API Well Number: 43047535900000

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 1022-5H1BS

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-01191-A

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	799 FNL 43 FEL	NENE	5	10.0 S	22.0 E	S
Top of Uppermost Producing Zone	1426 FNL 492 FEL	SENE	5	10.0 S	22.0 E	S
At Total Depth	1426 FNL 492 FEL	SENE	5	10.0 S	22.0 E	S

21. COUNTY
UINTAH

22. DISTANCE TO NEAREST LEASE LINE (Feet)
1230

23. NUMBER OF ACRES IN DRILLING UNIT
1363

25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)
488

26. PROPOSED DEPTH
MD: 10152 TVD: 10086

27. ELEVATION - GROUND LEVEL
5011

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 - 2350	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 - 10152	11.6	HCP-110 LT&C	12.5	Premium Lite High Strength	300	3.38	12.0
							50/50 Poz	1490	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** 02/06/2013 | **EMAIL** gina.becker@anadarko.com

API NUMBER ASSIGNED
43047535900000

APPROVAL
Permit Manager

RECEIVED: March 12, 2013

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

NBU 1022-5H1BS

Surface:	799 FNL / 43 FEL	NENE
BHL:	1426 FNL / 492 FEL	SENE

Section 5 T10S R22E

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

ONSHORE ORDER NO. 1

DRILLING PROGRAM

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

Formation	Depth	Resource
Uinta	0 - Surface	
Green River	1,136'	
Birds Nest	1,407'	Water
Mahogany	1,900'	Water
Wasatch	4,330'	Gas
Mesaverde	6,834'	Gas
Sego	8,970'	Gas
Castlegate	9,049'	Gas
Blackhawk	9,486'	Gas
TVD =	10,086'	
TD =	10,152'	

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: February 04, 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 10086' TVD, approximately equals 6,455 psi (0.64 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 4,222 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 8970' TVD, approximately equals 5,472 psi (0.61 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 3,522 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: February 04, 2013

KERR-McGEE OIL & GAS ONSHORE LP

Blackhawk Drilling Program

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP			DATE	January 2, 2013
WELL NAME	**NBU 1022-5H1BS**			TD	10,086' TVD 10,152' MD
FIELD	Natural Buttes	COUNTY Uintah	STATE Utah		FINISHED ELEVATION 5,011'
SURFACE LOCATION	NENE 799 FNL 43 FEL Sec 5 T 10S R 22E				
	Latitude: 39.983066 Longitude: -109.454509 NAD 83				
BTM HOLE LOCATION	SENE 1426 FNL 492 FEL Sec 5 T 10S R 22E				
	Latitude: 39.981345 Longitude: -109.456082 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 @	1,136'			
	Top of Birds Nest @	1,407'			
	Mahogany @	1,900'			
	Preset f/ GL @	2,350' 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 @	4,330'			
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 @	6,834' TVD			
	Sego @	8,970' TVD			
	Castlegate @	9,049' TVD			
	Blackhawk	9,486' TVD			
Max anticipated Mud required 12.5 ppg	TD @	10,086' TVD 10,152' MD			

RECEIVED: February 04, 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	2,350	28.00	IJ-55	LTC	2.29	1.71	6.04	N/A
								10,690	8,650	279,000	367,174
PRODUCTION	4-1/2"	0	to	5,000	11.60	HCP-110	DQX	1.19	1.32		3.85
	4-1/2"	5,000	to	10,152'	11.60	HCP-110	LTC	1.19	1.32	5.77	

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	1,850'	Premium cmt + 16% Gel + 10 pps gilsonite	230	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	3,822'	Premium Lite II +0.25 pps celloflake + .4% FL-52	300	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	6,330'	50/50 Poz/G + 10% salt + .05 lbs/sk Static Free	1,490	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

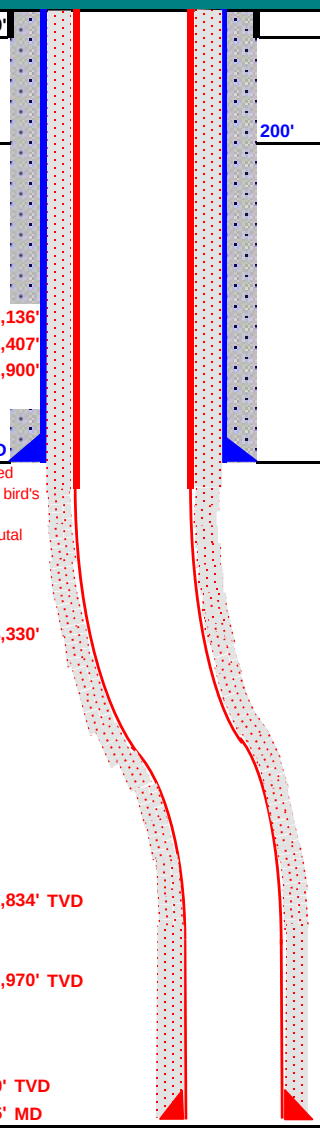
RECEIVED: February 04, 2013

KERR-McGEE OIL & GAS ONSHORE LP

Wasatch/Mesaverde Drilling Program

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP	DATE	January 2, 2013
WELL NAME	**NBU 1022-5H1BS**	TD	8,970' TVD 9,036' MD
FIELD	Natural Buttes	COUNTY Uintah	STATE Utah FINISHED ELEVATION 5,011'
SURFACE LOCATION	NENE 799 FNL 43 FEL Sec 5 T 10S R 22E		
	Latitude: 39.983066 Longitude: -109.454509 NAD 83		
BTM HOLE LOCATION	SENE 1426 FNL 492 FEL Sec 5 T 10S R 22E		
	Latitude: 39.981345 Longitude: -109.456082 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 @	**1,136'**			
	Top of Birds Nest @	**1,407'**			
	Mahogany @	**1,900'**			
	Preset f/ GL @	**2,350' 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 @	**4,330'**			
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 @	**6,834' TVD**			
	Sego @	**8,970' TVD**			
Max anticipated Mud required 12.0 ppg	**TD @**	**8,970' TVD** **9,036' MD**			



RECEIVED: February 04, 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	2,350	28.00	IJ-55	LTC	2.29	1.71	6.04	N/A
								7,780	6,350		267,035
PRODUCTION	4-1/2"	0	to	5,000	11.60	I-80	DQX	1.11	1.13		3.12
								7,780	6,350	223,000	
	4-1/2"	5,000	to	9,036'	11.60	I-80	LTC	1.11	1.13	5.83	

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:

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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	1,850'	Premium cmt + 16% Gel + 10 pps gilsonite	230	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	3,826'	Premium Lite II +0.25 pps celloflake + .4% FL-52	300	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	5,210'	50/50 Poz/G + 10% salt + .05 lbs/sk Static Free	1,230	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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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:** _____

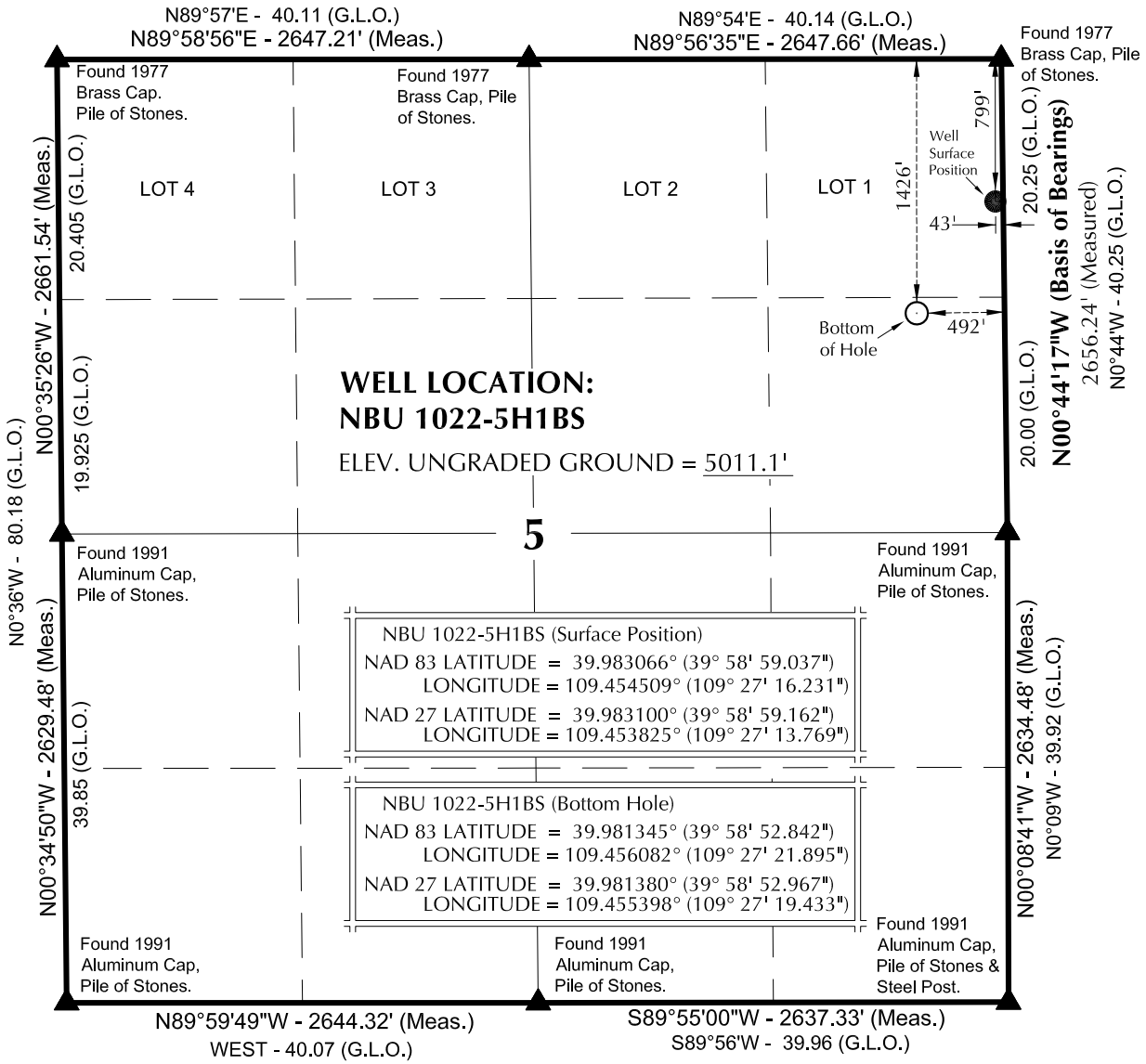
Nick Spence / John Tuckwiller / Brian Cocchiere / Tyler Elliott

DRILLING SUPERINTENDENT: _____ **DATE:** _____

Kenny Gathings / Lovel Young

RECEIVED: February 04, 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 S35°06'47"W 766.56' 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.

9-4-12

PROFESSIONAL LAND SURVEYOR No. 6028691 JOHN R. LAUGHE 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 1022-5A

NBU 1022-5H1BS
WELL PLAT
1426' FNL, 492' FEL (Bottom Hole)
SE ¼ NE ¼ OF SECTION 5, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

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

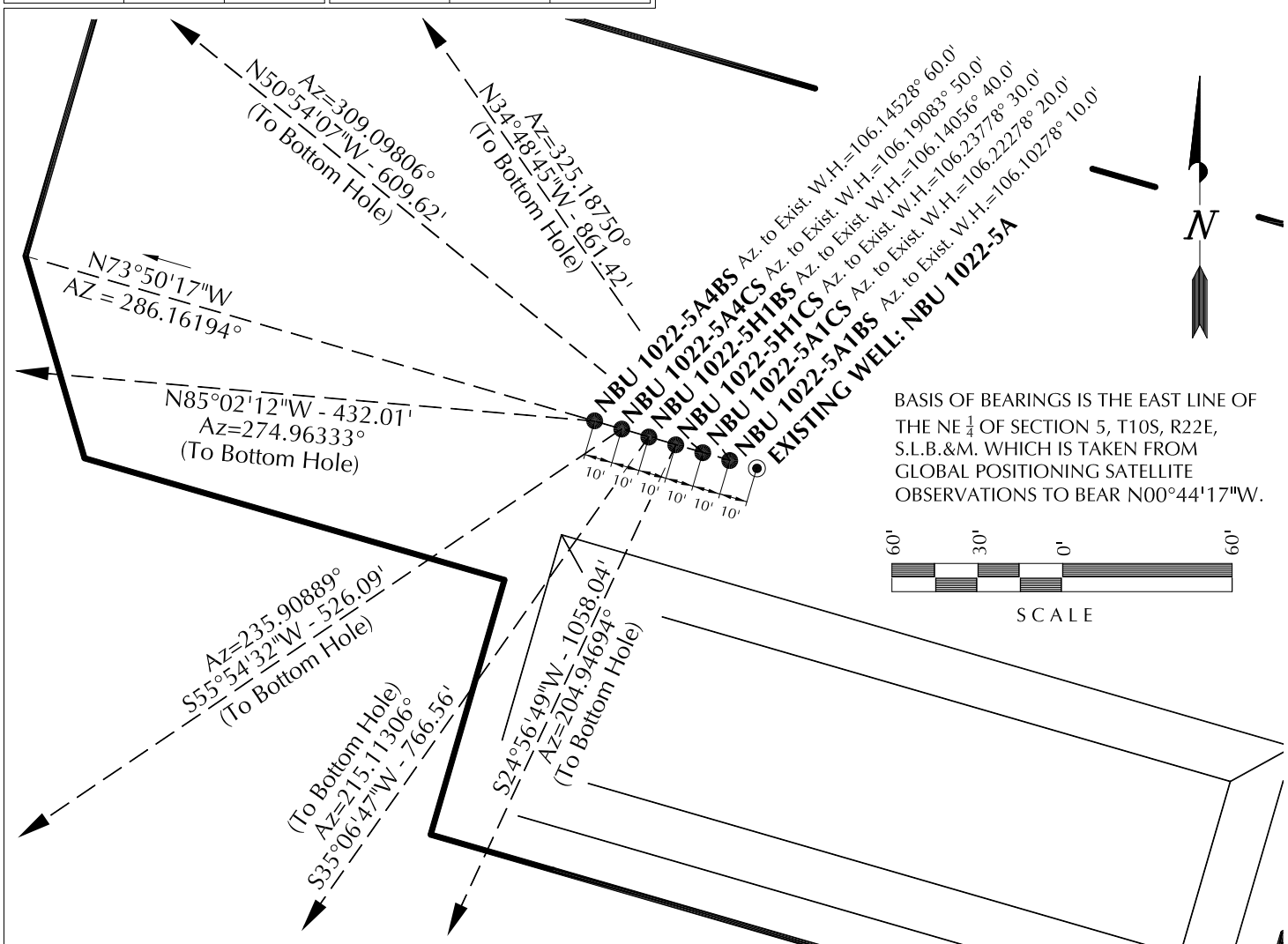
TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 8-7-12	SURVEYED BY: J.W.	SHEET NO:
DATE DRAWN: 8-15-12	DRAWN BY: T.J.R.	4
SCALE: 1" = 1000'	Date Last Revised:	4 OF 18

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27			NAD83		NAD27		
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES
NBU 1022-5A1BS	39°58'58.954" 39.983043°	109°27'15.862" 109.454406°	39°58'59.079" 39.983078°	109°27'13.400" 109.453722°	808' FNL 14' FEL	39°59'05.942" 39.984984°	109°27'22.177" 109.456160°	39°59'06.067" 39.985019°	109°27'19.714" 109.455476°	100' FNL 497' FEL
NBU 1022-5A1CS	39°58'58.982" 39.983051°	109°27'15.984" 109.454440°	39°58'59.107" 39.983085°	109°27'13.522" 109.453756°	805' FNL 24' FEL	39°59'02.781" 39.984106°	109°27'22.060" 109.456128°	39°59'02.906" 39.984140°	109°27'19.598" 109.455444°	420' FNL 492' FEL
NBU 1022-5H1CS	39°58'59.010" 39.983058°	109°27'16.108" 109.454474°	39°58'59.135" 39.983093°	109°27'13.645" 109.453790°	802' FNL 33' FEL	39°58'49.532" 39.980426°	109°27'21.840" 109.456067°	39°58'49.657" 39.980460°	109°27'19.378" 109.455383°	1761' FNL 492' FEL
NBU 1022-5H1BS	39°58'59.037" 39.983066°	109°27'16.231" 109.454509°	39°58'59.162" 39.983100°	109°27'13.769" 109.453825°	799' FNL 43' FEL	39°58'52.842" 39.981345°	109°27'21.895" 109.456082°	39°58'52.967" 39.981380°	109°27'19.433" 109.455398°	1426' FNL 492' FEL
NBU 1022-5A4CS	39°58'59.064" 39.983073°	109°27'16.354" 109.454543°	39°58'59.189" 39.983108°	109°27'13.892" 109.453859°	797' FNL 53' FEL	39°58'56.152" 39.982264°	109°27'21.950" 109.456097°	39°58'56.276" 39.982299°	109°27'19.488" 109.455413°	1091' FNL 492' FEL
NBU 1022-5A4BS	39°58'59.092" 39.983081°	109°27'16.478" 109.454577°	39°58'59.216" 39.983116°	109°27'14.015" 109.453893°	794' FNL 62' FEL	39°58'59.461" 39.983184°	109°27'22.005" 109.456113°	39°58'59.586" 39.983218°	109°27'19.543" 109.455428°	756' FNL 492' FEL
NBU 1022-5A	39°58'58.927" 39.983035°	109°27'15.738" 109.454372°	39°58'59.052" 39.983070°	109°27'13.276" 109.453688°	811' FNL 5' 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 1022-5A1BS	707.2'	-491.8'	NBU 1022-5A1CS	384.5'	-473.1'	NBU 1022-5H1CS	-959.3'	-446.3'	NBU 1022-5H1BS	-627.1'	-440.9'
NBU 1022-5A4CS	-294.9'	-435.7'	NBU 1022-5A4BS	37.4'	-430.4'						



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1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-5A

WELL PAD INTERFERENCE PLAT

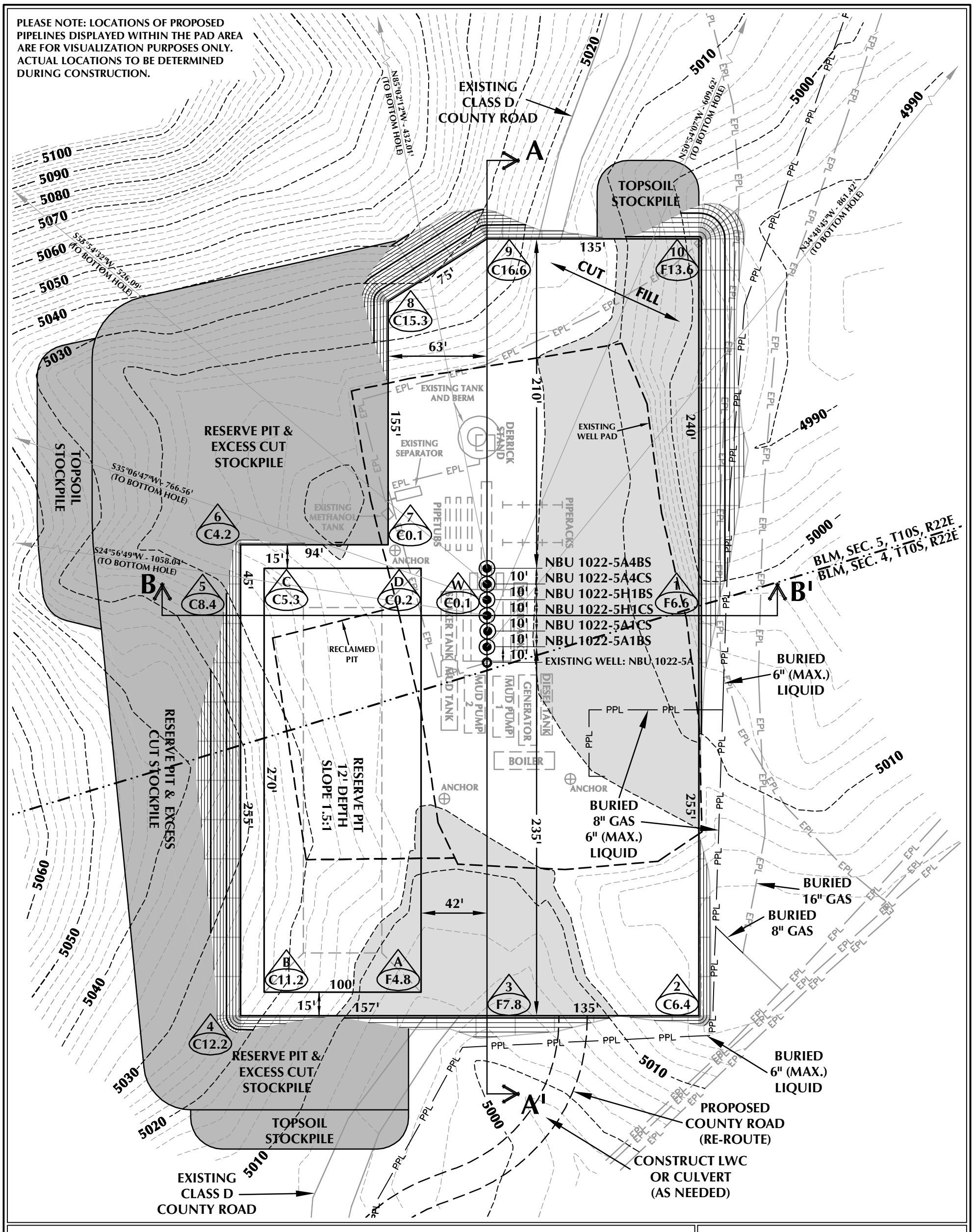
WELLS - NBU 1022-5A1BS, NBU 1022-5A1CS, NBU 1022-5H1CS, NBU 1022-5H1BS, NBU 1022-5A4CS & NBU 1022-5A4BS LOCATED IN SECTION 5, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

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

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

DATE SURVEYED: 8-7-12	SURVEYED BY: J.W.	SHEET NO:
DATE DRAWN: 8-15-12	DRAWN BY: T.J.R.	7
SCALE: 1" = 60'	Date Last Revised:	7 OF 18

RECEIVED: February 04, 2013



WELL PAD - NBU 1022-5A DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5011.1'
FINISHED GRADE ELEVATION = 5011.0'
CUT SLOPES = 1:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.32 ACRES
TOTAL DISTURBANCE AREA = 4.93 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 11,957 C.Y.
TOTAL FILL FOR WELL PAD = 7,430 C.Y.
TOPSOIL @ 6" DEPTH = 1,654 C.Y.
EXCESS MATERIAL = 4,527 C.Y.

