API Well Number: 43047536910000

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
MU 921-19B2A-UBHZ

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

3. FIELD OR WILDCAT
NATURAL BUTTES

4. TYPE OF WELL
Oil Well Coalbed Methane Well: NO

5. UNIT or COMMUNITIZATION AGREEMENT NAME
MAVERICK

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)
UTU0581

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	449 FNL 1765 FEL	NWNE	30	9.0 S	21.0 E	S
Top of Uppermost Producing Zone	449 FNL 1765 FEL	NWNE	30	9.0 S	21.0 E	S
At Total Depth	2 FNL 2414 FEL	NWNE	19	9.0 S	21.0 E	S

21. COUNTY
UINTAH

22. DISTANCE TO NEAREST LEASE LINE (Feet)
2

23. NUMBER OF ACRES IN DRILLING UNIT
2400

25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)
655

26. PROPOSED DEPTH
MD: 10416 TVD: 4866

27. ELEVATION - GROUND LEVEL
4853

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	12.25	9.625	0 - 2818	36.0	J-55 LT&C	8.4	Type III	420	2.1	12.5
							Type III	420	1.46	14.3
I1	8.75	7	0 - 5193	26.0	HCP-110 LT&C	10.2	Premium Lite High Strength	500	1.92	12.5
							Class G	90	1.16	15.8
L1	6.125	4.5	4293 - 10416	11.6	HCP-110 LT&C	9.5	No Used	0	0.0	0.0
							No Used	0	0.0	0.0

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 Cara Mahler **TITLE** Regulatory Analyst I **PHONE** 720 929-6029

SIGNATURE **DATE** 03/13/2013 **EMAIL** cara.mahler@anadarko.com

API NUMBER ASSIGNED
43047536910000

APPROVAL
Permit Manager

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

MU 921-19B2A-UBHZ

Surface:	449 FNL / 1765 FEL	NWNE	Sec. 30
BHL:	2 FNL / 2414 FEL	NWNE	Sec. 19

T9S R21E

Unitah County, Utah
Mineral Lease: UTU-0581

ONSHORE ORDER NO. 1

DRILLING PROGRAM

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

Formation	Depth	Resource
Uinta	0 - Surface	
Green River	1,594'	Water
Birds Nest	1,865'	Water
Mahogany	2,368'	Water
Lower Green River	4,357'	
Uteland Butte	4,811'	Oil/Gas
TVD	4,866'	
TMD	10,416'	

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

Please refer to the attached Drilling Program

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

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

6. **Evaluation Program:**

Please refer to the attached Drilling Program

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7. Abnormal Conditions:

Maximum anticipated bottom hole pressure calculated at 4866' TVD, approximately equals 2,433 psi

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

Maximum anticipated surface pressure equals approximately 1,362 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 attached Drilling Program.
Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may

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be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

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

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

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

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

Variance for Special Drilling Operation (surface equipment placement) Requirements
Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

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

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

on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

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

Variance for FIT Requirements

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

10. Other Information:

Please refer to the attached Drilling Program.

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API Well Number: 43047536910000

DRILLING AND GEOLOGICAL INFORMATION

Based on Survey Plat

PROSPECT/FIELD	Uintah	**COUNTY** Uintah	**GROUND ELEVATION**	GR 4,853'	**Source of drilling program:** Danny Showers
OPERATOR	Kerr-McGee	**LEASE** MU 921-19B2A-UBHZ	**RIG HT. 19.0' KB**	KB ± 4,872'	**Source of geological tops:** Kathryn Schuller
LEASE & WELL NO.	MU 921-19B2A-UBHZ	**STATE** Utah			**Source of log information:**
SURFACE LOCATION	449' FNL 1765' FEL	**BOTTOM HOLE LOCATION**	2' FNL 2414' FEL		
	Section 30 T9S R21E		Section 19 T9S R21E		**SURFACE N/S** 449' FNL
LAT/LONG (NAD83)	40.013014 -109.591287	**BOTTOM HOLE LAT/LONG (NAD83)**	40.028825 -109.593652		**SURFACE E/W** 1765' FEL
LAT/LONG (NAD27)	40.013050 -109.590597	**BOTTOM HOLE LAT/LONG (NAD27)**	40.028861 -109.592961		**7" CSG SHOE N/S (REF SURF)** 569'
AZIMUTH OF HORIZONTAL	353.44	**STRIKE/DIP OBJECTIVE FORMATION**			**7" CSG SHOE E/W (REF SURF)** -67'
FORM @ TD (PILOT HOLE)		**FORM @ TD (HORIZONTAL HOLE)**	Uteland Butte		**7" CSG SHOE N/S (REF LL)** 138' FSL Sec. 19
API NUMBER		**AFE NUMBER**			**7" CSG SHOE E/W (REF LL)** 1815' FEL of Sec. 19

WELLBORE

Based on 4,872' KB

GEOLOGICAL TOPS:

Formation	MD	TVD	Comments
Green River	1,594 '	1,594 '	
Birds Nest	1,865 '	1,865 '	
Mahogany	2,368 '	2,368 '	
GR lower	4,587 '	4,357 '	
Uteland Butte	4,939 '	4,811 '	
HZ proposed Landing TVD @ 572' VS		4,866 '	
Proposed TD (Horizontal)	10,416 '	4,866 '	

9 5/8" CASING DEPTH
MD: 2,818'
TVD: 2,818'

7" CEMENT TOP
MD: 0'
TVD: 0'

KOP
TVD/MD: 4,293'

LANDING AND 7" INTERMEDIATE DEPTH
MD: 5,193'
TVD: 4,866'

4 1/2" LINER TOP
MD: 4,293'
TVD: 4,293'

4 1/2" LINER DEPTH
MD: 10,416'
TVD: 4,866'

LOGGING PROGRAM:

Interval	Type	Log
Surf Csg -TD	Mudlogging	Two-man unit mud logging
HZ Kickoff - Landing	MWD/GR	GR
HZ Lateral	MWD/LWD	Inc/Az/GR
	PCL	Triple Combo & FMI - (One tool string)

DST'S: None **CORES:** None

POTENTIAL DRILLING PROBLEMS:
Mechanical Instability when drilling the curve, bring MW up 0.5 ppg per 45 degrees over curve interval

DEVIATION: No deviation restraints based on hardlines as we in the middle of unitized acreage.

MUD PROGRAM: **Surface Formation:**

Mud Type	Interval	Weight	Vis	WL	Remarks
Fresh Water	0' - 2,818' MD	8.4	40 - 45	NC	Spud mud - FW plus bentonite for viscosity & lime for flocculation
Fresh Water	2,818' MD - 4,293' MD	9	28 - 30	<20	Fresh water with bentonite for sweeps
FW PHPA (Directional)	4,293' MD - 5,193' MD	10.2	35 - 50	<10	MW & PHPA to maintain stability
FW PHPA/Flowzan (Horizontal)	5,193' MD - 10,416' MD	9.5	35 - 50	<10	Fresh water/PHPA

CASING & CEMENT PROGRAM:

	Size	Wt (ppf)	Grade	Hole	Top	Bottom	Cement:	Ft	Sx	Density	Yield	GPS	Type
Surface Casing:	9.625"	36.0	J-55	12.25"	0'	2,818'	**Lead**	1,400 '	±420 sx	12.5	2.1	11.97	Type III
							Tail	1,418 '	±420 sx	14.3	1.46	7.18	Type III
Lead Cmt Additives	2.5% SMS, 0.25 lbs/sk Cello Flake, 0.08 lbs/sk Static free												
Tail Cmt Additives	2% Calcium Chloride, 0.25 lbs/sk Cello Flake, 0.08 lbs/sk Static free												
Intermediate Casing:	7.000"	26.0	HCP-110	8.75"	0'	5,193'	**Lead**	4,693 '	±500 sx	12.5	1.92	10.54	Premium Lite
							Tail	500 '	±90 sx	15.8	1.16		Class G
Lead Cmt Additives	3% Bentonite, 0.4% FL - 52, 0.25 lb/sk Cello Flake												
Tail Cmt Additives	20% S-8, 0.4% FL-52, 0.1% SMS												
Production Csg:	4.500"	11.6	HCP-110	6.125"	4,293'	10,416'	**Lead**						Perforated Liner
							Tail						

Lateral Length 5,223'

TOE / 4 ½" LINER SETTING DEPTH:
MD: 10,416' **TVD:** 4,866'

PILOT HOLE:
MD: 0'
TVD: 0'

BOTTOM HOLE PRESSURE

Formation:	Green River	2,444 psi @	5,200'	or Gradient:	0.47 psi/ft
		psi @		or Gradient:	psi/ft

Prepared by: Danny Showers **Date:** 01/15/13 **Doc:** Well Draft Drilling Diagram.xls

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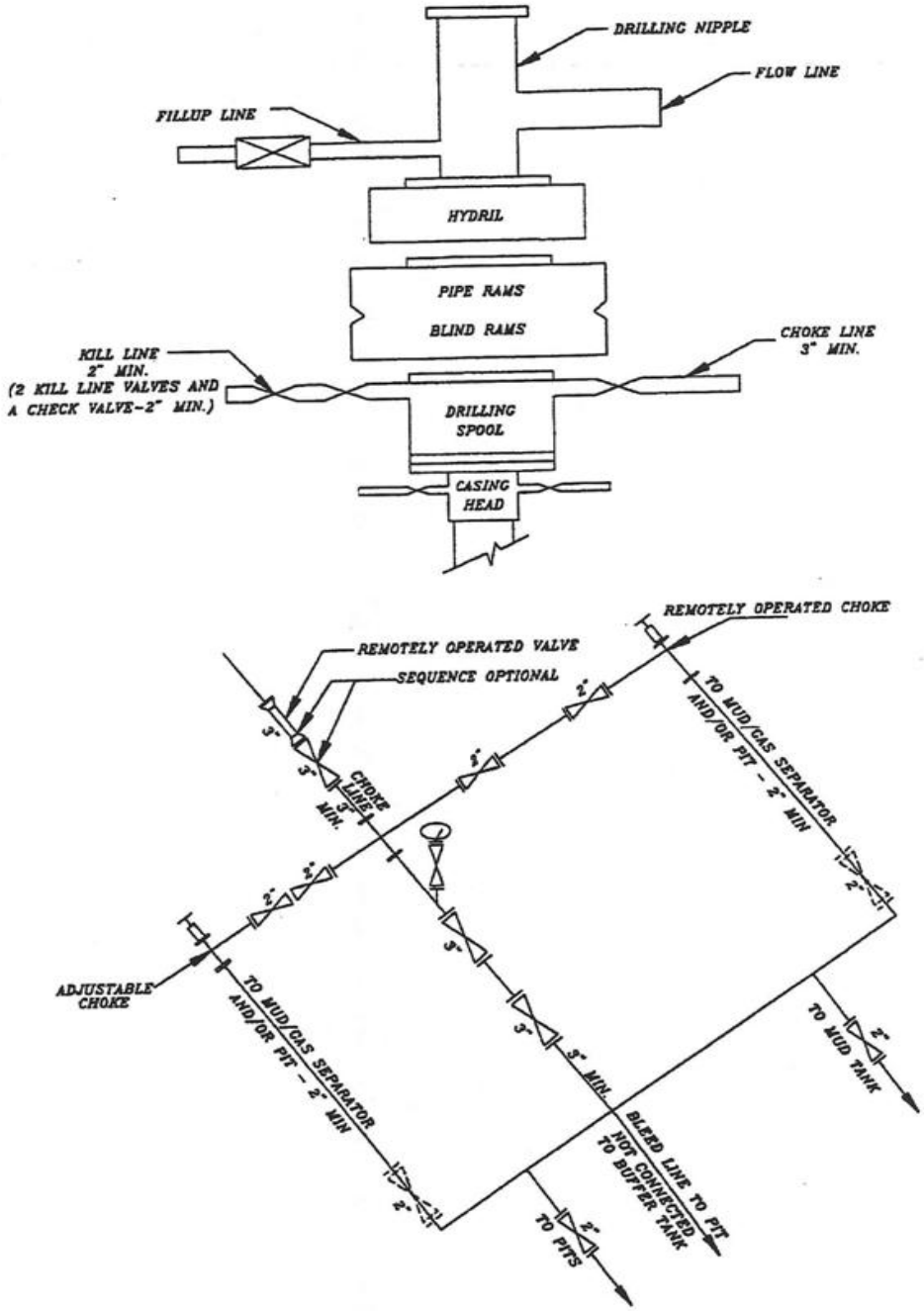
EXHIBIT A
MU 921-19B2A-UBHZ



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

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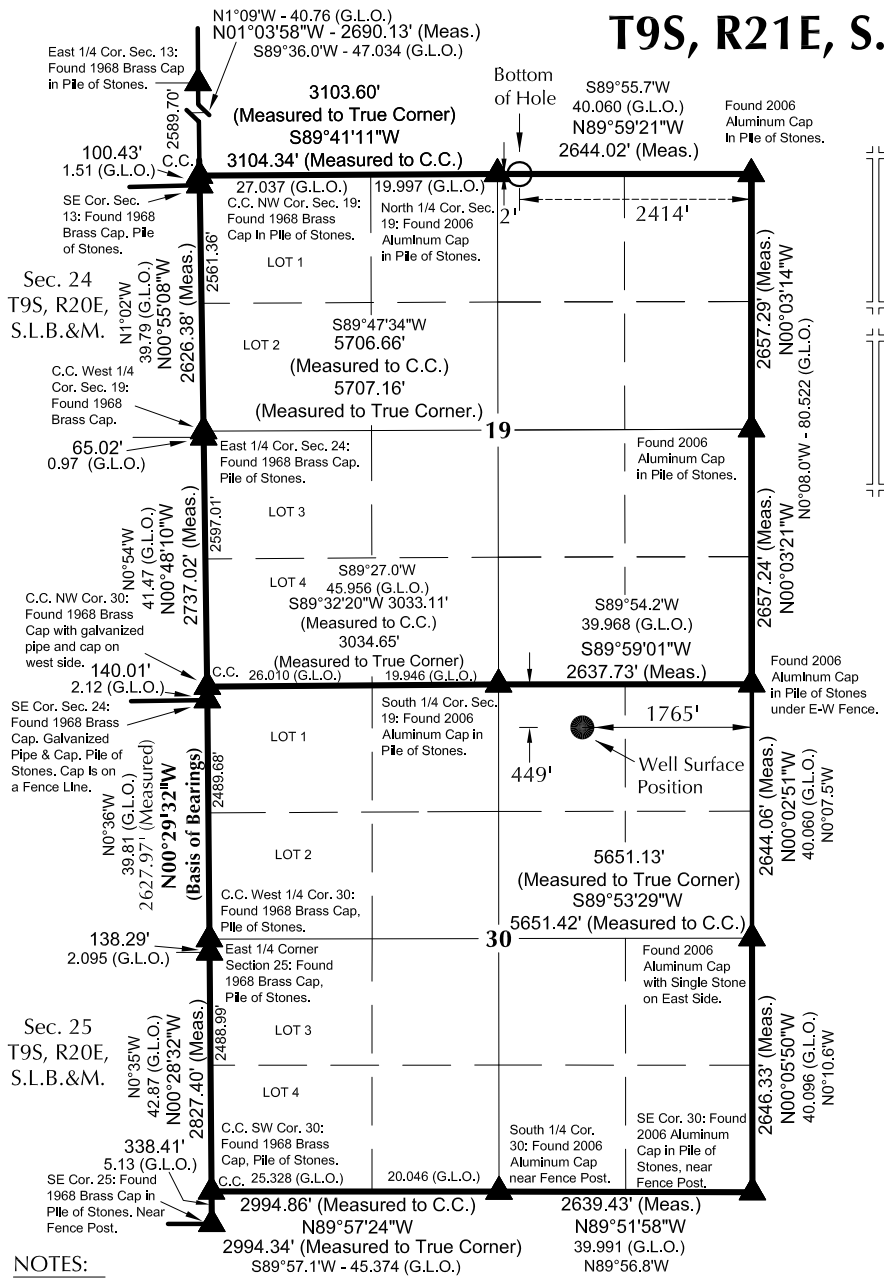
T9S, R21E, S.L.B.&M.

