API Well Number: 43047537990000

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 1022-6H4CS

2. TYPE OF WORK
DRILL NEW WELL ■ REENTER P&A WELL ☐ DEEPEN WELL ☐

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
720 929-6515

8. ADDRESS OF OPERATOR
P.O. Box 173779, Denver, CO, 80217

9. OPERATOR E-MAIL
julie.jacobson@anadarko.com

10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)
UTU-01195

11. MINERAL OWNERSHIP
FEDERAL ■ INDIAN ☐ STATE ☐ FEE ☐

12. SURFACE OWNERSHIP
FEDERAL ■ INDIAN ☐ STATE ☐ FEE ☐

13. NAME OF SURFACE OWNER (if box 12 = 'fee')

14. SURFACE OWNER PHONE (if box 12 = 'fee')

15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')

16. SURFACE OWNER E-MAIL (if box 12 = 'fee')

17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')

18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS
YES ■ (Submit Commingling Application) NO ☐

19. SLANT
VERTICAL ☐ DIRECTIONAL ■ HORIZONTAL ☐

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	1700 FSL 470 FEL	NESE	6	10.0 S	22.0 E	S
Top of Uppermost Producing Zone	2444 FNL 456 FEL	SENE	6	10.0 S	22.0 E	S
At Total Depth	2444 FNL 456 FEL	SENE	6	10.0 S	22.0 E	S

21. COUNTY
UINTAH

22. DISTANCE TO NEAREST LEASE LINE (Feet)
508

23. NUMBER OF ACRES IN DRILLING UNIT
577

25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)
1119

26. PROPOSED DEPTH
MD: 10455 TVD: 10273

27. ELEVATION - GROUND LEVEL
5165

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 - 2470	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 - 10455	11.6	HCP-110 LT&C	12.5	Premium Lite High Strength	310	3.38	12.0
							50/50 Poz	1540	1.31	14.3

ATTACHMENTS

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

- ✔ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER
- ✔ COMPLETE DRILLING PLAN
- ☐ AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)
- ☐ FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
- ✔ DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)
- ✔ TOPOGRAPHICAL MAP

NAME Gina Becker | **TITLE** Regulatory Analyst II | **PHONE** 720 929-6086

SIGNATURE | **DATE** 05/29/2013 | **EMAIL** gina.becker@anadarko.com

API NUMBER ASSIGNED
43047537990000

APPROVAL
Permit Manager

RECEIVED: June 05, 2013

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

NBU 1022-6H4CS

Surface:	1700 FSL / 470 FEL	NESE
BHL:	2444 FNL / 456 FEL	SENE

Section 6 T10S R22E

Unitah County, Utah
Mineral Lease: UTU-01195

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:

Formation	Depth	Resource
Uinta	0 - Surface	
Green River	1,214'	
Birds Nest	1,542'	Water
Mahogany	2,017'	Water
Wasatch	4,434'	Gas
Mesaverde	6,995'	Gas
Sego	9,160'	Gas
Castlegate	9,230'	Gas
Blackhawk	9,673'	Gas
TVD =	10,273'	
TD =	10,455'	

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

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

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

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

RECEIVED: May 16, 2013

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 10273' TVD, approximately equals 6,575 psi (0.64 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 4,300 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 9160' TVD, approximately equals 5,588 psi (0.61 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 3,597 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

RECEIVED: May 16, 2013

KerrMcGee

KERR-McGEE OIL & GAS ONSHORE LP

Blackhawk Drilling Program

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP	DATE	January 24, 2013
WELL NAME	**NBU 1022-6H4CS**	TD	10,273' TVD 10,455' MD
FIELD	Natural Buttes	COUNTY Uintah	STATE Utah
FINISHED ELEVATION	5,165'		
SURFACE LOCATION	NESE 1700 FSL 470 FEL Sec 6 T 10S R 22E		
	Latitude: 39.975390 Longitude: -109.474825 NAD 83		
BTM HOLE LOCATION	SENE 2444 FNL 456 FEL Sec 6 T 10S R 22E		
	Latitude: 39.978545 Longitude: -109.474818 NAD 83		
OBJECTIVE ZONE(S)	BLACKHAWK (Part of the Mesaverde Group)		
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), BLM (Surface), UDOGM Tri-County Health Dept.		

GEOLOGICAL			MECHANICAL		
LOGS	FORMATION TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		40'		14"	
			12-1/4	8-5/8", 28#, IJ-55, LTC	Air mist
		200'			
All water flows encountered while drilling will be reported to the appropriate agencies.			11.00'	8-5/8", 28#, IJ-55, LTC	Air mist
	Green River @	1,214'			
	Top of Birds Nest @	1,542'			
	Mahogany @	2,017'			
	Preset f/ GL @	2,470' TVD			
	Note: 11" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the acutal depth of the loss zone.				
	Wasatch @	4,434'			
Mud logging program TBD Cased hole logging program from TD - surf csg			7-7/8"	4-1/2" 11.6# HCP-110 Ultra DQX/LTC csg	Water / Fresh Water Mud 8.3-12.5 ppg
	Mesaverde @	6,995' TVD			
	Sego @	9,160' TVD			
	Castlegate @	9,230' TVD			
	Blackhawk	9,673' TVD			
Max anticipated Mud required 12.5 ppg	TD @	10,273' TVD 10,455' MD			

RECEIVED: May 16, 2013

KerrMcGee

KERR-McGEE OIL & GAS ONSHORE LP

Blackhawk Drilling Program

CASING PROGRAM

	SIZE	INTERVAL			WT.	GR.	CPLG.	DESIGN FACTORS BURST	COLLAPSE	TENSION LTC	TENSION DQX
CONDUCTOR	14"	0-40'									
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,470	28.00	IJ-55	LTC	2.18	1.63	5.75	N/A
								10,690	8,650	279,000	367,174
PRODUCTION	4-1/2"	0	to	5,000	11.60	HCP-110	DQX	1.19	1.30		3.74
	4-1/2"	5,000	to	10,455'	11.60	HCP-110	LTC	1.19	1.30	5.45	

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	180	60%	15.80		1.15
Option 1			+ 0.25 pps flocele					
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80		1.15
			+ 2% CaCl + 0.25 pps flocele					
SURFACE		NOTE: If well will circulate water to surface, option 2 will be utilized						
Option 2	LEAD	1,970'	Premium cmt + 16% Gel + 10 pps gilsonite	240	35%	12.00		2.86
			+ 0.25 pps Flocele + 3% salt BWOC + GR 3 pps					
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80		1.15
			+ 0.25 pps flocele					
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80		1.15
PRODUCTION	LEAD	3,925'	Premium Lite II +0.25 pps celloflake + .4% FL-52	310	35%	12.00		3.38
			+ .3% R-3 + .5 lbs/sk Kol-Seal + 6%Bentonite II +					
			1.2% Sodium Metasilicate + .05 lbs/sk Static Free					
	TAIL	6,530'	50/50 Poz/G + 10% salt + .05 lbs/sk Static Free	1,540	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

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

FLOAT EQUIPMENT & CENTRALIZERS

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

ADDITIONAL INFORMATION

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

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

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

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

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

DRILLING ENGINEER: _____ **DATE:** _____

Nick Spence / John Tuckwiller / Brian Cocchiere / Tyler Elliott

DRILLING SUPERINTENDENT: _____ **DATE:** _____

Kenny Gathings / Lovel Young

RECEIVED: May 16, 2013

KERR-McGEE OIL & GAS ONSHORE LP

Wasatch/Mesaverde Drilling Program

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP	DATE	January 24, 2013
WELL NAME	**NBU 1022-6H4CS**	TD	9,160' TVD 9,342' MD
FIELD	Natural Buttes	COUNTY Uintah	STATE Utah FINISHED ELEVATION 5,165'
SURFACE LOCATION	NESE 1700 FSL 470 FEL Sec 6 T 10S R 22E		
	Latitude: 39.975390 Longitude: -109.474825		NAD 83
BTM HOLE LOCATION	SENE 2444 FNL 456 FEL Sec 6 T 10S R 22E		
	Latitude: 39.978545 Longitude: -109.474818		NAD 83
OBJECTIVE ZONE(S)	Wasatch Formation/Mesaverde Group		
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), BLM (Surface), UDOGM Tri-County Health Dept.		

GEOLOGICAL			MECHANICAL		
LOGS	FORMATION TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		40'		14"	
		200'	12-1/4	8-5/8", 28#, IJ-55, LTC	Air mist
All water flows encountered while drilling will be reported to the appropriate agencies.			11.00'	8-5/8", 28#, IJ-55, LTC	Air mist
	Green River @	1,214'			
	Top of Birds Nest @	1,542'			
	Mahogany @	2,017'			
	Preset f/ GL @	2,470' TVD			
	Wasatch @	4,434'			
Mud logging program TBD Cased hole logging program from TD - surf csg			7-7/8"	4-1/2" 11.6# I-80 Ultra DQX/LTC csg	Water / Fresh Water Mud 8.3-12.0 ppg
	Mesaverde @	6,995' TVD			
	Sego @	9,160' TVD			
Max anticipated Mud required 12.0 ppg	TD @	9,160' TVD 9,342' MD			

Note: 11" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the acutal depth of the loss zone.

RECEIVED: May 16, 2013

KerrMcGee

KERR-McGEE OIL & GAS ONSHORE LP

Wasatch/Mesaverde Drilling Program

CASING PROGRAM

	SIZE	INTERVAL			WT.	GR.	CPLG.	DESIGN FACTORS BURST	COLLAPSE	TENSION LTC	TENSION DQX
CONDUCTOR	14"	0-40'									
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,470	28.00	IJ-55	LTC	2.18	1.63	5.75	N/A
								7,780	6,350		267,035
PRODUCTION	4-1/2"	0	to	5,000	11.60	I-80	DQX	1.11	1.11		3.02
								7,780	6,350	223,000	
	4-1/2"	5,000	to	9,342'	11.60	I-80	LTC	1.11	1.11	5.42	

Surface Casing:

(Burst Assumptions: TD = 12.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

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

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

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.61 psi/ft = bottomhole gradient

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CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT		YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80		1.15
Option 1			+ 0.25 pps flocele					
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80		1.15
			+ 2% CaCl + 0.25 pps flocele					
SURFACE			**NOTE: If well will circulate water to surface, option 2 will be utilized**					
Option 2	LEAD	1,970'	Premium cmt + 16% Gel + 10 pps gilsonite	240	35%	12.00		2.86
			+ 0.25 pps Flocele + 3% salt BWOC + GR 3 pps					
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80		1.15
			+ 0.25 pps Flocele + 3% salt BWOC + GR 3 pps					
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80		1.15
PRODUCTION	LEAD	3,932'	Premium Lite II +0.25 pps celloflake + .4% FL-52	310	35%	12.00		3.38
			+ .3% R-3 + .5 lbs/sk Kol-Seal + 6%Bentonite II +					
			1.2% Sodium Metasilicate + .05 lbs/sk Static Free					
	TAIL	5,410'	50/50 Poz/G + 10% salt + .05 lbs/sk Static Free	1,280	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

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

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DRILLING ENGINEER: _____ **DATE:** _____

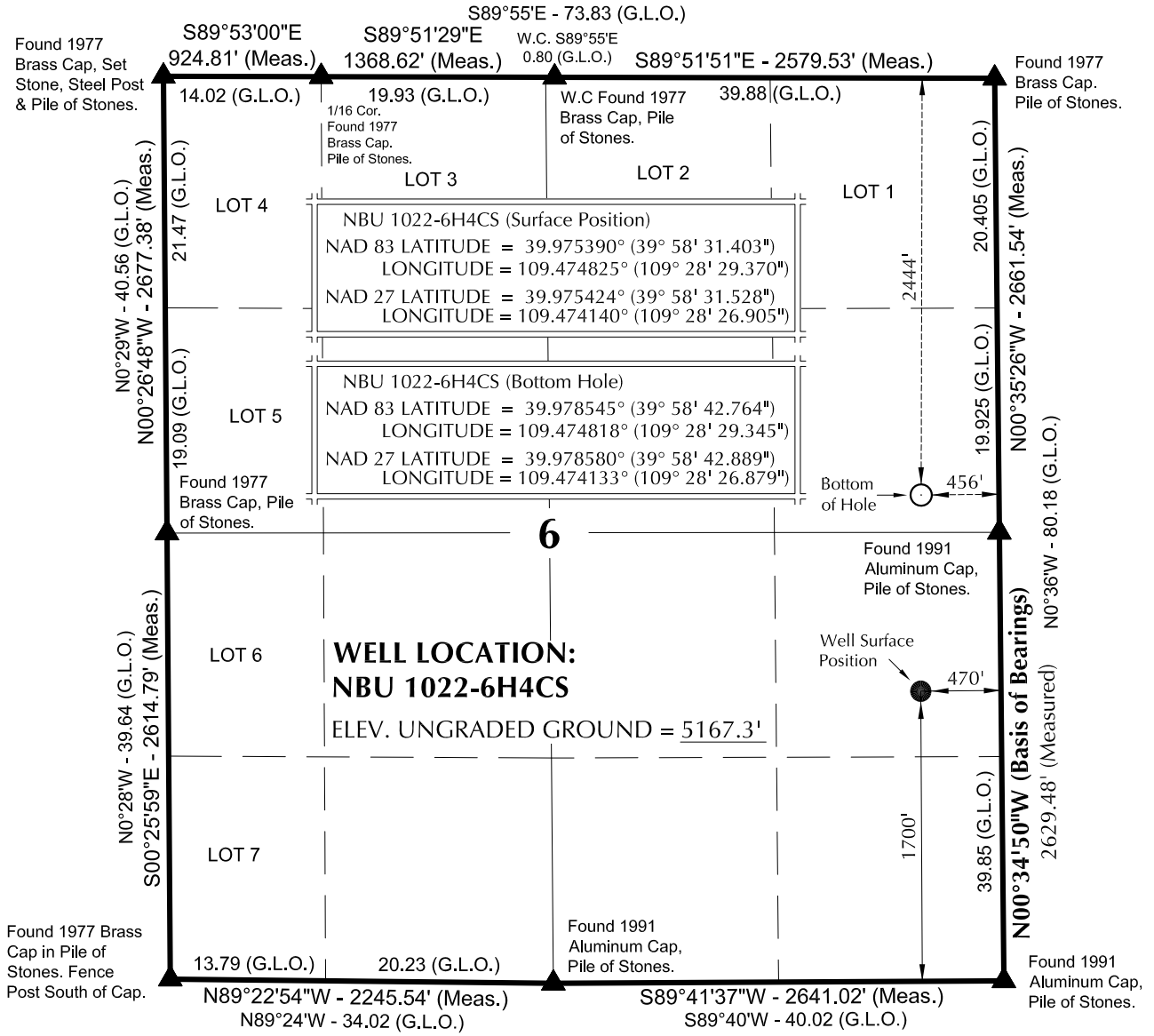
Nick Spence / John Tuckwiller / Brian Cocchiere / Tyler Elliott

DRILLING SUPERINTENDENT: _____ **DATE:** _____

Kenny Gathings / Lovel Young

RECEIVED: May 16, 2013

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



NOTES:

▲ = Section Corners Located

1. Well footages are measured at right angles to the Section Lines. G.L.O. distances are shown in feet or chains.
2. 1 chain = 66 feet.
3. The Bottom of hole bears N00°06'22"E 1149.93' from the Surface Position.
4. NAD 83 Latitude & Longitude are (CORS 96)(EPOCH:2002).
5. Bearings and Distances are based upon a Local Cartesian Grid, oriented to Geodetic North at the North 1/4 Corner of Section 8, T10S, R22E, S.L.B.&M. The Grid having a mean project height of 5300'. Lineal units used are U.S. Survey Foot.
6. Basis of elevation is Tri-Sta "Two Water" located in Lot 4 of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

N

1000' 500' 0' 1000'

SCALE

SURVEYOR'S CERTIFICATE

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

9-22-12

PROFESSIONAL LAND SURVEYOR No. 6028691 JOHN R. LAUGHLIN STATE OF UTAH

PROFESSIONAL LAND SURVEYOR
REGISTRATION No. 6028691
STATE OF UTAH

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

WELL PAD: NBU 1022-6I

NBU 1022-6H4CS
WELL PLAT
2444' FNL, 456' FEL (Bottom Hole)
SE ¼ NE ¼ OF SECTION 6, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

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

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

DATE SURVEYED: 8-9-12	SURVEYED BY: W.W.	SHEET NO: 3
DATE DRAWN: 8-22-12	DRAWN BY: T.J.R.	
SCALE: 1" = 1000'	Date Last Revised:	3 OF 16

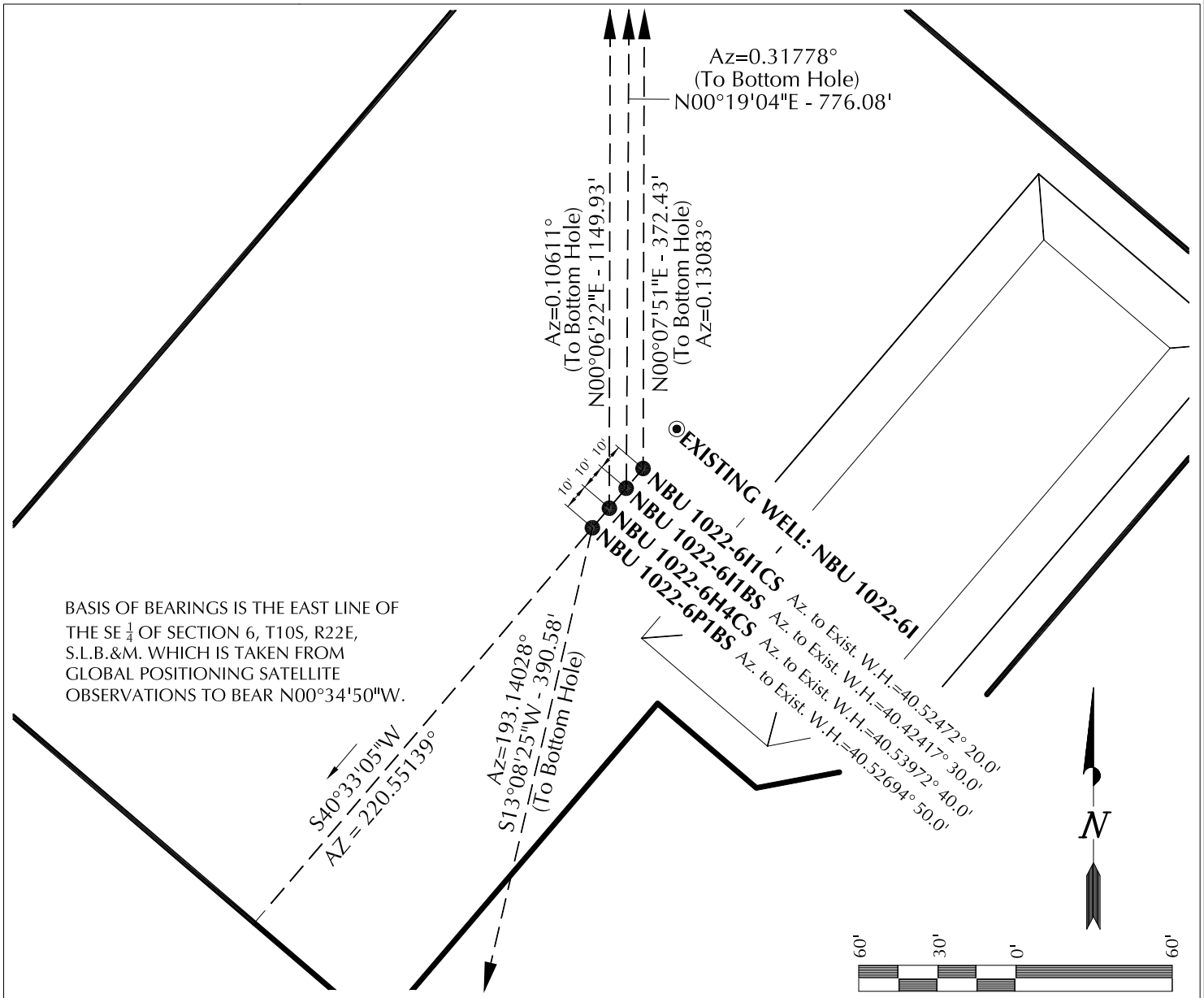
RECEIVED: May 16, 2013

API Well Number: 43047537990000

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27			NAD83		NAD27		
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES
NBU 1022-6I1CS	39°58'31.553" 39.975431°	109°28'29.203" 109.474779°	39°58'31.678" 39.975466°	109°28'26.738" 109.474094°	1716' FSL 457' FEL	39°58'35.233" 39.976454°	109°28'29.193" 109.474776°	39°58'35.358" 39.976488°	109°28'26.727" 109.474091°	2088' FSL 452' FEL
NBU 1022-6I1BS	39°58'31.478" 39.975410°	109°28'29.286" 109.474802°	39°58'31.603" 39.975445°	109°28'26.821" 109.474117°	1708' FSL 463' FEL	39°58'39.145" 39.977540°	109°28'29.232" 109.474787°	39°58'39.270" 39.977575°	109°28'26.767" 109.474102°	2484' FSL 451' FEL
NBU 1022-6H4CS	39°58'31.403" 39.975390°	109°28'29.370" 109.474825°	39°58'31.528" 39.975424°	109°28'26.905" 109.474140°	1700' FSL 470' FEL	39°58'42.764" 39.978545°	109°28'29.345" 109.474818°	39°58'42.889" 39.978580°	109°28'26.879" 109.474133°	2444' FNL 456' FEL
NBU 1022-6P1BS	39°58'31.328" 39.975369°	109°28'29.453" 109.474848°	39°58'31.453" 39.975404°	109°28'26.988" 109.474163°	1693' FSL 476' FEL	39°58'27.570" 39.974325°	109°28'30.593" 109.475165°	39°58'27.695" 39.974360°	109°28'28.128" 109.474480°	1313' FSL 569' FEL
NBU 1022-6I	39°58'31.703" 39.975473°	109°28'29.036" 109.474732°	39°58'31.828" 39.975508°	109°28'26.571" 109.474048°	1731' FSL 443' FEL					

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 1022-6I1CS	372.4'	0.9'	NBU 1022-6I1BS	776.1'	4.3'	NBU 1022-6H4CS	1149.9'	2.1'	NBU 1022-6P1BS	-380.4'	-88.8'



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

WELL PAD - NBU 1022-6I

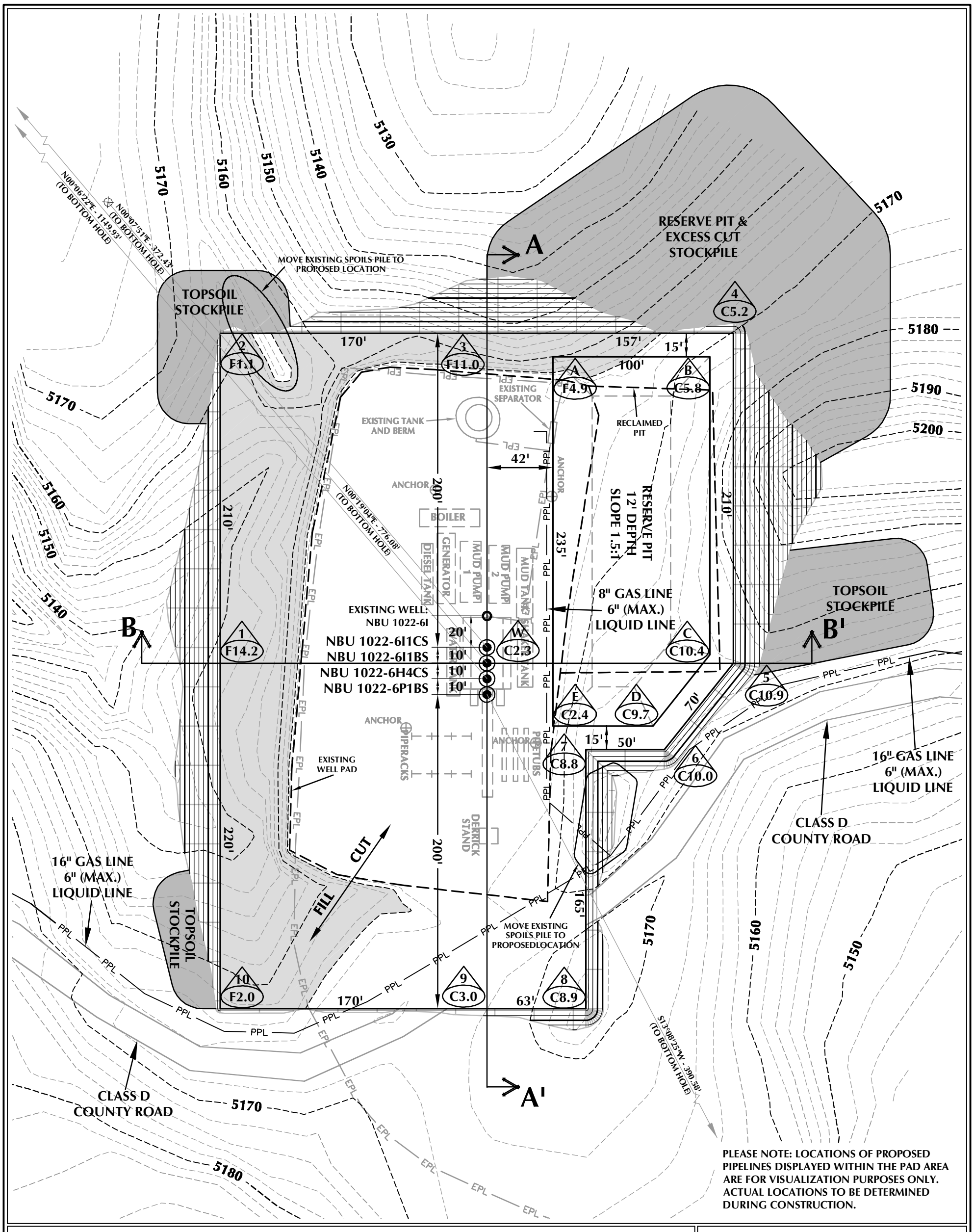
WELL PAD INTERFERENCE PLAT
WELLS - NBU 1022-6I1CS, NBU 1022-6I1BS, NBU 1022-6H4CS & NBU 1022-6P1BS
LOCATED IN SECTION 6, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

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

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

DATE SURVEYED: 8-9-12	SURVEYED BY: W.W.	SHEET NO: 5
DATE DRAWN: 8-22-12	DRAWN BY: T.J.R.	5 OF 16
SCALE: 1" = 60'	Date Last Revised:	

RECEIVED: May 16, 2013



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

WELL PAD - NBU 1022-6I DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5167.3'
FINISHED GRADE ELEVATION = 5165.0'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.42 ACRES
TOTAL DISTURBANCE AREA = 4.48 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 14,453 C.Y.
TOTAL FILL FOR WELL PAD = 13,365 C.Y.
TOPSOIL @ 6" DEPTH = 1,757 C.Y.
EXCESS MATERIAL = 1,088 C.Y.

RESERVE PIT QUANTITIES

TOTAL CUT FOR RESERVE PIT
+/- 7,680 C.Y.
RESERVE PIT CAPACITY (2' OF FREEBOARD)
+/- 29,200 BARRELS

WELL PAD LEGEND

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

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

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WELL PAD - NBU 1022-6I

WELL PAD - LOCATION LAYOUT
NBU 1022-6I1CS, NBU 1022-6I1BS,
NBU 1022-6H4CS & NBU 1022-6P1BS
LOCATED IN SECTION 6, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

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Sheridan, WY 82801
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TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

SCALE: 1"=60'	DATE: 9/4/12	SHEET NO:
REVISED:	ANK 11/30/12	6 6 OF 16

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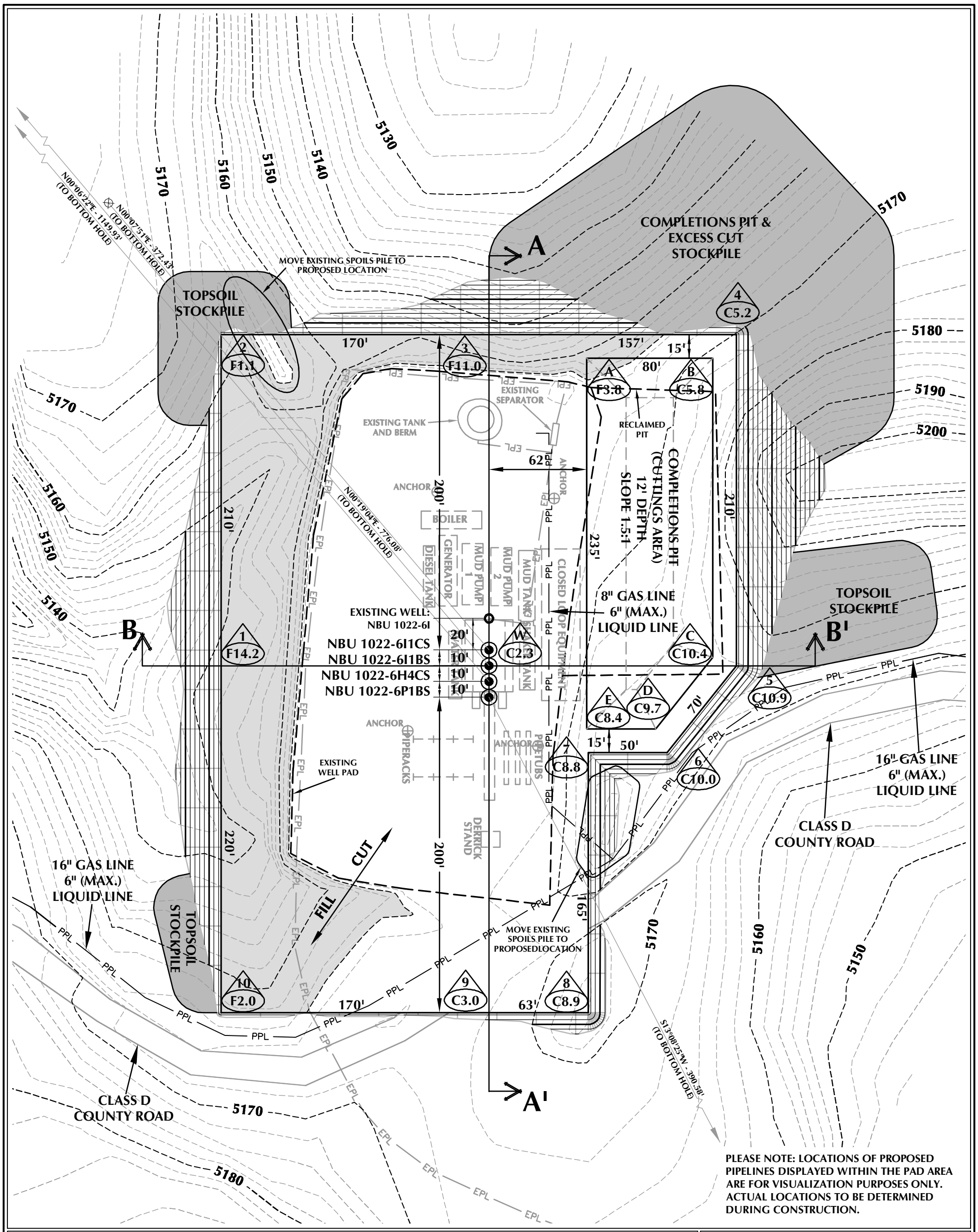

WELL PAD - NBU 1022-6I (CLOSED LOOP) DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5167.3'
FINISHED GRADE ELEVATION = 5165.0'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.42 ACRES
TOTAL DISTURBANCE AREA = 4.48 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

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

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 14,453 C.Y.
TOTAL FILL FOR WELL PAD = 13,365 C.Y.
TOPSOIL @ 6" DEPTH = 1,757 C.Y.
EXCESS MATERIAL = 1,088 C.Y.

COMPLETIONS PIT QUANTITIES

TOTAL CUT FOR COMPLETIONS PIT
+/- 5,750 C.Y.
COMPLETIONS PIT CAPACITY
(2' OF FREEBOARD)
+/- 21,570 BARRELS

WELL PAD LEGEND

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

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

WELL PAD - NBU 1022-6I

WELL PAD - LOCATION LAYOUT
NBU 1022-6I1CS, NBU 1022-6I1BS,
NBU 1022-6H4CS & NBU 1022-6P1BS
LOCATED IN SECTION 6, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
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Sheridan, WY 82801
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ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

SCALE: 1"=60' | DATE: 11/30/12 | SHEET NO: 6B 6B OF 16
REVISED:

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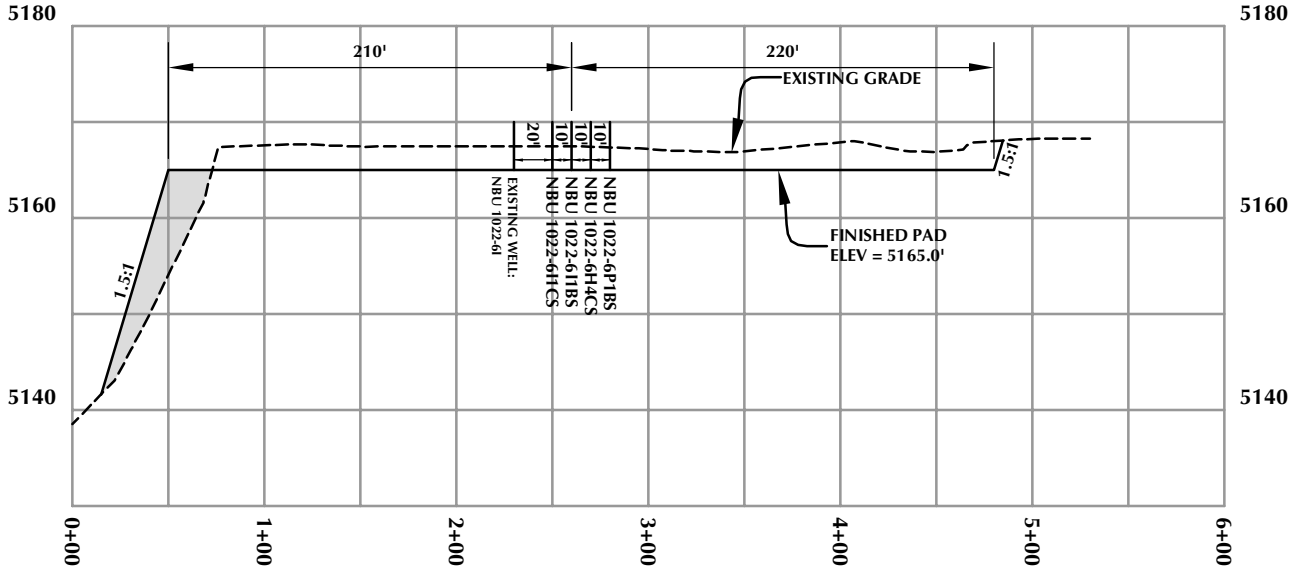
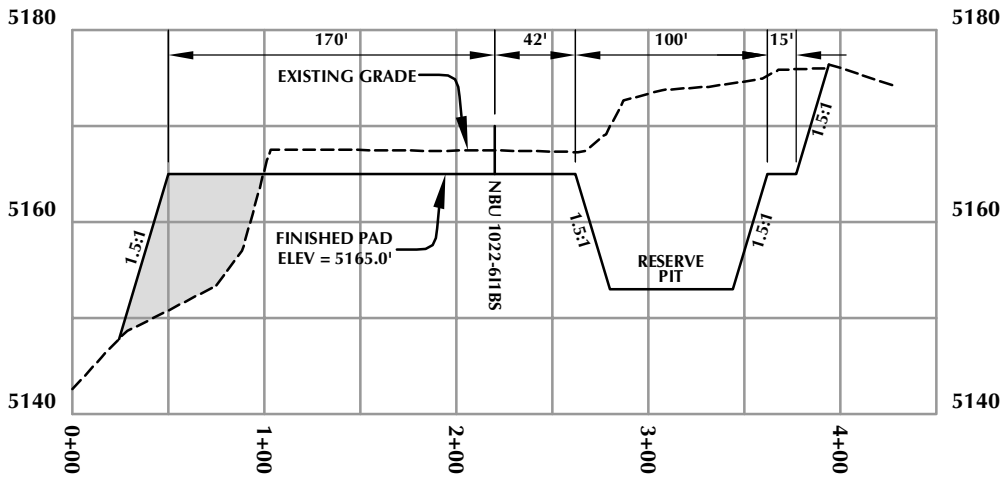


CROSS SECTION A-A'



CROSS SECTION B-B'

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

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

WELL PAD - NBU 1022-6I

WELL PAD - CROSS SECTIONS
NBU 1022-6I1CS, NBU 1022-6I1BS,
NBU 1022-6H4CS & NBU 1022-6P1BS
LOCATED IN SECTION 6, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

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

HORIZONTAL 0 50' 100' 1" = 100'
VERTICAL 0 10' 20' 1" = 20'

Scale: 1"=100'	Date: 9/4/12	SHEET NO:
REVISED:	JID 11/30/12	7 — 7 OF 16

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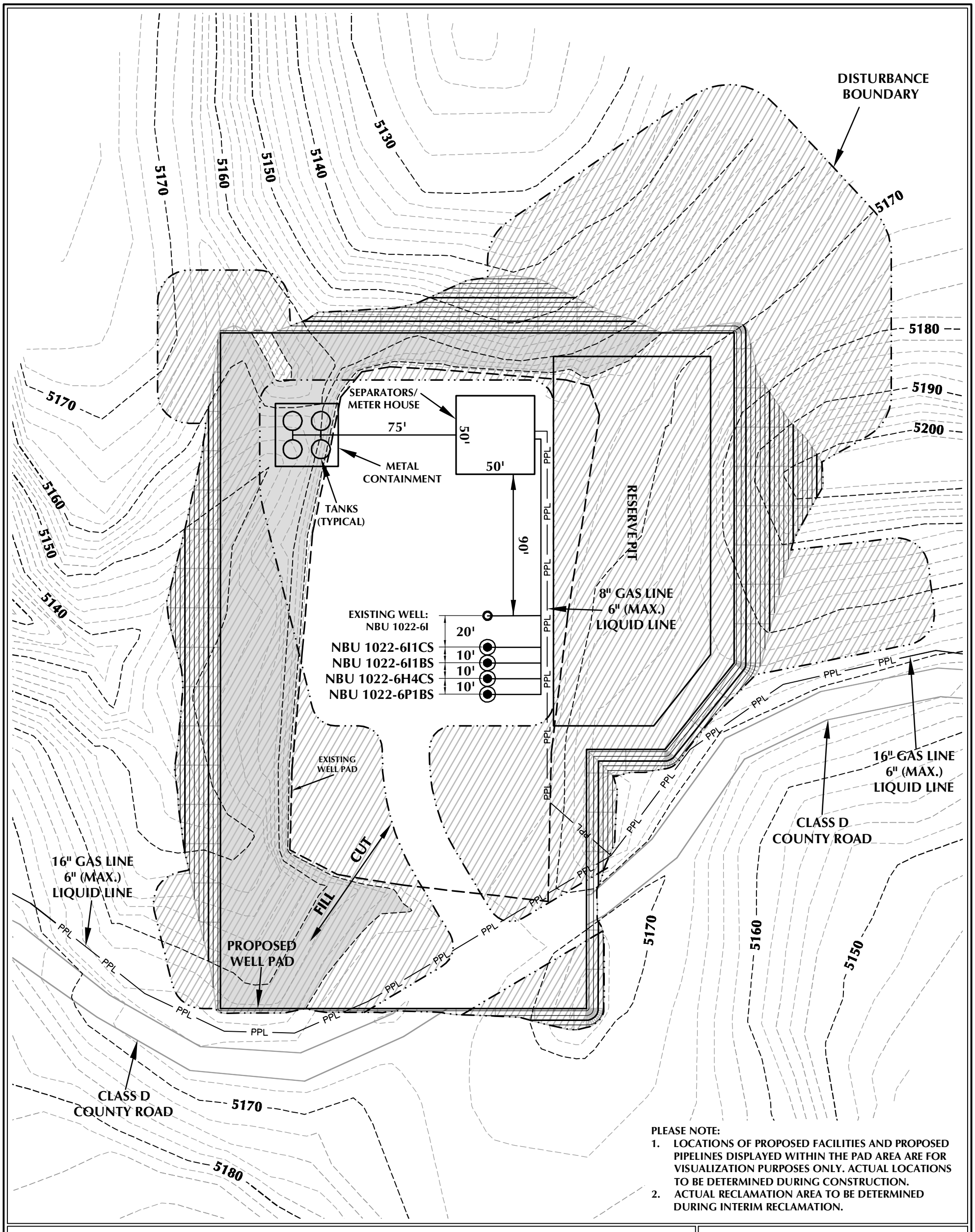

PLEASE NOTE:
1. LOCATIONS OF PROPOSED FACILITIES AND PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.
2. ACTUAL RECLAMATION AREA TO BE DETERMINED DURING INTERIM RECLAMATION.