RESERVE PIT QUANTITIES

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

WELL PAD LEGEND

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

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

Kerr-McGee Oil & Gas Onshore, LP
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WELL PAD - NBU 1022-5A

WELL PAD - LOCATION LAYOUT
NBU 1022-5A1BS, NBU 1022-5A1CS,
NBU 1022-5H1CS, NBU 1022-5H1BS,
NBU 1022-5A4CS & NBU 1022-5A4BS
LOCATED IN SECTION 5, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

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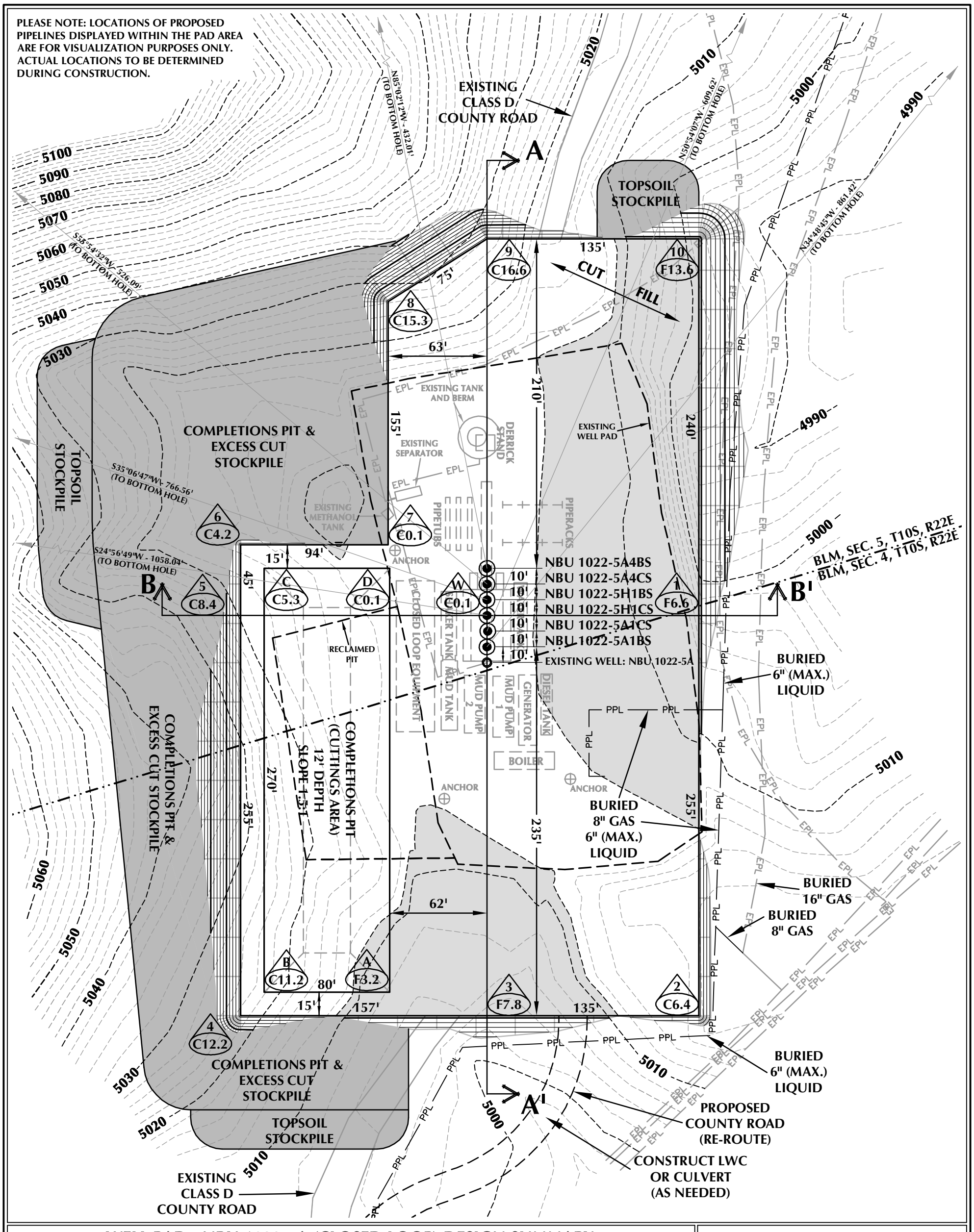
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

SCALE: 1"=60' | DATE: 10/29/12 | SHEET NO: 8
REVISED:
8 OF 18

RECEIVED: February 04, 2013



WELL PAD - NBU 1022-5A (CLOSED LOOP) DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5011.1'
FINISHED GRADE ELEVATION = 5011.0'
CUT SLOPES = 1:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.32 ACRES
TOTAL DISTURBANCE AREA = 4.93 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 11,957 C.Y.
TOTAL FILL FOR WELL PAD = 7,430 C.Y.
TOPSOIL @ 6" DEPTH = 1,654 C.Y.
EXCESS MATERIAL = 4,527 C.Y.

COMPLETIONS PIT QUANTITIES

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

WELL PAD LEGEND

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

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

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1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-5A

WELL PAD - LOCATION LAYOUT
NBU 1022-5A1BS, NBU 1022-5A1CS,
NBU 1022-5H1CS, NBU 1022-5H1BS,
NBU 1022-5A4CS & NBU 1022-5A4BS
LOCATED IN SECTION 5, 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: 10/29/12 | SHEET NO: 8A 8A OF 18
REVISED:

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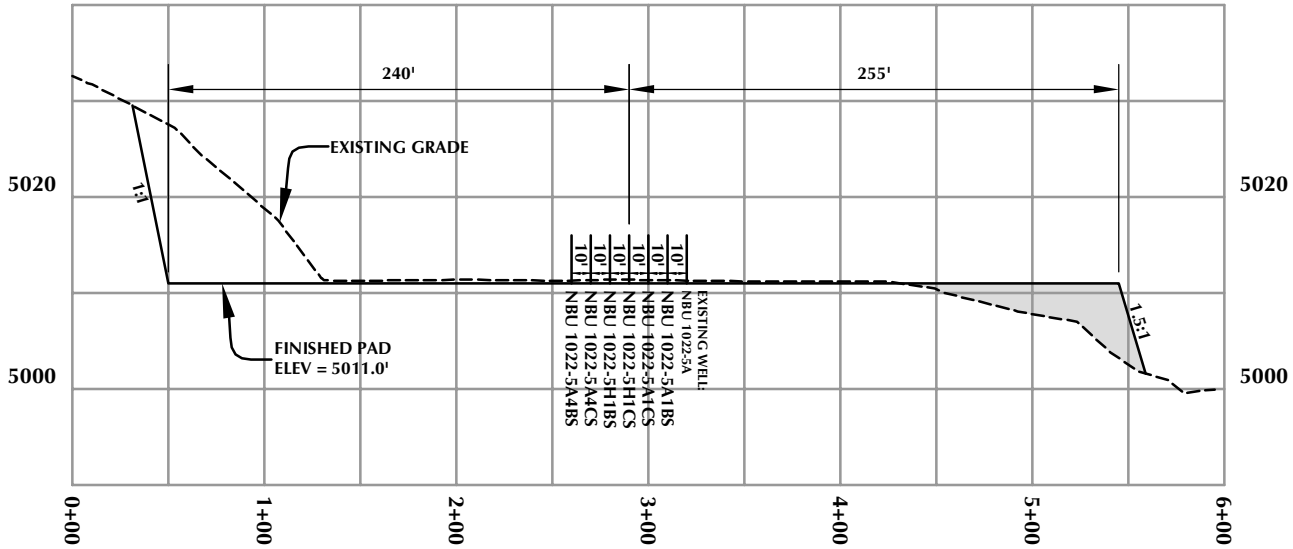
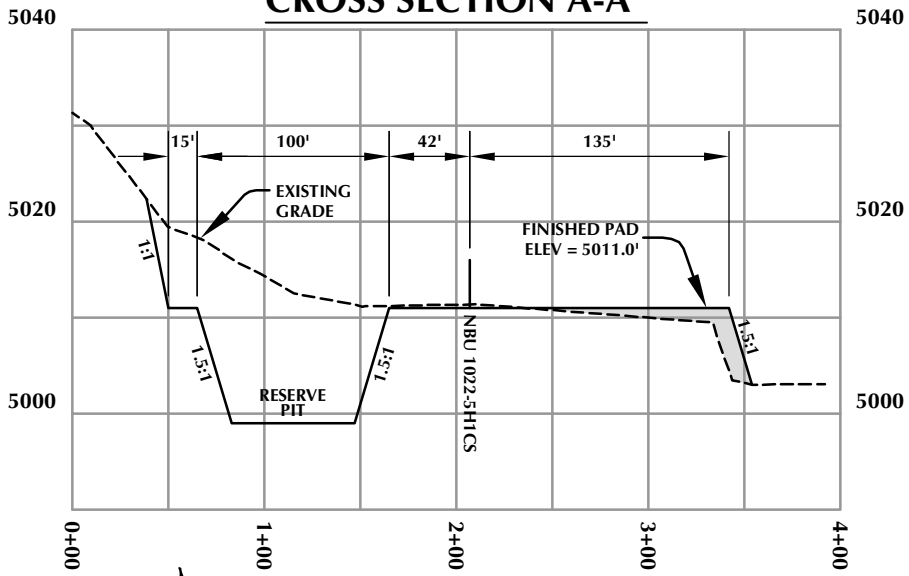
RECEIVED: February 04, 2013



CROSS SECTION A-A'



CROSS SECTION B-B'

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

WELL PAD - NBU 1022-5A

WELL PAD - CROSS SECTIONS
NBU 1022-5A1BS, NBU 1022-5A1CS,
NBU 1022-5H1CS, NBU 1022-5H1BS,
NBU 1022-5A4CS & NBU 1022-5A4BS
LOCATED IN SECTION 5, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

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CONSULTING, LLC
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HORIZONTAL 0 50' 100' 1" = 100'
VERTICAL 0 10' 20' 1" = 20'

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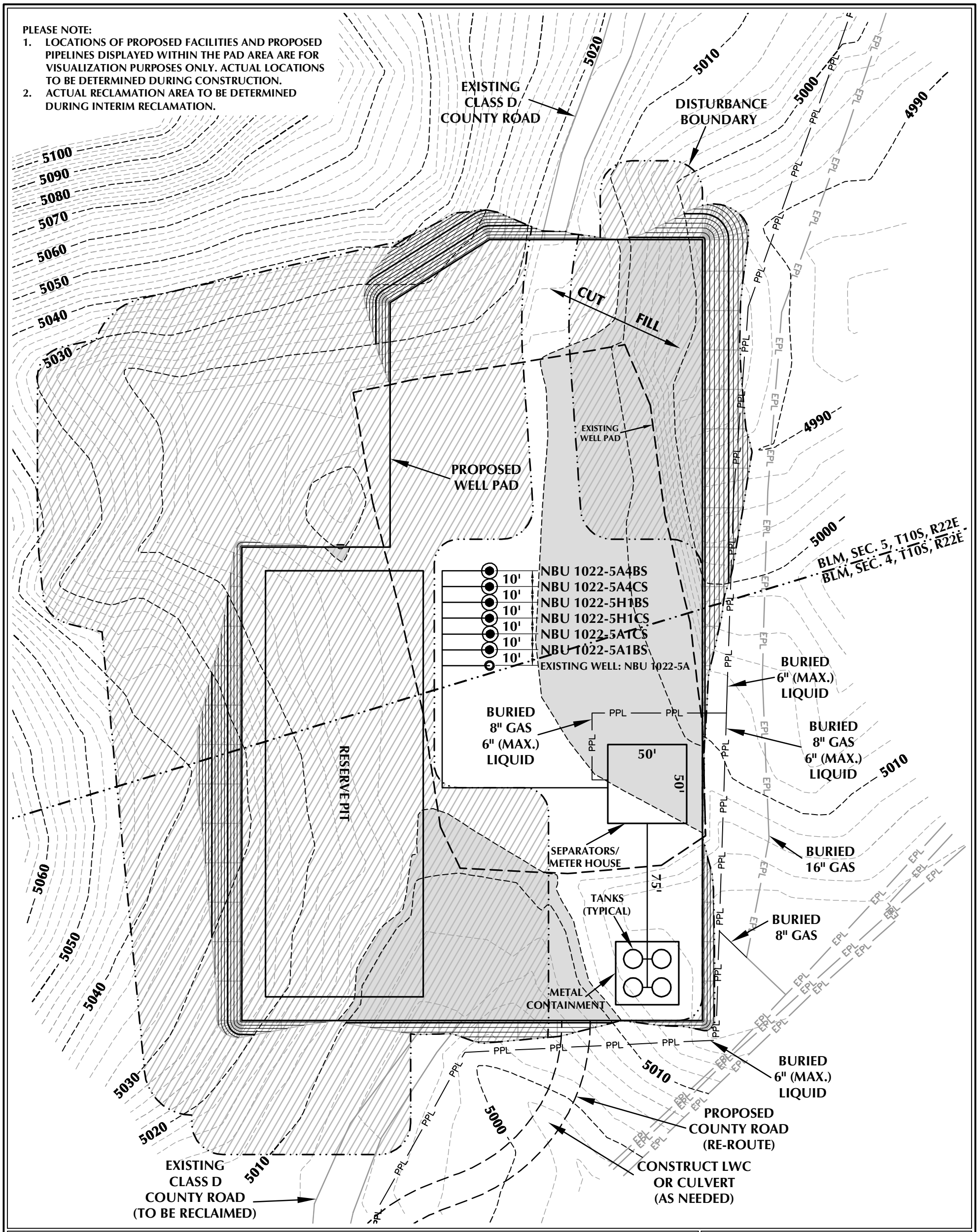
209 NORTH 300 WEST - VERNAL, UTAH 84078

Scale: 1"=100' | Date: 9/4/12 | SHEET NO: 9
REVISED:
9 OF 18

K:\ANADARKO\2012\2012_53_NBU_1022-5_FOCUS\DWGS\NBU 1022-5A\NBU 1022-5A.dwg, 9/3/2012 11:44:24 AM, andy

RECEIVED: February 04, 2013

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 1022-5A DESIGN SUMMARY

TOTAL DISTURBANCE AREA = 4.93 ACRES (INCLUDING EXISTING)
RECLAMATION AREA = 3.85 ACRES
TOTAL WELL PAD AREA AFTER RECLAMATION = 1.08 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
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WELL PAD - NBU 1022-5A

WELL PAD - RECLAMATION LAYOUT
NBU 1022-5A1BS, NBU 1022-5A1CS,
NBU 1022-5H1CS, NBU 1022-5H1BS,
NBU 1022-5A4CS & NBU 1022-5A4BS
LOCATED IN SECTION 5, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

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209 NORTH 300 WEST - VERNAL, UTAH 84078

SCALE: 1"=60'	DATE: 10/29/12	SHEET NO:
REVISED:	JID 12/21/12	10 10 OF 18

K:\ANADARKO\2012\2012-53_NBU_1022-5_FOCUS\DWGS\NBU 1022-5A\NBU 1022-5A.dwg, 12/21/2012 2:37:07 PM, jacob

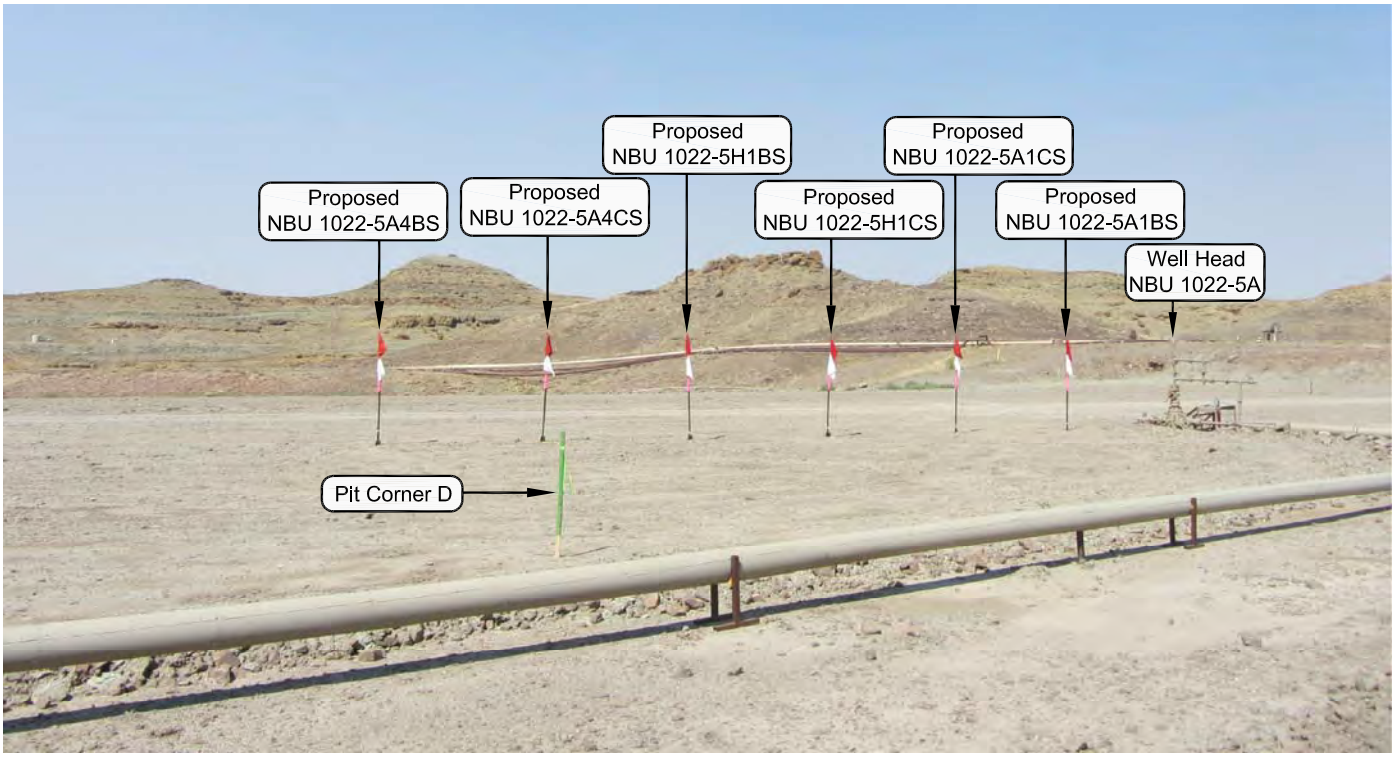

PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE **CAMERA ANGLE: NORTHEASTERLY**

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

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

WELL PAD - NBU 1022-5A

LOCATION PHOTOS
NBU 1022-5A1BS, NBU 1022-5A1CS, NBU 1022-5H1CS, NBU 1022-5H1BS, NBU 1022-5A4CS & NBU 1022-5A4BS LOCATED IN SECTION 5, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

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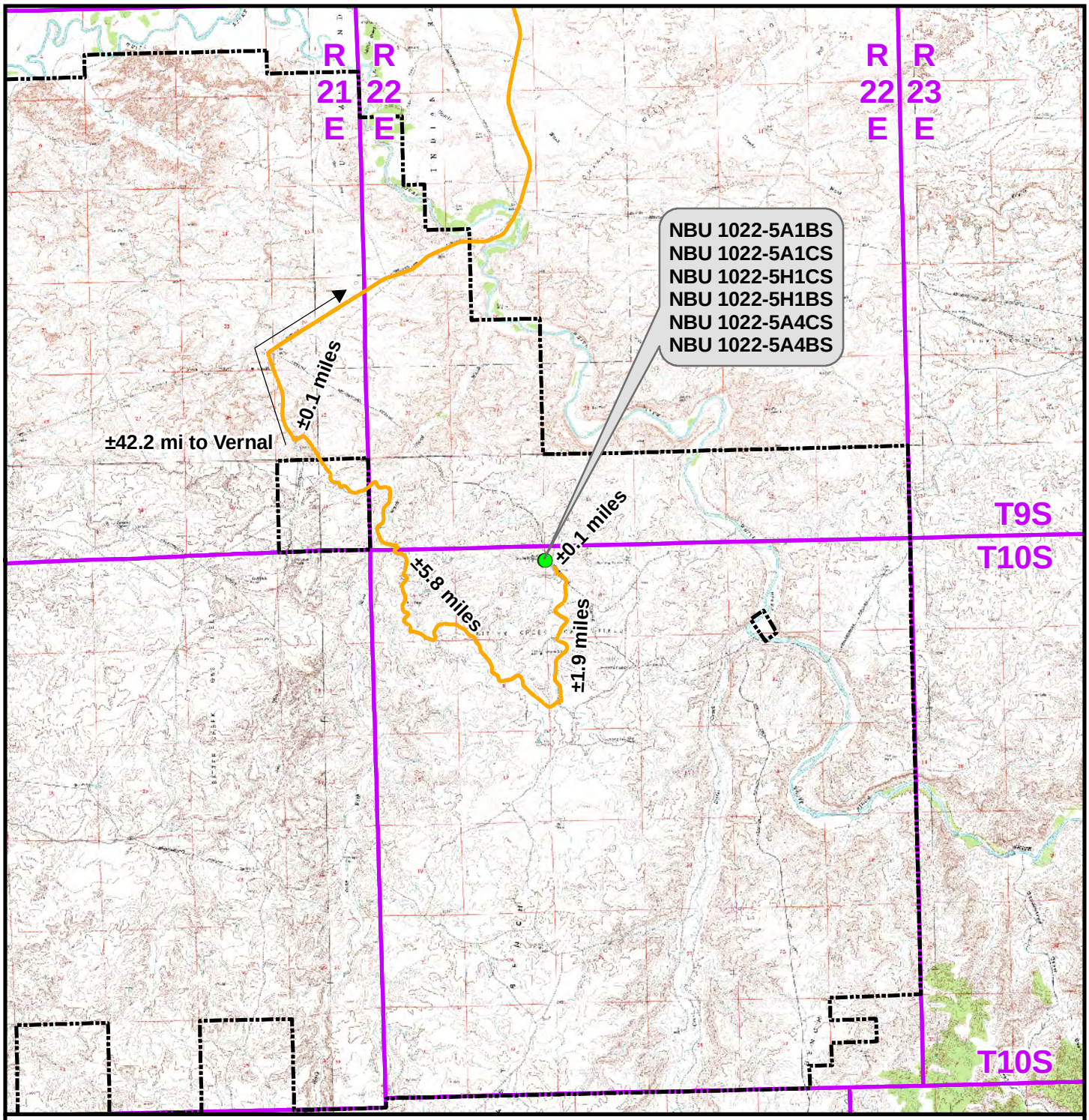
Fax 307-674-0182

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

DATE PHOTOS TAKEN: 8-7-12	PHOTOS TAKEN BY: J.W.	SHEET NO:
DATE DRAWN: 8-15-12	DRAWN BY: T.J.R.	11
Date Last Revised:		11 OF 18

RECEIVED: February 04, 2013

API Well Number: 43047535900000



Legend

Distance From Well Pad - NBU 1022-5A To Unit Boundary: ±6,086ft

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

File: K:\ANADARKO\2012\2012_53_NBU_1022-5_FOCUS\GIS\Maps_ABCDE\NBU 1022-5A\NBU 1022-5A_A.mxd, 9/3/2012 9:26:34 AM

WELL PAD - NBU 1022-5A

TOPO A
NBU 1022-5A1BS, NBU 1022-5A1CS, NBU 1022-5H1CS, NBU 1022-5H1BS, NBU 1022-5A4CS & NBU 1022-5A4BS
LOCATED IN SECTION 5, T10S, R22E S.L.B.&M., UINTAH COUNTY, UTAH

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Denver, Colorado 80202

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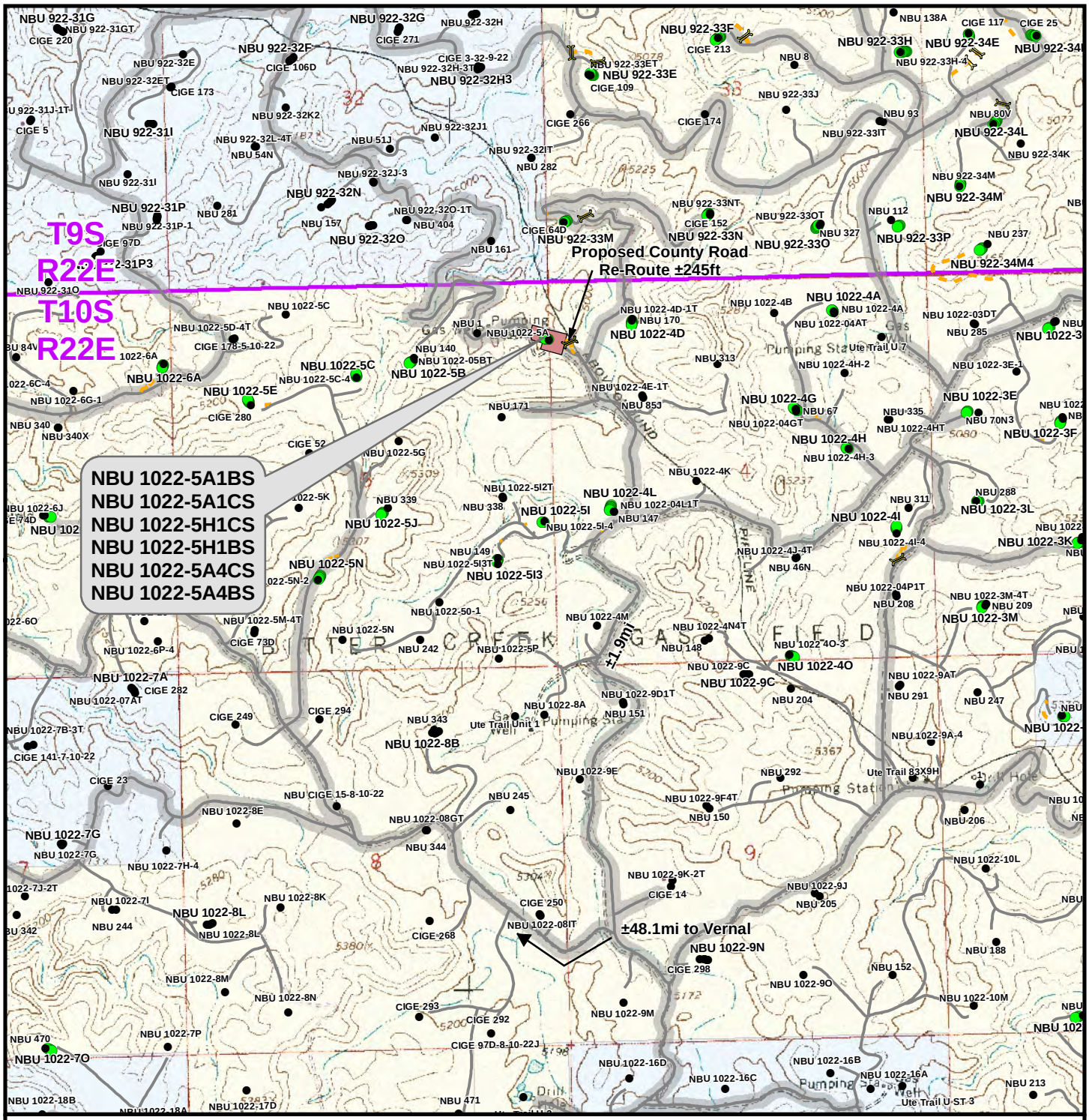
N

