	Sec 19 T09S R21E 0066 FNL 0890 FWL

43-047-54620	NBU 921-19C4BS	Sec 19 T09S R21E 0522 FNL 2173 FWL
	BHL	Sec 19 T09S R21E 0751 FNL 2320 FWL

NBU 921-19L PAD

43-047-54596	NBU 921-19K1BS	Sec 19 T09S R21E 2587 FSL 1540 FWL
	BHL	Sec 19 T09S R21E 2584 FSL 2315 FWL

43-047-54602	NBU 921-19D4CS	Sec 19 T09S R21E 2626 FSL 1536 FWL
	BHL	Sec 19 T09S R21E 1253 FNL 0889 FWL

RECEIVED: July 23, 2014

API #	WELL NAME	LOCATION								
(Proposed PZ WASATCH-MESA VERDE)										
NBU 921-19L PAD										
43-047-54603	NBU 921-19E3AS	Sec 19	T09S	R21E	2606	FSL	1538	FWL		
	BHL	Sec 19	T09S	R21E	2353	FNL	0620	FWL		
43-047-54604	NBU 921-19L1CS	Sec 19	T09S	R21E	2567	FSL	1543	FWL		
	BHL	Sec 19	T09S	R21E	2093	FSL	0887	FWL		
43-047-54608	NBU 921-19F1CS	Sec 19	T09S	R21E	2597	FSL	1539	FWL		
	BHL	Sec 19	T09S	R21E	1893	FNL	2303	FWL		
43-047-54611	NBU 921-19L4BS	Sec 19	T09S	R21E	2557	FSL	1544	FWL		
	BHL	Sec 19	T09S	R21E	1758	FSL	0887	FWL		
43-047-54612	NBU 921-19L1BS	Sec 19	T09S	R21E	2577	FSL	1542	FWL		
	BHL	Sec 19	T09S	R21E	2427	FSL	0887	FWL		
NBU 921-19N PAD										
43-047-54599	NBU 921-19N4CS	Sec 19	T09S	R21E	1018	FSL	2831	FWL		
	BHL	Sec 19	T09S	R21E	0252	FSL	2313	FWL		
43-047-54600	NBU 921-19O1BS	Sec 19	T09S	R21E	1014	FSL	2840	FWL		
	BHL	Sec 19	T09S	R21E	1227	FSL	1956	FEL		
43-047-54601	NBU 921-19M4CS	Sec 19	T09S	R21E	1031	FSL	2804	FWL		
	BHL	Sec 19	T09S	R21E	0088	FSL	0888	FWL		
43-047-54606	NBU 921-19O4CS	Sec 19	T09S	R21E	1010	FSL	2849	FWL		
	BHL	Sec 19	T09S	R21E	0210	FSL	1955	FEL		
43-047-54607	NBU 921-19M4BS	Sec 19	T09S	R21E	1035	FSL	2795	FWL		
	BHL	Sec 19	T09S	R21E	0420	FSL	0886	FWL		
43-047-54621	NBU 921-19N4BS	Sec 19	T09S	R21E	1027	FSL	2813	FWL		
	BHL	Sec 19	T09S	R21E	0583	FSL	2311	FWL		
43-047-54622	NBU 921-19N2AS	Sec 19	T09S	R21E	1040	FSL	2786	FWL		
	BHL	Sec 19	T09S	R21E	1085	FSL	2061	FWL		
NBU 921-19J PAD										
43-047-54605	NBU 921-19G4CS	Sec 19	T09S	R21E	2034	FSL	2193	FEL		
	BHL	Sec 19	T09S	R21E	2575	FNL	1960	FEL		
43-047-54609	NBU 921-19G4BS	Sec 19	T09S	R21E	2039	FSL	2202	FEL		
	BHL	Sec 19	T09S	R21E	2243	FNL	1961	FEL		
43-047-54618	NBU 921-19J1BS	Sec 19	T09S	R21E	2030	FSL	2184	FEL		
	BHL	Sec 19	T09S	R21E	2411	FSL	1959	FEL		
43-047-54619	NBU 921-19J4CS	Sec 19	T09S	R21E	2026	FSL	2175	FEL		
	BHL	Sec 19	T09S	R21E	1557	FSL	1957	FEL		
NBU 921-19I PAD										
43-047-54610	NBU 921-19P1CS	Sec 19	T09S	R21E	1614	FSL	0906	FEL		
	BHL	Sec 19	T09S	R21E	1046	FSL	0533	FEL		
43-047-54613	NBU 921-19I4BS	Sec 19	T09S	R21E	1652	FSL	0873	FEL		
	BHL	Sec 19	T09S	R21E	1908	FSL	0531	FEL		
43-047-54614	NBU 921-19I1BS	Sec 19	T09S	R21E	1637	FSL	0886	FEL		
	BHL	Sec 19	T09S	R21E	2569	FSL	0532	FEL		

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
NBU 921-19I PAD		
43-047-54615	NBU 921-19H4CS	Sec 19 T09S R21E 1629 FSL 0893 FEL
	BHL	Sec 19 T09S R21E 2402 FNL 0533 FEL
43-047-54616	NBU 921-19H4BS	Sec 19 T09S R21E 1622 FSL 0899 FEL
	BHL	Sec 19 T09S R21E 2071 FNL 0533 FEL

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

Michael Coulthard

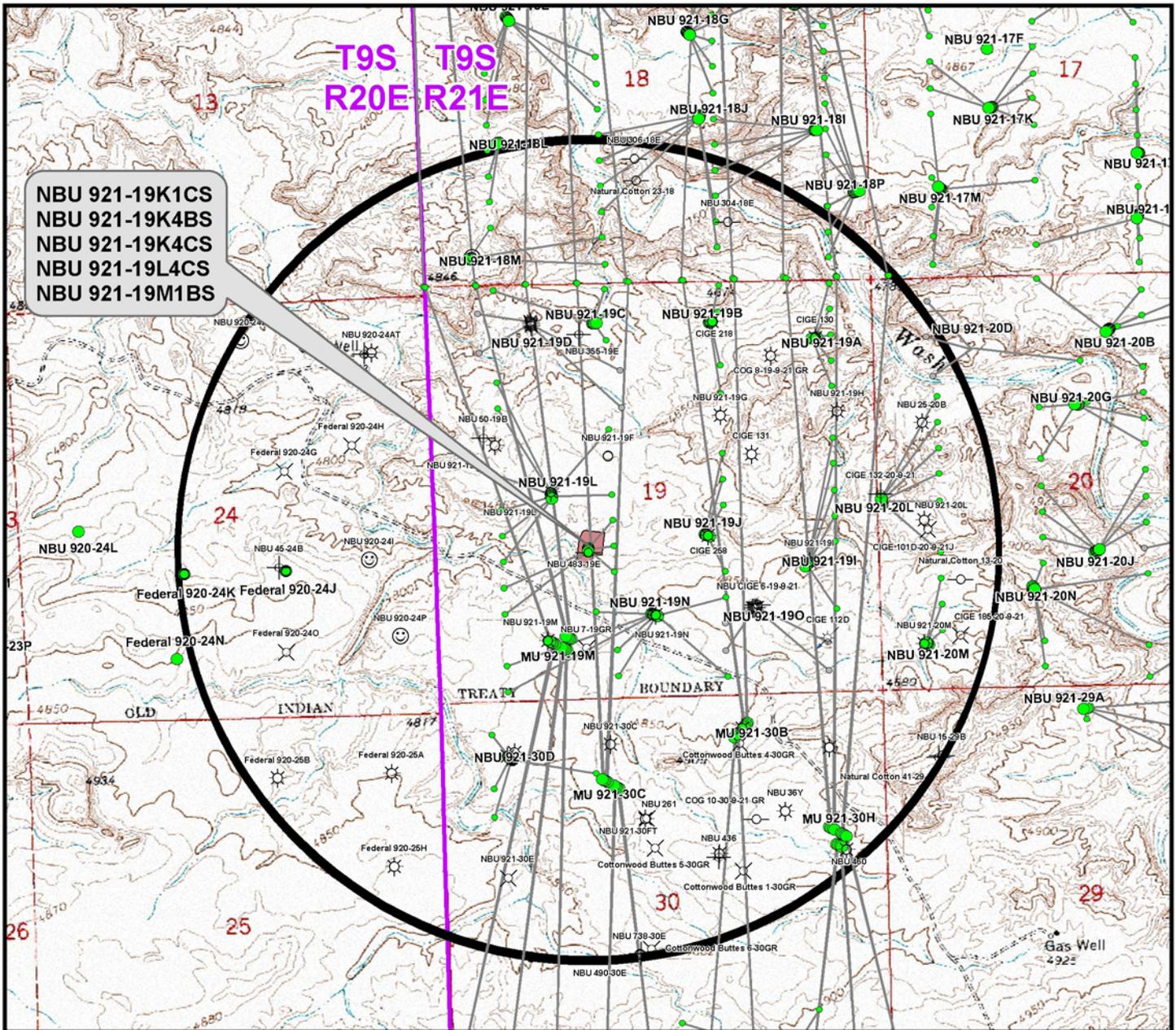
Digitally signed by Michael Coulthard
DN: cn=Michael Coulthard, o=Bureau of Land
Management, ou=Division of Minerals,
email=mcoultha@blm.gov, c=US
Date: 2014.07.21 09:18:53 -06'00'

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

MCoulthard:mc:7-21-14

RECEIVED: July 23, 2014

API	Well name	Surface Location
43-047-54592	NBU 921-19M1BS	Sec 19 T09S R21E 1863 FSL 1985 FWL
43-047-54593	NBU 921-19C1CS	Sec 19 T09S R21E 0521 FNL 2183 FWL
43-047-54594	NBU 921-19K4BS	Sec 19 T09S R21E 1892 FSL 1989 FWL
43-047-54595	NBU 921-19K1CS	Sec 19 T09S R21E 1902 FSL 1991 FWL
43-047-54596	NBU 921-19K1BS	Sec 19 T09S R21E 2587 FSL 1540 FWL
43-047-54597	NBU 921-19L4CS	Sec 19 T09S R21E 1873 FSL 1986 FWL
43-047-54598	NBU 921-19K4CS	Sec 19 T09S R21E 1883 FSL 1988 FWL
43-047-54599	NBU 921-19N4CS	Sec 19 T09S R21E 1018 FSL 2831 FWL
43-047-54600	NBU 921-19O1BS	Sec 19 T09S R21E 1014 FSL 2840 FWL
43-047-54601	NBU 921-19M4CS	Sec 19 T09S R21E 1031 FSL 2804 FWL
43-047-54602	NBU 921-19D4CS	Sec 19 T09S R21E 2626 FSL 1536 FWL
43-047-54603	NBU 921-19E3AS	Sec 19 T09S R21E 2606 FSL 1538 FWL
43-047-54604	NBU 921-19L1CS	Sec 19 T09S R21E 2567 FSL 1543 FWL
43-047-54605	NBU 921-19G4CS	Sec 19 T09S R21E 2034 FSL 2193 FEL
43-047-54606	NBU 921-19O4CS	Sec 19 T09S R21E 1010 FSL 2849 FWL
43-047-54607	NBU 921-19M4BS	Sec 19 T09S R21E 1035 FSL 2795 FWL
43-047-54608	NBU 921-19F1CS	Sec 19 T09S R21E 2597 FSL 1539 FWL
43-047-54609	NBU 921-19G4BS	Sec 19 T09S R21E 2039 FSL 2202 FEL
43-047-54610	NBU 921-19P1CS	Sec 19 T09S R21E 1614 FSL 0906 FEL
43-047-54611	NBU 921-19L4BS	Sec 19 T09S R21E 2557 FSL 1544 FWL
43-047-54612	NBU 921-19L1BS	Sec 19 T09S R21E 2577 FSL 1542 FWL
43-047-54613	NBU 921-19I4BS	Sec 19 T09S R21E 1652 FSL 0873 FEL
43-047-54614	NBU 921-19I1BS	Sec 19 T09S R21E 1637 FSL 0886 FEL
43-047-54615	NBU 921-19H4CS	Sec 19 T09S R21E 1629 FSL 0893 FEL
43-047-54616	NBU 921-19H4BS	Sec 19 T09S R21E 1622 FSL 0899 FEL
43-047-54617	NBU 921-19D1BS	Sec 19 T09S R21E 0523 FNL 2153 FWL
43-047-54618	NBU 921-19J1BS	Sec 19 T09S R21E 2030 FSL 2184 FEL
43-047-54619	NBU 921-19J4CS	Sec 19 T09S R21E 2026 FSL 2175 FEL
43-047-54620	NBU 921-19C4BS	Sec 19 T09S R21E 0522 FNL 2173 FWL
43-047-54621	NBU 921-19N4BS	Sec 19 T09S R21E 1027 FSL 2813 FWL
43-047-54622	NBU 921-19N2AS	Sec 19 T09S R21E 1040 FSL 2786 FWL



NBU 921-19K1CS
 NBU 921-19K4BS
 NBU 921-19K4CS
 NBU 921-19L4CS
 NBU 921-19M1BS

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 921-19K1CS	NBU 483-19E	517ft
NBU 921-19K4BS	NBU 483-19E	336ft
NBU 921-19K4CS	NBU 483-19E	427ft
NBU 921-19L4CS	NBU 921-19M	878ft
NBU 921-19M1BS	NBU 921-19M	647ft

Legend

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

WELL PAD - NBU 921-19K

TOPO C
 NBU 921-19K1CS,
 NBU 921-19K4BS, NBU 921-19K4CS,
 NBU 921-19L4CS & NBU 921-19M1BS
 LOCATED IN SECTION 19, T9S, R21E,
 S.L.B.&M., UINTAH COUNTY, UTAH

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

1099 18th Street
 Denver, Colorado 80202



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

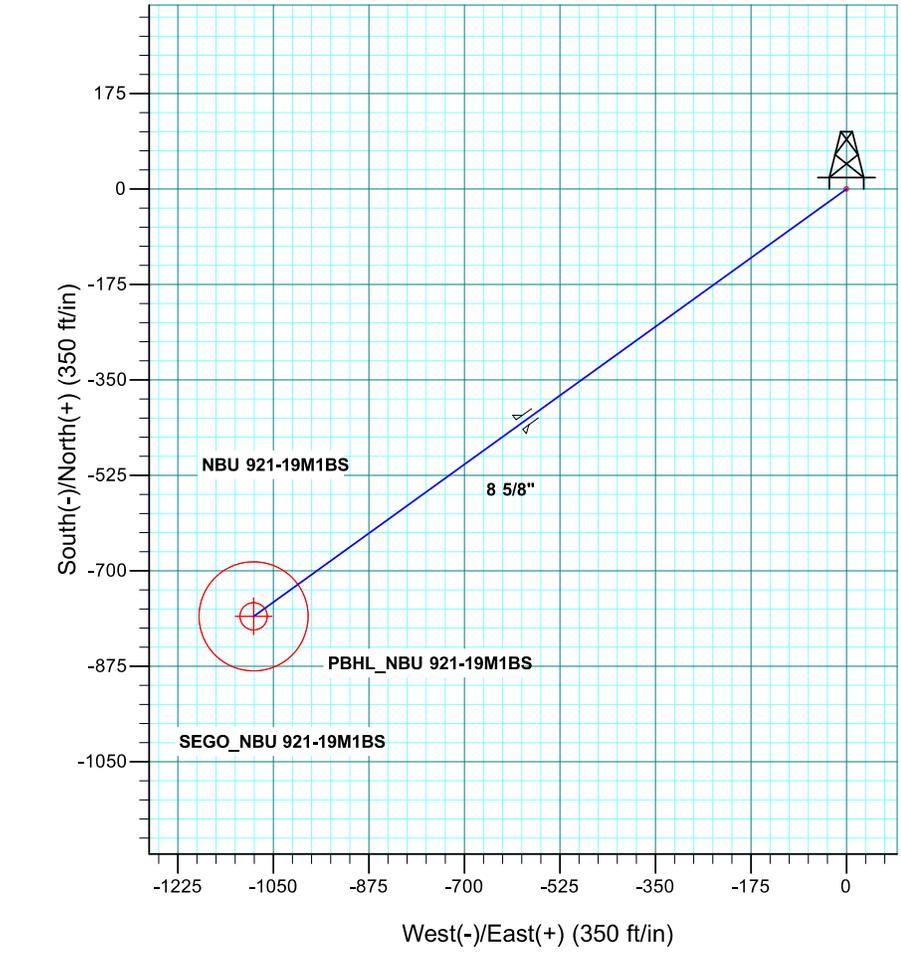
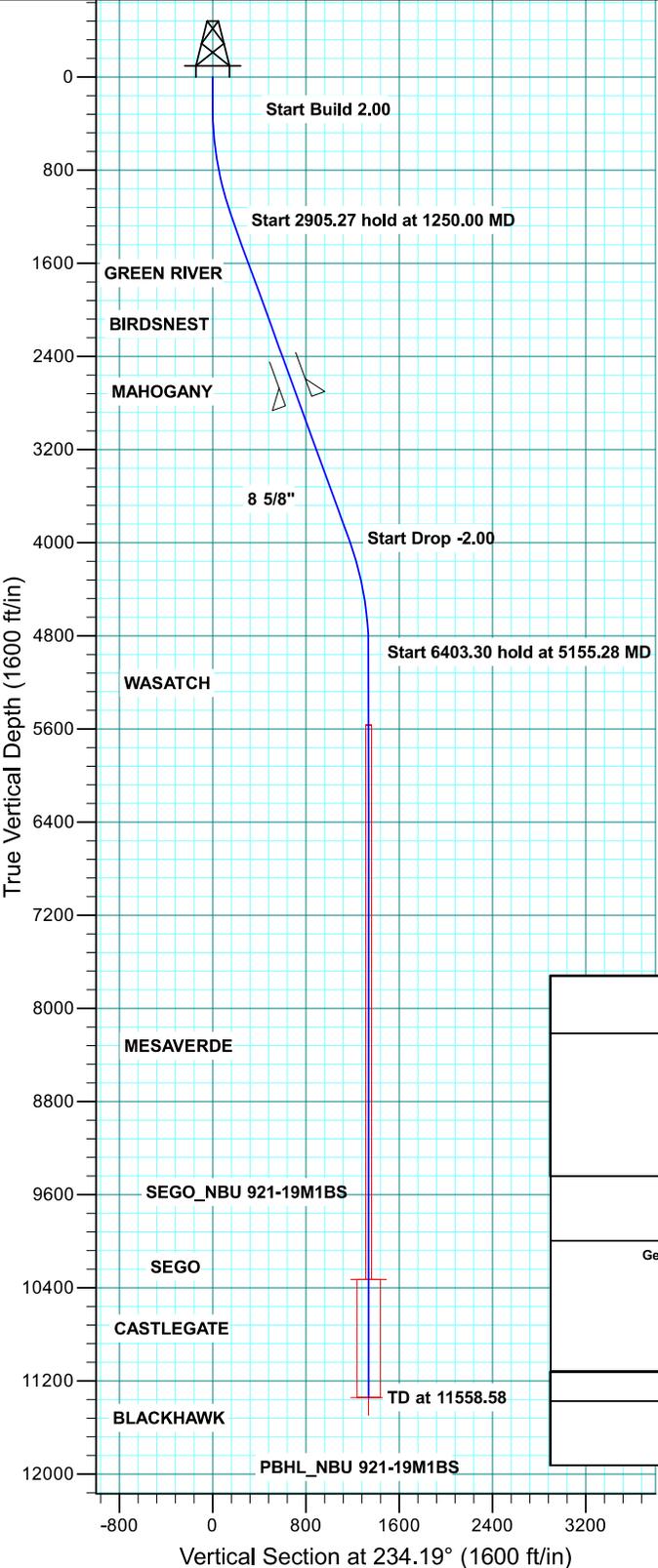
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DRAWN: TL	DATE: 28 Sep 2012	
REVISED:	DATE:	

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T
M
 Azimuths to True North
 Magnetic North: 10.89°
 Magnetic Field
 Strength: 52005.5snT
 Dip Angle: 65.79°
 Date: 11/12/2013
 Model: BGGM2013

WELL DETAILS: NBU 921-19M1BS								
GL 4813 & KB 4 @ 4817.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14536184.68	2033076.28	40.0193603	-109.5975646			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10328.00	-783.48	-1086.10	14535384.21	2032002.65	40.0172090	-109.6014430	Circle (25' Radius)
PBHL	11343.00	-783.48	-1086.10	14535384.21	2032002.65	40.0172090	-109.6014430	Circle (Radius: 100.00)

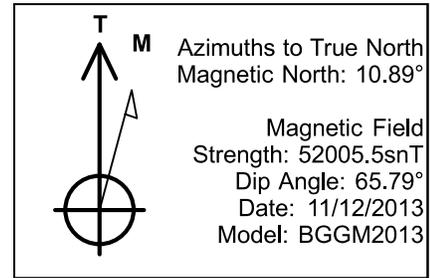


SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
1250.00	20.00	234.19	1229.82	-101.08	-140.12	2.00	234.19	172.77	
4155.27	20.00	234.19	3959.88	-682.40	-945.98	0.00	0.00	1166.43	
5155.28	0.00	0.00	4939.70	-783.48	-1086.10	2.00	180.00	1339.20	
11558.58	0.00	0.00	11343.00	-783.48	-1086.10	0.00	0.00	1339.20	PBHL_NBU 921-19M1BS

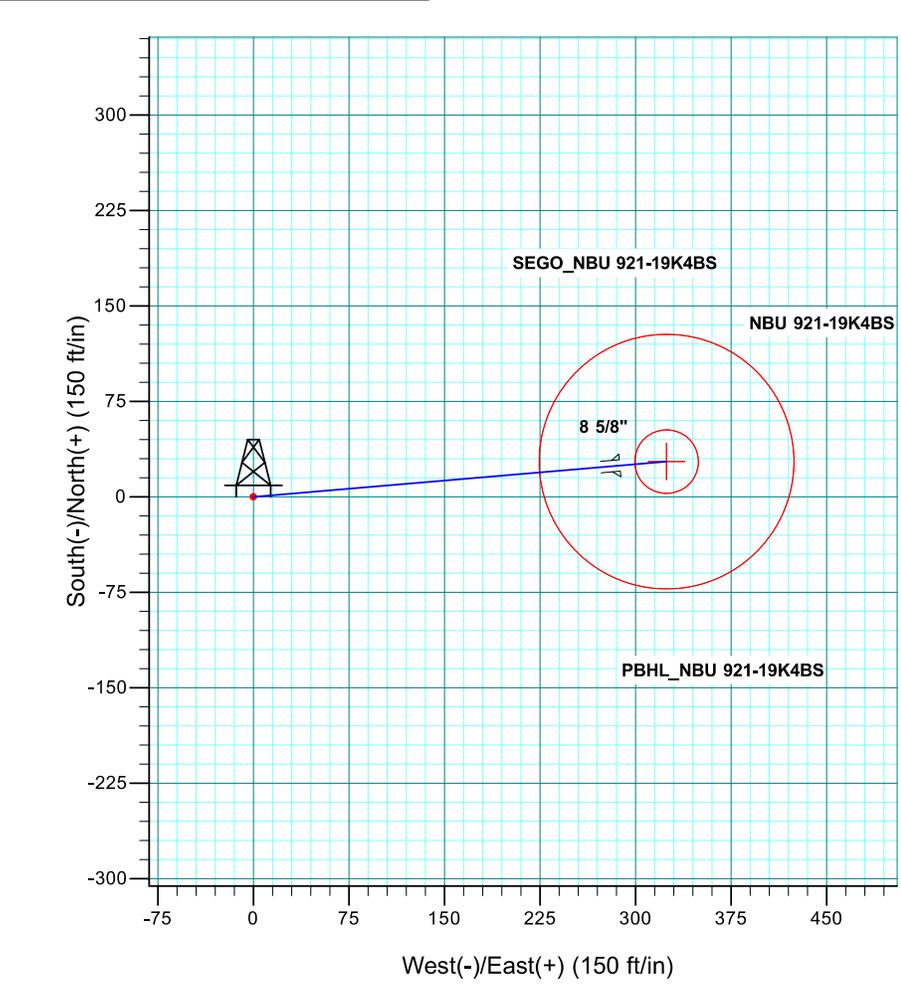
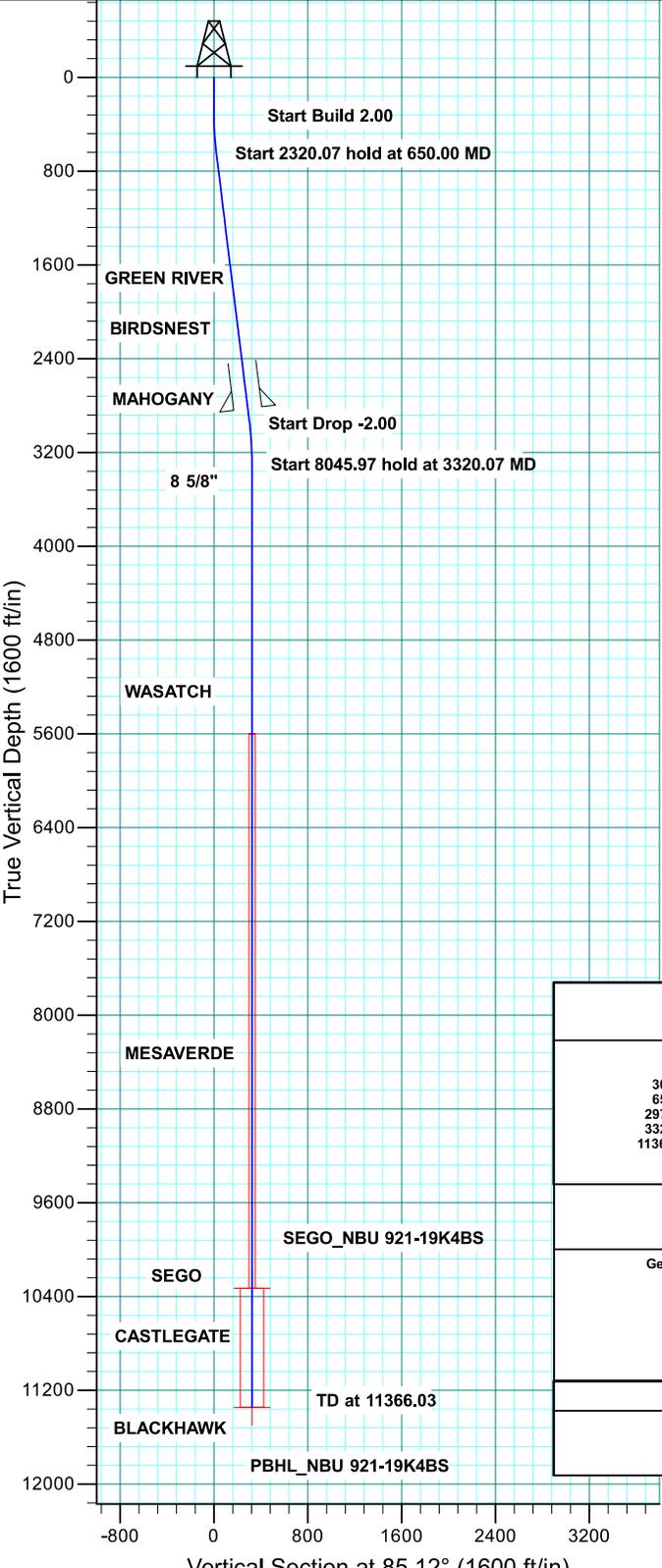
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N		
Geodetic System: Universal Transverse Mercator (US Survey Feet)		
Datum: NAD 1927 (NADCON CONUS)		
Ellipsoid: Clarke 1866		
Zone: Zone 12N (114 W to 108 W)		
Location: SECTION 19 T9S R21E		
System Datum: Mean Sea Level		

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1613.00	1657.78	GREEN RIVER
1862.00	1922.76	BIRDSNEST
2334.00	2425.05	MAHOGANY
4967.00	5182.58	WASATCH
8082.00	8297.58	MESAVERDE
10328.00	10543.58	SEGO
10404.00	10619.58	CASTLEGATE
10743.00	10958.58	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
2784.00	2903.93	8 5/8"	8.625



WELL DETAILS: NBU 921-19K4BS								
GL 4813 & KB 4 @ 4817.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14536214.61	2033080.01	40.0194423	-109.5975496			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10330.00	27.68	324.27	14536247.39	2033403.80	40.0195183	-109.5963916	Circle (25' Radius)
PBHL	11347.00	27.68	324.27	14536247.39	2033403.80	40.0195183	-109.5963916	Circle (Radius: 100.00)



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	
650.00	7.00	85.12	649.13	1.82	21.28	2.00	85.12	21.35	
2970.07	7.00	85.12	2951.90	25.86	303.00	0.00	0.00	304.10	
3320.07	0.00	0.00	3301.03	27.68	324.27	2.00	180.00	325.45	
11366.03	0.00	0.00	11347.00	27.68	324.27	0.00	0.00	325.45	PBHL_NBU 921-19K4BS
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N									
Geodetic System: Universal Transverse Mercator (US Survey Feet)					FORMATION TOP DETAILS				
Datum: NAD 1927 (NADCON CONUS)					TVDPath	MDPath	Formation		
Ellipsoid: Clarke 1866					1640.00	1648.31	GREEN RIVER		
Zone: Zone 12N (114 W to 108 W)					1882.00	1892.13	BIRDSNEST		
Location: SECTION 19 T9S R21E					2376.00	2389.84	MAHOAGANY		
System Datum: Mean Sea Level					5001.00	5020.03	WASATCH		
					8087.00	8106.03	MESAVERDE		
					10330.00	10349.03	SEGO		
					10391.00	10410.03	CASTLEGATE		
					10747.00	10766.03	BLACKHAWK		
CASING DETAILS									
TVD	MD	Name	Size						
2826.00	2843.22	8 5/8"	8.625						

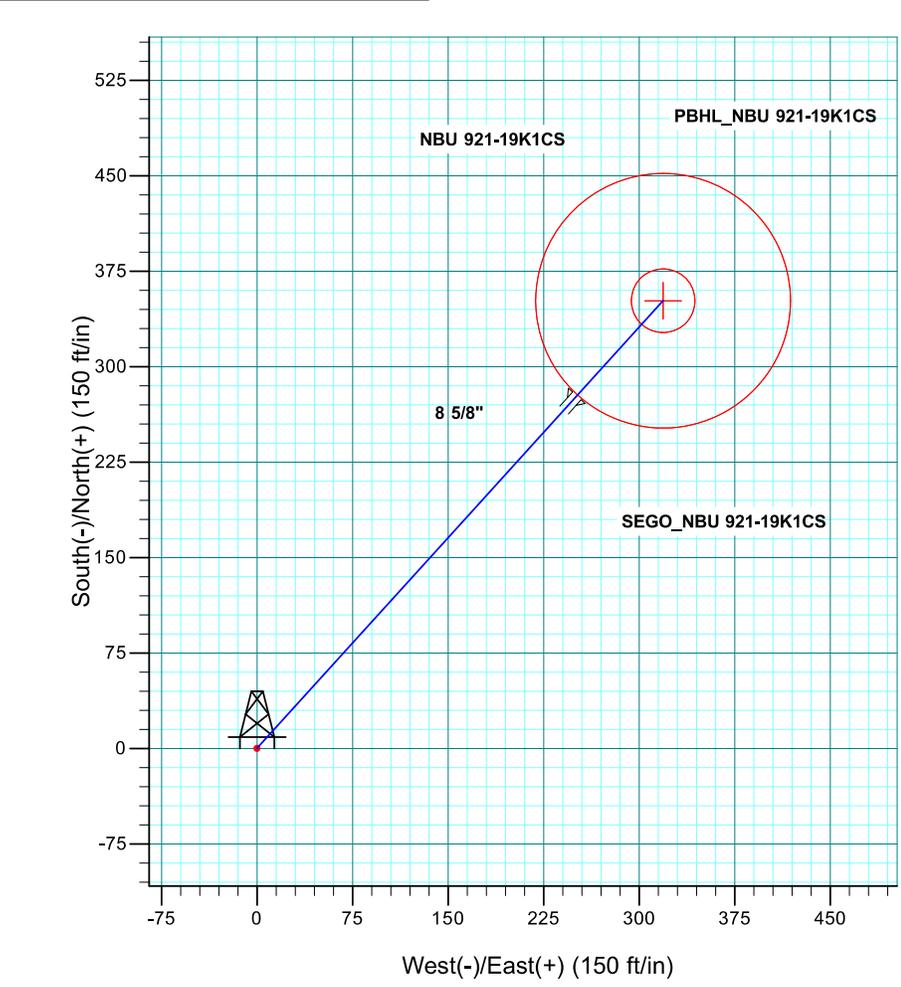
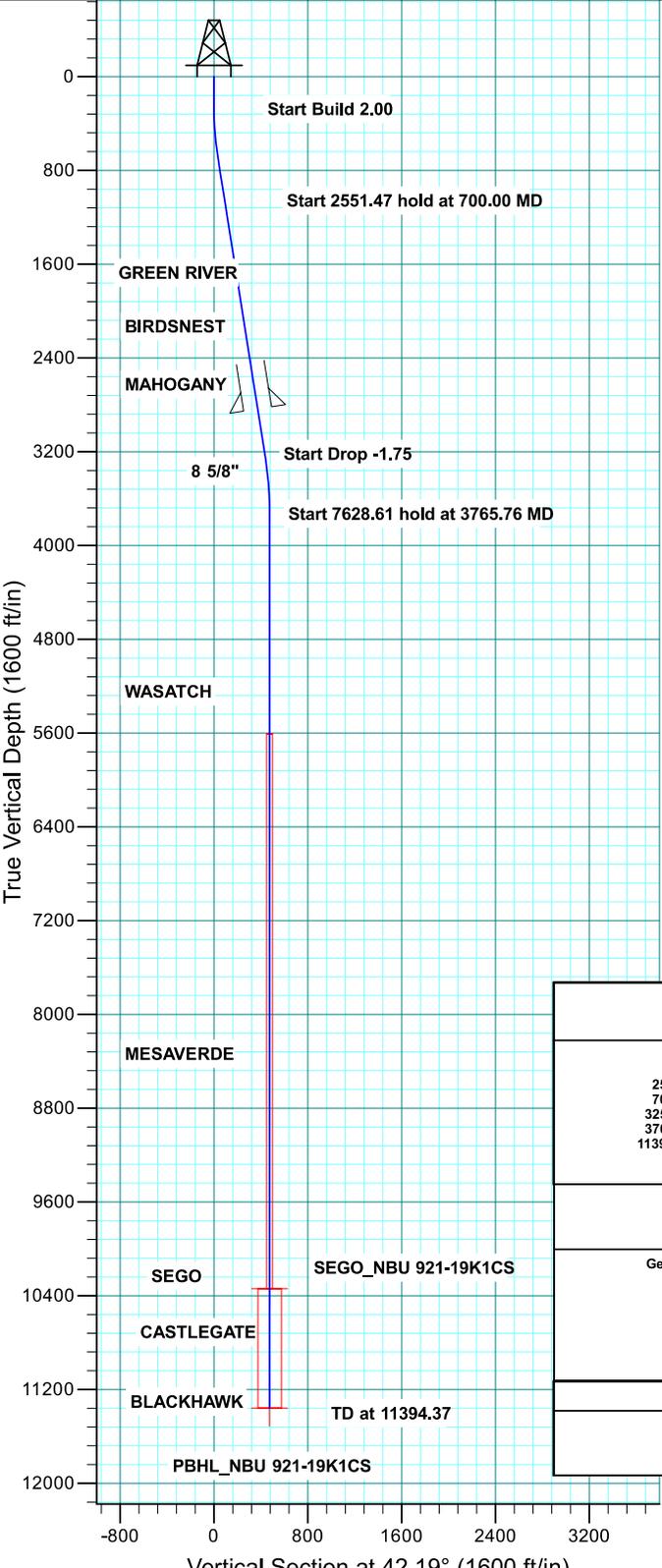