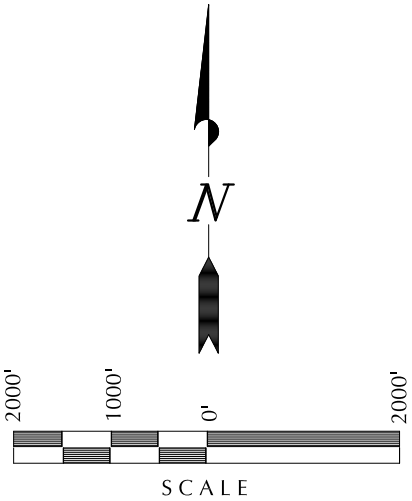


MU 921-19B2A-UBHZ (Surface Position)
NAD 83 LATITUDE = 40.013014° (40° 00' 46.851")
LONGITUDE = 109.591287° (109° 35' 28.634")
NAD 27 LATITUDE = 40.013050° (40° 00' 46.978")
LONGITUDE = 109.590597° (109° 35' 26.150")

MU 921-19B2A-UBHZ (Bottom Hole)
NAD 83 LATITUDE = 40.028825° (40° 01' 43.771")
LONGITUDE = 109.593652° (109° 35' 37.146")
NAD 27 LATITUDE = 40.028861° (40° 01' 43.898")
LONGITUDE = 109.592961° (109° 35' 34.661")

WELL LOCATION:
MU 921-19B2A-UBHZ

ELEV. UNGRADED GROUND = 4854.4'



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 N06°28'33"W 5799.15' from the Surface Position.
4. NAD 83 Latitude & Longitude are (CORS 96)(EPOCH:2002).
5. Bearings and Distances are based upon a Local Cartesian Grid, oriented to Geodetic North at the North 1/4 Corner of Section 8, T10S, R22E, S.L.B.&M. The Grid having a mean project height of 5300'. Lineal units used are U.S. Survey Foot.
6. Basis of elevation is Tri-Sta "Two Water" located in Lot 4 of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

SURVEYOR'S CERTIFICATE

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

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

9-28-12

PROFESSIONAL LAND SURVEYOR
REGISTRATION No. 6028691
STATE OF UTAH

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

WELL PAD: MU 921-30B

MU 921-19B2A-UBHZ
WELL PLAT
2' FNL, 2414' FEL (Bottom Hole)
NW ¼ NE ¼ OF SECTION 19, T9S, R21E, 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: 9-6-12	SURVEYED BY: A.F.	SHEET NO:
DATE DRAWN: 9-22-12	DRAWN BY: C.T.C.	4
SCALE: 1" = 2000'	Date Last Revised:	4 OF 20

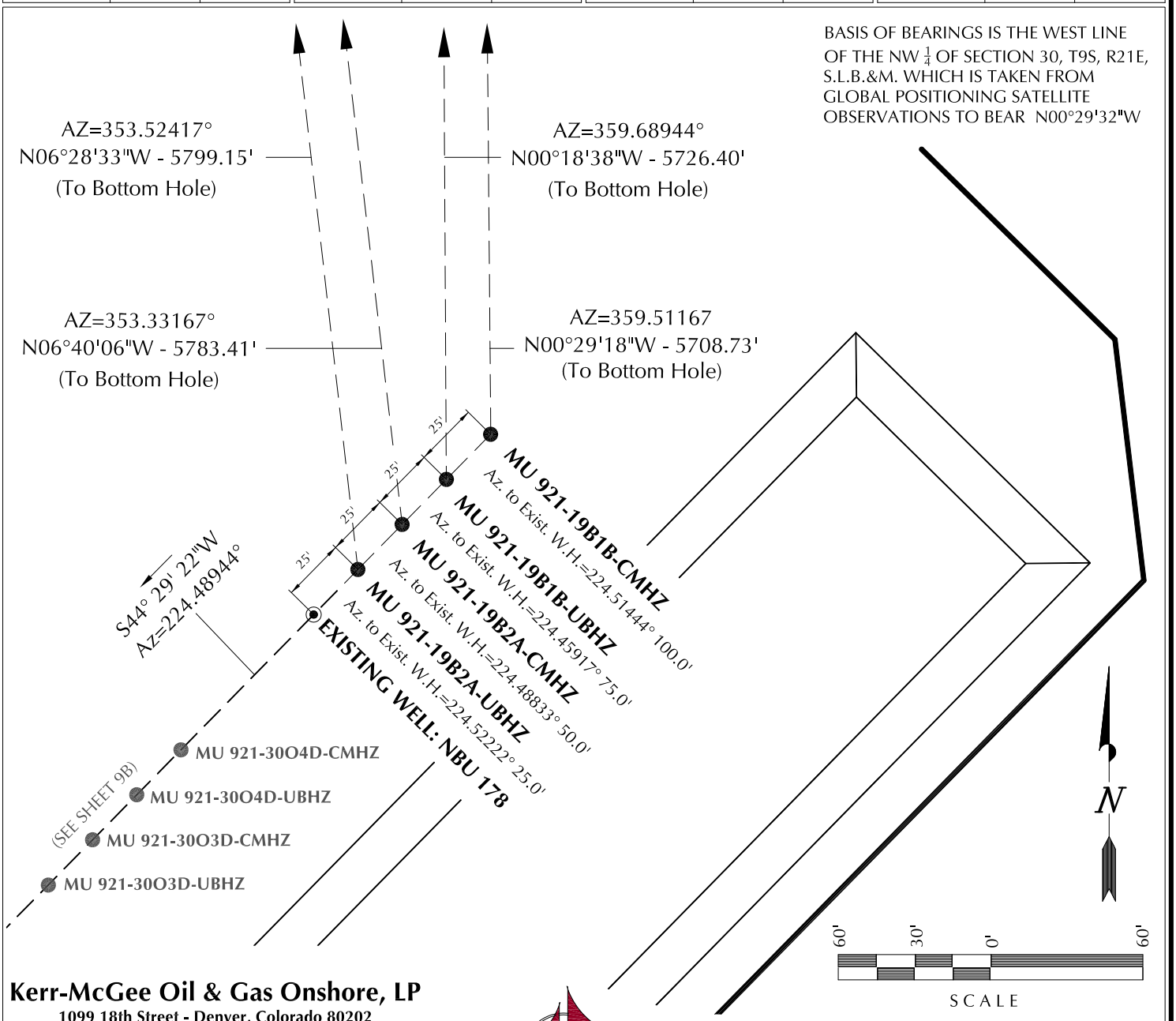
RECEIVED: March 08, 2013

API Well Number: 43047536910000

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27			NAD83		NAD27		
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES
MU 921-19B1B-CMHZ	40°00'47.381" 40.013161°	109°35'27.960" 109.591100°	40°00'47.508" 40.013197°	109°35'25.475" 109.590410°	395' FNL 1713' FEL	40°01'43.779" 40.028827°	109°35'28.690" 109.591303°	40°01'43.906" 40.028863°	109°35'26.205" 109.590612°	2' FNL 1756' FEL
MU 921-19B1B-UBHZ	40°00'47.205" 40.013112°	109°35'28.185" 109.591163°	40°00'47.332" 40.013148°	109°35'25.701" 109.590473°	413' FNL 1730' FEL	40°01'43.779" 40.028827°	109°35'28.690" 109.591303°	40°01'43.906" 40.028863°	109°35'26.205" 109.590612°	2' FNL 1756' FEL
MU 921-19B2A-CMHZ	40°00'47.028" 40.013063°	109°35'28.410" 109.591225°	40°00'47.155" 40.013099°	109°35'25.925" 109.590535°	431' FNL 1748' FEL	40°01'43.771" 40.028825°	109°35'37.146" 109.593652°	40°01'43.898" 40.028861°	109°35'34.661" 109.592961°	2' FNL 2414' FEL
MU 921-19B2A-UBHZ	40°00'46.851" 40.013014°	109°35'28.634" 109.591287°	40°00'46.978" 40.013050°	109°35'26.150" 109.590597°	449' FNL 1765' FEL	40°01'43.771" 40.028825°	109°35'37.146" 109.593652°	40°01'43.898" 40.028861°	109°35'34.661" 109.592961°	2' FNL 2414' FEL
NBU 178	40°00'46.675" 40.012965°	109°35'28.859" 109.591350°	40°00'46.802" 40.013001°	109°35'26.375" 109.590660°	466' FNL 1783' 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
MU 921-19B1B-CMHZ	5708.5'	-48.7'	MU 921-19B1B-UBHZ	5726.3'	-31.0'	MU 921-19B2A-CMHZ	5744.3'	-671.6'	MU 921-19B2A-UBHZ	5762.1'	-654.1'



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

WELL PAD - MU 921-30B

WELL PAD INTERFERENCE PLAT
MU 921-19B1B-CMHZ, MU 921-19B1B-UBHZ,
MU 921-19B2A-CMHZ, MU 921-19B2A-UBHZ,
MU 921-30O4D-CMHZ, MU 921-30O4D-UBHZ,
MU 921-30O3D-CMHZ & MU 921-30O3D-UBHZ
LOCATED IN SECTION 30, T9S, R21E,
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: 9-6-12	SURVEYED BY: A.F.	SHEET NO:
DATE DRAWN: 9-22-12	DRAWN BY: C.T.C.	9A
SCALE: 1" = 60'	Date Last Revised:	9A OF 20

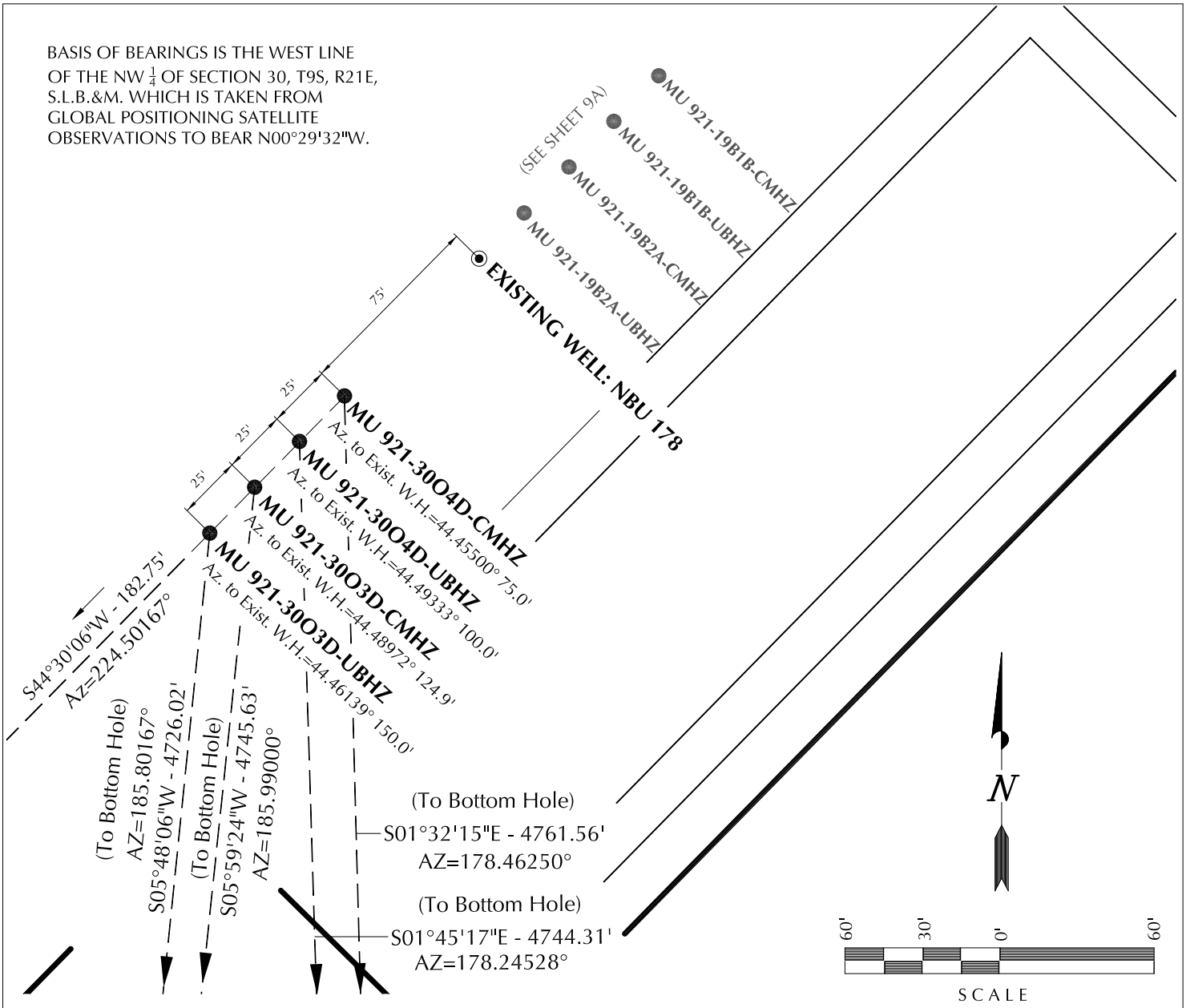
RECEIVED: March 08, 2013

API Well Number: 43047536910000

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27			NAD83		NAD27		
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES
MU 921-30O4D-CMHZ	40°00'46.145" 40.012818°	109°35'29.533" 109.591537°	40°00'46.272" 40.012853°	109°35'27.049" 109.590847°	520' FNL 1836' FEL	39°59'59.121" 39.999756°	109°35'27.804" 109.591057°	39°59'59.247" 39.999791°	109°35'25.321" 109.590367°	6' FSL 1714' FEL
MU 921-30O4D-UBHZ	40°00'45.969" 40.012769°	109°35'29.758" 109.591599°	40°00'46.096" 40.012805°	109°35'27.274" 109.590909°	538' FNL 1853' FEL	39°59'59.121" 39.999756°	109°35'27.804" 109.591057°	39°59'59.247" 39.999791°	109°35'25.321" 109.590367°	6' FSL 1714' FEL
MU 921-30O3D-CMHZ	40°00'45.793" 40.012720°	109°35'29.983" 109.591662°	40°00'45.920" 40.012756°	109°35'27.498" 109.590972°	556' FNL 1871' FEL	39°59'59.156" 39.999766°	109°35'36.257" 109.593405°	39°59'59.283" 39.999801°	109°35'33.773" 109.592715°	9' FSL 2372' FEL
MU 921-30O3D-UBHZ	40°00'45.616" 40.012671°	109°35'30.207" 109.591724°	40°00'45.743" 40.012706°	109°35'27.723" 109.591034°	573' FNL 1888' FEL	39°59'59.156" 39.999766°	109°35'36.257" 109.593405°	39°59'59.283" 39.999801°	109°35'33.773" 109.592715°	9' FSL 2372' 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
MU 921-30O4D-CMHZ	-4759.8'	127.8'	MU 921-30O4D-UBHZ	-4742.1'	145.3'	MU 921-30O3D-CMHZ	-4719.7'	-495.2'	MU 921-30O3D-UBHZ	-4701.8'	-477.7'



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

WELL PAD - MU 921-30B

WELL PAD INTERFERENCE PLAT
MU 921-19B1B-CMHZ, MU 921-19B1B-UBHZ,
MU 921-19B2A-CMHZ, MU 921-19B2A-UBHZ,
MU 921-30O4D-CMHZ, MU 921-30O4D-UBHZ,
MU 921-30O3D-CMHZ & MU 921-30O3D-UBHZ
LOCATED IN SECTION 30, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH.

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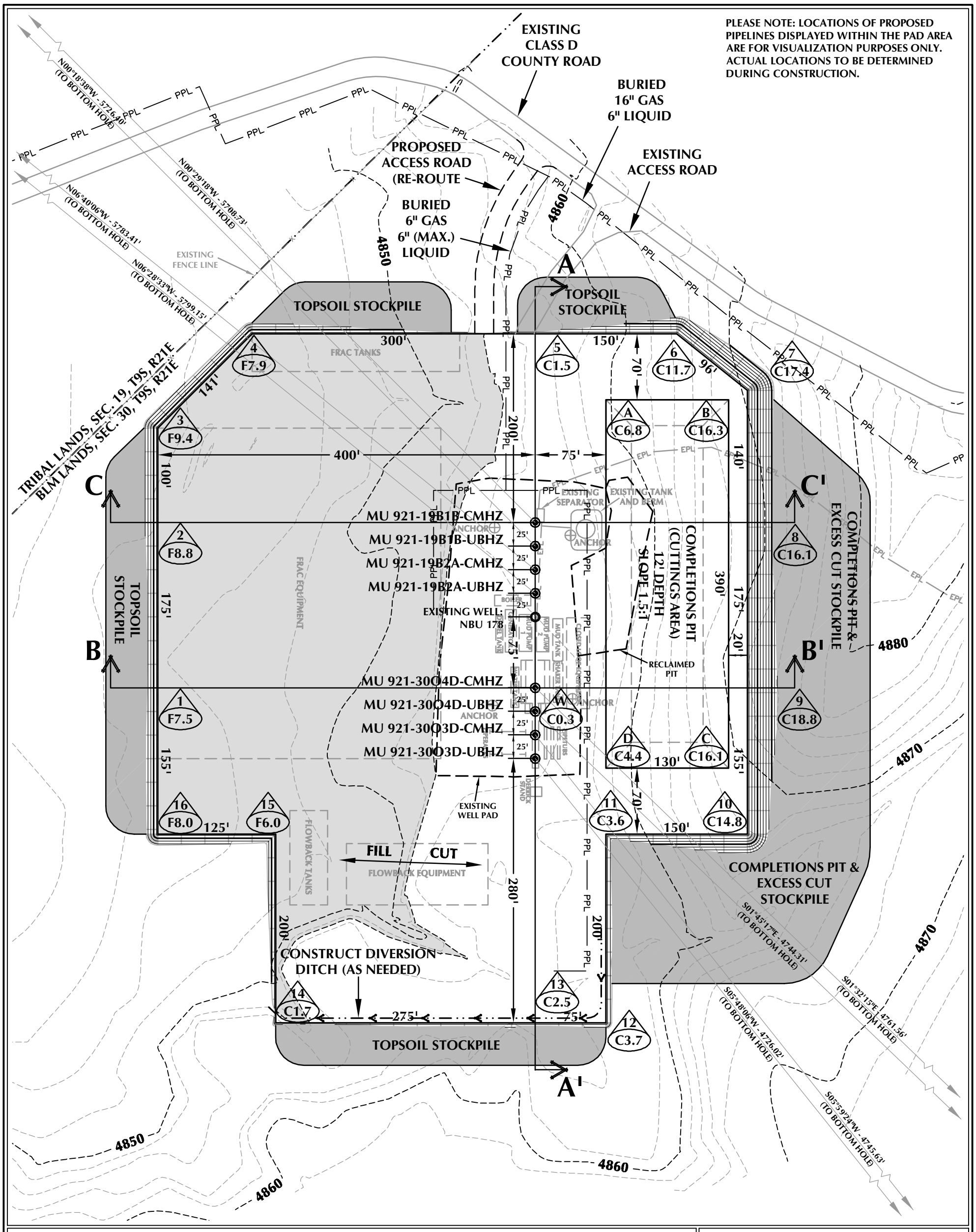
Phone 307-674-0609
Fax 307-674-0182

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

DATE SURVEYED: 9-6-12	SURVEYED BY: A.F.	SHEET NO:
DATE DRAWN: 9-22-12	DRAWN BY: C.T.C.	9B
SCALE: 1" = 60'	Date Last Revised:	9B OF 20

RECEIVED: March 08, 2013



WELL PAD - MU 921-30B DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 4853.2'
FINISHED GRADE ELEVATION = 4852.9'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 9.83 ACRES
TOTAL DISTURBANCE AREA = 12.75 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 42,896 C.Y.
TOTAL FILL FOR WELL PAD = 41,207 C.Y.
TOPSOIL @ 6" DEPTH = 7,064 C.Y.
EXCESS MATERIAL = 1,689 C.Y.