SCALE: 1:100,000	NAD83 USP Central	SHEET NO: 12
DRAWN: TL	DATE: 4 Sept 2012	12 OF 18
REVISED:	DATE:	

RECEIVED: February 04, 2013

API Well Number: 43047535900000



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WELL PAD - NBU 1022-5A

TOPO B

NBU 1022-5A1BS, NBU 1022-5A1CS, NBU 1022-5H1CS, NBU 1022-5H1BS, NBU 1022-5A4CS & NBU 1022-5A4BS LOCATED IN SECTION 5, T10S, R22E S.L.B.&M., UINTAH COUNTY, UTAH

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1099 18th Street
Denver, Colorado 80202

609 CONSULTING, LLC
2155 North Main Street
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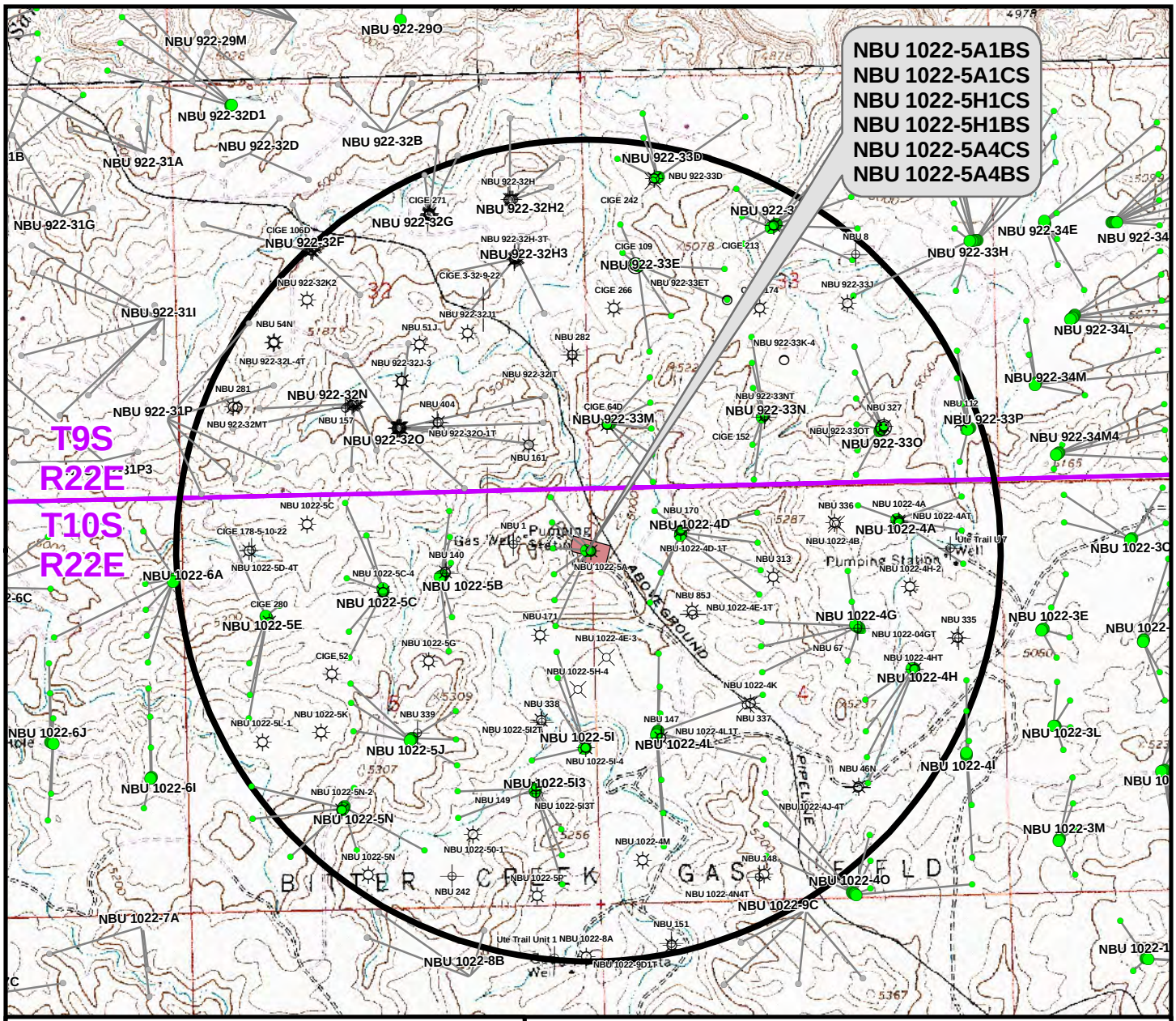
N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 13
DRAWN: TL	DATE: 4 Sept 2012	13 OF 18
REVISED:	DATE:	

RECEIVED: February 04, 2013

API Well Number: 43047535900000



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 1022-5A1BS	NBU 922-32P3AS BH	728ft
NBU 1022-5A1CS	NBU 1	571ft
NBU 1022-5H1CS	NBU 171	232ft
NBU 1022-5H1BS	NBU 171	488ft
NBU 1022-5A4CS	NBU 1022-5A	559ft
NBU 1022-5A4BS	NBU 1022-5A	491ft

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 1022-5A

TOPO C
NBU 1022-5A1BS, NBU 1022-5A1CS, NBU 1022-5H1CS, NBU 1022-5H1BS, NBU 1022-5A4CS & NBU 1022-5A4BS
LOCATED IN SECTION 5, T10S, R22E S.L.B.&M., UINTAH COUNTY, UTAH

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Denver, Colorado 80202

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N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 14
DRAWN: TL	DATE: 29 Oct 2012	14 OF 18
REVISED:	DATE:	

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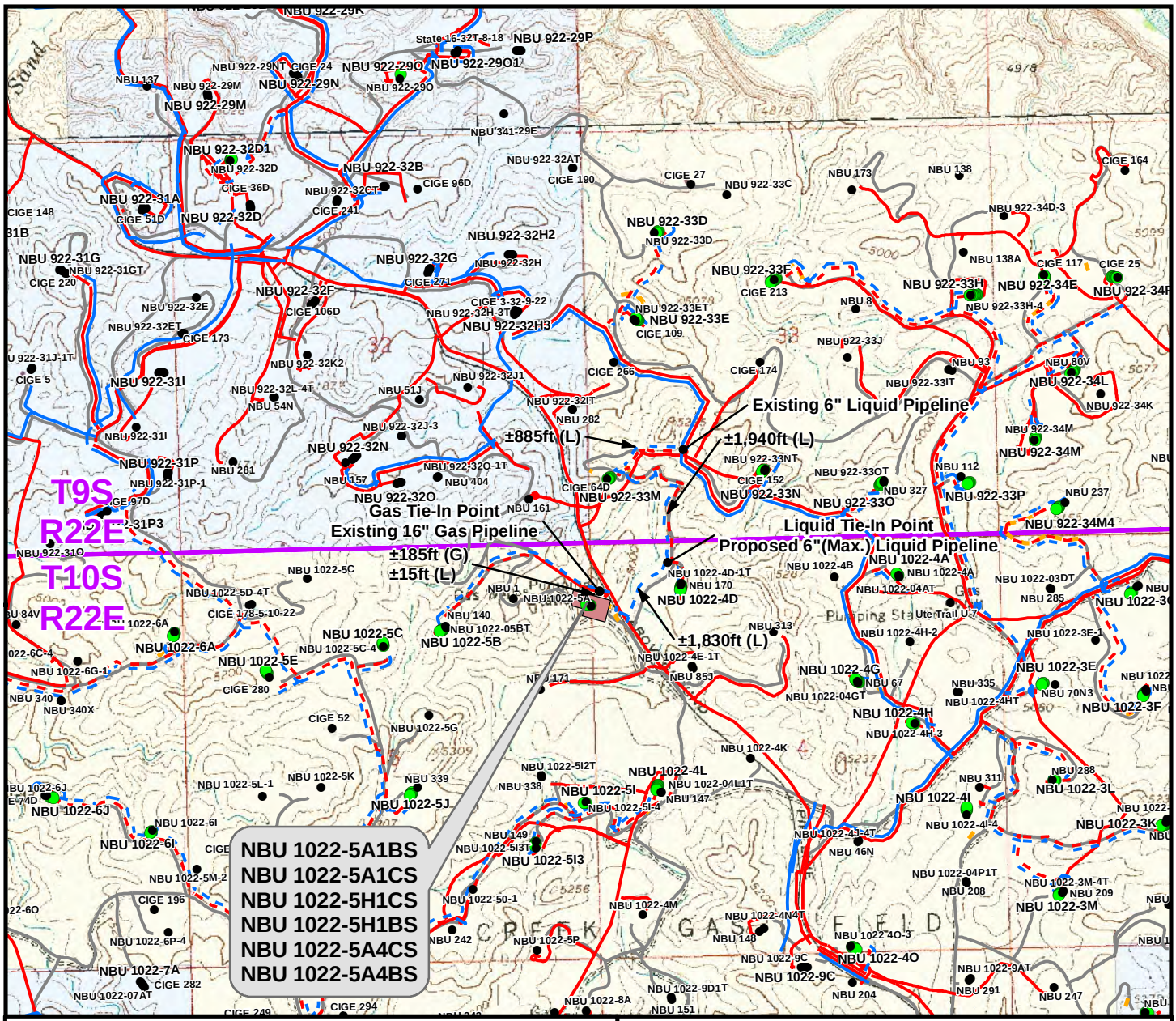
RECEIVED: February 04, 2013



Proposed Liquid Pipeline	Length
Buried 6"(Max.) (Separator to Edge of Pad)	±125ft
Buried 6"(Max.) (Edge of Pad to 5B Intersection)	±15ft
Buried 6"(Max.) (5B Intersection to 1022-4D Intersection)	±1,830ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±1,970ft

Proposed Gas Pipeline	Length
Buried 8" (Meter House to Edge of Pad)	±125ft
Buried 8" (Edge of Pad to Existing 16" Gas Pipeline)	±185ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±310ft

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 1022-5A

TOPO D
NBU 1022-5A1BS, NBU 1022-5A1CS, NBU 1022-5H1CS, NBU 1022-5H1BS, NBU 1022-5A4CS & NBU 1022-5A4BS
LOCATED IN SECTION 5, 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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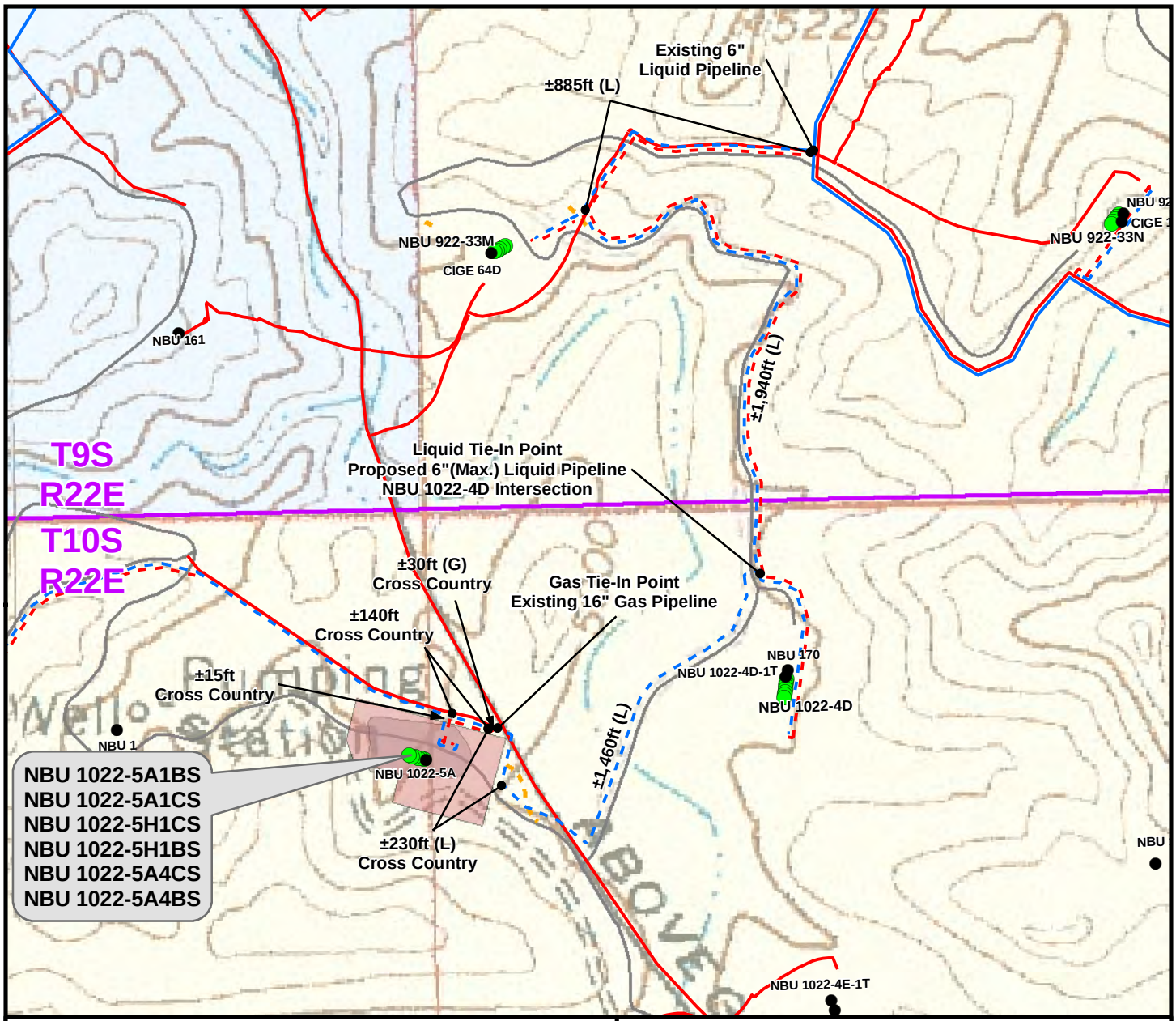
SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 15
DRAWN: TL	DATE: 29 Oct 2012	15 OF 18
REVISED:	DATE:	

File: K:\ANADARKO\2012\2012_53_NBU_1022-5_FOCUS\GIS\Maps_ABCDE\NBU 1022-5A\NBU 1022-5A_D.mxd, 10/29/2012 6:53:01 PM

RECEIVED: February 04, 2013



Proposed Liquid Pipeline	Length
Buried 6"(Max.) (Separator to Edge of Pad)	±125ft
Buried 6"(Max.) (Edge of Pad to 5B Intersection)	±15ft
Buried 6"(Max.) (5B Intersection to 1022-4D Intersection)	±1,830ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±1,970ft

Proposed Gas Pipeline	Length
Buried 8" (Meter House to Edge of Pad)	±125ft
Buried 8" (Edge of Pad to Existing 16" Gas Pipeline)	±185ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±310ft

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 1022-5A

TOPO D2 (PAD & PIPELINE DETAIL)
NBU 1022-5A1BS, NBU 1022-5A1CS,
NBU 1022-5H1CS, NBU 1022-5H1BS,
NBU 1022-5A4CS & NBU 1022-5A4BS
LOCATED IN SECTION 5, T10S, R22E
S.L.B.&M., UINTAH COUNTY, UTAH

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Denver, Colorado 80202

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Sheridan, Wyoming 82801
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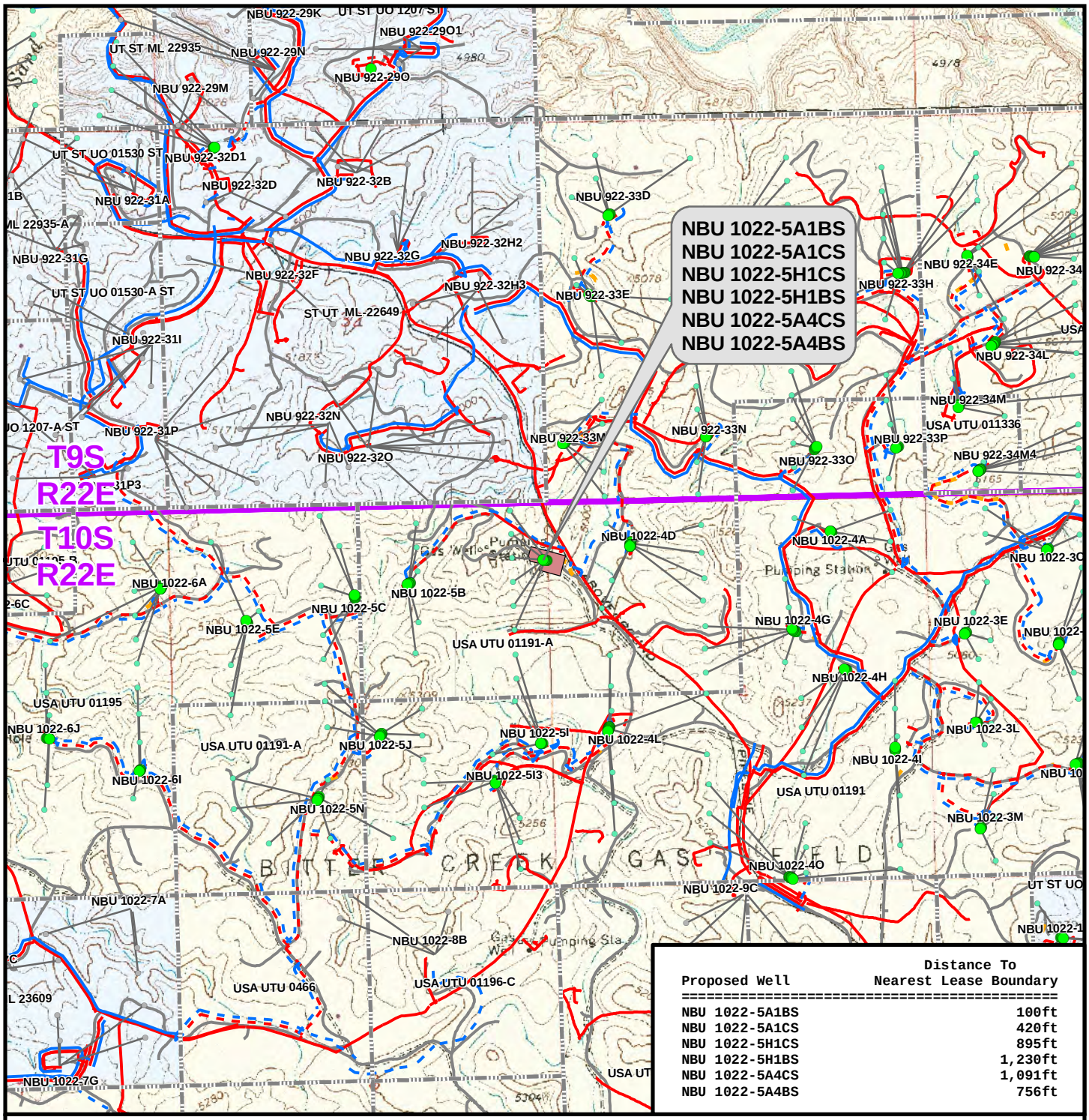
N

SCALE: 1" = 500ft	NAD83 USP Central	SHEET NO: 16
DRAWN: TL	DATE: 29 Oct 2012	16 OF 18
REVISED:	DATE:	

File: K:\ANADARKO\2012\2012_53_NBU_1022-5_FOCUS\GIS\Maps_ABCDE\NBU 1022-5A\NBU 1022-5A_D2.mxd, 9/10/2012 3:39:55 PM

RECEIVED: February 04, 2013

API Well Number: 43047535900000



Proposed Well	Distance To Nearest Lease Boundary
NBU 1022-5A1BS	100ft
NBU 1022-5A1CS	420ft
NBU 1022-5H1CS	895ft
NBU 1022-5H1BS	1,230ft
NBU 1022-5A4CS	1,091ft
NBU 1022-5A4BS	756ft

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

WELL PAD - NBU 1022-5A

TOPO E
NBU 1022-5A1BS, NBU 1022-5A1CS, NBU 1022-5H1CS, NBU 1022-5H1BS, NBU 1022-5A4CS & NBU 1022-5A4BS
LOCATED IN SECTION 5, T10S, R22E
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

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

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 17
DRAWN: TL	DATE: 29 Oct 2012	17 OF 18
REVISED:	DATE:	

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RECEIVED: February 04, 2013

Kerr-McGee Oil & Gas Onshore, LP
WELL PAD – NBU 1022-5A
WELLS - NBU 1022-5A1BS, NBU 1022-5A1CS,
NBU 1022-5H1CS, NBU 1022-5H1BS,
NBU 1022-5A4CS & NBU 1022-5A4BS
Section 5, T10S, R22E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45; exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 18.7 miles to a Class D County Road to the northeast. Exit left and proceed in a northeasterly direction along the Class D County Road approximately 0.1 miles to a second Class D County Road to the southeast. Exit right and proceed in a southeasterly direction along the second Class D County Road approximately 5.8 miles to a third Class D County Road to the north. Exit left and proceed in a northerly direction along the third Class D County Road approximately 1.9 miles to the proposed access road to the northwest. Follow road flags in a northwesterly direction approximately 245 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 50.0 miles in a southerly direction.