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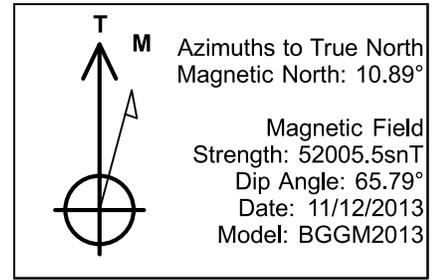
Azimuths to True North
Magnetic North: 10.89°

Magnetic Field
Strength: 52005.6snT
Dip Angle: 65.79°
Date: 11/12/2013
Model: BGGM2013

WELL DETAILS: NBU 921-19K1CS								
GL 4813 & KB 4 @ 4817.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14536224.46	2033080.97	40.0194693	-109.5975456			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10340.00	351.71	318.84	14536581.14	2033394.23	40.0204350	-109.5964070	Circle (25' Radius)
PBHL	11359.00	351.71	318.84	14536581.14	2033394.23	40.0204350	-109.5964070	Circle (Radius: 100.00)



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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
700.00	9.00	42.19	698.15	26.13	23.69	2.00	42.19	35.27	
3251.47	9.00	42.19	3218.21	321.85	291.76	0.00	0.00	434.41	
3765.76	0.00	0.00	3730.39	351.71	318.84	1.75	180.00	474.72	
11394.37	0.00	0.00	11359.00	351.71	318.84	0.00	0.00	474.72	PBHL_NBU 921-19K1CS
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N					FORMATION TOP DETAILS				
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 19 T9S R21E System Datum: Mean Sea Level					TVDPath	MDPath	Formation		
					1646.00	1659.66	GREEN RIVER		
					1891.00	1907.72	BIRDSNEST		
					2386.00	2408.89	MAHOGANY		
					5007.00	5042.37	WASATCH		
					8097.00	8132.37	MESAVERDE		
10340.00	10375.37	SEGO							
10408.00	10443.37	CASTLEGATE							
10759.00	10794.37	BLACKHAWK							
CASING DETAILS									
TVD	MD	Name	Size						
2836.00	2864.50	8 5/8"	8.625						



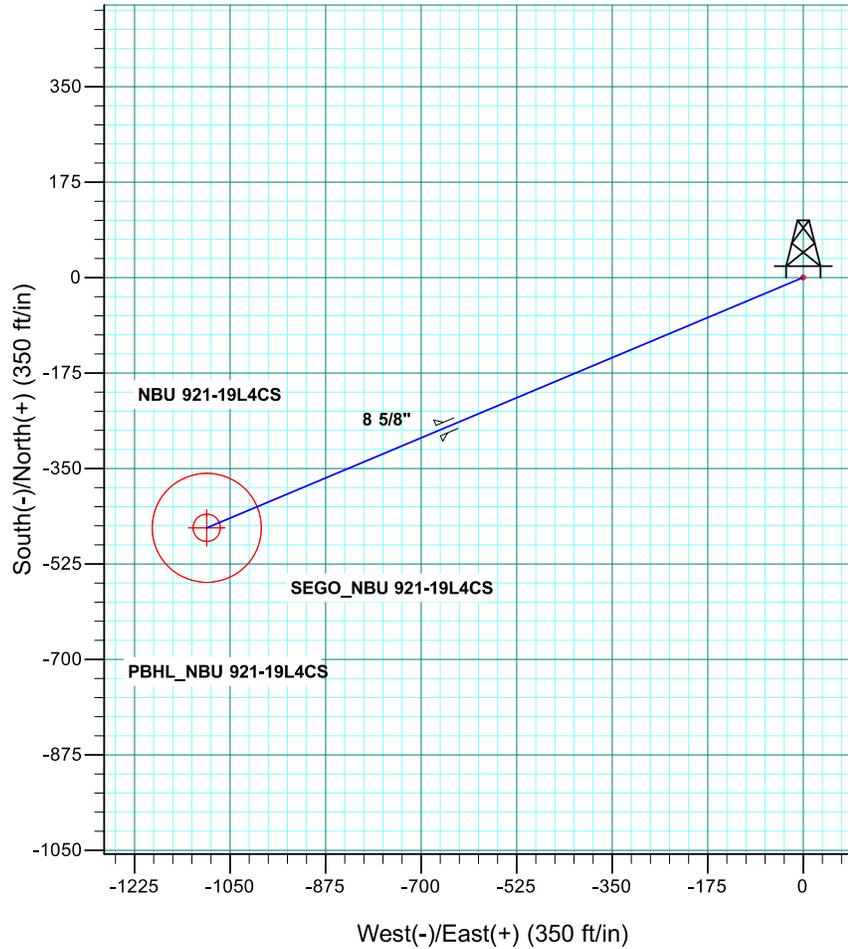
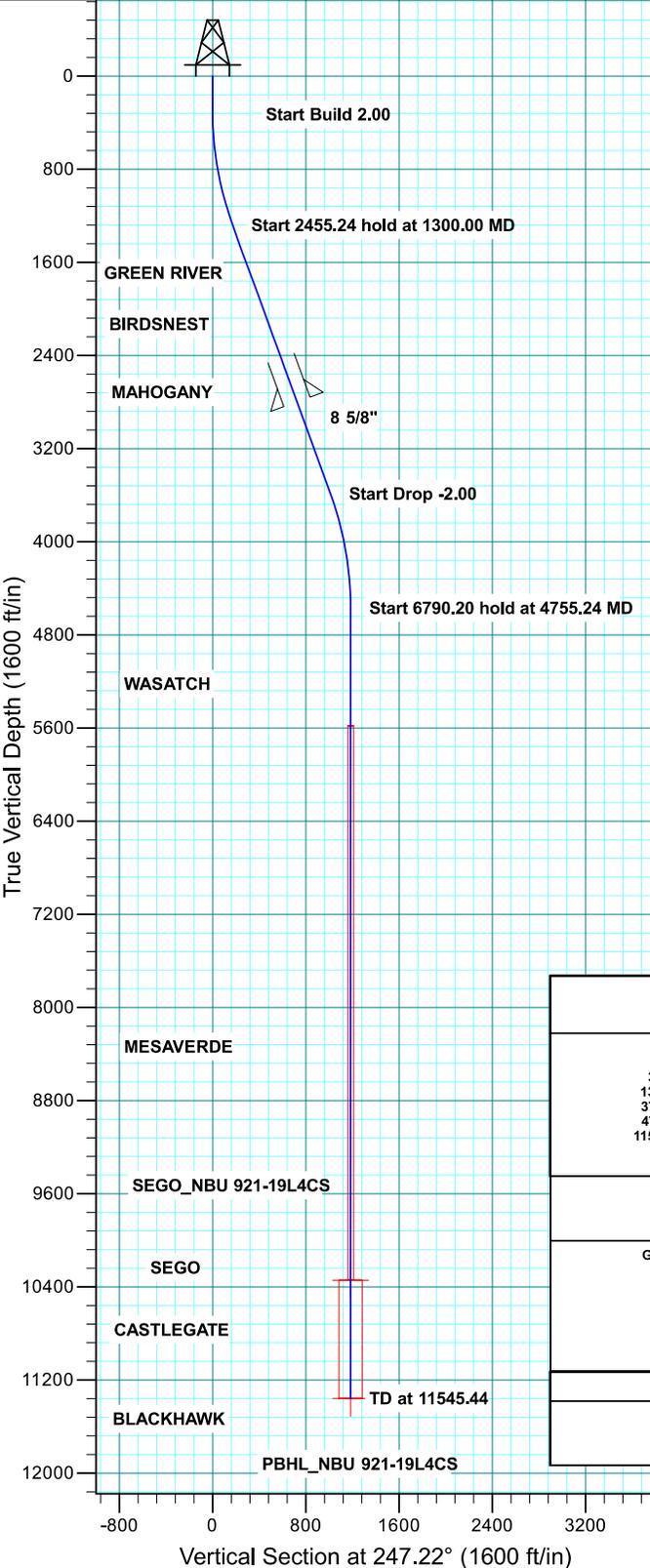
WELL DETAILS: NBU 921-19L4CS

GL 4813 & KB 4 @ 4817.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14536194.90	2033077.52	40.0193883	-109.5975596

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10341.00	-458.98	-1092.81	14535718.78	2031992.07	40.0181280	-109.6014620	Circle (25' Radius)
PBHL	11357.00	-458.98	-1092.81	14535718.78	2031992.07	40.0181280	-109.6014620	Circle (Radius: 100.00)

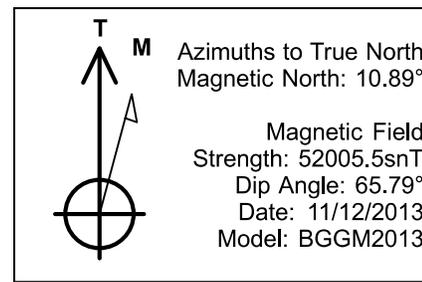


SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1300.00	20.00	247.22	1279.82	-66.90	-159.29	2.00	247.22	172.77	
3755.24	20.00	247.22	3586.99	-392.07	-933.52	0.00	0.00	1012.51	
4755.24	0.00	0.00	4566.80	-458.98	-1092.81	2.00	180.00	1185.28	
11545.44	0.00	0.00	11357.00	-458.98	-1092.81	0.00	0.00	1185.28	PBHL_NBU 921-19L4CS

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 19 T9S R21E		
System Datum: Mean Sea Level		

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1618.00	1659.89	GREEN RIVER
1869.00	1927.00	BIRDSNEST
2347.00	2435.67	MAHOGANY
4930.00	5168.44	WASATCH
8095.00	8293.44	MESAVERDE
10341.00	10529.44	SEGO
10420.00	10608.44	CASTLEGATE
10757.00	10945.44	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
2797.00	2914.55	8 5/8"	8.625



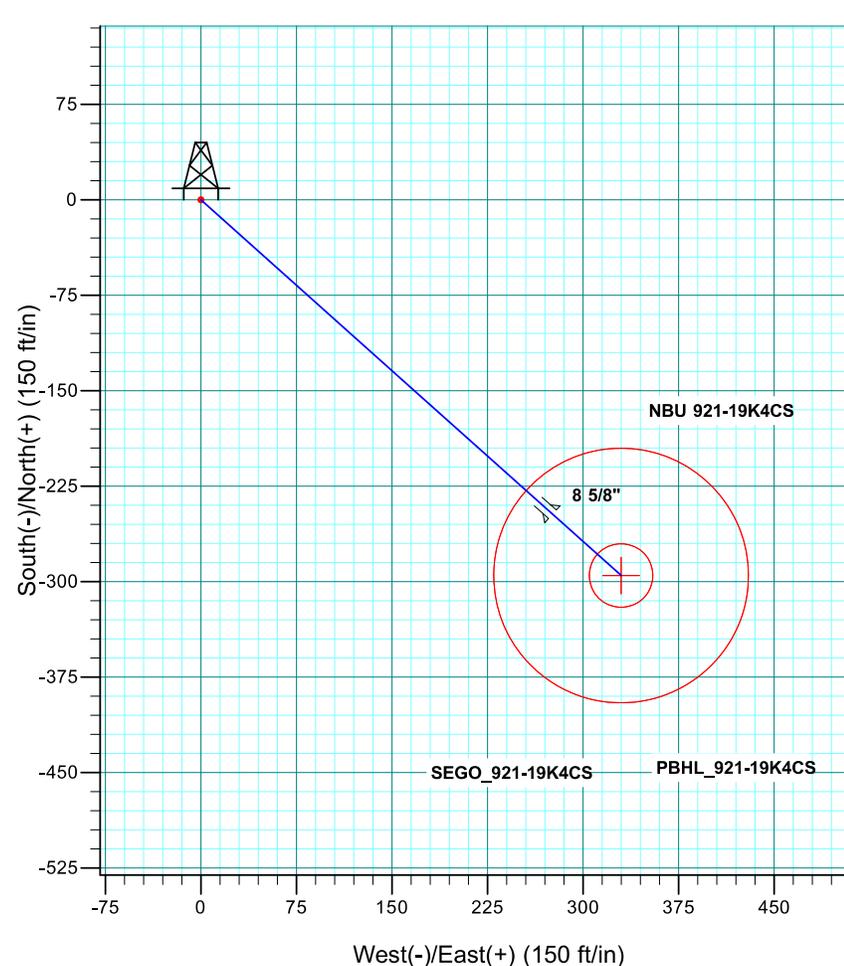
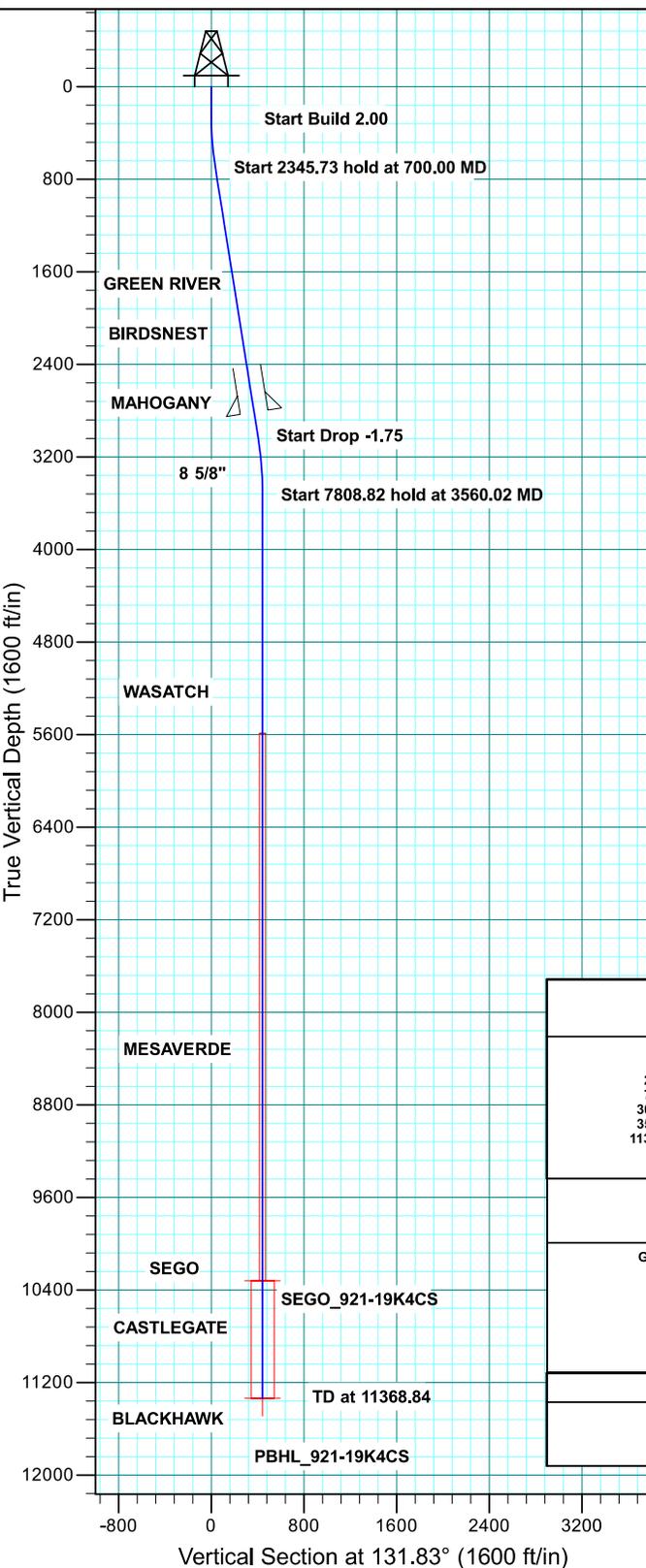
WELL DETAILS: NBU 921-19K4CS

GL 4813 & KB 4 @ 4817.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14536204.75	2033078.76	40.0194153	-109.5975546

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10320.00	-295.11	329.77	14535914.87	2033413.13	40.0186050	-109.5963770	Circle (25' Radius)
PBHL	11336.00	-295.11	329.77	14535914.87	2033413.13	40.0186050	-109.5963770	Circle (Radius: 100.00)



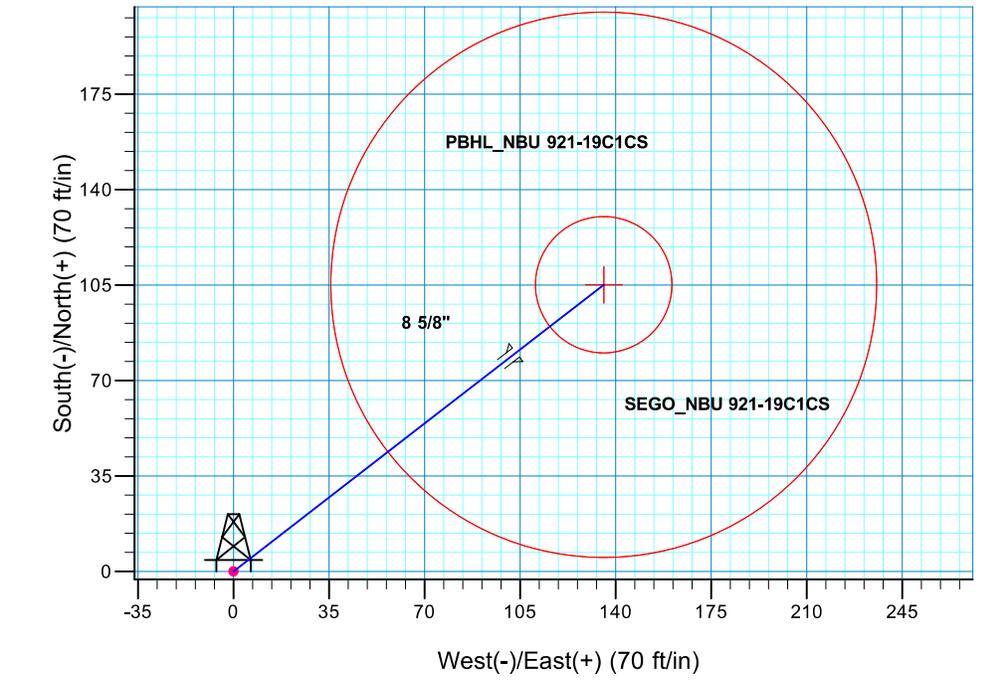
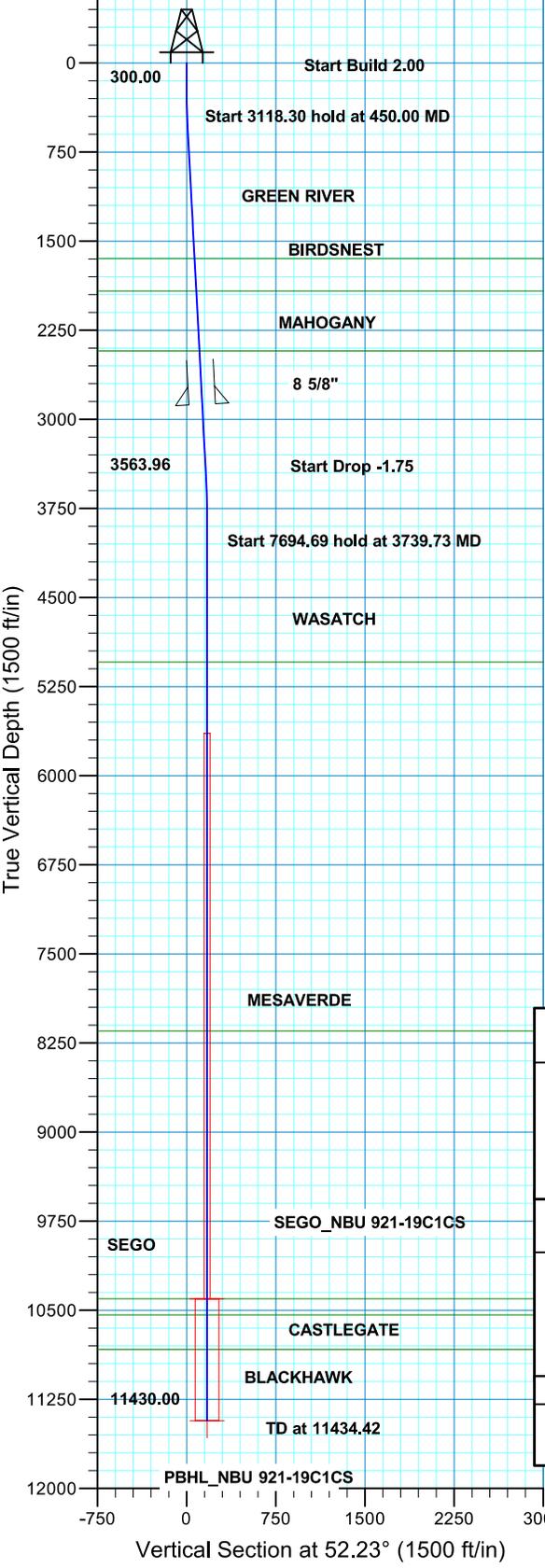
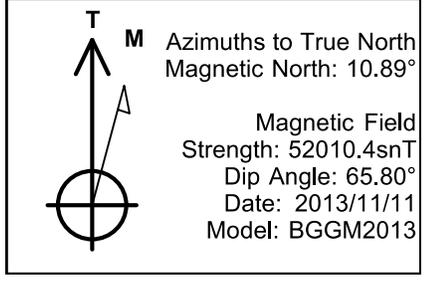
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
700.00	9.00	131.83	698.15	-23.52	26.28	2.00	131.83	35.27	
3045.73	9.00	131.83	3015.00	-268.23	299.73	0.00	0.00	402.22	
3560.02	0.00	0.00	3527.18	-295.11	329.77	1.75	180.00	442.53	
11368.84	0.00	0.00	11336.00	-295.11	329.77	0.00	0.00	442.53	PBHL_921-19K4CS

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 19 T9S R21E	
System Datum:	Mean Sea Level	

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1632.00	1645.49	GREEN RIVER
1874.00	1890.51	BIRDSNEST
2365.00	2367.63	MAHOAGANY
4930.00	5022.84	WASATCH
8078.00	8110.84	MESAVERDE
10320.00	10352.84	SEGO
10378.00	10410.84	CASTLEGATE
10736.00	10768.84	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
2815.00	2843.24	8 5/8"	8.625

WELL DETAILS: NBU 921-19C1CS								
GL 4795 & KB 4 @ 4799.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14539121.05	2033178.77	40.0274174	-109.5970335			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10404.00	105.11	135.66	14539228.29	2033312.75	40.0277060	-109.5965490	Circle (Radius: 25.00)
- plan hits target center								
PBHL	11430.00	105.11	135.66	14539228.29	2033312.75	40.0277060	-109.5965490	Circle (Radius: 100.00)
- plan hits target center								

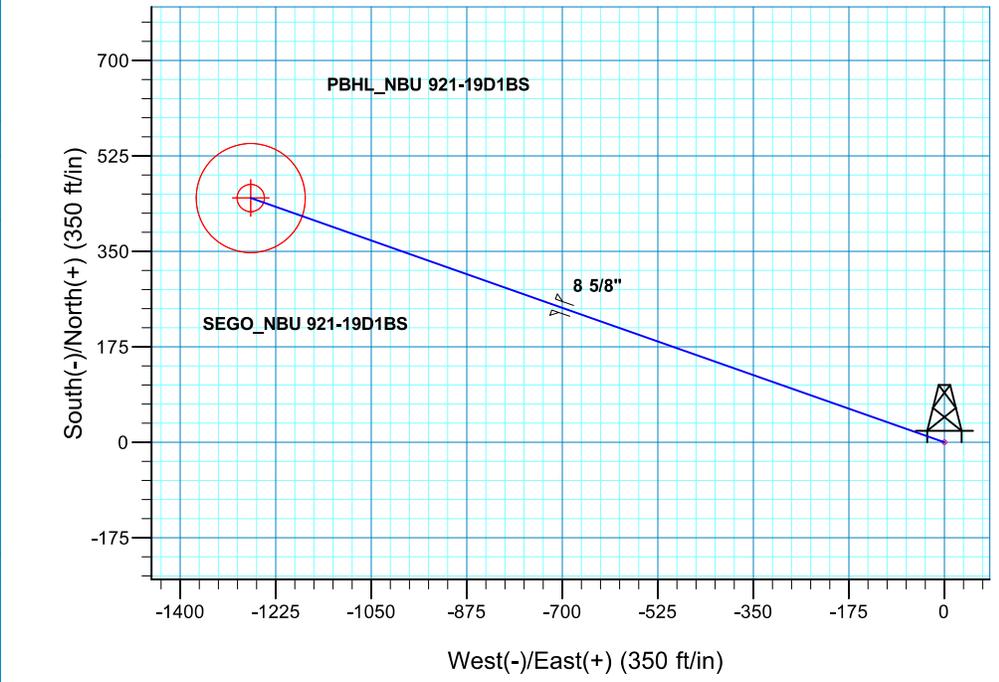
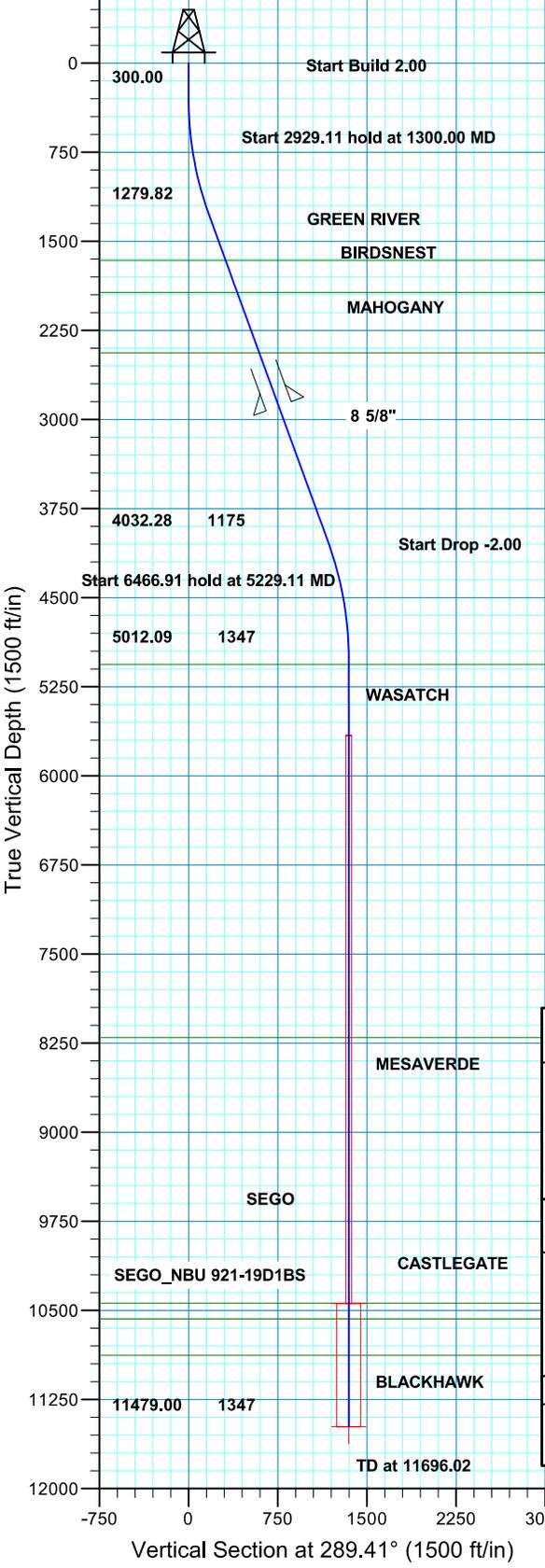
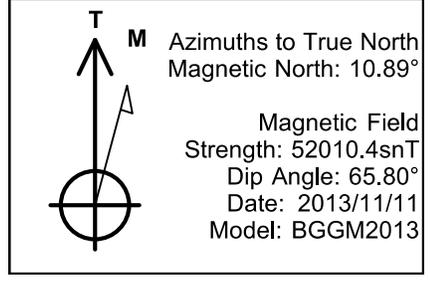


SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
450.00	3.00	52.23	449.93	2.40	3.10	2.00	52.23	3.93	
3568.30	3.00	52.23	3563.96	102.36	132.11	0.00	0.00	167.13	
3739.73	0.00	0.00	3735.31	105.11	135.66	1.75	180.00	171.61	
11434.42	0.00	0.00	11430.00	105.11	135.66	0.00	0.00	171.61	PBHL_NBU 921-19C1CS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N		FORMATION TOP DETAILS		
Geodetic System: Universal Transverse Mercator (US Survey Feet)	Datum: NAD 1927 (NADCON CONUS)	TVDPath	MDPath	Formation
Ellipsoid: Clarke 1866	Zone: Zone 12N (114 W to 108 W)	1646.00	1647.71	GREEN RIVER
Location: SECTION 19 T9S R21E	System Datum: Mean Sea Level	1920.00	1922.00	BIRDSNEST
		2424.00	2426.78	MAHOGANY
		5043.00	5047.42	WASATCH
		8149.00	8153.42	MESAVERDE
		10404.00	10408.42	SEGO
		10539.00	10543.42	CASTLEGATE
		10830.00	10834.42	BLACKHAWK

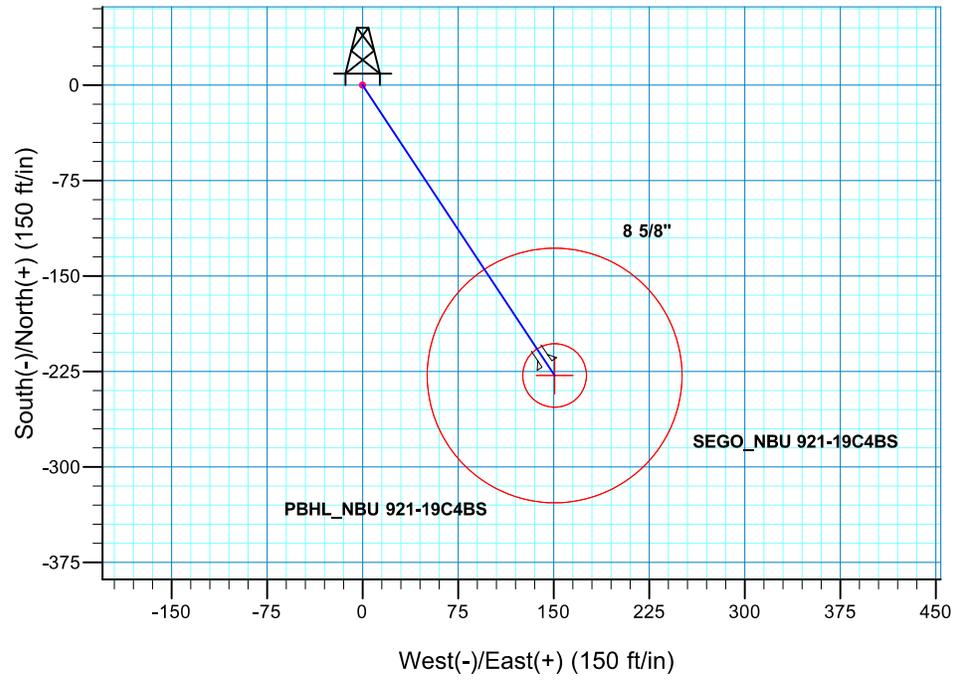
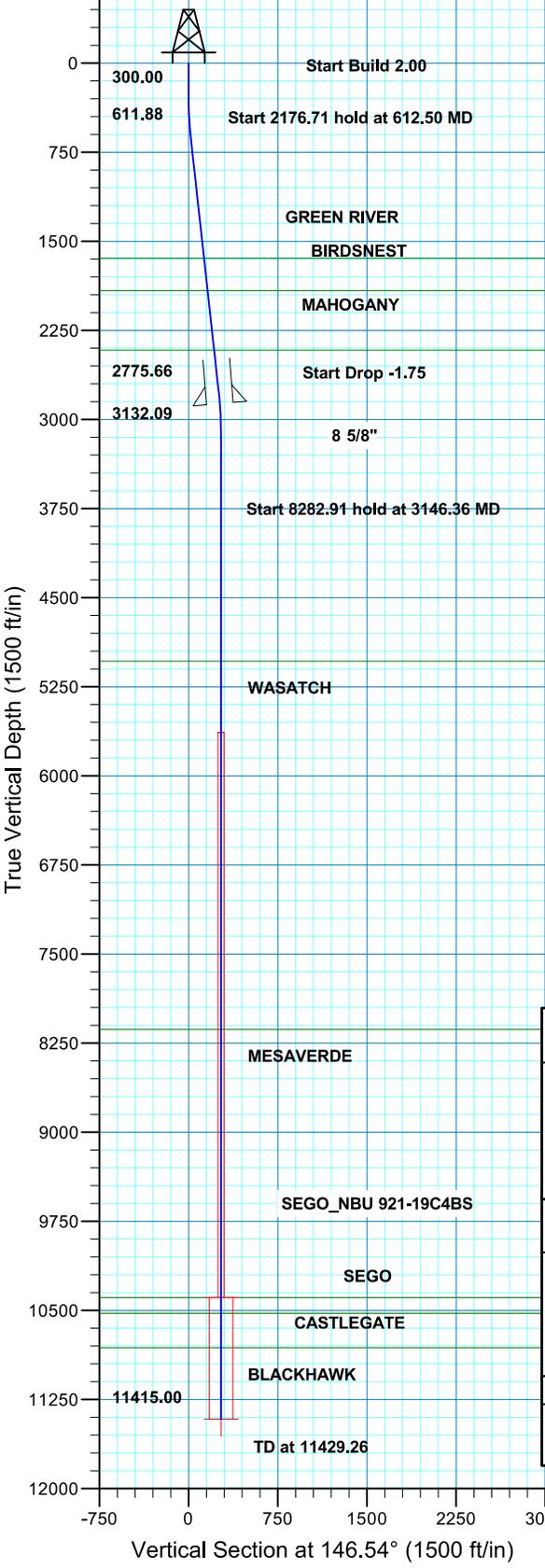
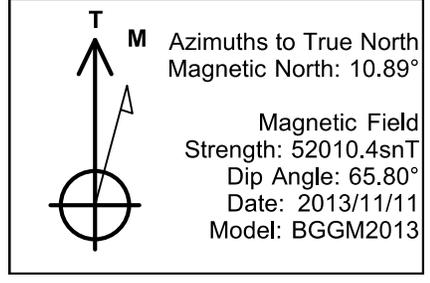
CASING DETAILS			
TVD	MD	Name	Size
2874.00	2877.40	8 5/8"	8.625