WELL PAD - NBU 1022-6I RECLAMATION DESIGN SUMMARY

TOTAL DISTURBANCE AREA = 4.48 ACRES (INCLUDING EXISTING)
RECLAMATION AREA = 3.44 ACRES
TOTAL WELL PAD AREA AFTER RECLAMATION = 1.04 ACRES

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE
- RECLAMATION AREA

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

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

WELL PAD - NBU 1022-6I

WELL PAD - RECLAMATION LAYOUT
NBU 1022-6I1CS, NBU 1022-6I1BS,
NBU 1022-6H4CS & NBU 1022-6P1BS
LOCATED IN SECTION 6, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

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

SCALE: 1"=60'	DATE: 9/4/12	SHEET NO:
REVISED:	ANK 11/30/12	8 8 OF 16

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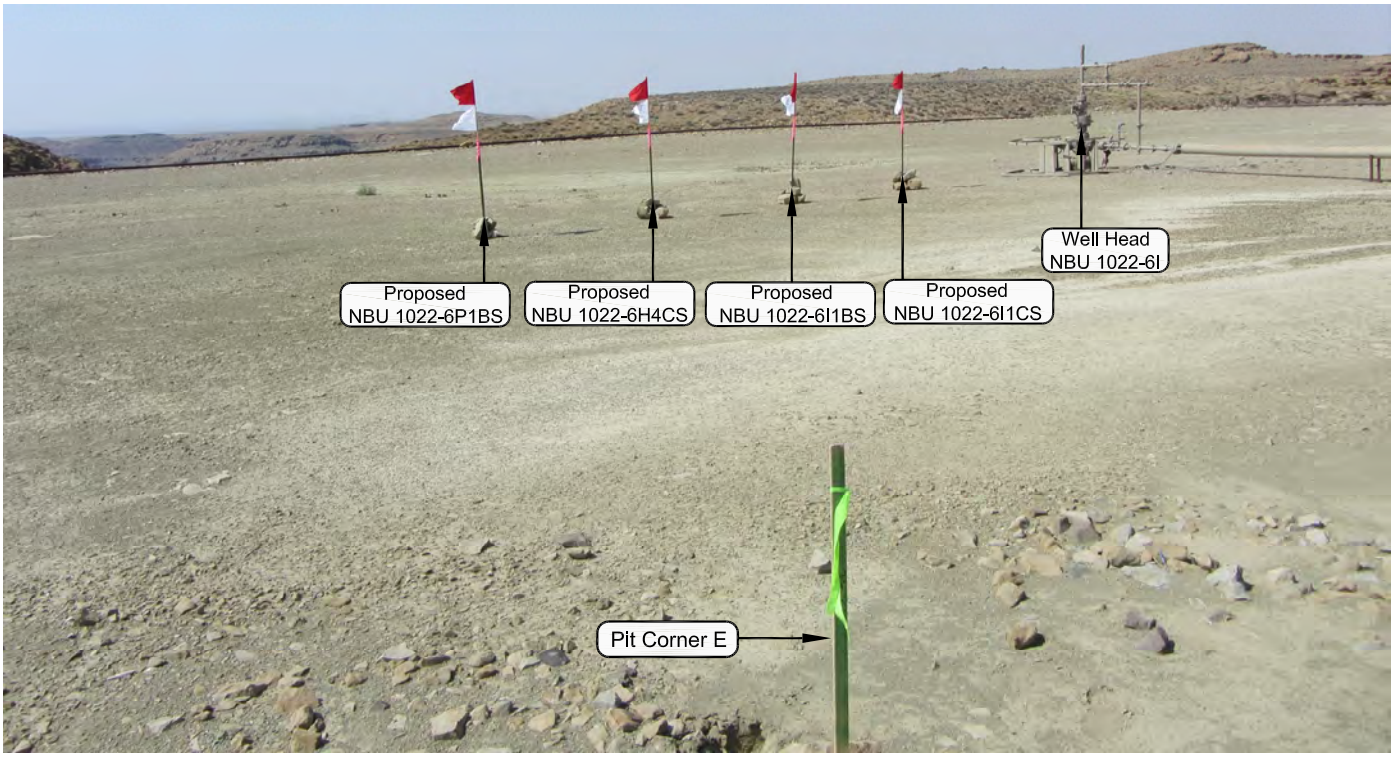

PHOTO VIEW: FROM PIT CORNER E TO LOCATION STAKE **CAMERA ANGLE: NORTHERLY**

PHOTO VIEW: FROM EXISTING ACCESS ROAD **CAMERA ANGLE: NORTHWESTERLY**

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

WELL PAD - NBU 1022-6I

LOCATION PHOTOS
NBU 1022-6I1CS, NBU 1022-6I1BS, NBU 1022-6H4CS & NBU 1022-6P1BS LOCATED IN SECTION 6, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

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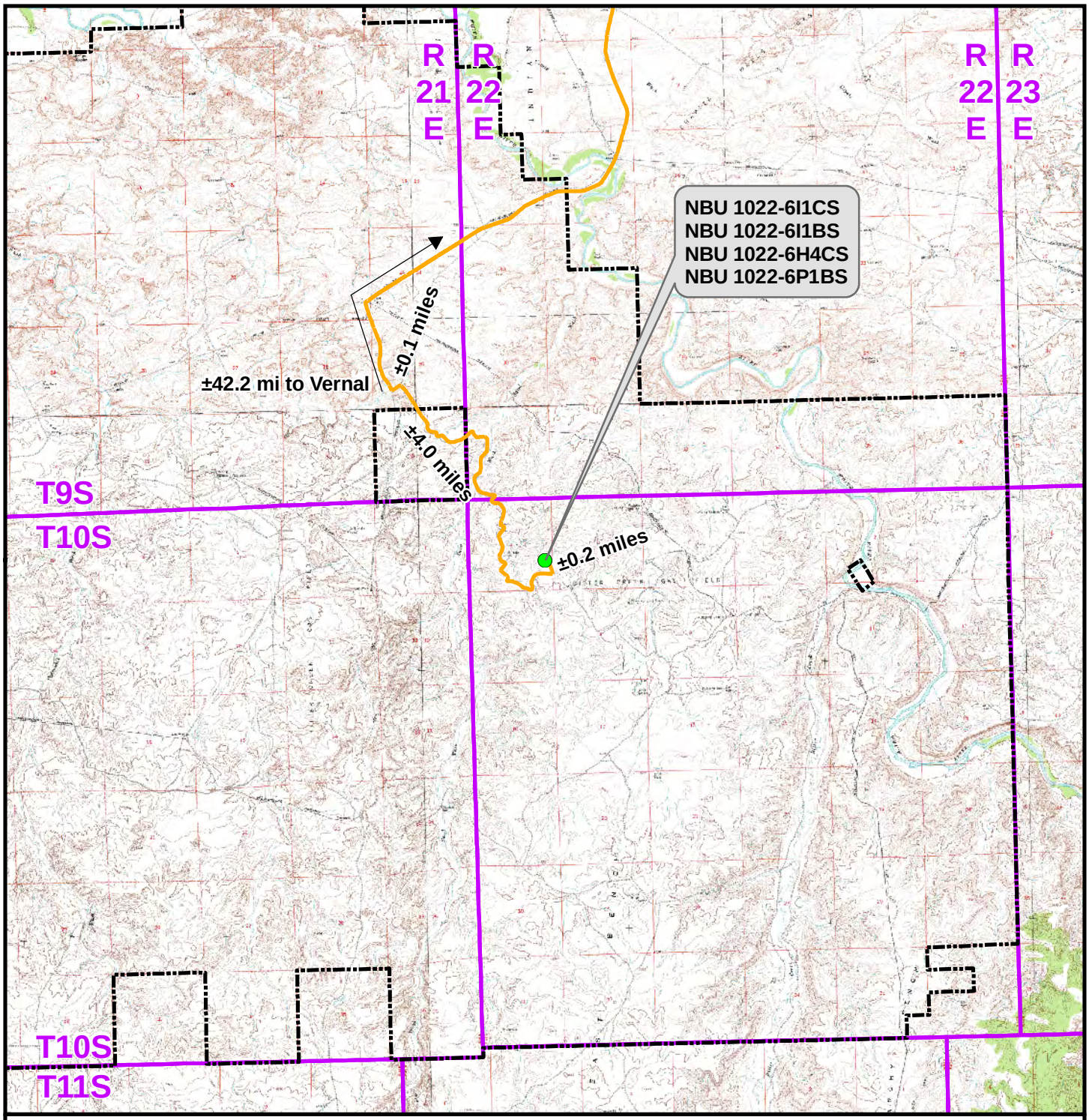
Fax 307-674-0182

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

DATE PHOTOS TAKEN: 8-9-12	PHOTOS TAKEN BY: W.W.	SHEET NO:
DATE DRAWN: 8-22-12	DRAWN BY: T.J.R.	9
Date Last Revised:		9 OF 16

RECEIVED: May 16, 2013

API Well Number: 43047537990000



Legend

Distance From Well Pad - NBU 1022-6I To Unit Boundary: ±5,717ft

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

WELL PAD - NBU 1022-6I	**Kerr-McGee Oil & Gas Onshore L.P.**	609 CONSULTING, LLC 2155 North Main Street Sheridan, Wyoming 82801 Phone 307-674-0609 Fax 307-674-0182
TOPO A NBU 1022-6I1CS, NBU 1022-6I1BS, NBU 1022-6H4CS & NBU 1022-6P1BS LOCATED IN SECTION 6, T10S, R22E S.L.B.&M., UINTAH COUNTY, UTAH	1099 18th Street Denver, Colorado 80202	SCALE: 1:100,000 / NAD83 USP Central / SHEET NO: 10 DRAWN: TL / DATE: 20 Sept 2012 REVISED: / DATE: / 10 OF 16

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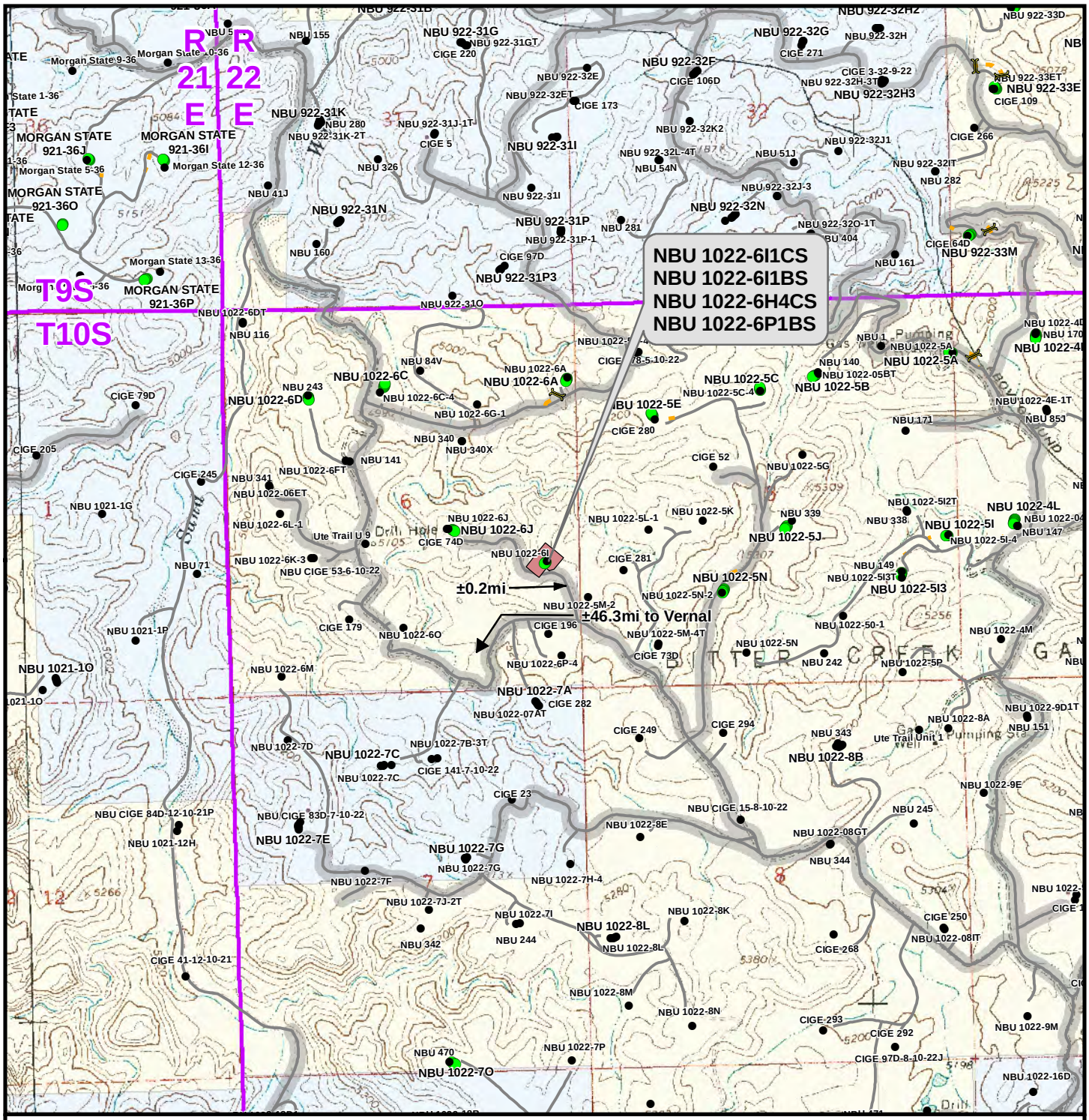
RECEIVED: May 16, 2013



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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 1022-6I

TOPO B
NBU 1022-6I1CS, NBU 1022-6I1BS, NBU 1022-6H4CS & NBU 1022-6P1BS
LOCATED IN SECTION 6, T10S, R22E
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

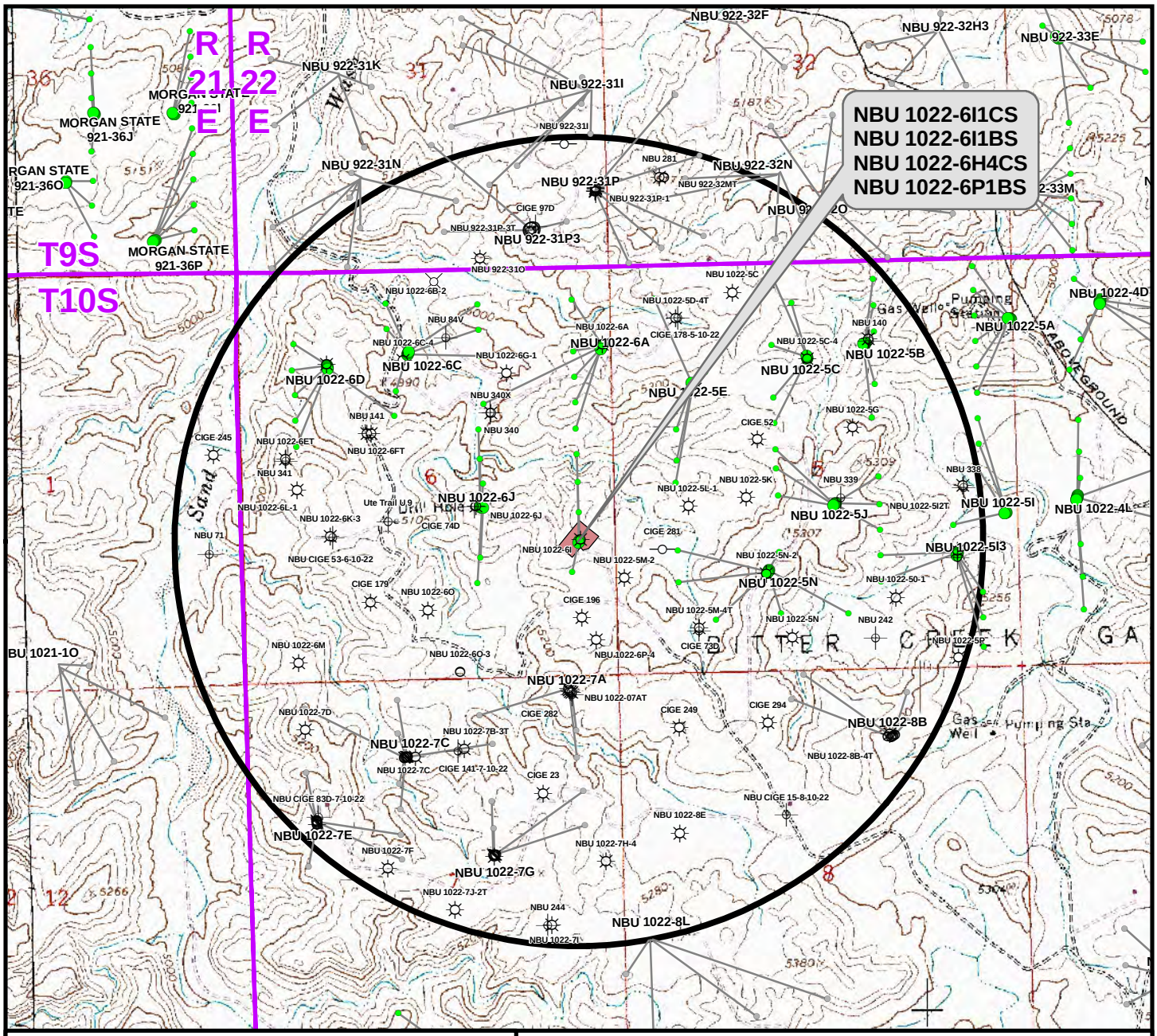
1099 18th Street
Denver, Colorado 80202

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

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO:	11
DRAWN: TL	DATE: 20 Sept 2012		
REVISED: TL	DATE: 30 Nov 2012		11 OF 16

RECEIVED: May 16, 2013



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

Proposed Well	Nearest Well Bore	Footage
NBU 1022-6I1CS	NBU 1022-6I	357ft
NBU 1022-6I1BS	NBU 1022-6I	753ft
NBU 1022-6H4CS	NBU 1022-6I	1,119ft
NBU 1022-6P1BS	NBU 1022-6I	435ft

Legend

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

WELL PAD - NBU 1022-6I

TOPO C
NBU 1022-6I1CS, NBU 1022-6I1BS, NBU 1022-6H4CS & NBU 1022-6P1BS
LOCATED IN SECTION 6, T10S, R22E
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

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Denver, Colorado 80202

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N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 12
DRAWN: TL	DATE: 30 Nov 2012	12 OF 16
REVISED:	DATE:	

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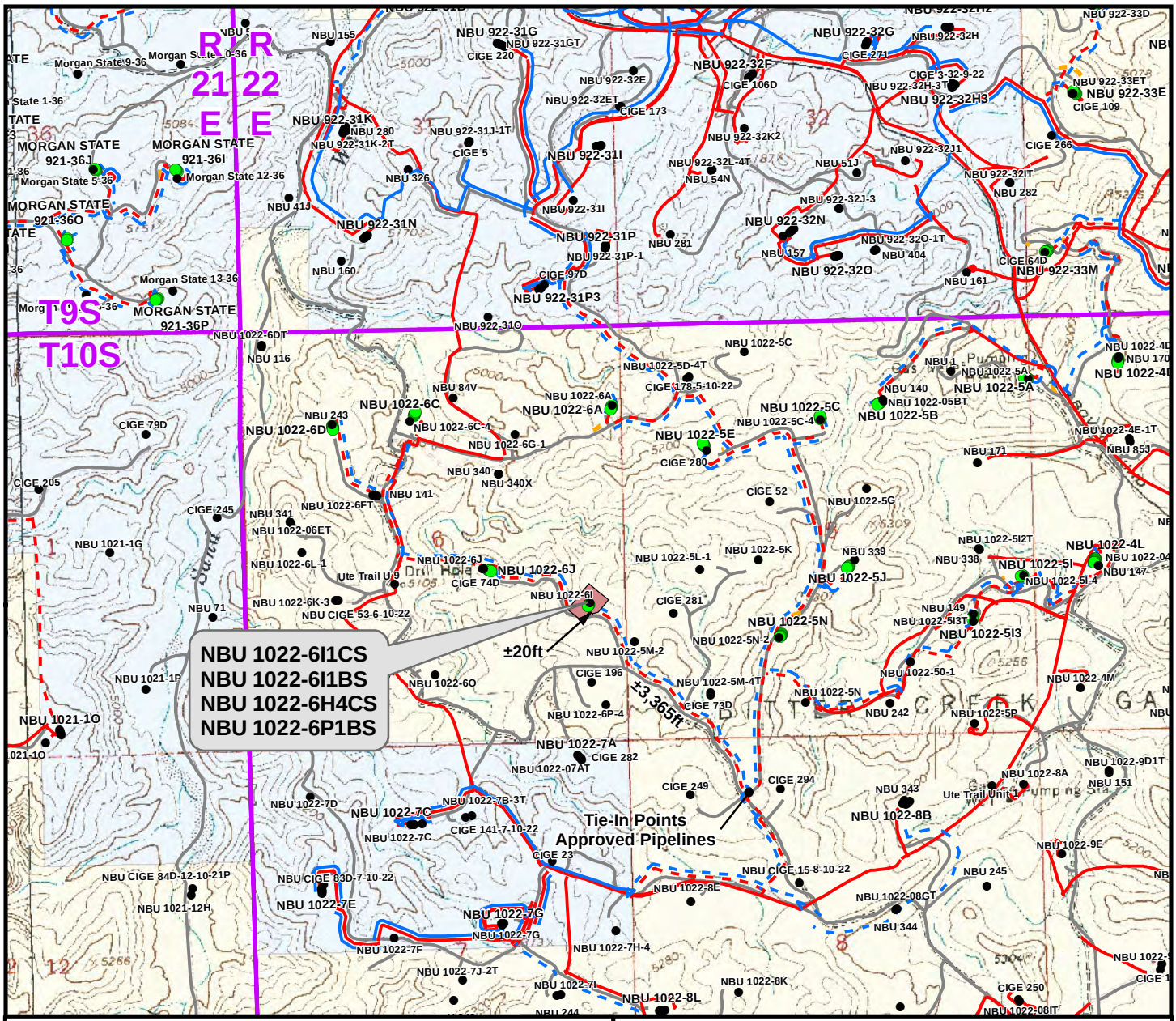
RECEIVED: May 16, 2013



Proposed Liquid Pipeline	Length
Buried 6"(Max.) (Separator to Edge of Pad)	±275ft
Buried 6"(Max.) (Edge of Pad to 1022-6J Intersection)	±20ft
Buried 6"(Max.) (1022-6J Intersection to Approved 6" Liquid Pipeline)	±3,365ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±3,660ft

Proposed Gas Pipeline	Length
Buried 8" (Meter House to Edge of Pad)	±275ft
Buried 8" (Edge of Pad to 1022-6J Intersection)	±20ft
Buried 16" (1022-6J Intersection to Approved 16" Gas Pipeline)	±3,365ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±3,660ft

Legend

- Well - Proposed
- Well - Existing
- Well Pad
- 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 1022-6I

TOPO D
NBU 1022-6I1CS, NBU 1022-6I1BS,
NBU 1022-6H4CS & NBU 1022-6P1BS
LOCATED IN SECTION 6, T10S, R22E
S.L.B.&M., UINTAH COUNTY, UTAH

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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

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SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 13
DRAWN: TL	DATE: 30 Nov 2012	13 OF 16
REVISED:	DATE:	

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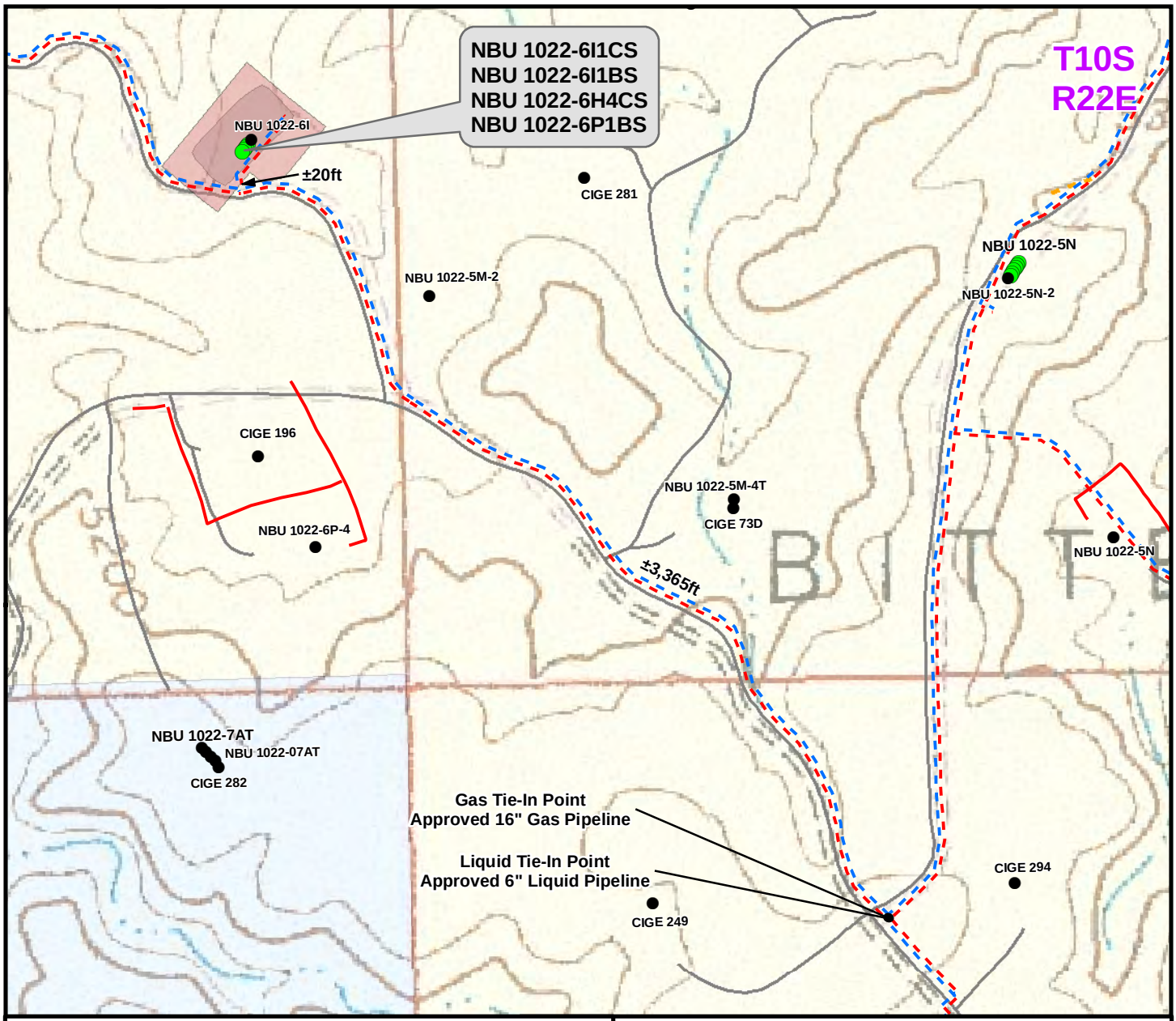
RECEIVED: May 16, 2013

API Well Number: 43047537990000



Proposed Liquid Pipeline	Length
Buried 6"(Max.) (Separator to Edge of Pad)	±275ft
Buried 6"(Max.) (Edge of Pad to 1022-6J Intersection)	±20ft
Buried 6"(Max.) (1022-6J Intersection to Approved 6" Liquid Pipeline)	±3,365ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±3,660ft

Proposed Gas Pipeline	Length
Buried 8" (Meter House to Edge of Pad)	±275ft
Buried 8" (Edge of Pad to 1022-6J Intersection)	±20ft
Buried 16" (1022-6J Intersection to Approved 16" Gas Pipeline)	±3,365ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±3,660ft

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 1022-6I

TOPO D2 (PAD & PIPELINE DETAIL)
NBU 1022-6I1CS, NBU 1022-6I1BS,
NBU 1022-6H4CS & NBU 1022-6P1BS
LOCATED IN SECTION 6, T10S, R22E
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

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

N

SCALE: 1" = 500ft	NAD83 USP Central	SHEET NO:	14
DRAWN: TL	DATE: 20 Sept 2012		
REVISED: TL	DATE: 30 Nov 2012		14 OF 16

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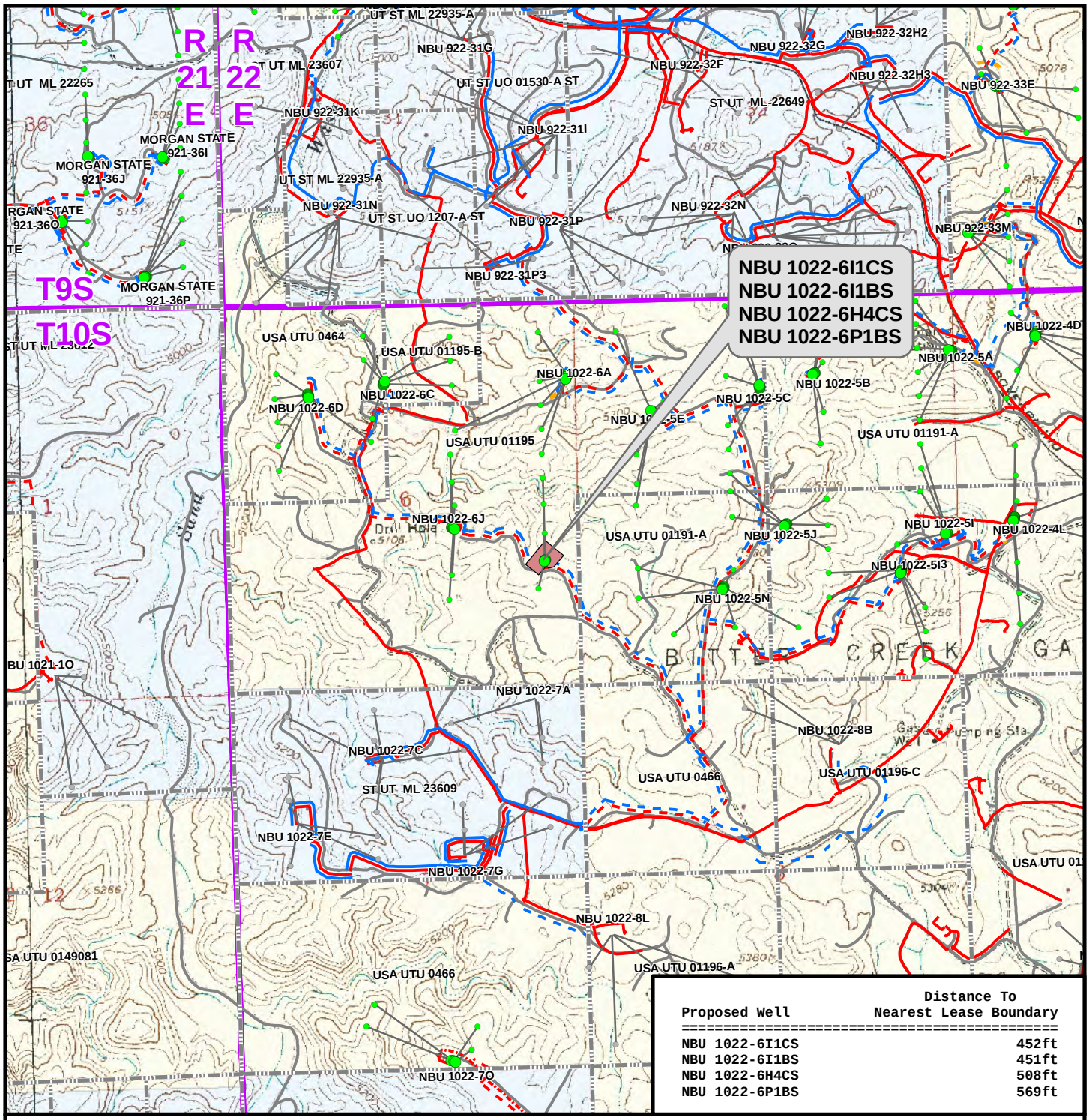
RECEIVED: May 16, 2013

API Well Number: 43047537990000



Proposed Well	Distance To Nearest Lease Boundary
NBU 1022-6I1CS	452ft
NBU 1022-6I1BS	451ft
NBU 1022-6H4CS	508ft
NBU 1022-6P1BS	569ft

Legend

- Well - Proposed
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Path
- Well Pad
- Lease Boundary
- 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

File: K:\ANADARKO\2012\2012_54_NBU_1022-6_FOCUS\GIS\Maps_ABCDE\NBU 1022-6I\NBU 1022-6I_E.mxd, 12/12/2012 4:03:48 PM

WELL PAD - NBU 1022-6I

TOPO E
NBU 1022-6I1CS, NBU 1022-6I1BS, NBU 1022-6H4CS & NBU 1022-6P1BS
LOCATED IN SECTION 6, T10S, R22E
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

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

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 15
DRAWN: TL	DATE: 30 Nov 2012	15 OF 16
REVISED:	DATE:	

RECEIVED: May 16, 2013

Kerr-McGee Oil & Gas Onshore, LP
WELL PAD – NBU 1022-6I
WELLS - NBU 1022-6I1CS, NBU 1022-6I1BS,
NBU 1022-6H4CS & NBU 1022-6P1BS
Section 6, T10S, R22E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45; exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 18.7 miles to a Class D County Road to the northeast. Exit left and proceed in a northeasterly direction along the Class D County Road approximately 0.1 miles to a second Class D County Road to the southeast. Exit right and proceed in a southeasterly direction along the second Class D County Road approximately 4.0 miles to a third Class D County Road to the northwest. Exit left and proceed in a northwesterly direction along the third Class D County Road approximately 0.2 miles to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 46.5 miles in a southerly direction.