RECEIVED: February 04, 2013

API Well Number: 43047535000000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022 5A PAD
Well: NBU 1022-5H1BS
Wellbore: OH
Design: PLAN #1 PERMIT

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.86°

Magnetic Field
Strength: 52175.5snT
Dip Angle: 65.82°
Date: 12/19/2012
Model: IGRF2010

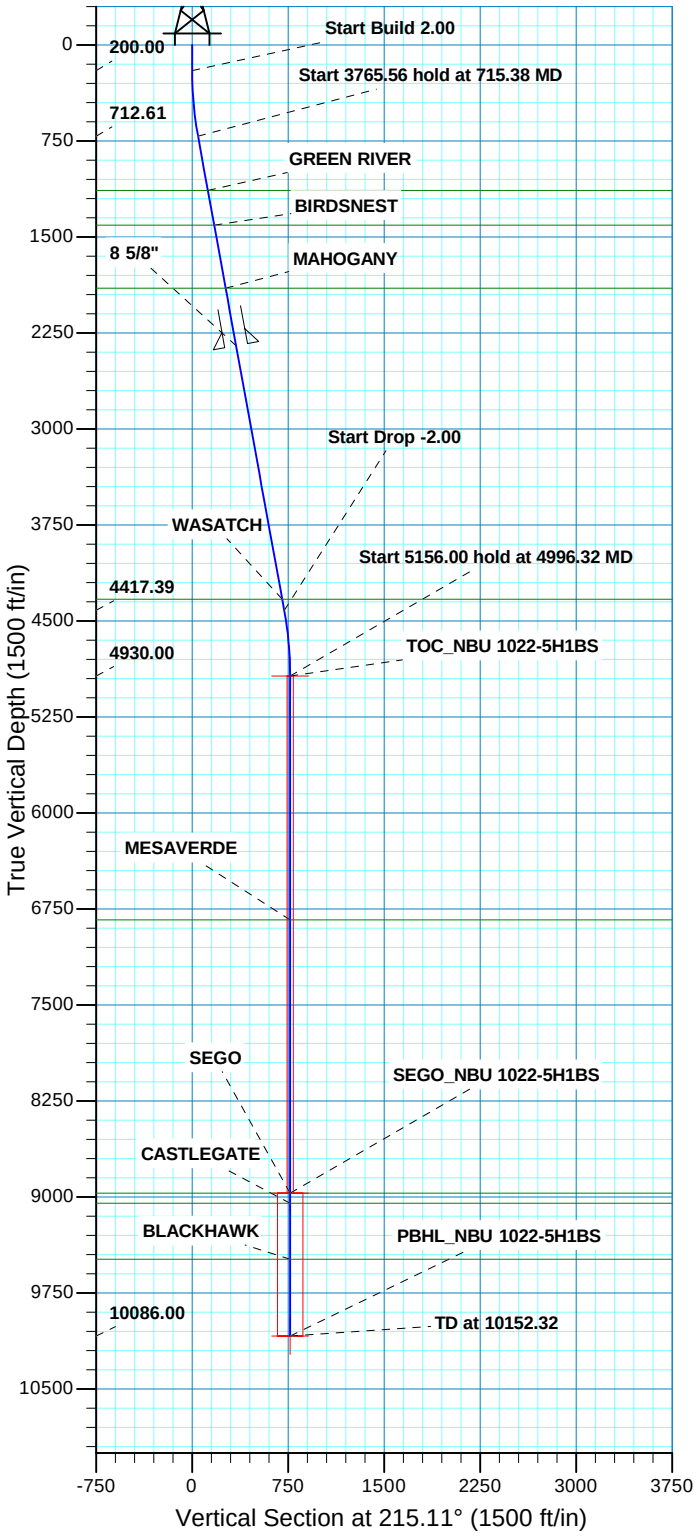
WELL DETAILS: NBU 1022-5H1BS

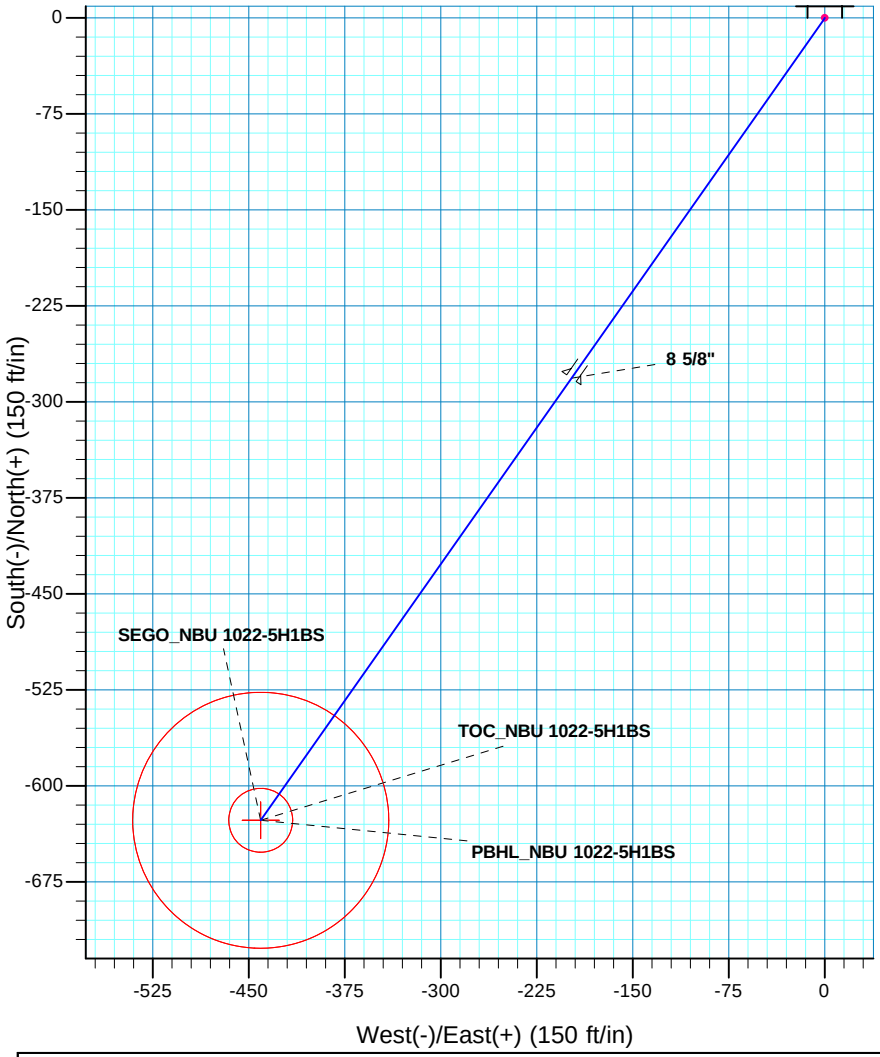
GL 5011 & KB 4 @ 5015.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523646.57	2073551.81	39.983101	-109.453825

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
TOC	4930.00	-626.80	-440.75	14523012.22	2073122.01	39.981380	-109.455398	Point
- plan hits target center								
SEGO	8970.00	-626.80	-440.75	14523012.22	2073122.01	39.981380	-109.455398	Circle (Radius: 25.00)
- plan hits target center								
PBHL	10086.00	-626.80	-440.75	14523012.22	2073122.01	39.981380	-109.455398	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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
715.38	10.31	215.11	712.61	-37.82	-26.59	2.00	215.11	46.23	
4480.94	10.31	215.11	4417.39	-588.98	-414.15	0.00	0.00	720.02	
4996.32	0.00	0.00	4930.00	-626.80	-440.75	2.00	180.00	766.25	TOC_NBU 1022-5H1BS
10152.32	0.00	0.00	10086.00	-626.80	-440.75	0.00	0.00	766.25	PBHL_NBU 1022-5H1BS

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: SECTION5 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1136.00	1145.72	GREEN RIVER
1407.00	1421.17	BIRDSNEST
1900.00	1922.25	MAHOGANY
4330.00	4392.11	WASATCH
6834.00	6900.32	MESAVERDE
8970.00	9036.32	SEGO
9049.00	9115.32	CASTLEGATE
9486.00	9552.32	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2350.00	2379.63	8 5/8"	8.625

Plan: PLAN #1 PERMIT (NBU 1022-5H1BS/OH)

Created By: Gabe Kendall Date: 14:56, December 19 2012

RECEIVED:

API Well Number: 43047535900000

Scientific Drilling

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
NBU 1022 5A PAD
NBU 1022-5H1BS

OH

Plan: PLAN #1 PERMIT

Standard Planning Report

19 December, 2012

Anadarko Petroleum Corporation

RECEIVED: February 04, 2013

Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well NBU 1022-5H1BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5011 & KB 4 @ 5015.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5011 & KB 4 @ 5015.00ft (ASSUMED)
Site:	NBU 1022 5A PAD	**North Reference:**	True
Well:	NBU 1022-5H1BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PERMIT		

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 5A PAD, SECTION 5 T10S R22E

Site Position:		**Northing:**	14,523,651.71 usft	**Latitude:**	39.983116
From:	Lat/Long	**Easting:**	2,073,532.67 usft	**Longitude:**	-109.453893
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.99 °

Well NBU 1022-5H1BS, 799 FNL 43 FEL

Well Position	**+N/-S**	-5.46 ft	**Northing:**	14,523,646.58 usft	**Latitude:**	39.983101
	+E/-W	19.05 ft	**Easting:**	2,073,551.81 usft	**Longitude:**	-109.453825
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	5,011.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/19/12	10.86	65.82	52,176

Design PLAN #1 PERMIT

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	215.11

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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
715.38	10.31	215.11	712.61	-37.82	-26.59	2.00	2.00	0.00	215.11	
4,480.94	10.31	215.11	4,417.39	-588.98	-414.15	0.00	0.00	0.00	0.00	
4,996.32	0.00	0.00	4,930.00	-626.80	-440.75	2.00	-2.00	0.00	180.00	TOC_NBU 1022-5H1I
10,152.32	0.00	0.00	10,086.00	-626.80	-440.75	0.00	0.00	0.00	0.00	PBHL_NBU 1022-5H

RECEIVED: February 04, 2013

Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well NBU 1022-5H1BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5011 & KB 4 @ 5015.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5011 & KB 4 @ 5015.00ft (ASSUMED)
Site:	NBU 1022 5A PAD	**North Reference:**	True
Well:	NBU 1022-5H1BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PERMIT		

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
Start Build 2.00									
300.00	2.00	215.11	299.98	-1.43	-1.00	1.75	2.00	2.00	0.00
400.00	4.00	215.11	399.84	-5.71	-4.01	6.98	2.00	2.00	0.00
500.00	6.00	215.11	499.45	-12.84	-9.03	15.69	2.00	2.00	0.00
600.00	8.00	215.11	598.70	-22.81	-16.04	27.88	2.00	2.00	0.00
700.00	10.00	215.11	697.47	-35.60	-25.03	43.52	2.00	2.00	0.00
715.38	10.31	215.11	712.61	-37.82	-26.59	46.23	2.00	2.00	0.00
Start 3765.56 hold at 715.38 MD									
800.00	10.31	215.11	795.86	-50.21	-35.30	61.38	0.00	0.00	0.00
900.00	10.31	215.11	894.24	-64.84	-45.60	79.27	0.00	0.00	0.00
1,000.00	10.31	215.11	992.63	-79.48	-55.89	97.16	0.00	0.00	0.00
1,100.00	10.31	215.11	1,091.02	-94.12	-66.18	115.06	0.00	0.00	0.00
1,145.72	10.31	215.11	1,136.00	-100.81	-70.89	123.24	0.00	0.00	0.00
GREEN RIVER									
1,200.00	10.31	215.11	1,189.40	-108.75	-76.47	132.95	0.00	0.00	0.00
1,300.00	10.31	215.11	1,287.79	-123.39	-86.76	150.84	0.00	0.00	0.00
1,400.00	10.31	215.11	1,386.18	-138.03	-97.06	168.74	0.00	0.00	0.00
1,421.17	10.31	215.11	1,407.00	-141.13	-99.23	172.52	0.00	0.00	0.00
BIRDSNEST									
1,500.00	10.31	215.11	1,484.56	-152.66	-107.35	186.63	0.00	0.00	0.00
1,600.00	10.31	215.11	1,582.95	-167.30	-117.64	204.52	0.00	0.00	0.00
1,700.00	10.31	215.11	1,681.33	-181.94	-127.93	222.42	0.00	0.00	0.00
1,800.00	10.31	215.11	1,779.72	-196.58	-138.23	240.31	0.00	0.00	0.00
1,900.00	10.31	215.11	1,878.11	-211.21	-148.52	258.20	0.00	0.00	0.00
1,922.25	10.31	215.11	1,900.00	-214.47	-150.81	262.18	0.00	0.00	0.00
MAHOGANY									
2,000.00	10.31	215.11	1,976.49	-225.85	-158.81	276.09	0.00	0.00	0.00
2,100.00	10.31	215.11	2,074.88	-240.49	-169.10	293.99	0.00	0.00	0.00
2,200.00	10.31	215.11	2,173.26	-255.12	-179.39	311.88	0.00	0.00	0.00
2,300.00	10.31	215.11	2,271.65	-269.76	-189.69	329.77	0.00	0.00	0.00
2,379.63	10.31	215.11	2,350.00	-281.42	-197.88	344.02	0.00	0.00	0.00
8 5/8"									
2,400.00	10.31	215.11	2,370.04	-284.40	-199.98	347.67	0.00	0.00	0.00
2,500.00	10.31	215.11	2,468.42	-299.03	-210.27	365.56	0.00	0.00	0.00
2,600.00	10.31	215.11	2,566.81	-313.67	-220.56	383.45	0.00	0.00	0.00
2,700.00	10.31	215.11	2,665.20	-328.31	-230.86	401.35	0.00	0.00	0.00
2,800.00	10.31	215.11	2,763.58	-342.94	-241.15	419.24	0.00	0.00	0.00
2,900.00	10.31	215.11	2,861.97	-357.58	-251.44	437.13	0.00	0.00	0.00
3,000.00	10.31	215.11	2,960.35	-372.22	-261.73	455.03	0.00	0.00	0.00
3,100.00	10.31	215.11	3,058.74	-386.86	-272.02	472.92	0.00	0.00	0.00
3,200.00	10.31	215.11	3,157.13	-401.49	-282.32	490.81	0.00	0.00	0.00
3,300.00	10.31	215.11	3,255.51	-416.13	-292.61	508.71	0.00	0.00	0.00
3,400.00	10.31	215.11	3,353.90	-430.77	-302.90	526.60	0.00	0.00	0.00
3,500.00	10.31	215.11	3,452.28	-445.40	-313.19	544.49	0.00	0.00	0.00
3,600.00	10.31	215.11	3,550.67	-460.04	-323.49	562.39	0.00	0.00	0.00
3,700.00	10.31	215.11	3,649.06	-474.68	-333.78	580.28	0.00	0.00	0.00
3,800.00	10.31	215.11	3,747.44	-489.31	-344.07	598.17	0.00	0.00	0.00
3,900.00	10.31	215.11	3,845.83	-503.95	-354.36	616.07	0.00	0.00	0.00
4,000.00	10.31	215.11	3,944.21	-518.59	-364.65	633.96	0.00	0.00	0.00
4,100.00	10.31	215.11	4,042.60	-533.23	-374.95	651.85	0.00	0.00	0.00

RECEIVED: February 04, 2013

Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well NBU 1022-5H1BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5011 & KB 4 @ 5015.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5011 & KB 4 @ 5015.00ft (ASSUMED)
Site:	NBU 1022 5A PAD	**North Reference:**	True
Well:	NBU 1022-5H1BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PERMIT		

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)
4,200.00	10.31	215.11	4,140.99	-547.86	-385.24	669.75	0.00	0.00	0.00
4,300.00	10.31	215.11	4,239.37	-562.50	-395.53	687.64	0.00	0.00	0.00
4,392.11	10.31	215.11	4,330.00	-575.98	-405.01	704.12	0.00	0.00	0.00
WASATCH									
4,400.00	10.31	215.11	4,337.76	-577.14	-405.82	705.53	0.00	0.00	0.00
4,480.94	10.31	215.11	4,417.39	-588.98	-414.15	720.02	0.00	0.00	0.00
Start Drop -2.00									
4,500.00	9.93	215.11	4,436.16	-591.72	-416.08	723.37	2.00	-2.00	0.00
4,600.00	7.93	215.11	4,534.94	-604.41	-425.00	738.88	2.00	-2.00	0.00
4,700.00	5.93	215.11	4,634.21	-614.28	-431.94	750.94	2.00	-2.00	0.00
4,800.00	3.93	215.11	4,733.83	-621.30	-436.88	759.53	2.00	-2.00	0.00
4,900.00	1.93	215.11	4,833.70	-625.48	-439.82	764.63	2.00	-2.00	0.00
4,996.32	0.00	0.00	4,930.00	-626.80	-440.75	766.25	2.00	-2.00	0.00
Start 5156.00 hold at 4996.32 MD - TOC_NBU 1022-5H1BS									
5,000.00	0.00	0.00	4,933.68	-626.80	-440.75	766.25	0.00	0.00	0.00
5,100.00	0.00	0.00	5,033.68	-626.80	-440.75	766.25	0.00	0.00	0.00
5,200.00	0.00	0.00	5,133.68	-626.80	-440.75	766.25	0.00	0.00	0.00
5,300.00	0.00	0.00	5,233.68	-626.80	-440.75	766.25	0.00	0.00	0.00
5,400.00	0.00	0.00	5,333.68	-626.80	-440.75	766.25	0.00	0.00	0.00
5,500.00	0.00	0.00	5,433.68	-626.80	-440.75	766.25	0.00	0.00	0.00
5,600.00	0.00	0.00	5,533.68	-626.80	-440.75	766.25	0.00	0.00	0.00
5,700.00	0.00	0.00	5,633.68	-626.80	-440.75	766.25	0.00	0.00	0.00
5,800.00	0.00	0.00	5,733.68	-626.80	-440.75	766.25	0.00	0.00	0.00
5,900.00	0.00	0.00	5,833.68	-626.80	-440.75	766.25	0.00	0.00	0.00
6,000.00	0.00	0.00	5,933.68	-626.80	-440.75	766.25	0.00	0.00	0.00
6,100.00	0.00	0.00	6,033.68	-626.80	-440.75	766.25	0.00	0.00	0.00
6,200.00	0.00	0.00	6,133.68	-626.80	-440.75	766.25	0.00	0.00	0.00
6,300.00	0.00	0.00	6,233.68	-626.80	-440.75	766.25	0.00	0.00	0.00
6,400.00	0.00	0.00	6,333.68	-626.80	-440.75	766.25	0.00	0.00	0.00
6,500.00	0.00	0.00	6,433.68	-626.80	-440.75	766.25	0.00	0.00	0.00
6,600.00	0.00	0.00	6,533.68	-626.80	-440.75	766.25	0.00	0.00	0.00
6,700.00	0.00	0.00	6,633.68	-626.80	-440.75	766.25	0.00	0.00	0.00
6,800.00	0.00	0.00	6,733.68	-626.80	-440.75	766.25	0.00	0.00	0.00
6,900.00	0.00	0.00	6,833.68	-626.80	-440.75	766.25	0.00	0.00	0.00
6,900.32	0.00	0.00	6,834.00	-626.80	-440.75	766.25	0.00	0.00	0.00
MESAVERDE									
7,000.00	0.00	0.00	6,933.68	-626.80	-440.75	766.25	0.00	0.00	0.00
7,100.00	0.00	0.00	7,033.68	-626.80	-440.75	766.25	0.00	0.00	0.00
7,200.00	0.00	0.00	7,133.68	-626.80	-440.75	766.25	0.00	0.00	0.00
7,300.00	0.00	0.00	7,233.68	-626.80	-440.75	766.25	0.00	0.00	0.00
7,400.00	0.00	0.00	7,333.68	-626.80	-440.75	766.25	0.00	0.00	0.00
7,500.00	0.00	0.00	7,433.68	-626.80	-440.75	766.25	0.00	0.00	0.00
7,600.00	0.00	0.00	7,533.68	-626.80	-440.75	766.25	0.00	0.00	0.00
7,700.00	0.00	0.00	7,633.68	-626.80	-440.75	766.25	0.00	0.00	0.00
7,800.00	0.00	0.00	7,733.68	-626.80	-440.75	766.25	0.00	0.00	0.00
7,900.00	0.00	0.00	7,833.68	-626.80	-440.75	766.25	0.00	0.00	0.00
8,000.00	0.00	0.00	7,933.68	-626.80	-440.75	766.25	0.00	0.00	0.00
8,100.00	0.00	0.00	8,033.68	-626.80	-440.75	766.25	0.00	0.00	0.00
8,200.00	0.00	0.00	8,133.68	-626.80	-440.75	766.25	0.00	0.00	0.00
8,300.00	0.00	0.00	8,233.68	-626.80	-440.75	766.25	0.00	0.00	0.00
8,400.00	0.00	0.00	8,333.68	-626.80	-440.75	766.25	0.00	0.00	0.00
8,500.00	0.00	0.00	8,433.68	-626.80	-440.75	766.25	0.00	0.00	0.00
8,600.00	0.00	0.00	8,533.68	-626.80	-440.75	766.25	0.00	0.00	0.00

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Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well NBU 1022-5H1BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5011 & KB 4 @ 5015.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5011 & KB 4 @ 5015.00ft (ASSUMED)
Site:	NBU 1022 5A PAD	**North Reference:**	True
Well:	NBU 1022-5H1BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PERMIT		

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)
8,700.00	0.00	0.00	8,633.68	-626.80	-440.75	766.25	0.00	0.00	0.00
8,800.00	0.00	0.00	8,733.68	-626.80	-440.75	766.25	0.00	0.00	0.00
8,900.00	0.00	0.00	8,833.68	-626.80	-440.75	766.25	0.00	0.00	0.00
9,000.00	0.00	0.00	8,933.68	-626.80	-440.75	766.25	0.00	0.00	0.00
9,036.32	0.00	0.00	8,970.00	-626.80	-440.75	766.25	0.00	0.00	0.00
SEGO - SEGO_NBU 1022-5H1BS									
9,100.00	0.00	0.00	9,033.68	-626.80	-440.75	766.25	0.00	0.00	0.00
9,115.32	0.00	0.00	9,049.00	-626.80	-440.75	766.25	0.00	0.00	0.00
CASTLEGATE									
9,200.00	0.00	0.00	9,133.68	-626.80	-440.75	766.25	0.00	0.00	0.00
9,300.00	0.00	0.00	9,233.68	-626.80	-440.75	766.25	0.00	0.00	0.00
9,400.00	0.00	0.00	9,333.68	-626.80	-440.75	766.25	0.00	0.00	0.00
9,500.00	0.00	0.00	9,433.68	-626.80	-440.75	766.25	0.00	0.00	0.00
9,552.32	0.00	0.00	9,486.00	-626.80	-440.75	766.25	0.00	0.00	0.00
BLACKHAWK									
9,600.00	0.00	0.00	9,533.68	-626.80	-440.75	766.25	0.00	0.00	0.00
9,700.00	0.00	0.00	9,633.68	-626.80	-440.75	766.25	0.00	0.00	0.00
9,800.00	0.00	0.00	9,733.68	-626.80	-440.75	766.25	0.00	0.00	0.00
9,900.00	0.00	0.00	9,833.68	-626.80	-440.75	766.25	0.00	0.00	0.00
10,000.00	0.00	0.00	9,933.68	-626.80	-440.75	766.25	0.00	0.00	0.00
10,100.00	0.00	0.00	10,033.68	-626.80	-440.75	766.25	0.00	0.00	0.00
10,152.32	0.00	0.00	10,086.00	-626.80	-440.75	766.25	0.00	0.00	0.00
TD at 10152.32 - PBHL_NBU 1022-5H1BS									

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
TOC_NBU 1022-5H1BS - plan hits target center - Point	0.00	0.00	4,930.00	-626.80	-440.75	14,523,012.22	2,073,122.00	39.981380	-109.455398
SEGO_NBU 1022-5H1B - plan hits target center - Circle (radius 25.00)	0.00	0.00	8,970.00	-626.80	-440.75	14,523,012.22	2,073,122.00	39.981380	-109.455398
PBHL_NBU 1022-5H1B - plan hits target center - Circle (radius 100.00)	0.00	0.00	10,086.00	-626.80	-440.75	14,523,012.22	2,073,122.00	39.981380	-109.455398

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,379.63	2,350.00	8 5/8"	8.625	11.000

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Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well NBU 1022-5H1BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5011 & KB 4 @ 5015.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5011 & KB 4 @ 5015.00ft (ASSUMED)
Site:	NBU 1022 5A PAD	**North Reference:**	True
Well:	NBU 1022-5H1BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PERMIT		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,145.72	1,136.00	GREEN RIVER			
1,421.17	1,407.00	BIRDSNEST			
1,922.25	1,900.00	MAHOGANY			
4,392.11	4,330.00	WASATCH			
6,900.32	6,834.00	MESAVERDE			
9,036.32	8,970.00	SEGO			
9,115.32	9,049.00	CASTLEGATE			
9,552.32	9,486.00	BLACKHAWK			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
200.00	200.00	0.00	0.00	Start Build 2.00
715.38	712.61	-37.82	-26.59	Start 3765.56 hold at 715.38 MD
4,480.94	4,417.39	-588.98	-414.15	Start Drop -2.00
4,996.32	4,930.00	-626.80	-440.75	Start 5156.00 hold at 4996.32 MD
10,152.32	10,086.00	-626.80	-440.75	TD at 10152.32

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

NBU 1022-5A PAD

API #		NBU 1022-5A1BS		
	Surface:	808 FNL / 14 FEL	NENE	Lot 1
	BHL:	100 FNL / 497 FEL	NENE	Lot 1
API #		NBU 1022-5A1CS		
	Surface:	805 FNL / 24 FEL	NENE	Lot 1
	BHL:	420 FNL / 492 FEL	NENE	Lot 1
API #		NBU 1022-5A4BS		
	Surface:	794 FNL / 62 FEL	NENE	Lot 1
	BHL:	756 FNL / 492 FEL	NENE	Lot 1
API #		NBU 1022-5A4CS		
	Surface:	797 FNL / 53 FEL	NENE	Lot 1
	BHL:	1091 FNL / 492 FEL	NENE	Lot 1
API #		NBU 1022-5H1BS		
	Surface:	799 FNL / 43 FEL	NENE	Lot 1
	BHL:	1426 FNL / 492 FEL	SENE	
API #		NBU 1022-5H1CS		
	Surface:	802 FNL / 33 FEL	NENE	Lot 1
	BHL:	1761 FNL / 492 FEL	SENE	

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

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

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

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

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A. Existing Roads:

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

Please refer to Topo B for existing roads.

B. New or Reconstructed Access Roads:

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

The following segments are "on-lease"

±245' (0.05 miles) – Section 4 T10S R22E (NW/4 NW/4) – On-lease UTU01191-A, County Road Re-Route from the edge of pad to the existing road to the southeast. Please refer to Topo Map B.

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 1022-5A, which is a producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on December 6, 2012. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

GAS GATHERING

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

The total gas gathering pipeline distance from the meter to the tie in point is ±310' and the individual segments are broken up as follows:

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

±125' (0.02 miles) – Section 4 T10S R22E (NW/4 NW/4) – On-lease UTU01191-A, 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.

±185' (0.04 miles) – Section 4 T10S R22E (NW/4 NW/4) – On-lease UTU01191-A, BLM surface, New 8" buried gas gathering pipeline from the edge of the pad cross country to tie-in to the existing 16" gas pipeline to the north. Please refer to Exhibit A, Line 12.

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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 ±1,970' and the individual segments are broken up as follows:

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

±125' (0.02 miles) – Section 4 T10S R22E (NW/4 NW/4) – On-lease UTU01191-A, 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.