WELL DETAILS: NBU 921-19D1BS								
GL 4795 & KB 4 @ 4799.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0,00	0,00	14539118,76	2033148,84	40,0274124	-109,5971405			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10441,00	447,85	-1270,74	14539546,55	2031871,21	40,0286420	-109,6016790	Circle (Radius: 25,00)
- plan hits target center								
PBHL	11479,00	447,85	-1270,74	14539546,55	2031871,21	40,0286420	-109,6016790	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	289,41	1279,82	57,43	-162,94	2,00	289,41	172,77	
4229,11	20,00	289,41	4032,28	390,43	-1107,79	0,00	0,00	1174,58	
5229,11	0,00	0,00	5012,09	447,85	-1270,74	2,00	180,00	1347,35	
11696,02	0,00	0,00	11479,00	447,85	-1270,74	0,00	0,00	1347,35	PBHL_NBU 921-19D1BS
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N					FORMATION TOP DETAILS				
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 19 T9S R21E System Datum: Mean Sea Level					TVDPPath	MDPath	Formation		
					1661,00	1705,65	GREEN RIVER		
					1930,00	1991,91	BIRDSNEST		
					2440,00	2534,64	MAHOGANY		
					5061,00	5278,02	WASATCH		
					8203,00	8420,02	MESAVERDE		
					10441,00	10658,02	SEGO		
10571,00	10788,02	CASTLEGATE							
10879,00	11096,02	BLACKHAWK							
CASING DETAILS									
TVD	MD	Name	Size						
2890,00	3013,52	8 5/8"	8,625						

WELL DETAILS: NBU 921-19C4BS								
GL 4795 & KB 4 @ 4799.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14539120.53	2033168.70	40.0274164	-109.5970695			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10391.00	-228.14	150.78	14538894.80	2033323.05	40.0267900	-109.5965310	Circle (Radius: 25.00)
- plan hits target center								
PBHL	11415.00	-228.14	150.78	14538894.80	2033323.05	40.0267900	-109.5965310	Circle (Radius: 100.00)
- plan hits target center								

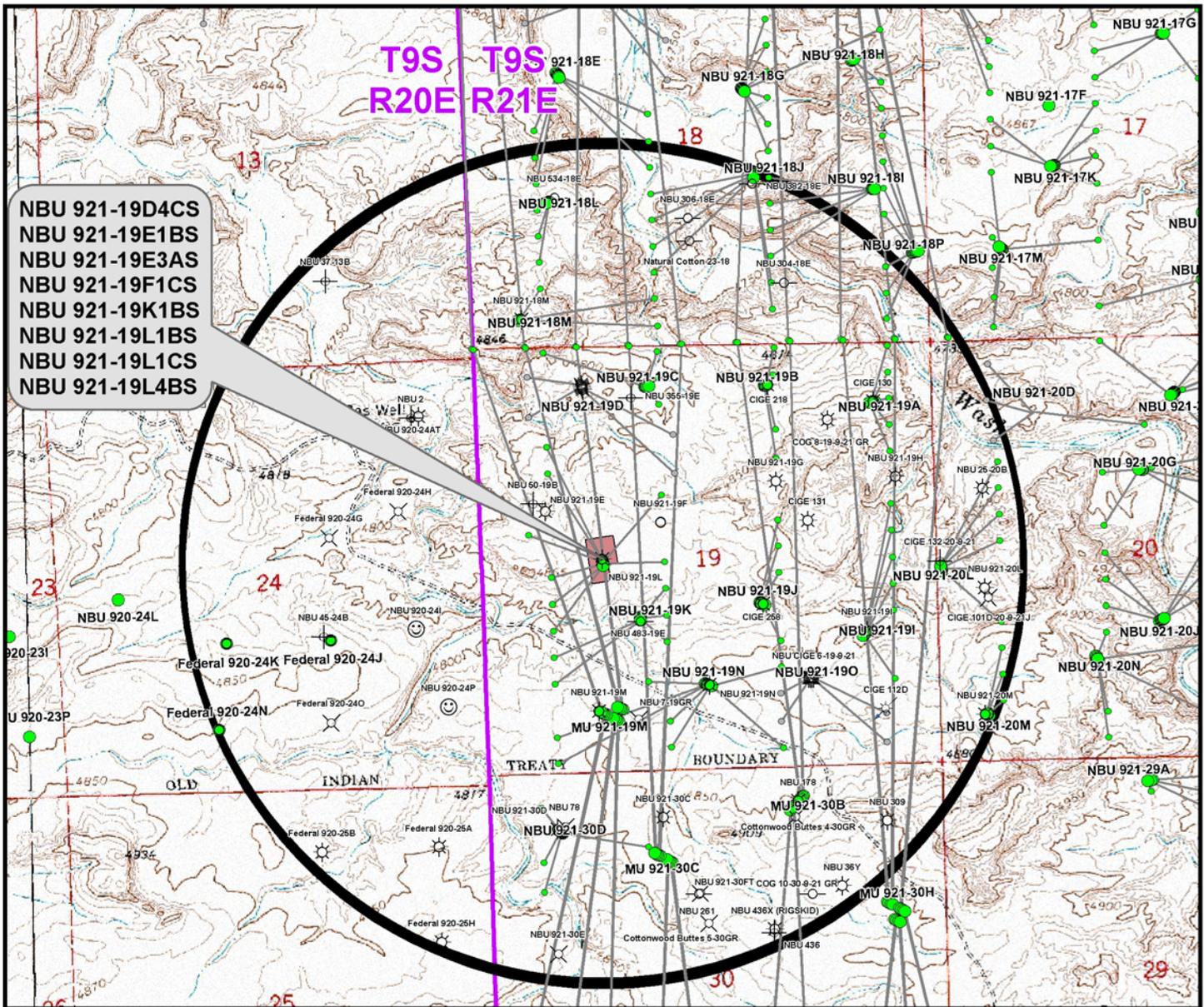


SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
612.50	6.25	146.54	611.88	-14.21	9.39	2.00	146.54	17.03	
2775.21	6.25	146.54	2775.66	-211.90	140.05	0.00	0.00	254.00	
3146.36	0.00	0.00	3132.09	-228.14	150.78	1.75	180.00	273.46	
11429.26	0.00	0.00	11415.00	-228.14	150.78	0.00	0.00	273.46	PBHL_NBU 921-19C4BS

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 19 T9S R21E		
System Datum: Mean Sea Level		

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1643.00	1649.78	GREEN RIVER
1914.00	1922.41	BIRDSNEST
2417.00	2428.41	MAHOGANY
5035.00	5049.26	WASATCH
8135.00	8149.26	MESAVERDE
10391.00	10405.26	SEGO
10525.00	10539.26	CASTLEGATE
10815.00	10829.26	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
2867.00	2880.97	8 5/8"	8.625



NBU 921-19D4CS
 NBU 921-19E1BS
 NBU 921-19E3AS
 NBU 921-19F1CS
 NBU 921-19K1BS
 NBU 921-19L1BS
 NBU 921-19L1CS
 NBU 921-19L4BS

File: K:\ANADARKO\2012\2012.76 NBU 921-19-30 FOCUS\GIS\Maps AECCDENBU 921-19L C.mxd, 10/2/2012 6:47 17 PM

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 921-19D4CS	NBU 921-19D3AS BH	437ft
NBU 921-19E1BS	NBU 50-19B	415ft
NBU 921-19E3AS	NBU 921-19E	365ft
NBU 921-19F1CS	NBU 921-19F1BS BH	324ft
NBU 921-19K1BS	NBU 921-19L	782ft
NBU 921-19L1BS	NBU 921-19L	679ft
NBU 921-19L1CS	NBU 921-19L	842ft
NBU 921-19L4BS	NBU 921-19L	1,088ft

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 921-19L

TOPO C
 NBU 921-19D4CS, NBU 921-19E1BS,
 NBU 921-19E3AS, NBU 921-19F1CS,
 NBU 921-19K1BS, NBU 921-19L1BS,
 NBU 921-19L1CS & NBU 921-19L4BS
 LOCATED IN SECTION 19, T9S, R21E,
 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

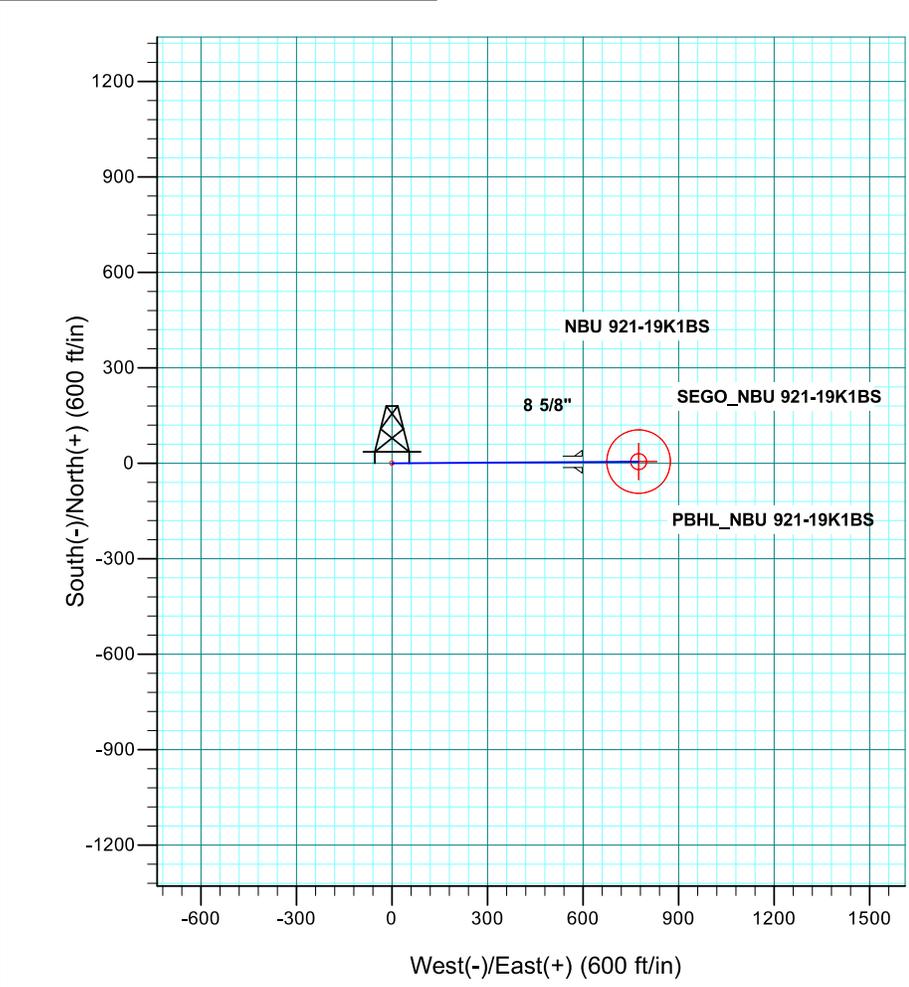
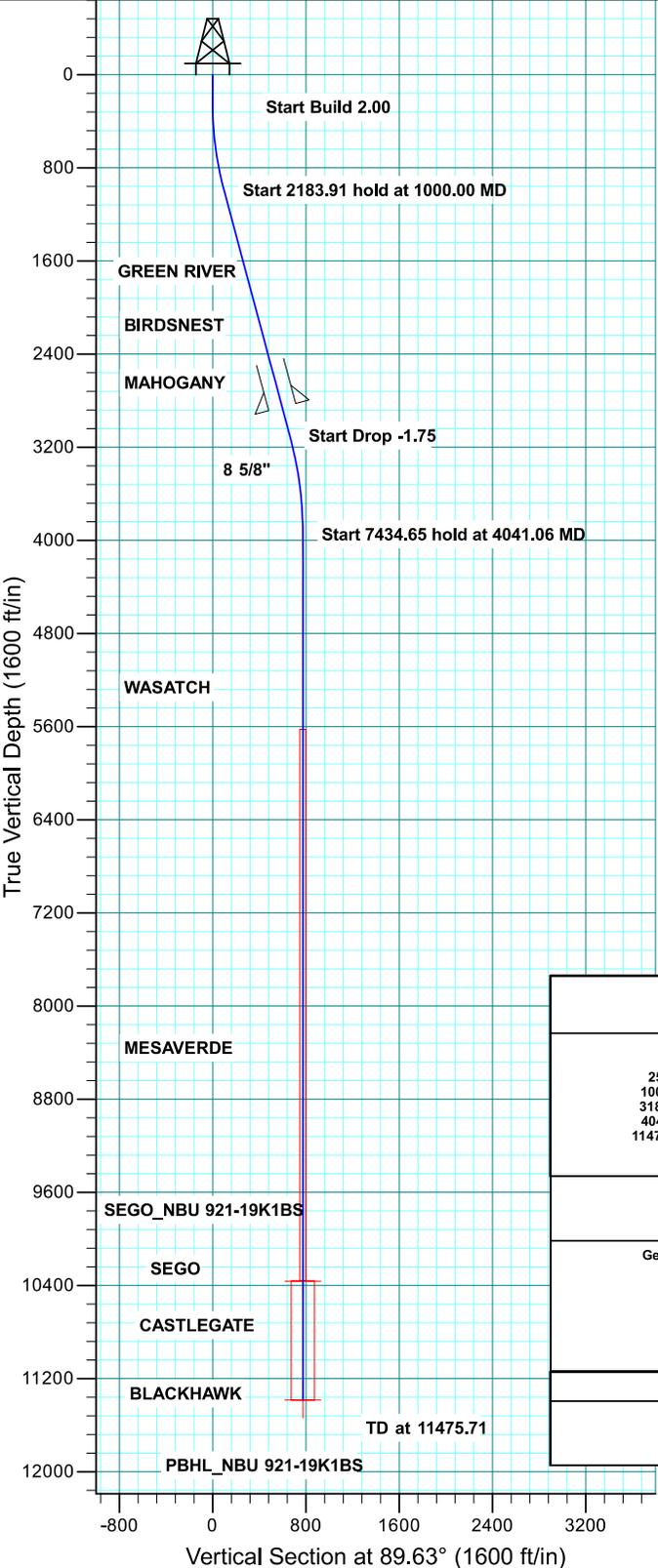
SCALE: 1" = 2,000ft	NAD83 USP Central	16
DRAWN: TL	DATE: 28 Sep 2012	
REVISED:	DATE:	

SHEET NO:
16 OF 20



T
M
 Azimuths to True North
 Magnetic North: 10.89°
 Magnetic Field
 Strength: 52006.2snT
 Dip Angle: 65.79°
 Date: 11/12/2013
 Model: BGGM2013

WELL DETAILS: NBU 921-19K1BS								
GL 4827 & KB 4 @ 4831.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14536896.76	2032609.72	40.0213354	-109.5991905			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10363.00	4.96	774.40	14536913.90	2033383.95	40.0213490	-109.5964250	Circle (25' Radius)
PBHL	11383.00	4.96	774.40	14536913.90	2033383.95	40.0213490	-109.5964250	Circle (Radius: 100.00)

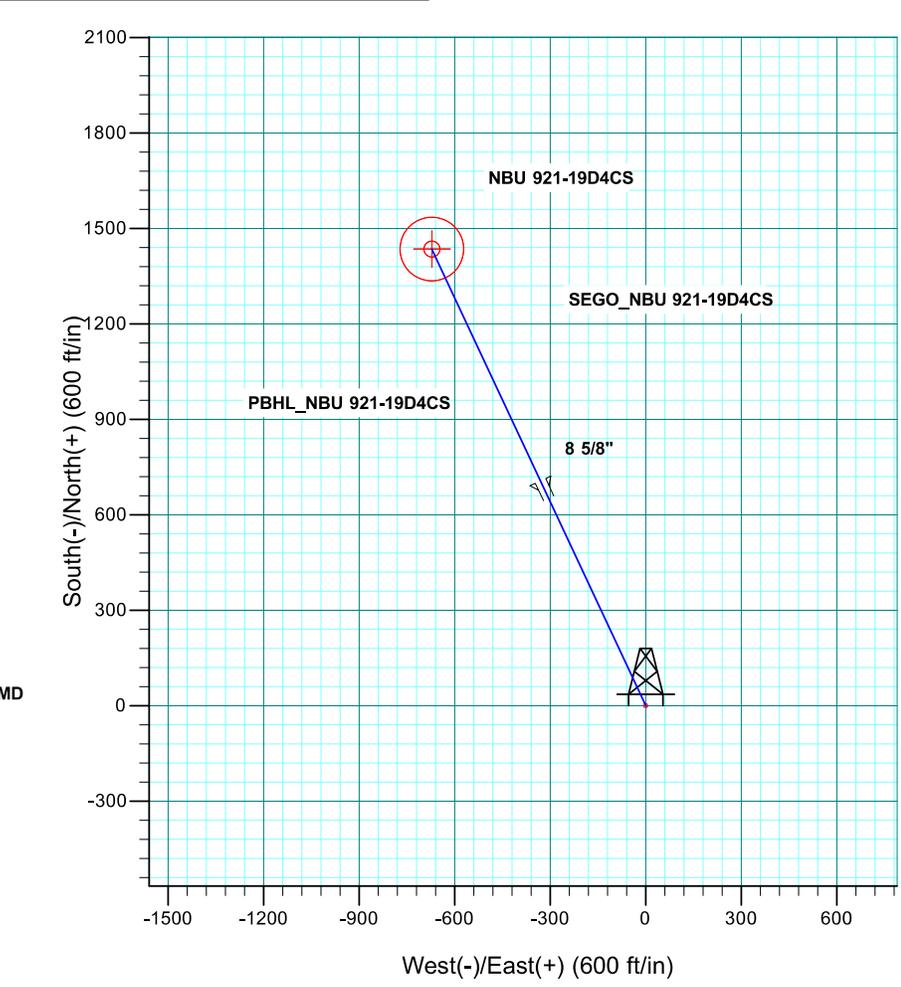
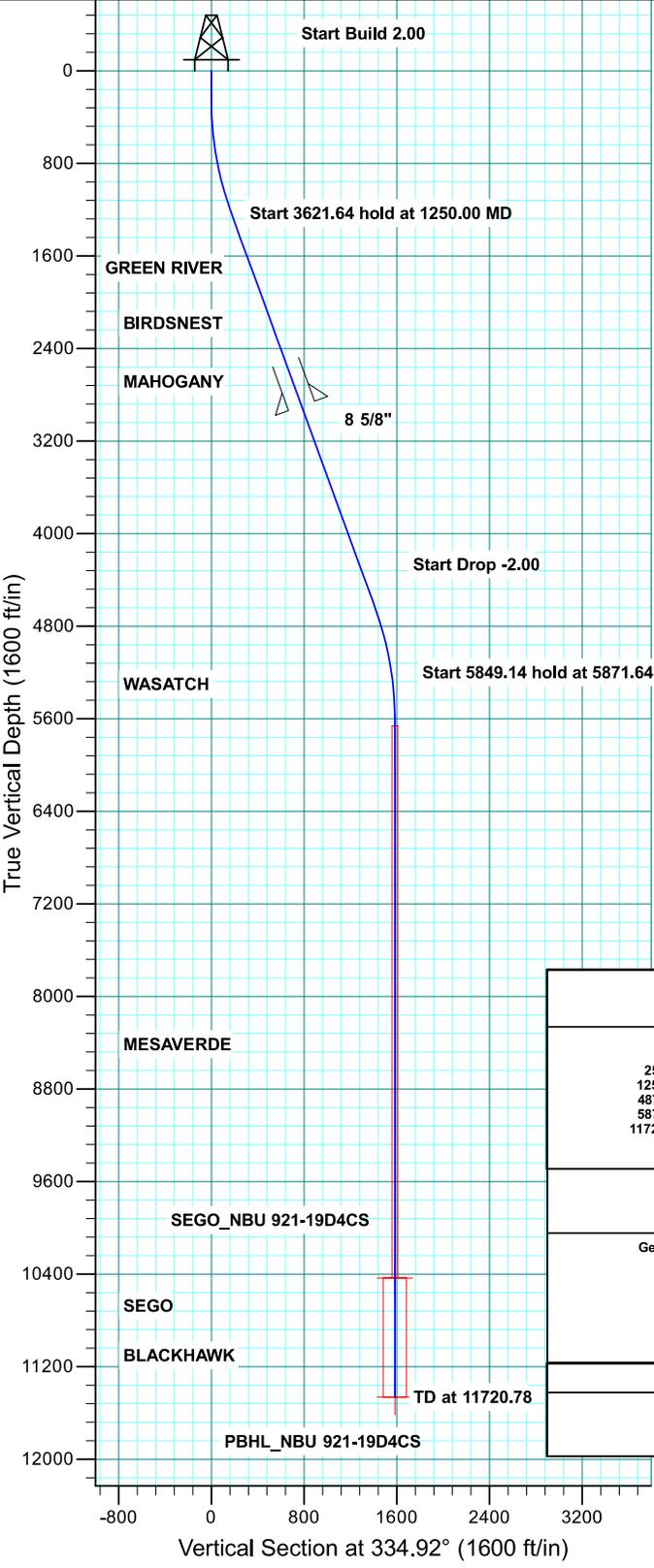


SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
1000.00	15.00	89.63	991.46	0.63	97.61	2.00	89.63	97.62	
3183.91	15.00	89.63	3100.96	4.25	662.84	0.00	0.00	662.85	
4041.06	0.00	0.00	3948.35	4.96	774.40	1.75	180.00	774.41	
11475.71	0.00	0.00	11383.00	4.96	774.40	0.00	0.00	774.41	PBHL_NBU 921-19K1BS
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N									
Geodetic System: Universal Transverse Mercator (US Survey Feet)					FORMATION TOP DETAILS				
Datum: NAD 1927 (NADCON CONUS)					TVDPath	MDPath	Formation		
Ellipsoid: Clarke 1866					1911.00	1951.98	GREEN RIVER		
Zone: Zone 12N (114 W to 108 W)					2406.00	2464.44	BIRDSNEST		
Location: SECTION 19 T9S R21E					5024.00	5116.71	MAHOGANY		
System Datum: Mean Sea Level					8120.00	8212.71	WASATCH		
					10363.00	10455.71	SEGO		
					10440.00	10532.71	CASTLEGATE		
					10783.00	10875.71	BLACKHAWK		
CASING DETAILS									
TVD	MD	Name	Size						
2856.00	2930.31	8 5/8"	8.625						

Azimuths to True North
Magnetic North: 10.89°

Magnetic Field
Strength: 52006.3snT
Dip Angle: 65.79°
Date: 11/12/2013
Model: BGGM2013

WELL DETAILS: NBU 921-19D4CS								
GL 4827 & KB 4 @ 4831.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14536936.37	2032603.78	40.0214444	-109.5992095			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10433.00	1434.81	-671.59	14538360.44	2031909.71	40.0253840	-109.6016080	Circle (25' Radius)
PBHL	11462.00	1434.81	-671.59	14538360.44	2031909.71	40.0253840	-109.6016080	Circle (Radius: 100.00)



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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
1250.00	20.00	334.92	1229.82	156.48	-73.24	2.00	334.92	172.77	
4871.64	20.00	334.92	4633.04	1278.34	-598.35	0.00	0.00	1411.44	
5871.64	0.00	0.00	5612.86	1434.81	-671.59	2.00	180.00	1584.21	
11720.78	0.00	0.00	11462.00	1434.81	-671.59	0.00	0.00	1584.21	PBHL_NBU 921-19D4CS

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 19 T9S R21E		
System Datum: Mean Sea Level		

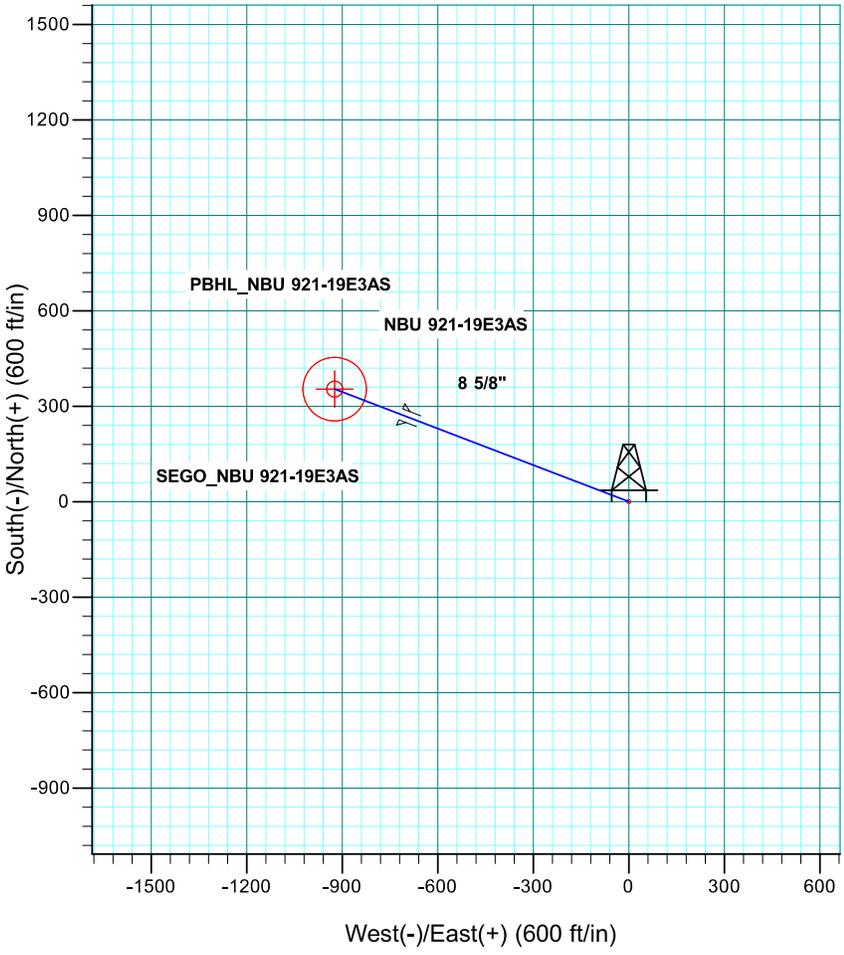
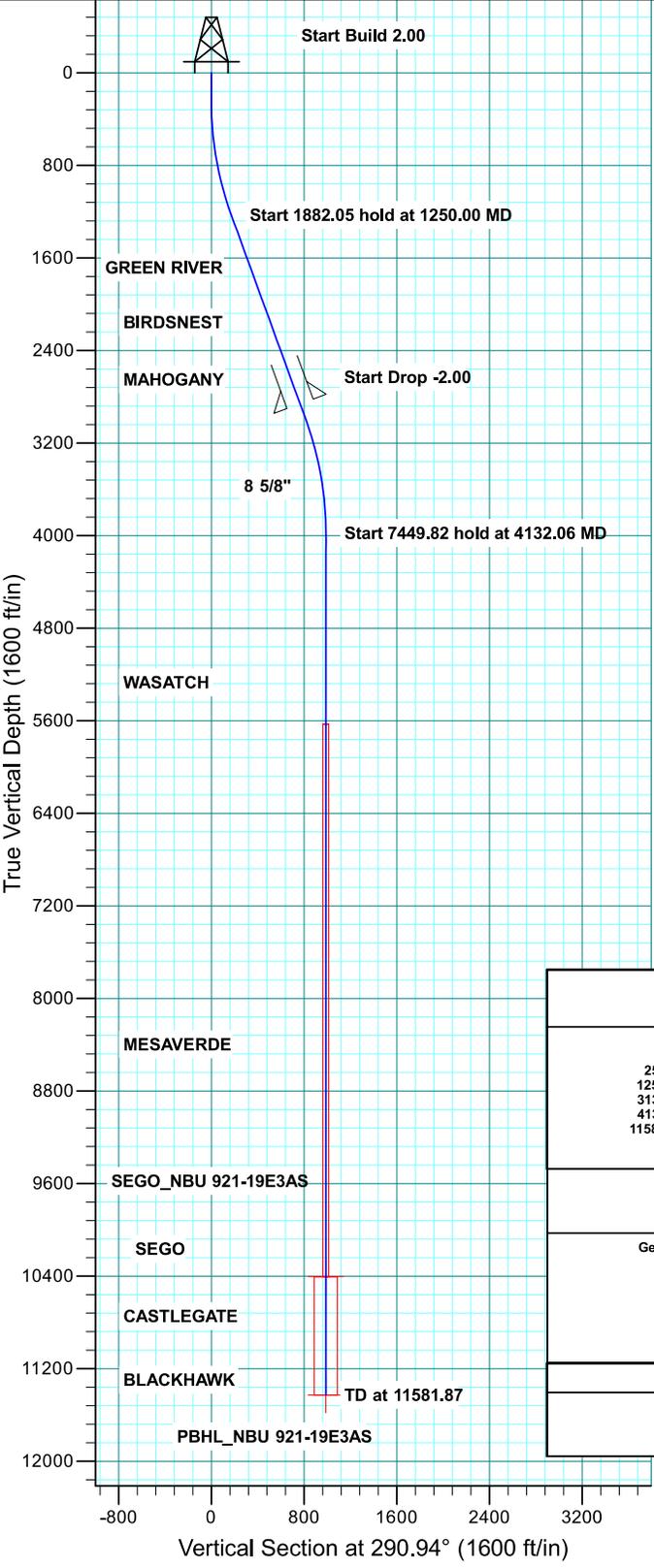
FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1668.00	1716.31	GREEN RIVER
1940.00	2005.76	BIRDSNEST
2446.00	2544.24	MAHOGANY
5061.00	5316.31	WASATCH
8174.00	8432.78	MESAVERDE
10433.00	10691.78	SEGO
10550.00	10808.78	CASTLEGATE
10862.00	11120.78	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
2896.00	3023.12	8 5/8"	8.625

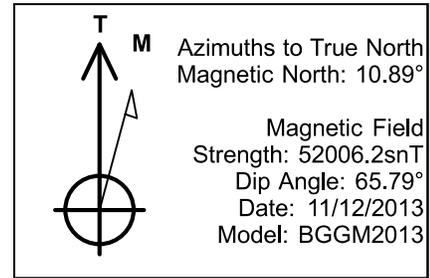


T
M
 Azimuths to True North
 Magnetic North: 10.89°
 Magnetic Field
 Strength: 52006.3snT
 Dip Angle: 65.79°
 Date: 11/12/2013
 Model: BGGM2013

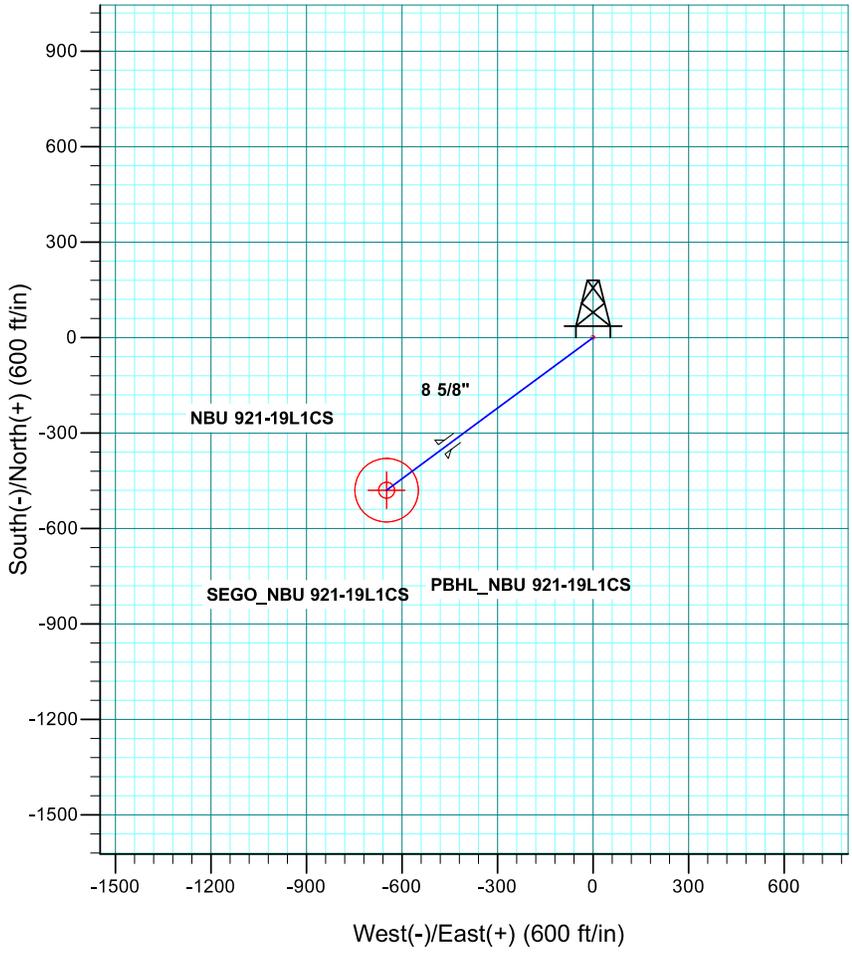
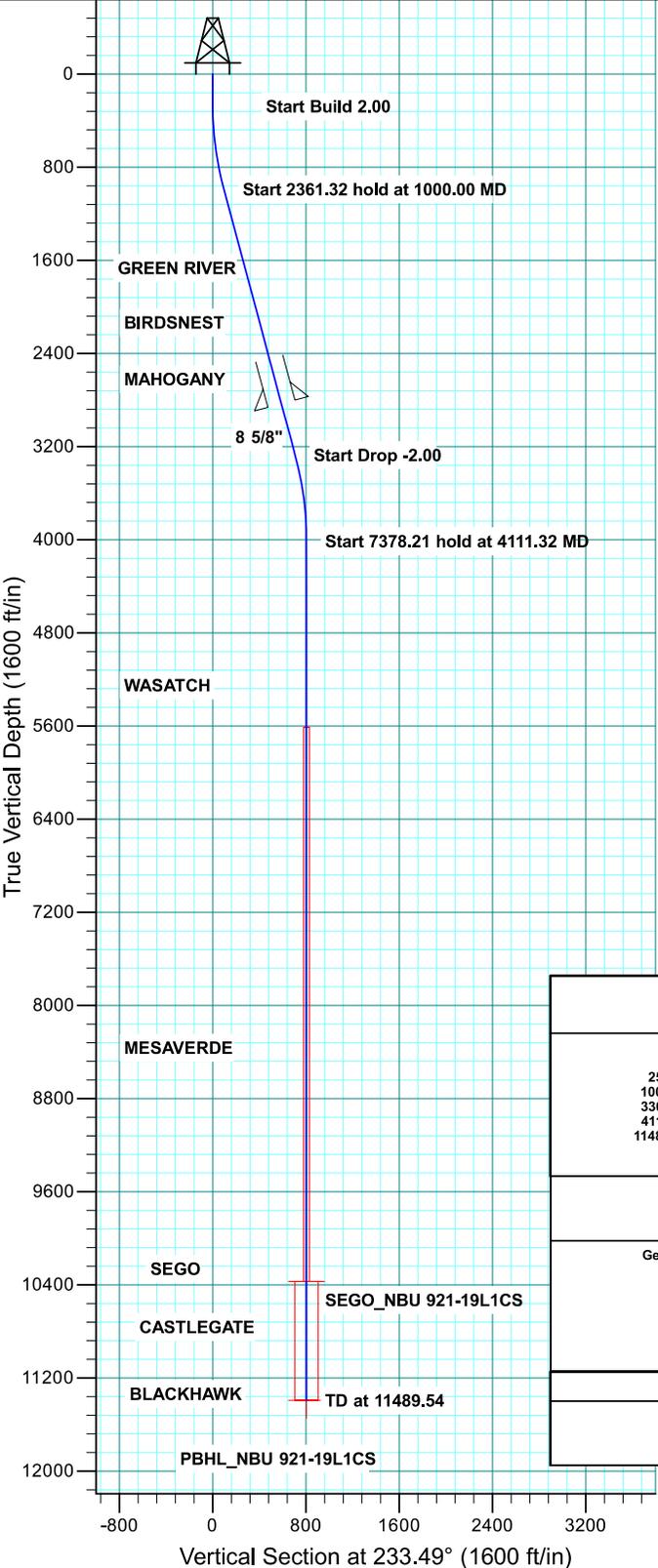
WELL DETAILS: NBU 921-19E3AS								
GL 4827 & KB 4 @ 4831.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14536916.75	2032606.89	40.0213904	-109.5991995			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10404.00	353.51	-923.91	14537255.69	2031677.53	40.0223610	-109.6024990	Circle (25' Radius)
PBHL	11428.00	353.51	-923.91	14537255.69	2031677.53	40.0223610	-109.6024990	Circle (Radius: 100.00)