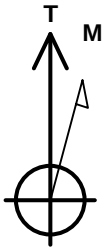
RECEIVED: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6I PAD
Well: NBU 1022-6H4CS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation



Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52159.7snT
Dip Angle: 65.81°
Date: 2013/01/16
Model: IGRF2010

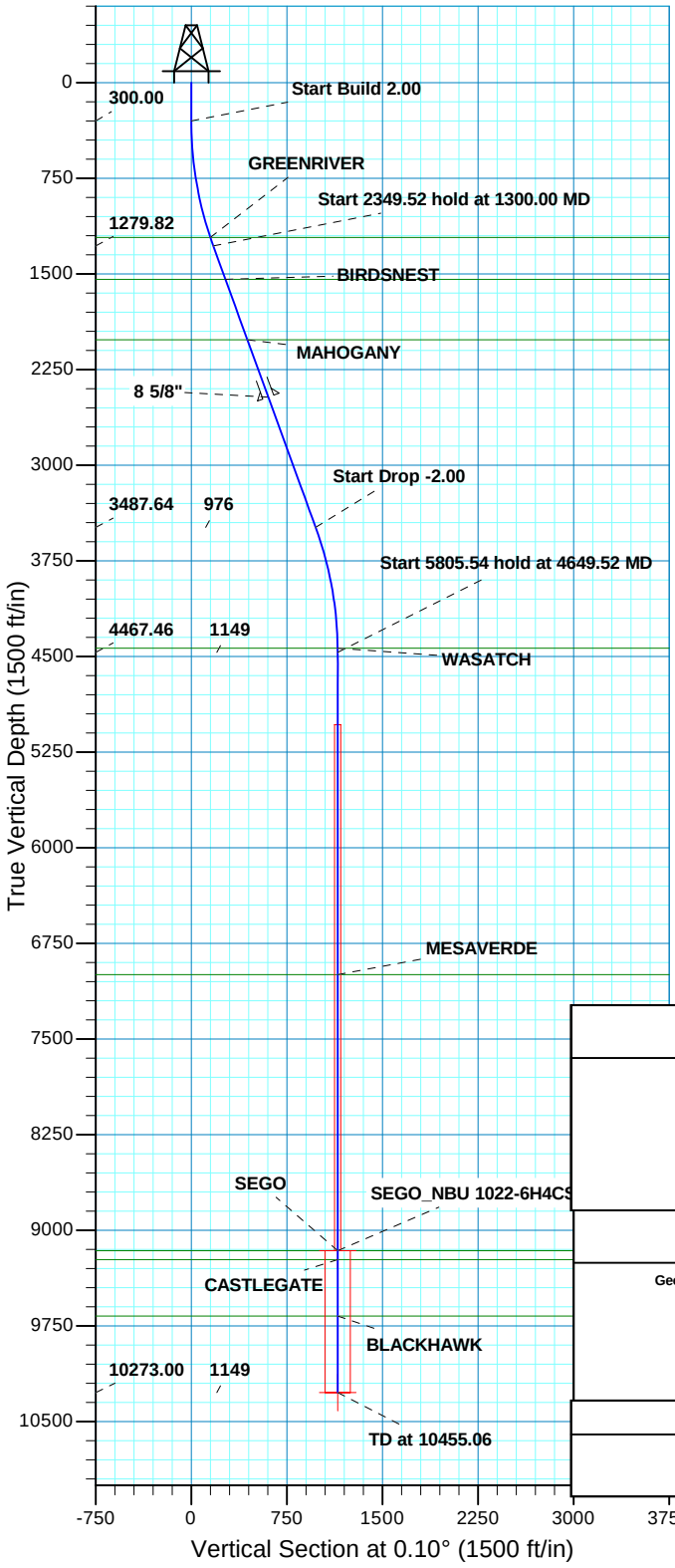
WELL DETAILS: NBU 1022-6H4CS

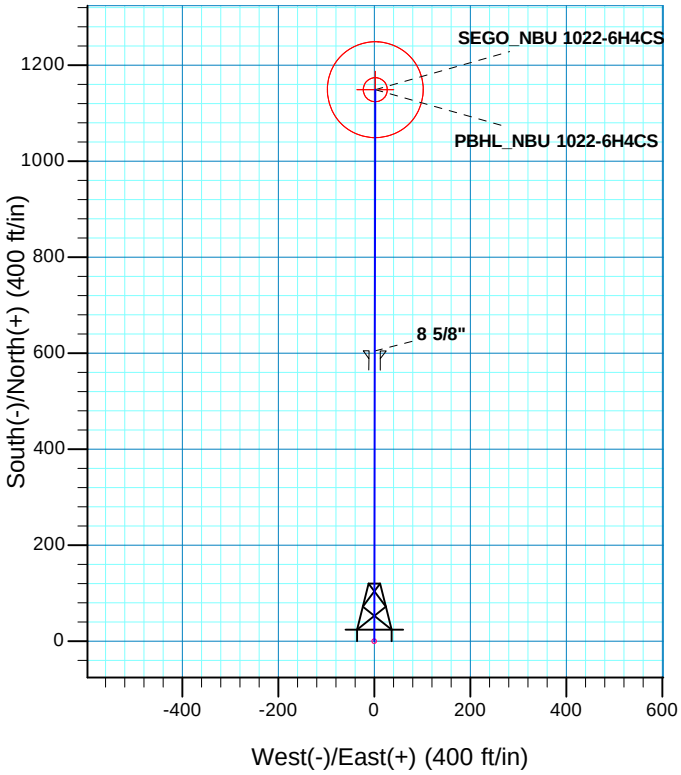
GL 5165 & KB 4 @ 5169.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14520753.25	2067908.45	39.9754247	-109.4741402

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9160.00	1149.12	1.96	14521902.23	2067890.75	39.9785798	-109.4741332	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10273.00	1149.12	1.96	14521902.23	2067890.75	39.9785798	-109.4741332	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	0.10	1279.82	172.77	0.29	2.00	0.10	172.77	
3649.52	20.00	0.10	3487.64	976.35	1.67	0.00	0.00	976.35	
4649.52	0.00	0.00	4467.46	1149.12	1.96	2.00	180.00	1149.12	
10455.06	0.00	0.00	10273.00	1149.12	1.96	0.00	0.00	1149.12	PBHL_NBU 1022-6H4CS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1214.00	1230.26	GREENRIVER
1542.00	1579.01	BIRDSNEST
2017.00	2084.50	MAHOGANY
4434.00	4616.06	WASATCH
6995.00	7177.06	MESAVERDE
9160.00	9342.06	SEGO
9230.00	9412.06	CASTLEGATE
9673.00	9855.06	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2467.00	2563.38	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6H4CS/OH)

Created By: RobertScott Date: 10:28, January 16 2013

RECEI

API Well Number: 43047537990000

Scientific Drilling

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
NBU 1022-6I PAD
NBU 1022-6H4CS

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

16 January, 2013

Anadarko Petroleum Corporation

RECEIVED: May 16, 2013

Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1022-6H4CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5165 & KB 4 @ 5169.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5165 & KB 4 @ 5169.00ft (ASSUMED)
Site:	NBU 1022-6I PAD	**North Reference:**	True
Well:	NBU 1022-6H4CS	**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 1022-6I PAD, SECTION 6 T10S R22E

Site Position:		**Northing:**	14,520,753.26 usft	**Latitude:**	39.9754247
From:	Lat/Long	**Easting:**	2,067,908.45 usft	**Longitude:**	-109.4741402
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.98 °

Well NBU 1022-6H4CS, 1700 FSL 470 FEL

Well Position	**+N/-S**	0.00 ft	**Northing:**	14,520,753.26 usft	**Latitude:**	39.9754247
	+E/-W	0.00 ft	**Easting:**	2,067,908.45 usft	**Longitude:**	-109.4741402
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	5,165.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2013/01/16	10.86	65.81	52,160

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	0.10

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	20.00	0.10	1,279.82	172.77	0.29	2.00	2.00	0.00	0.10	
3,649.52	20.00	0.10	3,487.64	976.35	1.67	0.00	0.00	0.00	0.00	
4,649.52	0.00	0.00	4,467.46	1,149.12	1.96	2.00	-2.00	0.00	180.00	
10,455.06	0.00	0.00	10,273.00	1,149.12	1.96	0.00	0.00	0.00	0.00	PBHL_NBU 1022-6H

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Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1022-6H4CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5165 & KB 4 @ 5169.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5165 & KB 4 @ 5169.00ft (ASSUMED)
Site:	NBU 1022-6I PAD	**North Reference:**	True
Well:	NBU 1022-6H4CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
400.00	2.00	0.10	399.98	1.75	0.00	1.75	2.00	2.00	0.00
500.00	4.00	0.10	499.84	6.98	0.01	6.98	2.00	2.00	0.00
600.00	6.00	0.10	599.45	15.69	0.03	15.69	2.00	2.00	0.00
700.00	8.00	0.10	698.70	27.88	0.05	27.88	2.00	2.00	0.00
800.00	10.00	0.10	797.47	43.52	0.07	43.52	2.00	2.00	0.00
900.00	12.00	0.10	895.62	62.60	0.11	62.60	2.00	2.00	0.00
1,000.00	14.00	0.10	993.06	85.10	0.15	85.10	2.00	2.00	0.00
1,100.00	16.00	0.10	1,089.64	110.98	0.19	110.98	2.00	2.00	0.00
1,200.00	18.00	0.10	1,185.27	140.21	0.24	140.21	2.00	2.00	0.00
1,230.26	18.61	0.10	1,214.00	149.72	0.26	149.72	2.00	2.00	0.00
GREENRIVER									
1,300.00	20.00	0.10	1,279.82	172.77	0.29	172.77	2.00	2.00	0.00
Start 2349.52 hold at 1300.00 MD									
1,400.00	20.00	0.10	1,373.78	206.97	0.35	206.97	0.00	0.00	0.00
1,500.00	20.00	0.10	1,467.75	241.17	0.41	241.17	0.00	0.00	0.00
1,579.01	20.00	0.10	1,542.00	268.19	0.46	268.20	0.00	0.00	0.00
BIRDSNEST									
1,600.00	20.00	0.10	1,561.72	275.37	0.47	275.37	0.00	0.00	0.00
1,700.00	20.00	0.10	1,655.69	309.58	0.53	309.58	0.00	0.00	0.00
1,800.00	20.00	0.10	1,749.66	343.78	0.59	343.78	0.00	0.00	0.00
1,900.00	20.00	0.10	1,843.63	377.98	0.65	377.98	0.00	0.00	0.00
2,000.00	20.00	0.10	1,937.60	412.18	0.70	412.18	0.00	0.00	0.00
2,084.50	20.00	0.10	2,017.00	441.08	0.75	441.08	0.00	0.00	0.00
MAHOGANY									
2,100.00	20.00	0.10	2,031.57	446.38	0.76	446.38	0.00	0.00	0.00
2,200.00	20.00	0.10	2,125.54	480.59	0.82	480.59	0.00	0.00	0.00
2,300.00	20.00	0.10	2,219.51	514.79	0.88	514.79	0.00	0.00	0.00
2,400.00	20.00	0.10	2,313.48	548.99	0.94	548.99	0.00	0.00	0.00
2,500.00	20.00	0.10	2,407.45	583.19	1.00	583.19	0.00	0.00	0.00
2,563.38	20.00	0.10	2,467.00	604.87	1.03	604.87	0.00	0.00	0.00
8 5/8"									
2,600.00	20.00	0.10	2,501.42	617.39	1.05	617.39	0.00	0.00	0.00
2,700.00	20.00	0.10	2,595.39	651.60	1.11	651.60	0.00	0.00	0.00
2,800.00	20.00	0.10	2,689.35	685.80	1.17	685.80	0.00	0.00	0.00
2,900.00	20.00	0.10	2,783.32	720.00	1.23	720.00	0.00	0.00	0.00
3,000.00	20.00	0.10	2,877.29	754.20	1.29	754.20	0.00	0.00	0.00
3,100.00	20.00	0.10	2,971.26	788.40	1.35	788.40	0.00	0.00	0.00
3,200.00	20.00	0.10	3,065.23	822.61	1.40	822.61	0.00	0.00	0.00
3,300.00	20.00	0.10	3,159.20	856.81	1.46	856.81	0.00	0.00	0.00
3,400.00	20.00	0.10	3,253.17	891.01	1.52	891.01	0.00	0.00	0.00
3,500.00	20.00	0.10	3,347.14	925.21	1.58	925.21	0.00	0.00	0.00
3,600.00	20.00	0.10	3,441.11	959.41	1.64	959.41	0.00	0.00	0.00
3,649.52	20.00	0.10	3,487.64	976.35	1.67	976.35	0.00	0.00	0.00
Start Drop -2.00									
3,700.00	18.99	0.10	3,535.23	993.20	1.70	993.20	2.00	-2.00	0.00
3,800.00	16.99	0.10	3,630.33	1,024.08	1.75	1,024.08	2.00	-2.00	0.00
3,900.00	14.99	0.10	3,726.46	1,051.63	1.80	1,051.63	2.00	-2.00	0.00
4,000.00	12.99	0.10	3,823.49	1,075.80	1.84	1,075.80	2.00	-2.00	0.00

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SDI
Planning Report

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Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5165 & KB 4 @ 5169.00ft (ASSUMED)
Site:	NBU 1022-6I PAD	**North Reference:**	True
Well:	NBU 1022-6H4CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,100.00	10.99	0.10	3,921.30	1,096.57	1.87	1,096.58	2.00	-2.00	0.00
4,200.00	8.99	0.10	4,019.78	1,113.92	1.90	1,113.92	2.00	-2.00	0.00
4,300.00	6.99	0.10	4,118.80	1,127.82	1.93	1,127.82	2.00	-2.00	0.00
4,400.00	4.99	0.10	4,218.25	1,138.26	1.94	1,138.26	2.00	-2.00	0.00
4,500.00	2.99	0.10	4,318.01	1,145.22	1.96	1,145.22	2.00	-2.00	0.00
4,600.00	0.99	0.10	4,417.94	1,148.69	1.96	1,148.69	2.00	-2.00	0.00
4,616.06	0.67	0.10	4,434.00	1,148.92	1.96	1,148.92	2.00	-2.00	0.00
WASATCH									
4,649.52	0.00	0.00	4,467.46	1,149.12	1.96	1,149.12	2.00	-2.00	0.00
Start 5805.54 hold at 4649.52 MD									
4,700.00	0.00	0.00	4,517.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
4,800.00	0.00	0.00	4,617.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
4,900.00	0.00	0.00	4,717.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
5,000.00	0.00	0.00	4,817.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
5,100.00	0.00	0.00	4,917.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
5,200.00	0.00	0.00	5,017.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
5,300.00	0.00	0.00	5,117.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
5,400.00	0.00	0.00	5,217.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
5,500.00	0.00	0.00	5,317.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
5,600.00	0.00	0.00	5,417.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
5,700.00	0.00	0.00	5,517.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
5,800.00	0.00	0.00	5,617.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
5,900.00	0.00	0.00	5,717.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
6,000.00	0.00	0.00	5,817.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
6,100.00	0.00	0.00	5,917.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
6,200.00	0.00	0.00	6,017.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
6,300.00	0.00	0.00	6,117.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
6,400.00	0.00	0.00	6,217.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
6,500.00	0.00	0.00	6,317.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
6,600.00	0.00	0.00	6,417.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
6,700.00	0.00	0.00	6,517.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
6,800.00	0.00	0.00	6,617.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
6,900.00	0.00	0.00	6,717.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
7,000.00	0.00	0.00	6,817.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
7,100.00	0.00	0.00	6,917.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
7,177.06	0.00	0.00	6,995.00	1,149.12	1.96	1,149.12	0.00	0.00	0.00
MESAVERDE									
7,200.00	0.00	0.00	7,017.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
7,300.00	0.00	0.00	7,117.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
7,400.00	0.00	0.00	7,217.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
7,500.00	0.00	0.00	7,317.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
7,600.00	0.00	0.00	7,417.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
7,700.00	0.00	0.00	7,517.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
7,800.00	0.00	0.00	7,617.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
7,900.00	0.00	0.00	7,717.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
8,000.00	0.00	0.00	7,817.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
8,100.00	0.00	0.00	7,917.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
8,200.00	0.00	0.00	8,017.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
8,300.00	0.00	0.00	8,117.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
8,400.00	0.00	0.00	8,217.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
8,500.00	0.00	0.00	8,317.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
8,600.00	0.00	0.00	8,417.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
8,700.00	0.00	0.00	8,517.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00

RECEIVED: May 16, 2013

Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1022-6H4CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5165 & KB 4 @ 5169.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5165 & KB 4 @ 5169.00ft (ASSUMED)
Site:	NBU 1022-6I PAD	**North Reference:**	True
Well:	NBU 1022-6H4CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,800.00	0.00	0.00	8,617.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
8,900.00	0.00	0.00	8,717.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
9,000.00	0.00	0.00	8,817.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
9,100.00	0.00	0.00	8,917.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
9,200.00	0.00	0.00	9,017.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
9,300.00	0.00	0.00	9,117.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
9,342.06	0.00	0.00	9,160.00	1,149.12	1.96	1,149.12	0.00	0.00	0.00
SEGO - SEGO_NBU 1022-6H4CS									
9,400.00	0.00	0.00	9,217.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
9,412.06	0.00	0.00	9,230.00	1,149.12	1.96	1,149.12	0.00	0.00	0.00
CASTLEGATE									
9,500.00	0.00	0.00	9,317.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
9,600.00	0.00	0.00	9,417.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
9,700.00	0.00	0.00	9,517.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
9,800.00	0.00	0.00	9,617.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
9,855.06	0.00	0.00	9,673.00	1,149.12	1.96	1,149.12	0.00	0.00	0.00
BLACKHAWK									
9,900.00	0.00	0.00	9,717.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
10,000.00	0.00	0.00	9,817.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
10,100.00	0.00	0.00	9,917.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
10,200.00	0.00	0.00	10,017.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
10,300.00	0.00	0.00	10,117.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
10,400.00	0.00	0.00	10,217.94	1,149.12	1.96	1,149.12	0.00	0.00	0.00
10,455.06	0.00	0.00	10,273.00	1,149.12	1.96	1,149.12	0.00	0.00	0.00
TD at 10455.06 - PBHL_NBU 1022-6H4CS									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SEGO_NBU 1022-6H4C - plan hits target center - Circle (radius 25.00)	0.00	0.00	9,160.00	1,149.12	1.96	14,521,902.24	2,067,890.75	39.9785798	-109.4741332
PBHL_NBU 1022-6H4C - plan hits target center - Circle (radius 100.00)	0.00	0.00	10,273.00	1,149.12	1.96	14,521,902.24	2,067,890.75	39.9785798	-109.4741332

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,563.38	2,467.00	8 5/8"	8.625	11.000

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Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1022-6H4CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5165 & KB 4 @ 5169.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5165 & KB 4 @ 5169.00ft (ASSUMED)
Site:	NBU 1022-6I PAD	**North Reference:**	True
Well:	NBU 1022-6H4CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,230.26	1,210.00	GREENRIVER			
1,579.01	1,538.00	BIRDSNEST			
2,084.50	2,013.00	MAHOGANY			
4,616.06	4,430.00	WASATCH			
7,177.06	6,991.00	MESAVERDE			
9,342.06	9,156.00	SEGO			
9,412.06	9,226.00	CASTLEGATE			
9,855.06	9,669.00	BLACKHAWK			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.00
1,300.00	1,279.82	172.77	0.29	Start 2349.52 hold at 1300.00 MD
3,649.52	3,487.64	976.35	1.67	Start Drop -2.00
4,649.52	4,467.46	1,149.12	1.96	Start 5805.54 hold at 4649.52 MD
10,455.06	10,273.00	1,149.12	1.96	TD at 10455.06

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

NBU 1022-6I PAD

API #		**NBU 1022-6H4CS**	
	Surface:	1700 FSL / 470 FEL	NESE
	BHL:	2444 FNL / 456 FEL	SENE
API #		**NBU 1022-6I1BS**	
	Surface:	1708 FSL / 463 FEL	NESE
	BHL:	2484 FSL / 451 FEL	NESE
API #		**NBU 1022-6I1CS**	
	Surface:	1716 FSL / 457 FEL	NESE
	BHL:	2088 FSL / 452 FEL	NESE
API #4304750684		**NBU 1022-6P1BS**	
	Surface:	1693 FSL / 476 FEL	NESE
	BHL:	1313 FSL / 569 FEL	SESE

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

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

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

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

A. Existing Roads:

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

Please refer to Topo B for existing roads.

B. New or Reconstructed Access Roads:

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

There are no new or road re-routes planned for this pad.

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C. Location of Existing Wells:

Please refer to Topo C for exiting wells.

D. Location of Existing and/or Proposed Facilities:

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

This pad will expand the existing pad for the NBU 1022-6I, which is a producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on January 17, 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).

GAS GATHERING

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

The total gas gathering pipeline distance from the meter to the tie in point is ±3,660' and the individual segments are broken up as follows:

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

±275' (0.05 miles) – Section 6 T10S R22E (NE/4 SE/4) – On-lease UTU-464, BLM surface, New 8" buried gas gathering pipeline from the meter to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

±20' (0.004 miles) – Section 6 T10S R22E (NE/4 SE/4) – On-lease UTU-464, BLM surface, New 8" buried gas gathering pipeline from the edge of the pad traveling south to tie-in to the proposed new 16" buried gas gathering pipeline at the NBU 1022-6J Pad intersection. Please refer to Exhibit A, Line 10.

±3,365' (0.6 miles) – Section 6 T10S R22E (NE/4 SE/4) – On-lease UTU-01195, UTU-01191-A & UTU-466, BLM surface, New 16" buried gas gathering pipeline from the NBU 1022-6J intersection traveling southeast to the tie-in point at the approved 16" buried gas gathering pipeline in the NE/4 NW/4, Section 8, T10S-R22E. This pipeline runs concurrently with the NBU 1022-6C, 1022-6D and 1022-6J Pads. Please refer to Exhibit A, Line 1.

LIQUID GATHERING

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

The total liquid gathering pipeline distance from the separator to the tie in point is ±3,660' and the individual segments are broken up as follows:

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

±275' (0.05 miles) – Section 6 T10S R22E (NE/4 SE/4) – On-lease UTU-464, BLM surface, New 6" buried liquid gathering pipeline from the separator to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

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±20' (0.004 miles) – Section 6 T10S R22E (NE/4 SE/4) – On-lease UTU-464, BLM surface, New 6" buried liquid gathering pipeline from the edge of the pad traveling south to tie-in to the proposed new 6" buried liquid gathering pipeline at the NBU 1022-6J Pad intersection. Please refer to Exhibit B, Line 10.

±3,365' (0.6 miles) – Section 6 T10S R22E (NE/4 SE/4) – On-lease UTU-01195, UTU-01191-A & UTU-466, BLM surface, New 6" buried liquid gathering pipeline from the NBU 1022-6J intersection traveling southeast to the tie-in point at the approved 6" buried liquid gathering pipeline in the NE/4 NW/4, Section 8, T10S-R22E. This pipeline runs concurrently with the NBU 1022-6C, 1022-6D and 1022-6J Pads. Please refer to Exhibit B, Line 1.

Pipeline Gathering Construction

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

The Anadarko Completions Transportation System (ACTS) information:

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

Please refer to Exhibit C for ACTS Lines

E. Location and Types of Water Supply:

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

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

F. Construction Materials:

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

G. Methods for Handling Waste:

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

Materials Management

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

H. Ancillary Facilities:

No additional ancillary facilities are planned for this location.

I. Well Site Layout:

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

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J. Plans for Surface Reclamation:

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

Interim Reclamation

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

Final Reclamation

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

Measures Common to Interim and Final Reclamation

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

Weed Control

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

Monitoring

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

K. Surface/Mineral Ownership:

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

L. Other Information:

Cultural and Paleontological Resources

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

Resource Reports:

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

A paleontological reconnaissance survey was completed on May 31, 2010 by IPC Block Survey. SWCA Environmental Consultants has prepared the survey report. For additional details please refer to report UT12-14314-207.

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Biological field survey was completed on October 16, 2012 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-861.

Proposed Action Annual Emissions Tables:

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

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

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

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

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

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

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

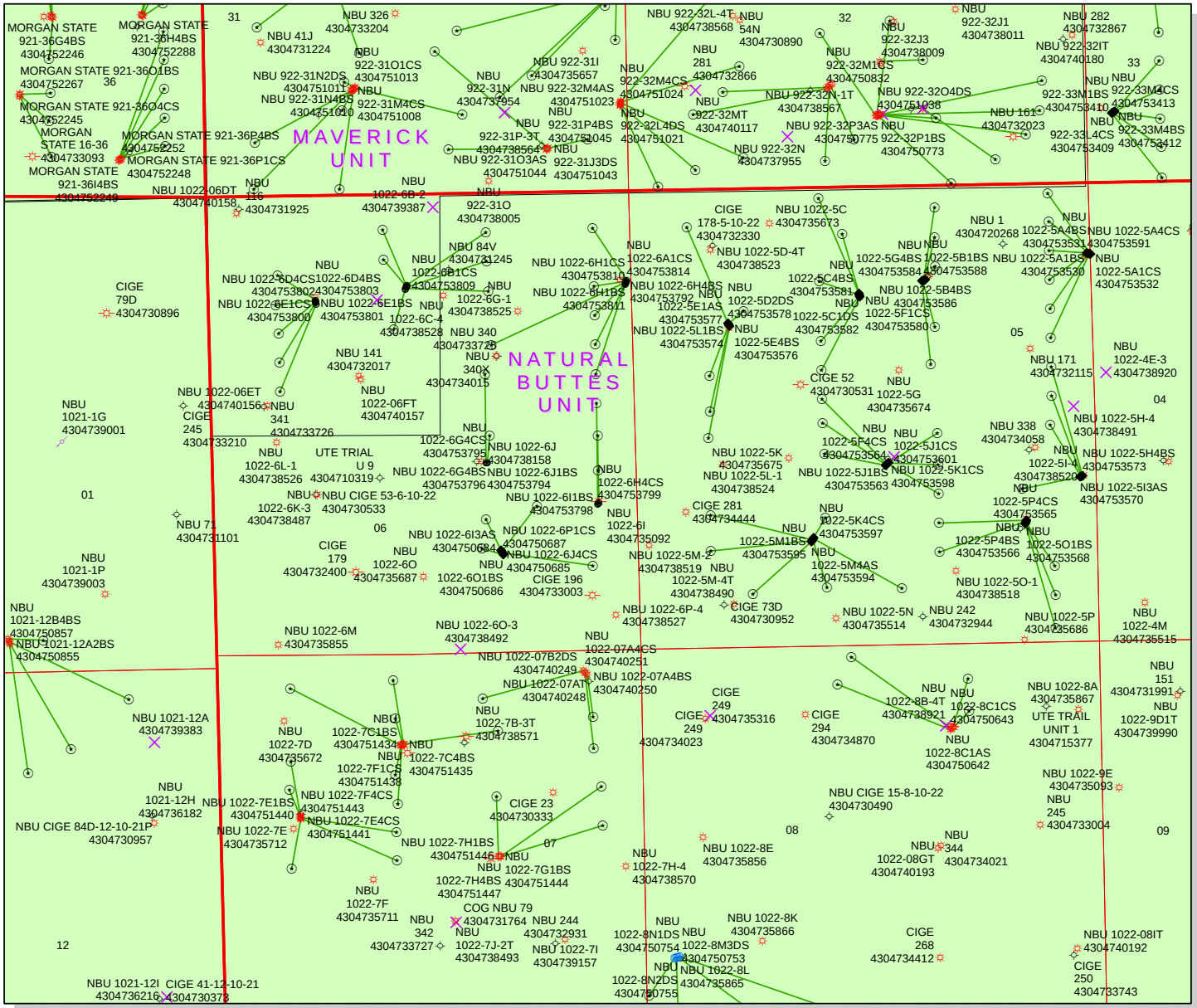
Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

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

Gina T.Becker

January 21, 2013
Date

API Well Number: 43047537990000


MAVERICK UNIT
NATURAL BUTTES UNIT
NBU 1022-6H4CS
NBU 1022-6H1CS
NBU 1022-6H1BS
NBU 1022-6H4BS
NBU 1022-6H4CS
NBU 1022-6D4CS
NBU 1022-6D4BS
NBU 1022-6E1CS
NBU 1022-6E1BS
NBU 1022-6B1CS
NBU 1022-6G-1
NBU 1022-6C-4
NBU 1022-6A1CS
NBU 1022-5D-4T
NBU 1022-5C
NBU 1022-5D2DS
NBU 1022-5E1AS
NBU 1022-5L1BS
NBU 1022-5E4BS
NBU 1022-5C1DS
NBU 1022-5G4BS
NBU 1022-5B1BS
NBU 1022-5A1BS
NBU 1022-5A4BS
NBU 1022-5A4CS
NBU 1022-5A1CS
NBU 1022-5B4BS
NBU 1022-5F1CS
NBU 1022-5G
NBU 1022-5K
NBU 1022-5L-1
NBU 1022-5F4CS
NBU 1022-5J1CS
NBU 1022-5J1BS
NBU 1022-5K1CS
NBU 1022-5K4CS
NBU 1022-5M1BS
NBU 1022-5M4AS
NBU 1022-5P4CS
NBU 1022-5P4BS
NBU 1022-5O1BS
NBU 1022-5O-1
NBU 1022-5P
NBU 1022-5H4CS
NBU 1022-5H4BS
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NBU 1022-5I-4
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NBU 1022-6J1BS
NBU 1022-6I1BS
NBU 1022-6I
NBU 1022-6I3AS
NBU 1022-6P1CS
NBU 1022-6J4CS
NBU 1022-6O
NBU 1022-6O1BS
NBU 1022-6M
NBU 1022-6O-3
NBU 1022-6P-4
NBU 1022-5N
NBU 1022-4M
NBU 1022-4E-3
NBU 1022-5H-4
NBU 1022-06ET
NBU 1022-06FT
NBU 1022-6L-1
NBU 1022-6K-3
NBU 1022-6G4CS
NBU 1022-6G4BS
NBU 1022-6J1BS
NBU 1022-07B2DS
NBU 1022-07A4CS
NBU 1022-07A4BS
NBU 1022-07AT
NBU 1022-7B-3T
NBU 1022-7C1BS
NBU 1022-7C4BS
NBU 1022-7D
NBU 1022-7F1CS
NBU 1022-7F4CS
NBU 1022-7E1BS
NBU 1022-7E4CS
NBU 1022-7E
NBU 1022-7H1BS
NBU 1022-7G1BS
NBU 1022-7H4BS
NBU 1022-7F
NBU 1022-7J-2T
NBU 1022-7I
NBU 1022-7H-4
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NBU 1022-8N2DS
NBU 1022-8M3DS
NBU 1022-8L
NBU 1022-8K
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NBU 1021-12A2BS
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NBU 922-31N2DS
NBU 922-31N4BS
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NBU 1022-8K
NBU 1022-7H-4
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NBU 1022-8N2DS
NBU 1022-8M3DS
NBU 1022-8L
NBU 1022-7J-2T
NBU 1022-7I
NBU 1022-7H4BS
NBU 1022-7F
NBU 1022-7C1BS
NBU 1022-7C4BS
NBU 1022-7D
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NBU 1022-7E1BS
NBU 1022-7E4CS
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NBU 1022-7G1BS
NBU 1022-7B-3T
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NBU 1022-07A4CS
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NBU 1022-6P1CS
NBU 1022-6J4CS
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NBU 1022-6I3AS
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NBU 1022-6J1BS
NBU 1022-6G4BS
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NBU 1022-6J
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NBU 1022-6H1CS
NBU 1022-6H1BS
NBU 1022-6A1CS
NBU 1022-5D-4T
NBU 1022-5C
NBU 1022-5D2DS
NBU 1022-5E1AS
NBU 1022-5L1BS
NBU 1022-5E4BS
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NBU 1022-5B1BS
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NBU 1022-5A4BS
NBU 1022-5A4CS
NBU 1022-5A1CS
NBU 1022-5B4BS
NBU 1022-5F1CS
NBU 1022-5G
NBU 1022-5K
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NBU 1022-5J1CS
NBU 1022-5J1BS
NBU 1022-5K1CS
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NBU 1022-5M4AS
NBU 1022-5P4CS
NBU 1022-5P4BS
NBU 1022-5O1BS
NBU 1022-5O-1
NBU 1022-5P
NBU 1022-5H4CS
NBU 1022-5H4BS
NBU 1022-5I3AS
NBU 1022-5I-4
NBU 1022-6J
NBU 1022-6J1BS
NBU 1022-6I1BS
NBU 1022-6I
NBU 1022-6I3AS
NBU 1022-6P1CS
NBU 1022-6J4CS
NBU 1022-6O
NBU 1022-6O1BS

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)

June 3, 2013

Memorandum

To: Assistant Field Office Manager Minerals, Vernal Field Office

From: Michael Coulthard, Petroleum Engineer

Subject: 2013 Plan of Development Natural Buttes Unit Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2013 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
WELL PAD - NBU 1022-6A		
43-047-53792	NBU 1022-6H4BS	Sec 06 T10S R22E 1069 FNL 0094 FEL
		BHL Sec 06 T10S R22E 2107 FNL 0456 FEL
43-047-53810	NBU 1022-6H1CS	Sec 06 T10S R22E 1078 FNL 0098 FEL
		BHL Sec 06 T10S R22E 1770 FNL 0456 FEL
43-047-53811	NBU 1022-6H1BS	Sec 06 T10S R22E 1060 FNL 0090 FEL
		BHL Sec 06 T10S R22E 1433 FNL 0456 FEL
43-047-53812	NBU 1022-6G1CS	Sec 06 T10S R22E 1050 FNL 0086 FEL
		BHL Sec 06 T10S R22E 1762 FNL 1653 FEL
43-047-53813	NBU 1022-6A4CS	Sec 06 T10S R22E 1041 FNL 0082 FEL
		BHL Sec 06 T10S R22E 1096 FNL 0456 FEL
WELL PAD - NBU 1022-6D		
43-047-53793	NBU 1022-6E4BS	Sec 06 T10S R22E 1264 FNL 1200 FWL
		BHL Sec 06 T10S R22E 2272 FNL 0760 FWL
43-047-53800	NBU 1022-6E1CS	Sec 06 T10S R22E 1244 FNL 1196 FWL
		BHL Sec 06 T10S R22E 1935 FNL 0760 FWL
43-047-53801	NBU 1022-6E1BS	Sec 06 T10S R22E 1234 FNL 1195 FWL
		BHL Sec 06 T10S R22E 1598 FNL 0760 FWL
43-047-53802	NBU 1022-6D4CS	Sec 06 T10S R22E 1225 FNL 1193 FWL
		BHL Sec 06 T10S R22E 1273 FNL 0729 FWL
43-047-53803	NBU 1022-6D4BS	Sec 06 T10S R22E 1215 FNL 1191 FWL
		BHL Sec 06 T10S R22E 0924 FNL 0761 FWL

RECEIVED: June 04, 2013

API #	WELL NAME	LOCATION
WELL PAD - NBU 1022-6J		
43-047-53794	NBU 1022-6J1BS	Sec 06 T10S R22E 2189 FSL 1727 FEL
		BHL Sec 06 T10S R22E 2497 FSL 1695 FEL
43-047-53795	NBU 1022-6G4CS	Sec 06 T10S R22E 2192 FSL 1737 FEL
		BHL Sec 06 T10S R22E 2480 FNL 1726 FEL
43-047-53796	NBU 1022-6G4BS	Sec 06 T10S R22E 2195 FSL 1746 FEL
		BHL Sec 06 T10S R22E 2094 FNL 1731 FEL
WELL PAD - NBU 1022-6I		
43-047-53797	NBU 1022-6I1CS	Sec 06 T10S R22E 1716 FSL 0457 FEL
		BHL Sec 06 T10S R22E 2088 FSL 0452 FEL
43-047-53798	NBU 1022-6I1BS	Sec 06 T10S R22E 1708 FSL 0463 FEL
		BHL Sec 06 T10S R22E 2484 FSL 0451 FEL
43-047-53799	NBU 1022-6H4CS	Sec 06 T10S R22E 1700 FSL 0470 FEL
		BHL Sec 06 T10S R22E 2444 FNL 0456 FEL
WELL PAD - NBU 1022-6C		
43-047-53804	NBU 1022-6F1BS	Sec 06 T10S R22E 1103 FNL 2630 FEL
		BHL Sec 06 T10S R22E 1572 FNL 2083 FWL
43-047-53805	NBU 1022-6C4BS	Sec 06 T10S R22E 1075 FNL 2619 FEL
		BHL Sec 06 T10S R22E 0759 FNL 1985 FWL
43-047-53806	NBU 1022-6C1CS	Sec 06 T10S R22E 1066 FNL 2615 FEL
		BHL Sec 06 T10S R22E 0422 FNL 1986 FWL
43-047-53807	NBU 1022-6B4CS	Sec 06 T10S R22E 1094 FNL 2626 FEL
		BHL Sec 06 T10S R22E 1139 FNL 1677 FEL
43-047-53808	NBU 1022-6B4BS	Sec 06 T10S R22E 1085 FNL 2622 FEL
		BHL Sec 06 T10S R22E 0791 FNL 1688 FEL
43-047-53809	NBU 1022-6B1CS	Sec 06 T10S R22E 1057 FNL 2611 FEL
		BHL Sec 06 T10S R22E 0460 FNL 1688 FEL