±385' (0.1 miles) – Section 4 T10S R22E (NW/4 NW/4) – On-lease UTU01191-A, BLM surface, New 6" buried liquid gathering pipeline from the edge of the pad to the 1022-5B intersection, then traveling cross country to the east side of the well pad. This pipeline will used concurrently with the NBU 1022-5B pad. Please refer to Exhibit B, Line 11 and Line 12.

±1,460' (0.3 miles) – Section 4 T10S R22E (NW/4 NW/4) – On-lease UTU01191-A, BLM surface, New 6" buried liquid gathering pipeline from the east side of the proposed well pad to tie-in to the proposed 6" liquid pipeline to the northeast at the NBU 1022-4D intersection. This pipeline will be used concurrently with the NBU 1022-5B Pad. Please refer to Exhibit B, Line 10.

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.

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H. Ancillary Facilities:

No additional ancillary facilities are planned for this location.

I. Well Site Layout:

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

J. Plans for Surface Reclamation:

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

Interim Reclamation

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

Final Reclamation

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

Measures Common to Interim and Final Reclamation

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

Weed Control

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

Monitoring

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

K. Surface/Mineral Ownership:

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

L. Other Information:

Cultural and Paleontological Resources

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

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Resource Reports:

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

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

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

Proposed Action Annual Emissions Tables:

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

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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

December 17, 2012
Date

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:
3160
(UT-922)

February 26, 2013

Memorandum

To: Assistant Field Office Manager Minerals, Vernal Field Office

From: Michael Coulthard, Petroleum Engineer

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

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

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
NBU 1022-5A PAD		
43-047-53530	NBU 1022-5A1BS	Sec 05 T10S R22E 0808 FNL 0014 FEL
		BHL Sec 05 T10S R22E 0100 FNL 0497 FEL
43-047-53531	NBU 1022-5A4BS	Sec 05 T10S R22E 0794 FNL 0062 FEL
		BHL Sec 05 T10S R22E 0756 FNL 0492 FEL
43-047-53532	NBU 1022-5A1CS	Sec 05 T10S R22E 0805 FNL 0024 FEL
		BHL Sec 05 T10S R22E 0420 FNL 0492 FEL
43-047-53589	NBU 1022-5H1CS	Sec 05 T10S R22E 0802 FNL 0033 FEL
		BHL Sec 05 T10S R22E 1761 FNL 0492 FEL
43-047-53590	NBU 1022-5H1BS	Sec 05 T10S R22E 0799 FNL 0043 FEL
		BHL Sec 05 T10S R22E 1426 FNL 0492 FEL
43-047-53591	NBU 1022-5A4CS	Sec 05 T10S R22E 0797 FNL 0053 FEL
		BHL Sec 05 T10S R22E 1091 FNL 0492 FEL
NBU 1022-5J PAD		
43-047-53563	NBU 1022-5J1BS	Sec 05 T10S R22E 2136 FSL 2386 FEL
		BHL Sec 05 T10S R22E 2464 FSL 1817 FEL
43-047-53564	NBU 1022-5F4CS	Sec 05 T10S R22E 2115 FSL 2408 FEL
		BHL Sec 05 T10S R22E 2439 FNL 2143 FWL
43-047-53598	NBU 1022-5K1CS	Sec 05 T10S R22E 2102 FSL 2423 FEL
		BHL Sec 05 T10S R22E 2246 FSL 2160 FWL
43-047-53599	NBU 1022-5K1BS	Sec 05 T10S R22E 2109 FSL 2415 FEL
		BHL Sec 05 T10S R22E 2604 FSL 2144 FWL

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API #	WELL NAME	LOCATION

(Proposed PZ WASATCH-MESA VERDE)

NBU 1022-5J PAD

43-047-53600	NBU 1022-5J4BS	Sec 05 T10S R22E 2122 FSL 2400 FEL
		BHL Sec 05 T10S R22E 1765 FSL 1816 FEL
43-047-53601	NBU 1022-5J1CS	Sec 05 T10S R22E 2129 FSL 2393 FEL
		BHL Sec 05 T10S R22E 2101 FSL 1816 FEL

NBU 1022-5I3 PAD

43-047-53565	NBU 1022-5P4CS	Sec 05 T10S R22E 1410 FSL 0824 FEL
		BHL Sec 05 T10S R22E 0205 FSL 0499 FEL
43-047-53566	NBU 1022-5P4BS	Sec 05 T10S R22E 1420 FSL 0821 FEL
		BHL Sec 05 T10S R22E 0586 FSL 0494 FEL
43-047-53567	NBU 1022-5P1CS	Sec 05 T10S R22E 1429 FSL 0818 FEL
		BHL Sec 05 T10S R22E 0921 FSL 0494 FEL
43-047-53568	NBU 1022-5O1BS	Sec 05 T10S R22E 1439 FSL 0815 FEL
		BHL Sec 05 T10S R22E 1093 FSL 1818 FEL
43-047-53569	NBU 1022-5J4CS	Sec 05 T10S R22E 1448 FSL 0812 FEL
		BHL Sec 05 T10S R22E 1429 FSL 1817 FEL

NBU 1022-5I PAD

43-047-53570	NBU 1022-5I3AS	Sec 05 T10S R22E 1944 FSL 0185 FEL
		BHL Sec 05 T10S R22E 1809 FSL 0852 FEL
43-047-53571	NBU 1022-5I1BS	Sec 05 T10S R22E 1947 FSL 0175 FEL
		BHL Sec 05 T10S R22E 2543 FSL 0517 FEL
43-047-53572	NBU 1022-5H4CS	Sec 05 T10S R22E 1950 FSL 0166 FEL
		BHL Sec 05 T10S R22E 2432 FNL 0493 FEL
43-047-53573	NBU 1022-5H4BS	Sec 05 T10S R22E 1954 FSL 0156 FEL
		BHL Sec 05 T10S R22E 2097 FNL 0492 FEL

NBU 1022-5E PAD

43-047-53575	NBU 1022-5E4CS	Sec 05 T10S R22E 1568 FNL 1089 FWL
		BHL Sec 05 T10S R22E 2555 FNL 0846 FWL
43-047-53576	NBU 1022-5E4BS	Sec 05 T10S R22E 1559 FNL 1085 FWL
		BHL Sec 05 T10S R22E 2150 FNL 0854 FWL
43-047-53577	NBU 1022-5E1AS	Sec 05 T10S R22E 1550 FNL 1080 FWL
		BHL Sec 05 T10S R22E 1410 FNL 1260 FWL
43-047-53578	NBU 1022-5D2DS	Sec 05 T10S R22E 1542 FNL 1075 FWL
		BHL Sec 05 T10S R22E 0435 FNL 0628 FWL

NBU 1022-5C Pad

43-047-53579	NBU 1022-5F4BS	Sec 05 T10S R22E 1261 FNL 2602 FWL
		BHL Sec 05 T10S R22E 2102 FNL 2143 FWL
43-047-53580	NBU 1022-5F1CS	Sec 05 T10S R22E 1251 FNL 2600 FWL
		BHL Sec 05 T10S R22E 1766 FNL 2142 FWL
43-047-53581	NBU 1022-5C4BS	Sec 05 T10S R22E 1241 FNL 2597 FWL
		BHL Sec 05 T10S R22E 1081 FNL 2140 FWL
43-047-53582	NBU 1022-5C1DS	Sec 05 T10S R22E 1222 FNL 2593 FWL
		BHL Sec 05 T10S R22E 0532 FNL 2413 FWL
43-047-53583	NBU 1022-5C1BS	Sec 05 T10S R22E 1232 FNL 2595 FWL
		BHL Sec 05 T10S R22E 0115 FNL 2150 FWL

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API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

NBU 1022-5B PAD

43-047-53584 NBU 1022-5G4BS Sec 05 T10S R22E 1087 FNL 1961 FEL
BHL Sec 05 T10S R22E 2052 FNL 1878 FEL

43-047-53585 NBU 1022-5G1BS Sec 05 T10S R22E 1084 FNL 1951 FEL
BHL Sec 05 T10S R22E 1617 FNL 1823 FEL

43-047-53586 NBU 1022-5B4BS Sec 05 T10S R22E 1075 FNL 1923 FEL
BHL Sec 05 T10S R22E 0921 FNL 1811 FEL

43-047-53587 NBU 1022-5B1CS Sec 05 T10S R22E 1078 FNL 1932 FEL
BHL Sec 05 T10S R22E 0586 FNL 1810 FEL

43-047-53588 NBU 1022-5B1BS Sec 05 T10S R22E 1081 FNL 1942 FEL
BHL Sec 05 T10S R22E 0247 FNL 1804 FEL

NBU 1022-5N PAD

43-047-53592 NBU 1022-5O3AS Sec 05 T10S R22E 1269 FSL 2004 FWL
BHL Sec 05 T10S R22E 0680 FSL 2260 FEL

43-047-53593 NBU 1022-5N1CS Sec 05 T10S R22E 1260 FSL 1999 FWL
BHL Sec 05 T10S R22E 0701 FSL 2151 FWL

43-047-53594 NBU 1022-5M4AS Sec 05 T10S R22E 1235 FSL 1982 FWL
BHL Sec 05 T10S R22E 0638 FSL 1295 FWL

43-047-53595 NBU 1022-5M1BS Sec 05 T10S R22E 1243 FSL 1988 FWL
BHL Sec 05 T10S R22E 1141 FSL 0825 FWL

43-047-53596 NBU 1022-5L4CS Sec 05 T10S R22E 1252 FSL 1993 FWL
BHL Sec 05 T10S R22E 1557 FSL 0826 FWL

43-047-53597 NBU 1022-5K4CS Sec 05 T10S R22E 1277 FSL 2009 FWL
BHL Sec 05 T10S R22E 1508 FSL 2148 FWL

NBU 921-21B PAD

43-047-53604 NBU 921-21A1BS Sec 21 T09S R21E 0651 FNL 2056 FEL
BHL Sec 21 T09S R21E 0085 FNL 0495 FEL

43-047-53608 NBU 921-21B4CS Sec 21 T09S R21E 0650 FNL 2086 FEL
BHL Sec 21 T09S R21E 1243 FNL 1822 FEL

43-047-53609 NBU 921-21B1BS Sec 21 T09S R21E 0650 FNL 2066 FEL
BHL Sec 21 T09S R21E 0249 FNL 1822 FEL

43-047-53622 NBU 921-21B4BS Sec 21 T09S R21E 0650 FNL 2076 FEL
BHL Sec 21 T09S R21E 0911 FNL 1822 FEL

NBU 921-21C PAD

43-047-53605 NBU 921-21C4BS Sec 21 T09S R21E 0978 FNL 1707 FWL
BHL Sec 21 T09S R21E 0745 FNL 2153 FWL

43-047-53606 NBU 921-21C1CS Sec 21 T09S R21E 0975 FNL 1698 FWL
BHL Sec 21 T09S R21E 0414 FNL 2152 FWL

43-047-53607 NBU 921-21C1BS Sec 21 T09S R21E 0972 FNL 1688 FWL
BHL Sec 21 T09S R21E 0084 FNL 2152 FWL

43-047-53613 NBU 921-21D4CS Sec 21 T09S R21E 0969 FNL 1679 FWL
BHL Sec 21 T09S R21E 1240 FNL 0826 FWL

RECEIVED: February 26, 2013

API #	WELL NAME	LOCATION

(Proposed PZ WASATCH-MESA VERDE)

NBU 921-21D PAD

43-047-53610	NBU 921-21D1CS	Sec 21 T09S R21E 0243 FNL 1065 FWL
		BHL Sec 21 T09S R21E 0578 FNL 0826 FWL
43-047-53611	NBU 921-21D1BS	Sec 21 T09S R21E 0240 FNL 1056 FWL
		BHL Sec 21 T09S R21E 0248 FNL 0826 FWL
43-047-53623	NBU 921-21D4BS	Sec 21 T09S R21E 0246 FNL 1075 FWL
		BHL Sec 21 T09S R21E 0929 FNL 0826 FWL

NBU 921-21G PAD

43-047-53624	NBU 921-21H1CS	Sec 21 T09S R21E 1766 FNL 1748 FEL
		BHL Sec 21 T09S R21E 1743 FNL 0495 FEL
43-047-53625	NBU 921-21G4BS	Sec 21 T09S R21E 1760 FNL 1768 FEL
		BHL Sec 21 T09S R21E 2237 FNL 1823 FEL
43-047-53626	NBU 921-21G1CS	Sec 21 T09S R21E 1757 FNL 1777 FEL
		BHL Sec 21 T09S R21E 1906 FNL 1822 FEL
43-047-53627	NBU 921-21G1BS	Sec 21 T09S R21E 1754 FNL 1787 FEL
		BHL Sec 21 T09S R21E 1574 FNL 1822 FEL

NBU 921-21F PAD

43-047-53628	NBU 921-21F4BS	Sec 21 T09S R21E 1613 FNL 2171 FWL
		BHL Sec 21 T09S R21E 2070 FNL 2154 FWL
43-047-53629	NBU 921-21F1CS	Sec 21 T09S R21E 1612 FNL 2161 FWL
		BHL Sec 21 T09S R21E 1739 FNL 2153 FWL
43-047-53630	NBU 921-21F1BS	Sec 21 T09S R21E 1615 FNL 2181 FWL
		BHL Sec 21 T09S R21E 1407 FNL 2153 FWL
43-047-53631	NBU 921-21C4CS	Sec 21 T09S R21E 1616 FNL 2191 FWL
		BHL Sec 21 T09S R21E 1076 FNL 2153 FWL

Michael L. Coulthard

Digitally signed by Michael L. Coulthard
DN: cn=Michael L. Coulthard, o=Bureau of Land Management, ou=Branch of Minerals, email=Michael_Coulthard@blm.gov, c=US
Date: 2013.02.26 08:11:16 -07'00'

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

MCoulthard:mc:2-26-13

RECEIVED: February 26, 2013

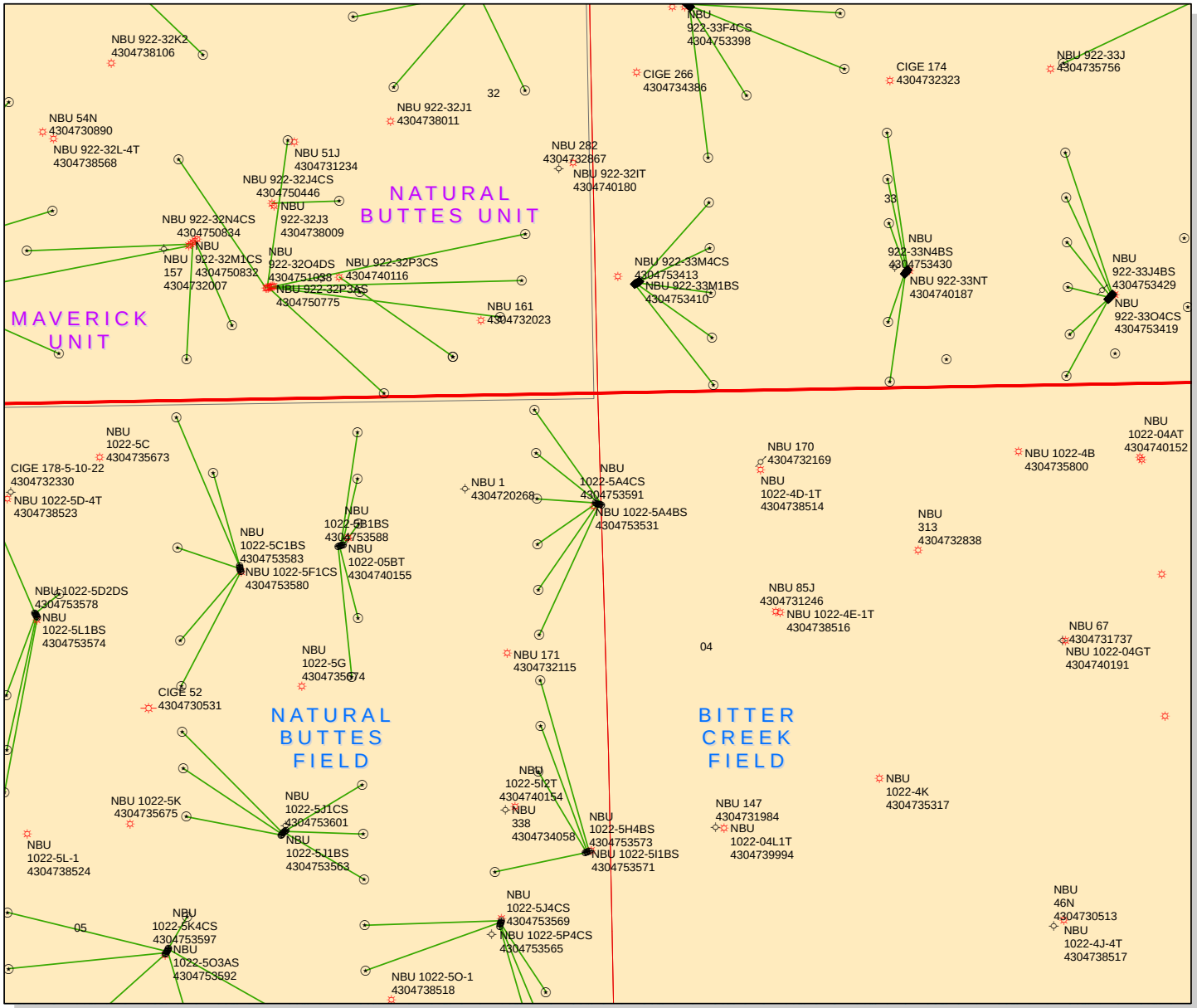
API NUMBER	WELL NAME	SURFACE LOCATION
43-047-53530	NBU 1022-5A1BS	Sec 05 T10S R22E 0808 FNL 0014 FEL
43-047-53531	NBU 1022-5A4BS	Sec 05 T10S R22E 0794 FNL 0062 FEL
43-047-53532	NBU 1022-5A1CS	Sec 05 T10S R22E 0805 FNL 0024 FEL
43-047-53563	NBU 1022-5J1BS	Sec 05 T10S R22E 2136 FSL 2386 FEL
43-047-53564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

RECEIVED: February 26, 2013

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

RECEIVED: February 26, 2013

API Well Number: 43047535900000



API Number: 4304753590

Well Name: NBU 1022-5H1BS

Township T10.0S Range R22.0E Section 05

Meridian: SLBM

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

Map Prepared:
Map Produced by Diana Mason

Units

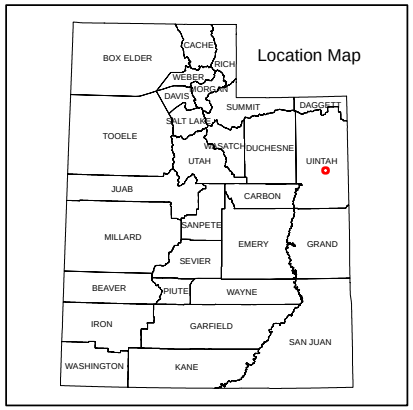
STATUS

- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

Fields

STATUS

- Unknown
- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- STORAGE
- TERMINATED



950 475 0 950 Feet

1:9,123

RECEIVED: February 26, 2013

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 2/6/2013
API NO. ASSIGNED: 43047535900000
WELL NAME: NBU 1022-5H1BS
OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)
PHONE NUMBER: 720 929-6086
CONTACT: Gina Becker

PROPOSED LOCATION: NENE 05 100S 220E
Permit Tech Review: ✔

SURFACE: 0799 FNL 0043 FEL
Engineering Review: ✔

BOTTOM: 1426 FNL 0492 FEL
Geology Review: ✔

COUNTY: UINTAH
LATITUDE: 39.98302
LONGITUDE: -109.45444
UTM SURF EASTINGS: 631964.00
NORTHINGS: 4427016.00
FIELD NAME: NATURAL BUTTES
LEASE TYPE: 1 - Federal
LEASE NUMBER: UTU-01191-A
PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE
SURFACE OWNER: 1 - Federal
COALBED METHANE: NO

RECEIVED AND/OR REVIEWED:

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

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: March 12, 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 1022-5H1BS
API Well Number: 43047535900000
Lease Number: UTU-01191-A
Surface Owner: FEDERAL
Approval Date: 3/12/2013

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

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

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

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

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

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

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

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

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

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

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

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

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

Approved By:

For John Rogers
Associate Director, Oil & Gas

Form 3160-3
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER

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

5. Lease Serial No.
UTU01191A

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.
NBU 1022-5H1BS

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

9. API Well No.
43 047 53590

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 NENE Lot 1 799FNL 43FEL 39.983066 N Lat, 109.454509 W Lon

At proposed prod. zone SENE 1426FNL 492FEL 39.981345 N Lat, 109.456082 W Lon

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

14. Distance in miles and direction from nearest town or post office*
APPROXIMATELY 50 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 drlg. unit line, if any)
1230

16. No. of Acres in Lease
1363.20

17. Spacing Unit dedicated to this well

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.
488

19. Proposed Depth
10152 MD
10086 TVD

20. BLM/BIA Bond No. on file
WYB000291

21. Elevations (Show whether DF, KB, RT, GL, etc.
5011 GL

22. Approximate date work will start
06/01/2012

23. Estimated duration
60-90 DAYS

24. Attachments

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

1. Well plat certified by a registered surveyor.
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
01/03/2013

Title
REGULATORY ANALYST II

Approved by (Signature)

Name (Printed/Typed)
Jerry Kenczka

Date
JUN 04 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)

RECEIVED
JUN 07 2013
DIV. OF OIL, GAS & MINING

Electronic Submission #175836 verified by the BLM Well Information System
For KERR-MCGEE OIL & GAS ONSHORE, sent to the Vernal
Committed to AFMSS for processing by ROBIN R. HANSEN on 01/14/2013 ()

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**	**Location:**	**NENE, Sec. LOT 1, T10S, R22E**
Well No:	**NBU 1022-5H1BS**	**Lease No:**	**UTU-01191A**
API No:	**43-047-53590**	**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 1022-6C, 1022-6D, 1022-5A, and 1022-5B: Construction and development activities will be prohibited from 3/1 through 8/15, pending the results of a preconstruction nest occupancy survey (BLM 2012b; BLM 2008a).

DOWNHOLE PROGRAM
CONDITIONS OF APPROVAL (COAs)

SITE SPECIFIC DOWNHOLE COAs:

- Gamma Ray Log shall be run from Total Depth to Surface.
- CBL will be run from TD to TOC.

Kerr-McGee Oil & Gas Onshore L.P. shall adhere to all referenced requirements in the SOP (version: "Standard Operating Practice Agreements for the Greater Natural Buttes Field", Oct 21, 2012). The operator shall also comply with applicable laws and regulations; with lease terms Onshore Oil and Gas Orders, NTL's; and with other orders and instructions of the authorized officer.

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

DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

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

- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.

- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.

- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.

- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.

- **Please submit an electronic copy of all other logs run on this well 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.

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01191-A

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 1022-5H1BS

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

9. API NUMBER: 43047535900000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779
PHONE NUMBER: 720 929-6515 EXT

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0799 FNL 0043 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NENE Section: 05 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:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
✓ SPUD REPORT Date of Spud: 1/2/2014	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ 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.

Spud well 01/02/2014 @ 16:00. Drill 24" conductor hole to 40', run 14" X .250 wall conductor pipe, cement with 81 sacks ready mix.
Anticipated surface spud date and surface casing cement 01/18/2014.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
January 06, 2014

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Doreen Green	435 781-9758	Regulatory Analyst II

SIGNATURE	DATE
N/A	1/6/2014

RECEIVED: Jan. 06, 2014

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01191-A

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 1022-5H1BS

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

9. API NUMBER: 43047535900000

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: 0799 FNL 0043 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NENE Section: 05 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

- ☐ NOTICE OF INTENT — Approximate date work will start:
- ✓ SUBSEQUENT REPORT — Date of Work Completion: 5/29/2014
- ☐ SPUD REPORT — Date of Spud:
- ☐ DRILLING REPORT — Report Date:

TYPE OF ACTION

☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
✓ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ 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.