COMPLETIONS PIT QUANTITIES

TOTAL CUT FOR COMPLETIONS PIT
+/- 18,570 C.Y.
COMPLETIONS PIT CAPACITY
(2' OF FREEBOARD)
+/- 71,050 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 50' 100' 1" = 100'
2' CONTOURS

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

WELL PAD - MU 921-30B

WELL PAD - LOCATION LAYOUT
MU 921-19B1B-CMHZ, MU 921-19B1B-UBHZ,
MU 921-19B2A-CMHZ, MU 921-19B2A-UBHZ,
MU 921-30O4D-CMHZ, MU 921-30O4D-UBHZ,
MU 921-30O3D-CMHZ & MU 921-30O3D-UBHZ
LOCATED IN SECTION 30, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH

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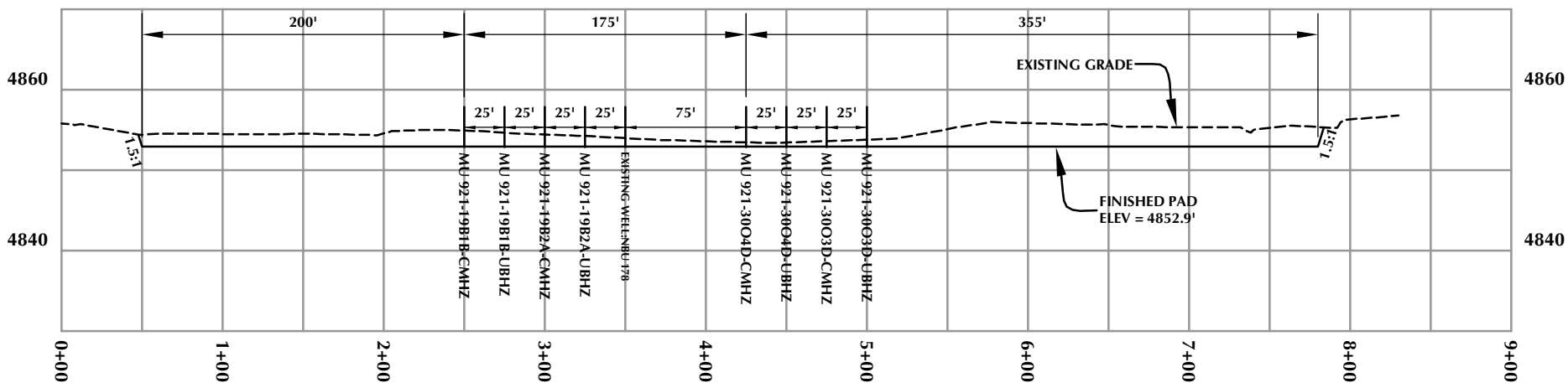
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

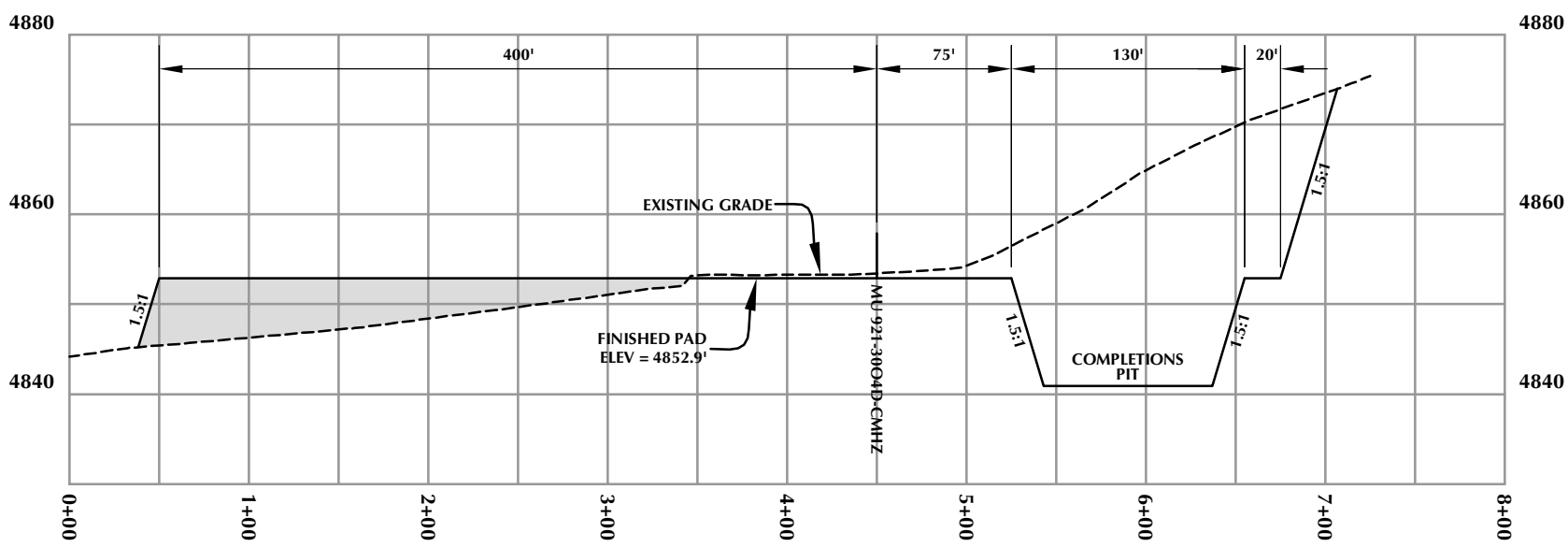
SCALE: 1"=100' | DATE: 9/28/12 | SHEET NO: 10
REVISED:
10 OF 20

K:\ANADARKO\2012\2012-76_NBU_921-19-30_FOCUS\DWGS\NBU 921-30B\NBU 921-30B.dwg, 9/28/2012 2:13:24 PM, jacob

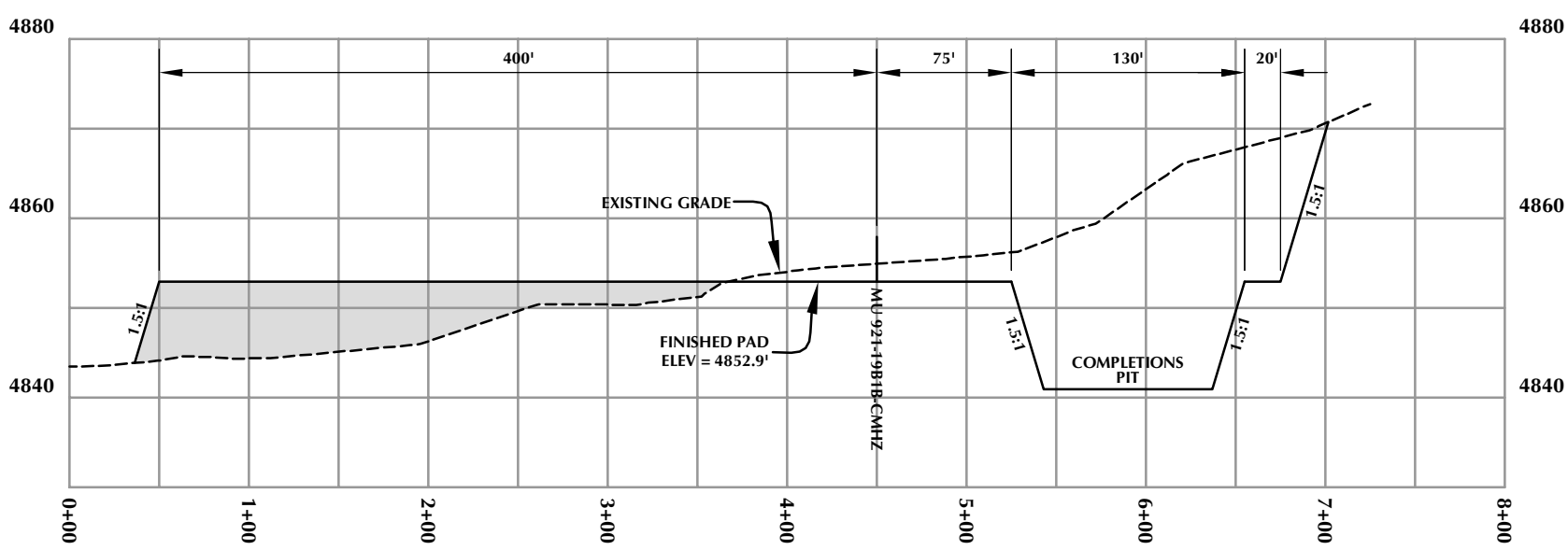
RECEIVED: March 08, 2013



CROSS SECTION A-A'



CROSS SECTION B-B'



CROSS SECTION C-C'

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

WELL PAD - MU 921-30B

WELL PAD - CROSS SECTIONS
MU 921-19B1B-CMHZ, MU 921-19B1B-UBHZ,
MU 921-19B2A-CMHZ, MU 921-19B2A-UBHZ,
MU 921-30O4D-CMHZ, MU 921-30O4D-UBHZ,
MU 921-30O3D-CMHZ & MU 921-30O3D-UBHZ
LOCATED IN SECTION 30, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH

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209 NORTH 300 WEST - VERNAL, UTAH 84078

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

Scale: 1"=100' | Date: 9/28/12 | SHEET NO: 11
REVISED:
11 OF 20

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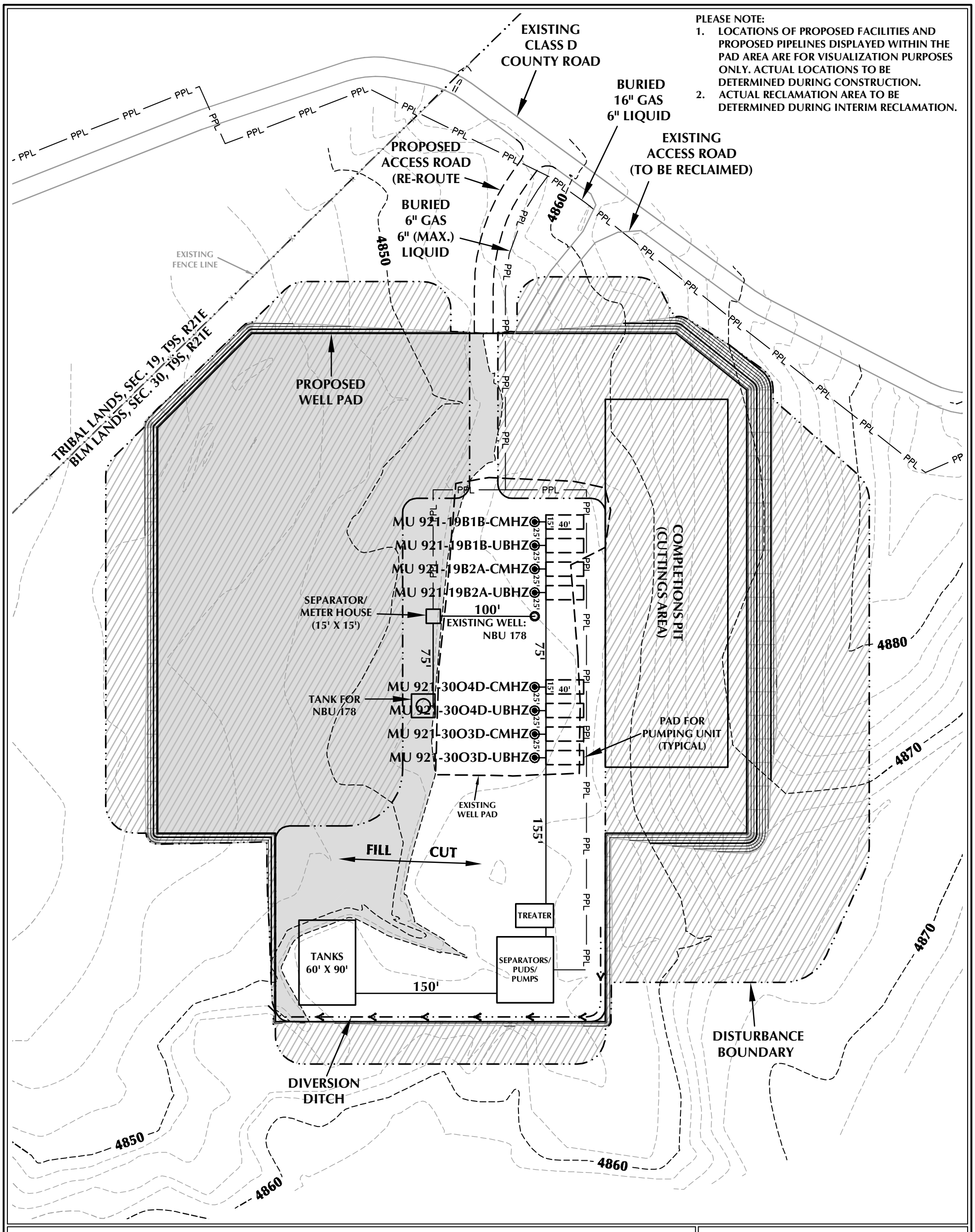
RECEIVED: March 08, 2013



WELL PAD - MU 921-30B RECLAMATION DESIGN SUMMARY

TOTAL DISTURBANCE AREA = 12.75 ACRES (INCLUDING EXISTING)
RECLAMATION AREA = 9.23 ACRES
TOTAL WELL PAD AREA AFTER RECLAMATION = 3.52 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 50' 100' 1" = 100'

2' CONTOURS

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

WELL PAD - MU 921-30B

WELL PAD - RECLAMATION LAYOUT
MU 921-19B1B-CMHZ, MU 921-19B1B-UBHZ,
MU 921-19B2A-CMHZ, MU 921-19B2A-UBHZ,
MU 921-30O4D-CMHZ, MU 921-30O4D-UBHZ,
MU 921-30O3D-CMHZ & MU 921-30O3D-UBHZ
LOCATED IN SECTION 30, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH

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209 NORTH 300 WEST - VERNAL, UTAH 84078

SCALE: 1"=100' | DATE: 9/28/12 | SHEET NO: 12 12 OF 20
REVISED:

K:\ANADARKO\2012\2012-76_NBU_921-19-30_FOCUS\DWGS\NBU 921-30B\NBU 921-30B.dwg, 9/28/2012 2:16:59 PM, jacob

RECEIVED: March 08, 2013

PHOTO VIEW: FROM LOCATION STAKES TO CORNER #2 **CAMERA ANGLE: NORTHWESTERLY**

PHOTO VIEW: FROM LOCATION STAKES TO CORNER #1 **CAMERA ANGLE: NORTHWESTERLY**

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

WELL PAD - MU 921-30B

LOCATION PHOTOS
MU 921-19B1B-CMHZ, MU 921-19B1B-UBHZ, MU 921-19B2A-CMHZ, MU 921-19B2A-UBHZ, MU 921-30O4D-CMHZ, MU 921-30O4D-UBHZ, MU 921-30O3D-CMHZ & MU 921-30O3D-UBHZ
LOCATED IN SECTION 30, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.

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

DATE PHOTOS TAKEN: 9-6-12	PHOTOS TAKEN BY: A.F.	SHEET NO:
DATE DRAWN: 9-22-12	DRAWN BY: C.T.C.	**13A**
Date Last Revised:		13A OF 20

RECEIVED: March 08, 2013

PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: SOUTHWESTERLY

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

WELL PAD - MU 921-30B

LOCATION PHOTOS
MU 921-19B1B-CMHZ, MU 921-19B1B-UBHZ,
MU 921-19B2A-CMHZ, MU 921-19B2A-UBHZ,
MU 921-30O4D-CMHZ, MU 921-30O4D-UBHZ,
MU 921-30O3D-CMHZ & MU 921-30O3D-UBHZ
LOCATED IN SECTION 30, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH.

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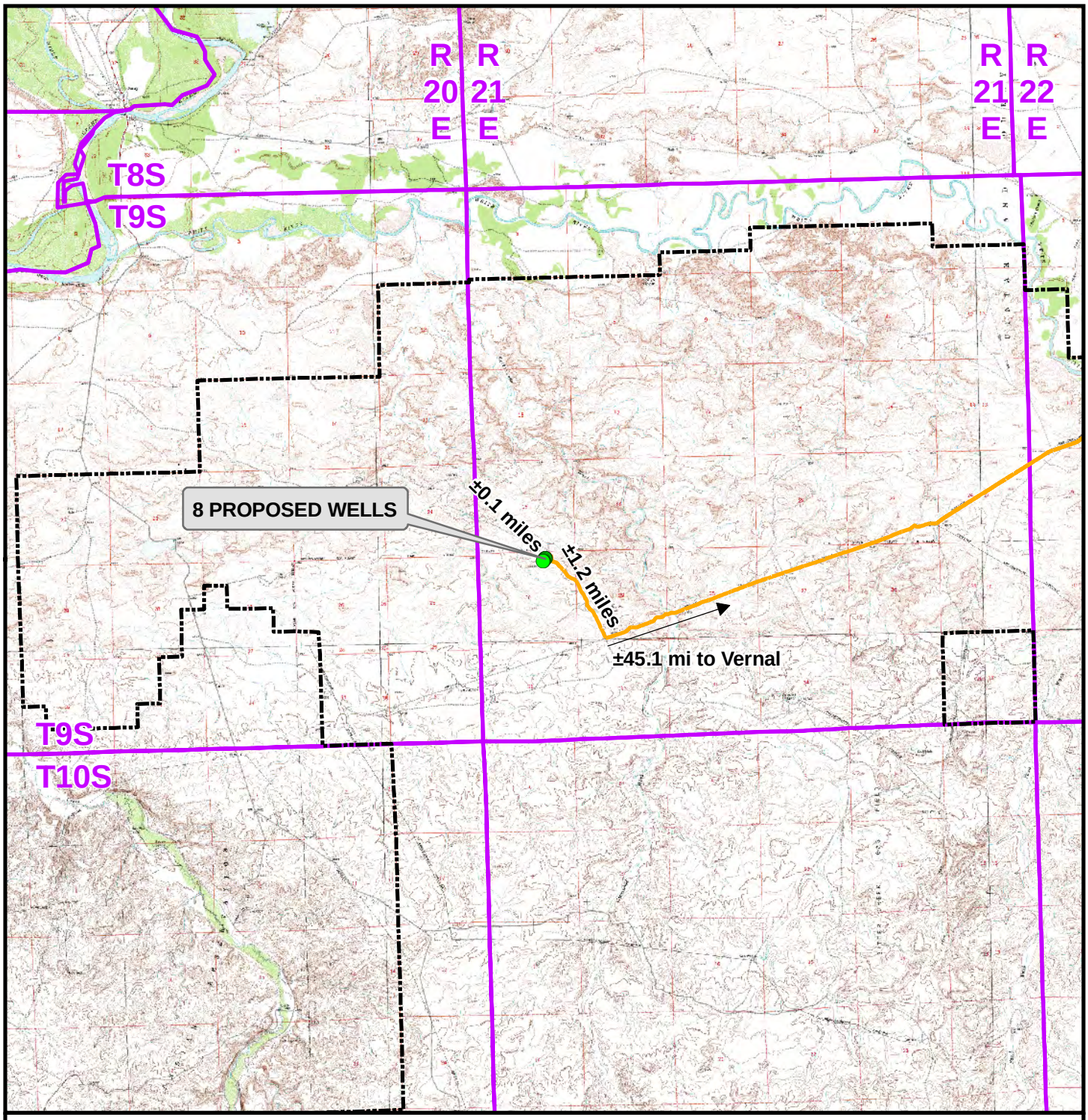
DATE PHOTOS TAKEN: 9-6-12	PHOTOS TAKEN BY: A.F.	SHEET NO:
DATE DRAWN: 9-22-12	DRAWN BY: C.T.C.	13B
Date Last Revised:		13B OF 20