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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
1250.00	20.00	290.94	1229.82	61.74	-161.36	2.00	290.94	172.77	
3132.05	20.00	290.94	2998.37	291.77	-762.55	0.00	0.00	816.47	
4132.06	0.00	0.00	3978.18	353.51	-923.91	2.00	180.00	989.24	
11581.87	0.00	0.00	11428.00	353.51	-923.91	0.00	0.00	989.24	PBHL_NBU 921-19E3AS
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 19 T9S R21E					System Datum: Mean Sea Level				
FORMATION TOP DETAILS									
TVDPath	MDPath	Formation							
1649.00	1696.09	GREEN RIVER							
1917.00	1981.29	BIRDSNEST							
2412.00	2508.05	MAHOGANY							
5029.00	5182.87	WASATCH							
8160.00	8313.87	MESAVERDE							
10404.00	10557.87	SEGO							
10506.00	10659.87	CASTLEGATE							
10828.00	10981.87	BLACKHAWK							
CASING DETAILS									
TVD	MD	Name	Size						
2862.00	2986.93	8 5/8"	8.625						



WELL DETAILS: NBU 921-19L1CS								
GL 4827 & KB 4 @ 4831.00R (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14536877.14	2032612.83	40.0212814	-109.5991805			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10370.00	-479.79	-648.12	14536387.22	2031972.34	40.0199640	-109.6014950	Circle (25' Radius)
PBHL	11392.00	-479.79	-648.12	14536387.22	2031972.34	40.0199640	-109.6014950	Circle (Radius: 100.00)

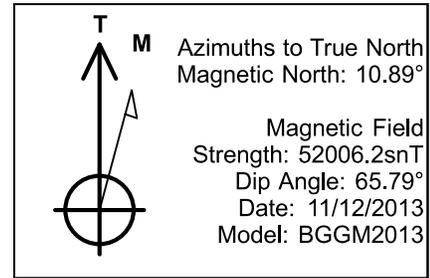


SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
1000.00	15.00	233.49	991.46	-58.08	-78.46	2.00	233.49	97.62	
3361.32	15.00	233.49	3272.32	-421.71	-569.66	0.00	0.00	708.77	
4111.32	0.00	0.00	4013.79	-479.79	-648.12	2.00	180.00	806.39	
11489.54	0.00	0.00	11392.00	-479.79	-648.12	0.00	0.00	806.39	PBHL_NBU 921-19L1CS

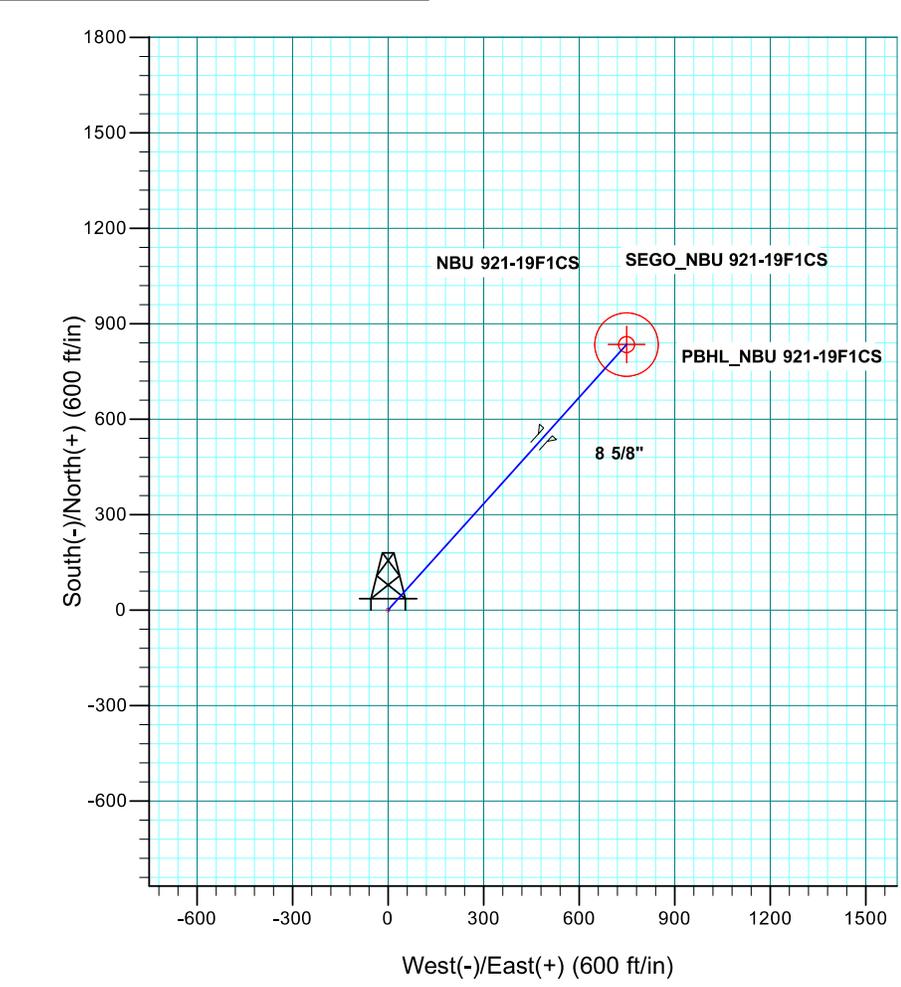
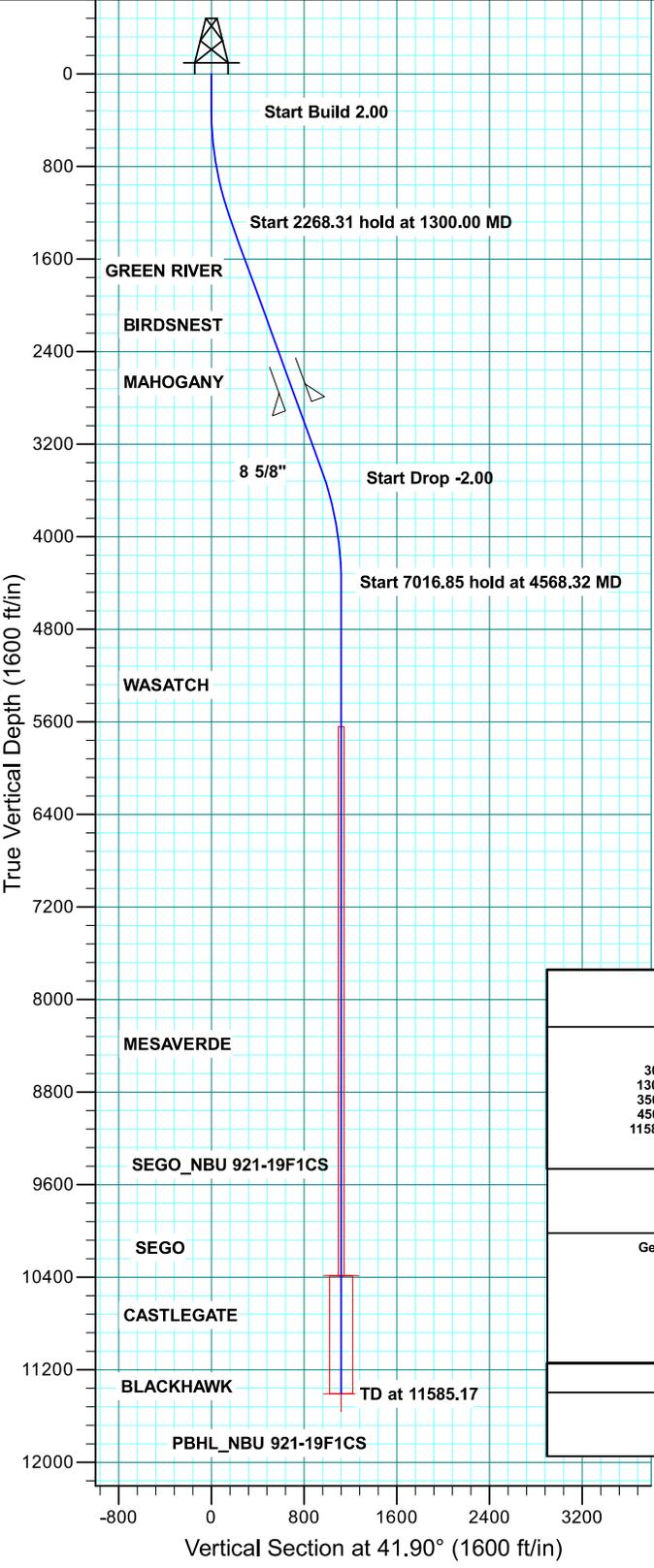
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N		
Geodetic System: Universal Transverse Mercator (US Survey Feet)		
Datum: NAD 1927 (NADCON CONUS)		
Ellipsoid: Clarke 1866		
Zone: Zone 12N (114 W to 108 W)		
Location: SECTION 19 T9S R21E		
System Datum: Mean Sea Level		

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1640.00	1671.42	GREEN RIVER
1896.00	1936.45	BIRDSNEST
2392.00	2439.59	MAHOGANY
5011.00	5108.54	WASATCH
8126.00	8223.54	MESAVERDE
10370.00	10467.54	SEGO
10460.00	10557.54	CASTLEGATE
10792.00	10889.54	BLACKHAWK

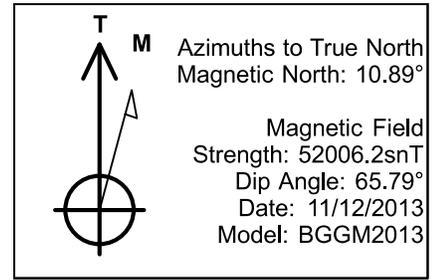
CASING DETAILS			
TVD	MD	Name	Size
2832.00	2905.47	8 5/8"	8.625



WELL DETAILS: NBU 921-19F1CS								
GL 4827 & KB 4 @ 4831.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14536906.93	2032608.16	40.0213634	-109.5991955			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10386.00	834.61	748.89	14537753.22	2033343.84	40.0236550	-109.5965210	Circle (25' Radius)
PBHL	11408.00	834.61	748.89	14537753.22	2033343.84	40.0236550	-109.5965210	Circle (Radius: 100.00)



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	41.90	1279.82	128.59	115.38	2.00	41.90	172.77	
3568.32	20.00	41.90	3411.34	706.02	633.51	0.00	0.00	948.58	
4568.32	0.00	0.00	4391.15	834.61	748.89	2.00	180.00	1121.35	
11585.17	0.00	0.00	11408.00	834.61	748.89	0.00	0.00	1121.35	PBHL_NBU 921-19F1CS
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 19 T9S R21E					System Datum: Mean Sea Level				
FORMATION TOP DETAILS									
TVDPath	MDPath	Formation							
1666.00	1710.97	GREEN RIVER							
1929.00	1990.85	BIRDSNEST							
2422.00	2515.49	MAHOGANY							
5041.00	5218.17	WASATCH							
8144.00	8321.17	MESAVERDE							
10386.00	10563.17	SEGO							
10490.00	10667.17	CASTLEGATE							
10808.00	10985.17	BLACKHAWK							
CASING DETAILS									
TVD	MD	Name	Size						
2872.00	2994.37	8 5/8"	8.625						



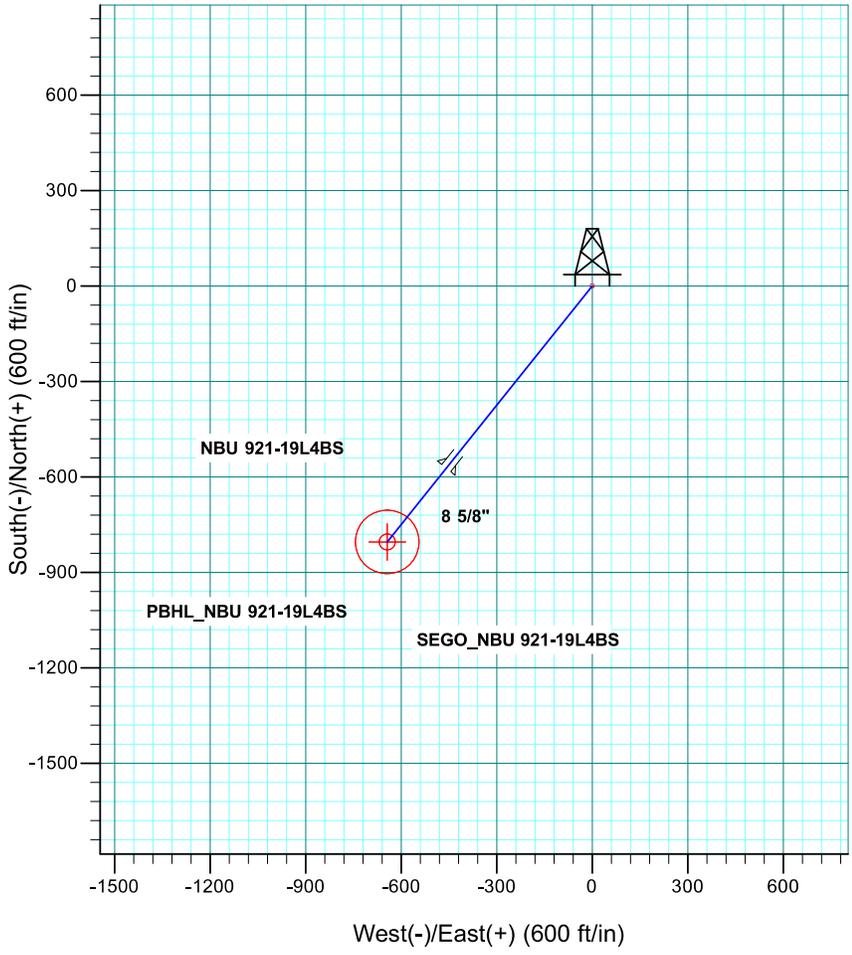
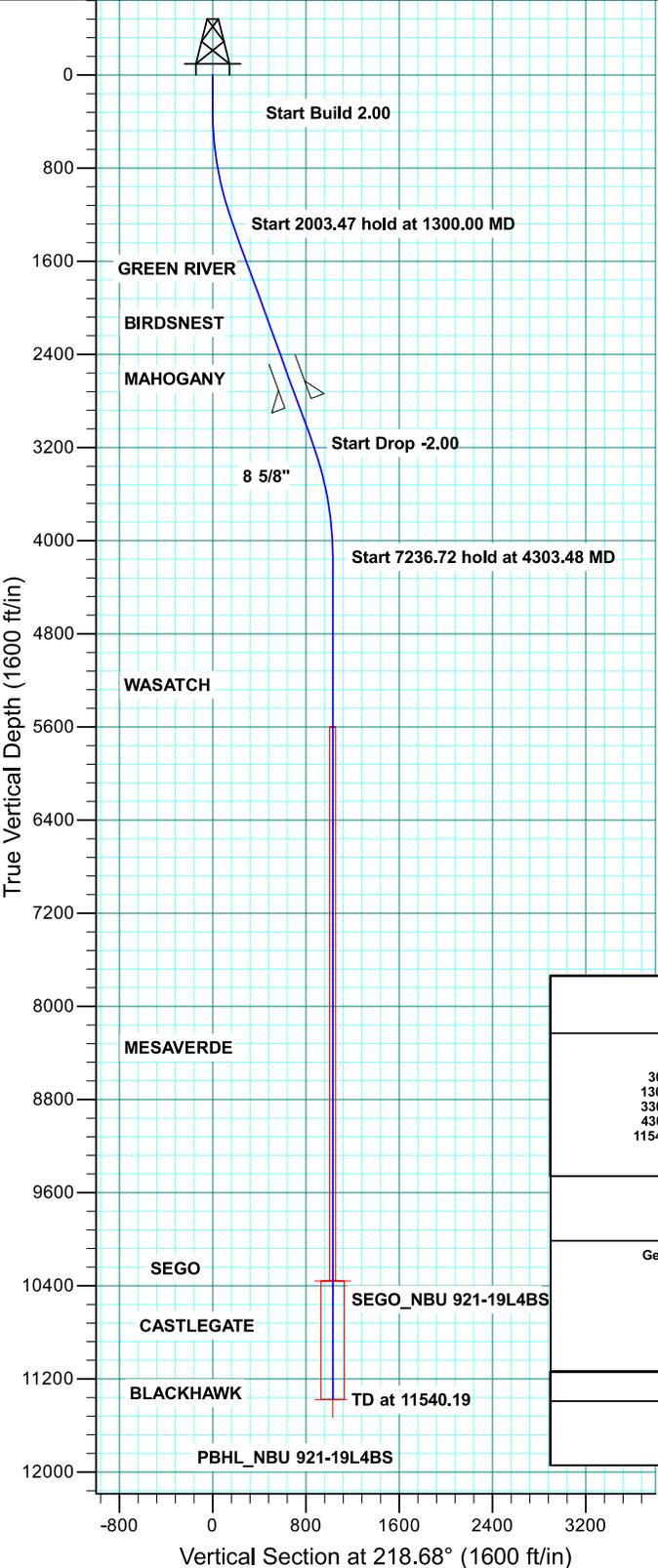
WELL DETAILS: NBU 921-19L4BS

GL 4827 & KB 4 @ 4831.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14536867.33	2032614.39	40.0212544	-109.5991755

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10359.00	-804.65	-644.21	14536052.65	2031982.91	40.0190450	-109.6014760	Circle (25' Radius)
PBHL	11379.00	-804.65	-644.21	14536052.65	2031982.91	40.0190450	-109.6014760	Circle (Radius: 100.00)



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	218.68	1279.82	-134.87	-107.98	2.00	218.68	172.77	
3303.47	20.00	218.68	3162.47	-669.78	-536.23	0.00	0.00	858.00	
4303.48	0.00	0.00	4142.28	-804.65	-644.21	2.00	180.00	1030.76	
11540.19	0.00	0.00	11379.00	-804.65	-644.21	0.00	0.00	1030.76	PBHL_NBU 921-19L4BS

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 19 T9S R21E		
System Datum: Mean Sea Level		

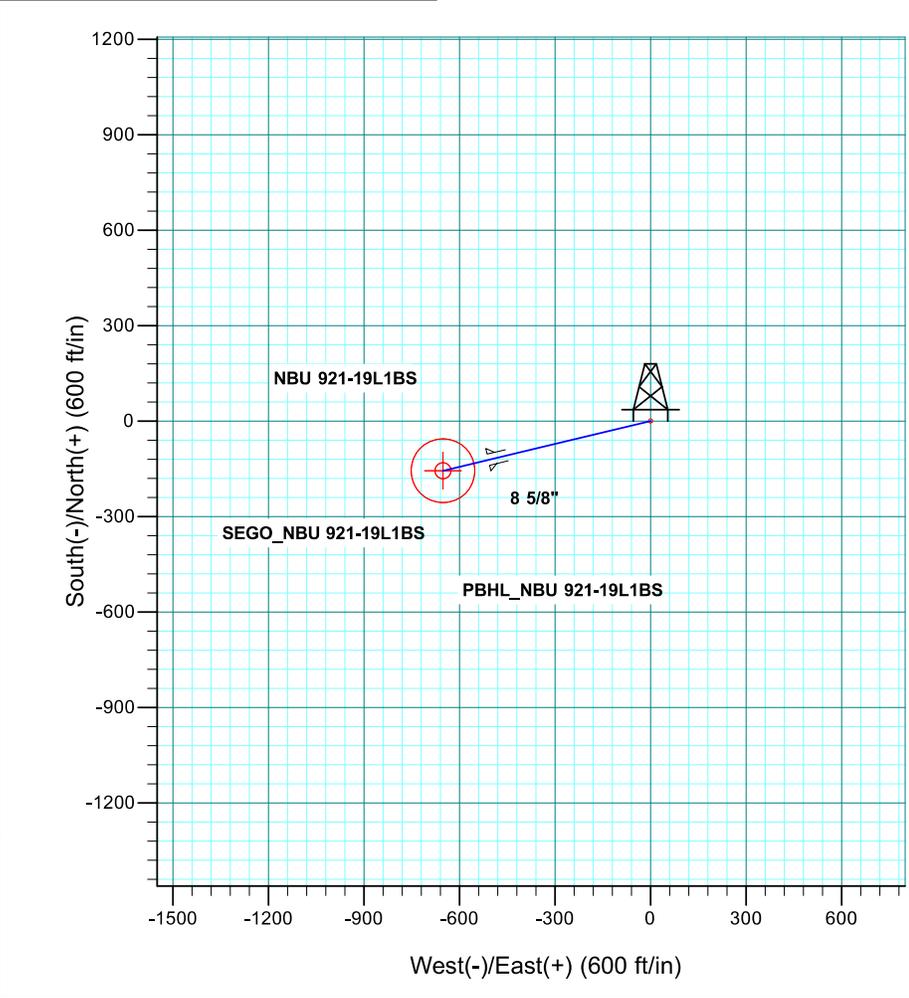
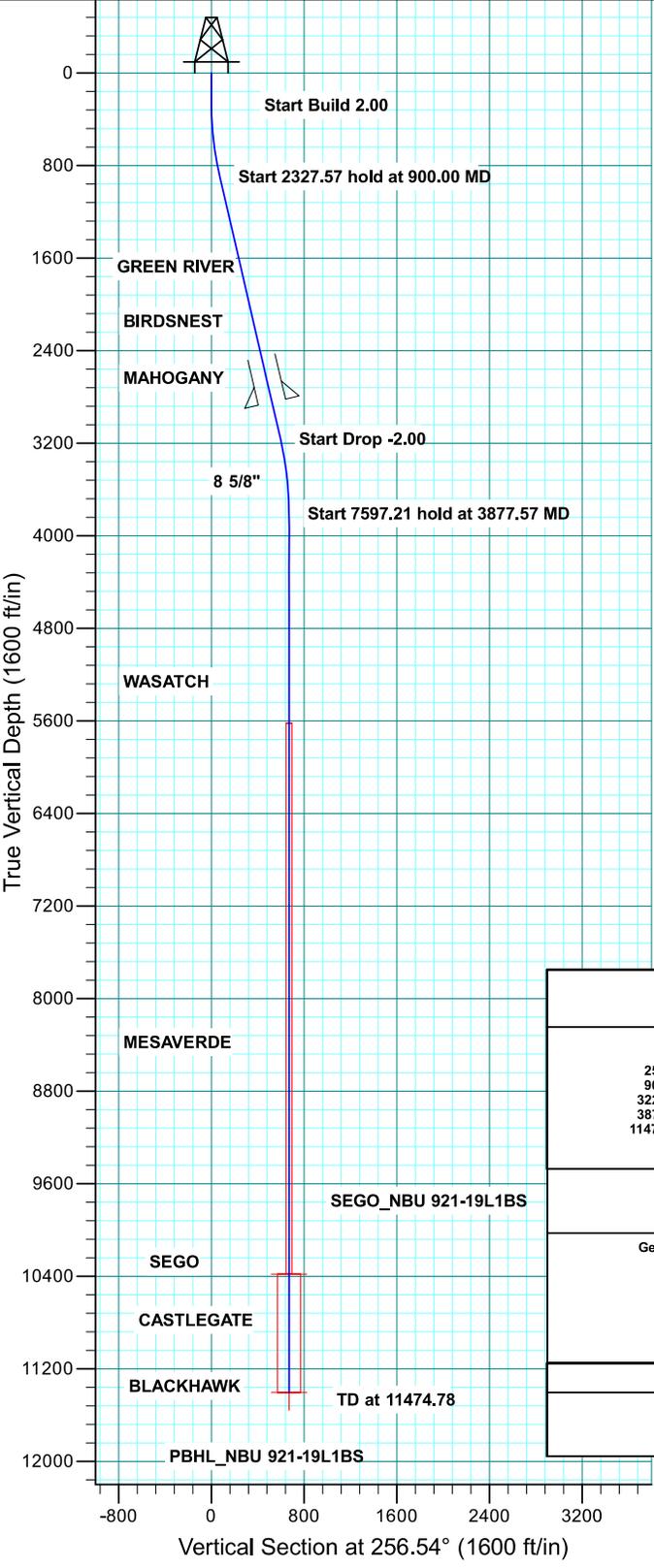
FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1637.00	1680.11	GREEN RIVER
1890.00	1949.34	BIRDSNEST
2371.00	2461.21	MAHOGANY
5001.00	5162.19	WASATCH
8115.00	8276.19	MESAVERDE
10359.00	10520.19	SEGO
10442.00	10603.19	CASTLEGATE
10779.00	10940.19	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
2821.00	2940.09	8 5/8"	8.625

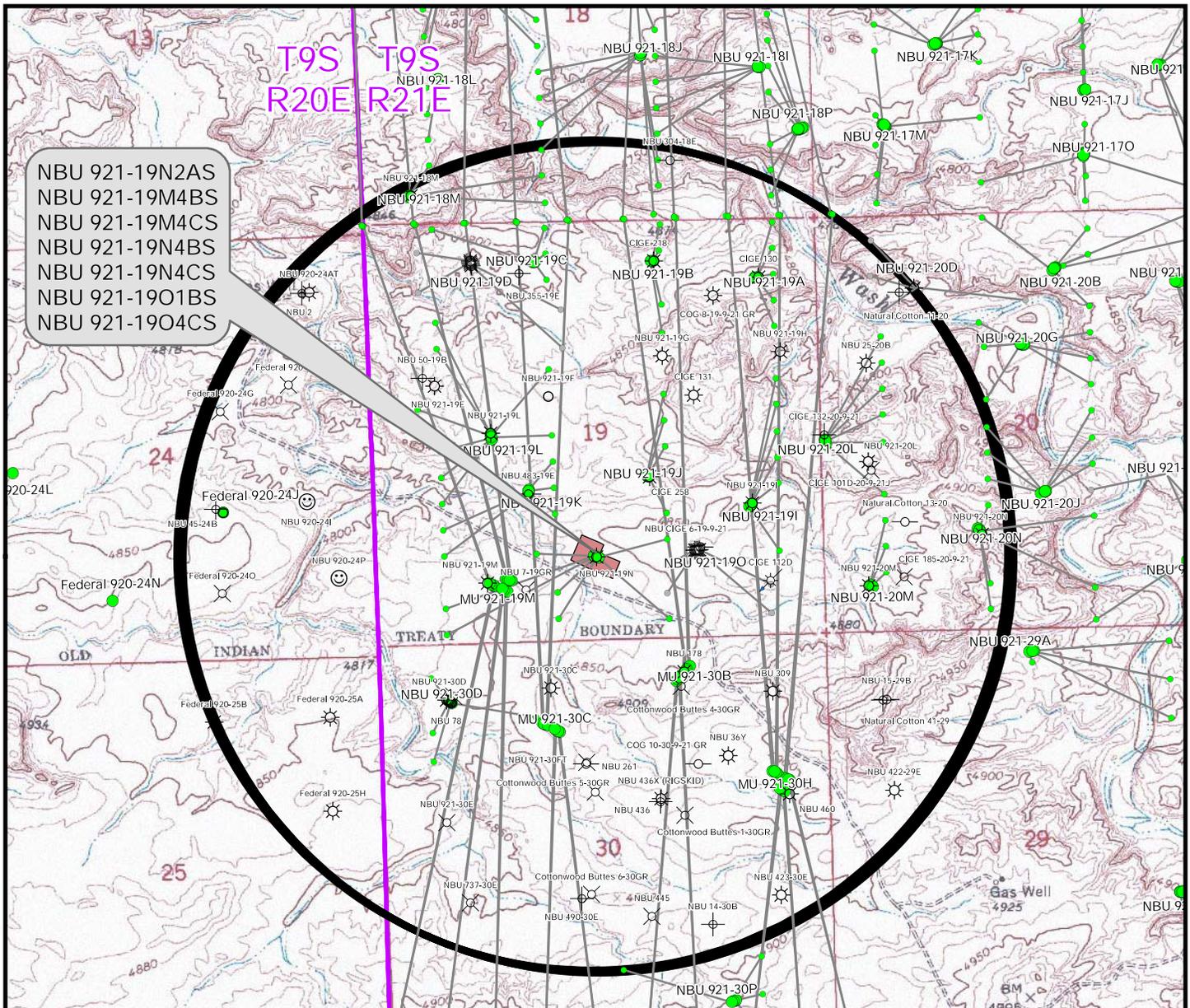


T
M
 Azimuths to True North
 Magnetic North: 10.89°
 Magnetic Field
 Strength: 52006.2snT
 Dip Angle: 65.79°
 Date: 11/12/2013
 Model: BGGM2013

WELL DETAILS: NBU 921-19L1BS								
GL 4827 & KB 4 @ 4831.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14536886.95	2032611.28	40.0213084	-109.5991855			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10382.00	-156.01	-652.03	14536720.70	2031961.78	40.0208800	-109.6015140	Circle (25' Radius)
PBHL	11404.00	-156.01	-652.03	14536720.70	2031961.78	40.0208800	-109.6015140	Circle (Radius: 100.00)



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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
900.00	13.00	256.54	894.44	-17.09	-71.41	2.00	256.54	73.42	
3227.57	13.00	256.54	3162.35	-138.93	-580.62	0.00	0.00	597.01	
3877.57	0.00	0.00	3806.79	-156.01	-652.03	2.00	180.00	670.44	
11474.78	0.00	0.00	11404.00	-156.01	-652.03	0.00	0.00	670.44	PBHL_NBU 921-19L1BS
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N									
Geodetic System: Universal Transverse Mercator (US Survey Feet)					FORMATION TOP DETAILS				
Datum: NAD 1927 (NADCON CONUS)					TVDPath	MDPath	Formation		
Ellipsoid: Clarke 1866					1645.00	1670.31	GREEN RIVER		
Zone: Zone 12N (114 W to 108 W)					1904.00	1936.12	BIRDSNEST		
Location: SECTION 19 T9S R21E					2395.00	2440.03	MAHOGANY		
System Datum: Mean Sea Level					5019.00	5089.78	WASATCH		
					8137.00	8207.78	MESAVERDE		
					10382.00	10452.78	SEGO		
					10475.00	10545.78	CASTLEGATE		
					10804.00	10874.78	BLACKHAWK		
CASING DETAILS									
TVD	MD	Name	Size						
2845.00	2901.87	8 5/8"	8.625						



NBU 921-19N2AS
 NBU 921-19M4BS
 NBU 921-19M4CS
 NBU 921-19N4BS
 NBU 921-19N4CS
 NBU 921-19O1BS
 NBU 921-19O4CS

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 921-19N2AS	NBU 921-19M	723ft
NBU 921-19M4BS	NBU 921-19M	623ft
NBU 921-19M4CS	NBU 921-30D	824ft
NBU 921-19N4BS	NBU 921-19N	672ft
NBU 921-19N4CS	NBU 921-30C	888ft
NBU 921-19O1BS	NBU 921-19O1CS BH	330ft
NBU 921-19O4CS	NBU 921-19O4BS BH	331ft

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 921-19N

TOPO C
 NBU 921-19N2AS,
 NBU 921-19M4BS, NBU 921-19M4CS,
 NBU 921-19N4BS, NBU 921-19N4CS,
 NBU 921-19O1BS & NBU 921-19O4CS
 LOCATED IN SECTION 19, T9S, R21E
 S.L.B.&M., Uintah County, Utah