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

Michael L. Coulthard

Digitally signed by Michael L. Coulthard
DN: cn=Michael L. Coulthard, o=Bureau of Land Management, ou=Branch of Minerals, email=Michael_Coulthard@blm.gov, c=US
Date: 2013.06.03 12:57:02 -06'00'

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

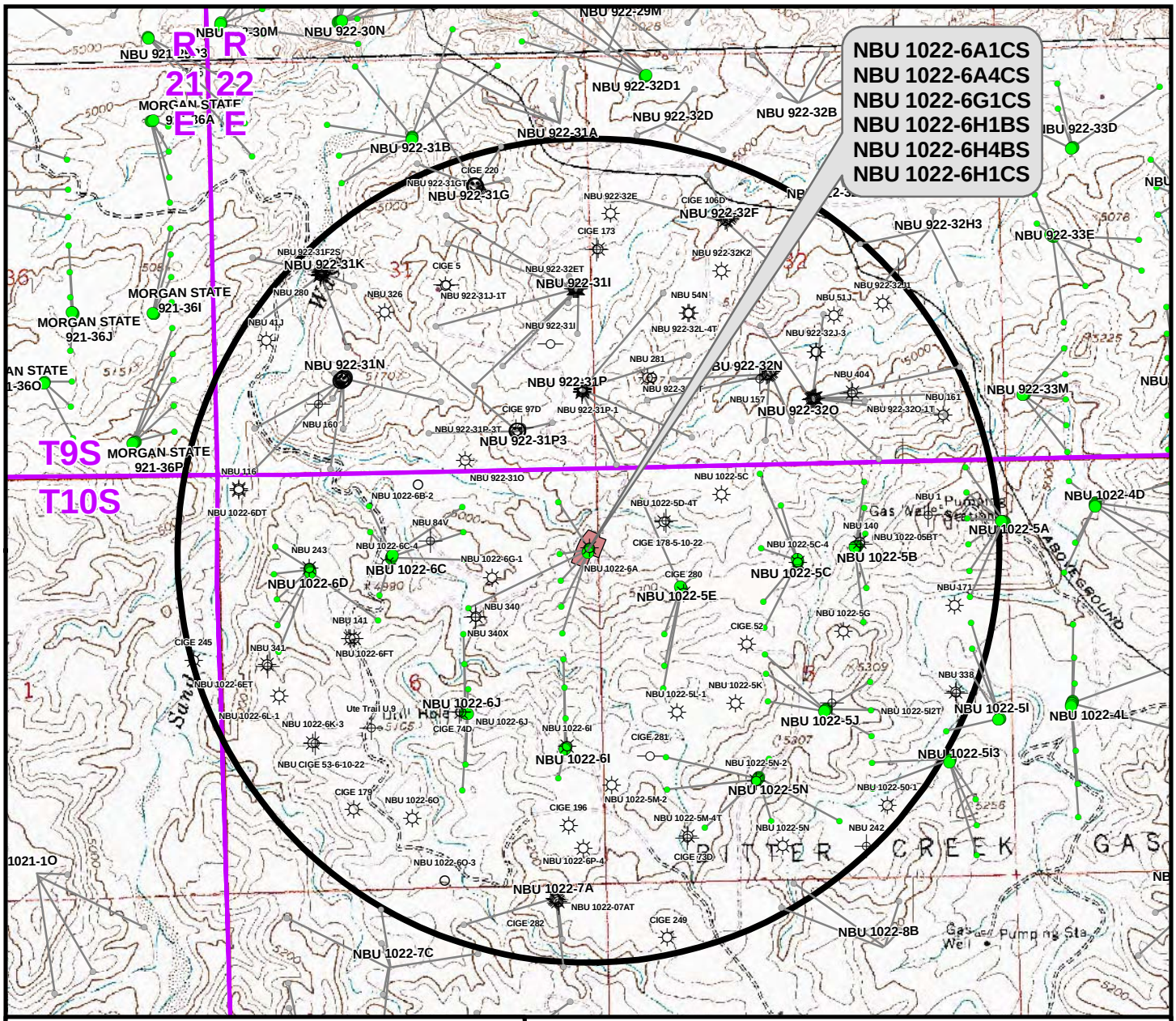
MCoulthard:mc:6-3-13

RECEIVED: June 04, 2013

API Number	Well Name	Surface Location
43-047-53792	NBU 1022-6H4BS	Sec 06 T10S R22E 1069 FNL 0094 FEL
43-047-53793	NBU 1022-6E4BS	Sec 06 T10S R22E 1264 FNL 1200 FWL
43-047-53794	NBU 1022-6J1BS	Sec 06 T10S R22E 2189 FSL 1727 FEL
43-047-53795	NBU 1022-6G4CS	Sec 06 T10S R22E 2192 FSL 1737 FEL
43-047-53796	NBU 1022-6G4BS	Sec 06 T10S R22E 2195 FSL 1746 FEL
43-047-53797	NBU 1022-6I1CS	Sec 06 T10S R22E 1716 FSL 0457 FEL
43-047-53798	NBU 1022-6I1BS	Sec 06 T10S R22E 1708 FSL 0463 FEL
43-047-53799	NBU 1022-6H4CS	Sec 06 T10S R22E 1700 FSL 0470 FEL
43-047-53800	NBU 1022-6E1CS	Sec 06 T10S R22E 1244 FNL 1196 FWL
43-047-53801	NBU 1022-6E1BS	Sec 06 T10S R22E 1234 FNL 1195 FWL
43-047-53802	NBU 1022-6D4CS	Sec 06 T10S R22E 1225 FNL 1193 FWL
43-047-53803	NBU 1022-6D4BS	Sec 06 T10S R22E 1215 FNL 1191 FWL
43-047-53804	NBU 1022-6F1BS	Sec 06 T10S R22E 1103 FNL 2630 FEL
43-047-53805	NBU 1022-6C4BS	Sec 06 T10S R22E 1075 FNL 2619 FEL
43-047-53806	NBU 1022-6C1CS	Sec 06 T10S R22E 1066 FNL 2615 FEL
43-047-53807	NBU 1022-6B4CS	Sec 06 T10S R22E 1094 FNL 2626 FEL
43-047-53808	NBU 1022-6B4BS	Sec 06 T10S R22E 1085 FNL 2622 FEL
43-047-53809	NBU 1022-6B1CS	Sec 06 T10S R22E 1057 FNL 2611 FEL
43-047-53810	NBU 1022-6H1CS	Sec 06 T10S R22E 1078 FNL 0098 FEL
43-047-53811	NBU 1022-6H1BS	Sec 06 T10S R22E 1060 FNL 0090 FEL
43-047-53812	NBU 1022-6G1CS	Sec 06 T10S R22E 1050 FNL 0086 FEL
43-047-53813	NBU 1022-6A4CS	Sec 06 T10S R22E 1041 FNL 0082 FEL

RECEIVED: June 04, 2013

API Well Number: 43047537990000



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

Proposed Well	Nearest Well Bore	Footage
NBU 1022-6A1CS	NBU 1022-6A	716ft
NBU 1022-6A4CS	NBU 1022-6A	388ft
NBU 1022-6G1CS	NBU 340	145ft
NBU 1022-6H1BS	NBU 1022-6A	557ft
NBU 1022-6H4BS	NBU 340X	1,135ft
NBU 1022-6H1CS	NBU 1022-6A	835ft

Legend

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

WELL PAD - NBU 1022-6A

TOPO C
NBU 1022-6A1CS, NBU 1022-6A4CS, NBU 1022-6G1CS, NBU 1022-6H1BS, NBU 1022-6H4BS & NBU 1022-6H1CS
LOCATED IN SECTION 6, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH

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

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

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 14
DRAWN: TL	DATE: 30 Nov 2012	14 OF 18
REVISED:	DATE:	

File: K:\ANADARKO\2012\2012_54_NBU_1022-6_FOCUS\GIS\Maps_ABCDE\NBU 1022-6A\NBU 1022-6A_C.mxd, 12/11/2012 4:53:50 PM

RECEIVED: May 20, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6A PAD
Well: NBU 1022-6H4BS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52166.0snT
Dip Angle: 65.82°
Date: 2013/01/10
Model: IGRF2010

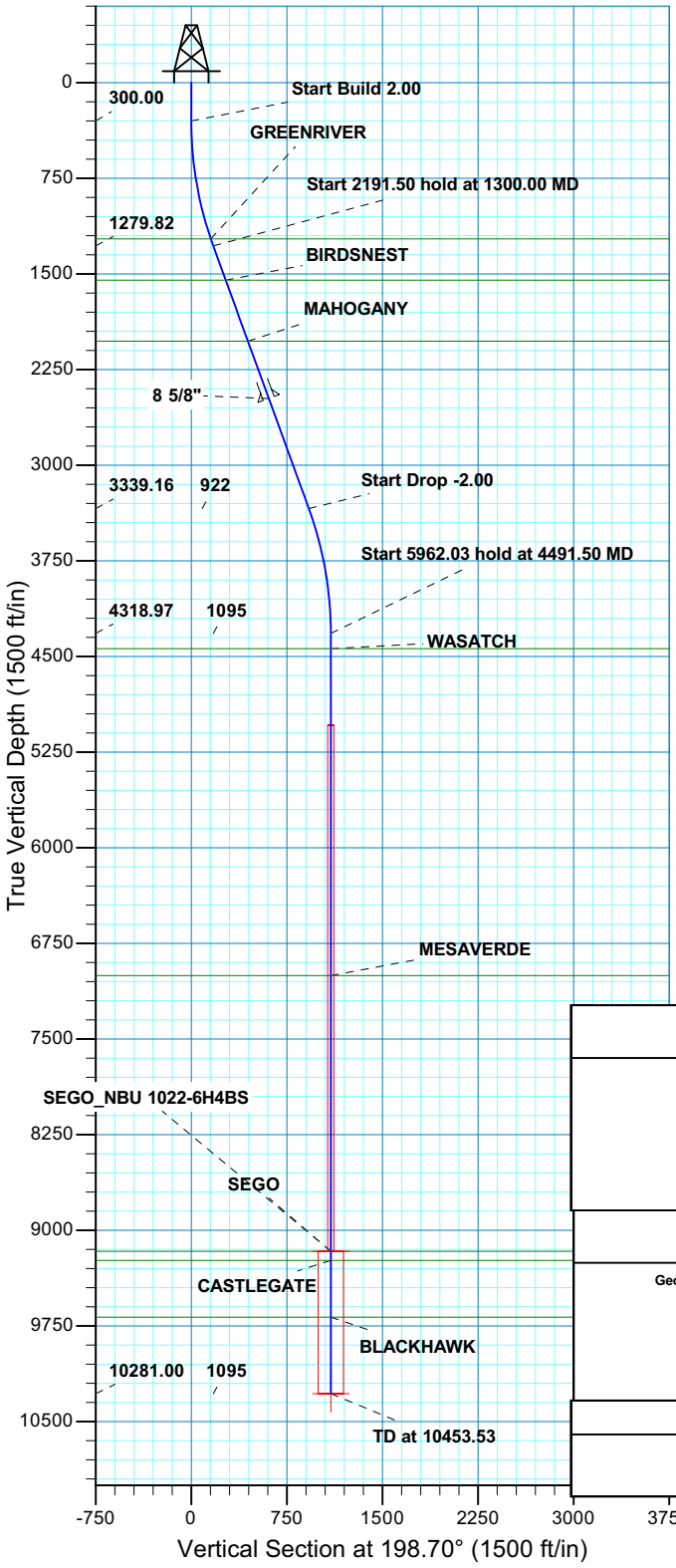
WELL DETAILS: NBU 1022-6H4BS

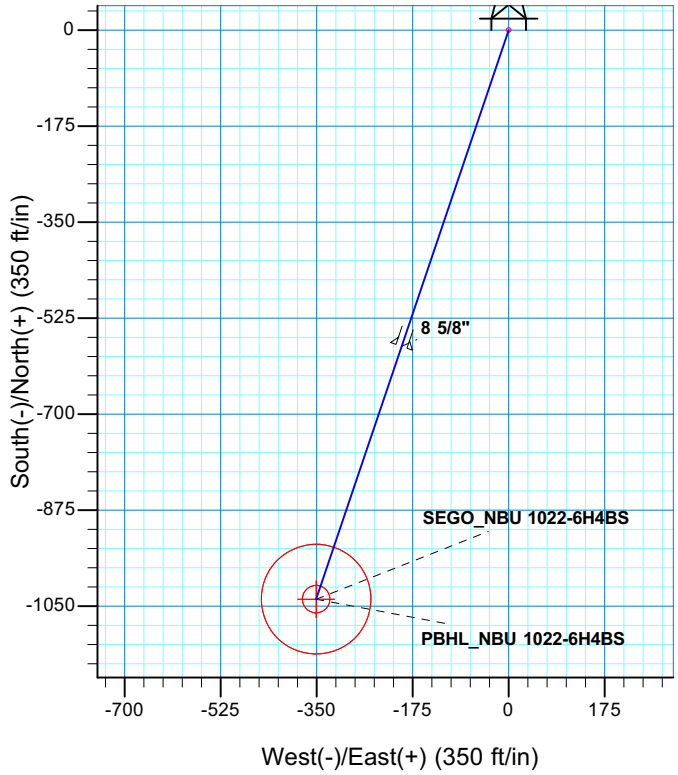
GL 5079 & KB 4 @ 5083.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523282.14	2068214.65	39.9823528	-109.4728931

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9166.00	-1037.27	-351.09	14522239.01	2067881.37	39.9795048	-109.4741461	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10281.00	-1037.27	-351.09	14522239.01	2067881.37	39.9795048	-109.4741461	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	198.70	1279.82	-163.65	-55.39	2.00	198.70	172.77	
3491.50	20.00	198.70	3339.16	-873.62	-295.70	0.00	0.00	922.31	
4491.50	0.00	0.00	4318.97	-1037.27	-351.09	2.00	180.00	1095.07	
10453.53	0.00	0.00	10281.00	-1037.27	-351.09	0.00	0.00	1095.07	PBHL_NBU 1022-6H4BS

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 6 T10N R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1224.00	1240.82	GREENRIVER
1549.00	1586.46	BIRDSNEST
2027.00	2095.14	MAHOGANY
4439.00	4611.53	WASATCH
7003.00	7175.53	MESAVERDE
9166.00	9338.53	SEGO
9236.00	9408.53	CASTLEGATE
9681.00	9853.53	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2477.00	2574.02	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6H4BS/OH)

Created By: Robert Scott Date: 15:11, January 10 2013

RECEIVED
Received: May 20, 2013

API Well Number: 43047537090000

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6A PAD
Well: NBU 1022-6H1CS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Scientific Drilling

Anadarko Petroleum Corporation

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Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52166.0snT
Dip Angle: 65.82°
Date: 2013/01/10
Model: IGRF2010

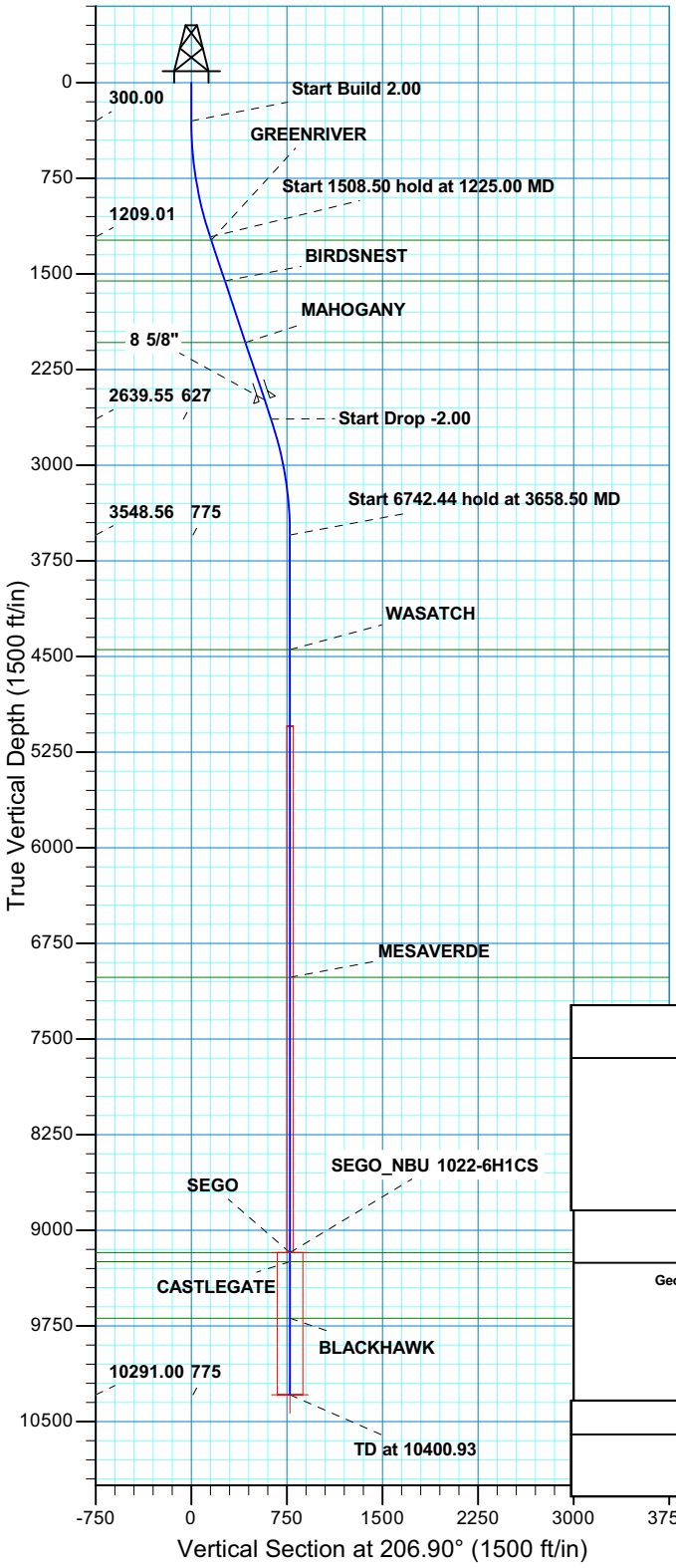
WELL DETAILS: NBU 1022-6H1CS

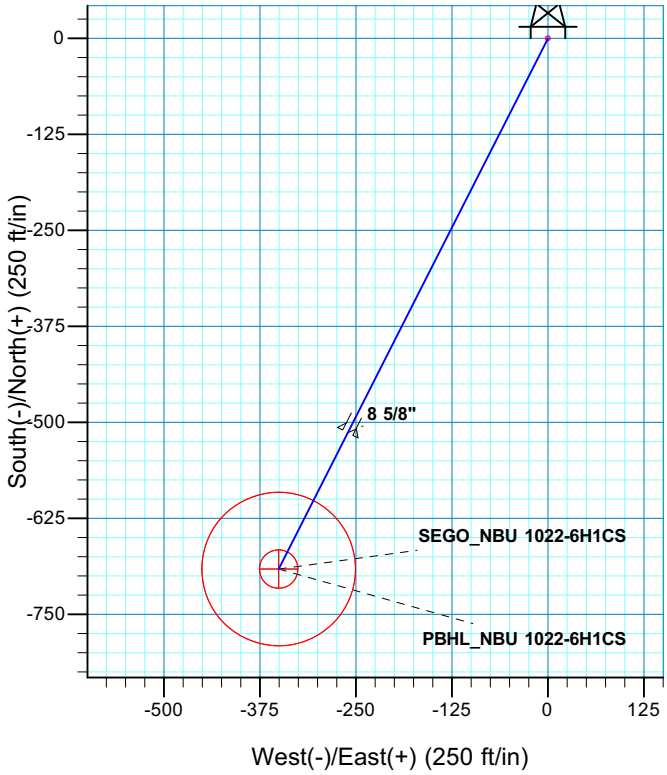
GL 5079 & KB 4 @ 5083.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523272.60	2068210.89	39.9823268	-109.4729071

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9175.00	-690.90	-350.53	14522575.80	2067872.24	39.9804298	-109.4741581	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10291.00	-690.90	-350.53	14522575.80	2067872.24	39.9804298	-109.4741581	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	
1225.00	18.50	206.90	1209.01	-132.02	-66.98	2.00	206.90	148.04	
2733.50	18.50	206.90	2639.55	-558.88	-283.55	0.00	0.00	626.69	
3658.50	0.00	0.00	3548.56	-690.90	-350.53	2.00	180.00	774.74	
10400.93	0.00	0.00	10291.00	-690.90	-350.53	0.00	0.00	774.74	PBHL_NBU 1022-6H1CS

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 6 T10N R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1235.00	1252.41	GREENRIVER
1555.00	1589.84	BIRDSNEST
2037.00	2098.11	MAHOGANY
4447.00	4556.93	WASATCH
7016.00	7125.93	MESAVERDE
9175.00	9284.93	SEGO
9246.00	9355.93	CASTLEGATE
9691.00	9800.93	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2487.00	2572.63	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6H1CS/OH)

Created By: Robert Scott Date: 15:09, January 10 2013

RECEIVED
Received: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6A PAD
Well: NBU 1022-6H1BS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

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Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52166.0snT
Dip Angle: 65.82°
Date: 2013/01/10
Model: IGRF2010

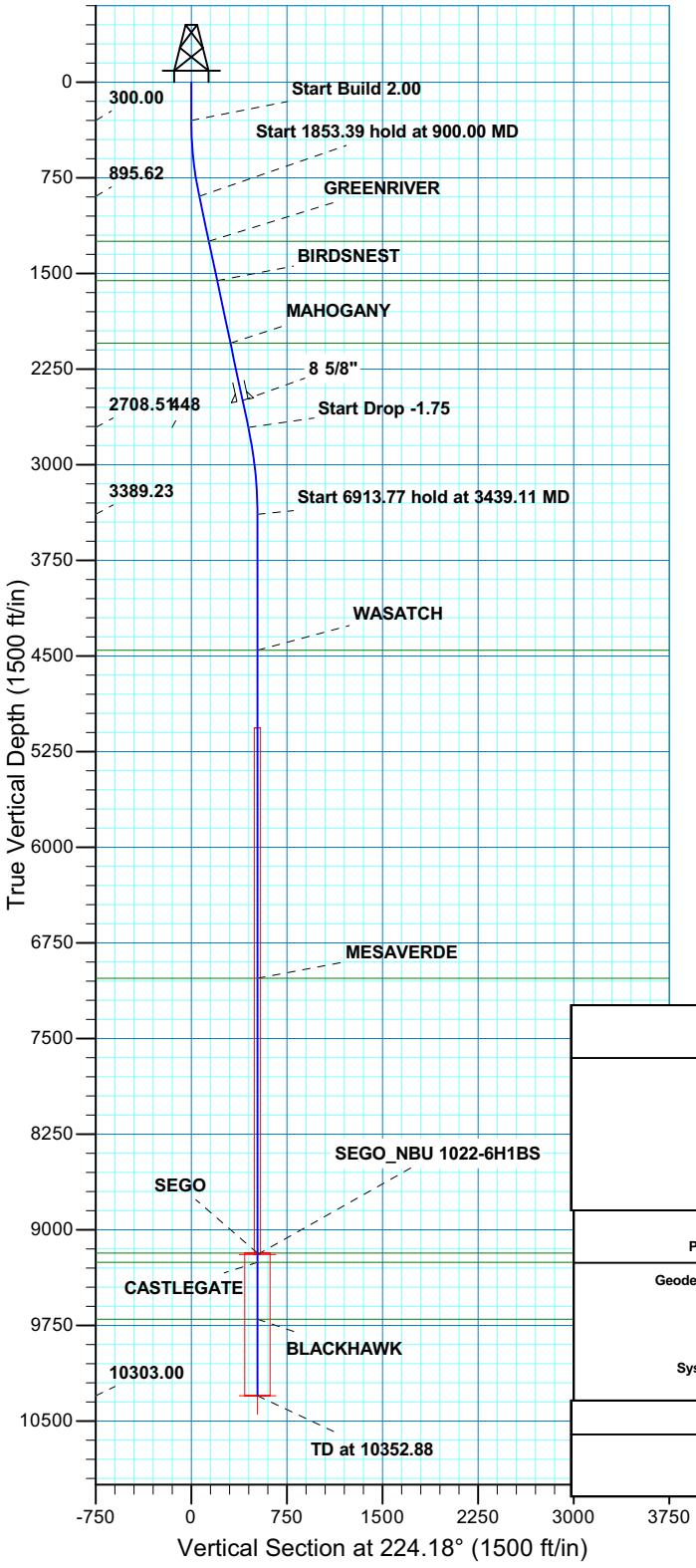
WELL DETAILS: NBU 1022-6H1BS

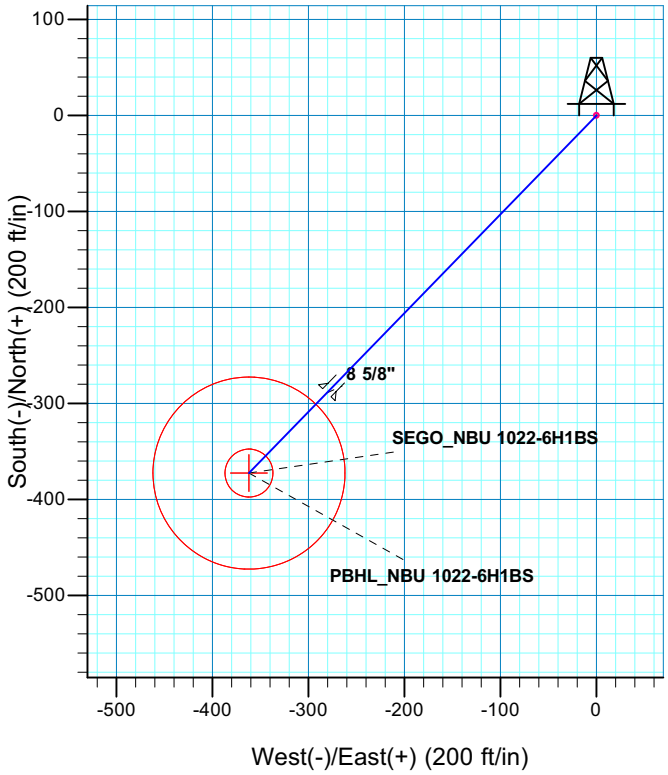
GL 5079 & KB 4 @ 5083.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523291.31	2068218.41	39.9823778	-109.4728791

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9194.00	-372.58	-362.01	14522912.58	2067862.84	39.9813548	-109.4741711	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10303.00	-372.58	-362.01	14522912.58	2067862.84	39.9813548	-109.4741711	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	
900.00	12.00	224.18	895.62	-44.90	-43.63	2.00	224.18	62.60	
2753.39	12.00	224.18	2708.51	-321.27	-312.15	0.00	0.00	447.94	
3439.11	0.00	0.00	3389.23	-372.58	-362.01	1.75	180.00	519.49	
10352.88	0.00	0.00	10303.00	-372.58	-362.01	0.00	0.00	519.49	PBHL_NBU 1022-6H1BS

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 6 T10N R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1248.00	1260.25	GREENRIVER
1558.00	1577.17	BIRDSNEST
2047.00	2077.10	MAHOGANY
4455.00	4504.88	WASATCH
7028.00	7077.88	MESAVERDE
9184.00	9233.88	SEGO
9256.00	9305.88	CASTLEGATE
9703.00	9752.88	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2497.00	2537.15	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6H1BS/OH)

Created By: Robert Scott Date: 15:08, January 10 2013

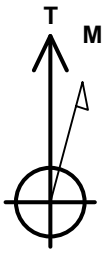
RECEIVED Received: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6A PAD
Well: NBU 1022-6G1CS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation



Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52166.0snT
Dip Angle: 65.82°
Date: 2013/01/10
Model: IGRF2010

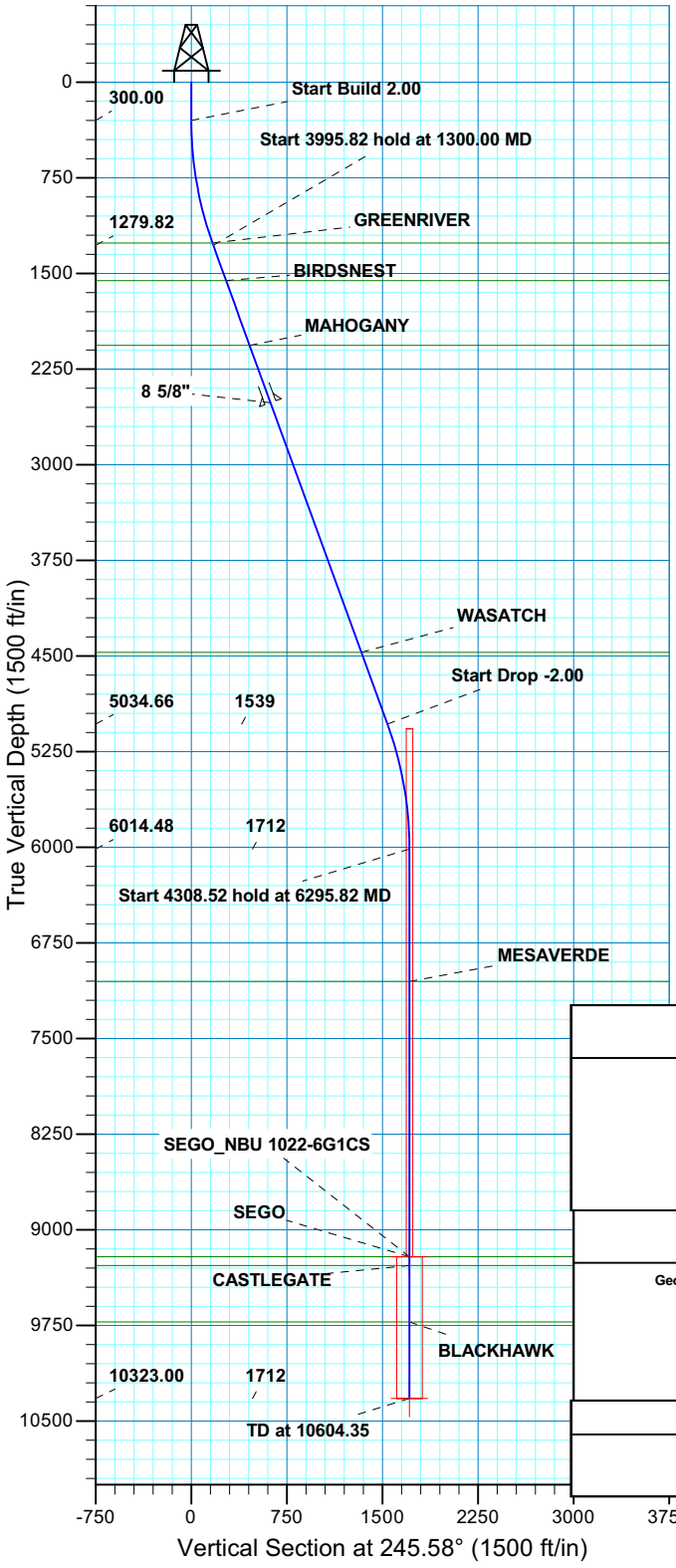
WELL DETAILS: NBU 1022-6G1CS

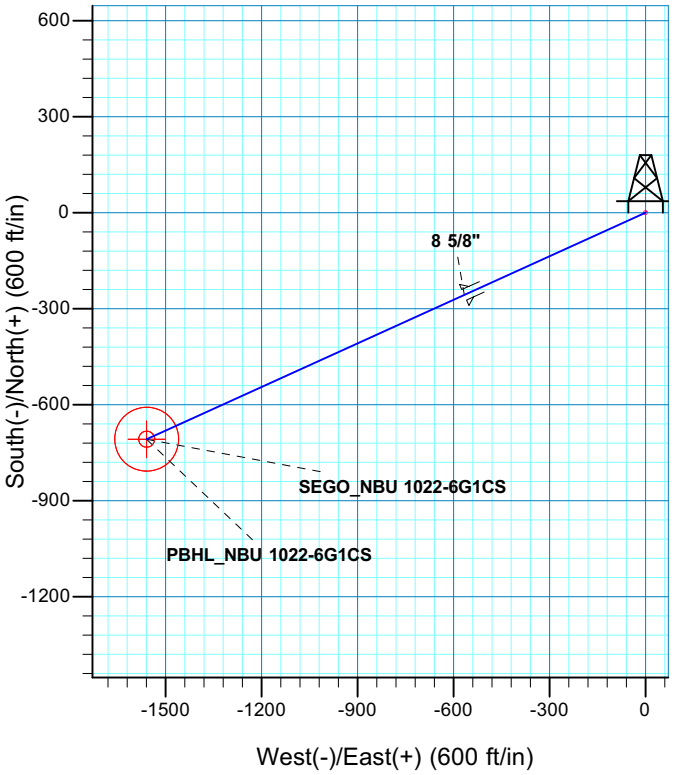
GL 5079 & KB 4 @ 5083.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523300.48	2068222.18	39.9824028	-109.4728651

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9212.00	-707.97	-1558.96	14522565.91	2066675.57	39.9804588	-109.4784289	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10323.00	-707.97	-1558.96	14522565.91	2066675.57	39.9804588	-109.4784289	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	245.58	1279.82	-71.44	-157.31	2.00	245.58	172.77	
5295.82	20.00	245.58	5034.66	-636.53	-1401.66	0.00	0.00	1539.42	
6295.82	0.00	0.00	6014.48	-707.97	-1558.96	2.00	180.00	1712.19	
10604.35	0.00	0.00	10323.00	-707.97	-1558.96	0.00	0.00	1712.19	PBHL_NBU 1022-6G1CS

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 6 T10N R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1262.00	1281.06	GREENRIVER
1558.00	1596.04	BIRDSNEST
2064.00	2134.51	MAHOGANY
4472.00	4697.05	WASATCH
7053.00	7334.35	MESAVERDE
9212.00	9493.35	SEGO
9281.00	9562.35	CASTLEGATE
9723.00	10004.35	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2514.00	2613.39	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6G1CS/OH)

Created By: Robert Scott Date: 15:06, January 10 2013

RECEIVED
Received: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6A PAD
Well: NBU 1022-6A4CS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52166.0snT
Dip Angle: 65.82°
Date: 2013/01/10
Model: IGRF2010