RECEIVED: March 08, 2013

API Well Number: 43047536910000



Legend

Distance From Well Pad - MU 921-30B To Unit Boundary: ±13,639ft

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

WELL PAD - MU 921-30B

TOPO A
MU 921-19B1B-CMHZ, MU 921-19B1B-UBHZ,
MU 921-19B2A-CMHZ, MU 921-19B2A-UBHZ,
MU 921-30O4D-CMHZ, MU 921-30O4D-UBHZ,
MU 921-30O3D-CMHZ & MU 921-30O3D-UBHZ
LOCATED IN SECTION 30, T9S, R21E
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

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Denver, Colorado 80202

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N

SCALE: 1:100,000	NAD83 USP Central	SHEET NO: 14
DRAWN: TL	DATE: 28 Sep 2012	14 OF 20
REVISED:	DATE:	

File: K:\ANADARKO\2012\2012_76_NBU_921-19-30_FOCUS\GIS\Maps_ABCDE\MU 921-30B\MU 921-30B_A.mxd, 9/29/2012 5:44:11 PM

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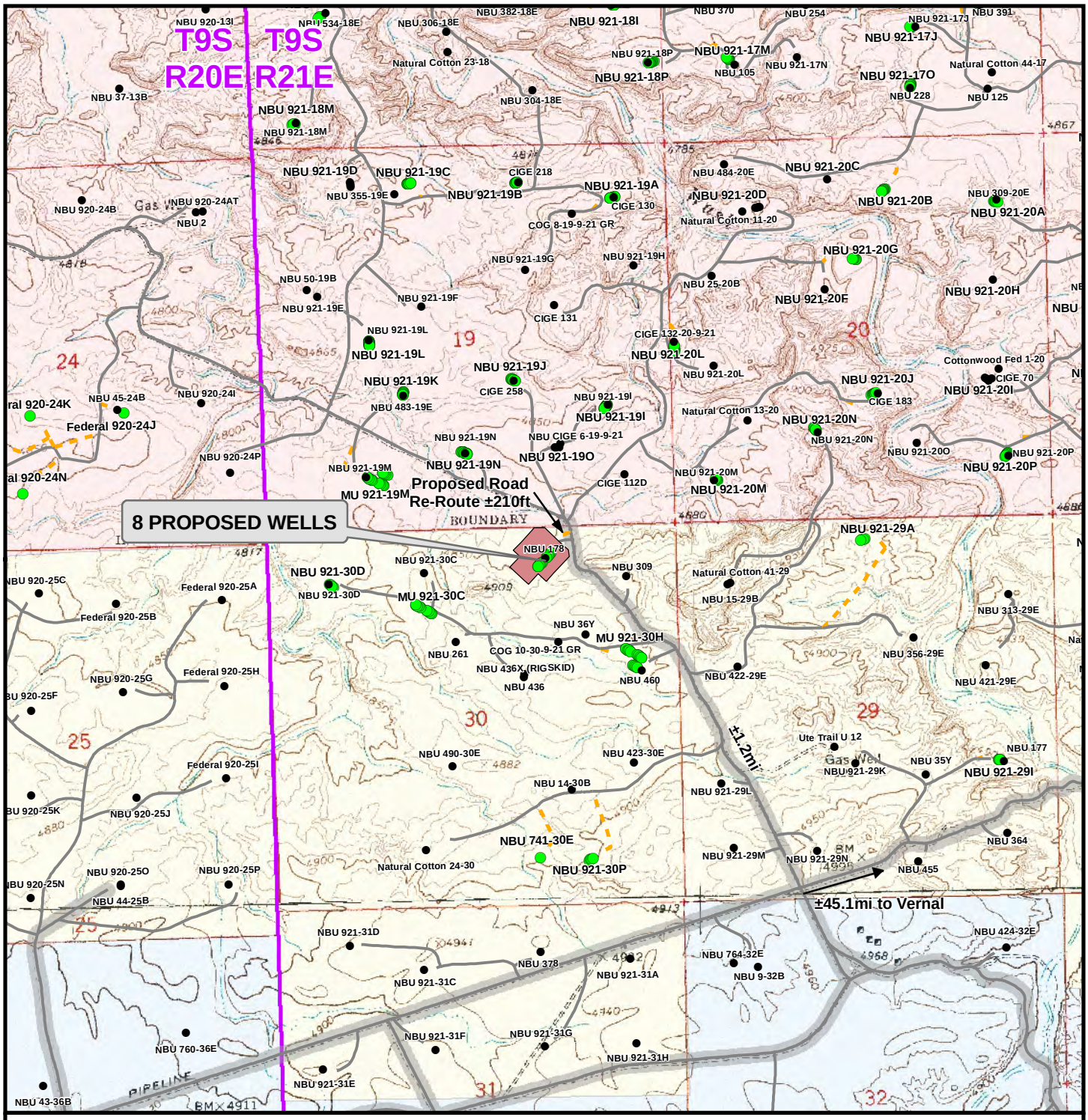

Legend

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

Total Proposed Road Re-Route Length: ±210ft

WELL PAD - MU 921-30B

TOPO B
MU 921-19B1B-CMHZ, MU 921-19B1B-UBHZ,
MU 921-19B2A-CMHZ, MU 921-19B2A-UBHZ,
MU 921-30O4D-CMHZ, MU 921-30O4D-UBHZ,
MU 921-30O3D-CMHZ & MU 921-30O3D-UBHZ
LOCATED IN SECTION 30, T9S, R21E
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

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Denver, Colorado 80202

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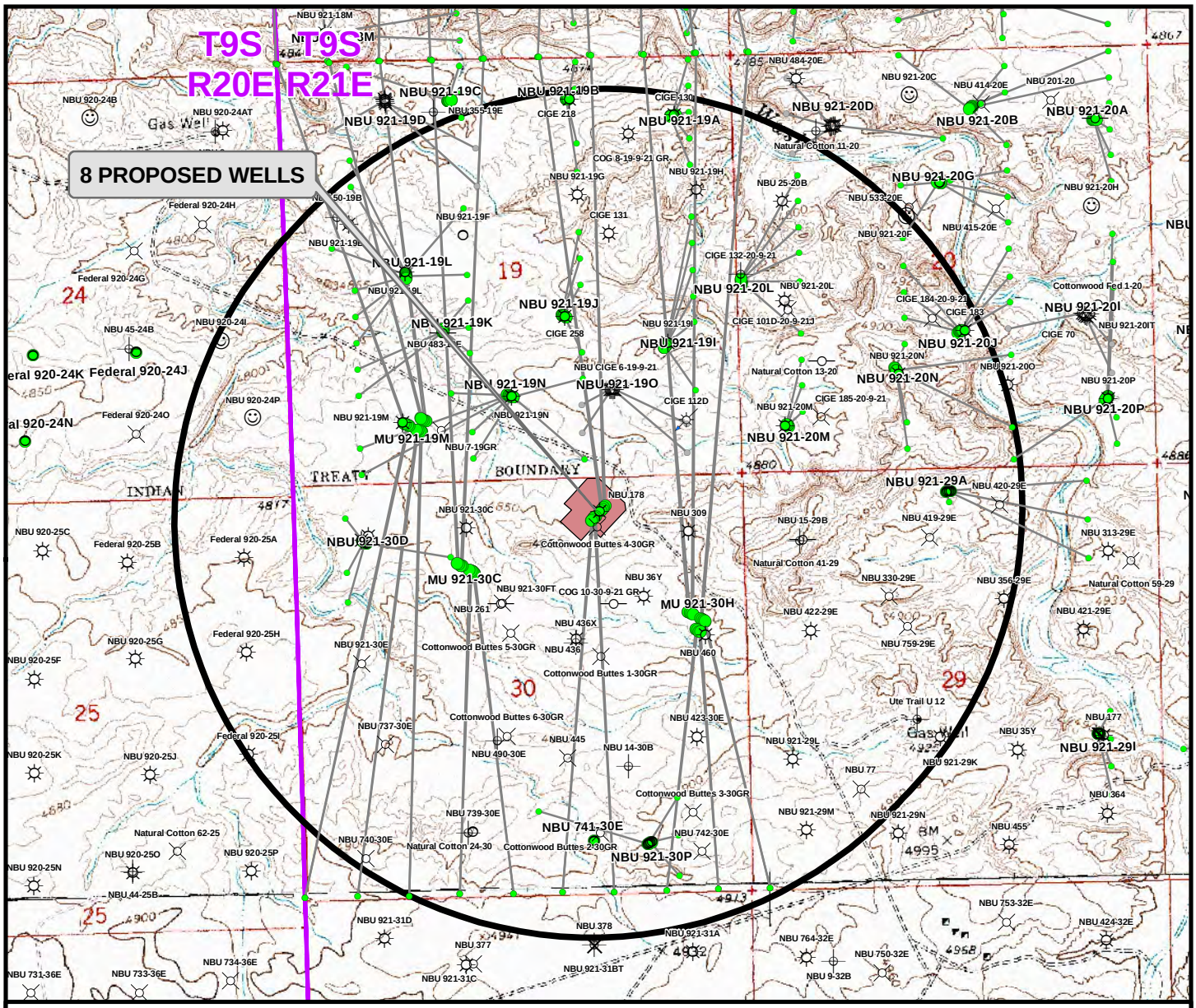
N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 15
DRAWN: TL	DATE: 28 Sep 2012	15 OF 20
REVISED:	DATE:	

File: K:\ANADARKO\2012\2012_76_NBU_921-19-30_FOCUS\GIS\Maps_ABCDE\MU 921-30B\MU 921-30B_B.mxd, 9/29/2012 5:49:47 PM

RECEIVED: March 08, 2013

API Well Number: 43047536910000


T9S
R20E
T9S
R21E
8 PROPOSED WELLS
NBU 921-19C
NBU 921-19B
NBU 921-19D
NBU 921-19A
NBU 921-20D
NBU 921-20B
NBU 921-20A
NBU 921-20G
NBU 921-19L
NBU 921-19J
NBU 921-20L
NBU 921-20I
NBU 921-20J
NBU 921-19K
NBU 921-19I
NBU 921-19N
NBU 921-19O
NBU 921-20N
NBU 921-20P
NBU 921-20M
MU 921-19M
NBU 921-29A
NBU 921-30D
MU 921-30C
MU 921-30H
NBU 921-29I
NBU 741-30E
NBU 921-30P
BOUNDARY
TREATY
INDIAN
Gas Well
Natural Cotton 11-20
Natural Cotton 13-20
Natural Cotton 41-29
Natural Cotton 59-29
Natural Cotton 62-25
Natural Cotton 24-30
Cottonwood Buttes 4-30GR
Cottonwood Buttes 5-30GR
Cottonwood Buttes 1-30GR
Cottonwood Buttes 6-30GR
Cottonwood Buttes 3-30GR
Cottonwood Buttes 2-30GR
Ute Trail U 12
Cottonwood Fed 1-20
Federal 920-24H
Federal 920-24G
Federal 920-24K
Federal 920-24J
Federal 920-24O
Federal 920-24N
Federal 920-25B
Federal 920-25A
Federal 920-25H
Federal 920-25I
NBU 920-24B
NBU 920-24AT
NBU 920-24I
NBU 920-24P
NBU 920-25C
NBU 920-25G
NBU 920-25F
NBU 920-25K
NBU 920-25J
NBU 920-25O
NBU 920-25P
NBU 920-25N
NBU 45-24B
NBU 44-25B
NBU 731-36E
NBU 733-36E
NBU 734-36E
NBU 921-31D
NBU 921-31C
NBU 377
NBU 378
NBU 921-31A
NBU 921-31BT
NBU 764-32E
NBU 750-32E
NBU 9-32B
NBU 753-32E
NBU 424-32E
NBU 455
NBU 364
NBU 177
NBU 35Y
NBU 921-29L
NBU 921-29K
NBU 77
NBU 921-29M
NBU 921-29N
NBU 742-30E
NBU 739-30E
NBU 740-30E
NBU 737-30E
NBU 490-30E
NBU 445
NBU 14-30B
NBU 423-30E
NBU 422-29E
NBU 759-29E
NBU 421-29E
NBU 330-29E
NBU 356-29E
NBU 419-29E
NBU 420-29E
NBU 313-29E
NBU 15-29B
NBU 309
NBU 178
NBU 36Y
NBU 261
NBU 436X
NBU 436
NBU 460
NBU 921-30E
NBU 921-30F
NBU 921-30C
COG 10-30-9-21 GR
NBU 484-20E
NBU 921-20C
NBU 414-20E
NBU 201-20
NBU 533-20E
NBU 415-20E
NBU 921-20F
NBU 921-20H
NBU 25-20B
CIGE 130
CIGE 218
CIGE 131
CIGE 132-20-9-21
CIGE 184-20-9-21
CIGE 183
CIGE 70
CIGE 101D-20-9-21
CIGE 185-20-9-21
CIGE 258
CIGE 112D
NBU CIGE 6-19-9-21
COG 8-19-9-21 GR
NBU 921-19G
NBU 921-19H
NBU 921-19F
NBU 921-19E
NBU 921-19I
NBU 921-20N
NBU 921-20O
NBU 921-20M
NBU 921-20P
NBU 921-20T
NBU 921-19M
NBU 921-19N
NBU 7-19GR
NBU 355-19E
NBU 50-19B
NBU 483-19E
NBU 921-18M
NBU 921-30C
NBU 921-30T
NBU 921-30E
NBU 921-30F
NBU 921-31D
NBU 921-31C
NBU 921-31A
NBU 921-31BT
NBU 921-29L
NBU 921-29M
NBU 921-29N
NBU 921-29K
NBU 921-29I
NBU 921-29P
NBU 921-20P
NBU 921-20T
NBU 921-20O
NBU 921-20N
NBU 921-20M
NBU 921-20L
NBU 921-20I
NBU 921-20J
NBU 921-20H
NBU 921-20G
NBU 921-20D
NBU 921-20B
NBU 921-20A
NBU 921-20C
NBU 921-19L
NBU 921-19K
NBU 921-19J
NBU 921-19I
NBU 921-19N
NBU 921-19O
NBU 921-19M
NBU 921-19D
NBU 921-19C
NBU 921-19B
NBU 921-19A
NBU 921-19G
NBU 921-19H
NBU 921-19F
NBU 921-19E
NBU 921-19L
NBU 921-30D
NBU 921-30C
NBU 921-30H
NBU 921-30P
NBU 921-29A
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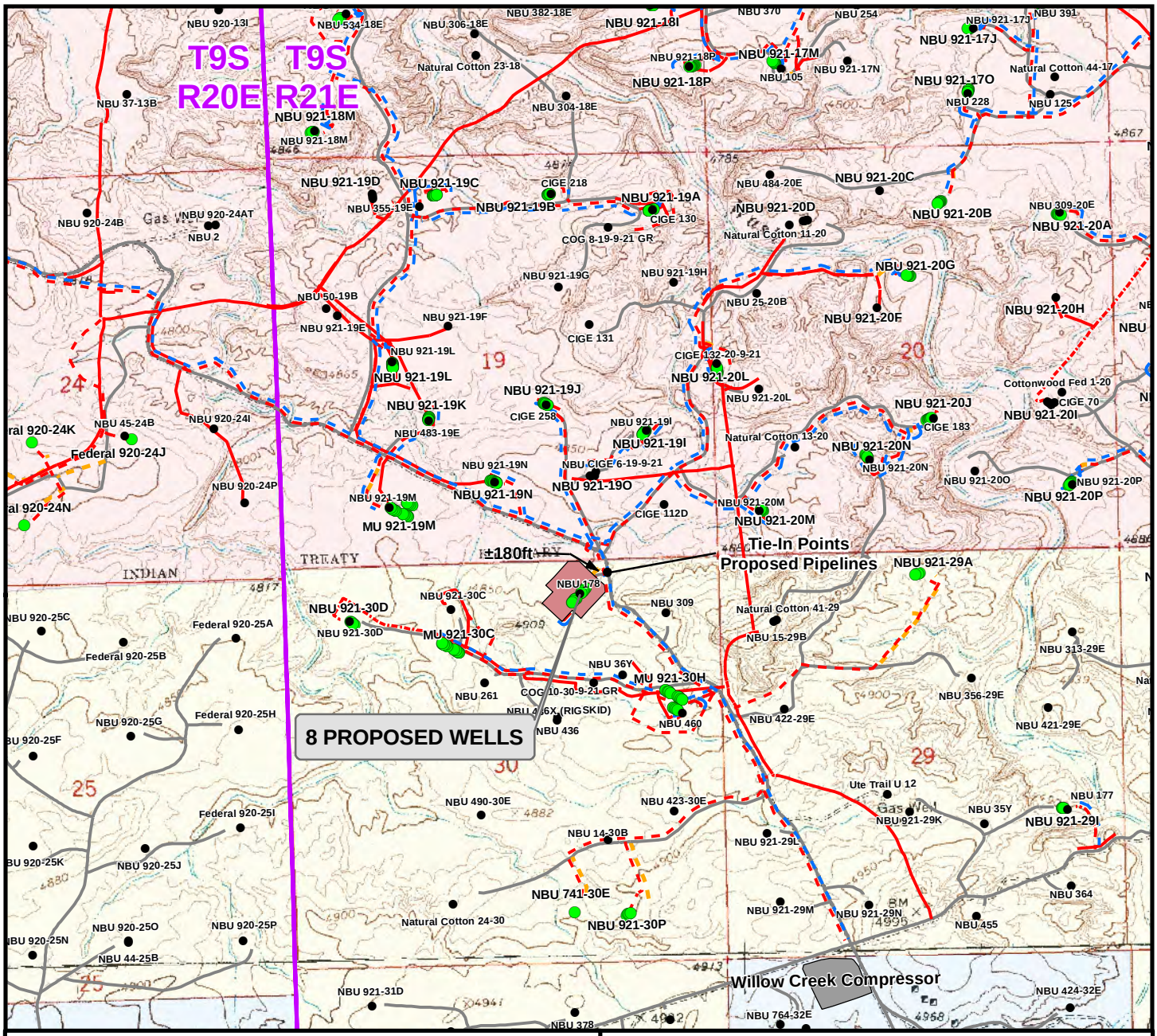
NBU 921-29K
NBU 921-29M
NBU 921-29N

API Well Number: 43047536910000



Proposed Liquid Pipeline	Length
Buried 6"(Max.) (Separator to Edge of Pad)	±800ft
Buried 6"(Max.) (Edge of Pad to Proposed 6" Liquid Pipeline)	±180ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±980ft

Proposed Gas Pipeline	Length
Buried 6" (Meter House to Edge of Pad)	±800ft
Buried 6" (Edge of Pad to Proposed 16" Gas Pipeline)	±180ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±980ft