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
 Denver, Colorado 80202



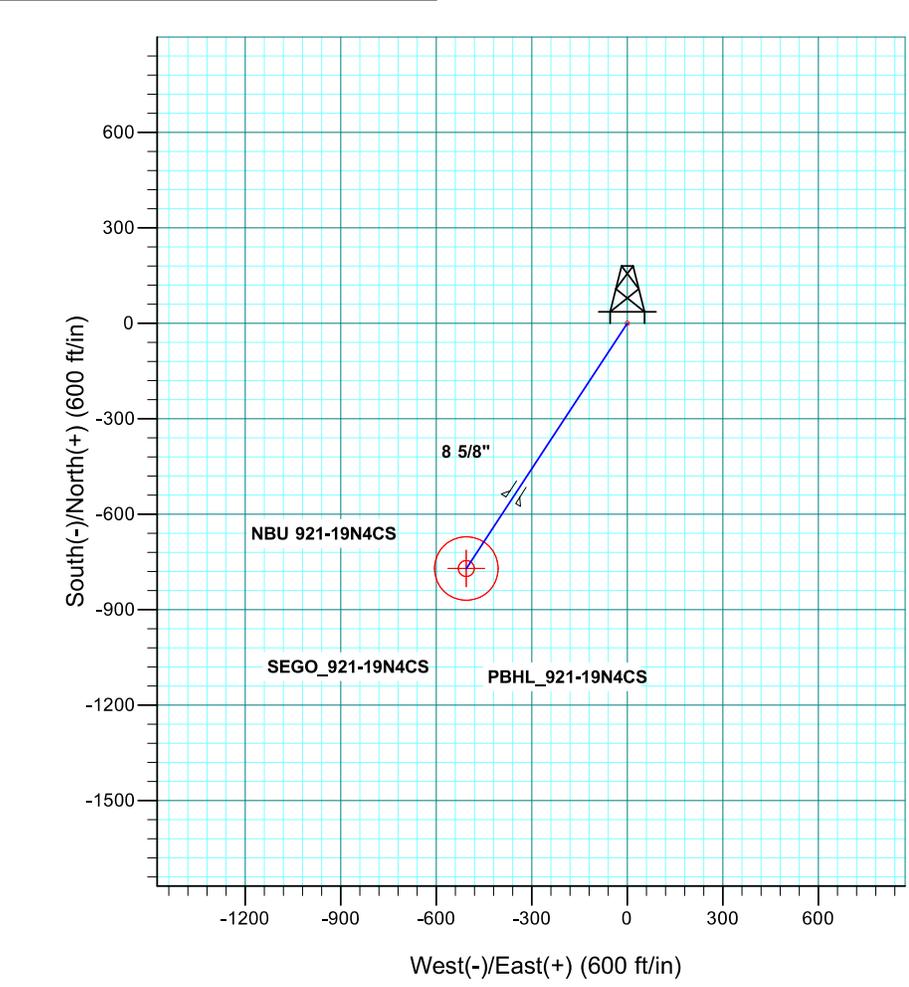
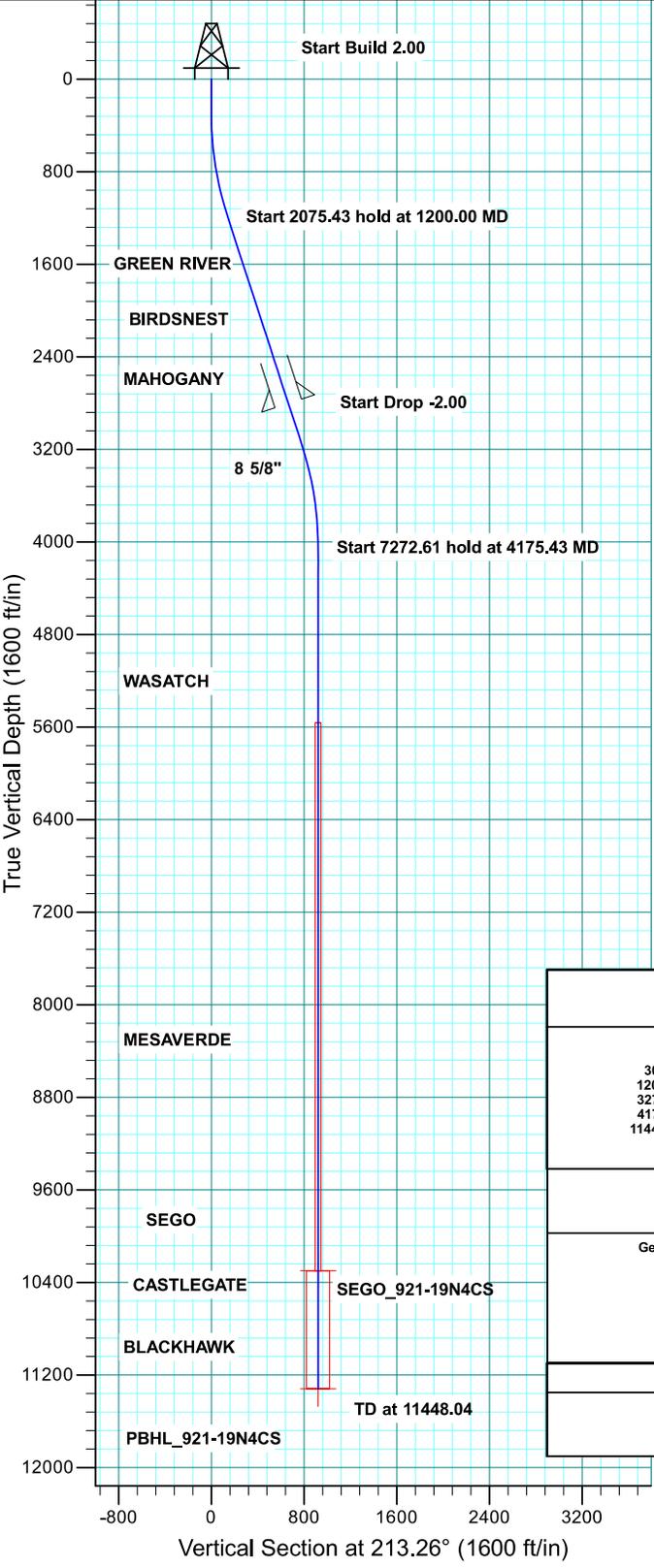
CONSULTING, LLC
 2155 North Main Street
 Sheridan, Wyoming 82801
 Phone 307-674-0609
 Fax 307-674-0182

SCALE: 1" = 2,000ft	NAD83 USP Central	15
DRAWN: TL	DATE: 28 Sep 2012	
REVISED: TL	DATE: 17 Dec 2013	



T
M
 Azimuths to True North
 Magnetic North: 10.89°
 Magnetic Field
 Strength: 52004.1snT
 Dip Angle: 65.79°
 Date: 11/13/2013
 Model: BGGM2013

WELL DETAILS: NBU 921-19N4CS								
GL 4842 & KB 4 @ 4846.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14535362.48	2033948.18	40.0170653	-109.5944977			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10299.00	-770.75	-505.57	14534583.85	2033454.83	40.0149490	-109.5963030	Circle (25' Radius)
PBHL	11317.00	-770.75	-505.57	14534583.85	2033454.83	40.0149490	-109.5963030	Circle (Radius: 100.00)

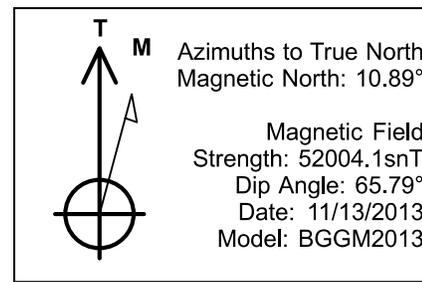


SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1200.00	18.00	213.26	1185.27	-117.24	-76.90	2.00	213.26	140.21	
3275.43	18.00	213.26	3159.12	-653.51	-428.67	0.00	0.00	781.56	
4175.43	0.00	0.00	4044.39	-770.75	-505.57	2.00	180.00	921.77	
11448.04	0.00	0.00	11317.00	-770.75	-505.57	0.00	0.00	921.77	PBHL_921-19N4CS

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 19 T9S R21E		
System Datum: Mean Sea Level		

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1621.00	1658.16	GREEN RIVER
1872.00	1922.07	BIRDSNEST
2352.00	2426.77	MAHOGANY
4963.00	5084.04	WASATCH
8062.00	8193.04	MESAVERDE
10299.00	10430.04	SEGO
10359.00	10490.04	CASTLEGATE
10717.00	10848.04	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
2802.00	2899.93	8 5/8"	8.625



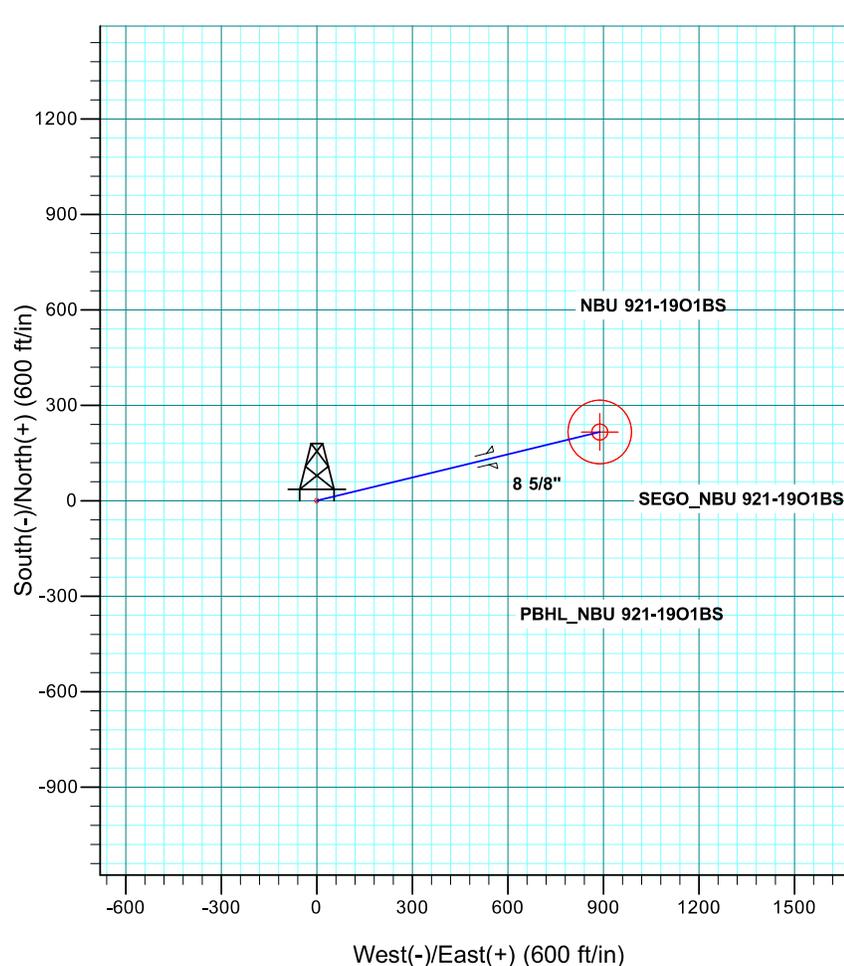
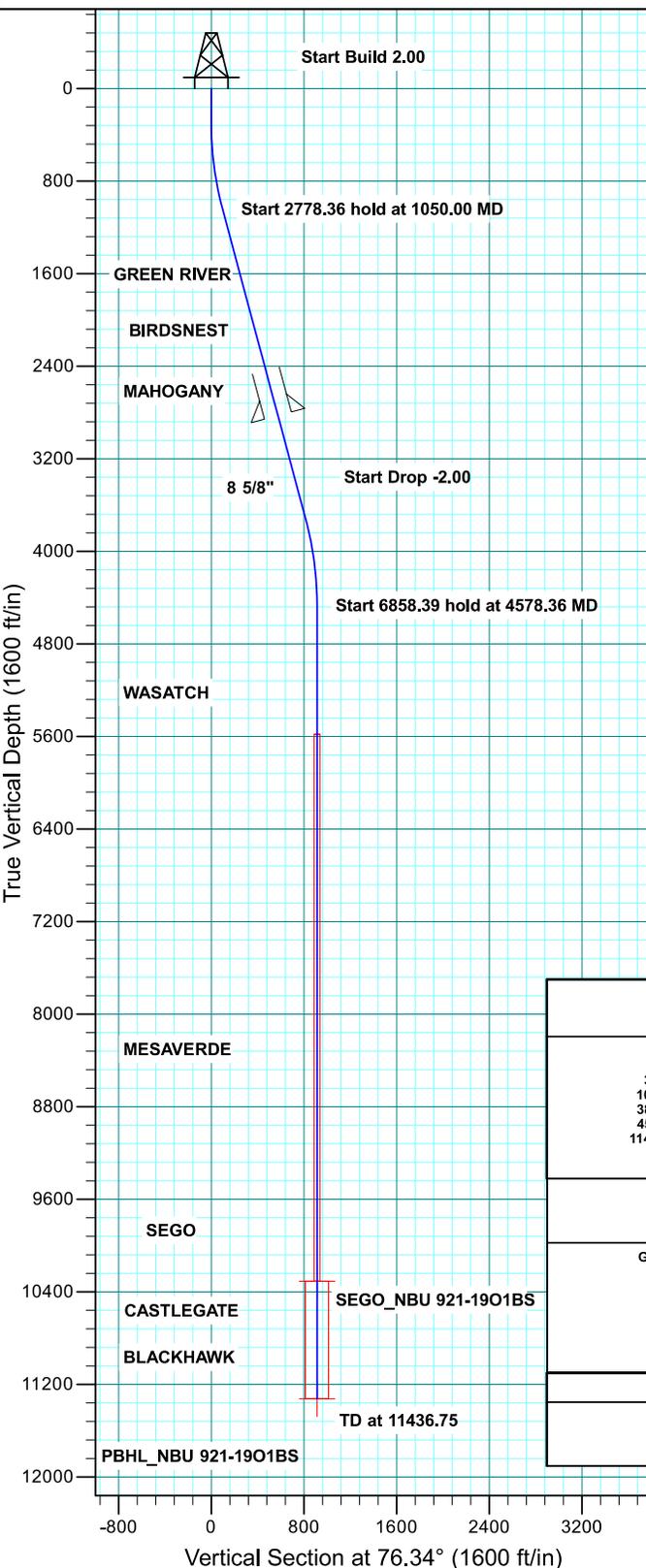
WELL DETAILS: NBU 921-19O1BS

GL 4842 & KB 4 @ 4846.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14535358.62	2033957.48	40.0170543	-109.5944647

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10309.00	215.88	888.47	14535588.49	2034842.43	40.0176470	-109.5912920	Circle (25' Radius)
PBHL	11325.00	215.88	888.47	14535588.49	2034842.43	40.0176470	-109.5912920	Circle (Radius: 100.00)

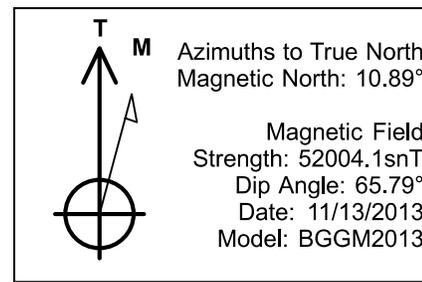


SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1050.00	15.00	76.34	1041.46	23.05	94.86	2.00	76.34	97.62	
3828.36	15.00	76.34	3725.15	192.83	793.62	0.00	0.00	816.71	
4578.36	0.00	0.00	4466.61	215.88	888.47	2.00	180.00	914.32	
11436.75	0.00	0.00	11325.00	215.88	888.47	0.00	0.00	914.32	PBHL_NBU 921-19O1BS

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 19 T9S R21E			
System Datum: Mean Sea Level			

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1636.00	1665.51	GREEN RIVER
1890.00	1928.47	BIRDSNEST
2377.00	2432.65	MAHOGANY
4983.00	5094.75	WASATCH
8064.00	8175.75	MESAVERDE
10309.00	10420.75	SEGO
10350.00	10461.75	CASTLEGATE
10725.00	10836.75	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
2827.00	2898.52	8 5/8"	8.625



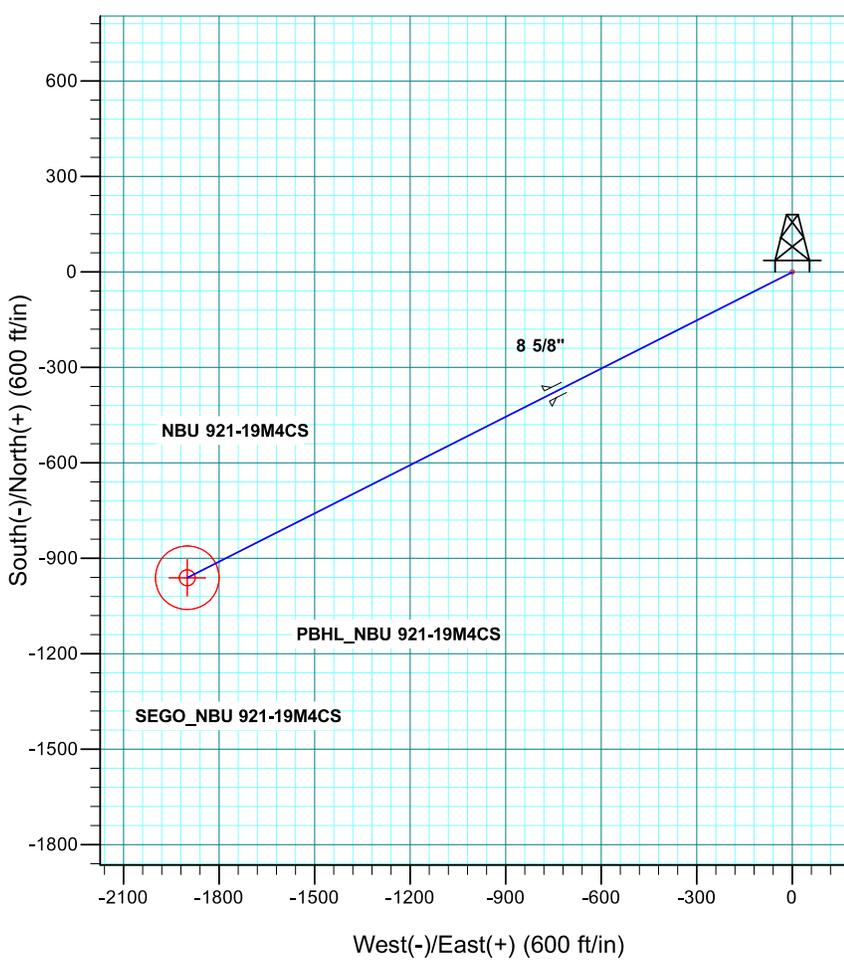
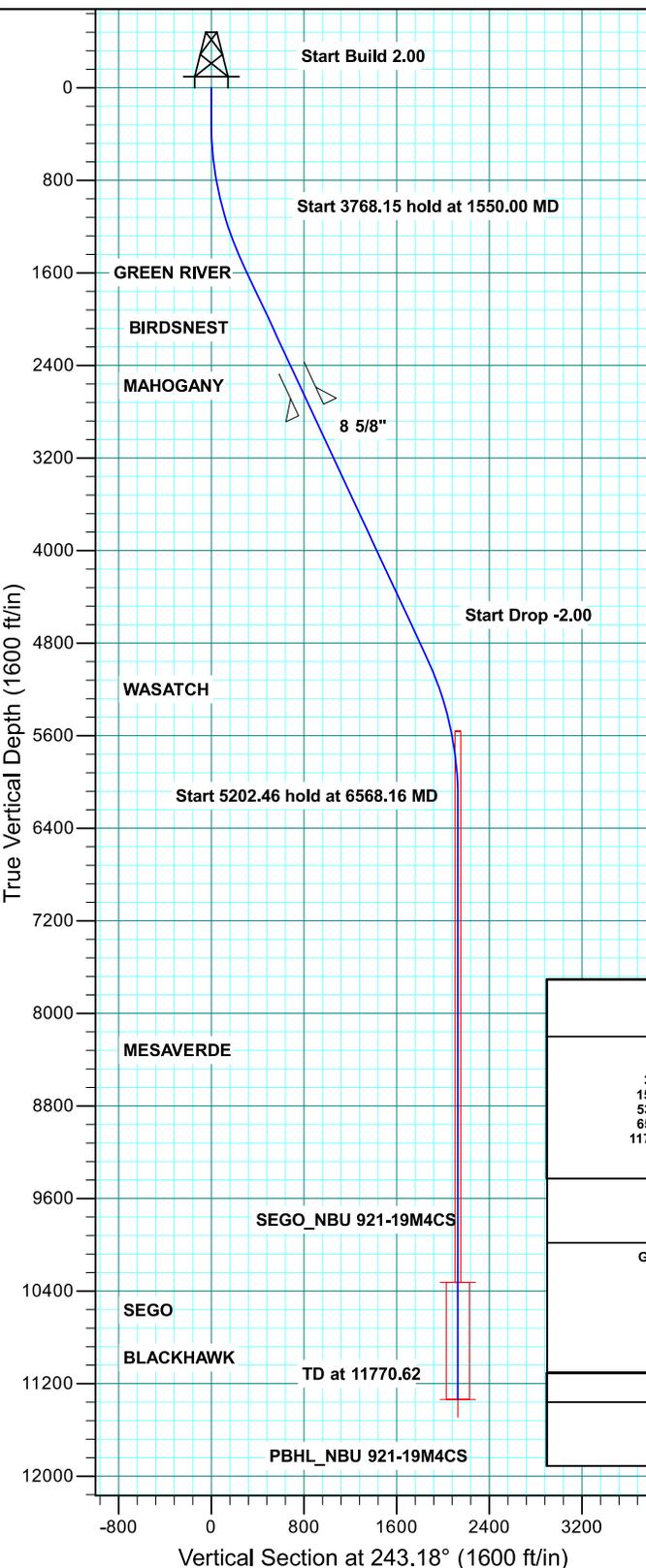
WELL DETAILS: NBU 921-19M4CS

GL 4842 & KB 4 @ 4846.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14535374.80	2033920.81	40.0171003	-109.5945947

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10325.00	-960.79	-1900.22	14534384.15	2032035.99	40.0144620	-109.6013800	Circle (25' Radius)
PBHL	11339.00	-960.79	-1900.22	14534384.15	2032035.99	40.0144620	-109.6013800	Circle (Radius: 100.00)

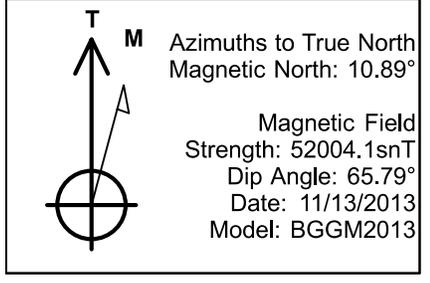


SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1550.00	25.00	243.18	1510.71	-121.11	-239.53	2.00	243.18	268.41	
5318.16	25.00	243.18	4925.82	-839.68	-1660.69	0.00	0.00	1860.90	
6568.16	0.00	0.00	6136.54	-960.79	-1900.22	2.00	180.00	2129.31	
11770.62	0.00	0.00	11339.00	-960.79	-1900.22	0.00	0.00	2129.31	PBHL_NBU 921-19M4CS

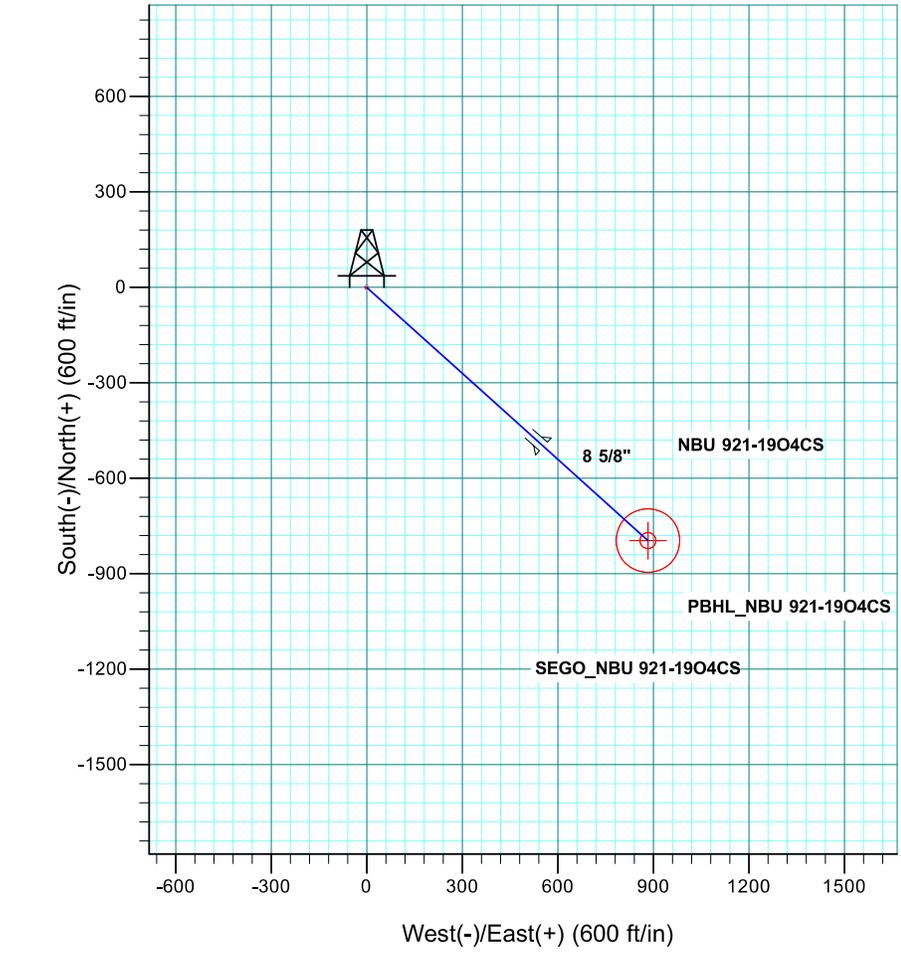
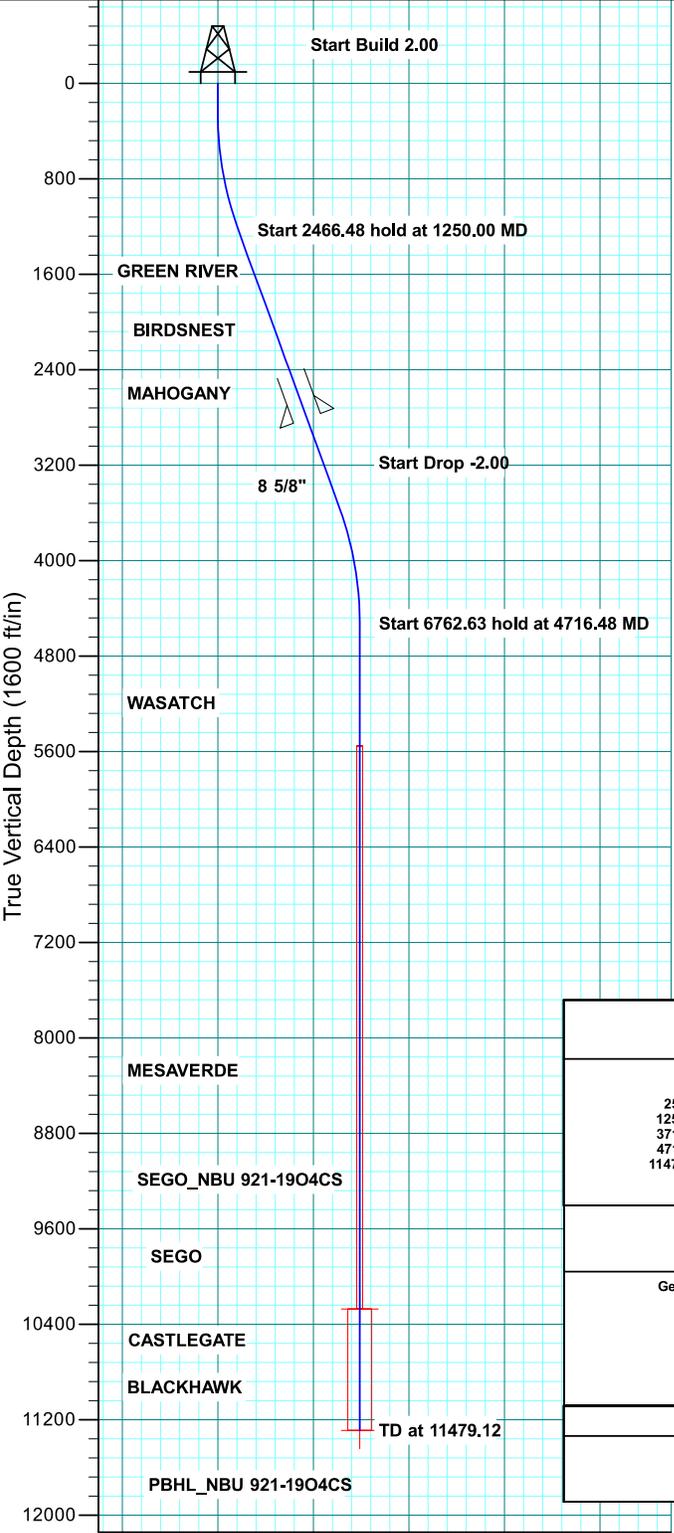
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N		
Geodetic System: Universal Transverse Mercator (US Survey Feet)		
Datum: NAD 1927 (NADCON CONUS)		
Ellipsoid: Clarke 1866		
Zone: Zone 12N (114 W to 108 W)		
Location: SECTION 19 T9S R21E		
System Datum: Mean Sea Level		

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1626.00	1677.21	GREEN RIVER
1873.00	1949.74	BIRDSNEST
2337.00	2461.71	MAHOAGANY
4962.00	5357.95	WASATCH
8079.00	8510.62	MESAVERDE
10325.00	10756.62	SEGO
10397.00	10828.62	CASTLEGATE
10739.00	11170.62	BLACKHAWK

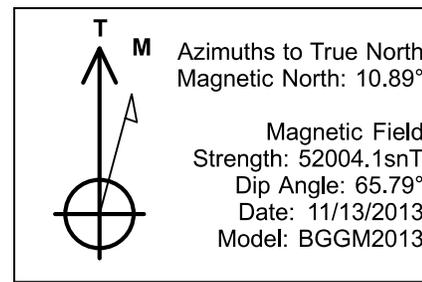
CASING DETAILS			
TVD	MD	Name	Size
2787.00	2958.23	8 5/8"	8.625



WELL DETAILS: NBU 921-19O4CS								
GL 4842 & KB 4 @ 4846.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14535354.39	2033966.51	40.0170423	-109.5944327			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10273.00	-796.24	883.19	14534572.19	2034862.14	40.0148560	-109.5912790	Circle (25' Radius)
PBHL	11290.00	-796.24	883.19	14534572.19	2034862.14	40.0148560	-109.5912790	Circle (Radius: 100.00)



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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
1250.00	20.00	132.04	1229.82	-115.69	128.32	2.00	132.04	172.77	
3716.48	20.00	132.04	3547.55	-680.55	754.87	0.00	0.00	1016.35	
4716.48	0.00	0.00	4527.37	-796.24	883.19	2.00	180.00	1189.12	
11479.12	0.00	0.00	11290.00	-796.24	883.19	0.00	0.00	1189.12	PBHL_NBU 921-19O4CS
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N									
Geodetic System: Universal Transverse Mercator (US Survey Feet)					FORMATION TOP DETAILS				
Datum: NAD 1927 (NADCON CONUS)					TVDPath	MDPath	Formation		
Ellipsoid: Clarke 1866					1602.00	1646.07	GREEN RIVER		
Zone: Zone 12N (114 W to 108 W)					1866.00	1927.01	BIRDSNEST		
Location: SECTION 19 T9S R21E					2359.00	2451.65	MAHOGANY		
System Datum: Mean Sea Level					4954.00	5143.12	WASATCH		
					8034.00	8223.12	MESAVERDE		
					10273.00	10462.12	SEGO		
					10322.00	10511.12	CASTLEGATE		
					10690.00	10879.12	BLACKHAWK		
CASING DETAILS									
TVD	MD	Name	Size						
2809.00	2930.53	8 5/8"	8.625						



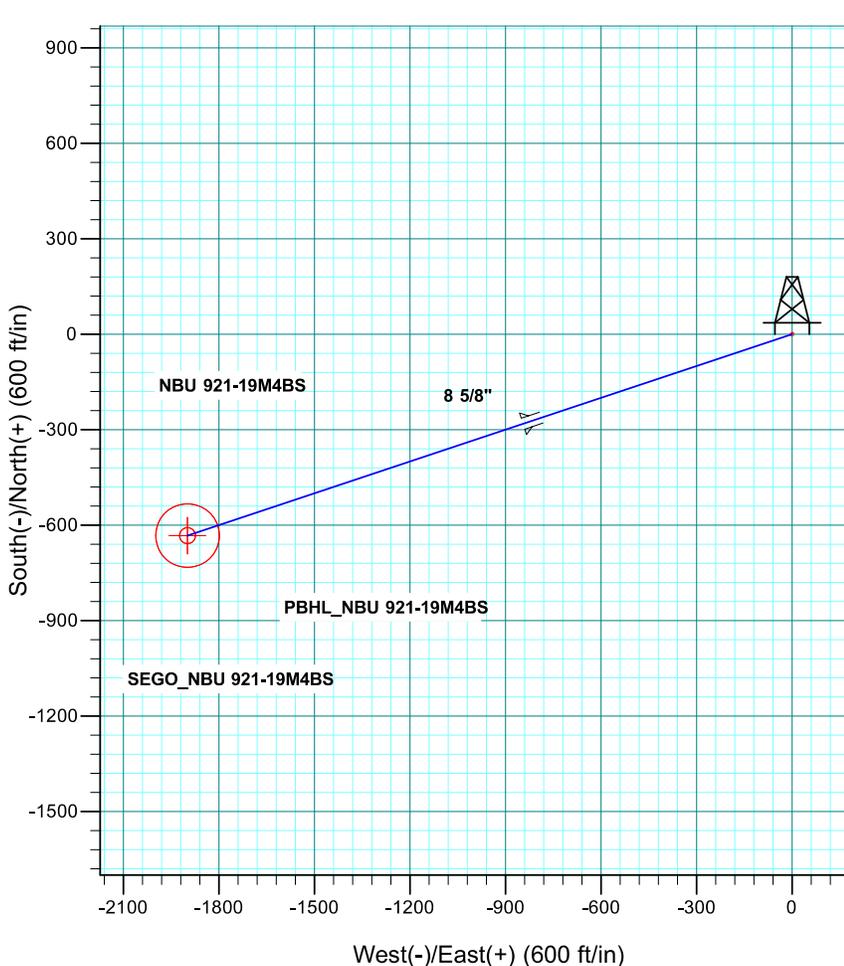
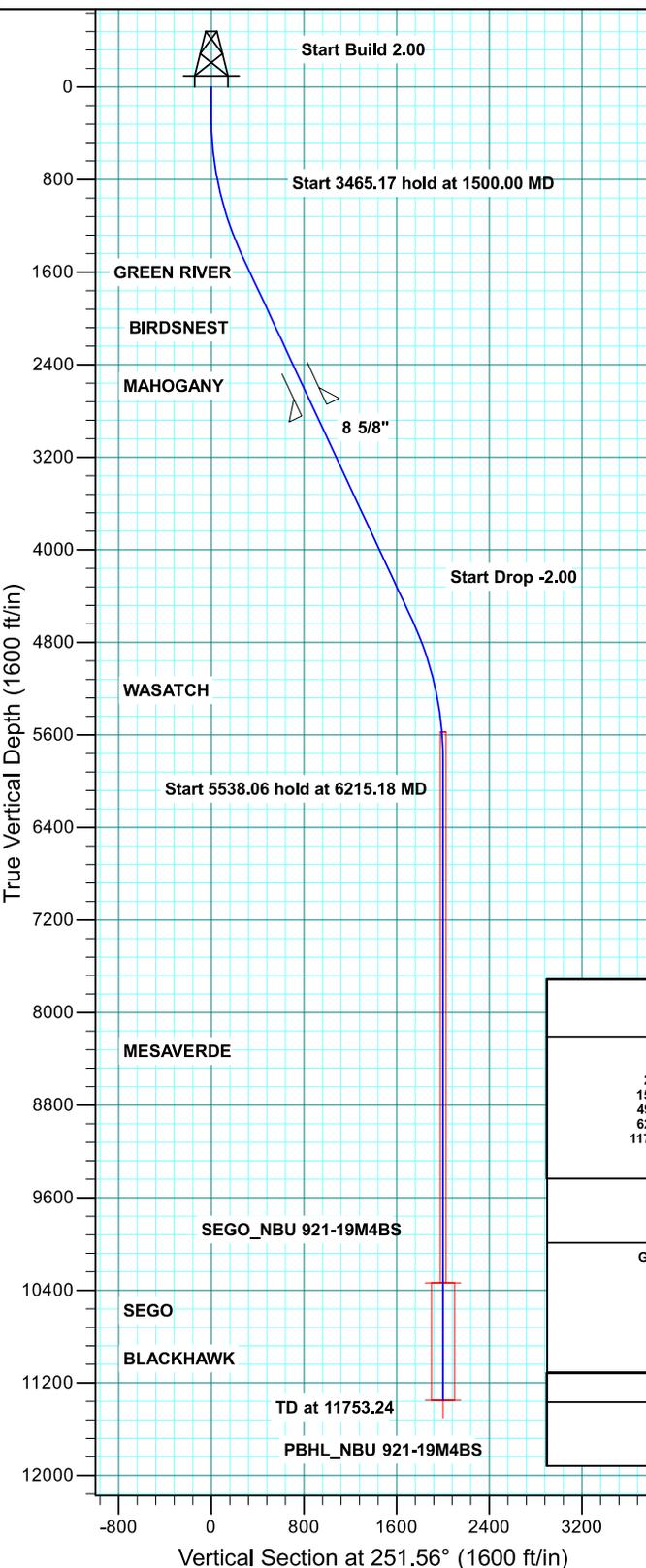
WELL DETAILS: NBU 921-19M4BS