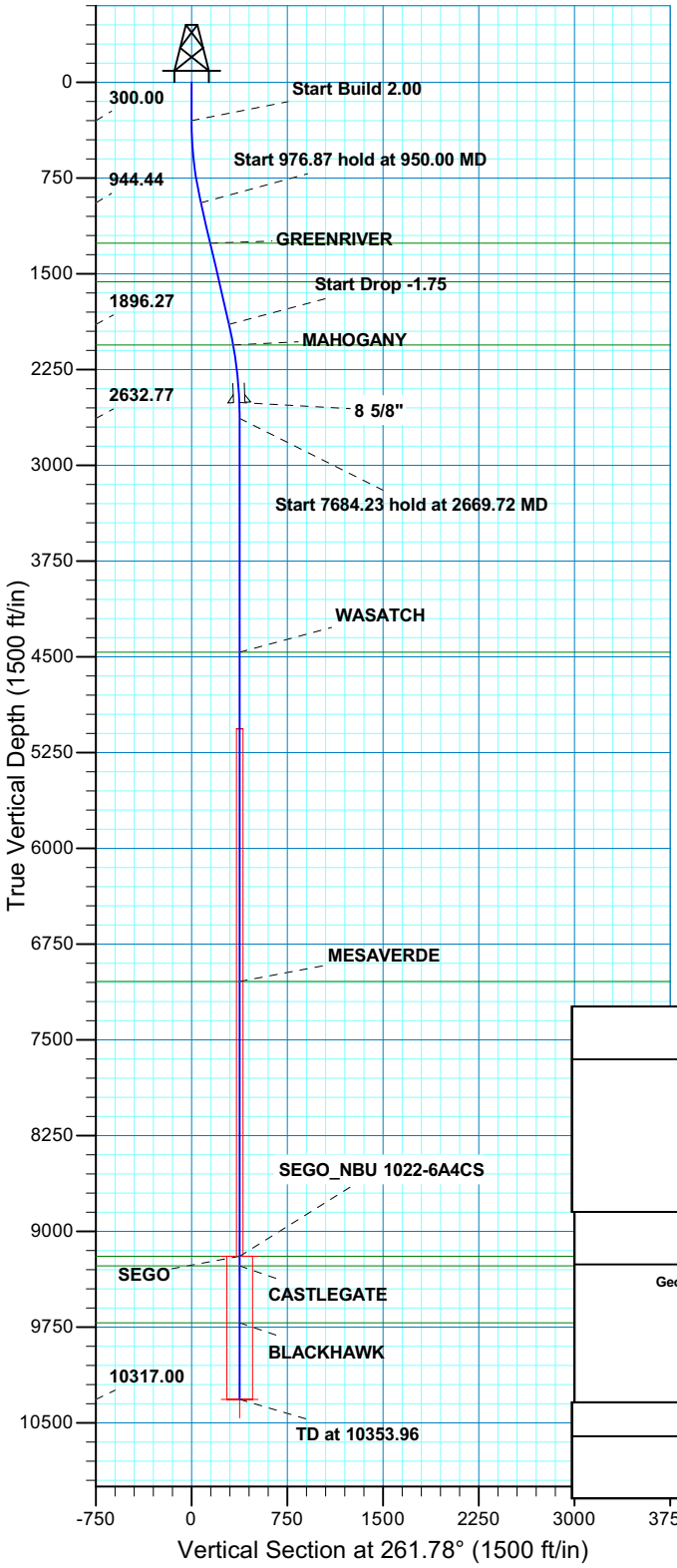
WELL DETAILS: NBU 1022-6A4CS

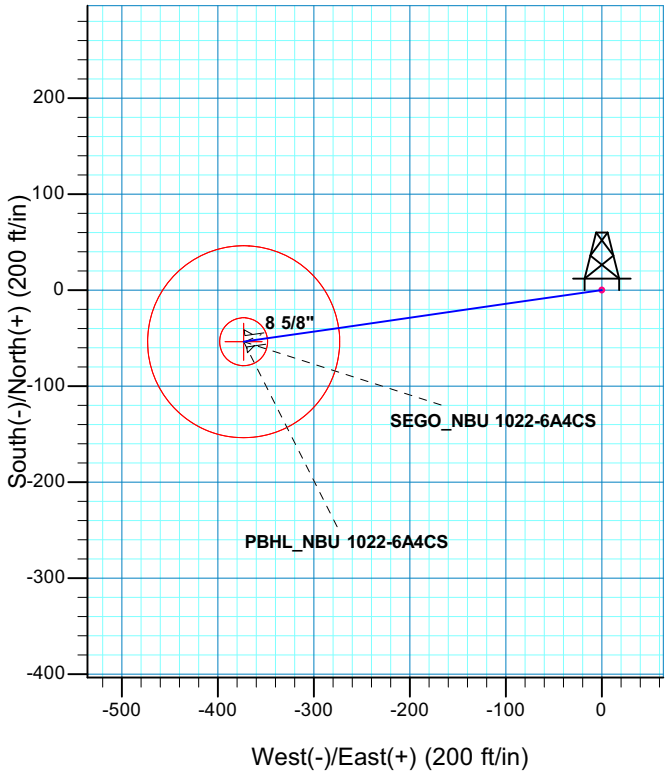
GL 5079 & KB 4 @ 5083.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523309.65	2068225.94	39.9824278	-109.4728511

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9196.00	-53.90	-373.21	14523249.37	2067853.71	39.9822798	-109.4741831	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10317.00	-53.90	-373.21	14523249.37	2067853.71	39.9822798	-109.4741831	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	
950.00	13.00	261.78	944.44	-10.50	-72.67	2.00	261.78	73.42	
1926.87	13.00	261.78	1896.27	-41.91	-290.16	0.00	0.00	293.17	
2669.72	0.00	0.00	2632.77	-53.90	-373.21	1.75	180.00	377.08	
10353.96	0.00	0.00	10317.00	-53.90	-373.21	0.00	0.00	377.08	PBHL_NBU 1022-6A4CS

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 6 T10N R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1261.00	1274.89	GREENRIVER
1563.00	1584.83	BIRDSNEST
2059.00	2092.98	MAHOGANY
4465.00	4501.96	WASATCH
7043.00	7079.96	MESAVERDE
9196.00	9232.96	SEGO
9270.00	9306.96	CASTLEGATE
9717.00	9753.96	BLACKHAWK

CASING DETAILS

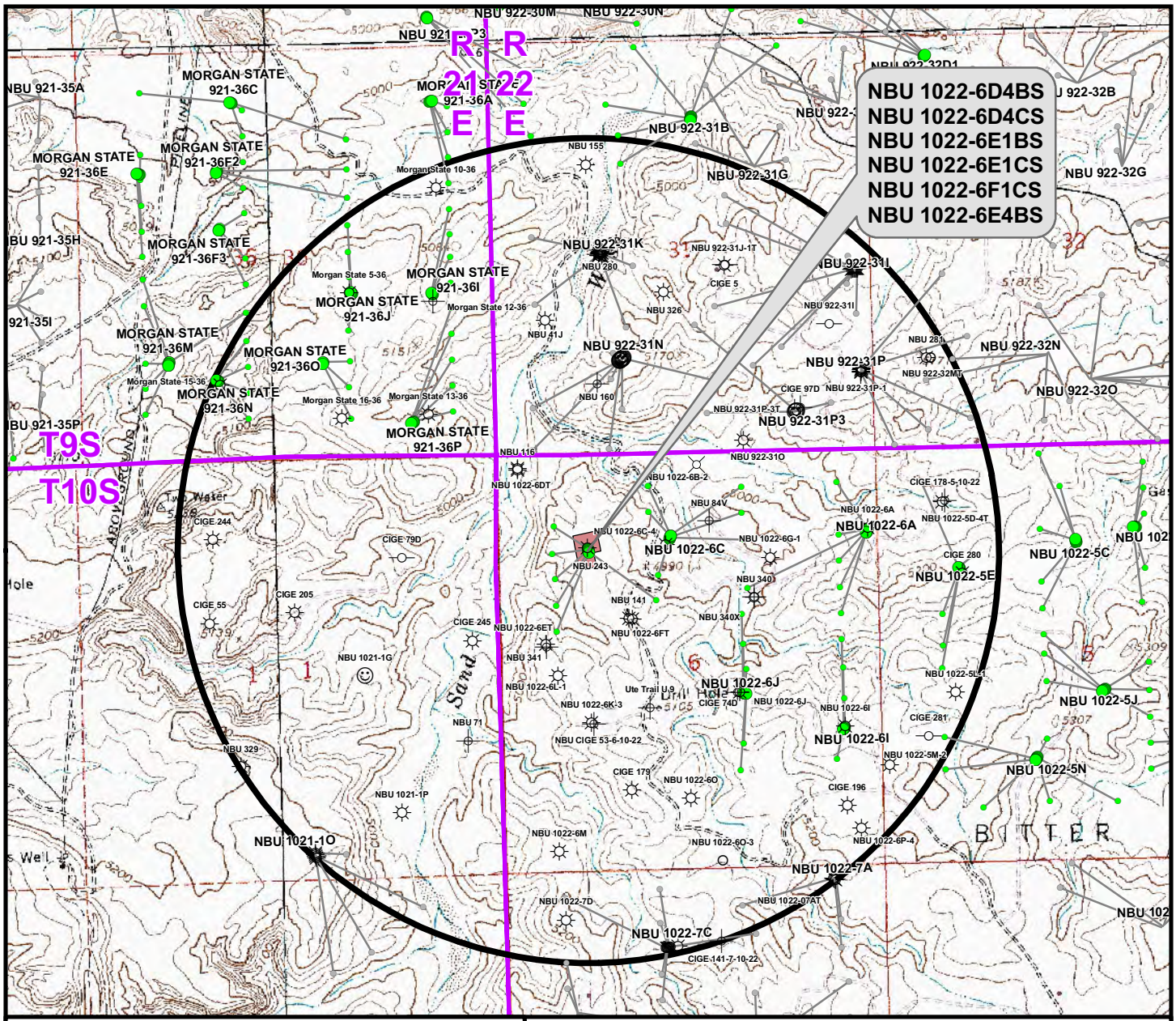
TVD	MD	Name	Size
2509.00	2545.93	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6A4CS/OH)

Created By: Robert Scott Date: 15:05, January 10 2013

RECEIVED
Received: May 16, 2013

API Well Number: 43047537990000



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

Proposed Well	Nearest Well Bore	Footage
NBU 1022-6D4BS	NBU 243	515ft
NBU 1022-6D4CS	NBU 243	465ft
NBU 1022-6E1BS	NBU 243	579ft
NBU 1022-6E1CS	NBU 1022-6ET	520ft
NBU 1022-6F1CS	NBU 1022-6FT	391ft
NBU 1022-6E4BS	NBU 1022-6ET	219ft

Legend

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

WELL PAD - NBU 1022-6D

TOPO C
NBU 1022-6D4BS, NBU 1022-6D4CS, NBU 1022-6E1BS, NBU 1022-6E1CS, NBU 1022-6F1CS & NBU 1022-6E4BS
LOCATED IN SECTION 6, T10S, R22E S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

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

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 14
DRAWN: TL	DATE: 30 Nov 2012	14 OF 18
REVISED:	DATE:	

File: K:\ANADARKO\2012\2012_54_NBU_1022-6_FOCUS\GIS\Maps_ABCDE\NBU 1022-6D\NBU 1022-6D_C.mxd, 12/12/2012 10:41:34 AM

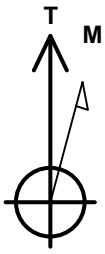
RECEIVED: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6D PAD
Well: NBU 1022-6E4BS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation



Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52162.2snT
Dip Angle: 65.81°
Date: 2013/01/16
Model: IGRF2010

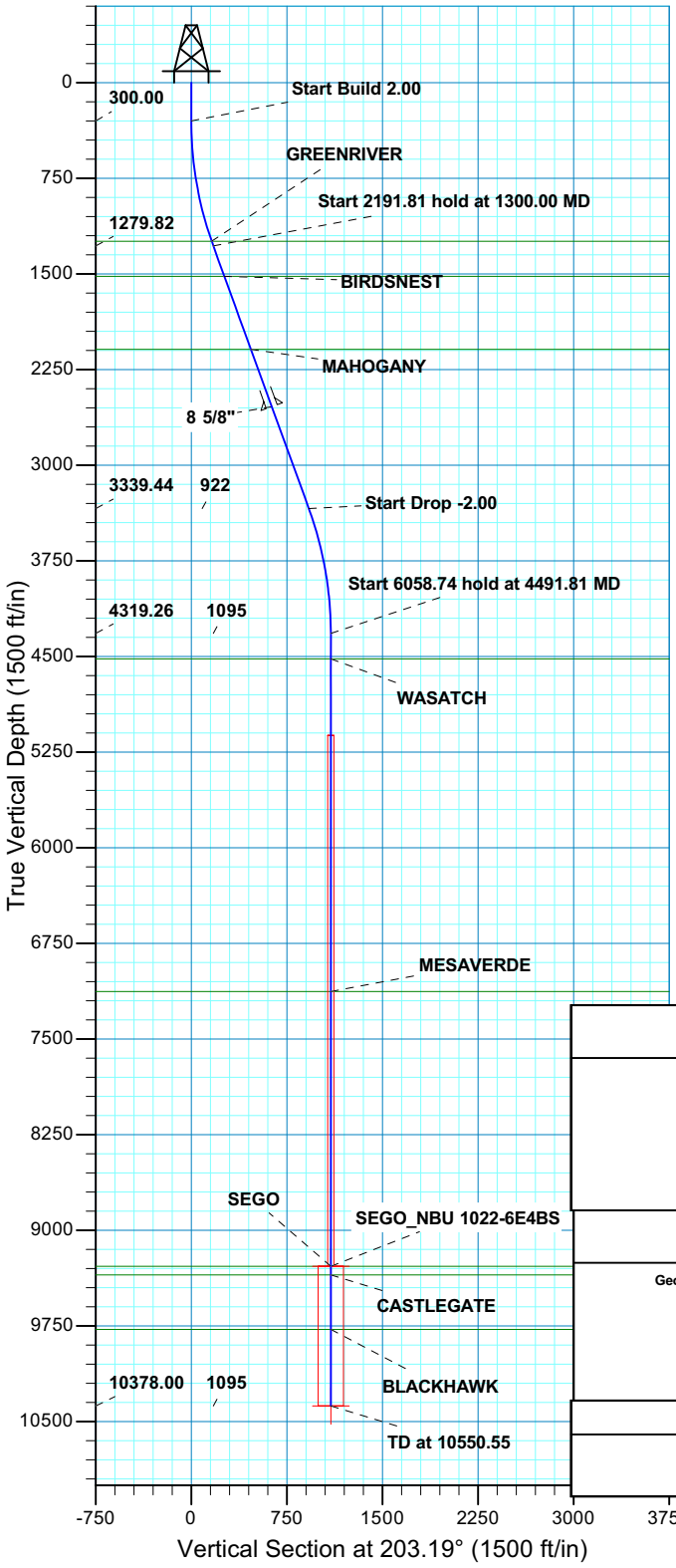
WELL DETAILS: NBU 1022-6E4BS

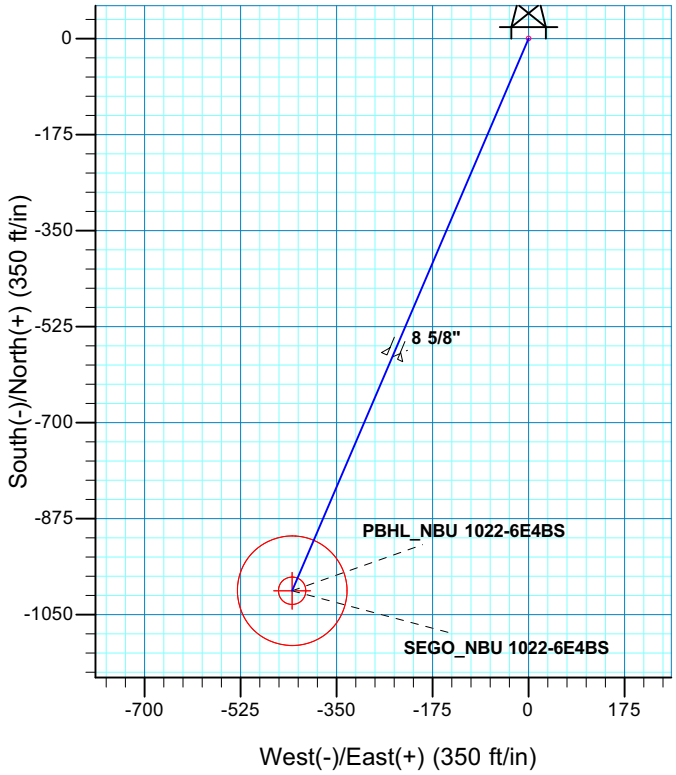
GL 5094 & KB 4 @ 5098.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523033.96	2064639.66	39.9818389	-109.4856655

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9282.00	-1006.70	-431.23	14522020.08	2064225.59	39.9790748	-109.4872045	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10378.00	-1006.70	-431.23	14522020.08	2064225.59	39.9790748	-109.4872045	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	203.19	1279.82	-158.81	-68.03	2.00	203.19	172.77	
3491.81	20.00	203.19	3339.44	-847.89	-363.20	0.00	0.00	922.41	
4491.81	0.00	0.00	4319.26	-1006.70	-431.23	2.00	180.00	1095.18	
10550.55	0.00	0.00	10378.00	-1006.70	-431.23	0.00	0.00	1095.18	PBHL_NBU 1022-6E4BS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1244.00	1261.98	GREENRIVER
1518.00	1553.47	BIRDSNEST
2091.00	2163.24	MAHOGANY
4518.00	4690.55	WASATCH
7127.00	7299.55	MESAVERDE
9282.00	9454.55	SEGO
9350.00	9522.55	CASTLEGATE
9778.00	9950.55	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2541.00	2642.12	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6E4BS/OH)

Created By: Robert Scott Date: 14:12, January 16 2013

RECEIVED: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6D PAD
Well: NBU 1022-6E1CS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52162.2snT
Dip Angle: 65.81°
Date: 2013/01/16
Model: IGRF2010

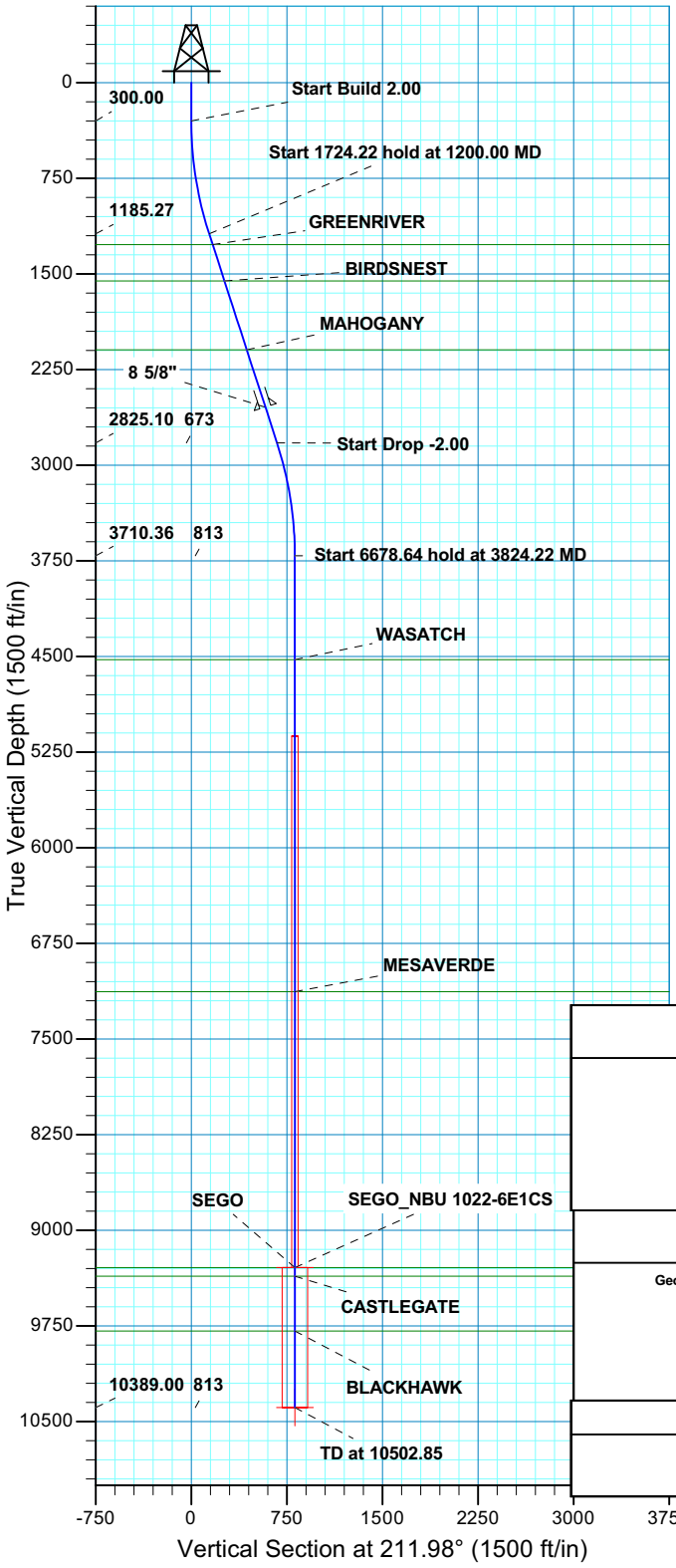
WELL DETAILS: NBU 1022-6E1CS

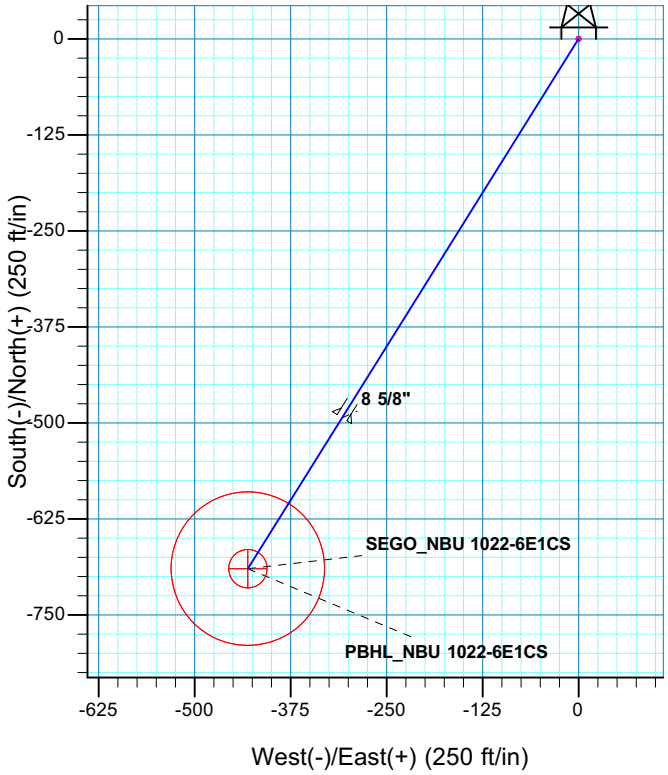
GL 5094 & KB 4 @ 5098.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523053.57	2064635.97	39.9818929	-109.4856775

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9293.00	-689.84	-430.67	14522356.51	2064217.08	39.9799988	-109.4872145	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10389.00	-689.84	-430.67	14522356.51	2064217.08	39.9799988	-109.4872145	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	
1200.00	18.00	211.98	1185.27	-118.94	-74.25	2.00	211.98	140.21	
2924.22	18.00	211.98	2825.10	-570.90	-356.41	0.00	0.00	673.03	
3824.22	0.00	0.00	3710.36	-689.84	-430.67	2.00	180.00	813.24	
10502.85	0.00	0.00	10389.00	-689.84	-430.67	0.00	0.00	813.24	PBHL_NBU 1022-6E1CS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1270.00	1289.09	GREENRIVER
1555.00	1588.76	BIRDSNEST
2094.00	2155.50	MAHOGANY
4524.00	4637.85	WASATCH
7129.00	7242.85	MESAVERDE
9293.00	9406.85	SEGO
9360.00	9473.85	CASTLEGATE
9789.00	9902.85	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2544.00	2628.65	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6E1CS/OH)

Created By: Robert Scott Date: 14:10, January 16 2013

RECEIVED: May 16, 2013

API Well Number: 43047537090000

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6D PAD
Well: NBU 1022-6E1BS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Scientific Drilling

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52162.2snT
Dip Angle: 65.81°
Date: 2013/01/16
Model: IGRF2010

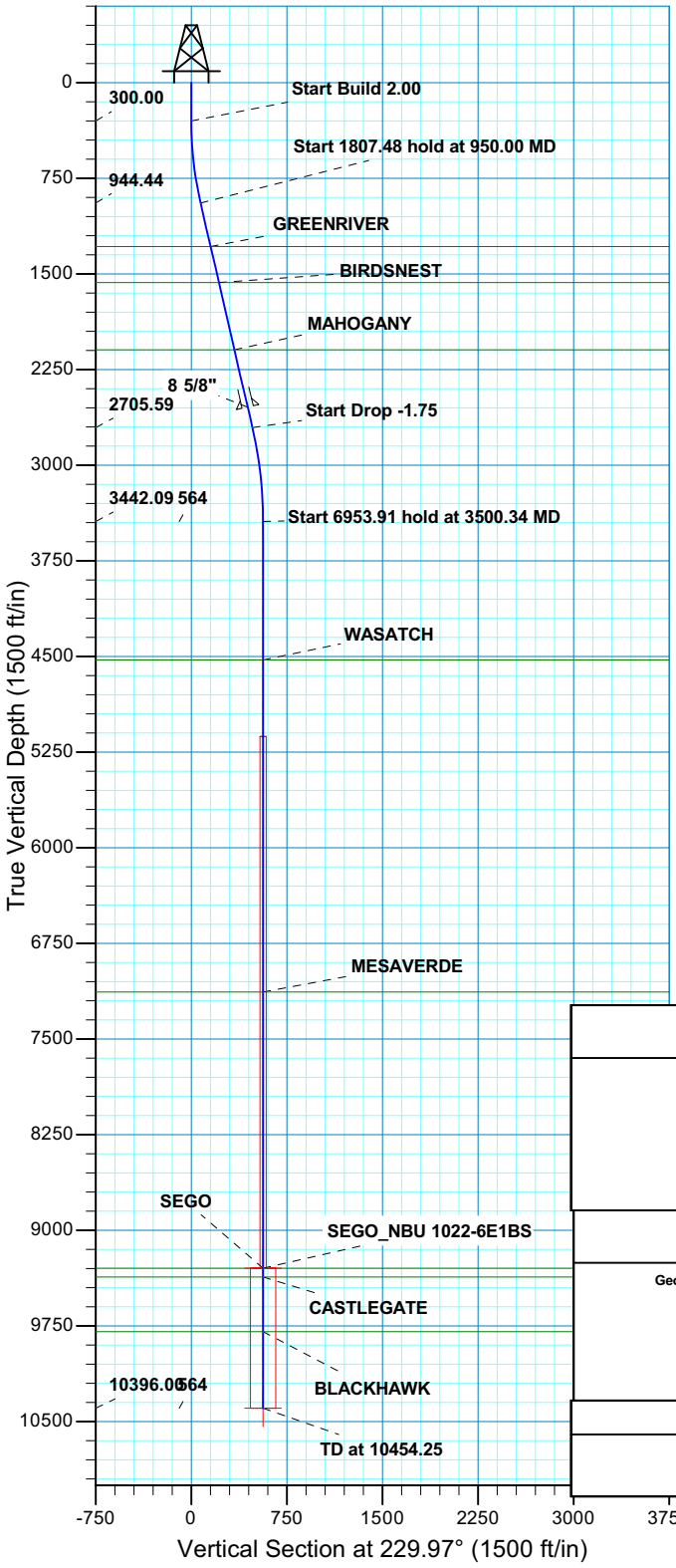
WELL DETAILS: NBU 1022-6E1BS

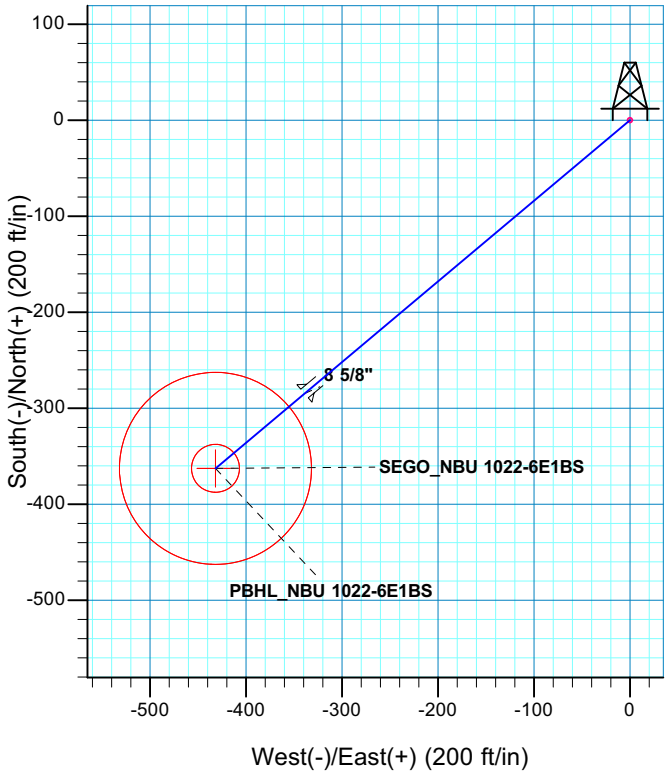
GL 5094 & KB 4 @ 5098.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523063.37	2064634.12	39.9819199	-109.4856835

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9297.00	-362.75	-431.78	14522693.35	2064208.57	39.9809239	-109.4872245	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10396.00	-362.75	-431.78	14522693.35	2064208.57	39.9809239	-109.4872245	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	
950.00	13.00	229.97	944.44	-47.23	-56.22	2.00	229.97	73.42	
2757.48	13.00	229.97	2705.59	-308.77	-367.53	0.00	0.00	480.02	
3500.34	0.00	0.00	3442.09	-362.75	-431.78	1.75	180.00	563.93	
10454.25	0.00	0.00	10396.00	-362.75	-431.78	0.00	0.00	563.93	PBHL_NBU 1022-6E1BS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1285.00	1299.52	GREENRIVER
1568.00	1589.96	BIRDSNEST
2094.00	2129.80	MAHOGANY
4527.00	4585.25	WASATCH
7132.00	7190.25	MESAVERDE
9297.00	9355.25	SEGO
9367.00	9425.25	CASTLEGATE
9796.00	9854.25	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2544.00	2591.64	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6E1BS/OH)

Created By: Robert Scott Date: 14:10, January 16 2013

RECEIVED
Received: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6D PAD
Well: NBU 1022-6D4CS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52162.2snT
Dip Angle: 65.81°
Date: 2013/01/16
Model: IGRF2010

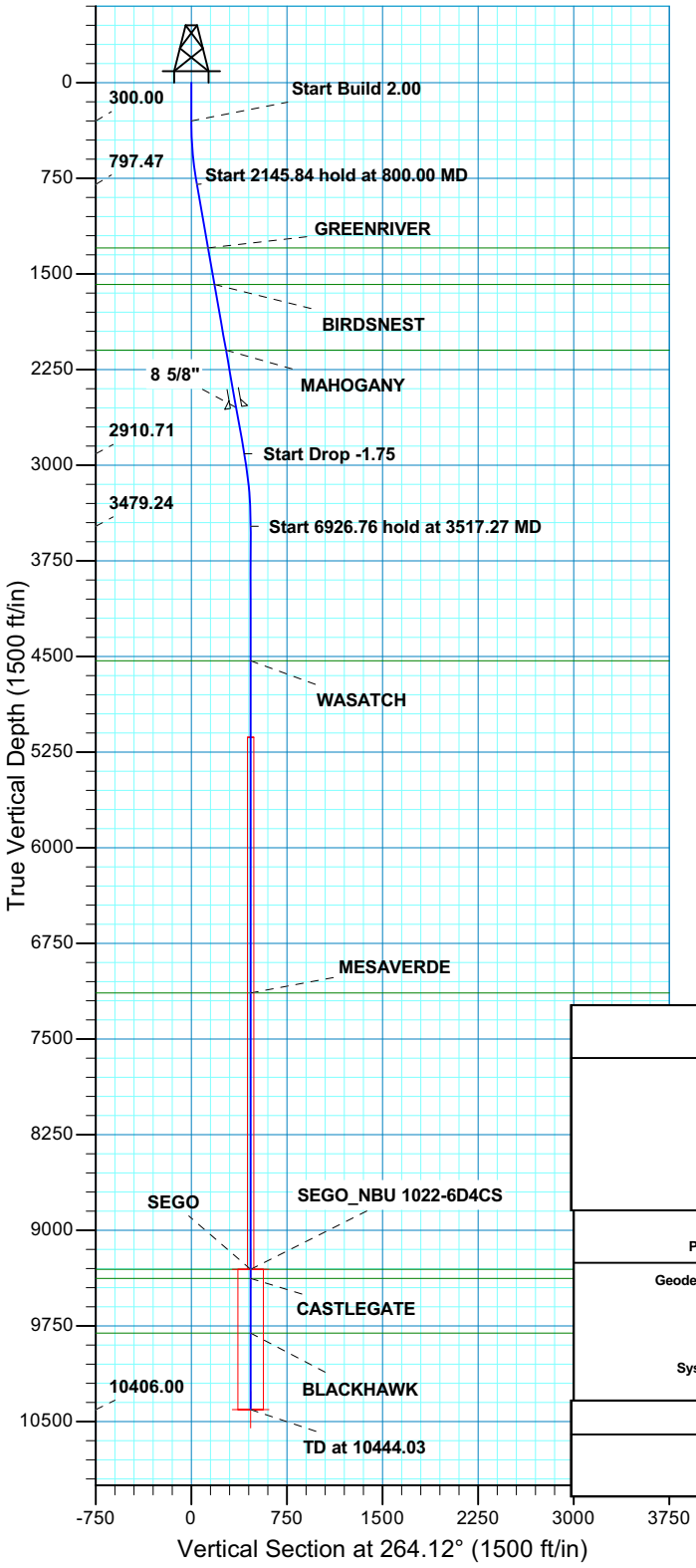
WELL DETAILS: NBU 1022-6D4CS

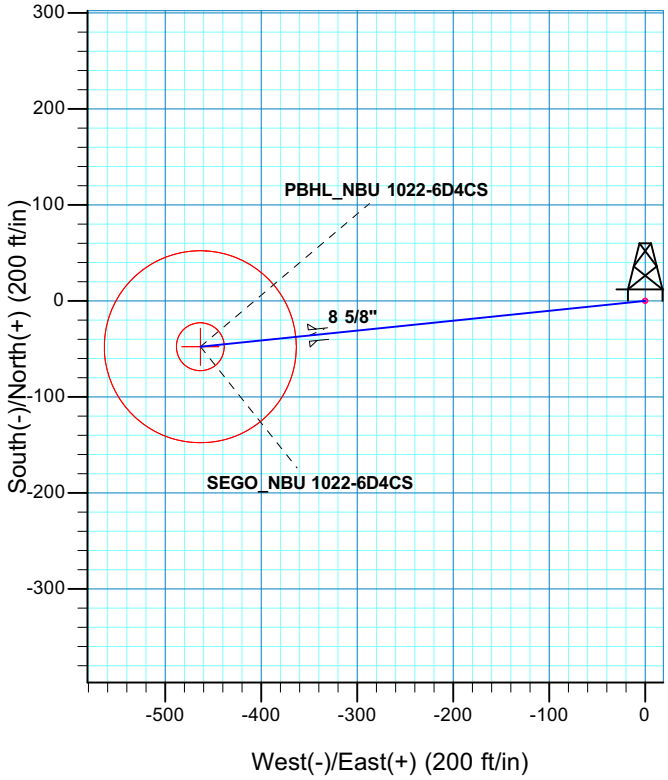
GL 5094 @ 5098.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523073.17	2064631.99	39.9819469	-109.4856905

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9307.00	-47.71	-463.44	14523017.60	2064169.44	39.9818159	-109.4873445	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10406.00	-47.71	-463.44	14523017.60	2064169.44	39.9818159	-109.4873445	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	
800.00	10.00	264.12	797.47	-4.46	-43.29	2.00	264.12	43.52	
2945.84	10.00	264.12	2910.71	-42.61	-413.96	0.00	0.00	416.14	
3517.27	0.00	0.00	3479.24	-47.71	-463.44	1.75	180.00	465.88	
10444.03	0.00	0.00	10406.00	-47.71	-463.44	0.00	0.00	465.88	PBHL_NBU 1022-6D4CS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1297.00	1307.24	GREENRIVER
1583.00	1597.65	BIRDSNEST
2097.00	2119.58	MAHOGANY
4533.00	4571.03	WASATCH
7139.00	7177.03	MESAVERDE
9307.00	9345.03	SEGO
9377.00	9415.03	CASTLEGATE
9806.00	9844.03	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2547.00	2576.52	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6D4CS/OH)

Created By: Robert Scott Date: 18:30, January 16 2013

RECEIVED Received: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6D PAD
Well: NBU 1022-6D4BS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52162.3snT
Dip Angle: 65.81°
Date: 2013/01/16
Model: IGRF2010