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 - MU 921-30B

TOPO D
MU 921-19B1B-CMHZ, MU 921-19B1B-UBHZ,
MU 921-19B2A-CMHZ, MU 921-19B2A-UBHZ,
MU 921-30O4D-CMHZ, MU 921-30O4D-UBHZ,
MU 921-30O3D-CMHZ & MU 921-30O3D-UBHZ
LOCATED IN SECTION 30, T9S, R21E
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

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

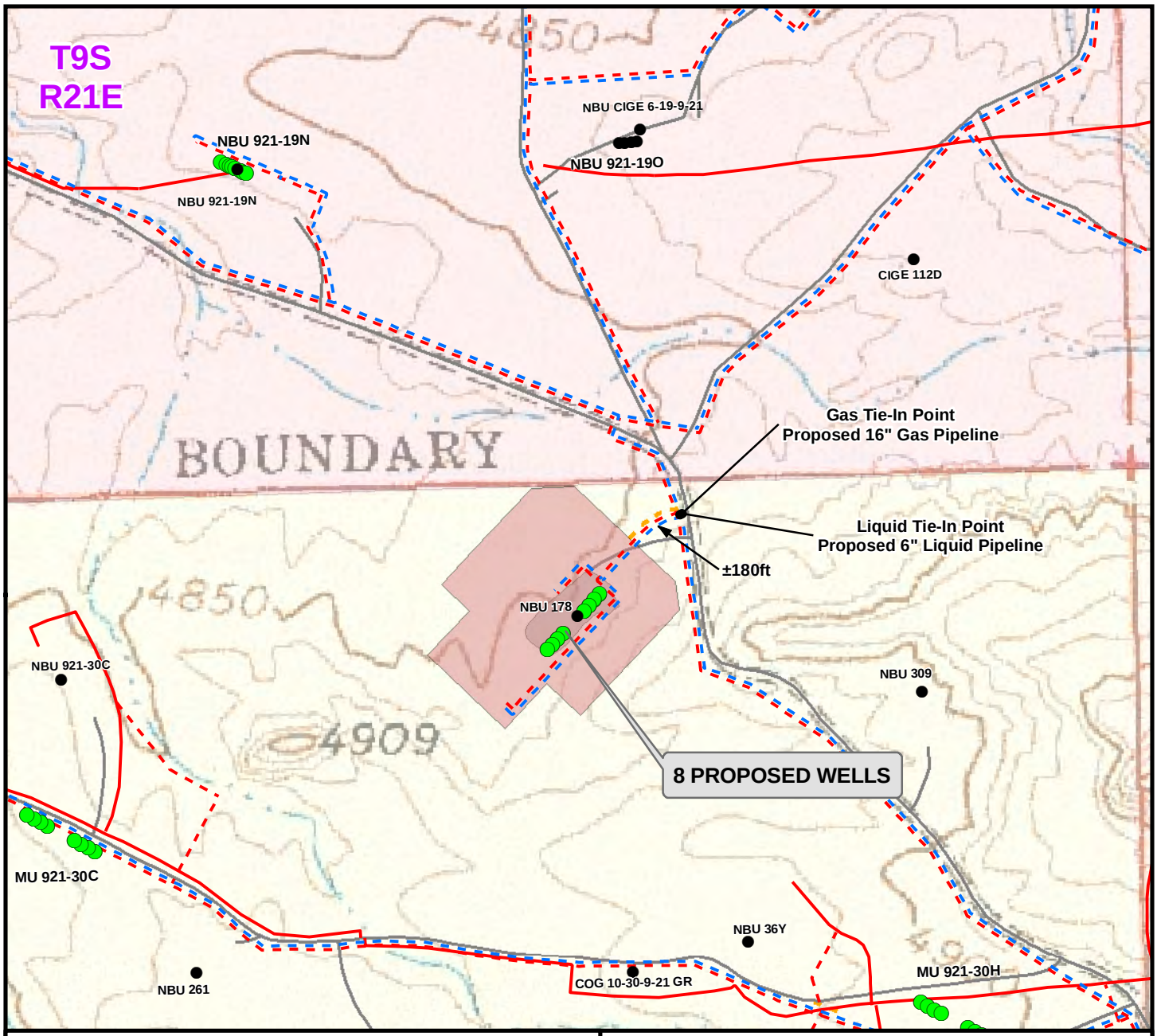
N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 17
DRAWN: TL	DATE: 28 Sep 2012	17 OF 20
REVISED:	DATE:	

File: K:\ANADARKO\2012\2012_76_NBU_921-19-30_FOCUS\GIS\Maps_ABCDE\MU 921-30B\MU 921-30B_D.mxd, 9/29/2012 5:56:41 PM

RECEIVED: March 08, 2013

API Well Number: 43047536910000



Proposed Liquid Pipeline	Length
Buried 6"(Max.) (Separator to Edge of Pad)	±800ft
Buried 6"(Max.) (Edge of Pad to Proposed 6" Liquid Pipeline)	±180ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±980ft

Proposed Gas Pipeline	Length
Buried 6" (Meter House to Edge of Pad)	±800ft
Buried 6" (Edge of Pad to Proposed 16" Gas Pipeline)	±180ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±980ft

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 - MU 921-30B

TOPO D2 (PAD & PIPELINE DETAIL)
MU 921-19B1B-CMHZ, MU 921-19B1B-UBHZ,
MU 921-19B2A-CMHZ, MU 921-19B2A-UBHZ,
MU 921-30O4D-CMHZ, MU 921-30O4D-UBHZ,
MU 921-30O3D-CMHZ & MU 921-30O3D-UBHZ
LOCATED IN SECTION 30, T9S, R21E
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

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

N

SCALE: 1" = 500ft	NAD83 USP Central	SHEET NO: 18
DRAWN: TL	DATE: 28 Sep 2012	18 OF 20
REVISED:	DATE:	

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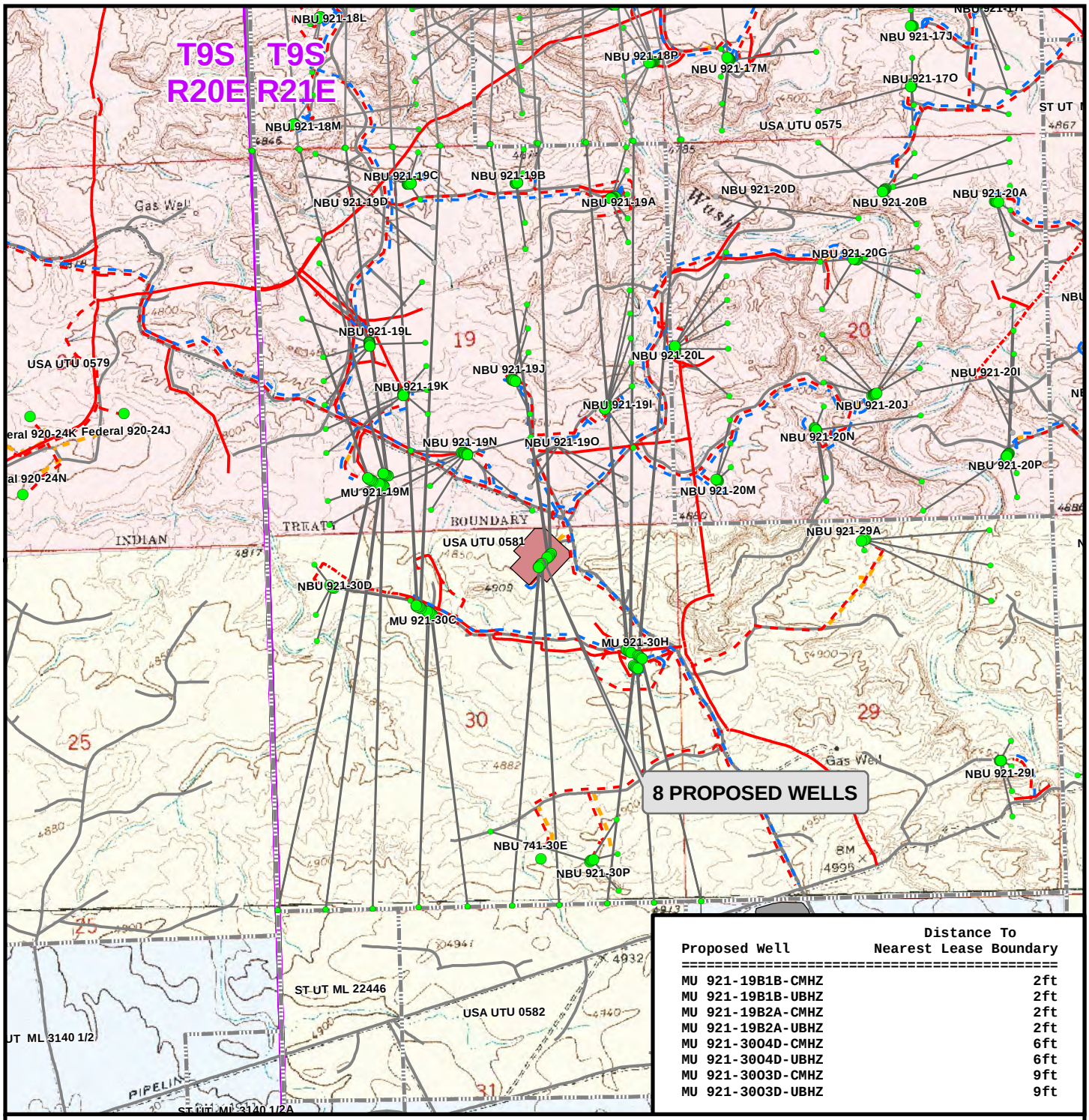
RECEIVED: March 08, 2013

API Well Number: 43047536910000



Proposed Well	Distance To Nearest Lease Boundary
MU 921-19B1B-CMHZ	2ft
MU 921-19B1B-UBHZ	2ft
MU 921-19B2A-CMHZ	2ft
MU 921-19B2A-UBHZ	2ft
MU 921-30O4D-CMHZ	6ft
MU 921-30O4D-UBHZ	6ft
MU 921-30O3D-CMHZ	9ft
MU 921-30O3D-UBHZ	9ft

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 - MU 921-30B

TOPO E
MU 921-19B1B-CMHZ, MU 921-19B1B-UBHZ, MU 921-19B2A-CMHZ, MU 921-19B2A-UBHZ, MU 921-30O4D-CMHZ, MU 921-30O4D-UBHZ, MU 921-30O3D-CMHZ & MU 921-30O3D-UBHZ
LOCATED IN SECTION 30, T9S, R21E
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

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

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 19
DRAWN: TL	DATE: 28 Sep 2012	19 OF 20
REVISED:	DATE:	

File: K:\ANADARKO\2012\2012_76_NBU_921-19-30_FOCUS\GIS\Maps_ABCDE\MU 921-30B\MU 921-30B_E.mxd, 9/29/2012 5:58:54 PM

RECEIVED: March 08, 2013

Kerr-McGee Oil & Gas Onshore, LP
WELL PAD – MU 921-30B
WELL – MU 921-19B1B-CMHZ, MU 921-19B1B-UBHZ,
MU 921-19B2A-CMHZ, MU 921-19B2A-UBHZ,
MU 921-30O4D-CMHZ, MU 921-30O4D-UBHZ,
MU 921-30O3D-CMHZ & MU 921-30O3D-UBHZ
Section 30, T9S, R21E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 17.7 miles to a Class D County Road to the southwest. Exit right and proceed in a southwesterly direction along the Class D County Road approximately 3.9 miles to a second Class D County Road to the northwest. Exit right and proceed in a northwesterly direction along the second Class D County Road approximately 1.2 miles to the proposed access road. Follow road flags in a southwesterly direction approximately 210 feet to the proposed well location.

Total distance from Vernal, Utah, to the proposed well location is approximately 46.4 miles in a southerly direction.

RECEIVED: March 08, 2013

API Well Number: 43047526910000

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MU 921-30B PAD
Well: MU 921-19B2A-UBHZ
Wellbore: OH
Design: PLAN#1 PRELIMINARY

Scientific Drilling

Anadarko Petroleum Corporation

WELL DETAILS: MU 921-19B2A-UBHZ

GL 4853 & KB 19 @ 4872.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.00	0.00	14533917.55	2035063.52	40.0130500	-109.5905970

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	4866.00	5758.39	-661.91	14539664.73	2034310.61	40.0288610	-109.5929610	Point

- 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	
4293.04	0.00	0.00	4293.04	0.00	0.00	0.00	0.00	0.00	
5193.04	90.00	353.44	4866.00	569.21	-65.43	10.00	353.44	572.96	
10416.39	90.00	353.44	4866.00	5758.39	-661.91	0.00	0.00	5796.30	PBHL_MU 921-19B2A-UBHZ

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N

Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 12N (114 W to 108 W)
Location: SECTION 30 T9S R21E
System Datum: Mean Sea Level

CASING DETAILS

TVD	MD	Name	Size
2818.00	2818.00	9 5/8"	9.625
4866.00	5193.04	7"	7.000

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1594.00	1594.00	GREEN RIVER
1865.00	1865.00	BIRDSNEST
2368.00	2368.00	MAHOGANY
4357.00	4357.13	GREEN RIVER LOWER
4811.00	4939.94	UTELAND BUTTES

RECEIVED: March 08, 2013

API Well Number: 43047536910000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MU 921-30B PAD
Well: MU 921-19B2A-UBHZ
Wellbore: OH
Design: PLAN#1 PRELIMINARY

Anadarko Petroleum Corporation

WELL DETAILS: MU 921-19B2A-UBHZ

GL 4853 & KB 19 @ 4872.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14533917.55	2035063.52	40.0130500	-109.5905970

SECTION DETAILS

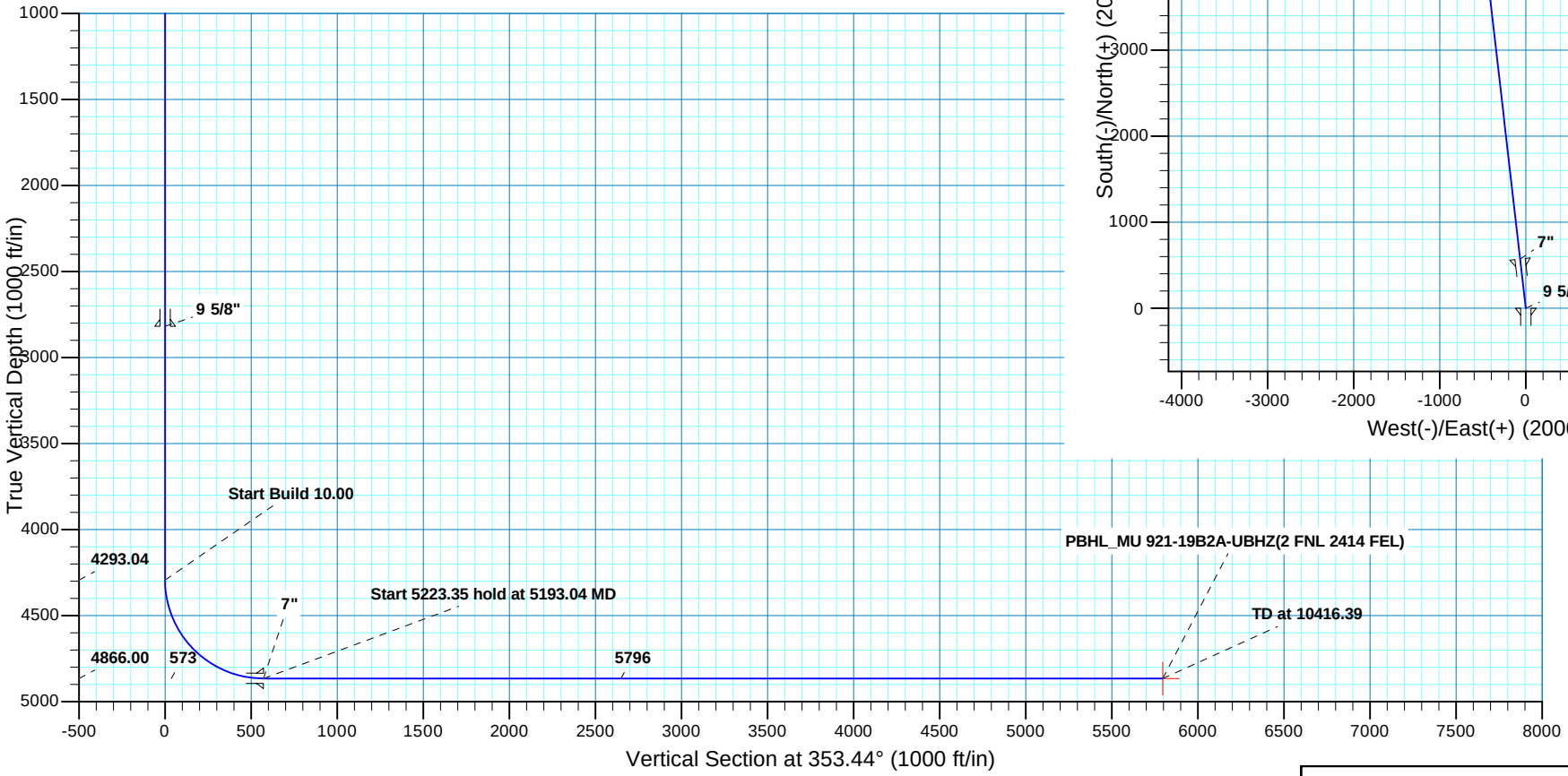
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4293.04	0.00	0.00	4293.04	0.00	0.00	0.00	0.00	0.00	
5193.04	90.00	353.44	4866.00	569.21	-65.43	10.00	353.44	572.96	
10416.39	90.00	353.44	4866.00	5758.39	-661.91	0.00	0.00	5796.30	PBHL_MU 921-19B2A-UBHZ