The NBU 1022-5H1BS was placed on production 05/29/2014 after a new well completion. Producing from the BLACKHAWK/MESAVERDE.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
June 03, 2014

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Teena Paulo	720 929-6236	Staff Regulatory Specialist
SIGNATURE N/A		**DATE** 6/2/2014

RECEIVED: Jun. 02, 2014

Form 3160-4
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No. UTU01191A

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

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No. UTU63047A

2. Name of Operator KERR-MCGEE OIL AND GAS ONSHORE LP
Contact: ILA BEALE
E-Mail: ila.beale@anadarko.com

8. Lease Name and Well No. NBU 1022-5H1BS

3. Address P.O. BOX 173779
DENVER, CO 82017

3a. Phone No. (include area code) Ph: 720-929-6000

9. API Well No. 43-047-53590

4. Location of Well (Report location clearly and in accordance with Federal requirements)*
At surface NENE 799FNL 43FEL 39.983066 N Lat, 109.454509 W Lon
At top prod interval reported below SENE 1418FNL 492FEL
At total depth SENE 1474FNL 466FEL

10. Field and Pool, or Exploratory NATURAL BUTTES

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

12. County or Parish UINTAH

13. State UT

14. Date Spudded 01/02/2014

15. Date T.D. Reached 02/26/2014

16. Date Completed ☐ D & A ☒ Ready to Prod. 05/29/2014

17. Elevations (DF, KB, RT, GL)* 5035 KB

18. Total Depth: MD 10230 TVD 10134

19. Plug Back T.D.: MD 10137 TVD 10042

20. Depth Bridge Plug Set: MD TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
RADIAL CBL/GR/CCL/TEMP-COMPACT TRIPLE COMBO QUICKL

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

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

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
24.000	14.000 STL	36.7	0	40		81			
11.000	8.625 J-55	28.0	24	2440		950		0	
7.875	4.500 P-110	11.6	24	10185		1995		2138	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	8712							

25. Producing Intervals

Formation	Top	Bottom
A) MESAVERDE	7068	9801
B)		
C)		
D)		

26. Perforation Record

Perforated Interval	Size	No. Holes	Perf. Status
7068 TO 9801	0.400	237	OPEN

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

Depth Interval	Amount and Type of Material
7068 TO 8712	PUMP 16,112 BBLS SLICKWATER , 60 BBLS 15% HCL ACID, AND 349,031 LBS 30/50 MESH SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
05/29/2014	06/03/2014	24	→	16.0	3600.0	0.0			FLOWS FROM WELL

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
20/64	2102	2954.0	→	16	3600	0		PGW

28a. Production - Interval B

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

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
			→					

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

ELECTRONIC SUBMISSION #249662 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

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

RECEIVED: Jun. 16, 2014

28b. Production - Interval C

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

28c. Production - Interval D

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

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

30. Summary of Porous Zones (Include Aquifers):

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

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
				GREEN RIVER	1171
				BIRD'S NEST	1499
				MAHOGANY	2004
				WASATCH	4445
				MESAVERDE	6833

32. Additional remarks (include plugging procedure):
The first 210 ft. of the surface hole was drilled with a 12 ? in. bit. The remainder of the surface hole was drilled with an 11 in. bit. DQX csg was run from surface to 5005 ft.; LTC csg was run from 5005 ft. to 10,185 ft. Attached is the chronological well history, perforation report and final survey.

33. Circle enclosed attachments:

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

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

Electronic Submission #249662 Verified by the BLM Well Information System.
For KERR-MCGEE OIL AND GAS ONSHORE, sent to the Vernal

Name *(please print)* ILA BEALE Title STAFF REGULATORY SPECIALIST

Signature (Electronic Submission) Date 06/16/2014

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 fradulent statements or representations as to any matter within its jurisdiction.

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

RECEIVED: Jun. 16, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-5H1BS GREEN	Spud Date: 1/22/2014	
Project: UTAH-UINTAH	Site: NBU 1022-5A PAD	Rig Name No: PROPETRO 12/12, SST 54/54
Event: DRILLING	Start Date: 1/22/2014	End Date: 3/1/2014
Active Datum: RKB @5,035.00usft (above Mean Sea Level)	UWI: NE/NE/0/10/S/22/E/5/0/0/26/PM/N/799/E/0/43/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/22/2014	18:00 - 19:30	1.50	MIRU	01	C	P	64	PRE JOB SAFETY MEETING. SKID RIG 20'. RIG UP SET MATTING BOARD, SET RIG IN PLACE, CATWALK, PIPE RACKS, PLACE BOTTOM HOLE ASSEMBLY. PRE SPUD JOB SAFETY MEETING. REVIEW DIRECTIONAL PLANS AND PLATS AND VERIFY LAT/LONGS AND WELL ORDER VERIFY DIRECTIONAL DRILLERS PLAN IS THE MOST RECENT AND APPROVED VERSION REFERENCE WELLBORE DIAGRAMS FOR EXACT CASING DESIGN AND GENERAL OVERVIEW OF WELLBORE, PRIOR TO SPUD. FINISH PICKING UP 12.25" BHA #1
	19:30 - 20:00	0.50	DRLSUR	02	B	P	64	PICK UP NOV 1.83 DEGREE BENT MOTOR (RUN # 1) .17 REV/GAL PICK UP 12 ¼" DRILL BIT. SPUD @ 1/22/2014 19:30. DRILL 12.25" HOLE 44' TO 100' (56' @ 112' FPH). WEIGHT ON BIT 5-15 K. STROKES PER MINUTE=120, GALLONS PER MINUTE=491. PRESSURE ON/OFF (BOTTOM) 800/600. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROTATE 25/25/25 K. DRAG 0 K. CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER. RUNNING VOLUME THROUGH 1 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS.
	20:00 - 21:00	1.00	DRLSUR	08	A	Z	120	C&G GENERATOR WENT DOWN AND WOULD NOT TURN ON. WAIT ON NEW GENERATOR.
	21:00 - 22:00	1.00	DRLSUR	02	B	P	120	DRILL 12.25" HOLE 100' TO 210' (110' @ 55' FPH). WEIGHT ON BIT 5-15 K. STROKES PER MINUTE=120, GALLONS PER MINUTE=491. PRESSURE ON/OFF (BOTTOM) 800/600. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROTATE 25/25/25 K. DRAG 0 K. CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER. RUNNING VOLUME THROUGH 1 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS.
	22:00 - 23:00	1.00	DRLSUR	06	A	P	230	PRE JOB SAFETY MEETING, CIRC 15 MINUTES AND, TRIP OUT FROM 210' TO SURFACE . CHANGE ASSEMBLY. BREAK 12 1/4" BIT.
	23:00 - 0:00	1.00	DRLSUR	06	A	P	230	MAKE UP BAKER HUGHES 11" BIT. PICK UP 8" DIRECTIONAL ASSEMBLY SCIBE MOTOR. INSTALL EM TOOL, TRIP IN HOLE TO 210'

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Operation Summary Report

Well: NBU 1022-5H1BS GREEN	Spud Date: 1/22/2014	
Project: UTAH-UINTAH	Site: NBU 1022-5A PAD	Rig Name No: PROPETRO 12/12, SST 54/54
Event: DRILLING	Start Date: 1/22/2014	End Date: 3/1/2014
Active Datum: RKB @5,035.00usft (above Mean Sea Level)	UWI: NE/NE/0/10/S/22/E/5/0/0/26/PM/N/799/E/0/43/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/23/2014	0:00 - 5:30	5.50	DRLSUR	02	B	P	230	DRILL 11" SURFACE HOLE FROM 210' TO 860' (650' @ 118' FPH) WEIGHT ON BIT 21-25 K. STROKES PER MINUTE=120. GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 900/700. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 35/35/35 K. NO DRAG CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER. RUNNING VOLUME THROUGH 2 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	5:30 - 6:00	0.50	DRLSUR	23		P	880	CONDUCT PRE TOUR SAFETY MEETING. TOPIC: MAKING CONNECTIONS
	6:00 - 12:00	6.00	DRLSUR	02	B	P	880	DRILL 11" SURFACE HOLE FROM 860' TO 1540' (680' @ 113' FPH) WEIGHT ON BIT 21-25 K. STROKES PER MINUTE=120. GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1200/1000. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 35/35/35 K. NO DRAG CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER. RUNNING VOLUME THROUGH 2 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	12:00 - 17:30	5.50	DRLSUR	02	B	P	1560	DRILL 11" SURFACE HOLE FROM 1540' TO 2140' (600' @ 109' FPH) WEIGHT ON BIT 21-25 K. STROKES PER MINUTE=120. GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1200/1000. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 45/45/45 K. NO DRAG CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER. RUNNING VOLUME THROUGH 2 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	17:30 - 18:00	0.50	DRLSUR	23		P	2160	CONDUCT PRE TOUR SAFETY MEETING. TOPIC: COLD WEATHER

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Project: UTAH-UINTAH	Site: NBU 1022-5A PAD	Rig Name No: PROPETRO 12/12, SST 54/54
Event: DRILLING	Start Date: 1/22/2014	End Date: 3/1/2014
Active Datum: RKB @5,035.00usft (above Mean Sea Level)	UWI: NE/NE/0/10/S/22/E/5/0/0/26/PM/N/799/E/0/43/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 22:30	4.50	DRLSUR	02	B	P	2160	DRILL 11" SURFACE HOLE FROM 2140' TO 2450' (310' @ 69' FPH) WEIGHT ON BIT 21-25 K. STROKES PER MINUTE=120. GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1200/1000. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 75/65/65 K. 10K DRAG CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER. RUNNING VOLUME THROUGH 2 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	22:30 - 0:00	1.50	DRLSUR	05	F	P	2470	CIRCULATE AND CONDITION HOLE, VOLUME IS CLEAN COMING OVER SHAKERS, 4-400 BBL UPRIGHT'S FULL AND 3-400 BBL UPRIGHTS EMPTY, 1,000 BBLS OF FRESH WATER ON LOCATION FOR CEMENT JOB.
1/24/2014	0:00 - 0:30	0.50	DRLSUR	05	F	P	2470	CIRCULATE AND CONDITION HOLE, VOLUME IS CLEAN COMING OVER SHAKERS, 4-400 BBL UPRIGHT'S FULL AND 3-400 BBL UPRIGHTS EMPTY, 1,000 BBLS OF FRESH WATER ON LOCATION FOR CEMENT JOB.
	0:30 - 4:00	3.50	DRLSUR	06	A	P	2470	TRIP OUT OF HOLE FROM 2450' TO SURFACE. LAY DOWN DRILL STRING, BOTTOM HOLE ASSEMBLY, LAY DOWN DIRECTIONAL TOOLS, MOTOR, AND, BIT.
	4:00 - 5:30	1.50	CSGSUR	12	C	P	2470	RIG UP AND RUN AS FOLLOWED: RUN 55 JOINTS OF 8-5/8". 28# J-55 LTC CASING. RAN 1 CENTRALIZER ON FIRST THREE JOINTS, AND EVERY OTHER JOINT FOR 2 JOINTS FOR A TOTAL OF 5 CENTRALIZERS. RUN CASING TO BOTTOM WITH NO PROBLEMS. SET FLOAT SHOE @ 2420' KB. SET TOP OF BAFFLE PLATE @ 2374'.
	5:30 - 6:00	0.50	CSGSUR	23	E	P	2470	CONDUCT PRE TOUR SAFETY MEETING. TOPIC: RUNNING CASING.
	6:00 - 8:00	2.00	CSGSUR	12	C	P	2470	CONTINUE: RUN 55 JOINTS OF 8-5/8". 28# J-55 LTC CASING. RAN 1 CENTRALIZER ON FIRST THREE JOINTS, AND EVERY OTHER JOINT FOR 2 JOINTS FOR A TOTAL OF 5 CENTRALIZERS. RUN CASING TO BOTTOM WITH NO PROBLEMS. SET FLOAT SHOE @ 2420' KB. SET TOP OF BAFFLE PLATE @ 2374'.

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Operation Summary Report

Well: NBU 1022-5H1BS GREEN	Spud Date: 1/22/2014	
Project: UTAH-UINTAH	Site: NBU 1022-5A PAD	Rig Name No: PROPETRO 12/12, SST 54/54
Event: DRILLING	Start Date: 1/22/2014	End Date: 3/1/2014
Active Datum: RKB @5,035.00usft (above Mean Sea Level)	UWI: NE/NE/0/10/S/22/E/5/0/0/26/PM/N/799/E/0/43/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	8:00 - 12:00	4.00	CSGSUR	12	E	P	2470	PRE JOB SAFETY MEETING WITH PRO PETRO CEMENTERS. RAN 200' OF 1". PIPE DOWN BACK-SIDE OF CASING. PRESSURE TEST LINES TO 2,000 PSI. PUMP 100 BBLS OF WATER AHEAD CLEARING SHOE. MIX AND PUMP 20 BBLS OF GEL WATER FLUSH AHEAD OF CEMENT. MIX & PUMP 300 SX OF PREMIUM TAIL CEMENT WITH 2% CACL2 & 0.25 LB/SX FLOCELE. 61.4 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. DROP PLUG ON FLY. DISPLACE WITH 146 BBLS OF FRESH WATER. NO RETURNS THROUGH OUT JOB. FINAL LIFT OF 290 PSI AT 3.5 BBL/MINUTE. BUMPED PLUG @ 600 PSI. HELD @ 600 PSI FOR 5 MINUTES WITHOUT BLEED OFF. TESTED FLOAT AND FLOAT HELD. BUMPED PLUG. SHUT DOWN AND WASH UP. RELEASE RIG @ 01/24/2014 12:00 TOP JOB # 1: PUMP CEMENT DOWN ONE INCH PIPE WITH 150 SX (30.7 BBLS) PREMIUM CEMENT WITH 4% CACL2 & .25 LB/SX FLOCELE. 30.7 BBLS OF SLURRY MIXED AT 15.8 PPG WITH YIELD OF 1.15 CF/SX. NO CEMENT RETURNS TO SURFACE SHUT DOWN AND WASH UP. WAIT 1.5 HOURS ON CEMENT. TOP JOB # 2 : PUMP CEMENT DOWN BACKSIDE W/ 200 SX (40.9 BBLS) SAME CEMENT, 3 BBLS CEMENT RETURNS TO SURFACE. CEMENT DROPPED BACK DOWN. WAIT 1.5 HOURS ON CEMENT. TOP JOB # 3 : PUMP CEMENT DOWN BACKSIDE W/ 150 SX (30.7 BBLS) SAME CEMENT, 3 BBLS CEMENT RETURNS TO SURFACE 3 BBLS. (CEMENT JOB FINISHED @ 01/24/2014 14:00)
2/23/2014	20:30 - 21:30	1.00	MIRU3	01	C	P	2470	SKID RIG 10' ONTO NBU 1022-5H1BS
	21:30 - 22:30	1.00	PRPSPD	14	A	P	2470	NIPPLE UP BOPE
	22:30 - 0:00	1.50	PRPSPD	15	A	P	2470	HOLD SAFETY MEETING, RUN TEST ASSY, TEST BOP WITH A-1 TESTERS - TEST ANNULAR TO 250 PSI LOW/ 5 MIN 2500 PSI HIGH 10 MIN, PIPE & BLIND RAMS, FLOOR VALVES, IBOP, HCR VALVE, KILL LINE VALVES,TEST BOP'S, CHOKE MANIFOLD TO 250 PSI LOW/ 5 MIN - 5000 PSI HIGH 10 MIN, HOLD ACCUMULATOR FUNCTION TEST, TEST CSG 1500 PSI - 30 MIN, RIG DOWN

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Well: NBU 1022-5H1BS GREEN		Spud Date: 1/22/2014
Project: UTAH-UINTAH	Site: NBU 1022-5A PAD	Rig Name No: PROPETRO 12/12, SST 54/54
Event: DRILLING	Start Date: 1/22/2014	End Date: 3/1/2014
Active Datum: RKB @5,035.00usft (above Mean Sea Level)	UWI: NE/NE/0/10/S/22/E/5/0/0/26/PM/N/799/E/0/43/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
2/24/2014	0:00 - 2:00	2.00	PRPSPD	15	A	P	2470	HOLD SAFETY MEETING, RUN TEST ASSY, TEST BOP WITH A-1 TESTERS - TEST ANNULAR TO 250 PSI LOW/ 5 MIN 2500 PSI HIGH 10 MIN, PIPE & BLIND RAMS, FLOOR VALVES, IBOP, HCR VALVE, KILL LINE VALVES,TEST BOP'S, CHOKE MANIFOLD TO 250 PSI LOW/ 5 MIN - 5000 PSI HIGH 10 MIN, HOLD ACCUMULATOR FUNCTION TEST, TEST CSG 1500 PSI - 30 MIN, RIG DOWN
	2:00 - 2:30	0.50	PRPSPD	14	B	P	2470	INSTALL WEAR BUSHING.
	2:30 - 3:30	1.00	PRPSPD	09	A	P	2470	CUT AND SLIP DRILL LINE 15 WRAPS= 82'
	3:30 - 4:30	1.00	PRPSPD	06	A	P	2470	PICK UP BIT MOTOR, PICK UP DIRECTIONAL TOOLS, SCIBE MOTOR, CHECH FLOAT AND MOTOR.
	4:30 - 6:30	2.00	PRPSPD	06	A	P	2470	TRIP IN HOLE FROM SURFACE TO TOP OF CEMENT TAG CEMENT AT 2,330'
	6:30 - 8:00	1.50	DRLPRC	02	F	P	2470	DRILL OUT CEMENT, BAFFLE PLATE, FLOAT SHOE WITH NO PROBLEMS
	8:00 - 15:00	7.00	DRLPRC	02	B	P	2470	DRILLING AND SLIDING 7 7/8" PRODUCTION HOLE FROM 2,470' TO 3,685' (1,215' @ 173 FPH). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=170. GALLONS PER MINUTE=598. MUD WEIGHT = 8.8 PPG / VIS- 28 PRESSURE ON/OFF(BOTTOM) 1,750/1,500. ROTARY RPM 65, MOTOR RPM 84, TOTAL RPM 149. UP/DOWN/ ROT 105/90/100 K. TORQUE = ON/OFF (BOTTOM) 10K / 7K FROM DIRECTIONAL PLAN WE ARE .44 ' LEFT/ 30.27' LOW/ SLIDE 78' = 14.18 % @ 1.33HRS RUNNING VOLUME THROUGH 2 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	15:00 - 15:30	0.50	DRLPRC	07	A	P	3685	RIG SERVICE.
	15:30 - 18:00	2.50	DRLPRC	02	B	P	3685	DRILLING AND SLIDING 7 7/8" PRODUCTION HOLE FROM 3,685' TO 4,350' (665' @ 266 FPH). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=170. GALLONS PER MINUTE=598. MUD WEIGHT = 8.8 PPG / VIS- 28 PRESSURE ON/OFF(BOTTOM) 1,750/1,500. ROTARY RPM 65, MOTOR RPM 84, TOTAL RPM 149. UP/DOWN/ ROT 110/91/102 K. TORQUE = ON/OFF (BOTTOM) 10K / 7K FROM DIRECTIONAL PLAN WE ARE 5.52' LEFT / 29.94' LOW/ SLIDE 62'= 4.69% @1.18 HRS RUNNING VOLUME THROUGH 2 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.

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Well: NBU 1022-5H1BS GREEN		Spud Date: 1/22/2014
Project: UTAH-UINTAH	Site: NBU 1022-5A PAD	Rig Name No: PROPETRO 12/12, SST 54/54
Event: DRILLING	Start Date: 1/22/2014	End Date: 3/1/2014
Active Datum: RKB @5,035.00usft (above Mean Sea Level)	UWI: NE/NE/0/10/S/22/E/5/0/0/26/PM/N/799/E/0/43/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 0:00	6.00	DRLPRV	02	B	P	4350	DRILLING AND SLIDING 7 7/8" PRODUCTION HOLE FROM 4,350' TO 5,773' (1423' @ 237 FPH). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=170. GALLONS PER MINUTE=598. MUD WEIGHT = 8.8 PPG / VIS- 28 PRESSURE ON/OFF(BOTTOM) 1,750/1,500. ROTARY RPM 65, MOTOR RPM 84, TOTAL RPM 149. UP/DOWN/ ROT 110/91/102 K. TORQUE = ON/OFF (BOTTOM) 15K / 8K FROM DIRECTIONAL PLAN WE ARE .43' EAST / 9.85' NORTH OF CENTER/ SLIDE 54' = 4.07 % @ .92 HRS RUNNING VOLUME THROUGH 2 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
2/25/2014	0:00 - 6:00	6.00	DRLPRV	02	B	P	5773	DRILLING AND SLIDING 7 7/8" PRODUCTION HOLE FROM 5,773' TO 6,629' (856' @ 142 FPH). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=170. GALLONS PER MINUTE=598. MUD WEIGHT = 9.1 PPG / VIS- 30 PRESSURE ON/OFF(BOTTOM) 2,300/2,100. ROTARY RPM 65, MOTOR RPM 84, TOTAL RPM 149. UP/DOWN/ ROT 200/130/150 K. TORQUE = ON/OFF (BOTTOM) 15K / 8K FROM DIRECTIONAL PLAN WE ARE 1.41' EAST / 2.54' NORTH OF CENTER/ SLIDE 10' = 1.75 % @ .17 HRS RUNNING VOLUME THROUGH 2 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	6:00 - 12:30	6.50	DRLPRV	02	B	P	6629	DRILLING AND SLIDING 7 7/8" PRODUCTION HOLE FROM 6,629' TO 7,581' (952' @ 146 FPH). WEIGHT ON BIT 18-25 K. STROKES PER MINUTE=170. GALLONS PER MINUTE=598. MUD WEIGHT = 9.1 PPG / VIS- 30 PRESSURE ON/OFF(BOTTOM) 2,300/2,100. ROTARY RPM 65, MOTOR RPM 84, TOTAL RPM 149. UP/DOWN/ ROT 220/130/160 K. TORQUE = ON/OFF (BOTTOM) 15K / 8K FROM DIRECTIONAL PLAN WE ARE: 6.34' WEST / 15.45' NORTH OF CENTER/SLIDE 82' = 7.79 % @ 1.42 HRS RUNNING VOLUME THROUGH 2 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	12:30 - 13:00	0.50	DRLPRV	07	A	P	7581	RIG SERVICE.

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Project: UTAH-UINTAH	Site: NBU 1022-5A PAD	Rig Name No: PROPETRO 12/12, SST 54/54
Event: DRILLING	Start Date: 1/22/2014	End Date: 3/1/2014
Active Datum: RKB @5,035.00usft (above Mean Sea Level)	UWI: NE/NE/0/10/S/22/E/5/0/0/26/PM/N/799/E/0/43/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	13:00 - 18:00	5.00	DRLPRV	02	B	P	7581	DRILLING AND SLIDING 7 7/8" PRODUCTION HOLE FROM 7,581' TO 8,247' (665' @ 133 FPH). WEIGHT ON BIT 18-25 K. STROKES PER MINUTE=170. GALLONS PER MINUTE=598. MUD WEIGHT = 9.4 PPG / VIS- 30 PRESSURE ON/OFF(BOTTOM) 2,600/2,400. ROTARY RPM 65, MOTOR RPM 84, TOTAL RPM 149. UP/DOWN/ ROT 230/138/175 K. TORQUE = ON/OFF (BOTTOM) 16K / 11K FROM DIRECTIONAL PLAN WE ARE: 10.48' WEST / 12.32' NORTH OF CENTER/SLIDE 0' = 0 % @ 0 HRS RUNNING VOLUME THROUGH 2 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	18:00 - 0:00	6.00	DRLPRV	02	B	P	8247	DRILLING AND SLIDING 7 7/8" PRODUCTION HOLE FROM 8,247' TO 8,865' (618' @ 103 FPH). WEIGHT ON BIT 18-25 K. STROKES PER MINUTE=170. GALLONS PER MINUTE=598. MUD WEIGHT = 11.0 PPG / VIS- 38 PRESSURE ON/OFF(BOTTOM) 3,200/2,900. ROTARY RPM 65, MOTOR RPM 84, TOTAL RPM 149. UP/DOWN/ ROT 250/125/179 K. TORQUE = ON/OFF (BOTTOM) 16K / 13K FROM DIRECTIONAL PLAN WE ARE: 8.06' WEST/ 1.36' SOUTH OF CENTER/SLIDE 12' = 2.02 % @ .25 HRS ZECO CENTRIFUGE OFF LINE AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
2/26/2014	0:00 - 6:00	6.00	DRLPRV	02	B	P	8865	DRILLING AND SLIDING 7 7/8" PRODUCTION HOLE FROM 8,865' TO 9,328' (618' @ 103 FPH). WEIGHT ON BIT 18-25 K. STROKES PER MINUTE=170. GALLONS PER MINUTE=598. MUD WEIGHT = 11.2 PPG / VIS- 38 PRESSURE ON/OFF(BOTTOM) 3,300/3,000. ROTARY RPM 65, MOTOR RPM 84, TOTAL RPM 149. UP/DOWN/ ROT 252/125/181 K. TORQUE = ON/OFF (BOTTOM) 16K / 13K FROM DIRECTIONAL PLAN WE ARE: 3.68' WEST/11.84'SOUTH OF CENTER/SLIDE 0.0'= 0.0% @ 0.0 HRS ZECO CENTRIFUGE OFF LINE AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.