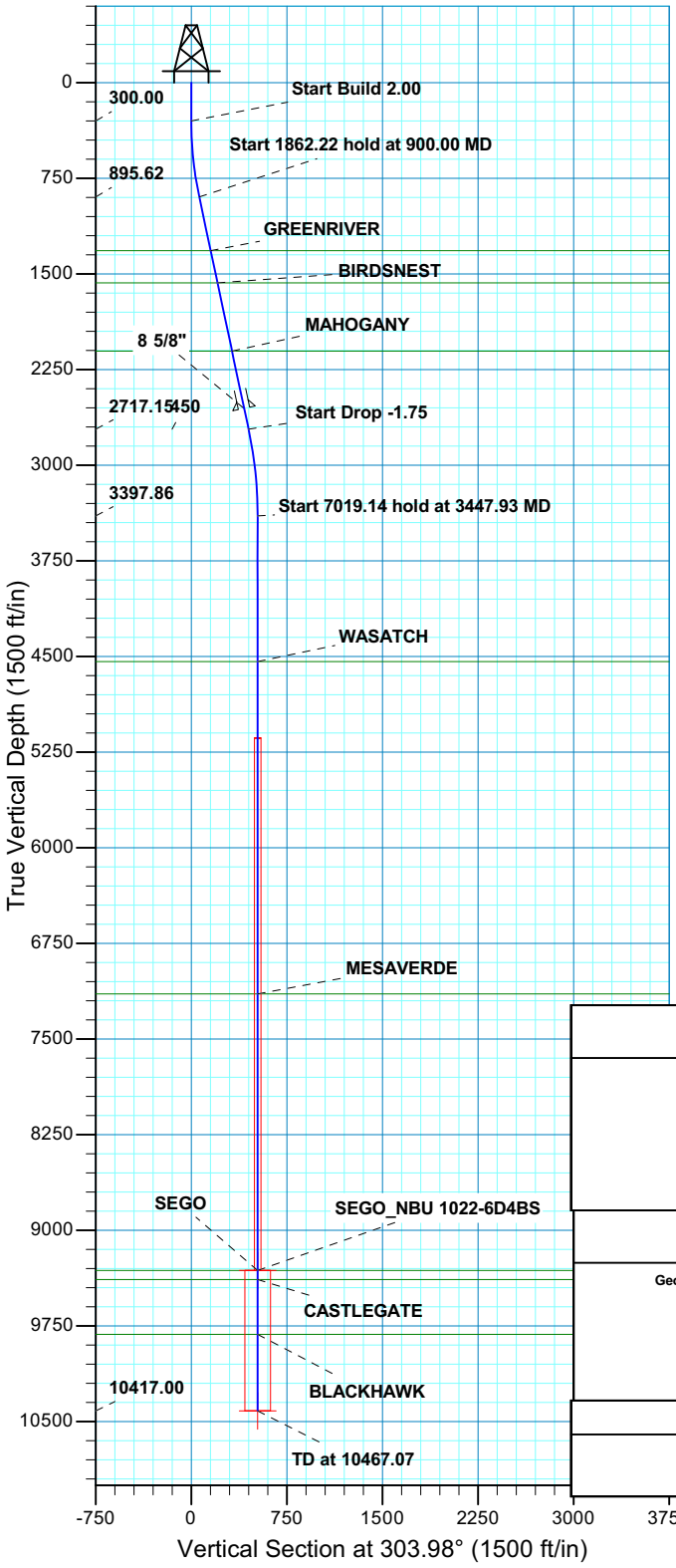
WELL DETAILS: NBU 1022-6D4BS

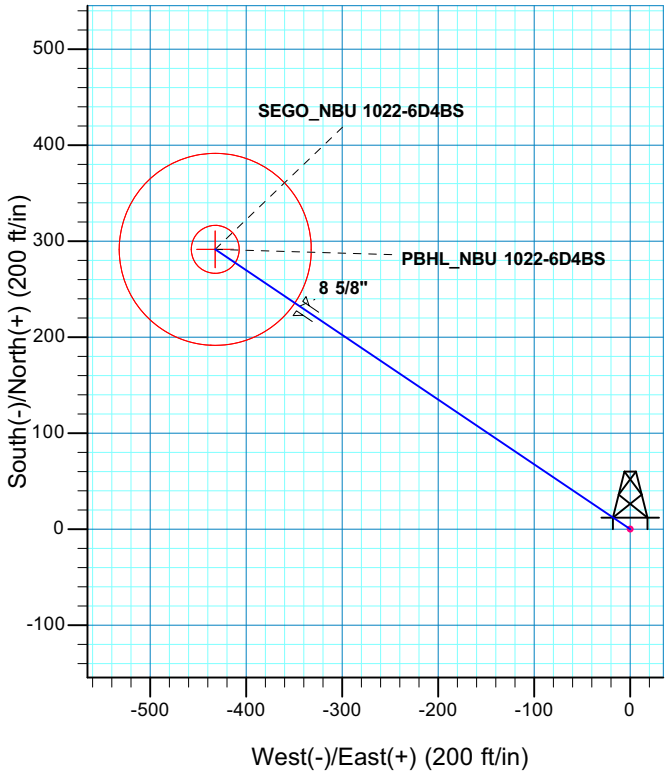
GL 5074 @ 5098.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523082.98	2064630.15	39.9819739	-109.4856965

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9316.00	291.37	-432.30	14523366.96	2064192.96	39.9827739	-109.4872394	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10417.00	291.37	-432.30	14523366.96	2064192.96	39.9827739	-109.4872394	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	
900.00	12.00	303.98	895.62	34.99	-51.91	2.00	303.98	62.60	
2762.22	12.00	303.98	2717.15	251.38	-372.97	0.00	0.00	449.78	
3447.93	0.00	0.00	3397.86	291.37	-432.30	1.75	180.00	521.33	
10467.07	0.00	0.00	10417.00	291.37	-432.30	0.00	0.00	521.33	PBHL_NBU 1022-6D4BS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1317.00	1330.79	GREENRIVER
1570.00	1589.44	BIRDSNEST
2105.00	2136.40	MAHOGANY
4540.00	4590.07	WASATCH
7147.00	7197.07	MESAVERDE
9316.00	9366.07	SEGO
9386.00	9436.07	CASTLEGATE
9817.00	9867.07	BLACKHAWK

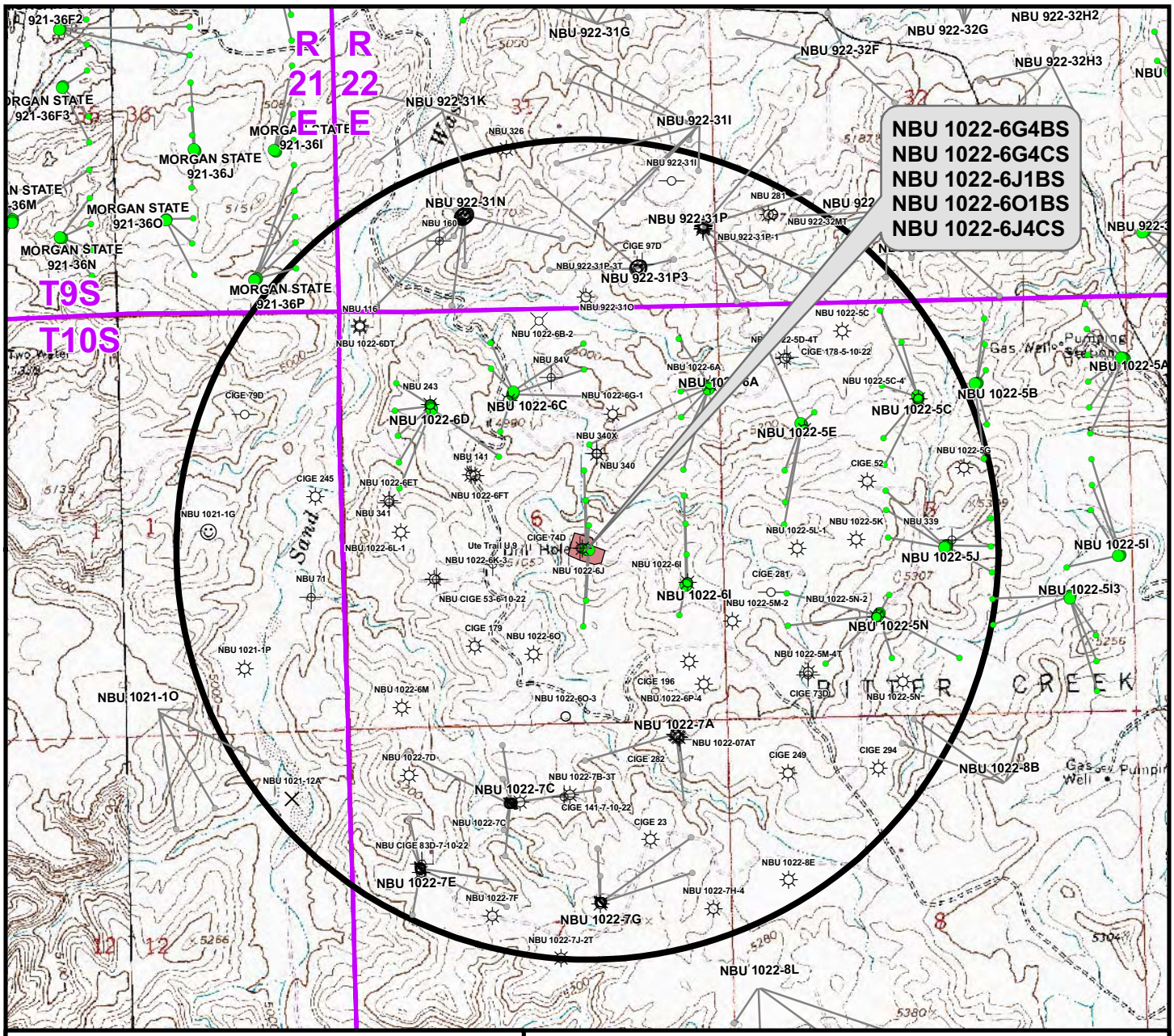
CASING DETAILS

TVD	MD	Name	Size
2555.00	2596.45	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6D4BS/OH)

Created By: Robert Scott Date: 14:07, January 16 2013

RECEIVED: May 16, 2013



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

Proposed Well	Nearest Well Bore	Footage
NBU 1022-6G4BS	NBU 340X	268ft
NBU 1022-6G4CS	NBU 1022-6J	617ft
NBU 1022-6J1BS	NBU 1022-6J	302ft
NBU 1022-6O1BS	NBU 1022-6O	734ft
NBU 1022-6J4CS	NBU 1022-6J	676ft

Legend

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

WELL PAD - NBU 1022-6J

TOPO C
NBU 1022-6G4BS, NBU 1022-6G4CS, NBU 1022-6J1BS, NBU 1022-6O1BS & NBU 1022-6J4CS
LOCATED IN SECTION 6, T10S, R22E S.L.B.&M., UINTAH COUNTY, UTAH

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

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

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 13
DRAWN: TL	DATE: 30 Nov 2012	13 OF 17
REVISED:	DATE:	

File: K:\ANADARKO\2012\2012_54_NBU_1022-6_FOCUS\GIS\Maps_ABCDE\NBU 1022-6J\NBU 1022-6J_C.mxd, 12/12/2012 4:57:20 PM

RECEIVED: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6J PAD
Well: NBU 1022-6J1BS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52160.3snT
Dip Angle: 65.81°
Date: 2013/01/16
Model: IGRF2010

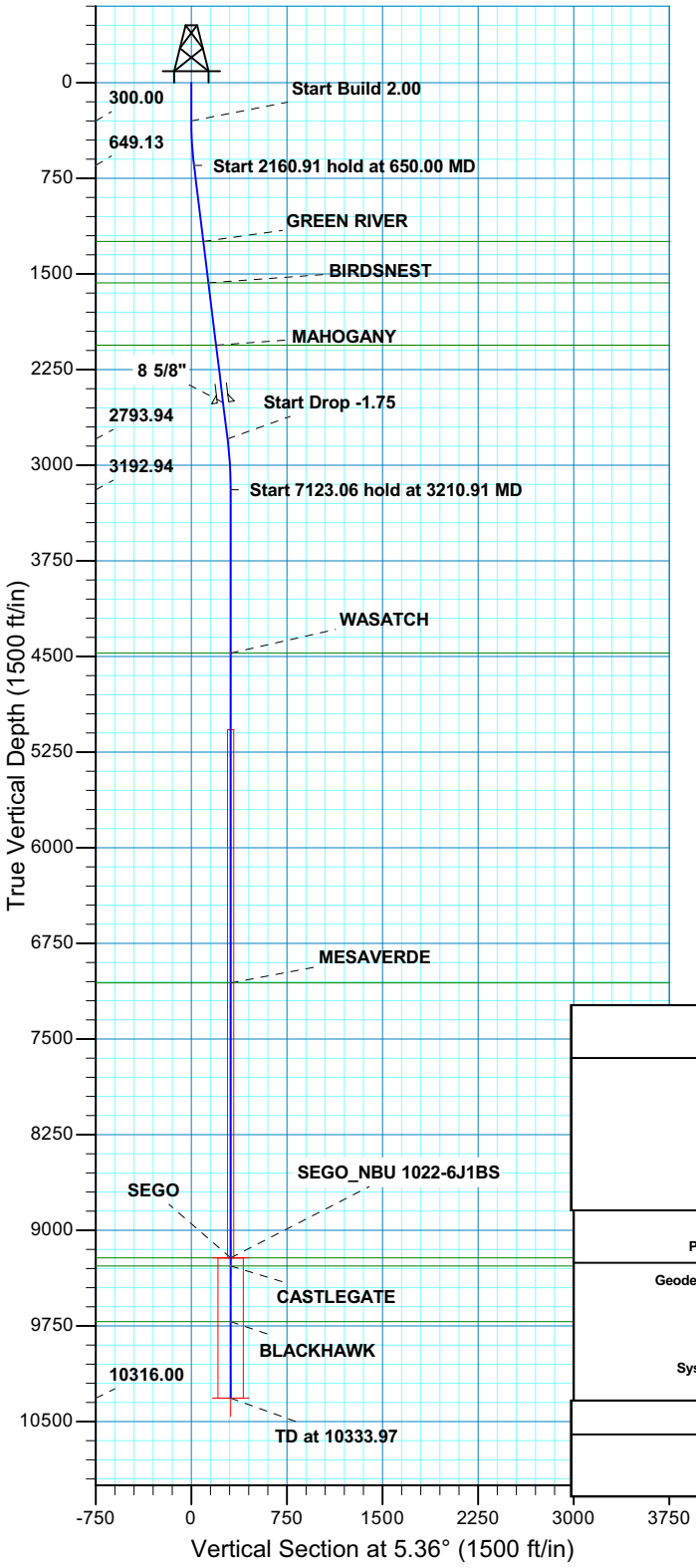
WELL DETAILS: NBU 1022-6J1BS

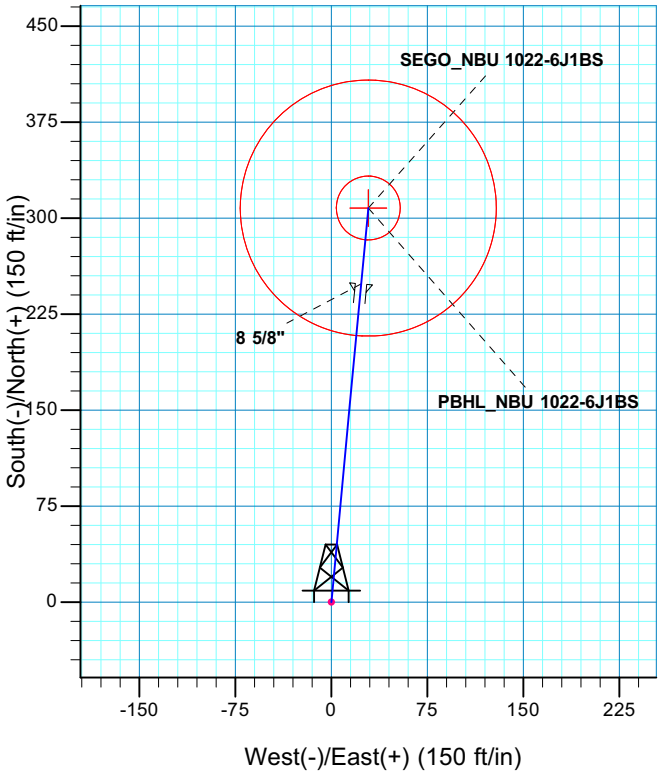
GL 5108 & KB 4 @ 5112.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14521213.14	2066638.66	39.9767468	-109.4786430

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9216.00	307.76	28.86	14521521.35	2066662.27	39.9775918	-109.4785400	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10316.00	307.76	28.86	14521521.35	2066662.27	39.9775918	-109.4785400	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	
650.00	7.00	5.36	649.13	21.26	1.99	2.00	5.36	21.35	
2810.91	7.00	5.36	2793.94	283.46	26.58	0.00	0.00	284.70	
3210.91	0.00	0.00	3192.94	307.76	28.86	1.75	180.00	309.11	
10333.97	0.00	0.00	10316.00	307.76	28.86	0.00	0.00	309.11	PBHL_NBU 1022-6J1BS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1245.00	1250.34	GREEN RIVER
1569.00	1576.78	BIRDSNEST
2058.00	2069.45	MAHOGANY
4473.00	4490.97	WASATCH
7060.00	7077.97	MESAVERDE
9216.00	9233.97	SEGO
9279.00	9296.97	CASTLEGATE
9716.00	9733.97	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2508.00	2522.83	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6J1BS/OH)
Created By: Robert Scott Date: 12:01, January 16 2013

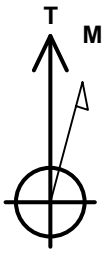
RECEIVED: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6J PAD
Well: NBU 1022-6G4CS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation



Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52160.3snT
Dip Angle: 65.81°
Date: 2013/01/16
Model: IGRF2010

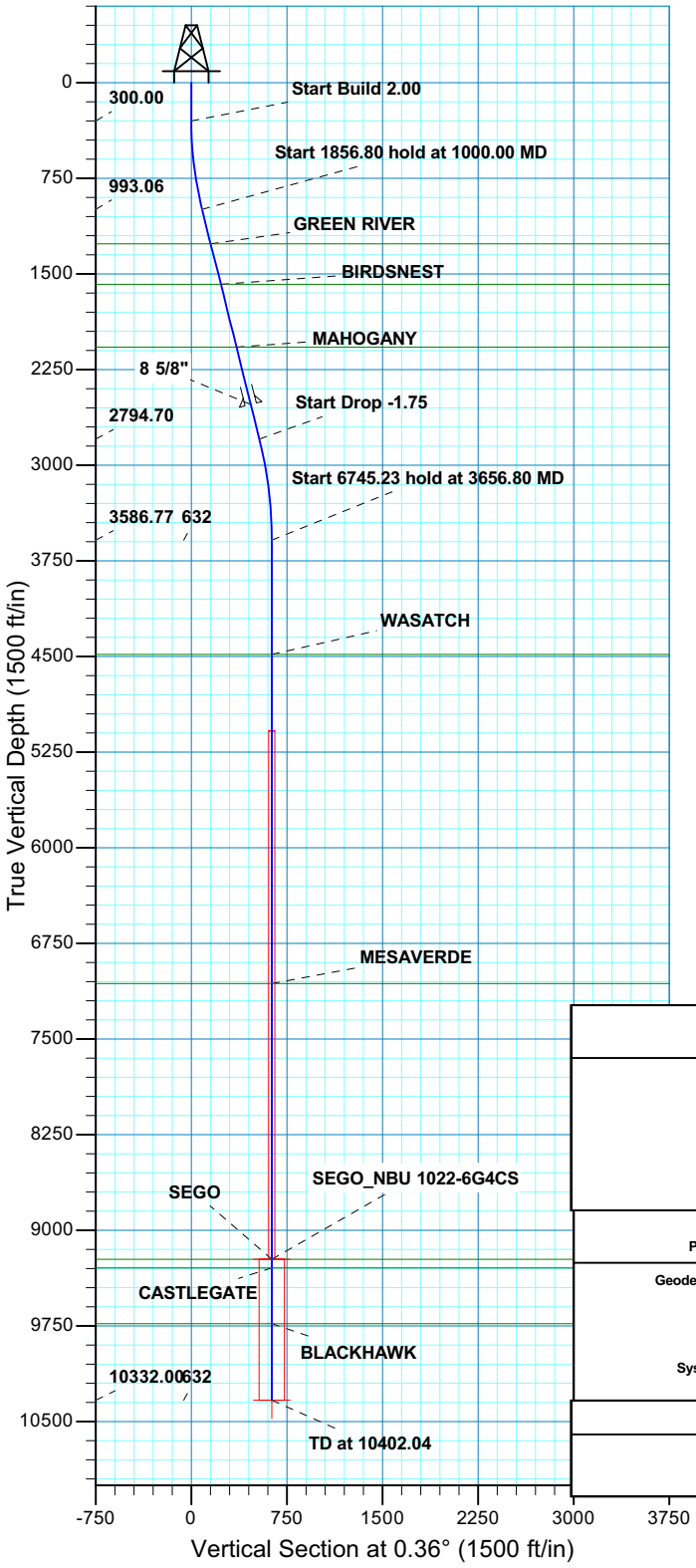
WELL DETAILS: NBU 1022-6G4CS

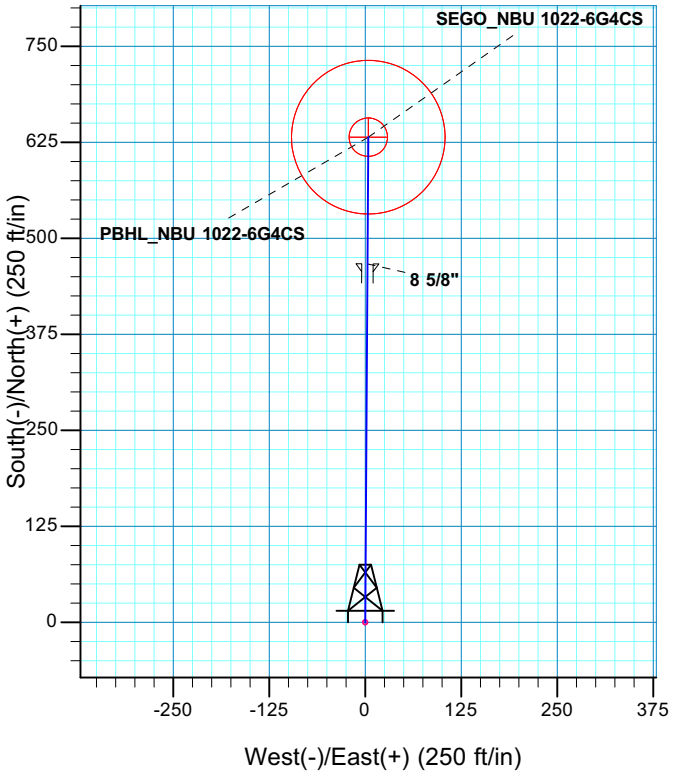
GL 5108 & KB 4 @ 5112.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14521215.89	2066629.08	39.9767548	-109.4786770

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9227.00	631.54	3.95	14521847.41	2066622.26	39.9784888	-109.4786629	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10332.00	631.54	3.95	14521847.41	2066622.26	39.9784888	-109.4786629	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	0.36	993.06	85.09	0.53	2.00	0.36	85.10	
2856.80	14.00	0.36	2794.70	534.29	3.34	0.00	0.00	534.30	
3656.80	0.00	0.00	3586.77	631.54	3.95	1.75	180.00	631.55	
10402.04	0.00	0.00	10332.00	631.54	3.95	0.00	0.00	631.55	PBHL_NBU 1022-6G4CS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1263.00	1278.21	GREEN RIVER
1582.00	1606.97	BIRDSNEST
2073.00	2113.01	MAHOGANY
4484.00	4554.04	WASATCH
7065.00	7135.04	MESAVERDE
9227.00	9297.04	SEGO
9294.00	9364.04	CASTLEGATE
9732.00	9802.04	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2523.00	2576.78	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6G4CS/OH)

Created By: Robert Scott Date: 12:00, January 16 2013

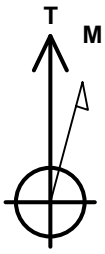
RECEIVED
Received: May 16, 2013

API Well Number: 43047537090000

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6J PAD
Well: NBU 1022-6G4BS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Scientific Drilling

Anadarko Petroleum Corporation



Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52160.3snT
Dip Angle: 65.81°
Date: 2013/01/16
Model: IGRF2010

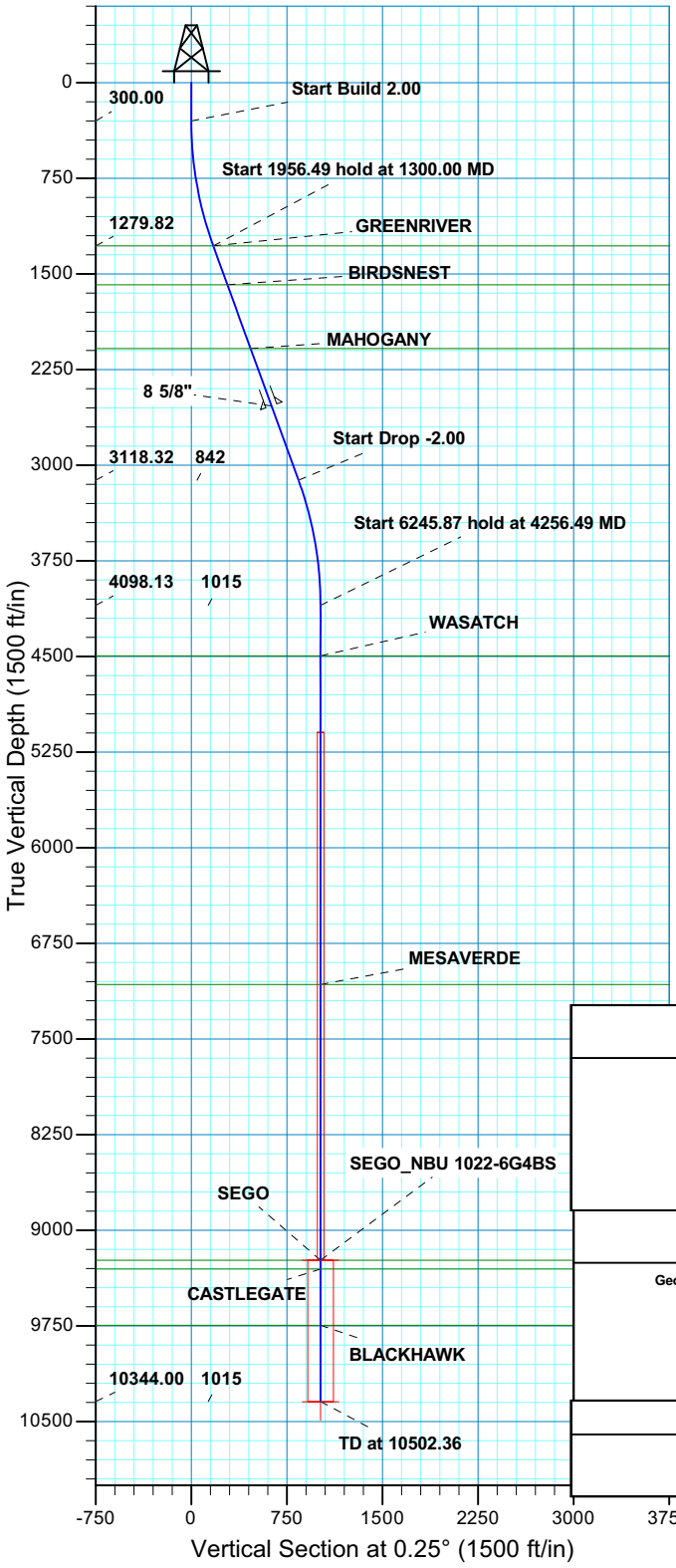
WELL DETAILS: NBU 1022-6G4BS

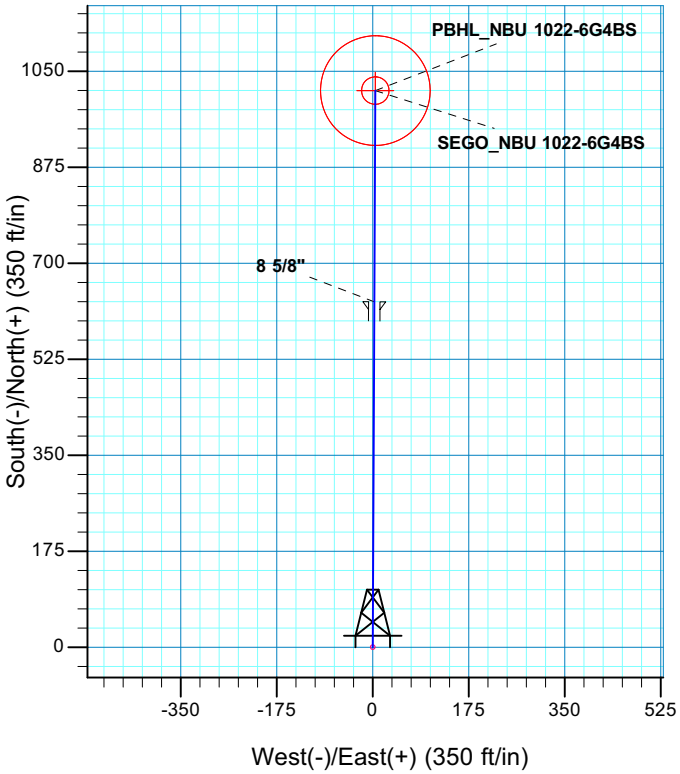
GL 5108 & KB 4 @ 5112.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14521218.64	2066619.51	39.9767628	-109.4787110

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9235.00	1014.69	4.51	14522233.26	2066606.71	39.9795488	-109.4786949	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10344.00	1014.69	4.51	14522233.26	2066606.71	39.9795488	-109.4786949	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	0.25	1279.82	172.77	0.77	2.00	0.25	172.77	
3256.49	20.00	0.25	3118.32	841.92	3.74	0.00	0.00	841.93	
4256.49	0.00	0.00	4098.13	1014.69	4.51	2.00	180.00	1014.70	
10502.36	0.00	0.00	10344.00	1014.69	4.51	0.00	0.00	1014.70	PBHL_NBU 1022-6G4BS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1280.00	1300.20	GREENRIVER
1585.00	1624.77	BIRDSNEST
2085.00	2156.86	MAHOGANY
4495.00	4653.36	WASATCH
7073.00	7231.36	MESAVERDE
9235.00	9393.36	SEGO
9304.00	9462.36	CASTLEGATE
9744.00	9902.36	BLACKHAWK

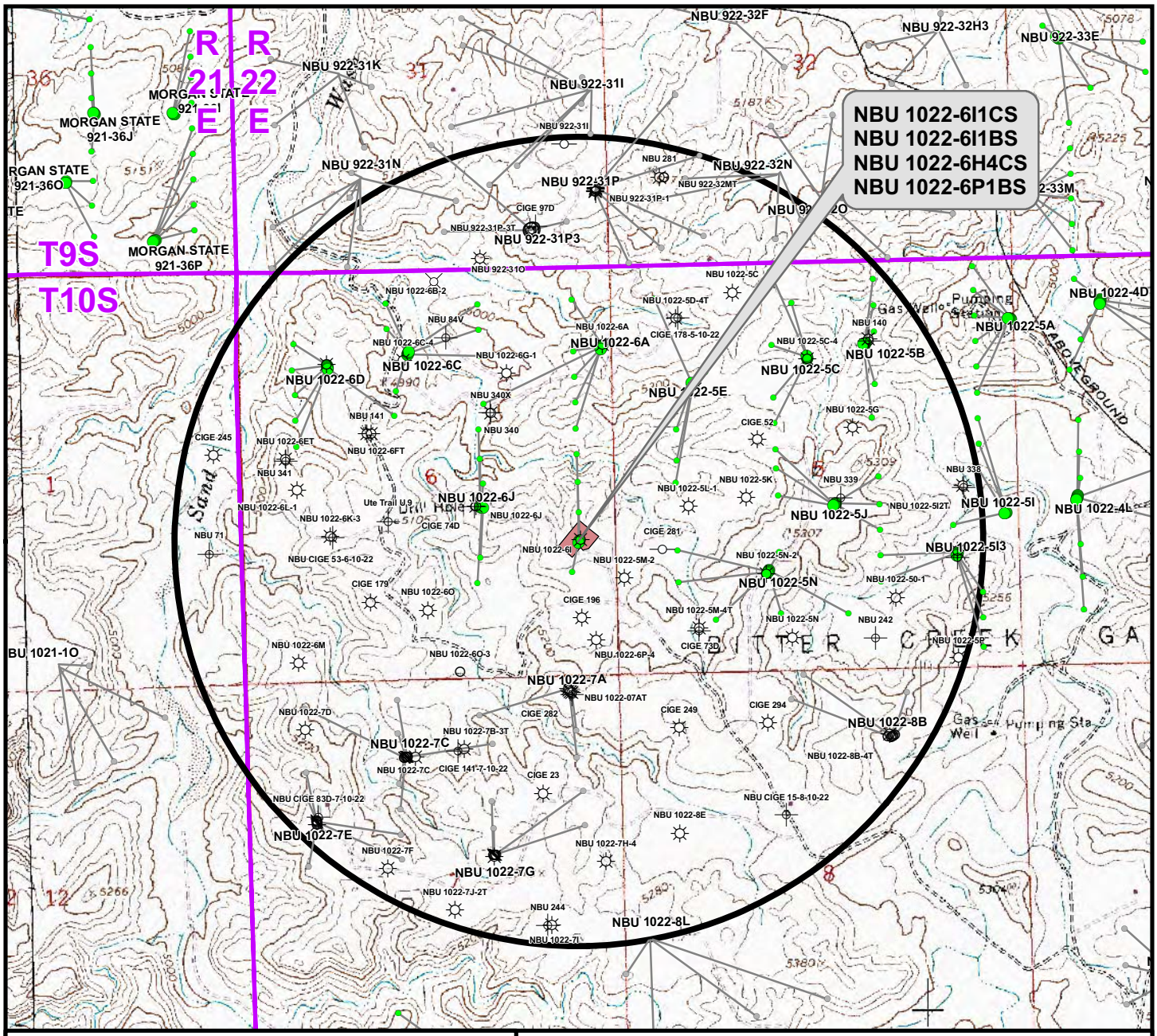
CASING DETAILS

TVD	MD	Name	Size
2535.00	2635.74	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6G4BS/OH)
Created By: Robert Scott Date: 11:58, January 16 2013

RECEIVED
Received: May 16, 2013

API Well Number: 43047537990000



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

Proposed Well	Nearest Well Bore	Footage
NBU 1022-6I1CS	NBU 1022-6I	357ft
NBU 1022-6I1BS	NBU 1022-6I	753ft
NBU 1022-6H4CS	NBU 1022-6I	1,119ft
NBU 1022-6P1BS	NBU 1022-6I	435ft

Legend

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

WELL PAD - NBU 1022-6I

TOPO C
NBU 1022-6I1CS, NBU 1022-6I1BS, NBU 1022-6H4CS & NBU 1022-6P1BS
LOCATED IN SECTION 6, T10S, R22E S.L.B.&M., UINTAH COUNTY, UTAH

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

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

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 12
DRAWN: TL	DATE: 30 Nov 2012	12 OF 16
REVISED:	DATE:	

File: K:\ANADARKO\2012\2012_54_NBU_1022-6_FOCUS\GIS\Maps_ABCDE\NBU 1022-6I\NBU 1022-6I_C.mxd, 11/26/2012 1:22:46 PM

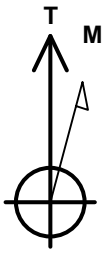
RECEIVED: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6I PAD
Well: NBU 1022-6I1CS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation



Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52159.7snT
Dip Angle: 65.81°
Date: 2013/01/16
Model: IGRF2010

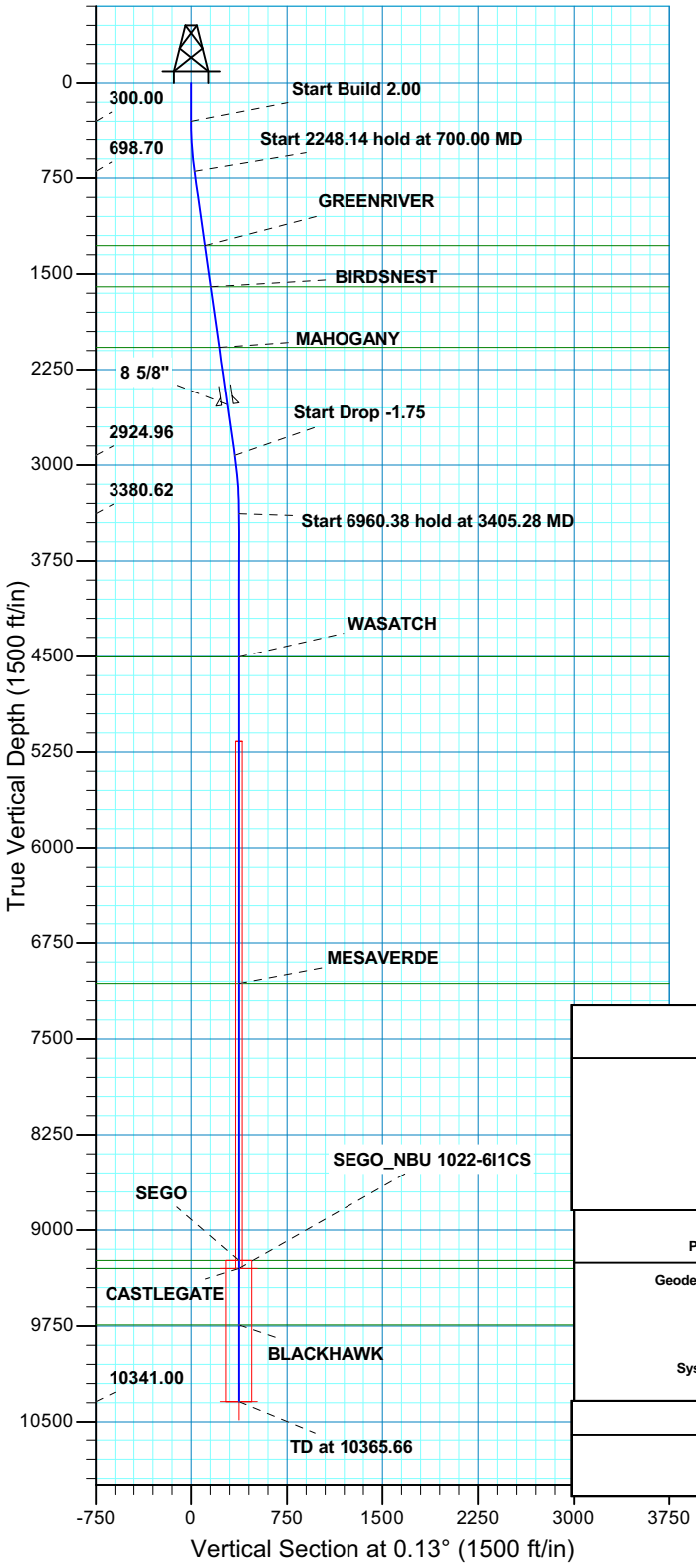
WELL DETAILS: NBU 1022-6I1CS

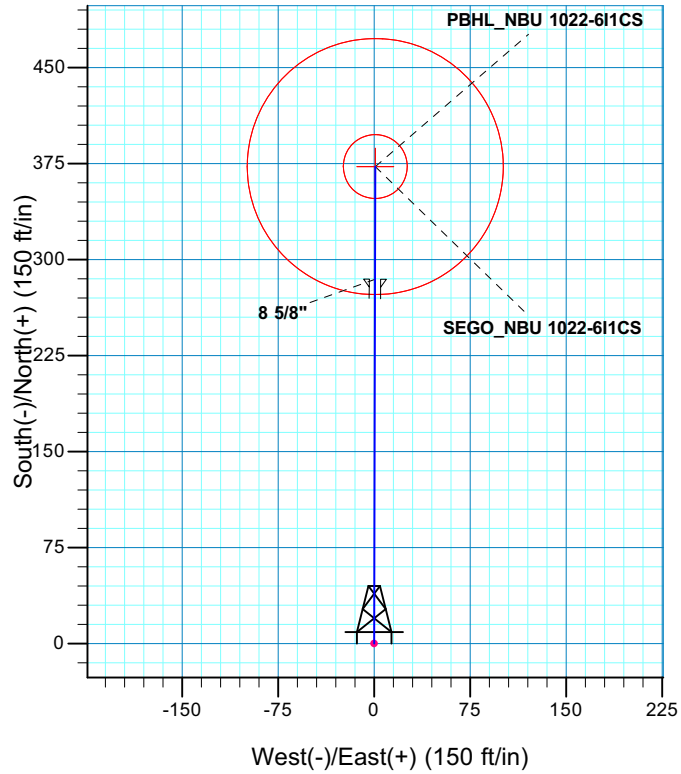
GL 5165 & KB 4 @ 5169.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14520768.40	2067921.08	39.9754657	-109.4740942