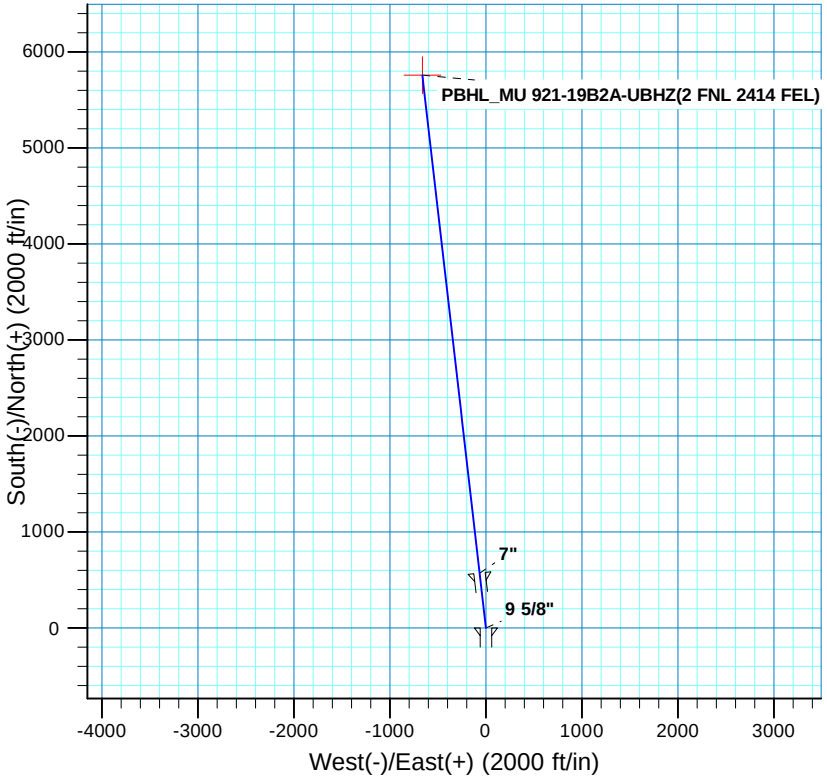
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1594.00	1594.00	GREEN RIVER
1865.00	1865.00	BIRDSNEST
2368.00	2368.00	MAHOGANY
4357.00	4357.13	GREEN RIVER LOWER
4811.00	4939.94	UTELAND BUTTES

CASING DETAILS

TVD	MD	Name	Size
2818.00	2818.00	9 5/8"	9.625
4866.00	5193.04	7"	7.000





Plan: PLAN#1 PRELIMINARY (MU 921-19B2A-UBHZ/OH)

Created By: RobertScott Date: 12:03, December 19 2012

API Well Number: 43047536910000

Scientific Drilling

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
MU 921-30B PAD
MU 921-19B2A-UBHZ

OH

Plan: PLAN#1 PRELIMINARY

Standard Planning Report

19 December, 2012

Anadarko Petroleum Corporation

RECEIVED: March 08, 2013

Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well MU 921-19B2A-UBHZ
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 4853 & KB 19 @ 4872.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 4853 & KB 19 @ 4872.00ft (ASSUMED)
Site:	MU 921-30B PAD	**North Reference:**	True
Well:	MU 921-19B2A-UBHZ	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN#1 PRELIMINARY		

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

Map System:	Universal Transverse Mercator (US Survey Feet)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site MU 921-30B PAD, SECTION 30 T9S R21E

Site Position:		**Northing:**	14,533,971.91 usft	**Latitude:**	40.0131970
From:	Lat/Long	**Easting:**	2,035,115.03 usft	**Longitude:**	-109.5904100
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.91 °

Well MU 921-19B2A-UBHZ, 449 FNL 1765 FEL

Well Position	**+N/-S**	-53.54 ft	**Northing:**	14,533,917.55 usft	**Latitude:**	40.0130500
	+E/-W	-52.37 ft	**Easting:**	2,035,063.51 usft	**Longitude:**	-109.5905970
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	4,853.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2012/12/19	10.92	65.82	52,174

Design PLAN#1 PRELIMINARY

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	353.44

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	
4,293.04	0.00	0.00	4,293.04	0.00	0.00	0.00	0.00	0.00	0.00	
5,193.04	90.00	353.44	4,866.00	569.21	-65.43	10.00	10.00	0.00	353.44	
10,416.39	90.00	353.44	4,866.00	5,758.39	-661.91	0.00	0.00	0.00	0.00	PBHL_MU 921-19B2/

RECEIVED: March 08, 2013

Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well MU 921-19B2A-UBHZ
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 4853 & KB 19 @ 4872.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 4853 & KB 19 @ 4872.00ft (ASSUMED)
Site:	MU 921-30B PAD	**North Reference:**	True
Well:	MU 921-19B2A-UBHZ	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN#1 PRELIMINARY		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,594.00	0.00	0.00	1,594.00	0.00	0.00	0.00	0.00	0.00	0.00
GREEN RIVER									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,865.00	0.00	0.00	1,865.00	0.00	0.00	0.00	0.00	0.00	0.00
BIRDSNEST									
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,368.00	0.00	0.00	2,368.00	0.00	0.00	0.00	0.00	0.00	0.00
MAHOGANY									
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,818.00	0.00	0.00	2,818.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,293.04	0.00	0.00	4,293.04	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 10.00									
4,300.00	0.70	353.44	4,300.00	0.04	0.00	0.04	10.00	10.00	0.00

RECEIVED: March 08, 2013

Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well MU 921-19B2A-UBHZ
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 4853 & KB 19 @ 4872.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 4853 & KB 19 @ 4872.00ft (ASSUMED)
Site:	MU 921-30B PAD	**North Reference:**	True
Well:	MU 921-19B2A-UBHZ	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN#1 PRELIMINARY		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,357.13	6.41	353.44	4,357.00	3.56	-0.41	3.58	10.00	10.00	0.00
GREEN RIVER LOWER									
4,400.00	10.70	353.44	4,399.38	9.89	-1.14	9.95	10.00	10.00	0.00
4,500.00	20.70	353.44	4,495.53	36.73	-4.22	36.97	10.00	10.00	0.00
4,600.00	30.70	353.44	4,585.53	79.75	-9.17	80.28	10.00	10.00	0.00
4,700.00	40.70	353.44	4,666.64	137.64	-15.82	138.55	10.00	10.00	0.00
4,800.00	50.70	353.44	4,736.39	208.65	-23.98	210.02	10.00	10.00	0.00
4,900.00	60.70	353.44	4,792.68	290.61	-33.40	292.53	10.00	10.00	0.00
4,939.94	64.69	353.44	4,811.00	325.86	-37.46	328.01	10.00	10.00	0.00
UTELAND BUTTES									
5,000.00	70.70	353.44	4,833.79	381.04	-43.80	383.55	10.00	10.00	0.00
5,100.00	80.70	353.44	4,858.46	477.18	-54.85	480.32	10.00	10.00	0.00
5,193.04	90.00	353.44	4,866.00	569.21	-65.43	572.96	10.00	10.00	0.00
Start 5223.35 hold at 5193.04 MD - 7"									
5,200.00	90.00	353.44	4,866.00	576.12	-66.22	579.92	0.00	0.00	0.00
5,300.00	90.00	353.44	4,866.00	675.47	-77.64	679.92	0.00	0.00	0.00
5,400.00	90.00	353.44	4,866.00	774.81	-89.06	779.92	0.00	0.00	0.00
5,500.00	90.00	353.44	4,866.00	874.16	-100.48	879.92	0.00	0.00	0.00
5,600.00	90.00	353.44	4,866.00	973.51	-111.90	979.92	0.00	0.00	0.00
5,700.00	90.00	353.44	4,866.00	1,072.85	-123.32	1,079.92	0.00	0.00	0.00
5,800.00	90.00	353.44	4,866.00	1,172.20	-134.74	1,179.92	0.00	0.00	0.00
5,900.00	90.00	353.44	4,866.00	1,271.54	-146.16	1,279.92	0.00	0.00	0.00
6,000.00	90.00	353.44	4,866.00	1,370.89	-157.58	1,379.92	0.00	0.00	0.00
6,100.00	90.00	353.44	4,866.00	1,470.23	-169.00	1,479.92	0.00	0.00	0.00
6,200.00	90.00	353.44	4,866.00	1,569.58	-180.42	1,579.92	0.00	0.00	0.00
6,300.00	90.00	353.44	4,866.00	1,668.93	-191.84	1,679.92	0.00	0.00	0.00
6,400.00	90.00	353.44	4,866.00	1,768.27	-203.26	1,779.92	0.00	0.00	0.00
6,500.00	90.00	353.44	4,866.00	1,867.62	-214.68	1,879.92	0.00	0.00	0.00
6,600.00	90.00	353.44	4,866.00	1,966.96	-226.10	1,979.92	0.00	0.00	0.00
6,700.00	90.00	353.44	4,866.00	2,066.31	-237.52	2,079.92	0.00	0.00	0.00
6,800.00	90.00	353.44	4,866.00	2,165.66	-248.93	2,179.92	0.00	0.00	0.00
6,900.00	90.00	353.44	4,866.00	2,265.00	-260.35	2,279.92	0.00	0.00	0.00
7,000.00	90.00	353.44	4,866.00	2,364.35	-271.77	2,379.92	0.00	0.00	0.00
7,100.00	90.00	353.44	4,866.00	2,463.69	-283.19	2,479.92	0.00	0.00	0.00
7,200.00	90.00	353.44	4,866.00	2,563.04	-294.61	2,579.92	0.00	0.00	0.00
7,300.00	90.00	353.44	4,866.00	2,662.38	-306.03	2,679.92	0.00	0.00	0.00
7,400.00	90.00	353.44	4,866.00	2,761.73	-317.45	2,779.92	0.00	0.00	0.00
7,500.00	90.00	353.44	4,866.00	2,861.08	-328.87	2,879.92	0.00	0.00	0.00
7,600.00	90.00	353.44	4,866.00	2,960.42	-340.29	2,979.92	0.00	0.00	0.00
7,700.00	90.00	353.44	4,866.00	3,059.77	-351.71	3,079.92	0.00	0.00	0.00
7,800.00	90.00	353.44	4,866.00	3,159.11	-363.13	3,179.92	0.00	0.00	0.00
7,900.00	90.00	353.44	4,866.00	3,258.46	-374.55	3,279.92	0.00	0.00	0.00
8,000.00	90.00	353.44	4,866.00	3,357.81	-385.97	3,379.92	0.00	0.00	0.00
8,100.00	90.00	353.44	4,866.00	3,457.15	-397.39	3,479.92	0.00	0.00	0.00
8,200.00	90.00	353.44	4,866.00	3,556.50	-408.81	3,579.92	0.00	0.00	0.00
8,300.00	90.00	353.44	4,866.00	3,655.84	-420.23	3,679.92	0.00	0.00	0.00
8,400.00	90.00	353.44	4,866.00	3,755.19	-431.65	3,779.92	0.00	0.00	0.00
8,500.00	90.00	353.44	4,866.00	3,854.53	-443.07	3,879.92	0.00	0.00	0.00
8,600.00	90.00	353.44	4,866.00	3,953.88	-454.49	3,979.92	0.00	0.00	0.00
8,700.00	90.00	353.44	4,866.00	4,053.23	-465.91	4,079.92	0.00	0.00	0.00
8,800.00	90.00	353.44	4,866.00	4,152.57	-477.32	4,179.92	0.00	0.00	0.00
8,900.00	90.00	353.44	4,866.00	4,251.92	-488.74	4,279.92	0.00	0.00	0.00
9,000.00	90.00	353.44	4,866.00	4,351.26	-500.16	4,379.92	0.00	0.00	0.00

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Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well MU 921-19B2A-UBHZ
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 4853 & KB 19 @ 4872.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 4853 & KB 19 @ 4872.00ft (ASSUMED)
Site:	MU 921-30B PAD	**North Reference:**	True
Well:	MU 921-19B2A-UBHZ	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN#1 PRELIMINARY		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,100.00	90.00	353.44	4,866.00	4,450.61	-511.58	4,479.92	0.00	0.00	0.00
9,200.00	90.00	353.44	4,866.00	4,549.96	-523.00	4,579.92	0.00	0.00	0.00
9,300.00	90.00	353.44	4,866.00	4,649.30	-534.42	4,679.92	0.00	0.00	0.00
9,400.00	90.00	353.44	4,866.00	4,748.65	-545.84	4,779.92	0.00	0.00	0.00
9,500.00	90.00	353.44	4,866.00	4,847.99	-557.26	4,879.92	0.00	0.00	0.00
9,600.00	90.00	353.44	4,866.00	4,947.34	-568.68	4,979.92	0.00	0.00	0.00
9,700.00	90.00	353.44	4,866.00	5,046.68	-580.10	5,079.92	0.00	0.00	0.00
9,800.00	90.00	353.44	4,866.00	5,146.03	-591.52	5,179.92	0.00	0.00	0.00
9,900.00	90.00	353.44	4,866.00	5,245.38	-602.94	5,279.92	0.00	0.00	0.00
10,000.00	90.00	353.44	4,866.00	5,344.72	-614.36	5,379.92	0.00	0.00	0.00
10,100.00	90.00	353.44	4,866.00	5,444.07	-625.78	5,479.92	0.00	0.00	0.00
10,200.00	90.00	353.44	4,866.00	5,543.41	-637.20	5,579.92	0.00	0.00	0.00
10,300.00	90.00	353.44	4,866.00	5,642.76	-648.62	5,679.92	0.00	0.00	0.00
10,400.00	90.00	353.44	4,866.00	5,742.11	-660.04	5,779.92	0.00	0.00	0.00
10,416.39	90.00	353.44	4,866.00	5,758.39	-661.91	5,796.30	0.00	0.00	0.00

TD at 10416.39 - PBHL_MU 921-19B2A-UBHZ(2 FNL 2414 FEL)

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_MU 921-19B2A-L - plan hits target center - Point	0.00	0.00	4,866.00	5,758.39	-661.91	14,539,664.74	2,034,310.60	40.0288610	-109.5929610

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,818.00	2,818.00	9 5/8"	9.625	12.250
5,193.04	4,866.00	7"	7.000	7.500

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,594.00	1,594.00	GREEN RIVER			
1,865.00	1,865.00	BIRDSNEST			
2,368.00	2,368.00	MAHOGANY			
4,357.13	4,357.00	GREEN RIVER LOWER			
4,939.94	4,811.00	UTELAND BUTTES			

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Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well MU 921-19B2A-UBHZ
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 4853 & KB 19 @ 4872.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 4853 & KB 19 @ 4872.00ft (ASSUMED)
Site:	MU 921-30B PAD	**North Reference:**	True
Well:	MU 921-19B2A-UBHZ	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN#1 PRELIMINARY		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
4,293.04	4,293.04	0.00	0.00	Start Build 10.00
5,193.04	4,866.00	569.21	-65.43	Start 5223.35 hold at 5193.04 MD
10,416.39	4,866.00	5,758.39	-661.91	TD at 10416.39

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

MU 921-30B PAD

API #		MU 921-19B1B-CMHZ		
	Surface:	395 FNL / 1713 FEL	NWNE	Section 30
	BHL:	2 FNL / 1756 FEL	NWNE	Section 19

API #		MU 921-19B1B-UBHZ		
	Surface:	413 FNL / 1730 FEL	NWNE	Section 30
	BHL:	2 FNL / 1756 FEL	NWNE	Section 19

API #		MU 921-19B2A-CMHZ		
	Surface:	431 FNL / 1748 FEL	NWNE	Section 30
	BHL:	2 FNL / 2414 FEL	NWNE	Section 19

API #		MU 921-19B2A-UBHZ		
	Surface:	449 FNL / 1765 FEL	NWNE	Section 30
	BHL:	2 FNL / 2414 FEL	NWNE	Section 19

API #		MU 921-30O3D-CMHZ		
	Surface:	556 FNL / 1871 FEL	NWNE	Section 30
	BHL:	9 FSL / 2372 FEL	SWSE	Section 30

API #		MU 921-30O3D-UBHZ		
	Surface:	573 FNL / 1888 FEL	NWNE	Section 30
	BHL:	9 FSL / 2372 FEL	SWSE	Section 30

API #		MU 921-30O4D-CMHZ		
	Surface:	520 FNL / 1836 FEL	NWNE	Section 30
	BHL:	6 FSL / 1714 FEL	SWSE	Section 30

API #		MU 921-30O4D-UBHZ		
	Surface:	538 FNL / 1853 FEL	NWNE	Section 30
	BHL:	6 FSL / 1714 FEL	SWSE	Section 30

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.

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An on-site meeting was held on October 23, 2012. Present were:

- Dave Gordon, Tyler Cox, Melissa Wardle - BLM;
- Mitch Batty - Timberline Engineering & Land Surveying, Inc.; and
- Randy Townley, Casey McKee, Cara Mahler, Danielle Piernot, Justin Brady, Rod Anderson and Charles Chase, - Kerr-McGee
- Scott Carson - Smiling Lake
- John Mills - J.C. Construction

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"

±210' (0.04 miles) – Section 30 T9S R21E (NW/4 NE/4) – On-lease UTU0581, from the edge of pad northeast to the existing road. Please refer to Topo 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 178, which is a producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on January 10, 2013. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

GAS GATHERING

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

The total gas gathering pipeline distance from the meter to the tie in point is ±980' and the individual segments are broken up as follows:

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

±980' (0.19 miles) – Section 30 T9S R21E (NW/4 NE/4) – On-lease UTU0581, Tribal surface, New 6" buried gas gathering pipeline from the meter to the proposed 16" gas pipeline. Please refer to Topo D2 - Pad and Pipeline Detail.

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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 ±980' and the individual segments are broken up as follows:

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

±980' (0.19 miles) – Section 30 T9S R21E (NW/4 NE/4) – On-lease UTU0581, Tribal surface, New 6" buried liquid gathering pipeline from the separator to the proposed 6" pipeline. Please refer to Topo D2 - Pad and Pipeline Detail.

Pipeline Gathering Construction

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

The Anadarko Completions Transportation System (ACTS) information:

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

Please refer to Exhibit C for ACTS Lines

E. Location and Types of Water Supply:

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

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

F. Construction Materials:

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

G. Methods for Handling Waste:

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

Materials Management

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

H. Ancillary Facilities:

No additional ancillary facilities are planned for this location.

I. Well Site Layout:

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

J. Plans for Surface Reclamation:

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

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Interim Reclamation

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

Final Reclamation

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

Measures Common to Interim and Final Reclamation

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

Weed Control

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

Monitoring

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

K. Surface/Mineral Ownership:

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

L. Other Information:

Cultural and Paleontological Resources

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

Resource Reports:

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

A paleontological reconnaissance survey was completed on October 5, 2012 by SWCA Environmental Consultants. For additional details please refer to report UT12-14314-186.

Biological field survey was completed on October 16, 2012 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-851.