GL 4842 & KB 4 @ 4846.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14535378.66	2033911.79	40.0171113	-109.5946267

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10336.00	-633.01	-1898.51	14534715.78	2032023.50	40.0153730	-109.6014060	Circle (25' Radius)
PBHL	11350.00	-633.01	-1898.51	14534715.78	2032023.50	40.0153730	-109.6014060	Circle (Radius: 100.00)

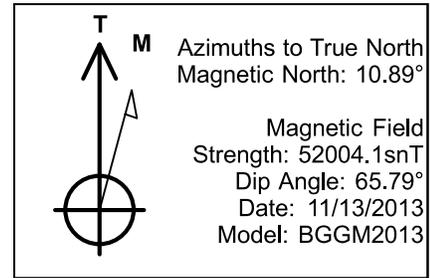


SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
1500.00	25.00	251.56	1460.71	-84.90	-254.63	2.00	251.56	268.41	
4965.18	25.00	251.56	4601.23	-548.11	-1643.88	0.00	0.00	1732.85	
6215.18	0.00	0.00	5811.94	-633.01	-1898.51	2.00	180.00	2001.26	
11753.24	0.00	0.00	11350.00	-633.01	-1898.51	0.00	0.00	2001.26	PBHL_NBU 921-19M4BS

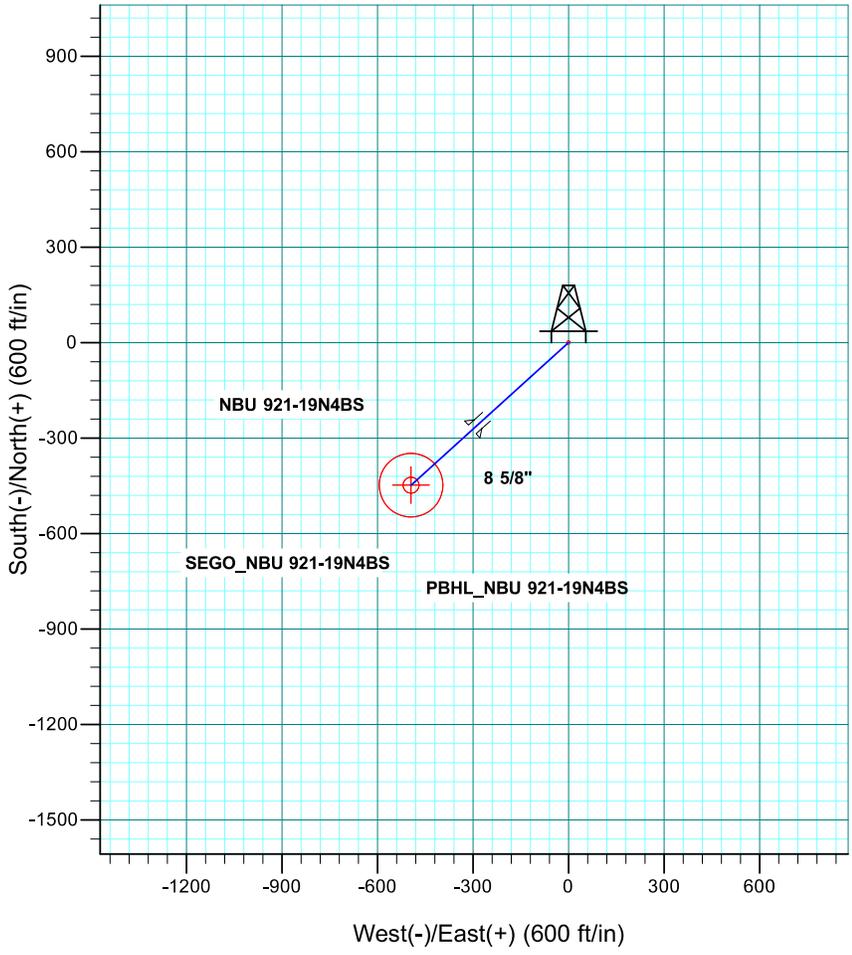
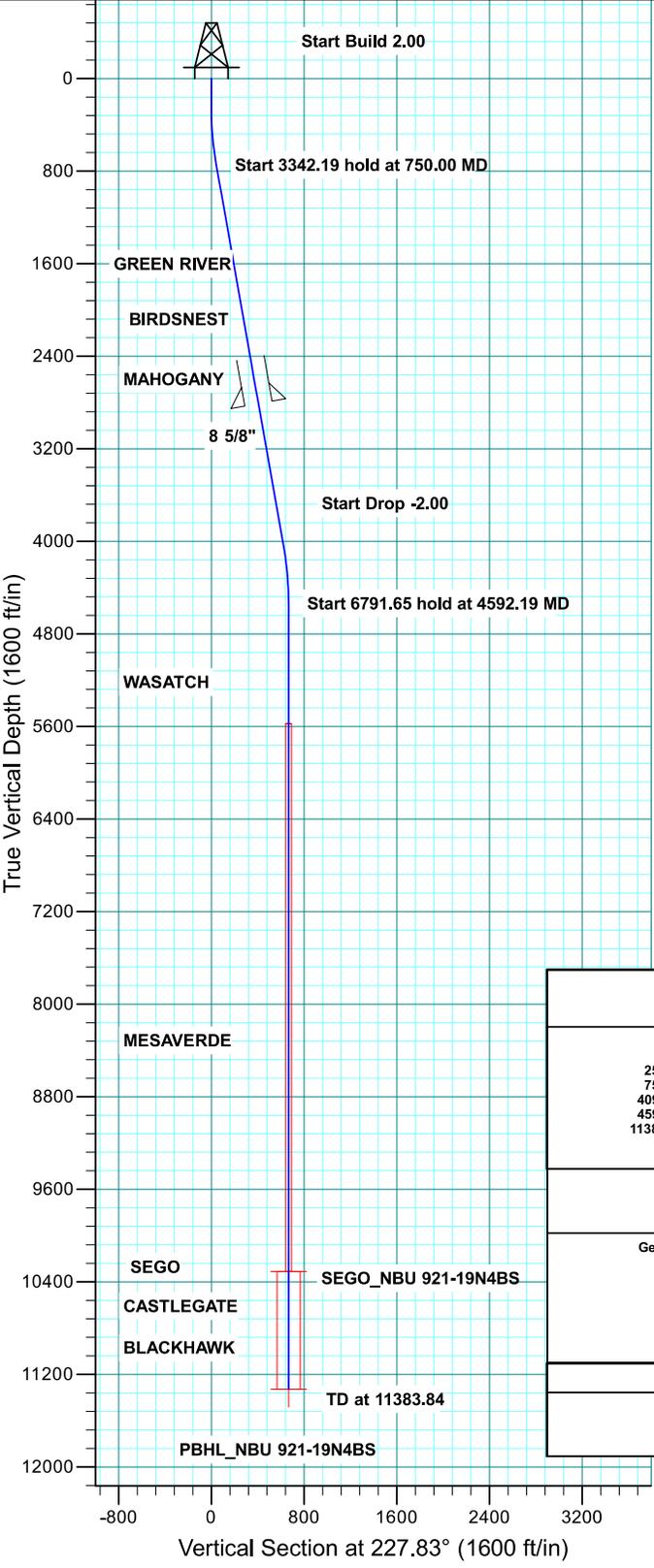
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N		
Geodetic System: Universal Transverse Mercator (US Survey Feet)		
Datum: NAD 1927 (NADCON CONUS)		
Ellipsoid: Clarke 1866		
Zone: Zone 12N (114 W to 108 W)		
Location: SECTION 19 T9S R21E		
System Datum: Mean Sea Level		

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1631.00	1687.89	GREEN RIVER
1878.00	1960.43	BIRDSNEST
2344.00	2474.60	MAHOGANY
4974.00	5364.80	WASATCH
8093.00	8496.24	MESAVERDE
10336.00	10739.24	SEGO
10409.00	10812.24	CASTLEGATE
10750.00	11153.24	BLACKHAWK

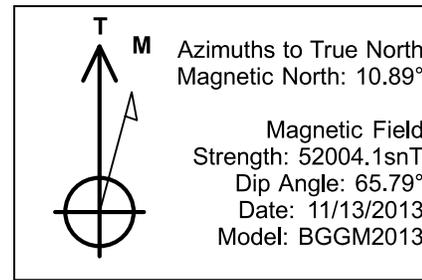
CASING DETAILS			
TVD	MD	Name	Size
2794.00	2971.12	8 5/8"	8.625



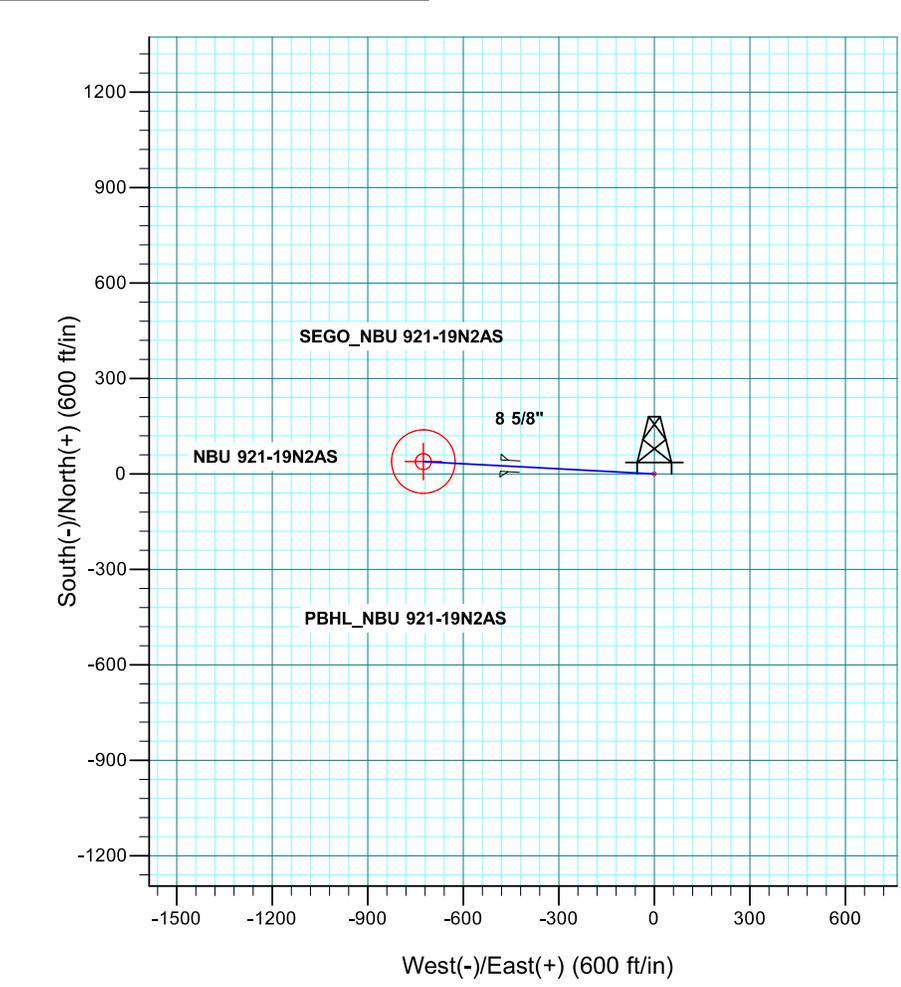
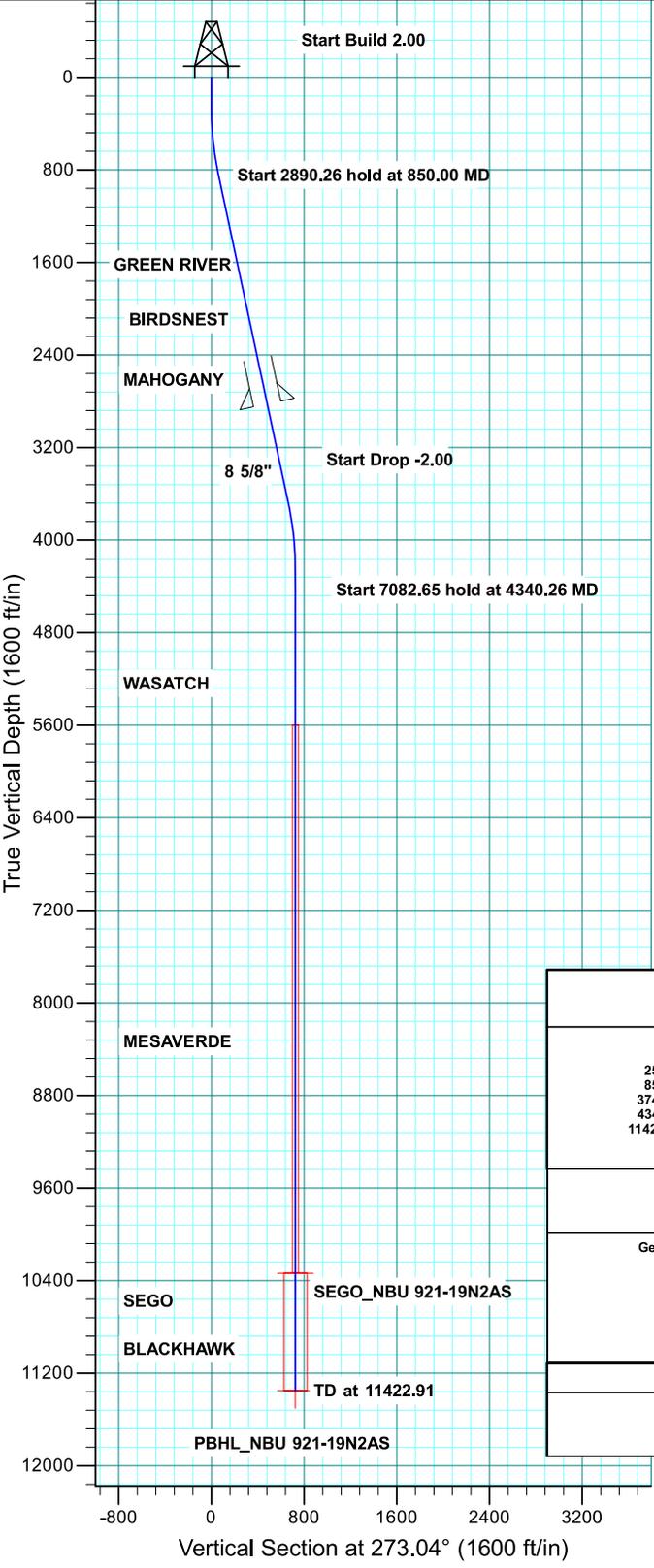
WELL DETAILS: NBU 921-19N4BS								
GL 4842 & KB 4 @ 4846.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14535370.57	2033929.84	40.0170883	-109.5945627			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10311.00	-448.07	-494.64	14534914.75	2033442.33	40.0158580	-109.5963290	Circle (25' Radius)
PBHL	11328.00	-448.07	-494.64	14534914.75	2033442.33	40.0158580	-109.5963290	Circle (Radius: 100.00)



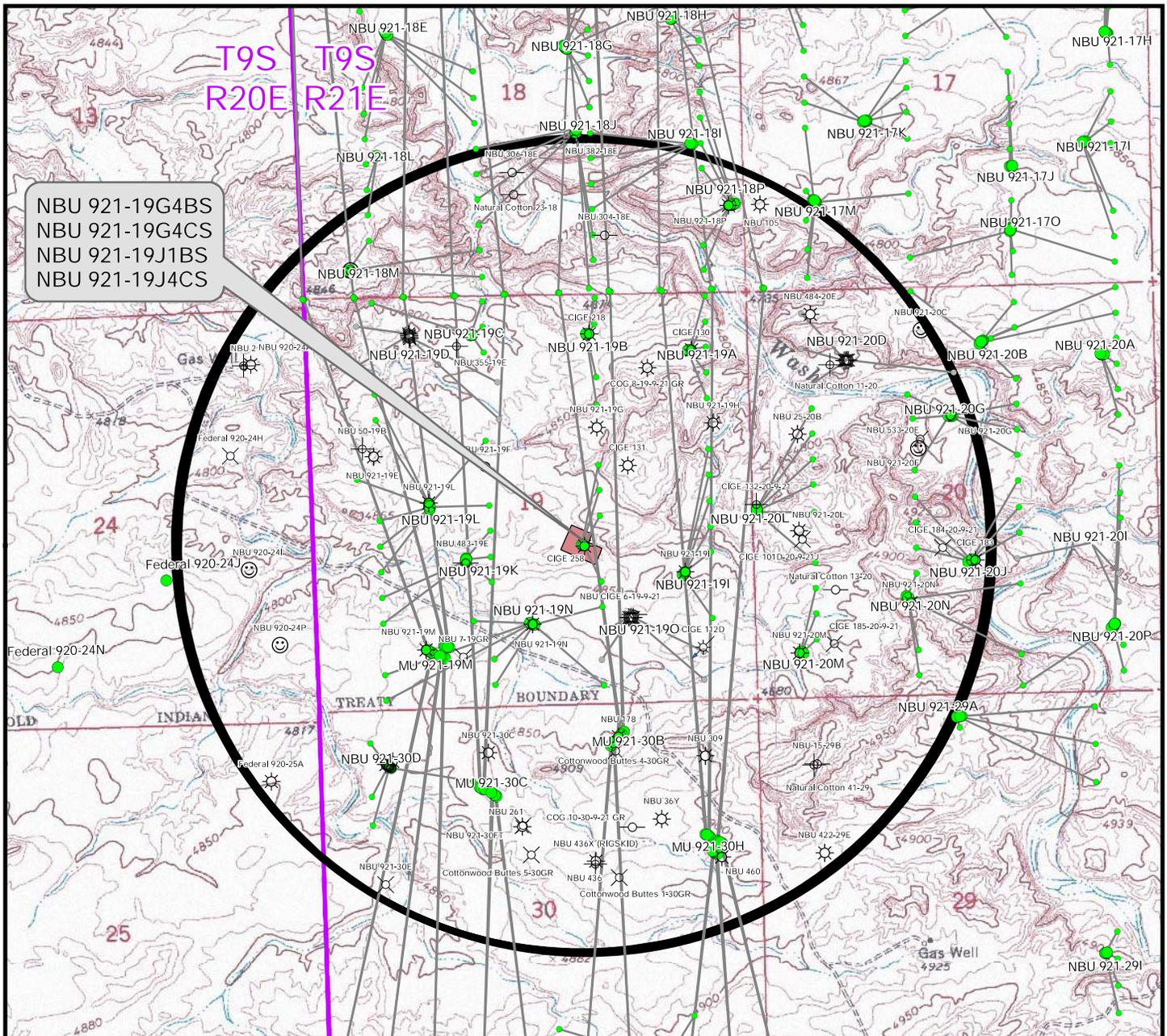
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
750.00	10.00	227.83	747.47	-29.22	-32.26	2.00	227.83	43.52	
4092.19	10.00	227.83	4038.88	-418.85	-462.39	0.00	0.00	623.89	
4592.19	0.00	0.00	4536.35	-448.07	-494.64	2.00	180.00	667.41	
11383.84	0.00	0.00	11328.00	-448.07	-494.64	0.00	0.00	667.41	PBHL_NBU 921-19N4BS
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N									
Geodetic System: Universal Transverse Mercator (US Survey Feet)					FORMATION TOP DETAILS				
Datum: NAD 1927 (NADCON CONUS)					TVDPath	MDPath	Formation		
Ellipsoid: Clarke 1866					1630.00	1646.15	GREEN RIVER		
Zone: Zone 12N (114 W to 108 W)					1878.00	1897.97	BIRDSNEST		
Location: SECTION 19 T9S R21E					2359.00	2386.40	MAHOGANY		
System Datum: Mean Sea Level					4976.00	5031.84	WASATCH		
					8073.00	8128.84	MESAVERDE		
					10311.00	10366.84	SEGO		
					10369.00	10424.84	CASTLEGATE		
					10728.00	10783.84	BLACKHAWK		
CASING DETAILS									
TVD	MD	Name	Size						
2809.00	2843.34	8 5/8"	8.625						



WELL DETAILS: NBU 921-19N2AS								
GL 4842 & KB 4 @ 4846.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14535382.89	2033902.48	40.0171233	-109.5946597			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10336.00	38.51	-725.10	14535409.95	2033176.86	40.0172290	-109.5972490	Circle (25' Radius)
PBHL	11351.00	38.51	-725.10	14535409.95	2033176.86	40.0172290	-109.5972490	Circle (Radius: 100.00)



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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
850.00	12.00	273.04	845.62	3.32	-62.51	2.00	273.04	62.60	
3740.26	12.00	273.04	3672.72	35.19	-62.59	0.00	0.00	663.52	
4340.26	0.00	0.00	4268.35	38.51	-725.10	2.00	180.00	726.12	
11422.91	0.00	0.00	11351.00	38.51	-725.10	0.00	0.00	726.12	PBHL_NBU 921-19N2AS
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N									
Geodetic System: Universal Transverse Mercator (US Survey Feet)					FORMATION TOP DETAILS				
Datum: NAD 1927 (NADCON CONUS)					TVDPath	MDPath	Formation		
Ellipsoid: Clarke 1866					1647.00	1669.28	GREEN RIVER		
Zone: Zone 12N (114 W to 108 W)					1892.00	1919.75	BIRDSNEST		
Location: SECTION 19 T9S R21E					2374.00	2412.52	MAHOGAN		
System Datum: Mean Sea Level					4998.00	5069.91	WASATCH		
					8093.00	8164.91	MESAVERDE		
					10336.00	10407.91	SEGO		
					10396.00	10467.91	CASTLEGATE		
					10751.00	10822.91	BLACKHAWK		
CASING DETAILS									
TVD	MD	Name	Size						
2824.00	2872.57	8 5/8"	8.625						



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 921-19G4BS	CIGE 131	380ft
NBU 921-19G4CS	CIGE 131	493ft
NBU 921-19J1BS	CIGE 258	440ft
NBU 921-19J4CS	CIGE 258	510ft

Legend

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

WELL PAD - NBU 921-19J

TOPO C
NBU 921-19G4BS, NBU 921-19G4CS,
NBU 921-19J1BS & NBU 921-19J4CS
LOCATED IN SECTION 19, T9S, R21E
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.
 1099 18th Street
 Denver, Colorado 80202

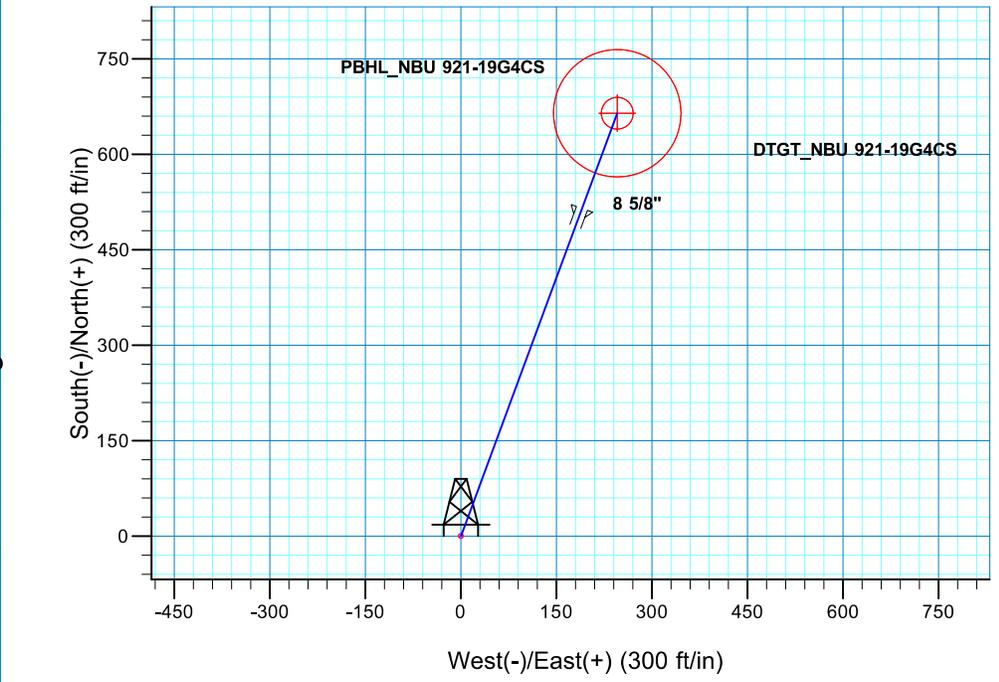
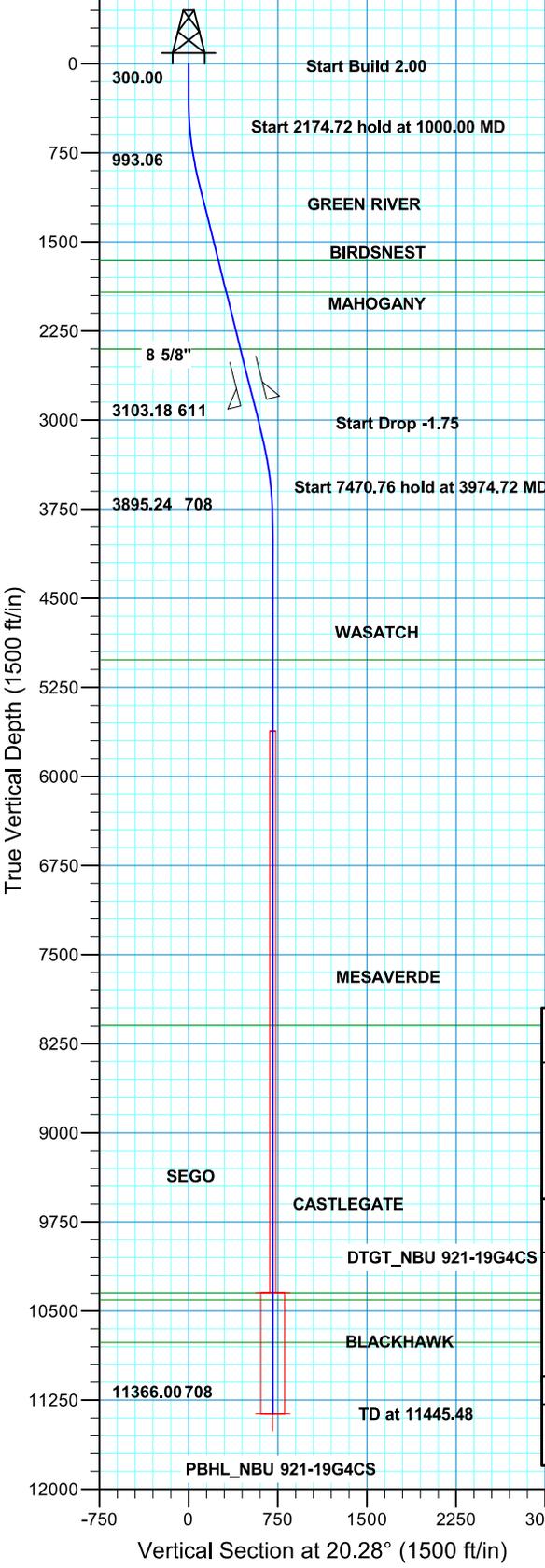
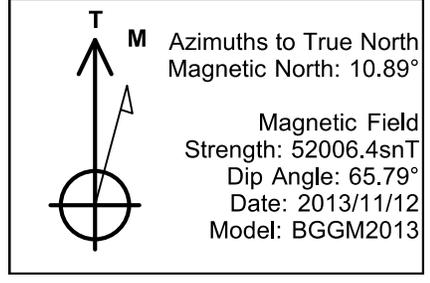


CONSULTING, LLC
 2155 North Main Street
 Sheridan, Wyoming 82801
 Phone 307-674-0609
 Fax 307-674-0182



SCALE: 1" = 2,000ft	NAD83 USP Central	12
DRAWN: TL	DATE: 28 Sep 2012	
REVISED: TL	DATE: 17 Dec 2013	

WELL DETAILS: NBU 921-19G4CS								
GL 4829 & KB 4 @ 4833.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14536391.42	2034590.90	40,0198623	-109,5921448			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
DTGT	10346.00	664.56	245.52	14537059.78	2034825.89	40,0216870	-109,5912680	Circle (Radius: 25.00)
- plan hits target center								
PBHL	11366.00	664.56	245.52	14537059.78	2034825.89	40,0216870	-109,5912680	Circle (Radius: 100.00)
- plan hits target center								



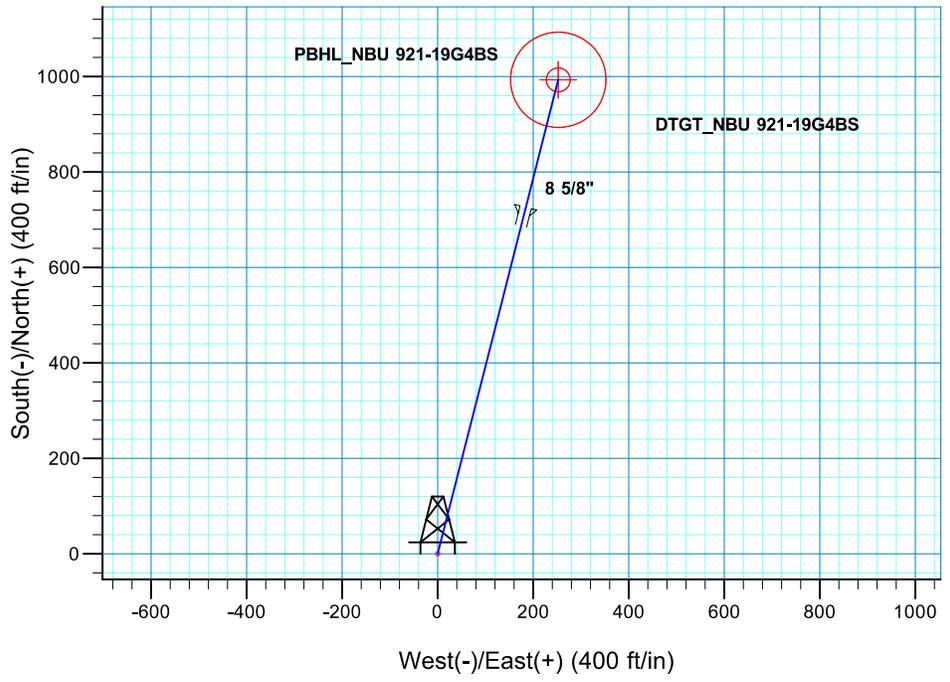
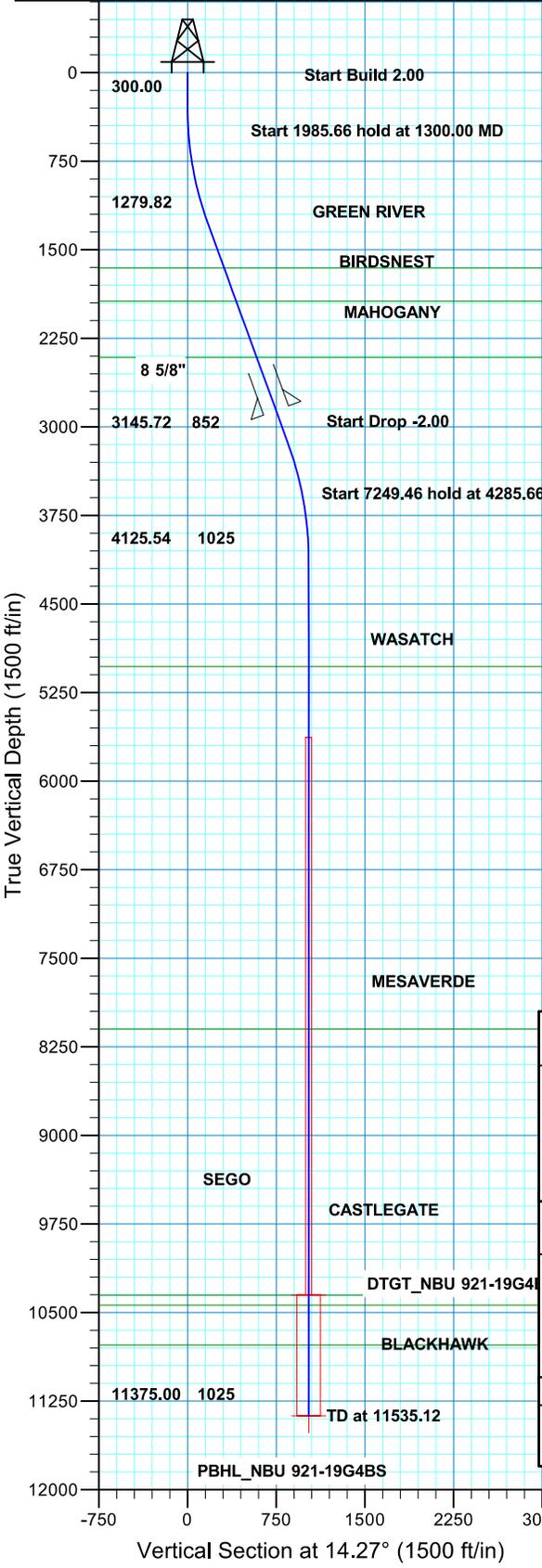
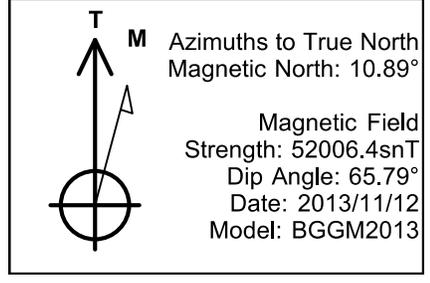
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1000.00	14.00	20.28	993.06	79.82	29.49	2.00	20.28	85.10	
3174.72	14.00	20.28	3103.18	573.33	211.82	0.00	0.00	611.21	
3974.72	0.00	0.00	3895.24	664.56	245.52	1.75	180.00	708.46	
11445.48	0.00	0.00	11366.00	664.56	245.52	0.00	0.00	708.46	PBHL_NBU 921-19G4CS