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9301.00	372.62	0.84	14521140.98	2067915.55	39.9764888	-109.4740912	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10341.00	372.62	0.84	14521140.98	2067915.55	39.9764888	-109.4740912	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	0.13	698.70	27.88	0.06	2.00	0.13	27.88	
2948.14	8.00	0.13	2924.96	340.76	0.77	0.00	0.00	340.76	
3405.28	0.00	0.00	3380.62	372.62	0.84	1.75	180.00	372.62	
10365.66	0.00	0.00	10341.00	372.62	0.84	0.00	0.00	372.62	PBHL_NBU 1022-6I1CS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1278.00	1284.99	GREENRIVER
1599.00	1609.15	BIRDSNEST
2075.00	2089.82	MAHOGANY
4503.00	4527.66	WASATCH
7067.00	7091.66	MESAVERDE
9237.00	9261.66	SEGO
9301.00	9325.66	CASTLEGATE
9741.00	9765.66	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2525.00	2544.25	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6I1CS/OH)
Created By: Robert Scott Date: 10:30, January 16 2013

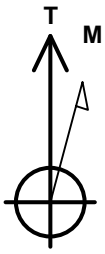
RECEIVED: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6I PAD
Well: NBU 1022-6I1BS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation



Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52159.7snT
Dip Angle: 65.81°
Date: 2013/01/16
Model: IGRF2010

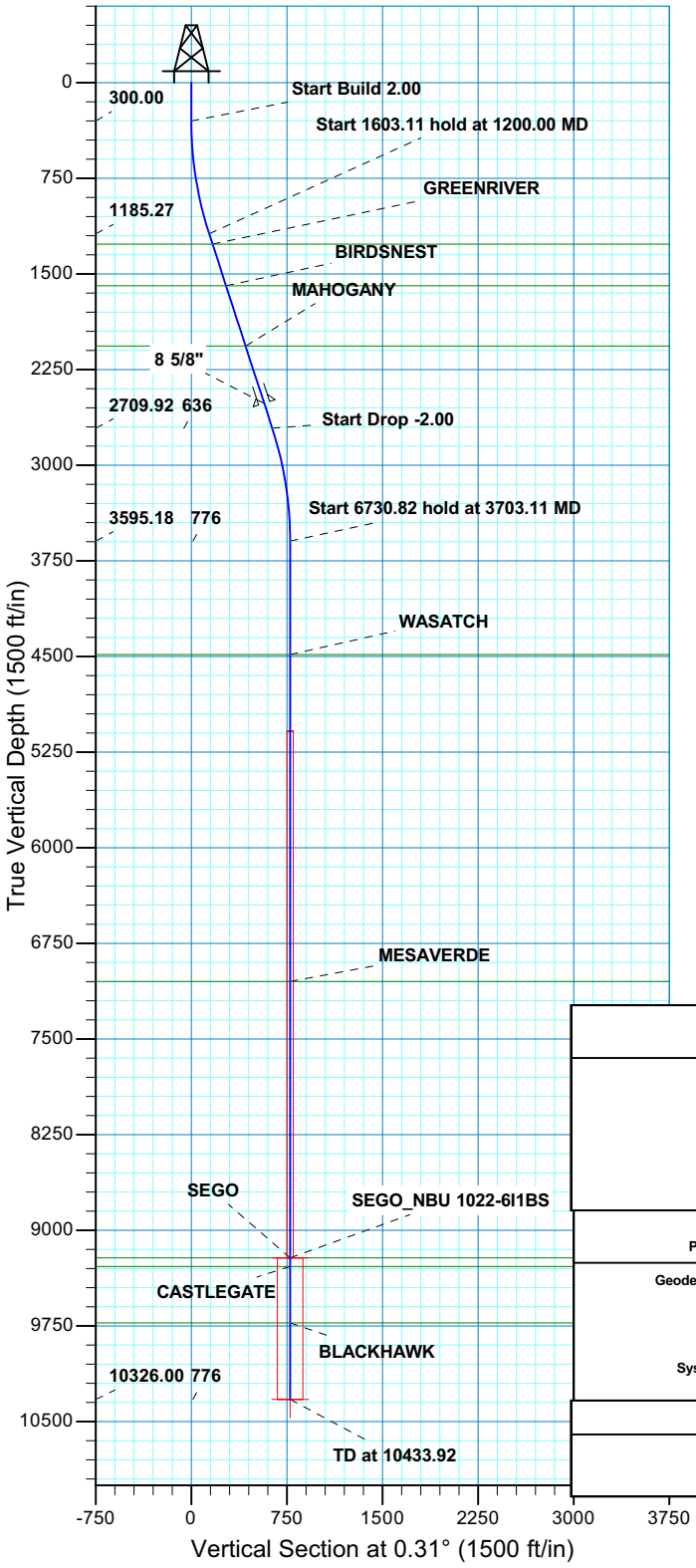
WELL DETAILS: NBU 1022-6I1BS

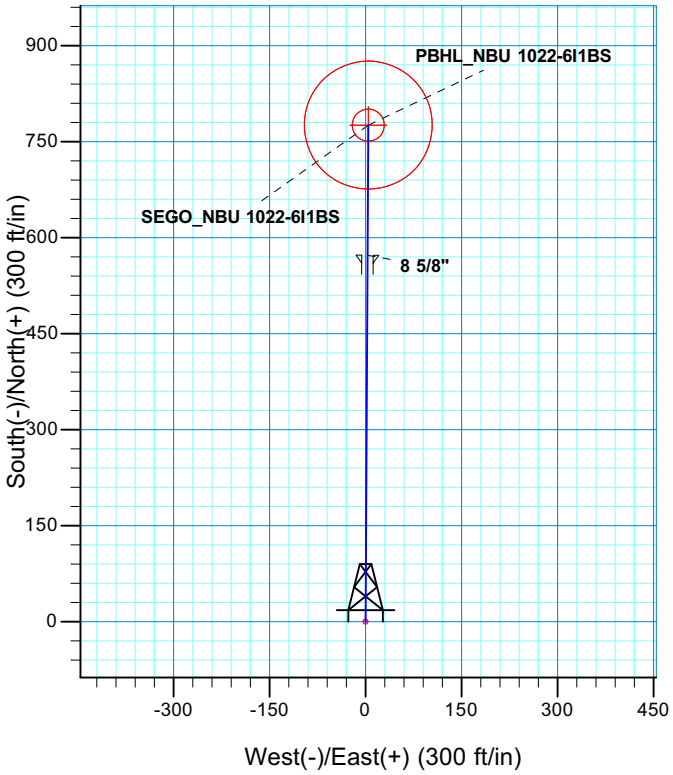
GL 5165 & KB 4 @ 5169.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14520760.65	2067914.77	39.9754447	-109.4741172

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9216.00	775.80	4.20	14521536.40	2067905.70	39.9775748	-109.4741022	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10326.00	775.80	4.20	14521536.40	2067905.70	39.9775748	-109.4741022	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	
1200.00	18.00	0.31	1185.27	140.21	0.76	2.00	0.31	140.21	
2803.11	18.00	0.31	2709.92	635.59	3.44	0.00	0.00	635.60	
3703.11	0.00	0.00	3595.18	775.80	4.20	2.00	180.00	775.81	
10433.92	0.00	0.00	10326.00	775.80	4.20	0.00	0.00	775.81	PBHL_NBU 1022-6I1BS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1266.00	1284.89	GREENRIVER
1592.00	1627.66	BIRDSNEST
2065.00	2125.00	MAHOGANY
4486.00	4593.92	WASATCH
7049.00	7156.92	MESAVERDE
9216.00	9323.92	SEGO
9284.00	9391.92	CASTLEGATE
9726.00	9833.92	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2515.00	2598.16	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6I1BS/OH)
Created By: Robert Scott Date: 10:29, January 16 2013

RECEIVED: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6I PAD
Well: NBU 1022-6H4CS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52159.7snT
Dip Angle: 65.81°
Date: 2013/01/16
Model: IGRF2010

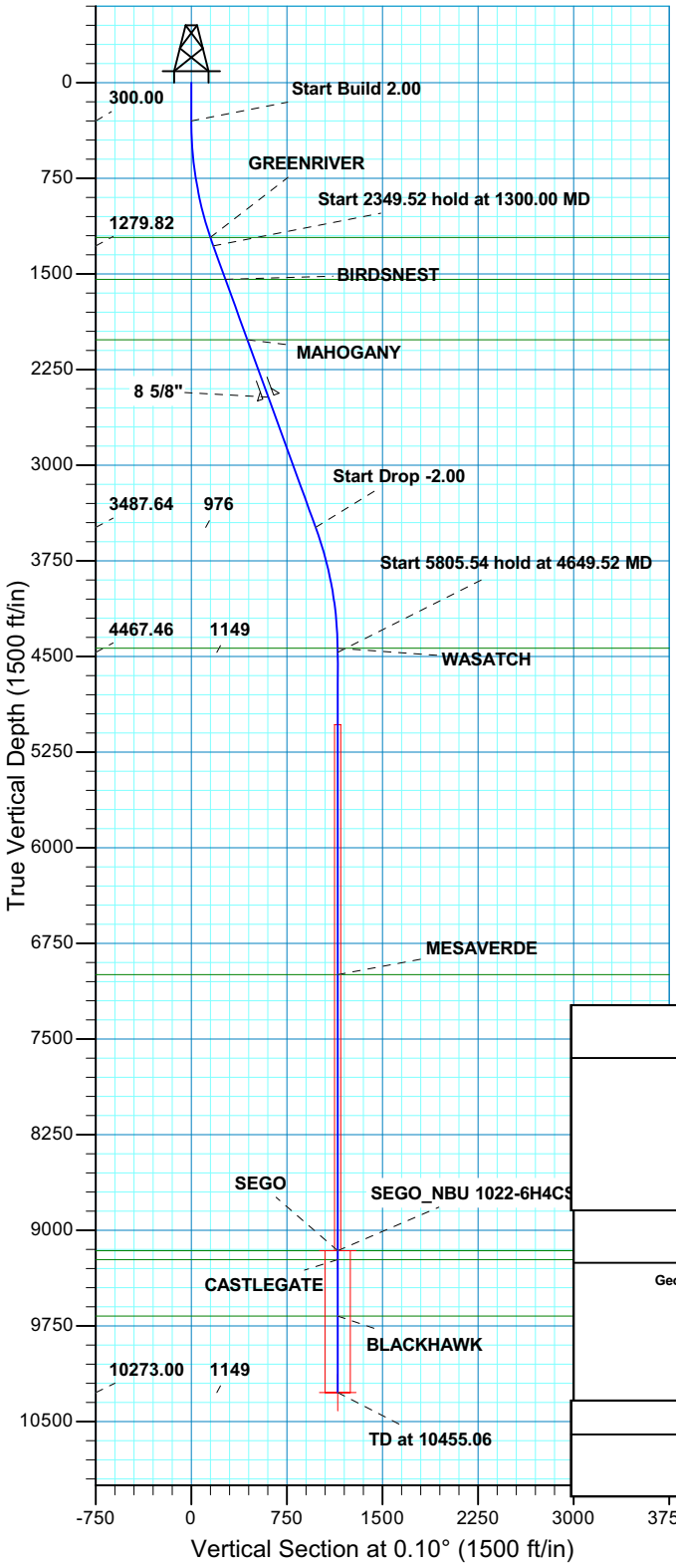
WELL DETAILS: NBU 1022-6H4CS

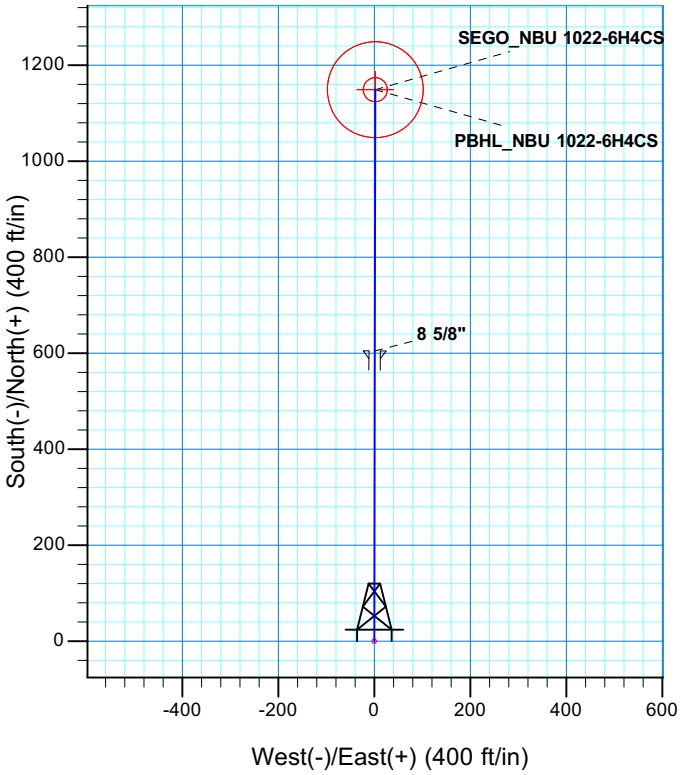
GL 5165 & KB 4 @ 5169.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14520753.25	2067908.45	39.9754247	-109.4741402

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9160.00	1149.12	1.96	14521902.23	2067890.75	39.9785798	-109.4741332	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10273.00	1149.12	1.96	14521902.23	2067890.75	39.9785798	-109.4741332	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	0.10	1279.82	172.77	0.29	2.00	0.10	172.77	
3649.52	20.00	0.10	3487.64	976.35	1.67	0.00	0.00	976.35	
4649.52	0.00	0.00	4467.46	1149.12	1.96	2.00	180.00	1149.12	
10455.06	0.00	0.00	10273.00	1149.12	1.96	0.00	0.00	1149.12	PBHL_NBU 1022-6H4CS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1214.00	1230.26	GREENRIVER
1542.00	1579.01	BIRDSNEST
2017.00	2084.50	MAHOGANY
4434.00	4616.06	WASATCH
6995.00	7177.06	MESAVERDE
9160.00	9342.06	SEGO
9230.00	9412.06	CASTLEGATE
9673.00	9855.06	BLACKHAWK

CASING DETAILS

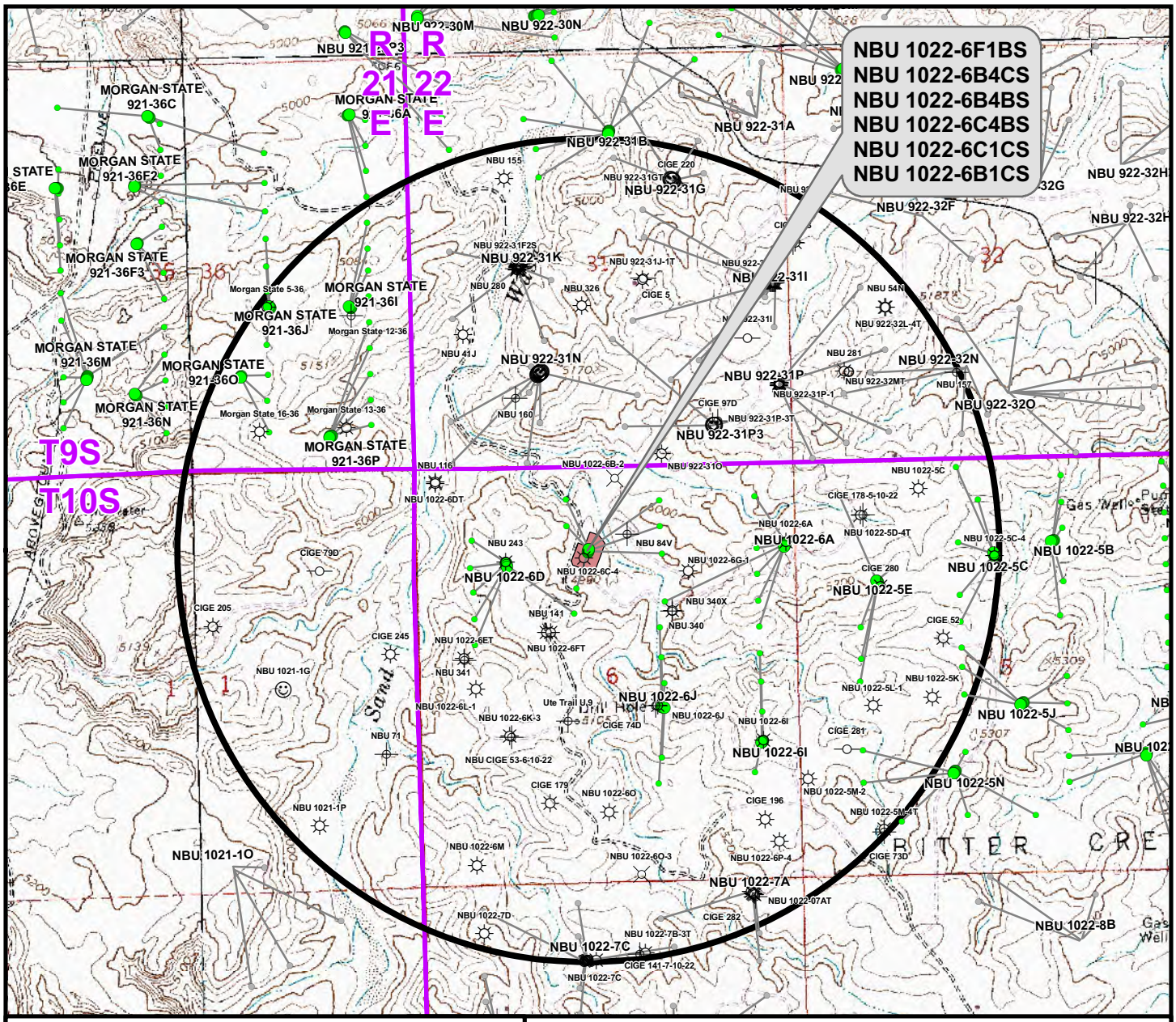
TVD	MD	Name	Size
2467.00	2563.38	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6H4CS/OH)

Created By: Robert Scott Date: 10:28, January 16 2013

RECEIVED: May 16, 2013

API Well Number: 43047537990000



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

Proposed Well	Nearest Well Bore	Footage
NBU 1022-6F1BS	NBU 1022-6C-4	408ft
NBU 1022-6B4CS	NBU 1022-6G-1	412ft
NBU 1022-6B4BS	NBU 84V	438ft
NBU 1022-6C4BS	NBU 1022-6C-4	469ft
NBU 1022-6C1CS	NBU 922-31N3DS BH	687ft
NBU 1022-6B1CS	NBU 84V	600ft

Legend

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

WELL PAD - NBU 1022-6C

TOPO C
NBU 1022-6F1BS, NBU 1022-6B4CS, NBU 1022-6B4BS, NBU 1022-6C4BS, NBU 1022-6C1CS & NBU 1022-6B1CS
LOCATED IN SECTION 6, T10S, R22E S.L.B.&M., UINTAH COUNTY, UTAH

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

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

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 14
DRAWN: TL	DATE: 30 Nov 2012	14 OF 18
REVISED:	DATE:	

File: K:\ANADARKO\2012\2012_54_NBU_1022-6_FOCUS\GIS\Maps_ABCDE\NBU 1022-6C\NBU 1022-6C_C.mxd, 12/12/2012 9:10:19 AM

RECEIVED: May 16, 2013
Received: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6C PAD
Well: NBU 1022-6F1BS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52163.9snT
Dip Angle: 65.82°
Date: 2013/01/16
Model: IGRF2010

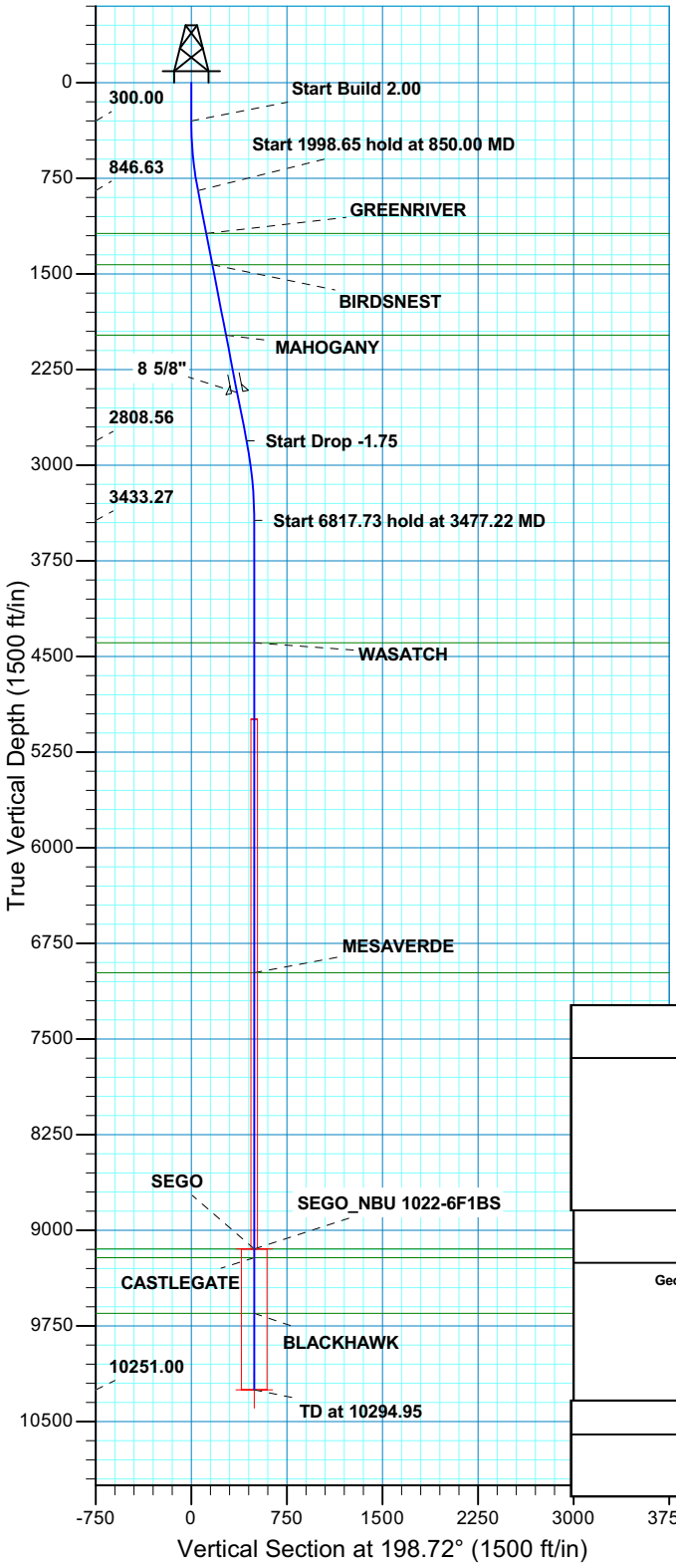
WELL DETAILS: NBU 1022-6F1BS

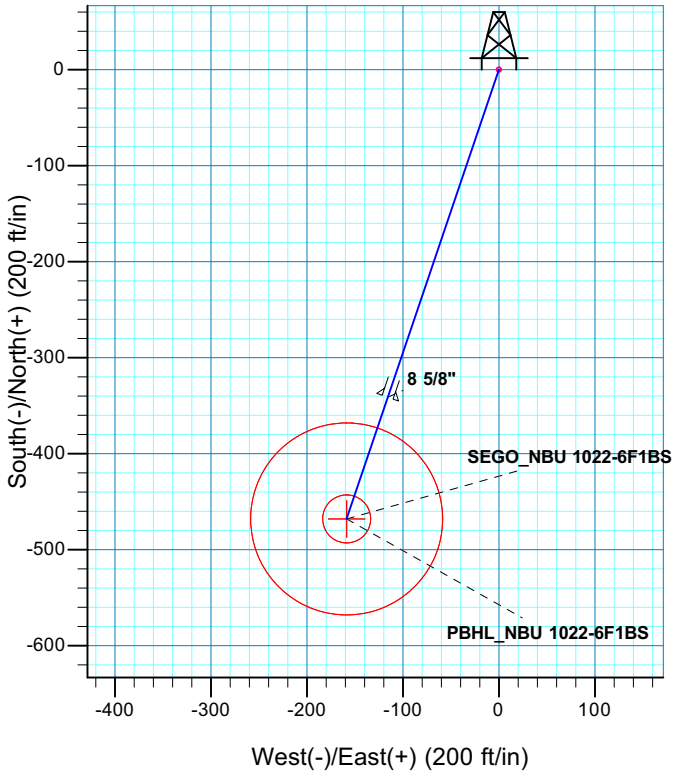
GL 4978 & KB 4 @ 4982.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523209.73	2065681.04	39.9822728	-109.4819387

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9146.00	-468.01	-158.59	14527739.09	2065530.44	39.9809878	-109.4825047	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10251.00	-468.01	-158.59	14522739.09	2065530.44	39.9809878	-109.4825047	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	198.72	846.63	-49.85	-16.89	2.00	198.72	52.63	
2848.65	11.00	198.72	2808.56	-411.04	-139.29	0.00	0.00	433.99	
3477.22	0.00	0.00	3433.27	-468.01	-158.59	1.75	180.00	494.15	
10294.95	0.00	0.00	10251.00	-468.01	-158.59	0.00	0.00	494.15	PBHL_NBU 1022-6F1BS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1182.00	1191.65	GREENRIVER
1427.00	1441.24	BIRDSNEST
1980.00	2004.59	MAHOGANY
4392.00	4435.95	WASATCH
6980.00	7023.95	MESAVERDE
9146.00	9189.95	SEGO
9215.00	9258.95	CASTLEGATE
9651.00	9694.95	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2430.00	2463.01	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6F1BS/OH)

Created By: Robert Scott Date: 9:10, January 16 2013

RECEIVED: May 16, 2013

API Well Number: 43047537090000

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6C PAD
Well: NBU 1022-6C4BS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Scientific Drilling

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52163.9snT
Dip Angle: 65.82°
Date: 2013/01/16
Model: IGRF2010

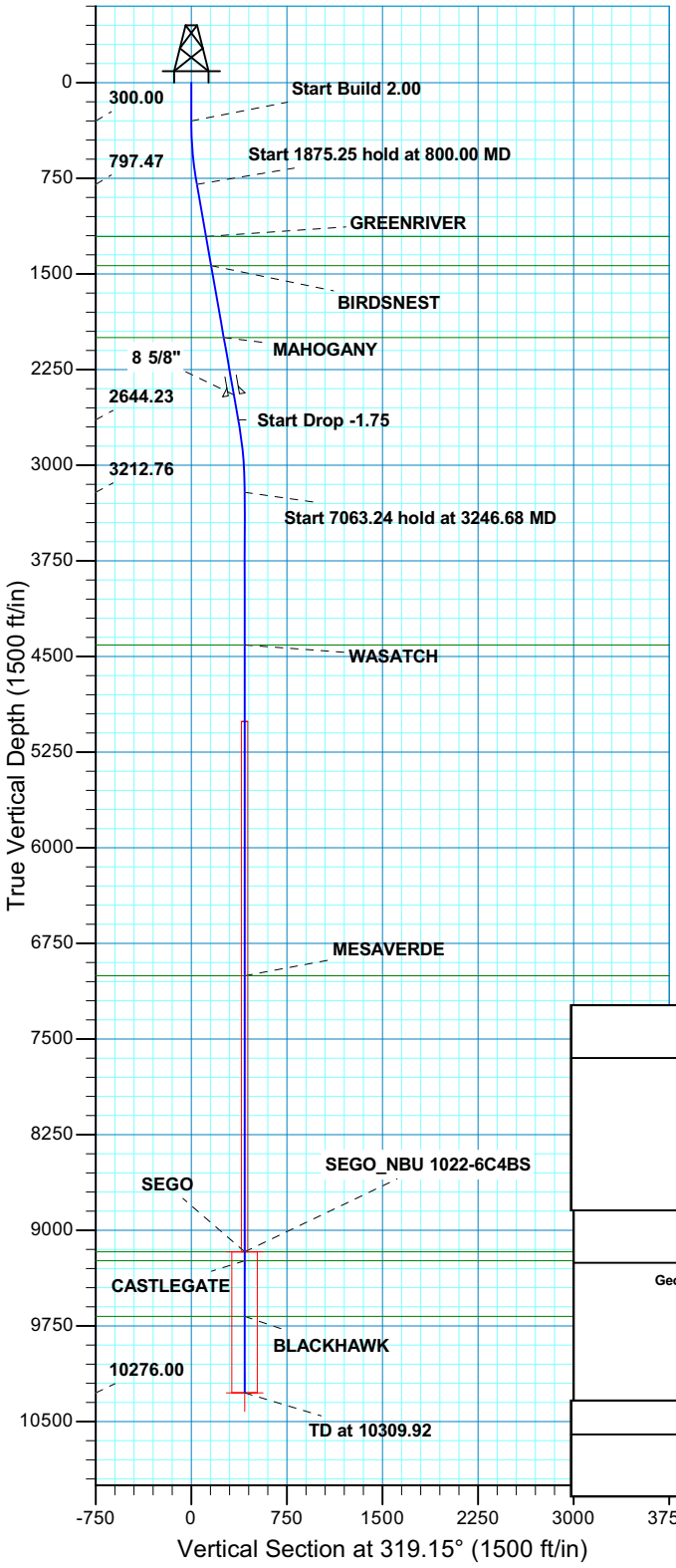
WELL DETAILS: NBU 1022-6C4BS

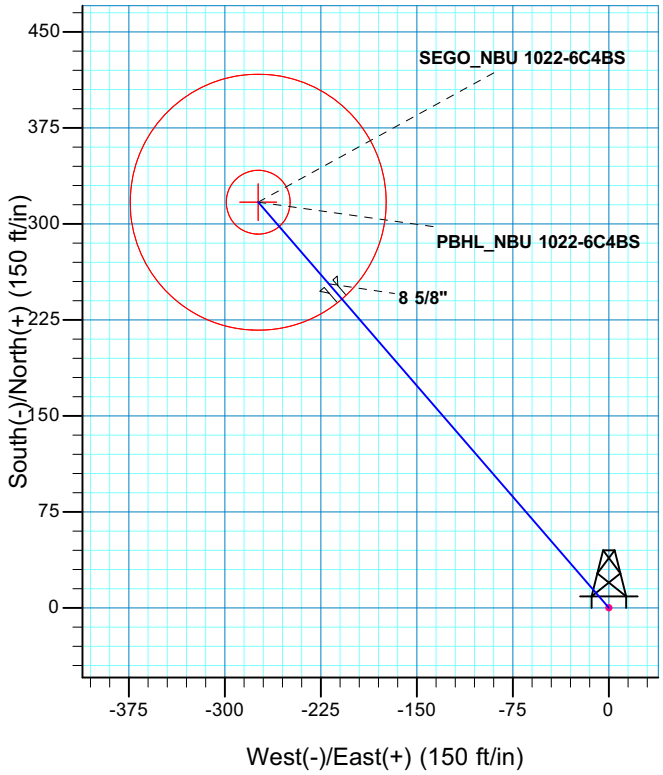
GL 4978 & KB 4 @ 4982.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523237.95	2065691.48	39.9823498	-109.4818997

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9168.00	316.86	-273.99	14523550.10	2065412.14	39.9832198	-109.4828776	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10276.00	316.86	-273.99	14523550.10	2065412.14	39.9832198	-109.4828776	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	
800.00	10.00	319.15	797.47	32.92	-28.47	2.00	319.15	43.52	
2675.25	10.00	319.15	2644.23	279.24	-241.46	0.00	0.00	369.16	
3246.68	0.00	0.00	3212.76	316.86	-273.99	1.75	180.00	418.90	
10309.92	0.00	0.00	10276.00	316.86	-273.99	0.00	0.00	418.90	PBHL_NBU 1022-6C4BS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1207.00	1215.85	GREENRIVER
1435.00	1447.37	BIRDSNEST
1999.00	2020.07	MAHOGANY
4411.00	4444.92	WASATCH
7004.00	7037.92	MESAVERDE
9168.00	9201.92	SEGO
9239.00	9272.92	CASTLEGATE
9676.00	9709.92	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2449.00	2477.01	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6C4BS/OH)

Created By: Robert Scott Date: 9:09, January 16 2013

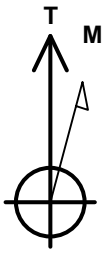
RECEIVED Received: May 20, 2013

API Well Number: 43047537090000

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6C PAD
Well: NBU 1022-6C1CS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Scientific Drilling

Anadarko Petroleum Corporation



Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52163.9snT
Dip Angle: 65.82°
Date: 2013/01/16
Model: IGRF2010