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:

Danielle Piernot
Regulatory Analyst II
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6156

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

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

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

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

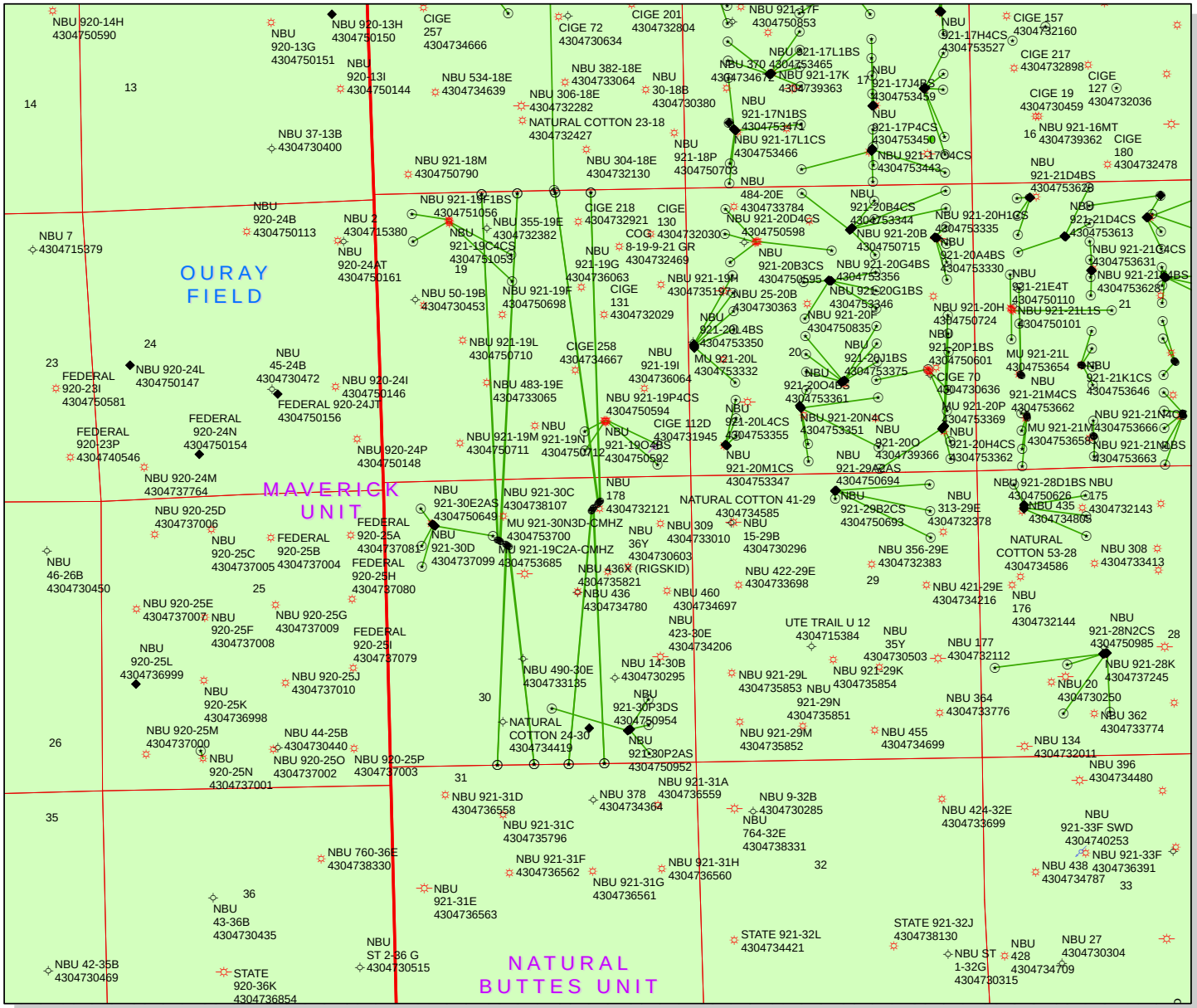
Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

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

Danielle Piernot

January 15, 2013
Date

API Well Number: 43047536910000



API Number: 4304753691

Well Name: MU 921-19B2A-UBHZ

Township T09.0S Range R21.0E Section 30

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

2,400 1,200 0 2,400 Feet

1:22,808

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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)

March 18, 2013

Memorandum

To: Assistant Field Office Manager Minerals
Vernal Field Office

From: Michael Coulthard, Petroleum Engineer

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

API #	WELL NAME	LOCATION
(Proposed PZ GREEN RIVER)		
MU 921-30C PAD		
43-047-53685	MU 921-19C2A-CMHZ	Sec 30 T09S R21E 1080 FNL 2084 FWL
	Lateral 1	Sec 19 T09S R21E 0007 FNL 1973 FWL
43-047-53699	MU 921-19C2A-UBHZ	Sec 30 T09S R21E 1068 FNL 2062 FWL
	Lateral 1	Sec 19 T09S R21E 0007 FNL 1973 FWL
43-047-53700	MU 921-30N3D-CMHZ	Sec 30 T09S R21E 1167 FNL 2236 FWL
	Lateral 1	Sec 30 T09S R21E 0016 FSL 1965 FWL
43-047-53686	MU 921-30N3D-UBHZ	Sec 30 T09S R21E 1155 FNL 2214 FWL
	Lateral 1	Sec 30 T09S R21E 0016 FSL 1965 FWL
43-047-53698	MU 921-30N4D-CMHZ	Sec 30 T09S R21E 1192 FNL 2279 FWL
	Lateral 1	Sec 30 T09S R21E 0012 FSL 2642 FWL
43-047-53687	MU 921-30N4D-UBHZ	Sec 30 T09S R21E 1180 FNL 2257 FWL
	Lateral 1	Sec 30 T09S R21E 0012 FSL 2642 FWL
43-047-53688	MU 921-19C1A-CMHZ	Sec 30 T09S R21E 1105 FNL 2127 FWL
	Lateral 1	Sec 19 T09S R21E 0002 FNL 2631 FWL
43-047-53697	MU 921-19C1A-UBHZ	Sec 30 T09S R21E 1093 FNL 2105 FWL
	Lateral 1	Sec 19 T09S R21E 0002 FNL 2631 FWL

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API #	WELL NAME	LOCATION
(Proposed PZ GREEN RIVER)		
MU 921-30B PAD		
43-047-53689	MU 921-19B1B-UBHZ	Sec 30 T09S R21E 0413 FNL 1730 FEL
	Lateral 1	Sec 19 T09S R21E 0002 FNL 1756 FEL
43-047-53690	MU 921-19B2A-CMHZ	Sec 30 T09S R21E 0431 FNL 1748 FEL
	Lateral 1	Sec 19 T09S R21E 0002 FNL 2414 FEL
43-047-53691	MU 921-19B2A-UBHZ	Sec 30 T09S R21E 0449 FNL 1765 FEL
	Lateral 1	Sec 19 T09S R21E 0002 FNL 2414 FEL
43-047-53692	MU 921-30O3D-CMHZ	Sec 30 T09S R21E 0556 FNL 1871 FEL
	Lateral 1	Sec 30 T09S R21E 0009 FSL 2372 FEL
43-047-53693	MU 921-30O3D-UBHZ	Sec 30 T09S R21E 0573 FNL 1888 FEL
	Lateral 1	Sec 30 T09S R21E 0009 FSL 2372 FEL
43-047-53694	MU 921-30O4D-CMHZ	Sec 30 T09S R21E 0520 FNL 1836 FEL
	Lateral 1	Sec 30 T09S R21E 0006 FSL 1714 FEL
43-047-53695	MU 921-30O4D-UBHZ	Sec 30 T09S R21E 0538 FNL 1853 FEL
	Lateral 1	Sec 30 T09S R21E 0006 FSL 1714 FEL

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

Michael L. Coulthard

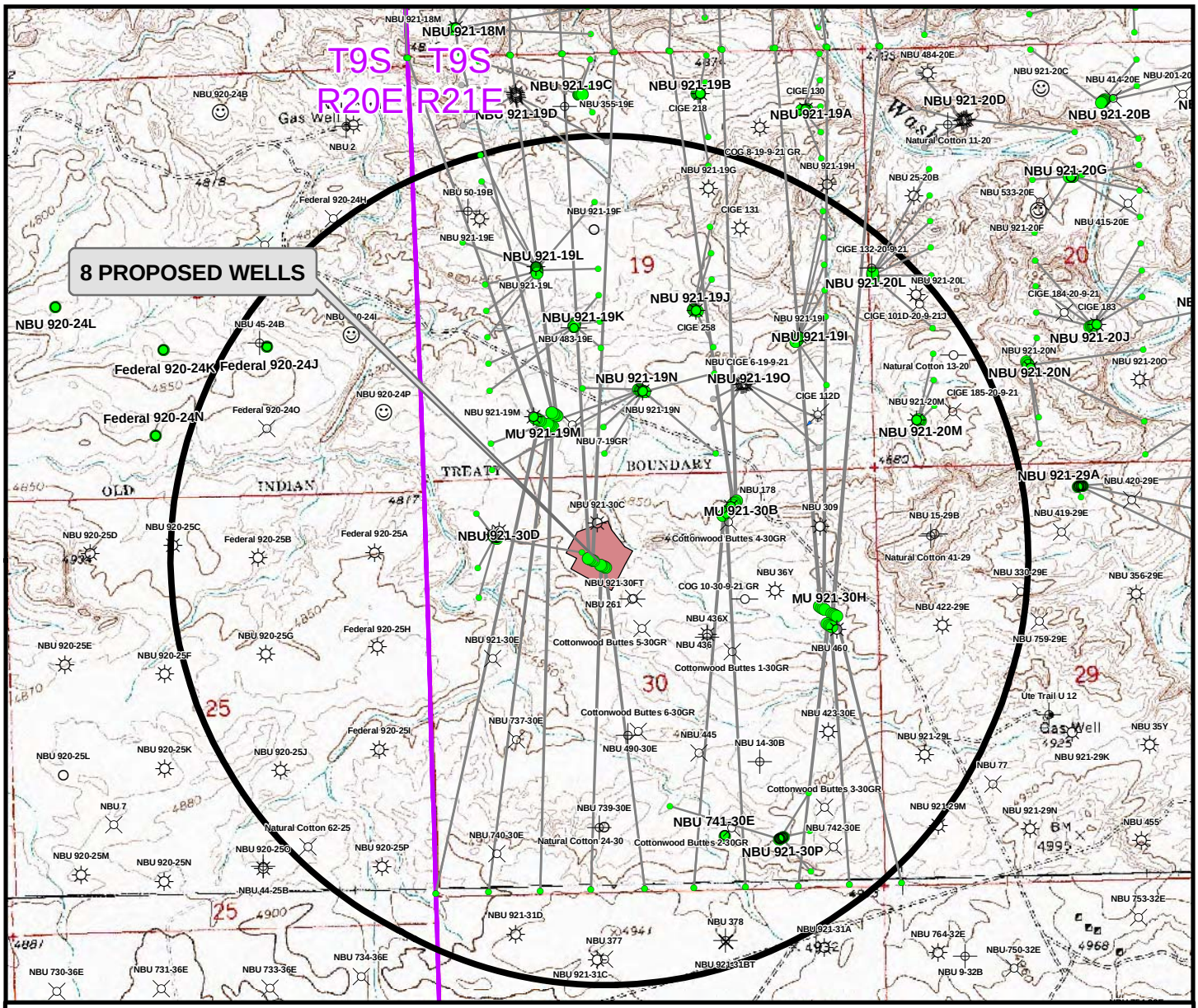
Digitally signed by Michael L. Coulthard
DN: cn=Michael L. Coulthard, o=Bureau of Land Management, ou=Branch of Minerals, email=Michael_Coulthard@blm.gov, c=US
Date: 2013.03.18 10:41:20 -06'00'

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

MCoulthard:mc:3-18-13

RECEIVED: March 19, 2013

API Well Number: 43047536910000



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
MU 921-30N4D-CMHZ	Natural Cotton 24-30	964ft
MU 921-30N4D-UBHZ	Natural Cotton 24-30	964ft
MU 921-30N3D-CMHZ	Natural Cotton 24-30	793ft
MU 921-30N3D-UBHZ	Natural Cotton 24-30	793ft

Proposed Well	Nearest Well Bore	Footage
MU 921-19C1A-CMHZ	NBU 355-19E	925ft
MU 921-19C1A-UBHZ	NBU 355-19E	925ft
MU 921-19C2A-CMHZ	NBU 355-19E	652ft
MU 921-19C2A-UBHZ	NBU 355-19E	652ft

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 - MU 921-30C

TOPO C
MU 921-30N4D-CMHZ, MU 921-30N4D-UBHZ, MU 921-30N3D-CMHZ, MU 921-30N3D-UBHZ, MU 921-19C1A-CMHZ, MU 921-19C1A-UBHZ, MU 921-19C2A-CMHZ & MU 921-19C2A-UBHZ
LOCATED IN SECTION 30, T9S, R21E
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

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

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 16
DRAWN: TL	DATE: 28 Sep 2012	16 OF 20
REVISED:	DATE:	

File: K:\ANADARKO\2012\2012_76_NBU_921-19-30_FOCUS\GIS\Maps_ABCDE\MU 921-30C\MU 921-30C_C.mxd, 10/1/2012 4:21:10 PM

RECEIVED: March 04, 2013

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MU 921-30C PAD
Well: MU 921-19C2A-CMHZ
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

API Well Number: 43047536910000

WELL DETAILS: MU 921-19C2A-CMHZ

GL 4858 & KB 19
@ 4877.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14533246.95	2033261.62	40.0112870	-109.5970680

SECTION DETAILS

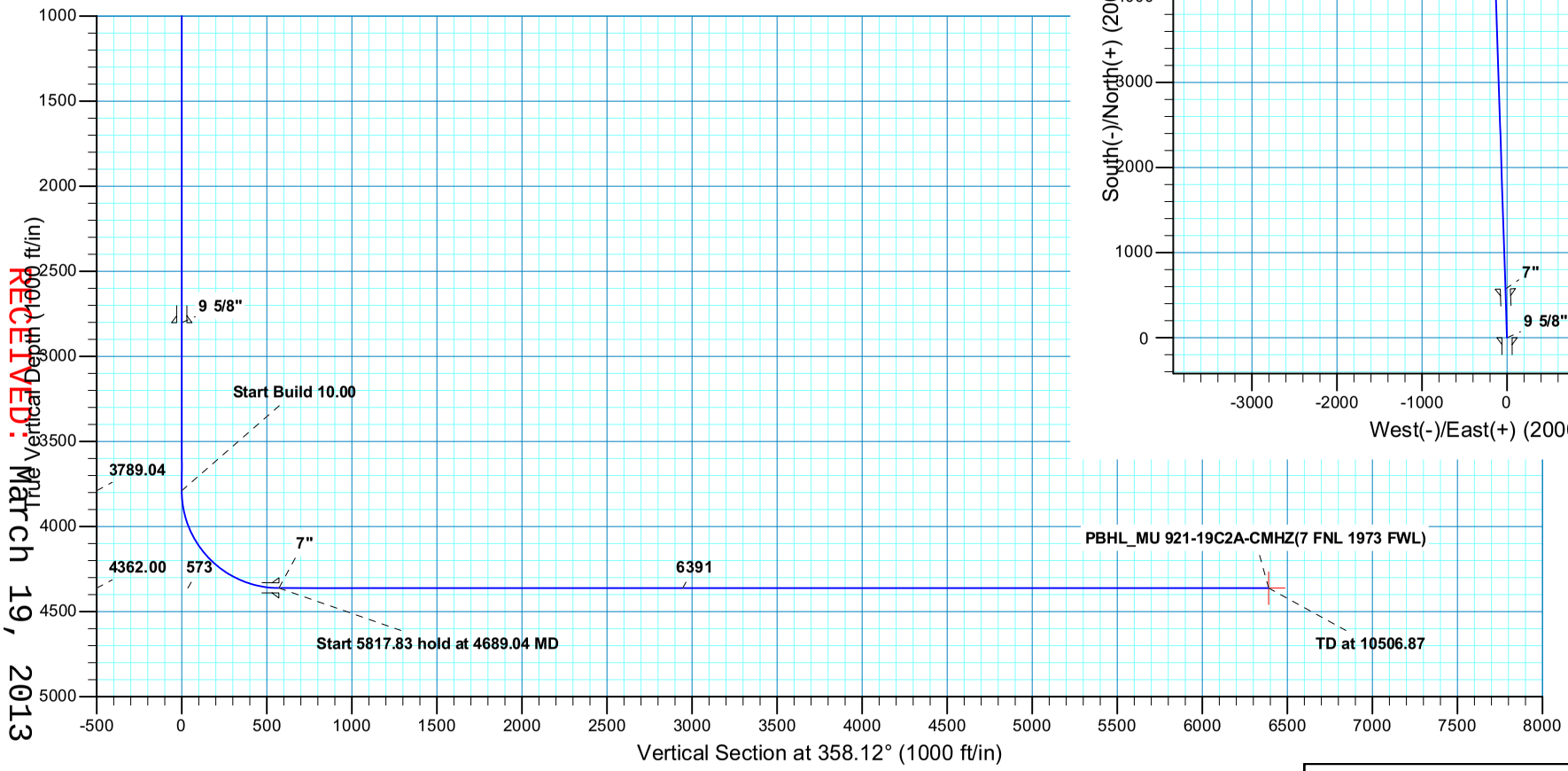
MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3789.04	0.00	0.00	3789.04	0.00	0.00	0.00	0.00	0.00	
4689.04	90.00	358.12	4362.00	572.65	-18.80	10.00	358.12	572.96	
10506.87	90.00	358.12	4362.00	6387.34	-209.73	0.00	0.00	6390.79	PBHL

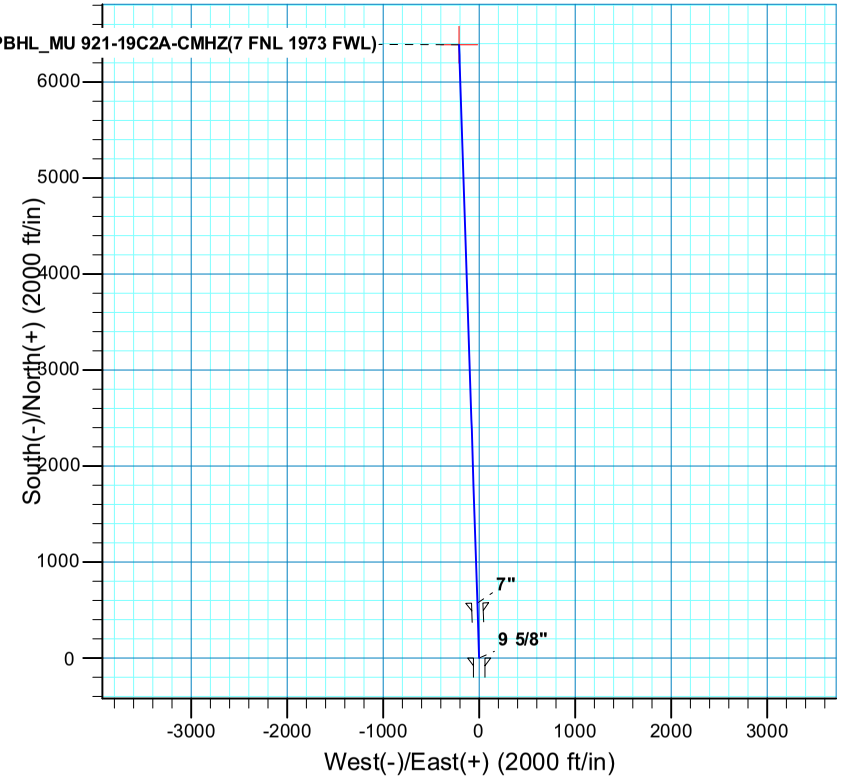
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1597.00	1597.00	GREEN RIVER
1858.00	1858.00	BIRDSNEST
2352.00	2352.00	MAHOGANY MARKER
4352.00	4581.84	GREEN RIVER LOWER