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Project: UTAH-UINTAH	Site: NBU 1022-5A PAD	Rig Name No: PROPETRO 12/12, SST 54/54
Event: DRILLING	Start Date: 1/22/2014	End Date: 3/1/2014
Active Datum: RKB @5,035.00usft (above Mean Sea Level)	UWI: NE/NE/0/10/S/22/E/5/0/0/26/PM/N/799/E/0/43/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 14:00	8.00	DRLPRV	02	B	P	9328	DRILL / SLIDE / SURVEY / F/ 9,328' TO 9,770' = 442' @ 55.2 FPH WOB 24,000 - 28,000 TOP DRIVE RPM 65 MUD MOTOR RPM 72 PUMPS 145 SPM = 510 GPM PUMP PRESSURE ON/OFF BTM 2,990 / 2,840 TORQUE ON/OFF BTM 16,320 / 14,920 PICK UP WT 225,000 SLACK OFF WT 152,000 ROT WT 200,000 SLIDE 0' = 0% 5.69' EAST & 31.50' SOUTH OF THE LINE MUD WT 12.0 VIS 40 ZECO OFF LINE, MUD CLEANER RUNNING HOLE ISSUES: 50' FLARE @ 9,505', START RAISING MUD WT.
	14:00 - 14:30	0.50	DRLPRV	07	A	P	9770	RIG SERVICE
	14:30 - 18:00	3.50	DRLPRV	02	B	P	9770	DRILL / SLIDE / SURVEY / F/ 9,770' TO 9,931' = 161' @ 46 FPH WOB 24,000 - 28,000 TOP DRIVE RPM 65 MUD MOTOR RPM 74 PUMPS 140 SPM = 492 GPM PUMP PRESSURE ON/OFF BTM 2,720 / 2,460 TORQUE ON/OFF BTM 16,320 / 14,920 PICK UP WT 228,000 SLACK OFF WT 152,000 ROT WT 200,000 SLIDE 0' = 0% 9.49' EAST & 38.0' SOUTH OF THE LINE MUD WT 12.2 VIS 43 ZECO OFF LINE, MUD CLEANER RUNNING HOLE ISSUES: 20' CONNECTION FLARE, 10' FLARE WHILE DRILLING TO 10,030',
	18:00 - 0:00	6.00	DRLPRV	02	B	P	9931	DRILL / SLIDE / SURVEY / F/ 9,931' TO 10,230' = 299' @ 49.8 FPH WOB 24,000 - 28,000 TOP DRIVE RPM 65 MUD MOTOR RPM 69 PUMPS 150 SPM = 527 GPM PUMP PRESSURE ON/OFF BTM 3,365 / 3,035 TORQUE ON/OFF BTM 18,500 / 14,920 PICK UP WT 235,000 SLACK OFF WT 152,000 ROT WT 200,000 SLIDE 0' = 0% 18.02' EAST & 47.75' SOUTH OF THE LINE MUD WT 12.7 VIS 39 ZECO OFF LINE, MUD CLEANER RUNNING HOLE ISSUES: 10' FLARE WHILE DRILLING TO 10,030', LOST APPROXIMATELY 300 BBL MUD TO HOLE SEEPAGE
2/27/2014	0:00 - 1:30	1.50	DRLPRV	05	C	P	10,230	CIRCULATE AND CONDITION HOLE FOR WIPER TRIP
	1:30 - 2:30	1.00	DRLPRV	06	E	P	10,230	MAKE 10 STAND WIPER TRIP

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Well: NBU 1022-5H1BS GREEN		Spud Date: 1/22/2014
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Event: DRILLING	Start Date: 1/22/2014	End Date: 3/1/2014
Active Datum: RKB @5,035.00usft (above Mean Sea Level)	UWI: NE/NE/0/10/S/22/E/5/0/0/26/PM/N/799/E/0/43/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	2:30 - 8:30	6.00	DRLPRV	05	A	P	10,230	CIRCULATE AND CONDITION HOLE FOR LOGS / HOLE SEEPING - LOST APPROXIMATELY 300 BBLS MUD. BUILD VOLUME MIXING LCM & MAINTAINING MUD WEIGHT / RETURNS OVER SHAKERS, SHAKING OUT ALL LCM. FULL RETURNS
	8:30 - 15:30	7.00	DRLPRV	06	B	P	10,230	PUMP DRY JOB, BLOW DOWN TOP DRIVE AND TRIP OUT OF HOLE FOR SHUTTLE LOGS, STRAIGHT PULL OFF BTM / TIGHT HOLE AT 8,116,' REAMED BACK THROUGH WITH NO PROBLEMS / FLOW CHECKS SHOWED NO FLOW / LAY DOWN MWD, BIT & MOTOR
	15:30 - 0:00	8.50	EVALPR	11	D	P	10,230	PJSM WITH WEATHERFORD LOGGING & RIG CREW / PICK UP SHUTTLE LOGGING TOOLS & TRIP IN HOLE / FLOW TEST TOOLS @ 205', 2350', 6002', AND 10,110' / WASH 120' TO BOTTOM
2/28/2014	0:00 - 1:00	1.00	EVALPR	06	B	P	10,230	WASH SHUTTLE LOG 120' TO BOTTOM / DROP SPEAR AND DEPLOY TOOLS
	1:00 - 3:30	2.50	EVALPR	05	A	P	10,230	CIRCULATE GAS OUT / 20' FLARE BOTTOMS UP
	3:30 - 13:30	10.00	EVALPR	11	D	P	10,230	TRIP OUT OF HOLE LOGGING WELL / RAN TRIPLE COMBO COMPACT MEMORY LOG / BREAK DOWN AND LOAD OUT ALL LOGGING TOOLS / PULLED WEAR BUSHING
	13:30 - 22:00	8.50	CSGPRO	12	C	P	10,230	PREJOB SAFETY MEETING WITH FRANKS CASING AND RIG CREW / RIG UP FRANKS CASING CREW, TORQUE TURN, AND LAY DOWN MACHINE. DUMP TEST TORQUE TURN / RAN 4.5" PRODUCTION CASING, 116 JOINTS OF 4.5", 11.6#, HCP-110, LT&C AND 112 JOINTS OF 4.5", 11.6#, HCP-110, DQX CASING WITH WEATHERFORD FLOAT GUIDE SHOE AND FLOAT COLLAR LOCATED 1 JOINT ABOVE SHOE / 20 CENTRALIZERS SPACED 10' ABOVE SHOE, 2ND & 3RD COLLARS AND EVERY THIRD COLLAR TO 7811' / BLACKHAWK MARKER JOINT SET AT 9,560' / MESAVERDE MARKER JOINT SET AT 6,972' / CROSS OVER JOINT SET @ 5,005' / LANDED CASING SHOE AT 10,184' ON CAMERON CASING HANGER SET IN WELL HEAD / FLOAT COLLAR TOP @ 10,137' / PUMP THROUGH SHOE TRACK AT 91' / BROKE CIRCULATION @ 539', 1,570', 4,473', 7,674', AND WASHED 68' TO BOTTOM.
	22:00 - 0:00	2.00	CSGPRO	05	D	P	10,230	CIRCULATE CASING WITH RIG PUMP / 15' FLARE BOTTOMS UP
3/1/2014	0:00 - 1:00	1.00	CSGPRO	05	D	P	10,230	CIRCULATE CASING WITH RIG PUMP / 15' FLARE BOTTOMS UP

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-5H1BS GREEN	Spud Date: 1/22/2014	
Project: UTAH-UINTAH	Site: NBU 1022-5A PAD	Rig Name No: PROPETRO 12/12, SST 54/54
Event: DRILLING	Start Date: 1/22/2014	End Date: 3/1/2014
Active Datum: RKB @5,035.00usft (above Mean Sea Level)	UWI: NE/NE/0/10/S/22/E/5/0/0/26/PM/N/799/E/0/43/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	1:00 - 6:30	5.50	CSGPRO	12	E	P	10,230	HOLD SAFETY MEETING WITH BAKER HUGHES AND RIG CREW TEST LINES TO 6,100 PSI DROP BOTTOM PLUG PUMP 25 BBLS FRESH WATER FLUSH AHEAD OF CEMENT MIX & PUMP 178.4 BBLS/ 655 SX OF PREMIUM LITE II LEAD CEMENT WITH 0.05 #/SX STATIC FREE, 0.35% R-3, 0.25 #/SX CELLO FLAKE, 0.4% FL-57, 3% BENTONITE, AND 0.1% CD-32 / MIXED CEMENT AT 13.5 PPG WITH YIELD OF 1.53 CF/SX. MIX & PUMP 322.1 BBL/ 1,340 SX 50:50 POZ TAIL CEMENT WITH 0.005 #/SX STATIC FREE, 10% SODIUM CHLORIDE, 0.55% R-3, 0.5% EC-1, 0.25 #/SX CELLO FLAKE, 5 #/SX KOL-SEAL, 0.002 GPS FP-6L, 0.7% SODIUM METASILICATE, AND 2% BENTONITE / MIXED CEMENT AT 14.3 PPG WITH YIELD OF 1.34 CF/SX. WASH UP LINES & DROP THE TOP PLUG DISPLACE WITH 157.5 BBLS FRESH WATER WITH CLAY CARE AND 4 GALLON MAGNACIDE FINAL LIFT PRESSURE = 3,400 PSI BUMP PLUG WITH 4,000 PSI GOOD RETURNS THROUGHOUT JOB - 80 BBLS GOOD CEMENT BACK TO SURFACE RIG DOWN CEMENTING EQUIPMENT & WASH OUT BOP
	6:30 - 7:00	0.50	CSGPRO	12	C	P	10,230	PULL LANDING JOINT AND PACK OFF HEAD
	7:00 - 8:00	1.00	RDMO	14	A	P	10,230	NIPPLE DOWN BOP & CLEAN MUD TANKS / RELEASE RIG @ 08:00, 3/1/2014

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Sundry Number: 52145 API Well Number: 4304753590000

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 1022-5H1BS GREEN	**Wellbore No.**	OH
Well Name	NBU 1022-5H1BS	**Wellbore Name**	NBU 1022-5H1BS
Report No.	1	**Report Date**	5/12/2014
Project	UTAH-UINTAH	**Site**	NBU 1022-5A PAD
Rig Name/No.		**Event**	COMPLETION
Start Date	4/24/2014	**End Date**	5/29/2014
Spud Date	1/22/2014	**Active Datum**	RKB @5,035.00usft (above Mean Sea Level)
UWI	NE/NE/0/10/S/22/E/5/0/0/26/PM/N/799/E/0/43/0/0		

1.3 General

Contractor		**Job Method**		**Supervisor**	
Perforated Assembly		**Conveyed Method**			

1.4 Initial Conditions

Fluid Type		**Fluid Density**	
Surface Press		**Estimate Res Press**	
TVD Fluid Top		**Fluid Head**	
Hydrostatic Press		**Press Difference**	
Balance Cond	NEUTRAL		

1.5 Summary

Gross Interval	7,068.0 (usft)-9,801.0 (usft	**Start Date/Time**	5/12/2014 12:00AM
No. of Intervals	52	**End Date/Time**	5/12/2014 12:00AM
Total Shots	237	**Net Perforation Interval**	79.00 (usft)
Avg Shot Density	3.00 (shot/ft)	**Final Surface Pressure**	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
5/12/2014 12:00AM	MESAVERDE/			7,068.0	7,070.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	

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Sundry Number: 52145 API Well Number: 4304753590000

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
5/12/2014 12:00AM	MESAVERDE/			7,095.0	7,097.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,158.0	7,161.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,210.0	7,211.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,235.0	7,236.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,288.0	7,289.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,304.0	7,306.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,332.0	7,333.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,344.0	7,346.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,515.0	7,516.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,538.0	7,540.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,702.0	7,704.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,725.0	7,728.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,775.0	7,776.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,845.0	7,846.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,872.0	7,873.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,892.0	7,893.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,909.0	7,910.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,926.0	7,927.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,938.0	7,940.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,973.0	7,974.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			7,996.0	7,998.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	

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Sundry Number: 52145 API Well Number: 43047535900000

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
5/12/2014 12:00AM	MESAVERDE/			8,043.0	8,045.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,075.0	8,078.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,126.0	8,127.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,149.0	8,151.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,173.0	8,174.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,183.0	8,184.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,194.0	8,195.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,212.0	8,214.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,257.0	8,258.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,295.0	8,296.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,314.0	8,315.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,336.0	8,337.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,357.0	8,359.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,390.0	8,392.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,420.0	8,421.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,469.0	8,470.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,500.0	8,501.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,588.0	8,590.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,604.0	8,605.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,620.0	8,622.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,754.0	8,755.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	

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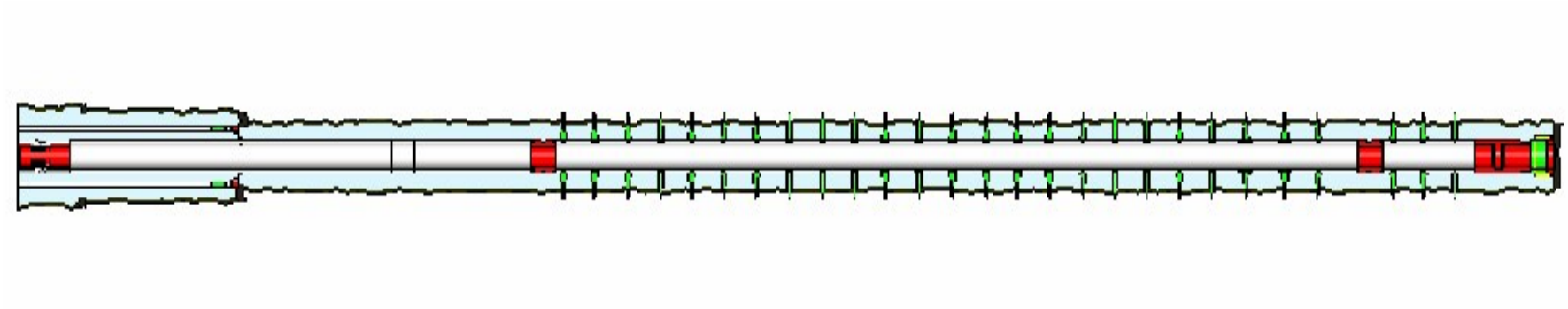
Sundry Number: 52145 API Well Number: 4304753590000

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
5/12/2014 12:00AM	MESAVERDE/			8,767.0	8,768.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,866.0	8,868.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,884.0	8,885.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			8,905.0	8,908.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			9,710.0	9,712.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			9,743.0	9,744.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			9,754.0	9,755.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			9,765.0	9,767.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
5/12/2014 12:00AM	MESAVERDE/			9,799.0	9,801.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	

3 Plots

3.1 Wellbore Schematic



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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-5H1BS GREEN	Spud Date: 1/22/2014	
Project: UTAH-UINTAH	Site: NBU 1022-5A PAD	Rig Name No: GWS 1/1
Event: COMPLETION	Start Date: 4/24/2014	End Date: 5/29/2014
Active Datum: RKB @5,035.00usft (above Mean Sea Level)	UWI: NE/NE/0/10/S/22/E/5/0/0/26/PM/N/799/E/0/43/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
3/27/2014	-							
4/24/2014	7:00 - 8:00	1.00	SUBSPR	52	B			FILL SURFACE CSG. MIRU CAMERON QUICK TEST. PRESSURE TEST CSG & FRAC VALVES 1ST PSI TEST T/ 9000 PSI. HELD FOR 15 MIN LOST -72 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. FILL SURFACE CSG. MIRU CAMERON QUICK TEST. PRESSURE TEST 8 5/8 X 4 1/2 TO 539 PSI HELD FOR 5 MIN LOST -313 PSI, BLED PSI OFF, REINSTALLED POP OFF SWIFN NO PRESSURE ON SURFACE CASING FILLED SURFACE WITH 1 BBL H2O
5/8/2014	10:30 - 11:30	1.00	SUBSPR	37		P		PERF STG 1)PU 3 1/8 EXP GUN, 19 GM, .40 HOLE SIZE. RIH PERFWELL, AS PER PERF DESIGN. POOH. SWIFW
5/12/2014	6:45 - 7:00	0.25	FRAC	48		P		HSM-JSA
	7:00 - 11:35	4.58	FRAC	36	H	P		FRAC STG#1) WHP 380 PSI, BRK 5034 PSI @ 4 BPM. ISIP 3793 PSI, FG. 0.83 ISIP 3623 PSI, FG. 0.81, NPI -170 PSI, X/O TO WL.
	11:35 - 12:25	0.83	FRAC	46	E	Z		GO THROUGH PUMP
	12:25 - 18:00	5.58	FRAC	36	H	P		SET CBP & PERF STG #2 AS DESIGNED, X/O TO FRAC. FRAC STG #2) WHP 1954 PSI, BRK 3503 PSI @ 3.7 BPM. ISIP 2424 PSI, FG. 0.71 ISIP 2790 PSI, FG. 0.75, NPI 366 PSI, X/O TO WL. SET CBP & PERF STG #3 AS DESIGNED, SWI, SDFN.
5/13/2014	6:15 - 6:30	0.25	FRAC	48		P		HSM-JSA

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Operation Summary Report

Well: NBU 1022-5H1BS GREEN	Spud Date: 1/22/2014	
Project: UTAH-UINTAH	Site: NBU 1022-5A PAD	Rig Name No: GWS 1/1
Event: COMPLETION	Start Date: 4/24/2014	End Date: 5/29/2014
Active Datum: RKB @5,035.00usft (above Mean Sea Level)	UWI: NE/NE/0/10/S/22/E/5/0/0/26/PM/N/799/E/0/43/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:30 - 17:45	11.25	FRAC	36	H	P		FRAC STG #3) WHP 1462 PSI, BRK 3225 PSI @ 3.5 BPM. ISIP 2060 PSI, FG. 0.68 ISIP 2715 PSI, FG. 0.76, NPI 655 PSI, X/O TO WL. SET CBP & PERF STG #4 AS DESIGNED, X/O TO FRAC. FRAC STG #4) WHP 1865 PSI, BRK 3176 PSI @ 3.8 BPM. ISIP 2404 PSI, FG. 0.73 ISIP 2502 PSI, FG. 0.74, NPI 98 PSI, X/O TO WL. SET CBP & PERF STG #5 AS DESIGNED, X/O TO FRAC. FRAC STG #5) WHP 1836 PSI, BRK 3764 PSI @ 4.6 BPM. ISIP 2465 PSI, FG. 0.74 ISIP 2202 PSI, FG. 0.71, NPI -263 PSI, X/O TO WL. SET CBP & PERF STG #6 AS DESIGNED, SWI, SDFN.
5/14/2014	6:15 - 6:30	0.25	FRAC	48		P		HSM-JSA
	6:30 - 17:00	10.50	FRAC	36	H	P		FRAC STG #6) WHP 1599 PSI, BRK 2637 PSI @ 3 BPM. ISIP 2169 PSI, FG. 0.71 ISIP 2215 PSI, FG. 0.71, NPI 46 PSI, X/O TO WL. SET CBP & PERF STG #7 AS DESIGNED, X/O TO FRAC. FRAC STG #7) WHP 1312 PSI, BRK 2572 PSI @ 3.1 BPM. ISIP 1802 PSI, FG. 0.67 ISIP 2396 PSI, FG. 0.74, NPI 594 PSI, X/O TO WL. SET CBP & PERF STG #8 AS DESIGNED, X/O TO FRAC. FRAC STG #8) WHP 1440 PSI, BRK 2222 PSI @ 2.8 BPM. ISIP 1862 PSI, FG. 0.68 ISIP 2529 PSI, FG. 0.77, NPI 667 PSI, X/O TO WL. SET CBP & PERF STG #9 AS DESIGNED, SWI, SDFN.
5/15/2014	6:15 - 6:30	0.25	FRAC	48		P		HSM-JSA
	6:30 - 14:00	7.50	FRAC	36	H	P		FRAC STG #9) WHP 715 PSI, BRK 2391 PSI @ 3.7 BPM. ISIP 1330 PSI, FG. 0.62 ISIP 2095 PSI, FG. 0.73, NPI 765 PSI, X/O TO WL. SET CBP & PERF STG #10 AS DESIGNED, X/O TO FRAC. FRAC STG #10) WHP 1611 PSI, BRK 1815 PSI @ 1.5 BPM. ISIP 1645 PSI, FG. 0.67 ISIP 2093 PSI, FG. 0.73, NPI 448 PSI, X/O TO WL. SET KILL PLUG, SWI, RDMO FRAC & WL EQUIP. TOTAL FLUID- 16171 BBLS TOTAL SAND- 349031 LBS

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Operation Summary Report

Well: NBU 1022-5H1BS GREEN	Spud Date: 1/22/2014	
Project: UTAH-UINTAH	Site: NBU 1022-5A PAD	Rig Name No: GWS 1/1
Event: COMPLETION	Start Date: 4/24/2014	End Date: 5/29/2014
Active Datum: RKB @5,035.00usft (above Mean Sea Level)	UWI: NE/NE/0/10/S/22/E/5/0/0/26/PM/N/799/E/0/43/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
5/28/2014	7:00 - 7:15	0.25	DRLOUT	48		P		JSA-SAFETY MEETING
	7:15 - 9:00	1.75	DRLOUT	30	A	P		MIRU SERVICE UNIT
	9:00 - 10:00	1.00	DRLOUT	30	F	P		N/D WH. N/U 4 1/16" BOPS, PRESSURE TEST BOPS AND CSG, OK
	10:00 - 16:00	6.00	DRLOUT	31	I	P		P/U 3 7/8" BIT AND POBS RIH W/ 2 3/8" J-55 TBG 150 JTS, 2 3/8" L-80 TBG 72 jts, TAG KILL PLUG @ 7018'. R/U DRILLING EQUIPT, PREPARE TO START DRILLING IN AM, SHUT WELL IN, SDFN,
5/29/2014	7:00 - 7:15	0.25	DRLOUT	48		P		JSA-SAFETY MEETING

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-5H1BS GREEN	Spud Date: 1/22/2014	
Project: UTAH-UINTAH	Site: NBU 1022-5A PAD	Rig Name No: GWS 1/1
Event: COMPLETION	Start Date: 4/24/2014	End Date: 5/29/2014
Active Datum: RKB @5,035.00usft (above Mean Sea Level)	UWI: NE/NE/0/10/S/22/E/5/0/0/26/PM/N/799/E/0/43/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 17:00	9.75	DRLOUT	44	C	P		R/U POWER SWIVEL, ESTB CIRC, MILL OUT CBP , (CBP #1) 7018, DRILL OUT HALLIBURTON 8K CBP IN 5MIN, 150 # DIFF, RIH TAG SNAD @ 7172 ', C/O 10 ' SAND, FCP = 25 #. (CBP #2) 7182', DRILL OUT HALLIBURTON 8K CBP IN 5 MIN, 200 # DIFF, RIH TAG SNAD @ 7368 ', C/O 18 ' SAND, FCP = 100 #. (CBP #3) 7380', DRILL OUT HALLIBURTON 8K CBP IN 5 MIN, 800 # DIFF, RIH TAG SNAD @ 7730 ', C/O 25 ' SAND, FCP = 150 #. (CBP #4) 7755', DRILL OUT HALLIBURTON 8K CBP IN 5 MIN, 1300 # DIFF, RIH TAG SAND @ 7938 ', C/O 20 ' SAND, FCP = 400 #. (CBP #5)7958', DRILL OUT HALLIBURTON 8K CBP IN 6 MIN,400 # DIFF, RIH TAG SNAD @ 8080 ', C/O 30 ' SAND, FCP = 465 #. (CBP #6) 8110', DRILL OUT HALLIBURTON 8K CBP IN 7 MIN, 300 # DIFF, RIH TAG SAND @ 8212 ', C/O 30 ' SAND, FCP = 500 #. (CBP #7) 8242', DRILL OUT HALLIBURTON 8K CBP IN 5 MIN, 500 # DIFF, RIH TAG SAND @ 8377 ', C/O 25 ' SAND, FCP = 500 #. (CBP #8) 8402', DRILL OUT HALLIBURTON 8K CBP IN 6 MIN, 400 # DIFF, RIH TAG SNAD @ 8627', ', C/O 25 ' SAND, FCP = 550 #. (CBP #9) 8652', DRILL OUT HALLIBURTON 8K CBP IN 5 MIN, 500 # DIFF, RIH TAG SAND @ 8908' , C/O 30 ' SAND, FCP = 600 #. (CBP #10) 8938', DRILL OUT HALLIBURTON 8K CBP IN 5 MIN, 1000 # DIFF, RIH TAG SAND @ 10100 ', PBTD, FCP = 750 #. P/O LAY DN 41 JTS ON TRAILER, LAND TBG IN WELL W/ 150 JTS 2 3/8" J-55 TBG, AND 124 JTS 2 3/8" L-80 TBG, TOTAL OF 274 JTS TBG, EOT @ 8711.87' ', N/D BOP'S, N/U WH, PRESSURE TEST FLOW LINE TO 1000 #, PUMP BIT OFF @ #, TURN WELL OVER TO FLOW BACK CREW W/ 14511 BBLS WTR LEFT TO RECOVER, FTP = #, SICP = #, SOLD 909 MCF DURING DRILL OUT KB = 24.00' HANGER = .83' 124 JTS 2 3/8" L-80 TBG = 3937.57'