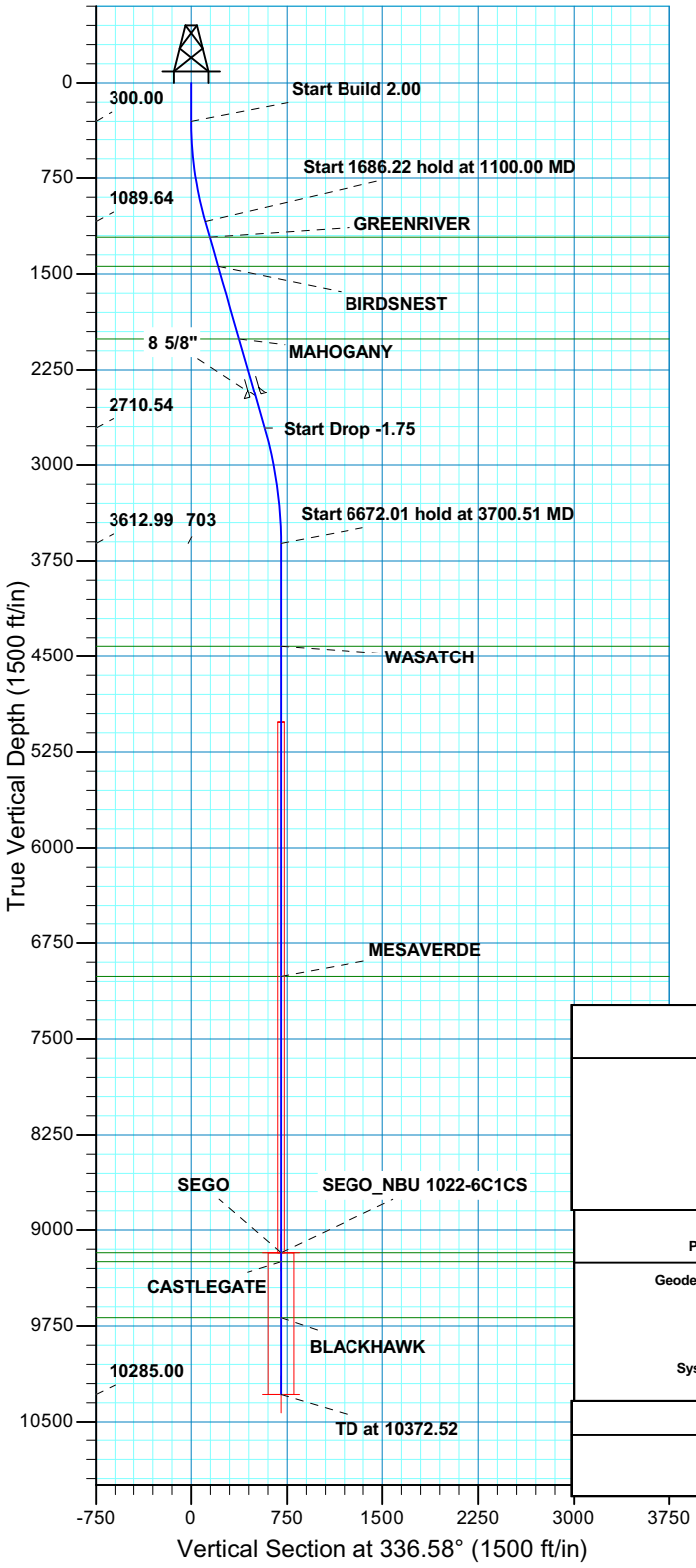
WELL DETAILS: NBU 1022-6C1CS

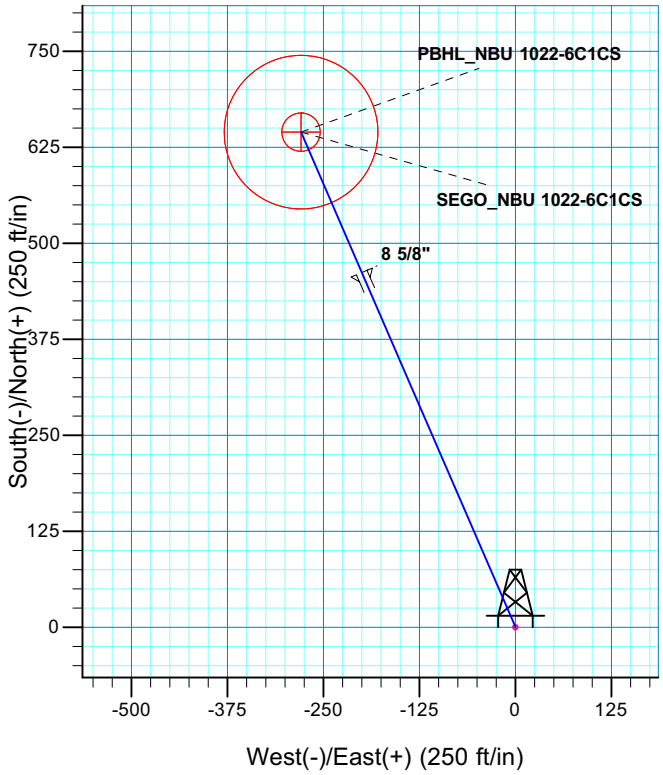
GL 4978 & KB 4 @ 4982.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523247.12	2065694.97	39.9823748	-109.4818867

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9177.00	644.69	-279.31	14523886.96	2065404.72	39.9841449	-109.4828836	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10285.00	644.69	-279.31	14523886.96	2065404.72	39.9841449	-109.4828836	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	
1100.00	16.00	336.58	1089.64	101.83	-44.12	2.00	336.58	110.98	
2786.22	16.00	336.58	2710.54	528.31	-228.89	0.00	0.00	575.76	
3700.51	0.00	0.00	3612.99	644.69	-279.31	1.75	180.00	702.59	
10372.52	0.00	0.00	10285.00	644.69	-279.31	0.00	0.00	702.59	PBHL_NBU 1022-6C1CS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1212.00	1227.29	GREENRIVER
1441.00	1465.52	BIRDSNEST
2008.00	2055.37	MAHOGANY
4416.00	4503.52	WASATCH
7012.00	7099.52	MESAVERDE
9177.00	9264.52	SEGO
9248.00	9335.52	CASTLEGATE
9685.00	9772.52	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2458.00	2523.50	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6C1CS/OH)

Created By: Robert Scott Date: 9:09, January 16 2013

RECEIVED: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6C PAD
Well: NBU 1022-6B4CS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52163.9snT
Dip Angle: 65.82°
Date: 2013/01/16
Model: IGRF2010

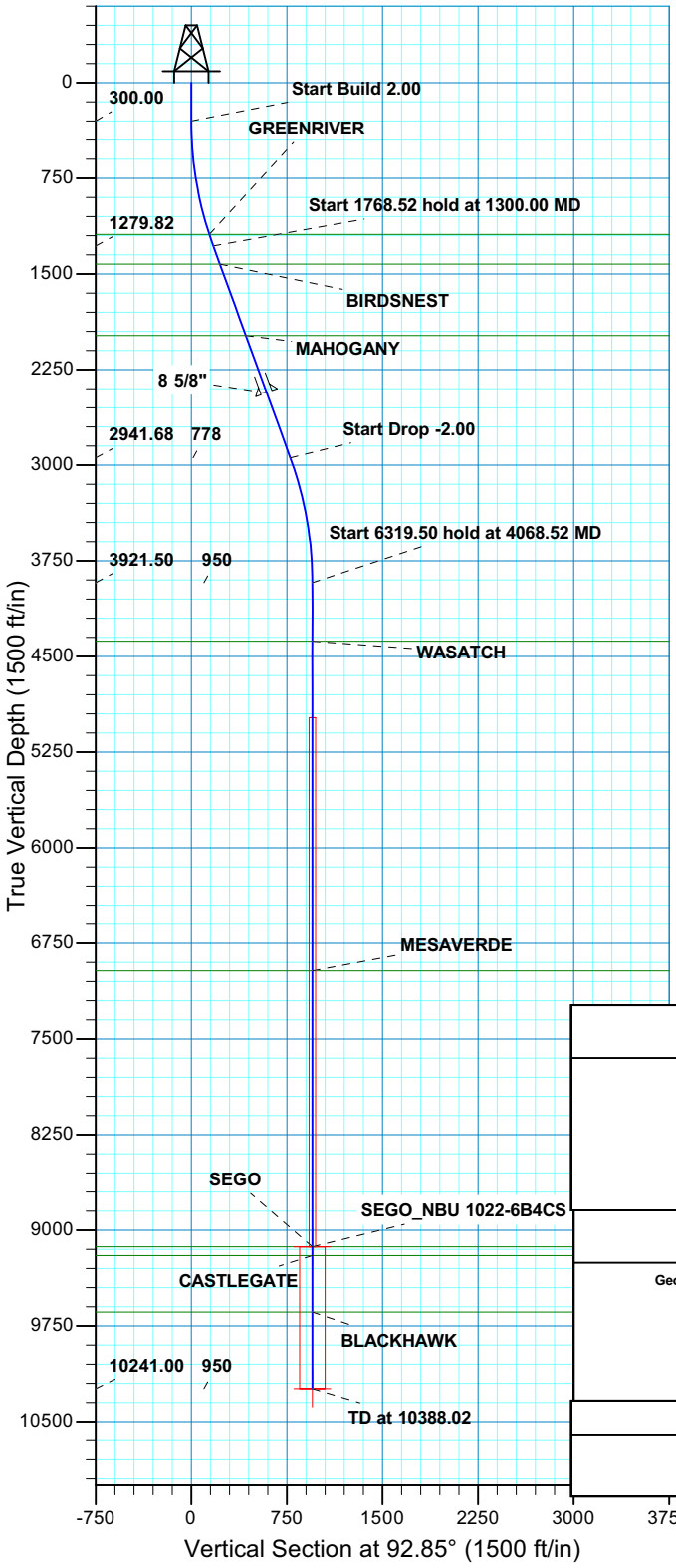
WELL DETAILS: NBU 1022-6B4CS

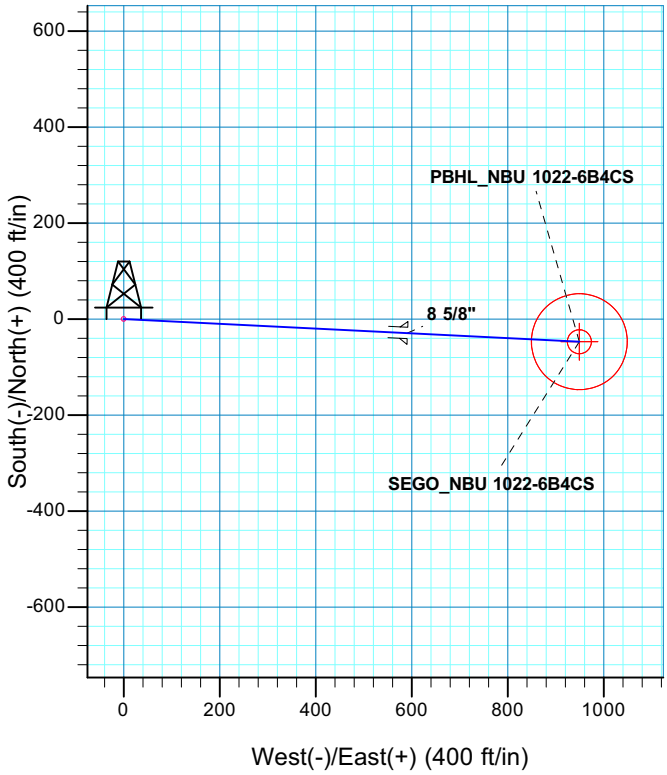
GL 4978 & KB 4 @ 4982.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523219.26	2065684.52	39.9822988	-109.4819257

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9129.00	-47.33	949.23	14523188.10	2066634.41	39.9821688	-109.4785379	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10241.00	-47.33	949.23	14523188.10	2066634.41	39.9821688	-109.4785379	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	92.85	1279.82	-8.60	172.55	2.00	92.85	172.77	
3068.52	20.00	92.85	2941.68	-38.73	776.67	0.00	0.00	777.64	
4068.52	0.00	0.00	3921.50	-47.33	949.23	2.00	180.00	950.41	
10388.02	0.00	0.00	10241.00	-47.33	949.23	0.00	0.00	950.41	PBHL_NBU 1022-6B4CS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1190.00	1204.98	GREENRIVER
1423.00	1452.37	BIRDSNEST
1982.00	2047.25	MAHOGANY
4380.00	4527.02	WASATCH
6967.00	7114.02	MESAVERDE
9129.00	9276.02	SEGO
9198.00	9345.02	CASTLEGATE
9641.00	9788.02	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2432.00	2526.13	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6B4CS/OH)

Created By: Robert Scott Date: 9:07, January 16 2013

RECEIVED: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6C PAD
Well: NBU 1022-6B4BS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52163.9snT
Dip Angle: 65.82°
Date: 2013/01/16
Model: IGRF2010

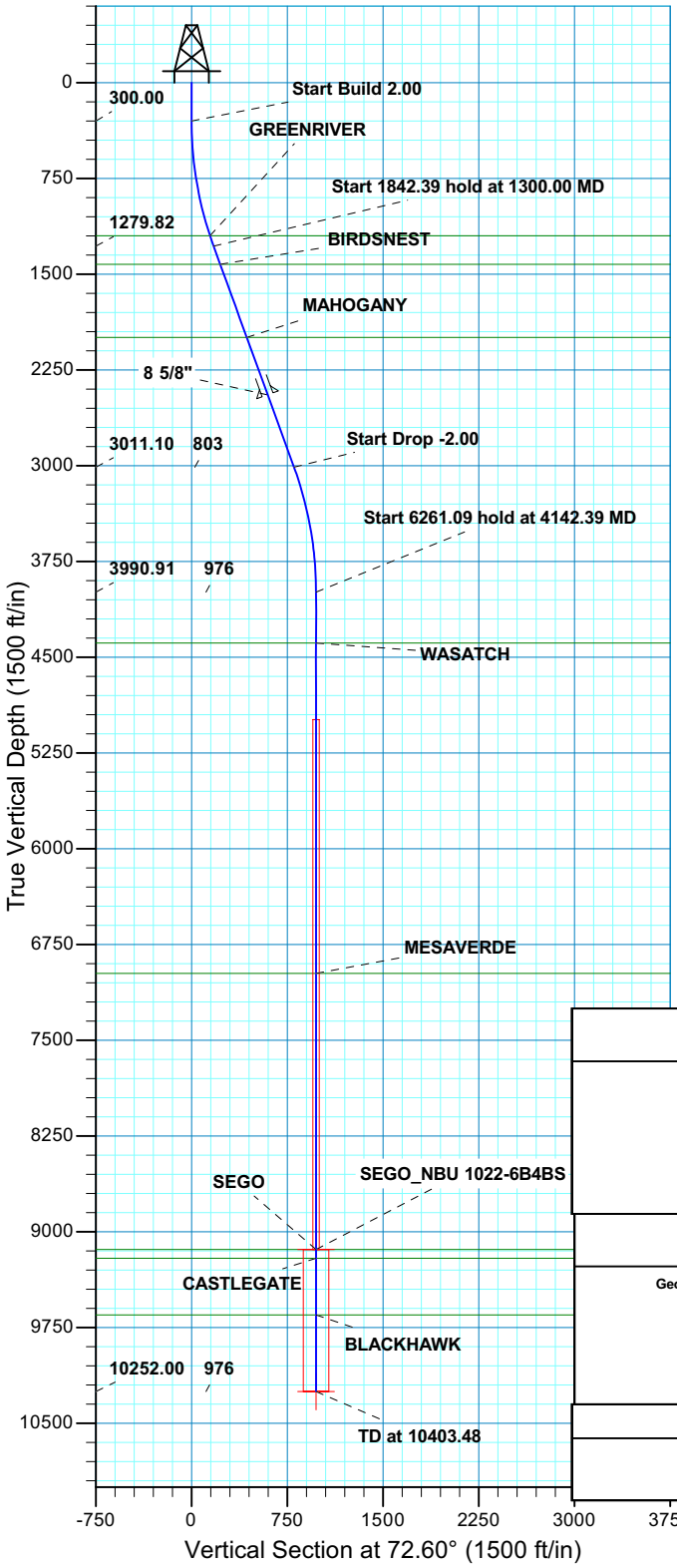
WELL DETAILS: NBU 1022-6B4BS

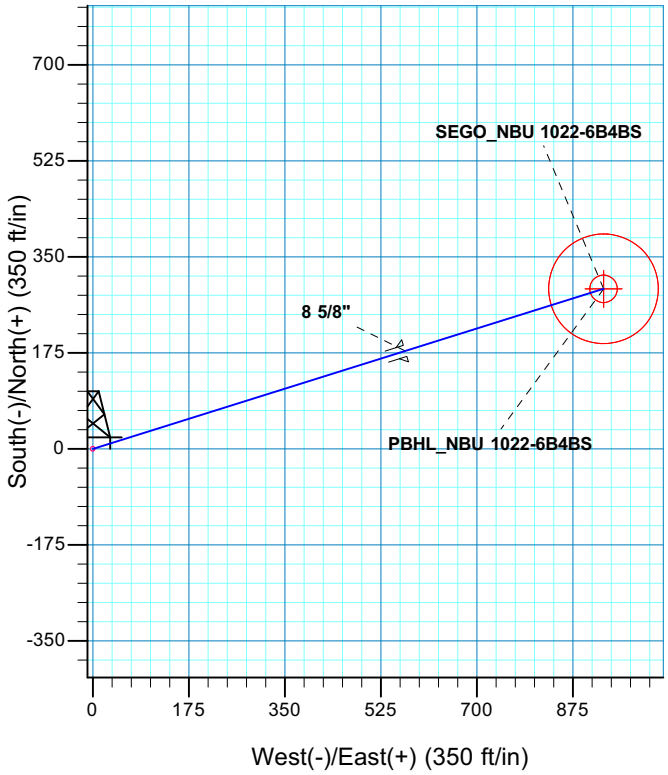
GL 4978 & KB 4 @ 4982.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523228.42	2065688.00	39.9823238	-109.4819127

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9139.00	291.75	931.03	14523535.98	2066613.93	39.9831248	-109.4785898	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10252.00	291.75	931.03	14523535.98	2066613.93	39.9831248	-109.4785898	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	72.60	1279.82	51.66	164.86	2.00	72.60	172.77	
3142.39	20.00	72.60	3011.10	240.09	766.17	0.00	0.00	802.90	
4142.39	0.00	0.00	3990.91	291.75	931.03	2.00	180.00	975.67	
10403.48	0.00	0.00	10252.00	291.75	931.03	0.00	0.00	975.67	PBHL_NBU 1022-6B4BS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1199.00	1214.45	GREENRIVER
1422.00	1451.31	BIRDSNEST
1995.00	2061.08	MAHOGANY
4389.00	4540.48	WASATCH
6977.00	7128.48	MESAVERDE
9139.00	9290.48	SEGO
9208.00	9359.48	CASTLEGATE
9652.00	9803.48	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2445.00	2539.96	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6B4BS/OH)

Created By: Robert Scott Date: 9:05, January 16 2013

RECEIVED: May 16, 2013

API Well Number: 43047537090000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-6C PAD
Well: NBU 1022-6B1CS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52163.9snT
Dip Angle: 65.82°
Date: 2013/01/16
Model: IGRF2010

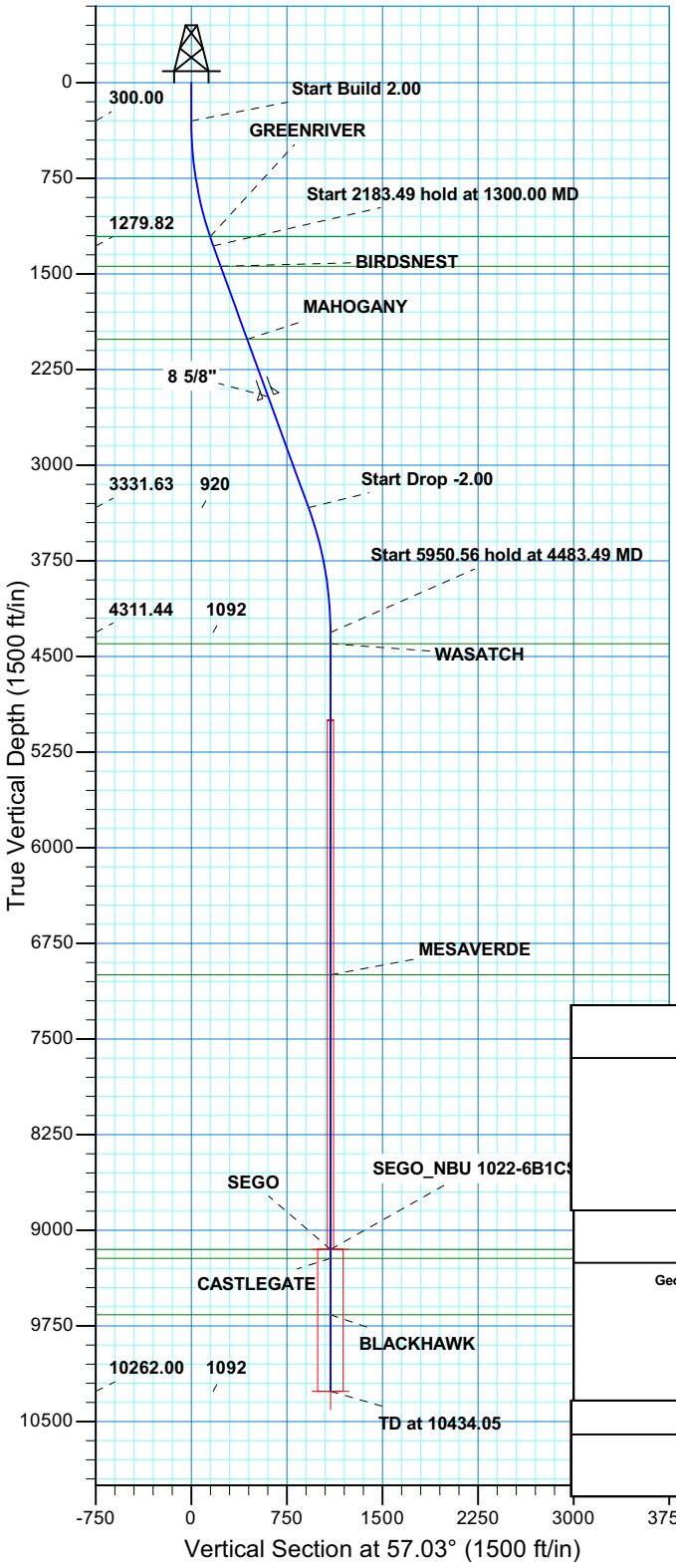
WELL DETAILS: NBU 1022-6B1CS

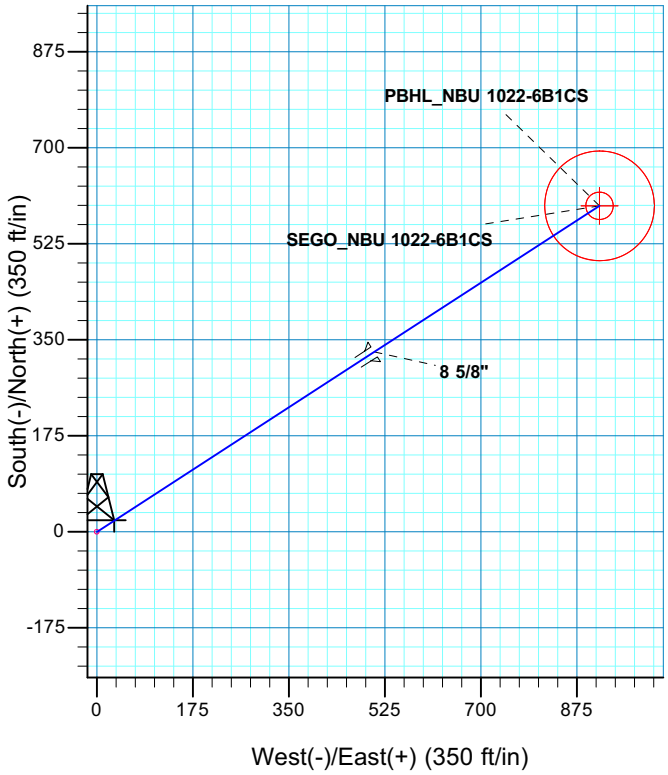
GL 4978 & KB 4 @ 4982.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523256.65	2065698.45	39.9824008	-109.4818737

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	9150.00	594.41	916.45	14523866.57	2066604.64	39.9840328	-109.4786028	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10262.00	594.41	916.45	14523866.57	2066604.64	39.9840328	-109.4786028	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	57.03	1279.82	94.01	144.95	2.00	57.03	172.77	
3483.49	20.00	57.03	3331.63	500.39	771.50	0.00	0.00	919.57	
4483.49	0.00	0.00	4311.44	594.41	916.45	2.00	180.00	1092.33	
10434.05	0.00	0.00	10262.00	594.41	916.45	0.00	0.00	1092.33	PBHL_NBU 1022-6B1CS

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 6 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1208.00	1223.93	GREENRIVER
1441.00	1471.53	BIRDSNEST
2012.00	2079.17	MAHOGANY
4400.00	4572.05	WASATCH
6997.00	7169.05	MESAVERDE
9150.00	9322.05	SEGO
9219.00	9391.05	CASTLEGATE
9662.00	9834.05	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2462.00	2558.05	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-6B1CS/OH)

Created By: Robert Scott Date: 9:05, January 16 2013

RECEIVED: May 16, 2013

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 5/29/2013 **API NO. ASSIGNED:** 43047537990000

WELL NAME: NBU 1022-6H4CS

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) **PHONE NUMBER:** 720 929-6086

CONTACT: Gina Becker

PROPOSED LOCATION: NESE 06 100S 220E **Permit Tech Review:** ✔

SURFACE: 1700 FSL 0470 FEL **Engineering Review:** ✔

BOTTOM: 2444 FNL 0456 FEL **Geology Review:** ✔

COUNTY: UINTAH

LATITUDE: 39.97536 **LONGITUDE:** -109.47477

UTM SURF EASTINGS: 630243.00 **NORTHINGS:** 4426136.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU-01195 **PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

SURFACE OWNER: 1 - Federal **COALBED METHANE:** NO

RECEIVED AND/OR REVIEWED:

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

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

RECEIVED: June 05, 2013

GARY R. HERBERT
Governor
GREGORY S. BELL
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

Permit To Drill

****

Well Name: NBU 1022-6H4CS
API Well Number: 43047537990000
Lease Number: UTU-01195
Surface Owner: FEDERAL
Approval Date: 6/5/2013

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

Authority:
Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

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

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

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

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

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

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

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

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

- Within 24 hours following the spudding of the well - contact Carol Daniels at 801-538-5284
  (please leave a voicemail message if not available)
  OR
  submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website
  at http://oilgas.ogm.utah.gov

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

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

Approved By:

For John Rogers
Associate Director, Oil & Gas

Form 3160-3
(August 2007)

RECEIVED
JAN 29 2013
BLM

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
UTU01195

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
UTU63047A

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☐ Single Zone ☒ Multiple Zone

8. Lease Name and Well No.
NBU 1022-6H4CS

2. Name of Operator
KERR-MCGEE OIL & GAS ONSHORE LP
Contact: GINA T BECKER
Email: GINA.BECKER@ANADARKO.COM

9. API Well No.
4304753799

3a. Address
P.O. BOX 173779
DENVER, CO 80202-3779

3b. Phone No. (include area code)
Ph: 720-929-6086
Fx: 720-929-7086

10. Field and Pool, or Exploratory
NATURAL BUTTES

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface NESE 1700FSL 470FEL 39.975390 N Lat, 109.474825 W Lon

At proposed prod. zone SENE 2444FNL 456FEL 39.978545 N Lat, 109.474818 W Lon

11. Sec., T., R., M., or Blk. and Survey or Area
Sec 6 T10S R22E Mer SLB

14. Distance in miles and direction from nearest town or post office*
APPROXIMATELY 47 MILES SOUTHEAST OF VERNAL, UTAH

12. County or Parish
UINTAH

13. State
UT

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
508

16. No. of Acres in Lease
577.75

17. Spacing Unit dedicated to this well

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.
1119

19. Proposed Depth
10455 MD
10273 TVD

20. BLM/BIA Bond No. on file
WYB000291

21. Elevations (Show whether DF, KB, RT, GL, etc.
5165 GL

22. Approximate date work will start
08/01/2013

23. Estimated duration
60-90 DAYS

RECEIVED
JUN 20 2013
DIV. OF OIL, GAS & MINING

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.
2. A Drilling Plan.
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature
(Electronic Submission)

Name (Printed/Typed)
GINA T BECKER Ph: 720-929-6086

Date
01/29/2013

Title
SENIOR REGULATORY ANALYST

Approved by (Signature)

Name (Printed/Typed)
Jerry Kenczka

Date
JUN 12 2013

Title
~~Assistant Field Manager~~
Lands & Mineral Resources

Office
VERNAL FIELD OFFICE

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

CONDITIONS OF APPROVAL ATTACHED

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

Additional Operator Remarks (see next page)

Electronic Submission #191960 verified by the BLM Well Information System
For KERR-MCGEE OIL & GAS ONSHORE, sent to the Vernal
Committed to AFMSS for processing by JOHNETTA MAGEE on 02/12/2013 ()

NOTICE OF APPROVAL

UDOGM

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

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VERNAL FIELD OFFICE
170 South 500 East VERNAL, UT 84078 (435) 781-4400

CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company:	**KERR MCGEE OIL & GAS ONSHORE**	**Location:**	**NESE, Sec. 6, T10S, R22E**
Well No:	**NBU 1022-6H4CS**	**Lease No:**	**UTU-01195**
API No:	**43-047-53799**	**Agreement:**	

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)

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO_x per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.

- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO_x per horsepower-hour.

- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.

- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.

- Mitigation measures can be found in Appendix B, Table B-2, of the GNB ROD (BLM 2012b) under the following sections of the table:
    - Air Quality
    - Soils
    - Vegetation: *Sclerocactus wetlandicus*
    - Wildlife: Colorado River Fish

Where populations or individuals of Sclerocactus wetlandicus are located within 300 feet of the proposed edge of project ROWs, the following actions will be taken to minimize impacts:

- Silt fencing will be used to protect cacti that are within 300 feet and downslope or downwind of surface disturbance. Fencing is intended to prevent sedimentation or dust deposition and will be evaluated for effectiveness by a qualified botanist.
- A qualified botanist will be on site to monitor surface-disturbing activities when cacti are within 300 feet of any surface disturbance.
- Dust abatement (consisting of water only) will occur during construction where plants are closer than 300 feet from surface-disturbing activities.
- Cacti within 300 feet of proposed surface disturbance will be flagged immediately prior to surface-disturbing activities and flags will be removed immediately after surface-disturbing activities are completed. Leaving cacti flagged for as short a time as possible will minimize drawing attention to the cacti location and reduce potential for theft.
- Pipelines will be sited to maximize distance from adjacent cacti locations.
- Project personnel associated with construction activities will be instructed to drive at a speed limit of 15 miles per hour on unpaved roads and remain in existing roadway ROWs at all times.

For permanent surface pipelines, KMG will adhere to existing cacti survey/buffer guidelines of 300 feet, or amended guidelines if developed by the BLM and USFWS. In areas where avoidance by 300 feet is not feasible and populations or individuals of *Sclerocactus wetlandicus* are within 50 feet of proposed project components, the following actions will be taken to minimize impacts:

- Prior to construction, flag individual cactus. Once pipe installation is complete, remove the flagging.
- Prior to construction, install protective fencing around the cacti if they are down gradient of the surface pipe. Once pipe installation is complete, remove the protective fencing.
- A qualified botanist will be present during construction to monitor surface line installation.

The following considerations are required for those wells where KMG deems completion fluid recycling is appropriate based on new well density and topography:

- Temporary lines associated with recycling of completion water will be sited in existing ROWs. The pressure in the lines is less than 50 pounds per square inch and the lines are constructed of rigid aluminum; therefore, virtually no movement will occur during operation.
- If surface water completion lines are placed within the footprint of a road disturbance where vegetation does not grow, *Sclerocactus wetlandicus* surveys will not be necessary.
- A qualified botanist will survey a 50-foot-wide corridor along roads where temporary lines are planned to ensure *Sclerocactus wetlandicus* is not present.
- If cacti are present within the 50-foot-wide survey corridor and avoidance is necessary (to ensure the line is more than 50 feet away from identified cactus), the new alignment will, if possible, be such that the cacti are topographically higher than the re-aligned line so a potential spill from the line will not impact the identified cacti.
- If it is not possible to re-align the surface lines to avoid individuals or populations of the *Sclerocactus wetlandicus* that are within 50 feet of surface disturbance, the following actions will be taken to minimize impacts:
- Prior to construction, KMG will flag individual cacti. Once pipe installation is complete, remove the flagging.
- Prior to construction, KMG will install protective fencing around the cacti if they are down gradient of the surface pipe. Once pipe installation is complete, remove the protective fencing.
- A qualified botanist will be present during construction to monitor surface line installation.

Avoidance of cactus by 300 feet will take priority in the expansion of pads within the cactus core conservation areas. When the 300-foot buffer cannot be avoided in pad expansion, KMG will notify the USFWS and work with the BLM to determine pad expansion that places a priority on avoiding cactus impacts.

KMG will follow existing ROWs and/or roads in constructing new buried pipelines within the cactus core conservation areas. For instance, where a new buried pipeline is unable to follow an existing ROW and/or road and exceeds 600 feet in length, KMG will work with the USFWS and the BLM to determine a route that places a priority on avoiding cactus impacts.

Maintenance activities on pipelines within cactus core conservation areas will avoid impacts to cactus, to the extent possible.

- All vehicles and equipment shall be cleaned either through power-washing, or other approved method, if the vehicles or equipment were previously operated outside the Uinta Basin, to prevent weed seed introduction.
- All disturbance areas shall be monitored for noxious weeds annually, for a minimum of three growing seasons following completion of project or until desirable vegetation is established

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

- On well pads 1022-6A, 1022-6C, 1022-6D, and segments of pipeline that intersect high fossil potential areas: Paleontological monitoring by a BLM permitted paleontologist is required during all ground-disturbing activities (BLM 2012b).

DOWNHOLE PROGRAM
CONDITIONS OF APPROVAL (COAs)

SITE SPECIFIC DOWNHOLE COAs:

- Cement for the 4.5 inch casing shall be brought up to a minimum of 200 feet above the surface casing shoe.
- A CBL shall be run from TD to TOC in the Production Casing.
- Variances shall be granted as requested in Section 9 of the Drilling Program of the SOP.
- Gamma Ray Log shall be run from TD to the Surface.

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 by CD (compact disc). 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 (¼¼, 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.

FORM 9

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

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01195

SUNDRY NOTICES AND REPORTS ON WELLS

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

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-6H4CS

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

9. API NUMBER: 43047537990000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6100 EXT

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1700 FSL 0470 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 06 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 6/5/2014	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	✓ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

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

Approved by the Utah Division of Oil, Gas and Mining

Date: April 16, 2014

By:

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Teena Paulo	720 929-6236	Staff Regulatory Specialist

SIGNATURE	DATE
N/A	4/14/2014

RECEIVED: Apr. 14, 2014

The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Request for Permit Extension Validation Well Number 43047537990000

API: 43047537990000
Well Name: NBU 1022-6H4CS
Location: 1700 FSL 0470 FEL QTR NESE SEC 06 TWNP 100S RNG 220E MER S
Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.
Date Original Permit Issued: 6/5/2013

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

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

Signature: Teena Paulo **Date:** 4/14/2014
Title: Staff Regulatory Specialist **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

RECEIVED: Apr. 14, 2014

FORM 9

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

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01195

SUNDRY NOTICES AND REPORTS ON WELLS

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

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-6H4CS

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

9. API NUMBER: 43047537990000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 **PHONE NUMBER:** 720 929-6100

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1700 FSL 0470 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 06 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 5/6/2015	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	✓ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

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

Approved by the Utah Division of Oil, Gas and Mining
May 07, 2015
Date:
By:

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jennifer Thomas	720 929-6808	Regulatory Specialist
SIGNATURE N/A		**DATE** 5/6/2015

RECEIVED: May. 06, 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 43047537990000

API: 43047537990000
Well Name: NBU 1022-6H4CS
Location: 1700 FSL 0470 FEL QTR NESE SEC 06 TWNP 100S RNG 220E MER S
Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.
Date Original Permit Issued: 6/5/2013

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

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

Signature: Jennifer Thomas **Date:** 5/6/2015
Title: Regulatory Specialist **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

RECEIVED: May. 06, 2015

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
MAY 08 2015
BLM

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
UTU01195

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
UTU63047A

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.
NBU 1022-6H4CS

2. Name of Operator
KERR MCGEE OIL & GAS ONSHORE
Contact: JENNIFER THOMAS
E-Mail: JENNIFER.THOMAS@ANADARKO.COM

9. API Well No.
43-047-53799

3a. Address
P.O. BOX 173779 1099 18TH STREET, SUITE 600
DENVER, CO 80217

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

10. Field and Pool, or Exploratory
NATURAL BUTTES

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 6 T10S R22E Mer SLB

11. County or Parish, and State
UINTAH COUNTY, UT

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original A PD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

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.

APD - 6/12/13
NEPA - 2013-179 EA

RECEIVED
JUN 15 2015
DIV. OF OIL, GAS & MINING

VERNAL FIELD OFFICE
ENG. RHH 6/3/15
GEOL.
E.S.
PET.
RECL.

CONDITIONS OF APPROVAL ATTACHED

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #301213 verified by the BLM Well Information System
For KERR MCGEE OIL & GAS ONSHORE, sent to the Vernal
Committed to AFMSS for processing by JOHNETTA MAGEE on 05/12/2015 ()

Name *(Printed/Typed)* JENNIFER THOMAS
Title REGULATORY SPECIALIST

Signature (Electronic Submission)
Date 05/08/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By
Title Assistant Field Manager Lands & Mineral Resources
JUN 05 2015

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

Office VERNAL FIELD OFFICE

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.

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

UDOGM

CONDITIONS OF APPROVAL

Kerr McGee Oil and Gas Onshore LP.

Notice of Intent
APD Extension

Lease: UTU-01195
Well: NBU 1022-6H4CS
Location: NWNE Sec 6-T10S-R22E

An extension for the referenced APD is granted with the following conditions:

---

1. The extension and APD shall expire on 06/12/2017.

2. No other extension shall be granted.

If you have any other questions concerning this matter, please contact Robin L Hansen of this office at (435) 781-2777

FORM 9

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

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01195

SUNDRY NOTICES AND REPORTS ON WELLS

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

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-6H4CS

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

9. API NUMBER: 43047537990000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6404 EXT

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1700 FSL 0470 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 06 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 5/27/2016	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	✓ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

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

Approved by the Utah Division of Oil, Gas and Mining
June 01, 2016
Date:
By:

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Joel Malefyt	720 929-6828	Regualtory Analyst

SIGNATURE	DATE
N/A	5/27/2016

RECEIVED: May. 27, 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 43047537990000

API: 43047537990000
Well Name: NBU 1022-6H4CS
Location: 1700 FSL 0470 FEL QTR NESE SEC 06 TWNP 100S RNG 220E MER S
Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.
Date Original Permit Issued: 6/5/2013

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

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

Signature: Joel Malefyt **Date:** 5/27/2016
Title: Regualtory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

RECEIVED: May. 27, 2016