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 19 T9S R21E		
System Datum: Mean Sea Level		

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1660.00	1687.36	GREEN RIVER
1923.00	1958.41	BIRDSNEST
2403.00	2453.11	MAHOGANY
5018.00	5097.48	WASATCH
8093.00	8172.48	MESAVERDE
10346.00	10425.48	SEGO
10408.00	10487.48	CASTLEGATE
10766.00	10845.48	BLACKHAWK

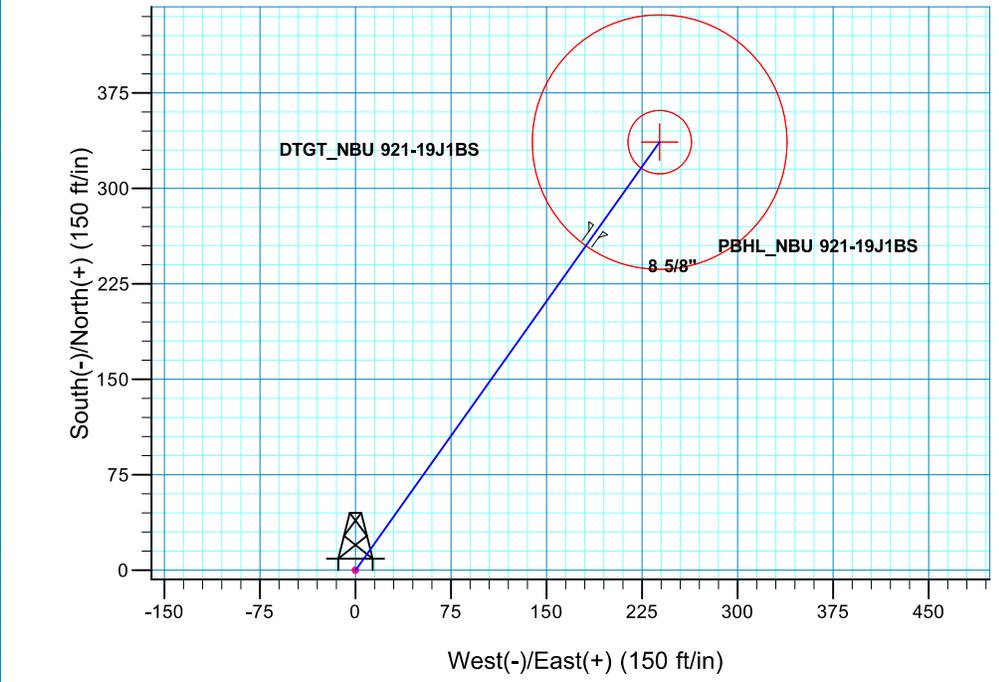
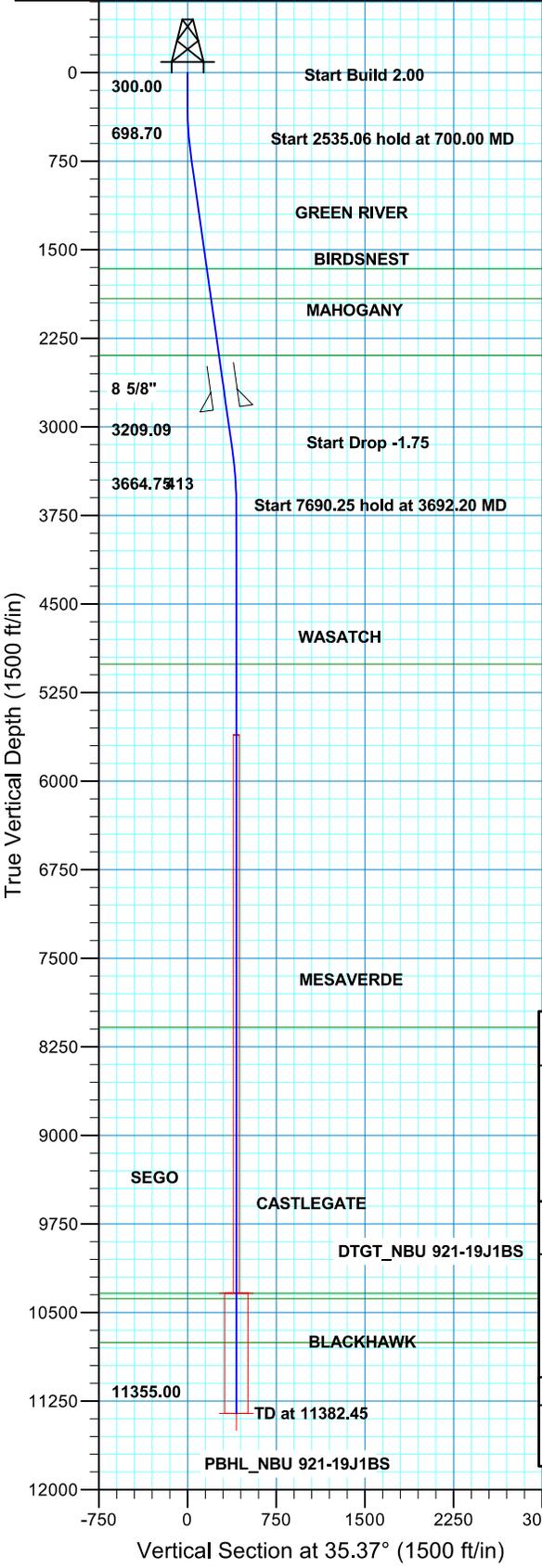
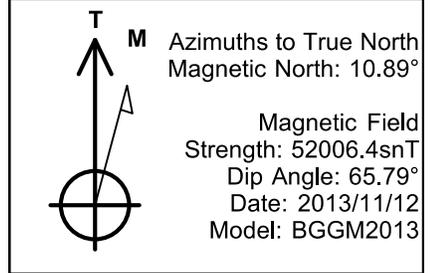
CASING DETAILS			
TVD	MD	Name	Size
2853.00	2916.88	8 5/8"	8.625

WELL DETAILS: NBU 921-19G4BS								
GL 4829 & KB 4 @ 4833.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14536395.65	2034581.87	40,0198743	-109,5921768			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
DTGT	10353.00	993.07	252.52	14537392.58	2034818.66	40,0226010	-109,5912750	Circle (Radius: 25.00)
PBHL	11375.00	993.07	252.52	14537392.58	2034818.66	40,0226010	-109,5912750	Circle (Radius: 100.00)
- plan hits target center - 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	14,27	1279,82	167,44	42,58	2,00	14,27	172,77	
3285,66	20,00	14,27	3145,72	825,63	209,94	0,00	0,00	851,90	
4285,66	0,00	0,00	4125,54	993,07	252,52	2,00	180,00	1024,67	
11535,12	0,00	0,00	11375,00	993,07	252,52	0,00	0,00	1024,67	PBHL_NBU 921-19G4BS
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N					FORMATION TOP DETAILS				
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 19 T9S R21E System Datum: Mean Sea Level					TVDPPath	MDPath	Formation		
					1655,00	1699,26	GREEN RIVER		
					1935,00	1997,23	BIRDSNEST		
					2413,00	2505,91	MAHOGANY		
					5030,00	5190,12	WASATCH		
					8101,00	8261,12	MESAVERDE		
					10353,00	10513,12	SEGO		
					10437,00	10597,12	CASTLEGATE		
					10775,00	10935,12	BLACKHAWK		
CASING DETAILS									
TVD	MD	Name	Size						
2863,00	2984,79	8 5/8"	8,625						

WELL DETAILS: NBU 921-19J1BS								
GL 4829 & KB 4 @ 4833.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14536387.56	2034599.92	40.0198513	-109.5921128			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
DTGT	10337.00	336.41	238.80	14536727.70	2034833.38	40.0207750	-109.5912600	Circle (Radius: 25.00)
PBHL	11355.00	336.41	238.80	14536727.70	2034833.38	40.0207750	-109.5912600	Circle (Radius: 100.00)
- plan hits target center								



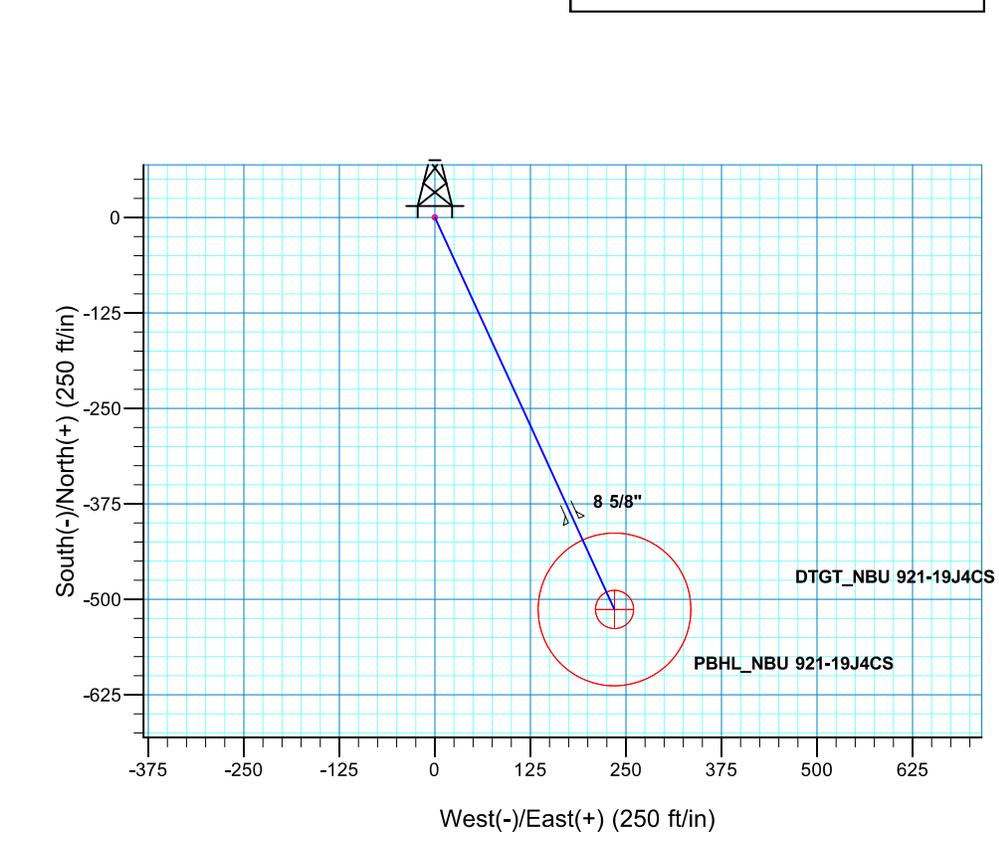
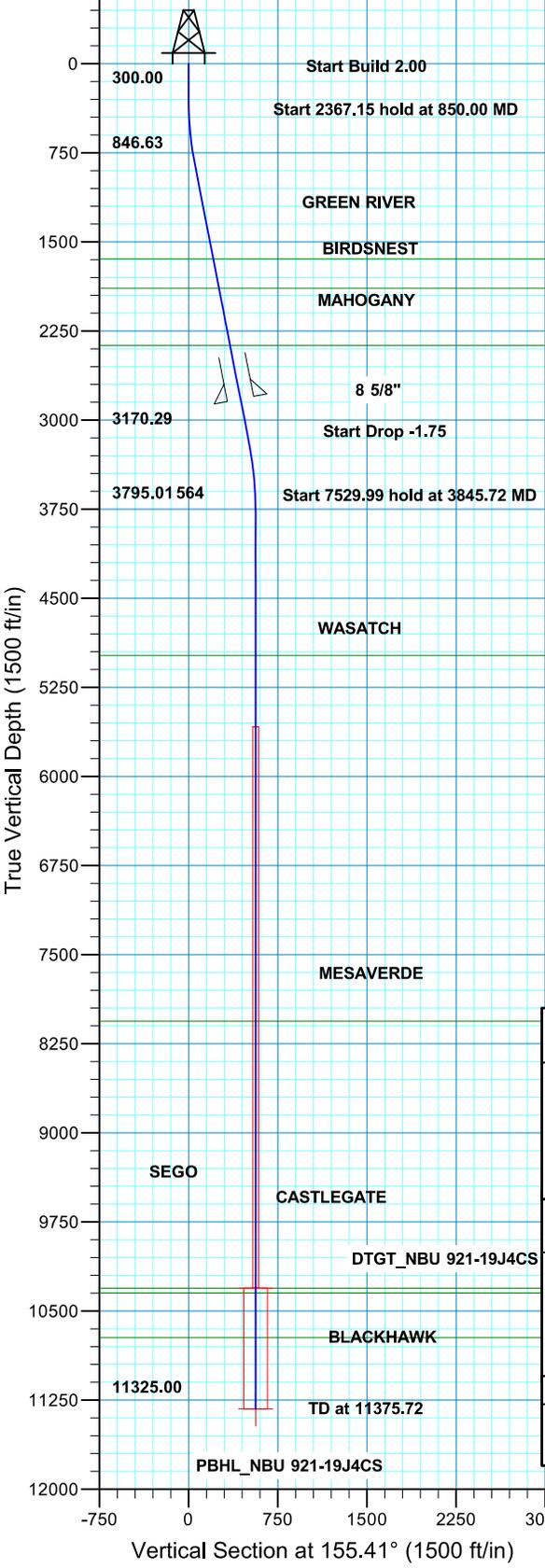
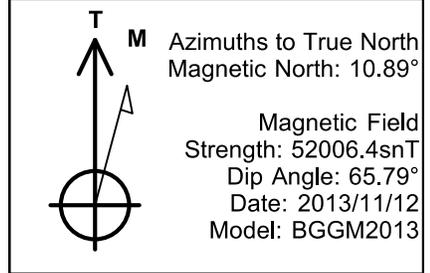
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
700.00	8.00	35.37	698.70	22.73	16.14	2.00	35.37	27.88	
3235.06	8.00	35.37	3209.09	310.43	220.36	0.00	0.00	380.69	
3692.20	0.00	0.00	3664.75	336.41	238.80	1.75	180.00	412.55	
11382.45	0.00	0.00	11355.00	336.41	238.80	0.00	0.00	412.55	PBHL_NBU 921-19J1BS

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 19 T9S R21E		
System Datum: Mean Sea Level		

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1662.00	1672.77	GREEN RIVER
1914.00	1927.24	BIRDSNEST
2394.00	2411.96	MAHOGANY
5009.00	5036.45	WASATCH
8086.00	8113.45	MESAVERDE
10337.00	10364.45	SEGO
10383.00	10410.45	CASTLEGATE
10755.00	10782.45	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
2844.00	2866.38	8 5/8"	8.625

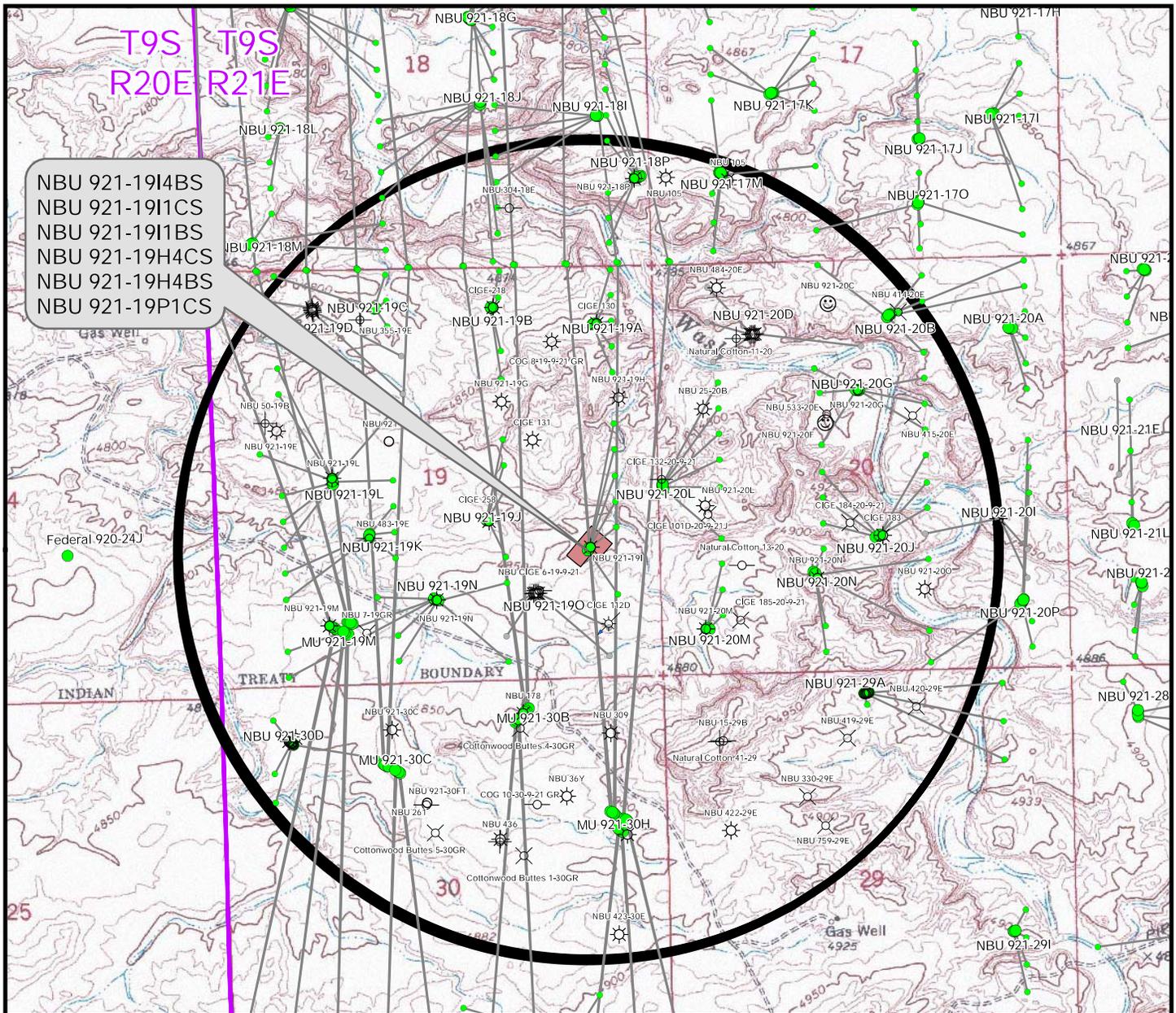
WELL DETAILS: NBU 921-19J4CS								
GL 4829 & KB 4 @ 4833.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0,00	0,00	14536383,34	2034609,23	40,0198393	-109,5920798			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
DTGT	10309,00	-513,27	234,89	14535873,85	2034852,20	40,0184300	-109,5912410	Circle (Radius: 25,00)
PBHL	11325,00	-513,27	234,89	14535873,85	2034852,20	40,0184300	-109,5912410	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	
850,00	11,00	155,41	846,63	-47,86	21,90	2,00	155,41	52,63	
3217,15	11,00	155,41	3170,29	-458,57	209,86	0,00	0,00	504,31	
3845,72	0,00	0,00	3795,01	-513,27	234,89	1,75	180,00	564,46	
11375,72	0,00	0,00	11325,00	-513,27	234,89	0,00	0,00	564,46	PBHL_NBU 921-19J4CS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N			FORMATION TOP DETAILS		
Geodetic System: Universal Transverse Mercator (US Survey Feet)	TVDPath	MDPath	Formation		
Datum: NAD 1927 (NADCON CONUS)	1890,00	1912,90	GREEN RIVER		
Ellipsoid: Clarke 1866	2373,00	2404,94	BIRDSNEST		
Zone: Zone 12N (114 W to 108 W)	4983,00	5033,72	MAHOGANY		
Location: SECTION 19 T9S R21E	8062,00	8112,72	WASATCH		
System Datum: Mean Sea Level	10309,00	10359,72	MESAVERDE		
	10348,00	10398,72	SEGO		
	10725,00	10775,72	CASTLEGATE		
			BLACKHAWK		

CASING DETAILS			
TVD	MD	Name	Size
2823,00	2863,36	8 5/8"	8,625



NBU 921-19I4BS
 NBU 921-19I1CS
 NBU 921-19I1BS
 NBU 921-19H4CS
 NBU 921-19H4BS
 NBU 921-19P1CS

File: K:\ANADARKO\2012\2012_76_NBU_921-19-30_FOCUS\GIS\Maps_ABCDE\NBU 921-19I\NBU 921-19I_C.mxd, 10/12/2012 7:32:11 PM

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 921-19I 4BS	NBU 921-19I	417ft
NBU 921-19I 1CS	CIGE 132-20-9-21	659ft
NBU 921-19I 1BS	CIGE 132-20-9-21	603ft
NBU 921-19H4CS	NBU 921-19H	670ft
NBU 921-19H4BS	NBU 921-19H	343ft
NBU 921-19P1CS	CIGE 112D	390ft

Legend

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

WELL PAD - NBU 921-19I

TOPO C
 NBU 921-19I4BS, NBU 921-19I1CS,
 NBU 921-19I1BS, NBU 921-19H4CS,
 NBU 921-19H4BS & NBU 921-19P1CS
 LOCATED IN SECTION 19, T9S, R21E,
 S.L.B.&M., Uintah County, Utah

Kerr-McGee Oil & Gas Onshore L.P.

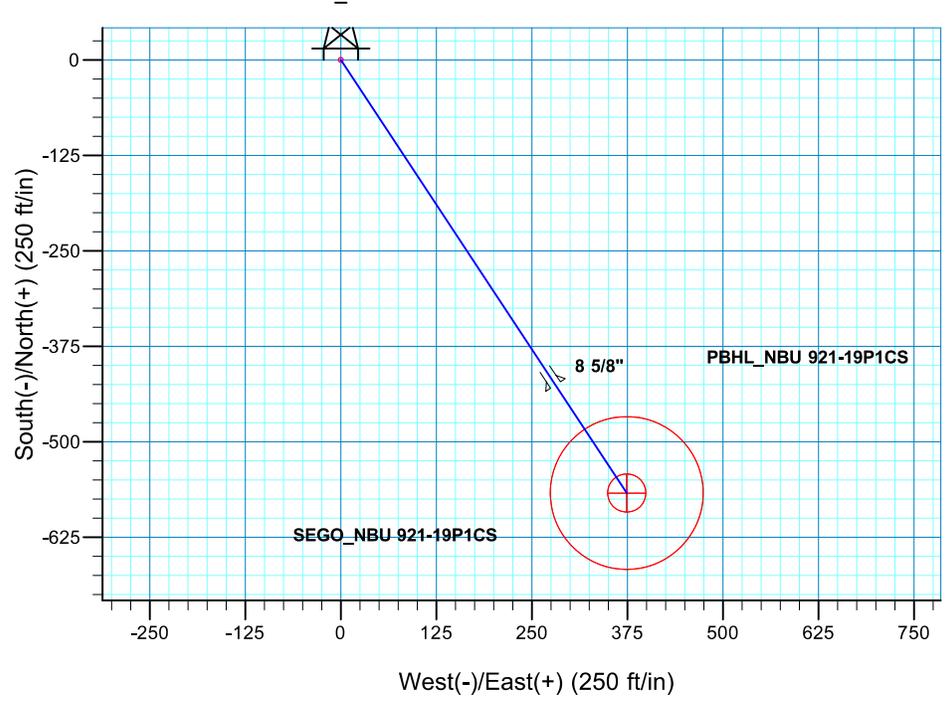
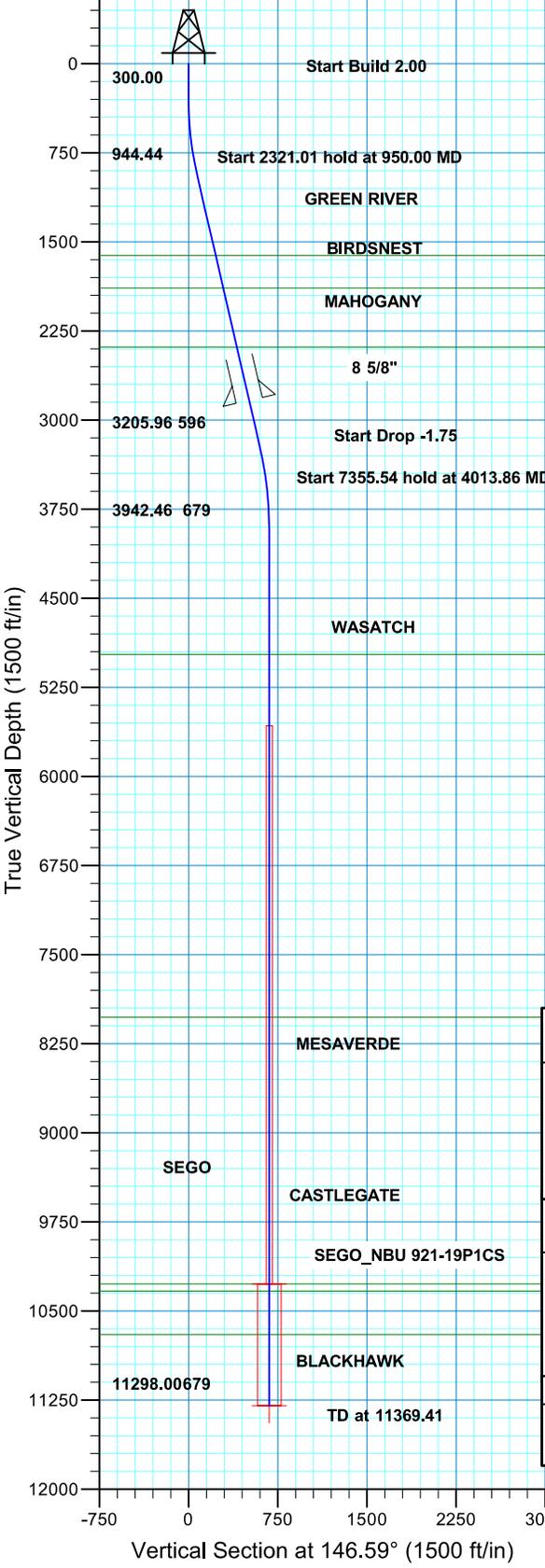
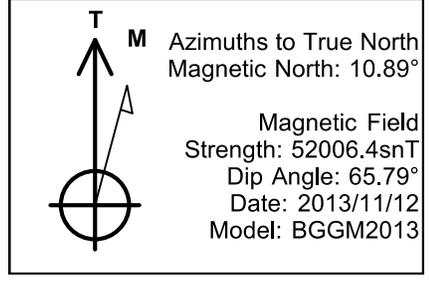
1099 18th Street
 Denver, Colorado 80202



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

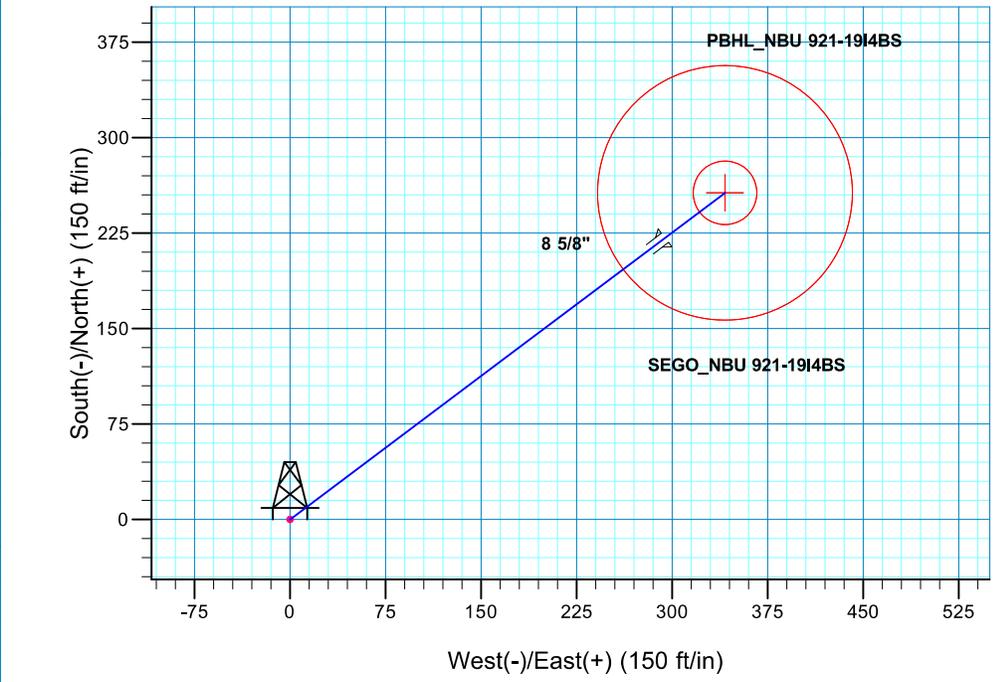
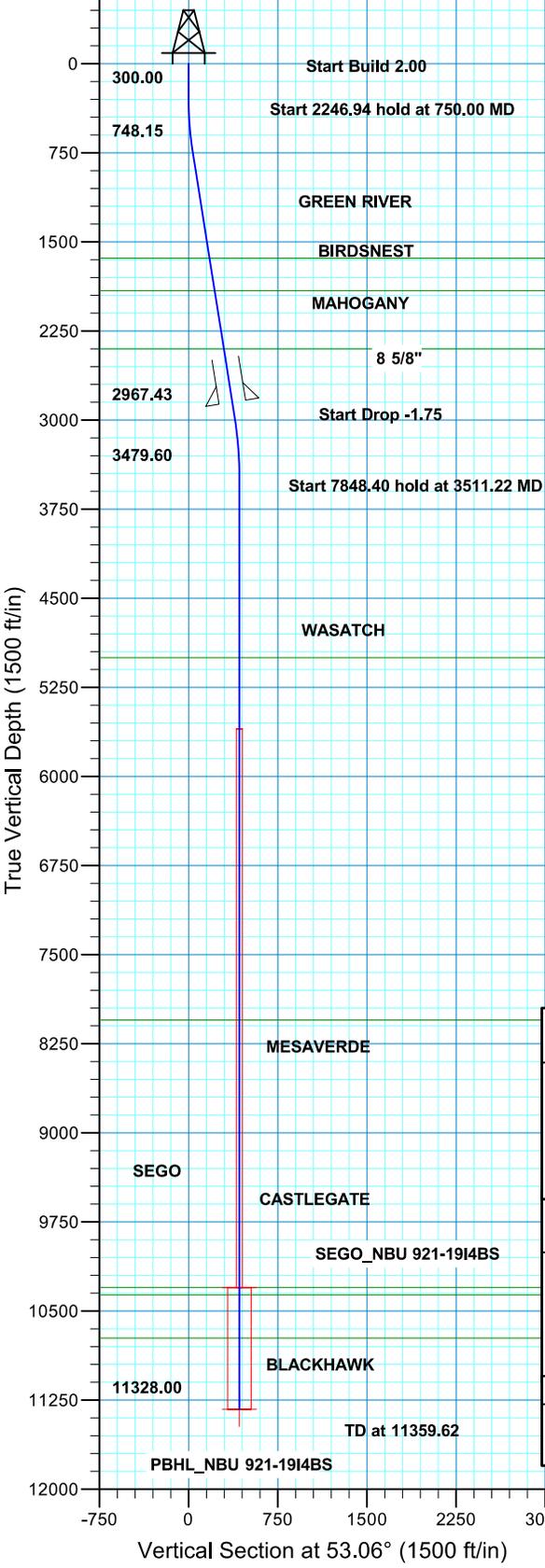
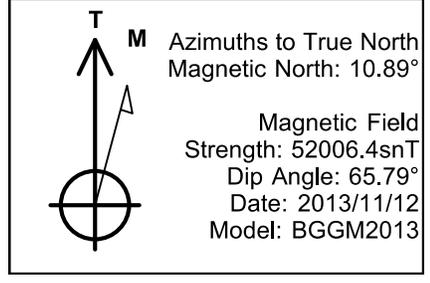
SCALE: 1" = 2,000ft	NAD83 USP Central	14 14 OF 18
DRAWN: TL	DATE: 28 Sep 2012	
REVISED: TL	DATE: 17 Dec 2013	

WELL DETAILS: NBU 921-19P1CS								
GL 4844 & KB 4 @ 4848.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14535993.75	2035884.87	40.0187143	-109.5875470			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10273.00	-567.17	374.13	14535432.59	2036267.95	40.0171570	-109.5862110	Circle (Radius: 25.00)
PBHL	11298.00	-567.17	374.13	14535432.59	2036267.95	40.0171570	-109.5862110	Circle (Radius: 100.00)
- plan hits target center - 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	
950.00	13.00	146.59	944.44	-61.29	40.43	2.00	146.59	73.42	
3271.01	13.00	146.59	3205.96	-497.12	327.03	0.00	0.00	595.54	
4013.86	0.00	0.00	3942.46	-567.17	374.13	1.75	180.00	679.45	
11369.41	0.00	0.00	11298.00	-567.17	374.13	0.00	0.00	679.45	PBHL_NBU 921-19P1CS
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N							FORMATION TOP DETAILS		
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 19 T9S R21E System Datum: Mean Sea Level							TVDPath	MDPath	Formation
							1889.00	1919.41	BIRDSNEST
							2386.00	2429.48	MAHOGANY
							4974.00	5045.41	WASATCH
							8027.00	8098.41	MESAVERDE
							10273.00	10344.41	SEGO
							10332.00	10403.41	CASTLEGATE
							10698.00	10769.41	BLACKHAWK
CASING DETAILS									
	TVD	MD	Name	Size					
	2836.00	2891.32	8 5/8"	8.625					

WELL DETAILS: NBU 921-1914BS								
GL 4844 & KB 4 @ 4848.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0,00	0,00	14536032,14	2035917,03	40,0188183	-109,5874300			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10302,00	256,65	341,36	14536294,18	2036254,28	40,0195230	-109,5862110	Circle (Radius: 25,00)
PBHL	11328,00	256,65	341,36	14536294,18	2036254,28	40,0195230	-109,5862110	Circle (Radius: 100,00)
- plan hits target center								