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-5H1BS GREEN	Spud Date: 1/22/2014	
Project: UTAH-UINTAH	Site: NBU 1022-5A PAD	Rig Name No: GWS 1/1
Event: COMPLETION	Start Date: 4/24/2014	End Date: 5/29/2014
Active Datum: RKB @5,035.00usft (above Mean Sea Level)	UWI: NE/NE/0/10/S/22/E/5/0/0/26/PM/N/799/E/0/43/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								1= 6 ' 2 3/8" PUP JT = 6.10' 150 JTS 2 3/8" J-55 TBG = 4741.17' 1- 2 3/8" POBS W/ XN NIPPLE 2.20' EOT = 8711.87' 150 JTS 2 3/8" J-55 DELV, 165 JTS 2 3/8" L-80 DELV. 274 JTS 2 3/8" USED, 41 JTS 2 3/8" L-80 RETURNED

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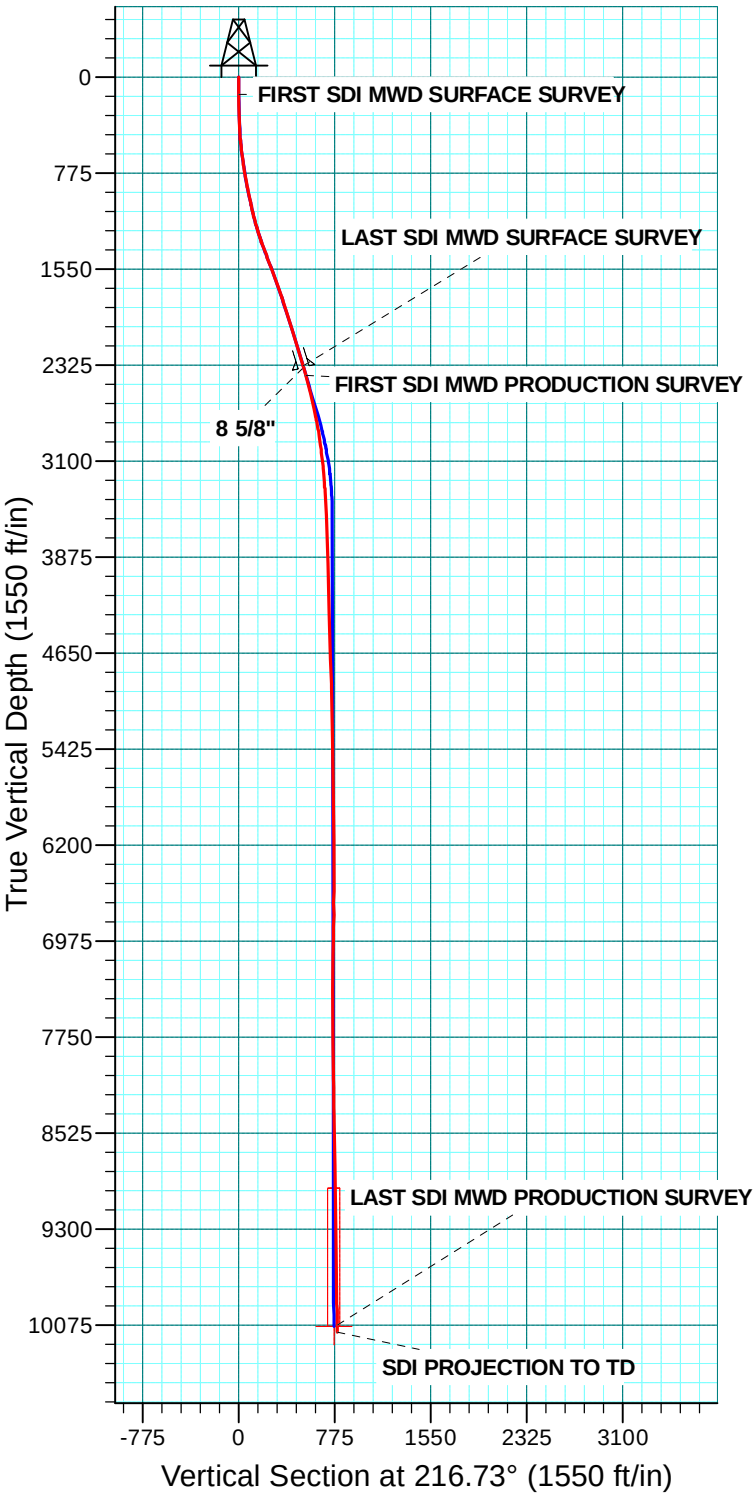
Sundry Number: 52145 API Well Number: 43047535900000

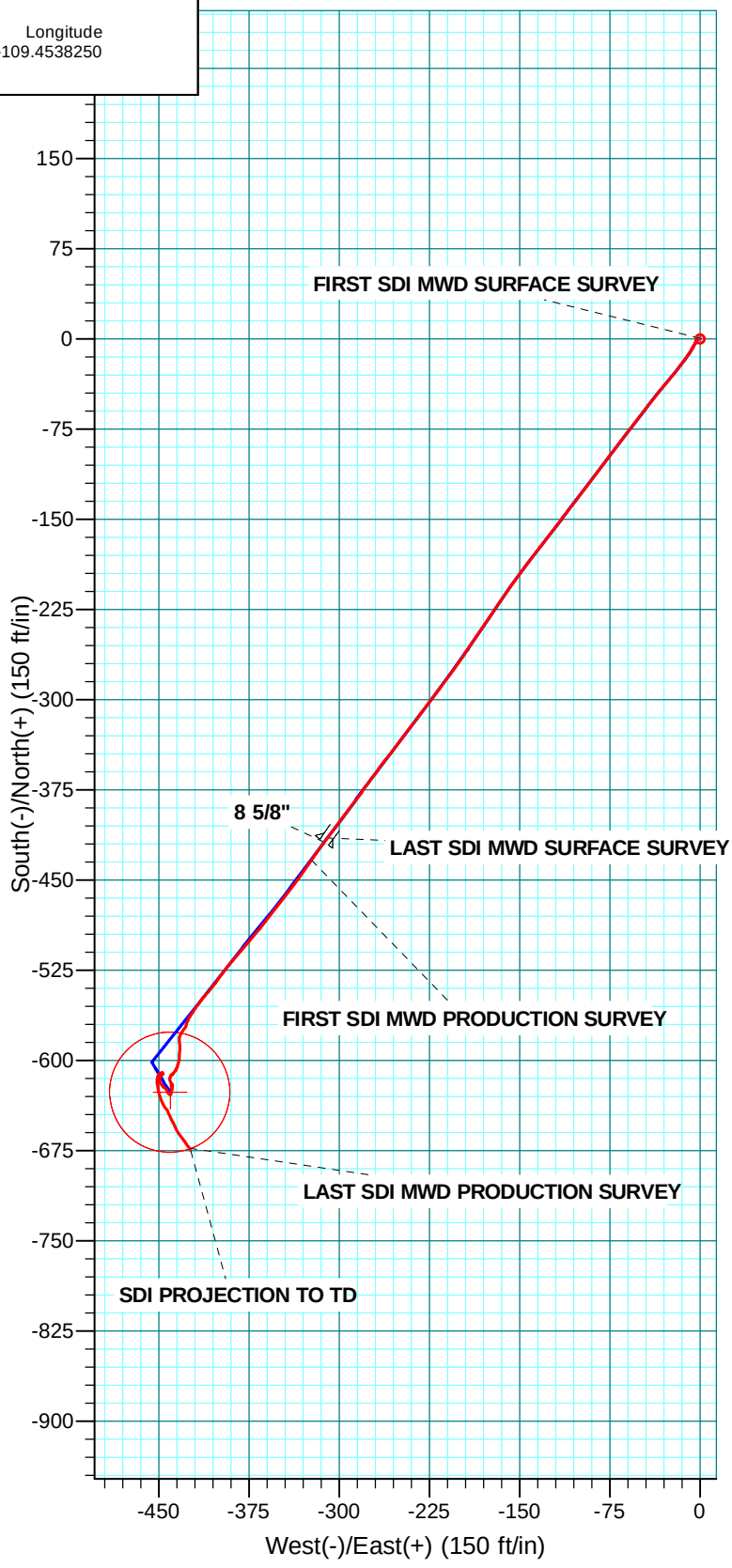
Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-5A PAD
Well: NBU 1022-5H1BS
Wellbore: OH

Anadarko Petroleum Corporation

WELL DETAILS: NBU 1022-5H1BS					
GL 5011 & KB 24 @ 5035.00ft (SST 54)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14523646.32	2073551.82	39.9831000	-109.4538250





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Scientific Drilling

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
NBU 1022-5A PAD
NBU 1022-5H1BS

OH

Design: OH

Standard Survey Report

05 March, 2014

Anadarko Petroleum Corporation

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Scientific Drilling

Scientific Drilling
Survey Report

Anadarko Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-5H1BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5011 & KB 24 @ 5035.00ft (SST 54)
Site:	NBU 1022-5A PAD	**MD Reference:**	GL 5011 & KB 24 @ 5035.00ft (SST 54)
Well:	NBU 1022-5H1BS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Denver Sales Office

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 1022-5A PAD, SECTION 5 T10S R22E

Site Position:		**Northing:**	14,523,651.71 usft	**Latitude:**	39.9831157
From:	Lat/Long	**Easting:**	2,073,532.67 usft	**Longitude:**	-109.4538930
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.99 °

Well NBU 1022-5H1BS, 799 FNL 43 FEL

Well Position	**+N/-S**	0.00 ft	**Northing:**	14,523,646.32 usft	**Latitude:**	39.9831000
	+E/-W	0.00 ft	**Easting:**	2,073,551.82 usft	**Longitude:**	-109.4538250
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,011.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	12/17/2013	10.82	65.79	51,993

Design OH

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	216.73

Survey Program **Date** 3/5/2014

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
20.00	2,405.00	Survey #1 SDI MWD SURFACE (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1
2,488.00	10,230.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00
141.00	0.35	347.34	141.00	0.36	-0.08	-0.24	0.29	0.29	0.00
FIRST SDI MWD SURFACE SURVEY									
226.00	0.70	260.77	226.00	0.53	-0.65	-0.04	0.90	0.41	-101.85
314.00	1.67	217.70	313.98	-0.57	-1.97	1.63	1.42	1.10	-48.94
398.00	2.81	208.83	397.91	-3.34	-3.71	4.90	1.41	1.36	-10.56
488.00	4.40	209.53	487.73	-8.28	-6.47	10.51	1.77	1.77	0.78
578.00	6.42	215.24	577.33	-15.39	-11.08	18.96	2.32	2.24	6.34
668.00	8.27	218.17	666.58	-24.59	-17.98	30.46	2.10	2.06	3.26

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Scientific Drilling

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Survey Report

Anadarko Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-5H1BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5011 & KB 24 @ 5035.00ft (SST 54)
Site:	NBU 1022-5A PAD	**MD Reference:**	GL 5011 & KB 24 @ 5035.00ft (SST 54)
Well:	NBU 1022-5H1BS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Denver Sales Office

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
758.00	9.23	220.52	755.54	-35.17	-26.67	44.14	1.14	1.07	2.61
848.00	10.02	218.58	844.27	-46.78	-36.24	59.17	0.95	0.88	-2.16
938.00	11.34	217.79	932.71	-59.89	-46.55	75.84	1.48	1.47	-0.88
1,028.00	12.56	217.32	1,020.76	-74.67	-57.90	94.47	1.36	1.36	-0.52
1,118.00	14.16	216.91	1,108.32	-91.25	-70.45	115.27	1.78	1.78	-0.46
1,208.00	15.92	217.35	1,195.23	-109.87	-84.55	138.62	1.96	1.96	0.49
1,298.00	17.94	217.09	1,281.33	-130.74	-100.40	164.82	2.25	2.24	-0.29
1,388.00	20.14	217.53	1,366.40	-154.09	-118.20	194.18	2.45	2.44	0.49
1,478.00	21.35	217.60	1,450.56	-179.35	-137.63	226.06	1.34	1.34	0.08
1,568.00	20.66	215.51	1,534.58	-205.26	-156.85	258.31	1.13	-0.77	-2.32
1,658.00	19.39	213.63	1,619.14	-230.62	-174.35	289.10	1.58	-1.41	-2.09
1,748.00	19.96	214.01	1,703.88	-255.80	-191.22	319.37	0.65	0.63	0.42
1,838.00	18.82	216.91	1,788.78	-280.14	-208.53	349.23	1.66	-1.27	3.22
1,928.00	17.50	217.26	1,874.30	-302.52	-225.44	377.28	1.47	-1.47	0.39
2,018.00	17.23	217.00	1,960.19	-323.93	-241.65	404.14	0.31	-0.30	-0.29
2,108.00	17.16	216.80	2,046.17	-345.21	-257.63	430.75	0.10	-0.08	-0.22
2,198.00	17.50	216.47	2,132.09	-366.72	-273.63	457.55	0.39	0.38	-0.37
2,288.00	16.81	216.93	2,218.08	-388.01	-289.49	484.10	0.78	-0.77	0.51
2,405.00	16.62	216.74	2,330.14	-414.94	-309.66	517.75	0.17	-0.16	-0.16
LAST SDI MWD SURFACE SURVEY									
2,421.00	16.36	216.26	2,345.48	-418.59	-312.36	522.29	1.82	-1.61	-2.99
8 5/8"									
2,488.00	15.30	214.09	2,409.94	-433.52	-322.90	540.56	1.82	-1.59	-3.24
FIRST SDI MWD PRODUCTION SURVEY									
2,583.00	14.33	217.43	2,501.78	-453.24	-337.07	564.84	1.36	-1.02	3.52
2,678.00	12.57	217.69	2,594.17	-470.76	-350.54	586.93	1.85	-1.85	0.27
2,772.00	12.66	218.49	2,685.90	-486.91	-363.20	607.45	0.21	0.10	0.85
2,867.00	11.34	219.98	2,778.82	-502.22	-375.68	627.19	1.43	-1.39	1.57
2,963.00	8.97	221.65	2,873.31	-515.04	-386.72	644.07	2.49	-2.47	1.74
3,057.00	8.27	216.64	2,966.25	-525.95	-395.63	658.13	1.09	-0.74	-5.33
3,153.00	6.95	216.29	3,061.40	-536.17	-403.19	670.84	1.38	-1.38	-0.36
3,248.00	5.45	223.06	3,155.85	-544.10	-409.67	681.07	1.75	-1.58	7.13
3,343.00	4.66	215.94	3,250.48	-550.52	-415.02	689.42	1.06	-0.83	-7.49
3,438.00	3.52	215.41	3,345.23	-556.02	-418.97	696.19	1.20	-1.20	-0.56
3,533.00	2.99	212.95	3,440.08	-560.48	-422.01	701.58	0.58	-0.56	-2.59
3,629.00	2.20	209.83	3,535.98	-564.17	-424.29	705.91	0.84	-0.82	-3.25
3,724.00	2.37	204.07	3,630.91	-567.55	-425.99	709.63	0.30	0.18	-6.06
3,819.00	2.11	194.84	3,725.83	-571.03	-427.24	713.17	0.47	-0.27	-9.72
3,913.00	1.67	220.51	3,819.78	-573.75	-428.58	716.15	1.00	-0.47	27.31
4,009.00	1.32	215.85	3,915.75	-575.71	-430.13	718.65	0.39	-0.36	-4.85
4,103.00	1.32	205.39	4,009.73	-577.56	-431.23	720.79	0.26	0.00	-11.13
4,198.00	1.32	209.34	4,104.70	-579.51	-432.24	722.95	0.10	0.00	4.16
4,293.00	1.49	182.54	4,199.67	-581.69	-432.83	725.06	0.71	0.18	-28.21
4,388.00	1.93	173.66	4,294.63	-584.52	-432.71	727.25	0.54	0.46	-9.35

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Scientific Drilling

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Survey Report

Anadarko Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-5H1BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5011 & KB 24 @ 5035.00ft (SST 54)
Site:	NBU 1022-5A PAD	**MD Reference:**	GL 5011 & KB 24 @ 5035.00ft (SST 54)
Well:	NBU 1022-5H1BS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Denver Sales Office

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,483.00	1.85	172.34	4,389.58	-587.63	-432.32	729.51	0.10	-0.08	-1.39
4,578.00	2.20	187.64	4,484.52	-590.95	-432.36	732.20	0.67	0.37	16.11
4,673.00	2.64	187.55	4,579.44	-594.93	-432.89	735.70	0.46	0.46	-0.09
4,768.00	2.11	178.50	4,674.35	-598.85	-433.13	738.99	0.68	-0.56	-9.53
4,862.00	2.64	196.78	4,768.27	-602.65	-433.71	742.38	0.98	0.56	19.45
4,957.00	2.73	201.35	4,863.17	-606.85	-435.17	746.62	0.24	0.09	4.81
5,052.00	2.29	224.20	4,958.08	-610.32	-437.32	750.68	1.14	-0.46	24.05
5,147.00	0.26	229.30	5,053.05	-611.82	-438.80	752.78	2.14	-2.14	5.37
5,241.00	0.35	266.74	5,147.05	-611.98	-439.25	753.17	0.23	0.10	39.83
5,336.00	0.70	199.06	5,242.05	-612.54	-439.73	753.91	0.69	0.37	-71.24
5,431.00	0.70	219.36	5,337.04	-613.54	-440.29	755.04	0.26	0.00	21.37
5,526.00	0.88	182.54	5,432.03	-614.72	-440.69	756.22	0.56	0.19	-38.76
5,621.00	0.79	168.83	5,527.02	-616.09	-440.59	757.27	0.23	-0.09	-14.43
5,716.00	0.88	163.11	5,622.01	-617.43	-440.25	758.14	0.13	0.09	-6.02
5,812.00	0.97	143.69	5,718.00	-618.79	-439.56	758.81	0.34	0.09	-20.23
5,906.00	1.14	148.61	5,811.98	-620.23	-438.60	759.39	0.20	0.18	5.23
6,001.00	0.87	206.62	5,906.97	-621.68	-438.43	760.45	1.06	-0.28	61.06
6,096.00	0.97	192.12	6,001.96	-623.11	-438.92	761.90	0.27	0.11	-15.26
6,191.00	1.11	192.93	6,096.94	-624.79	-439.30	763.47	0.15	0.15	0.85
6,286.00	1.49	184.74	6,191.92	-626.92	-439.61	765.36	0.44	0.40	-8.62
6,381.00	0.62	219.72	6,286.90	-628.55	-440.04	766.92	1.10	-0.92	36.82
6,477.00	0.88	304.00	6,382.90	-628.54	-440.98	767.47	1.07	0.27	87.79
6,572.00	1.67	330.90	6,477.87	-626.92	-442.26	766.94	1.02	0.83	28.32
6,668.00	1.41	332.30	6,573.84	-624.65	-443.49	765.86	0.27	-0.27	1.46
6,762.00	1.06	308.84	6,667.82	-623.08	-444.70	765.33	0.65	-0.37	-24.96
6,858.00	1.14	295.92	6,763.80	-622.11	-446.25	765.47	0.27	0.08	-13.46
6,953.00	1.49	339.42	6,858.78	-620.54	-447.54	764.98	1.08	0.37	45.79
7,048.00	1.49	315.52	6,953.75	-618.50	-448.84	764.13	0.65	0.00	-25.16
7,143.00	1.49	10.62	7,048.72	-616.40	-449.47	762.83	1.45	0.00	58.00
7,238.00	1.23	28.20	7,143.69	-614.29	-448.77	760.71	0.51	-0.27	18.51
7,334.00	1.14	40.77	7,239.67	-612.66	-447.65	758.74	0.29	-0.09	13.09
7,429.00	0.26	15.99	7,334.66	-611.74	-446.98	757.60	0.96	-0.93	-26.08
7,524.00	0.62	102.91	7,429.66	-611.64	-446.42	757.19	0.69	0.38	91.49
7,614.00	0.79	348.28	7,519.66	-611.15	-446.07	756.58	1.32	0.19	-127.37
7,715.00	0.55	286.13	7,620.65	-610.33	-446.68	756.29	0.71	-0.24	-61.53
7,810.00	0.53	255.14	7,715.65	-610.32	-447.54	756.79	0.30	-0.02	-32.62
7,905.00	0.70	237.29	7,810.64	-610.74	-448.45	757.68	0.27	0.18	-18.79
8,000.00	0.88	226.22	7,905.63	-611.56	-449.47	758.94	0.25	0.19	-11.65
8,095.00	0.79	215.15	8,000.62	-612.60	-450.37	760.32	0.19	-0.09	-11.65
8,190.00	1.31	195.72	8,095.61	-614.18	-451.04	761.99	0.66	0.55	-20.45
8,286.00	1.32	192.82	8,191.58	-616.32	-451.58	764.02	0.07	0.01	-3.02
8,381.00	0.62	147.65	8,286.57	-617.82	-451.55	765.21	1.04	-0.74	-47.55
8,476.00	0.97	179.73	8,381.56	-619.06	-451.27	766.03	0.58	0.37	33.77

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Survey Report

Anadarko Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-5H1BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5011 & KB 24 @ 5035.00ft (SST 54)
Site:	NBU 1022-5A PAD	**MD Reference:**	GL 5011 & KB 24 @ 5035.00ft (SST 54)
Well:	NBU 1022-5H1BS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Denver Sales Office

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,571.00	1.67	171.55	8,476.54	-621.23	-451.07	767.65	0.76	0.74	-8.61
8,666.00	2.71	164.85	8,571.46	-624.77	-450.28	770.01	1.13	1.09	-7.05
8,762.00	2.64	163.82	8,667.36	-629.08	-449.07	772.75	0.09	-0.07	-1.07
8,857.00	2.55	156.70	8,762.26	-633.12	-447.62	775.12	0.35	-0.09	-7.49
8,953.00	1.93	154.59	8,858.19	-636.54	-446.08	776.94	0.65	-0.65	-2.20
9,048.00	1.76	150.28	8,953.14	-639.26	-444.67	778.27	0.23	-0.18	-4.54
9,144.00	1.81	142.35	9,049.09	-641.74	-443.02	779.27	0.26	0.05	-8.26
9,239.00	1.85	161.36	9,144.05	-644.38	-441.61	780.55	0.64	0.04	20.01
9,334.00	1.67	158.90	9,239.00	-647.12	-440.62	782.15	0.21	-0.19	-2.59
9,429.00	1.67	151.25	9,333.96	-649.63	-439.46	783.47	0.23	0.00	-8.05
9,525.00	1.85	151.95	9,429.92	-652.22	-438.06	784.71	0.19	0.19	0.73
9,621.00	2.20	153.01	9,525.86	-655.23	-436.49	786.18	0.37	0.36	1.10
9,716.00	2.20	154.33	9,620.79	-658.50	-434.87	787.83	0.05	0.00	1.39
9,810.00	2.23	141.34	9,714.72	-661.55	-432.95	789.13	0.53	0.03	-13.82
9,906.00	2.20	144.31	9,810.64	-664.51	-430.71	790.16	0.12	-0.03	3.09
10,002.00	2.37	145.01	9,906.57	-667.63	-428.49	791.34	0.18	0.18	0.73
10,097.00	2.20	143.51	10,001.49	-670.71	-426.28	792.48	0.19	-0.18	-1.58
10,173.00	2.29	144.82	10,077.43	-673.12	-424.54	793.37	0.14	0.12	1.72
LAST SDI MWD PRODUCTION SURVEY									
10,230.00	2.29	144.82	10,134.39	-674.98	-423.23	794.08	0.00	0.00	0.00
SDI PROJECTION TO TD									

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
PBHL_NBU 1022-5H1BS	0.00	0.00	10,086.00	-626.55	-440.75	14,523,012.23	2,073,122.00	39.9813797	-109.4553980

- actual wellpath misses target center by 50.05ft at 10173.00ft MD (10077.43 TVD, -673.12 N, -424.54 E)
- Circle (radius 50.00)

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,421.00	2,345.48	8 5/8"	8.625	11.000

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Survey Report

Anadarko Petroleum Corporation

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Well:	NBU 1022-5H1BS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Denver Sales Office

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
141.00	141.00	0.36	-0.08	FIRST SDI MWD SURFACE SURVEY
2,405.00	2,330.14	-414.94	-309.66	LAST SDI MWD SURFACE SURVEY
2,488.00	2,409.94	-433.52	-322.90	FIRST SDI MWD PRODUCTION SURVEY
10,173.00	10,077.43	-673.12	-424.54	LAST SDI MWD PRODUCTION SURVEY
10,230.00	10,134.39	-674.98	-423.23	SDI PROJECTION TO TD

Checked By: _____ Approved By: _____ Date: _____

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