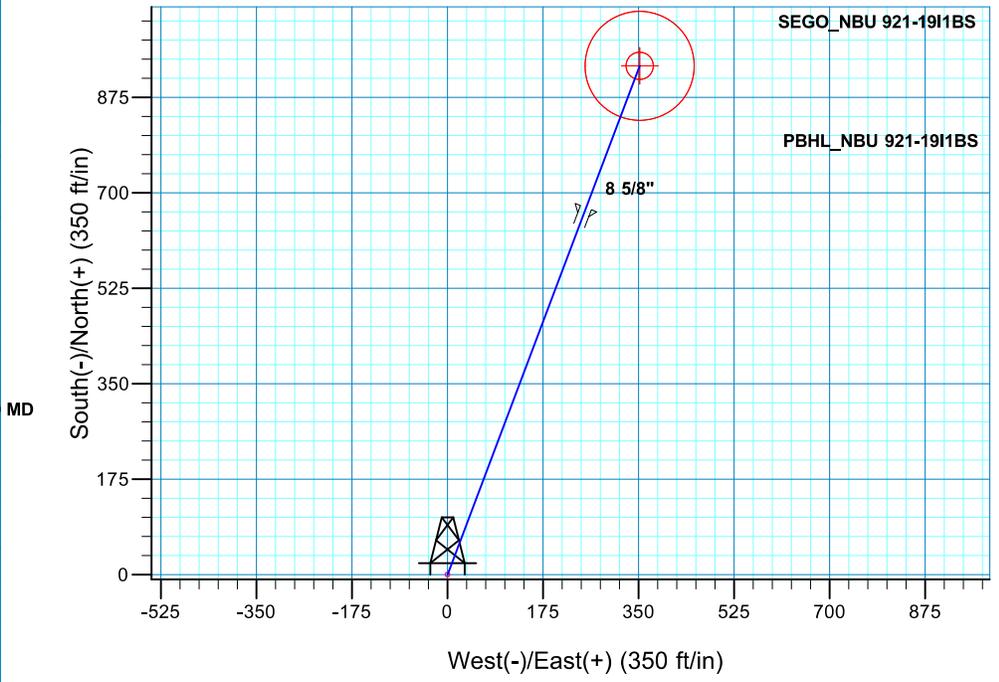
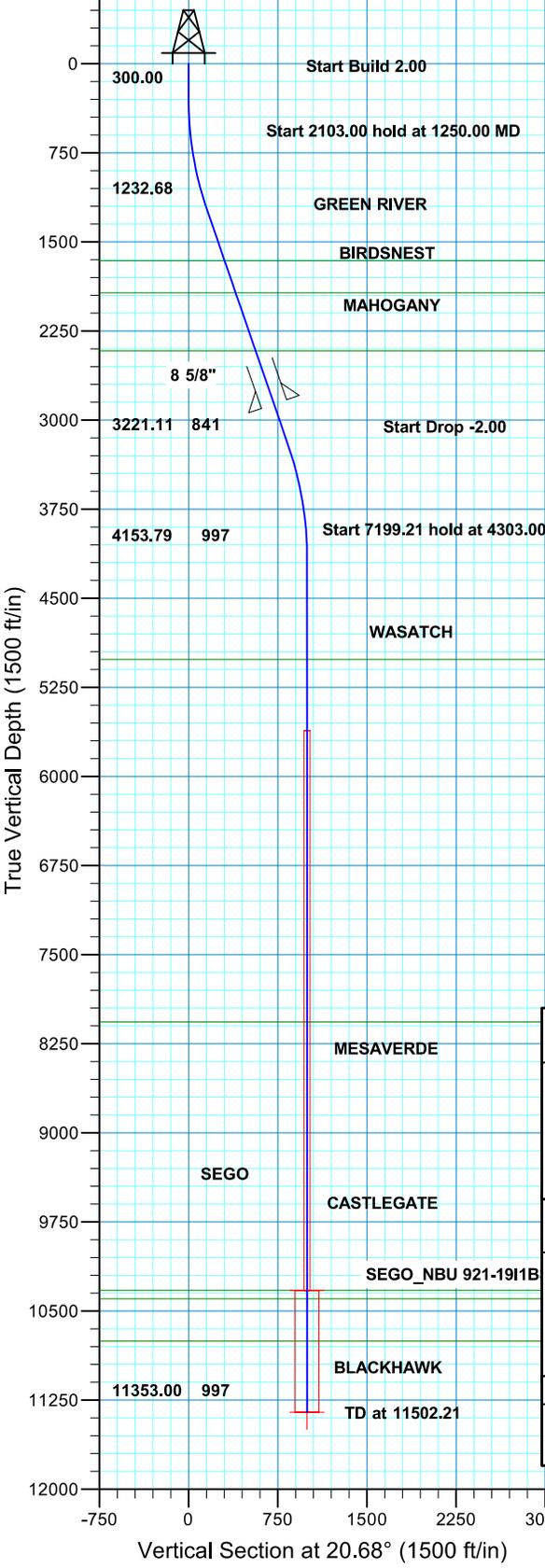
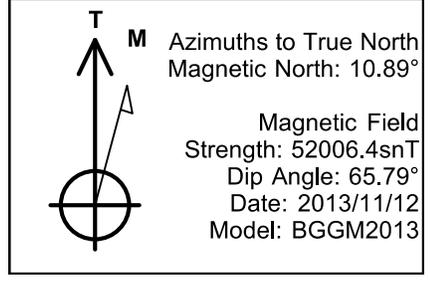


SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
300,00	0,00	0,00	300,00	0,00	0,00	0,00	0,00	0,00	
750,00	9,00	53,06	748,15	21,20	28,19	2,00	53,06	35,27	
2986,94	9,00	53,06	2967,43	232,43	309,14	0,00	0,00	386,77	
3511,22	0,00	0,00	3479,60	256,65	341,36	1,75	180,00	427,08	
11359,62	0,00	0,00	11328,00	256,65	341,36	0,00	0,00	427,08	PBHL_NBU 921-1914BS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N			FORMATION TOP DETAILS		
Geodetic System: Universal Transverse Mercator (US Survey Feet)	TVDPPath	MDPath	Formation		
Datum: NAD 1927 (NADCON CONUS)	1839,00	1851,95	GREEN RIVER		
Ellipsoid: Clarke 1866	1912,00	1928,36	BIRDSNEST		
Zone: Zone 12N (114 W to 108 W)	2401,00	2423,45	MAHOGANY		
Location: SECTION 19 T9S R21E	5000,00	5031,62	WASATCH		
System Datum: Mean Sea Level	8051,00	8082,62	MESAVERDE		
	10302,00	10333,62	SEGO		
	10365,00	10396,62	CASTLEGATE		
	10728,00	10759,62	BLACKHAWK		

CASING DETAILS			
TVD	MD	Name	Size
2851,00	2879,06	8 5/8"	8,625

WELL DETAILS: NBU 921-191BS						
GL 4844 & KB 4 @ 4848.00ft (ASSUMED)						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	14536016.64	2035904.12	40.0187763	-109.5874770	
DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
SEGO	10326.00	932.61	351.99	14536954.72	2036241.27	40.0213370
- plan hits target center						
PBHL	11353.00	932.61	351.99	14536954.72	2036241.27	40.0213370
- plan hits target center						
Shape						
Circle (Radius: 25.00)						
Circle (Radius: 100.00)						

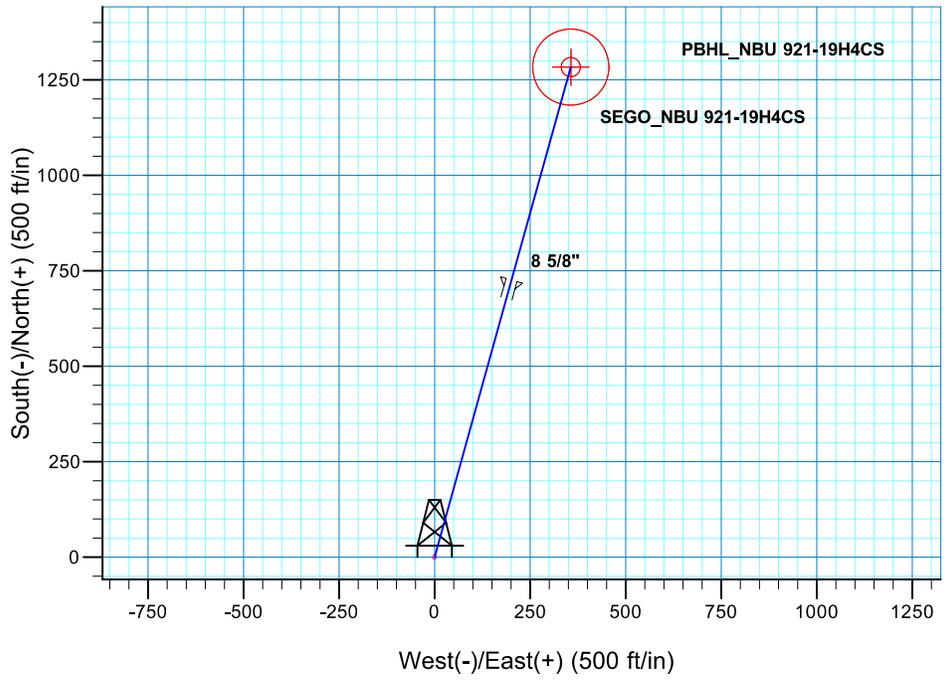
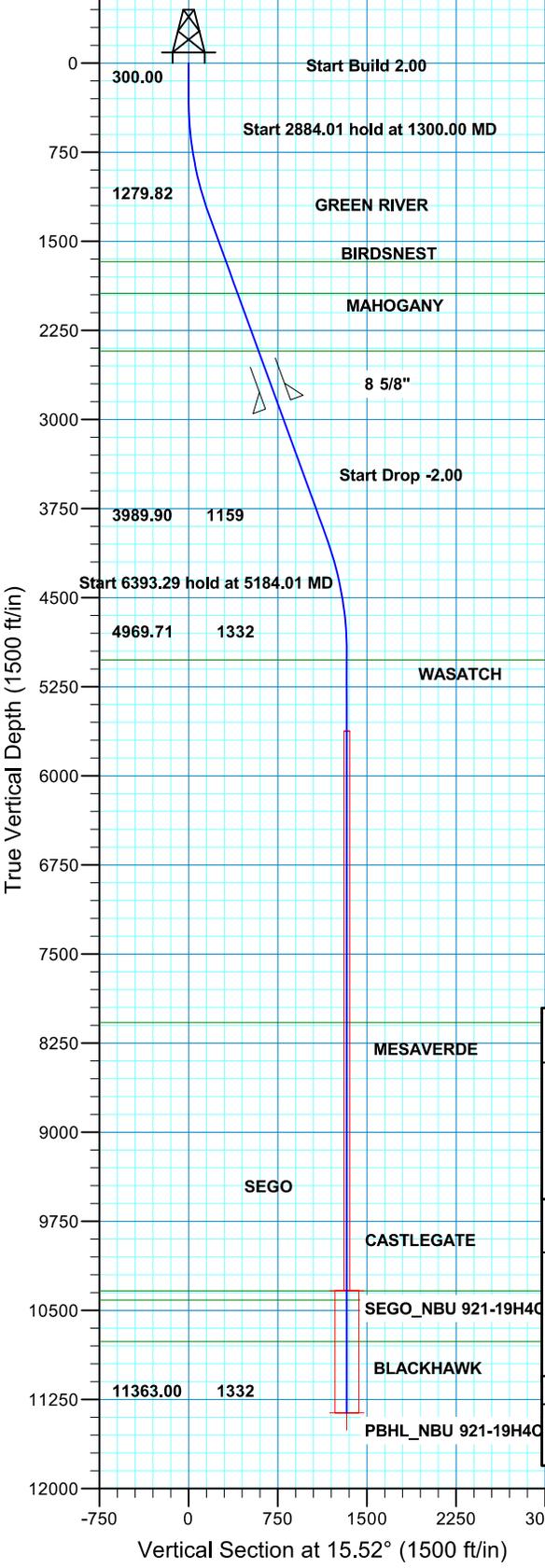
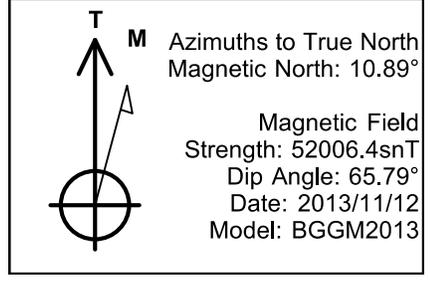


SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1250.00	19.00	20.68	1232.68	146.02	55.11	2.00	20.68	156.08	
3353.00	19.00	20.68	3221.11	786.59	296.88	0.00	0.00	840.75	
4303.00	0.00	0.00	4153.79	932.61	351.99	2.00	180.00	996.83	
11502.21	0.00	0.00	11353.00	932.61	351.99	0.00	0.00	996.83	PBHL_NBU 921-191BS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N			FORMATION TOP DETAILS		
Geodetic System: Universal Transverse Mercator (US Survey Feet)			TVDPath	MDPath	Formation
Datum: NAD 1927 (NADCON CONUS)			1660.00	1701.94	GREEN RIVER
Ellipsoid: Clarke 1866			1930.00	1987.50	BIRDSNEST
Zone: Zone 12N (114 W to 108 W)			2417.00	2502.56	MAHOGANY
Location: SECTION 19 T9S R21E			5015.00	5164.21	WASATCH
System Datum: Mean Sea Level			8067.00	8216.21	MESAVERDE
			10326.00	10475.21	SEGO
			10398.00	10547.21	CASTLEGATE
			10753.00	10902.21	BLACKHAWK

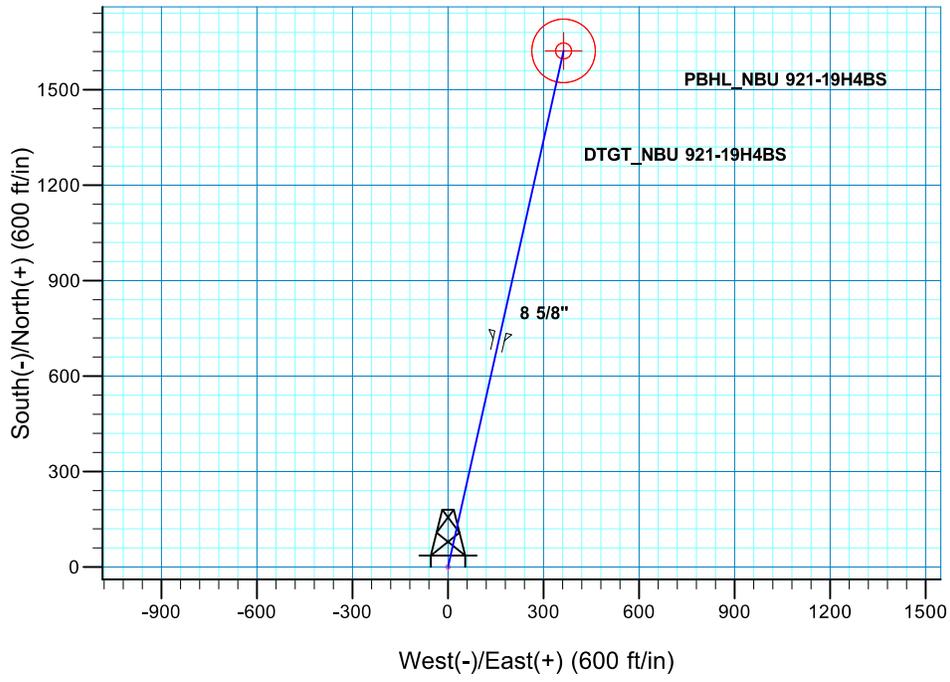
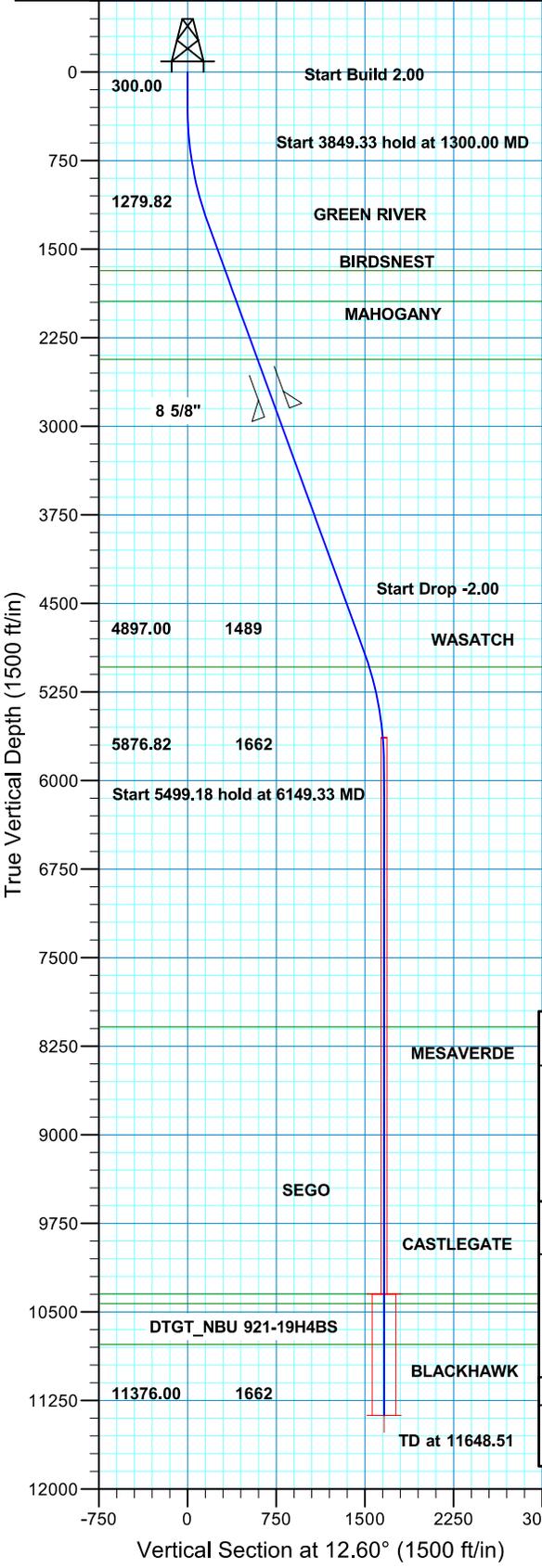
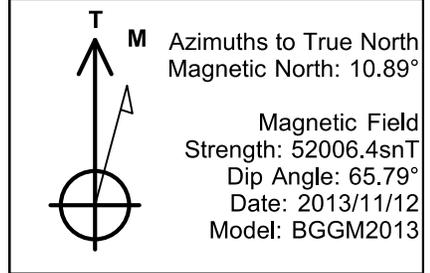
CASING DETAILS			
TVD	MD	Name	Size
2867.00	2978.49	8 5/8"	8.625

WELL DETAILS: NBU 921-19H4CS								
GL 4844 & KB 4 @ 4848.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0,00	0,00	14536009,26	2035897,79	40,0187563	-109,5875000			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10336,00	1283,34	356,46	14537298,08	2036233,86	40,0222800	-109,5862270	Circle (Radius: 25,00)
- plan hits target center								
PBHL	11363,00	1283,34	356,46	14537298,08	2036233,86	40,0222800	-109,5862270	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	15,52	1279,82	166,47	46,24	2,00	15,52	172,77	
4184,01	20,00	15,52	3989,90	1116,87	310,23	0,00	0,00	1159,16	
5184,01	0,00	0,00	4969,71	1283,34	356,46	2,00	180,00	1331,92	
11577,30	0,00	0,00	11363,00	1283,34	356,46	0,00	0,00	1331,92	PBHL_NBU 921-19H4CS
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N					FORMATION TOP DETAILS				
Geodetic System: Universal Transverse Mercator (US Survey Feet) Datum: NAD 1983 (NADCON CONUS) Ellipsoid: Clarke 1866 Zone: Zone 12N (114 W to 108 W) Location: SECTION 19 T9S R21E System Datum: Mean Sea Level					TVDPath	MDPath	Formation		
					1871,00	1716,29	GREEN RIVER		
					1937,00	1999,36	BIRDSNEST		
					2424,00	2517,62	MAHOGANY		
					5024,00	5238,30	WASATCH		
					8076,00	8290,30	MESAVERDE		
					10336,00	10550,30	SEGO		
10412,00	10626,30	CASTLEGATE							
10763,00	10977,30	BLACKHAWK							
CASING DETAILS									
TVD	MD	Name	Size						
2874,00	2996,50	8 5/8"	8,625						

WELL DETAILS: NBU 921-19H4BS						
GL 4844 & KB 4 @ 4848.00ft (ASSUMED)						
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
	0.00	0.00	14536001.50	2035891.19	40,0187353	-109,5875240
DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
DTGT	10348.00	1622.05	362.62	14537629.09	2036228.05	40,0231890
- plan hits target center						
PBHL	11376.00	1622.05	362.62	14537629.09	2036228.05	40,0231890
- plan hits target center						
					Longitude	Shape
					-109,5862290	Circle (Radius: 25.00)
						Circle (Radius: 100.00)



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	12.60	1279.82	168.61	37.69	2.00	12.59	172.77	
5149.33	20.00	12.60	4897.00	1453.44	324.93	0.00	0.00	1489.32	
6149.33	0.00	0.00	5876.82	1622.05	362.62	2.00	180.00	1662.08	
11648.51	0.00	0.00	11376.00	1622.05	362.62	0.00	0.00	1662.08	PBHL_NBU 921-19H4BS

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 19 T9S R21E		
System Datum: Mean Sea Level		

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1682.00	1728.00	GREEN RIVER
1942.00	2004.68	BIRDSNEST
2433.00	2527.19	MAHOGANY
5037.00	5296.99	WASATCH
8086.00	8358.51	MESAVERDE
10348.00	10620.51	SEGO
10429.00	10701.51	CASTLEGATE
10776.00	11048.51	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
2883.00	3006.07	8 5/8"	8.625

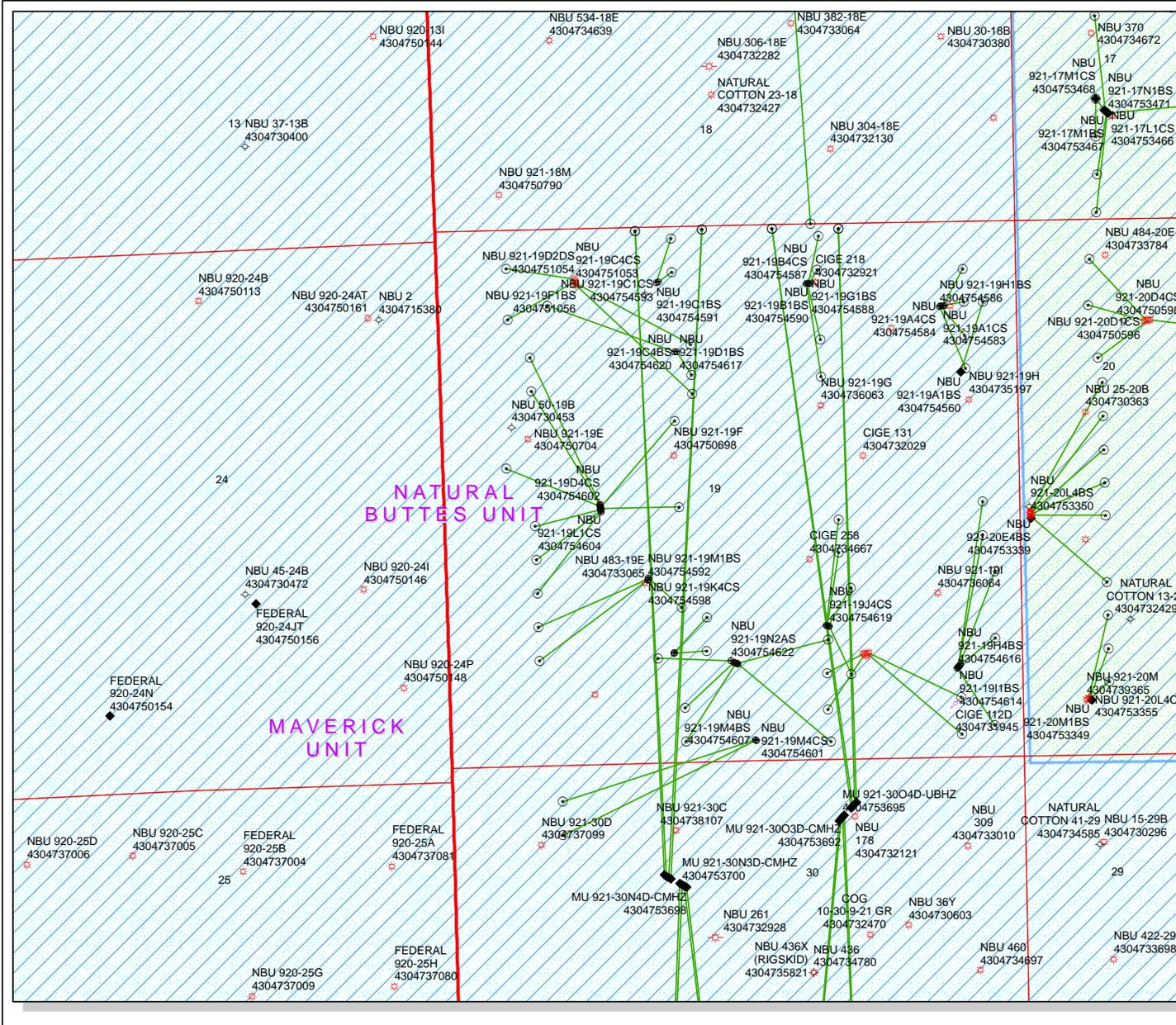
API Number: 4304754603

Well Name: NBU 921-19E3AS

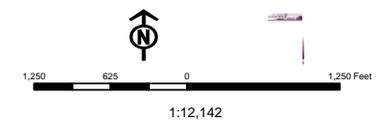
Township: T09.0S Range: R21.0E Section: 19 Meridian: S

Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared: 7/23/2014
Map Produced by Diana Mason



Wells Query		Units	
Status	Symbol	Status	Symbol
APD - Approved Permit	Blue diamond	ACTIVE	White box
DRL - Spudded (Drilling Commenced)	Blue circle with dot	EXPLORATORY	Light blue box
GIW - Gas Injection	Red star	GAS STORAGE	Light purple box
GS - Gas Storage	Blue star	NF PP OIL	Light blue box
LOC - New Location	Green circle with dot	NF SECONDARY	Light purple box
OPS - Operation Suspended	Red star	PI OIL	Light blue box
PA - Plugged Abandoned	Red star	PP GAS	Light purple box
PGW - Producing Gas Well	Red star	PP GEOTHERMAL	Light blue box
POW - Producing Oil Well	Red star	PP OIL	Light purple box
SGW - Shut-in Gas Well	Red star	SECONDARY	Light blue box
SGW - Shut-in Oil Well	Red star	TERMINATED	Light purple box
TA - Temp. Abandoned	Red star		
TW - Test Well	Red star	Fields	
WDW - Water Disposal	Red star	Status	Symbol
WW - Water Injection Well	Red star	Unknown	White box
WSW - Water Supply Well	Red star	ABANDONED	Light blue box
		ACTIVE	Light purple box
		COMBINED	Light blue box
		INACTIVE	Light purple box
		STORAGE	Light blue box
		TERMINATED	Light purple box



WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 7/11/2014

API NO. ASSIGNED: 43047546030000

WELL NAME: NBU 921-19E3AS

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

PHONE NUMBER: 720 929-6828

CONTACT: Joel Malefyt

PROPOSED LOCATION: NWSW 19 090S 210E

Permit Tech Review:

SURFACE: 2606 FSL 1538 FWL

Engineering Review:

BOTTOM: 2353 FNL 0620 FWL

Geology Review:

COUNTY: UINTAH

LATITUDE: 40.02123

LONGITUDE: -109.59985

UTM SURF EASTINGS: 619482.00

NORTHINGS: 4431052.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU 0581

PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE

SURFACE OWNER: 2 - Indian

COALBED METHANE: NO

RECEIVED AND/OR REVIEWED:

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

Commingling 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 - Commingling - ddoucet
 4 - Federal Approval - dmason
 15 - Directional - dmason
 17 - Oil Shale 190-5(b) - dmason



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. HAZA
Division Director

Permit To Drill

Well Name: NBU 921-19E3AS
API Well Number: 43047546030000
Lease Number: UTU 0581
Surface Owner: INDIAN
Approval Date: 8/4/2014

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

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9 5. LEASE DESIGNATION AND SERIAL NUMBER: UTU 0581
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: UTE 7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 921-19E3AS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	9. API NUMBER: 43047546030000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	PHONE NUMBER: 720 929-6104 9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2606 FSL 1538 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWSW Section: 19 Township: 09.0S Range: 21.0E Meridian: S	COUNTY: UINTAH STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 12/15/2014 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input checked="" type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>

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

KERR MCGEE REQUESTS AUTHORIZATION TO CHANGE THE WASATCH/MESAVERDE DRILLING PROGRAM FOR ALL OF THE PROPOSED WELLS IN 921-19. THE WASATCH/MESAVERDE DRILLING PROGRAM IN THIS SECTION WAS PERMITTED AS HCP-110 PRODUCTION CASING FROM SURFACE TO TD. THIS WILL CHANGE TO I-80 CASING FROM SURFACE - 5000' AND HCP-110 FROM 5000' - TD. THIS IS A COURTESY COPY.
 THANK YOU.

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

Date: ~~December 15, 2014~~
By: *Dark Oust*

NAME (PLEASE PRINT) Kay E. Kelly	PHONE NUMBER 720 929 6582	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 12/15/2014	

RECEIVED

JAN 02 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT



APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU0581
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator KERR MCGEE OIL & GAS ONSHORE		7. If Unit or CA Agreement, Name and No. 094000900A UTU63047A
Contact: JOEL MALEFYT Email: joel.malefyt@anadarko.com		8. Lease Name and Well No. NBU 921-19E3AS
3a. Address 1368 SOUTH 1200 EAST VERNAL, UT 84078	3b. Phone No. (include area code) Ph: 720-929-6828 Fx: 720-929-7828	9. API Well No. 43-047-54603
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface Lot 3 2606FSL 1538FWL 40.021355 N Lat, 109.599890 W Lon At proposed prod. zone Lot 2 2353FNL 620FWL 40.021355 N Lat, 109.599890 W Lon		10. Field and Pool, or Exploratory NATURAL BUTTES
11. Sec., T., R., M., or Blk. and Survey or Area Sec 19 T9S R21E Mer SLB SME: BIA		12. County or Parish UINTAH
13. State UT		14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 47.3 MILES SOUTH OF VERNAL
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 620	16. No. of Acres in Lease 2399.60	17. Spacing Unit dedicated to this well
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 365	19. Proposed Depth 11582 MD 11428 TVD	20. BLM/BIA Bond No. on file WYB000291
21. Elevations (Show whether DF, KB, RT, GL, etc.) 4826 GL	22. Approximate date work will start 06/01/2014	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) JOEL MALEFYT Ph: 720-929-6828	Date 12/30/2013
Title REGULATORY ANALYST		
Approved by (Signature)	Name (Printed/Typed) Jerry Kenczka	Date APR 28 2015
Title <i>J. Kenczka</i> 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 #230706 verified by the BLM Well Information System
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal
Committed to AFMSS for processing by LESLIE BUHLER on 01/10/2014 (14LBB3595AE)

MAY 04 2015

DIV. OF OIL, GAS & MINING

NOTICE OF APPROVAL

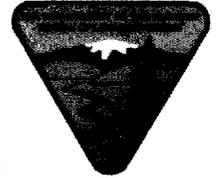
** BLM REVISED **





**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 LP	Location:	LOT 3 SEC 19 T09S R21E
Well No:	NBU 921-19E3AS	Lease No:	UTU0581
API No:	43-047-54603	Agreement:	UTU63047A

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: blm_ut_vn_opreport@blm.gov
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	- Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

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

1. Paint facilities "Shadow Gray."
2. Conduct a raptor survey prior to construction operations if such activities would take place during raptor nesting season (January 1 through September 30). If active raptor nests are identified during the survey, operations should be conducted according to the seasonal restrictions detailed in the Uinta Basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah Raptor Guidelines.
3. If construction and/or drilling operations have not been initiated prior to October 14, 2013, conduct a biological survey to determine the presence of Uinta Basin hookless cactus in accordance with the guidelines specified in the USFWS Rare Plant Conservation Measures and the BLM RMP ROD. KMG will implement commitments contained in the GNB BO.
4. Monitor construction activities with a permitted archaeologist.
5. Spot-check the construction site following grading with a qualified paleontologist.
6. Utilize applicable erosion BMPs to protect fill slopes.

DOWNHOLE PROGRAM

CONDITIONS OF APPROVAL (COAs)

SITE SPECIFIC DOWNHOLE COAs:

1. Surface casing cement shall be brought to surface.
2. Production casing cement shall be brought 200' up and into the surface casing.
3. For the drilling of the surface hole section, operator is required to install an bowl diverter system or rotating head which is connected and discharges to an panic or choke blooie line. The surface hole section of the subject well is deeper then 2,000 ft.
4. Require useage of an modified 5m stack. The 5M BOPE (minimum) shall be a modified 5m BOPE stack to include a third (3) pipe ram and one (1) remote kill line.

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.
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
 - Operator name, address, and telephone number.
 - Well name and number.
 - Well location ($\frac{1}{4}$ / $\frac{1}{4}$, Sec., Twn, Rng, and P.M.).

- Date well was placed in a producing status (date of first production for which royalty will be paid).
- The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
- The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
- Unit agreement and/or participating area name and number, if applicable.
- Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.
- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.

- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9
5. LEASE DESIGNATION AND SERIAL NUMBER: UTU 0581	
SUNDRY NOTICES AND REPORTS ON WELLS	
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	
1. TYPE OF WELL Gas Well	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: UTE
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 921-19E3AS
PHONE NUMBER: 720 929-6100	9. API NUMBER: 43047546030000
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2606 FSL 1538 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWSW Section: 19 Township: 09.0S Range: 21.0E Meridian: S	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
	COUNTY: UINTAH
	STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 6/22/2015	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input checked="" type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

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

Approved by the
June 23, 2015
Oil, Gas and Mining

Date: _____
By: 

NAME (PLEASE PRINT) Jennifer Thomas	PHONE NUMBER 720 929-6808	TITLE Regulatory Specialist
SIGNATURE N/A	DATE 6/22/2015	



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 43047546030000

API: 43047546030000

Well Name: NBU 921-19E3AS

Location: 2606 FSL 1538 FWL QTR NWSW SEC 19 TWNP 090S RNG 210E MER S

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

Date Original Permit Issued: 8/4/2014

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: Jennifer Thomas

Date: 6/22/2015

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

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9
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	COUNTY: Uintah
	STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 6/24/2016	<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
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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
June 27, 2016
Oil, Gas and Mining

Date: _____
By:

NAME (PLEASE PRINT) Joel Malefy	PHONE NUMBER 720 929-6828	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 6/24/2016	



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 43047546030000

API: 43047546030000

Well Name: NBU 921-19E3AS

Location: 2606 FSL 1538 FWL QTR NWSW SEC 19 TWNP 090S RNG 210E MER S

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- 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: Joel Malefyt

Date: 6/24/2016

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