CASING DETAILS

TVD	MD	Name	Size
2802.00	2802.00	9 5/8"	9.625
4362.00	4689.04	7"	7.000





Plan: PLAN #1 PRELIMINARY (MU 921-19C2A-CMHZ/OH)
Created By: RobertScott Date: 9:01, December 14 2012

RECEIVED: March 19, 2013
Received: March 04, 2013

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MU 921-30C PAD
Well: MU 921-19C2A-UBHZ
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

API Well Number: 43047536910000

WELL DETAILS: MU 921-19C2A-UBHZ

GL 4858 & KB 19 @ 4877.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14533258.62	2033239.59	40.0113200	-109.5971460

SECTION DETAILS

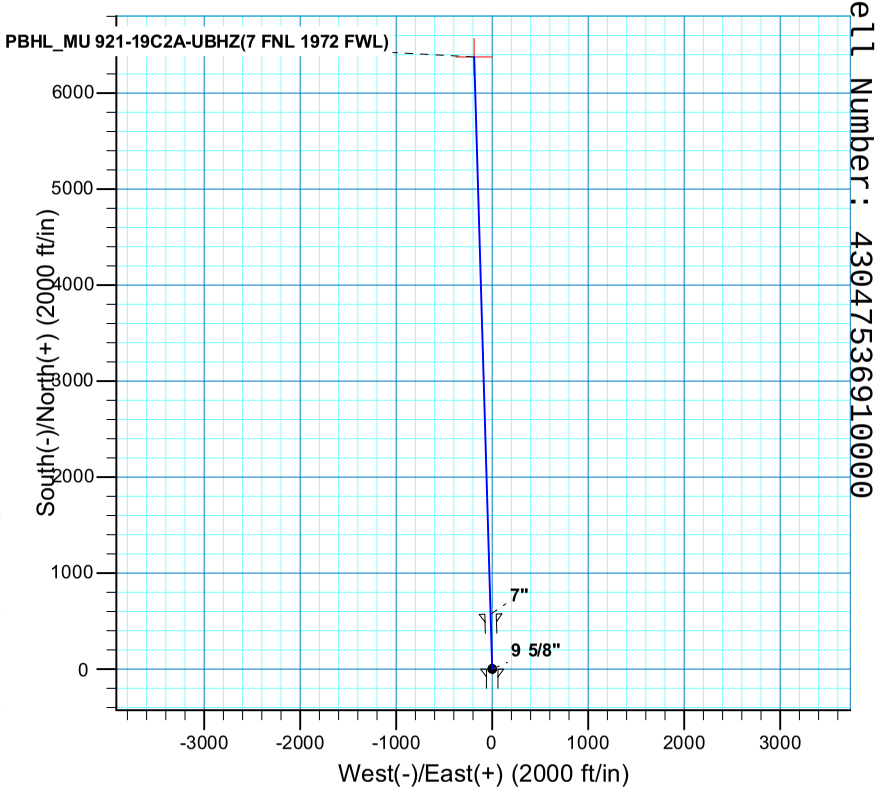
MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4283.04	0.00	0.00	4283.04	0.00	0.00	0.00	0.00	0.00	
5183.04	90.00	358.31	4856.00	572.71	-16.88	10.00	358.31	572.96	
10988.18	90.00	358.31	4856.00	6375.32	-187.89	0.00	0.00	6378.09	PBHL_MU 921-19C2A-UBHZ(7 FNL 1972 FWL)

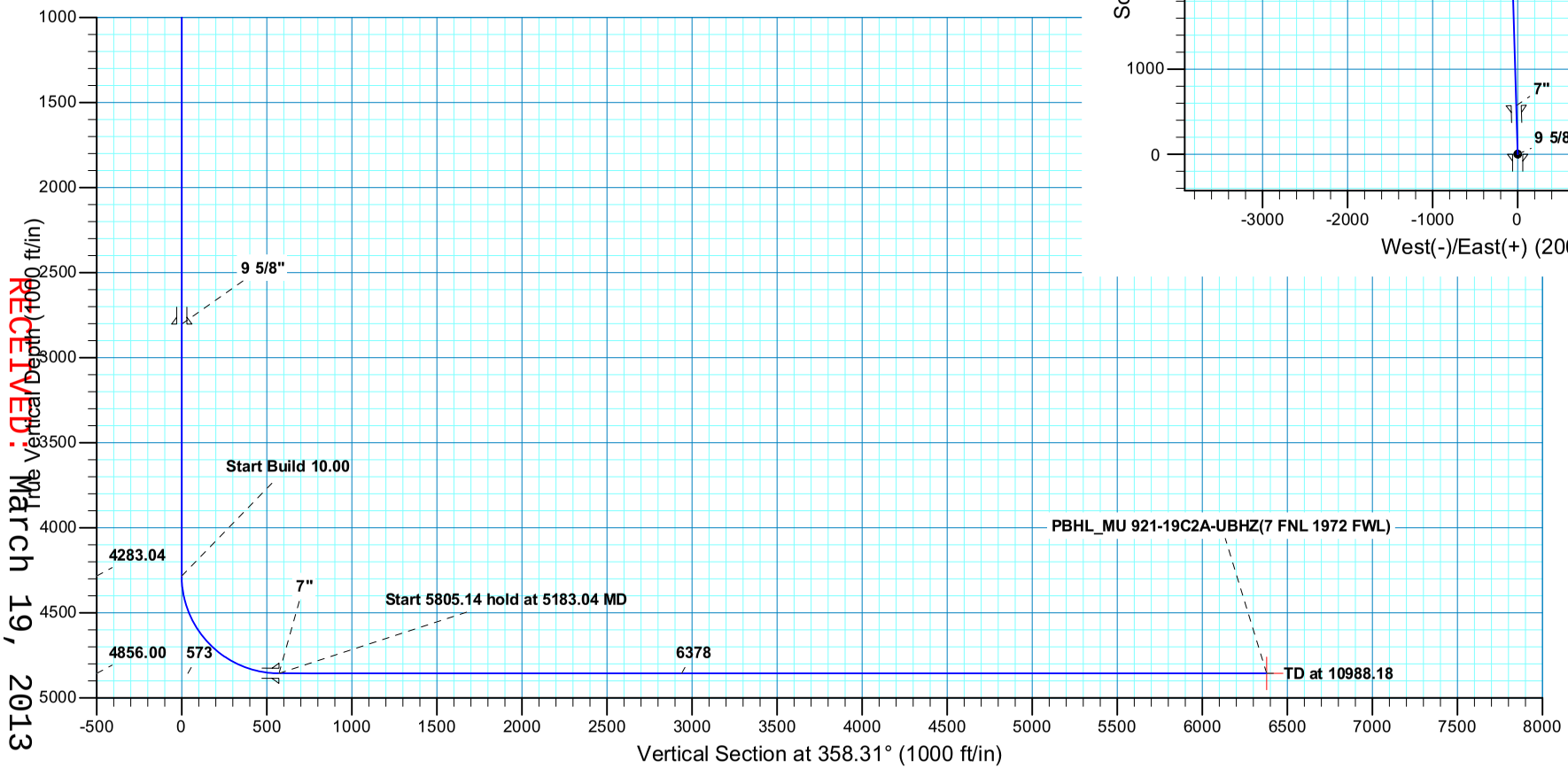
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1600.00	1600.00	GREEN RIVER
1860.00	1860.00	BIRDSNEST
2352.00	2352.00	MAHOGANY MARKER
4352.00	4352.17	GREEN RIVER LOWER
4801.00	4929.94	UTELAND BUTTE

CASING DETAILS

TVD	MD	Name	Size
2802.00	2802.00	9 5/8"	9.625
4856.00	5183.04	7"	7.000





Plan: PLAN #1 PRELIMINARY (MU 921-19C2A-UBHZ/OH)
Created By: Robert Scott Date: 14:12, January 08 2013

RECEIVED: March 19, 2013
Received: March 04, 2013

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MU 921-30C PAD
Well: MU 921-30N3D-CMHZ
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

API Well Number: 43047536910000

WELL DETAILS: MU 921-30N3D-CMHZ

GL 4858 & KB 19
@ 4877.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14533163.77	2033415.58	40.0110520	-109.5965230

SECTION DETAILS

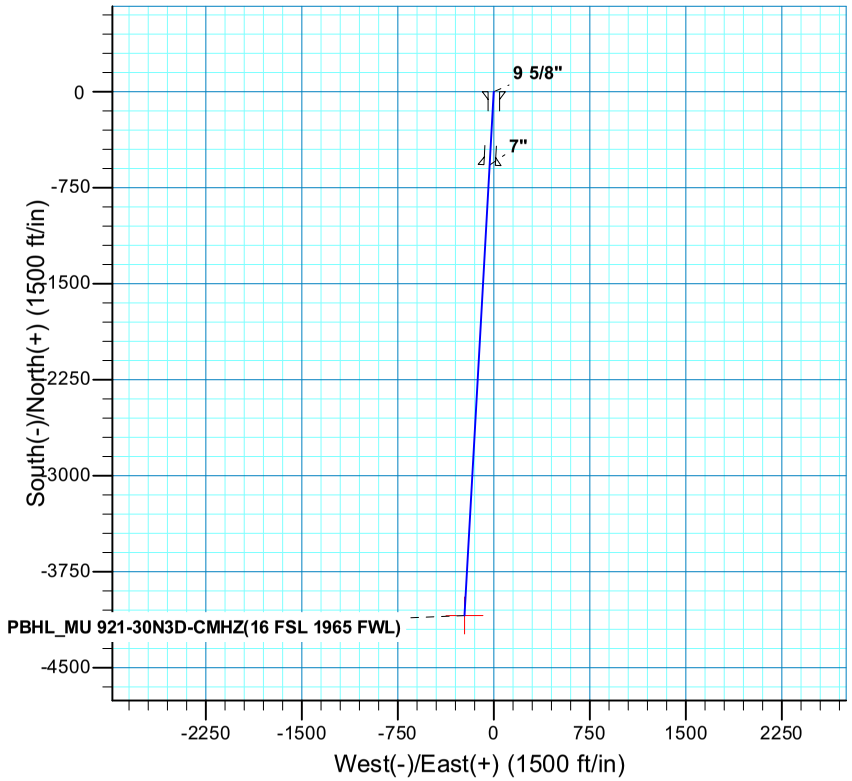
MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3786.04	0.00	0.00	3786.04	0.00	0.00	0.00	0.00	0.00	
4686.04	90.00	183.21	4359.00	-572.06	-32.08	10.00	183.21	572.96	
8210.56	90.00	183.21	4359.00	-4091.05	-229.42	0.00	0.00	4097.48	PBHL

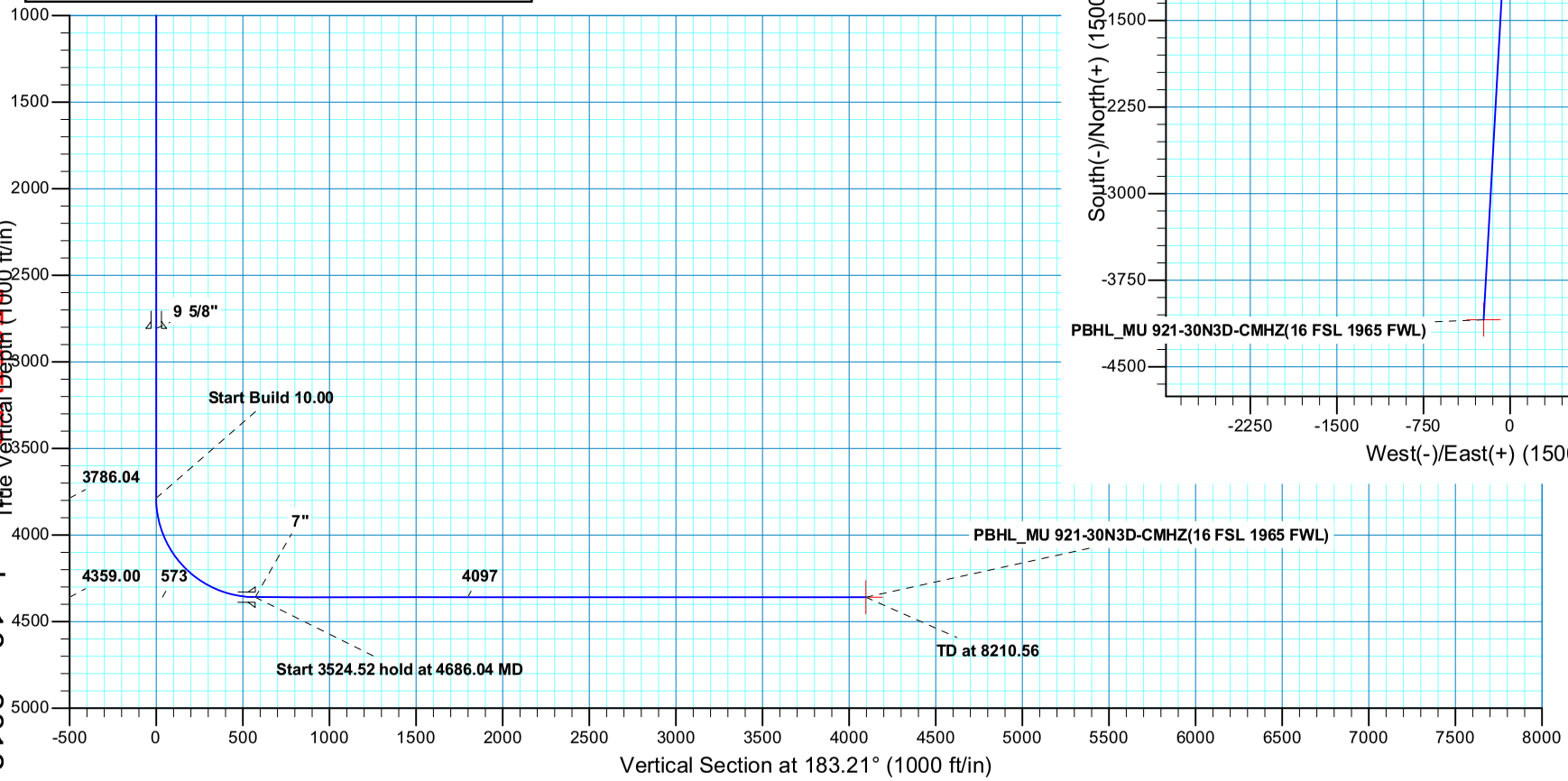
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1594.00	1594.00	GREEN RIVER
1857.00	1857.00	BIRDSNEST
2356.00	2356.00	MAHOGANY MARKER
4349.00	4578.84	GREEN RIVER LOWER

CASING DETAILS

TVD	MD	Name	Size
2806.00	2806.00	9 5/8"	9.625
4359.00	4686.04	7"	7.000





Plan: PLAN #1 PRELIMINARY (MU 921-30N3D-CMHZ/OH)
Created By: RobertScott Date: 9:00, December 14 2012

RECEIVED: March 19, 2013
Received: March 04, 2013

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MU 921-30C PAD
Well: MU 921-30N3D-UBHZ
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

API Well Number: 43047536910000

WELL DETAILS: MU 921-30N3D-UBHZ

GL 4858 & KB 19
@ 4877.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14533175.81	2033393.54	40.0110860	-109.5966010

SECTION DETAILS

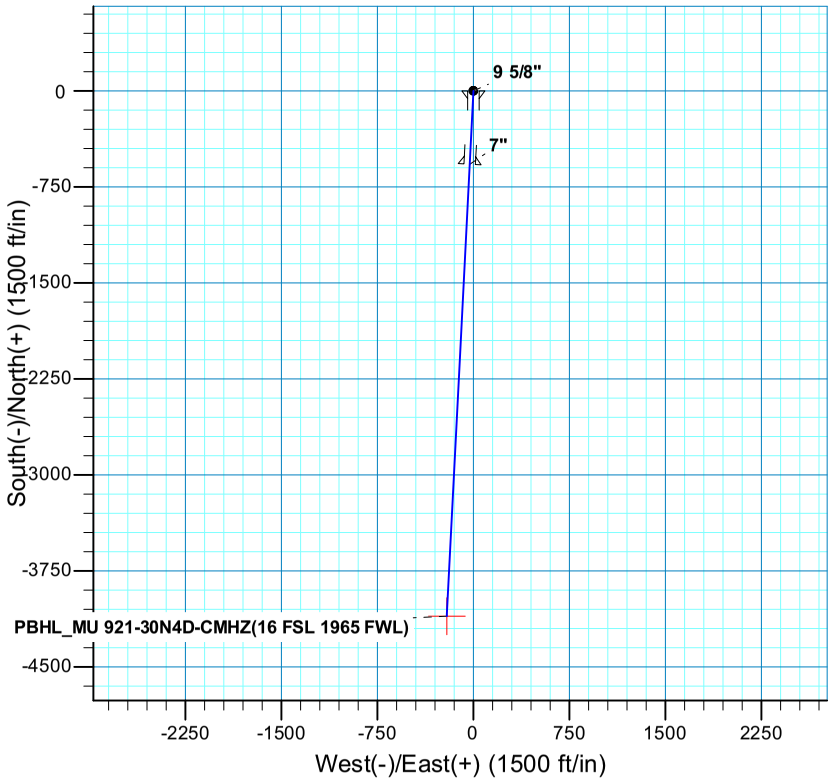
MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4280.04	0.00	0.00	4280.04	0.00	0.00	0.00	0.00	0.00	
5180.04	90.00	182.90	4853.00	-572.23	-28.95	10.00	182.90	572.96	
8715.76	90.00	182.90	4853.00	-4103.43	-207.57	0.00	0.00	4108.68	PBHL

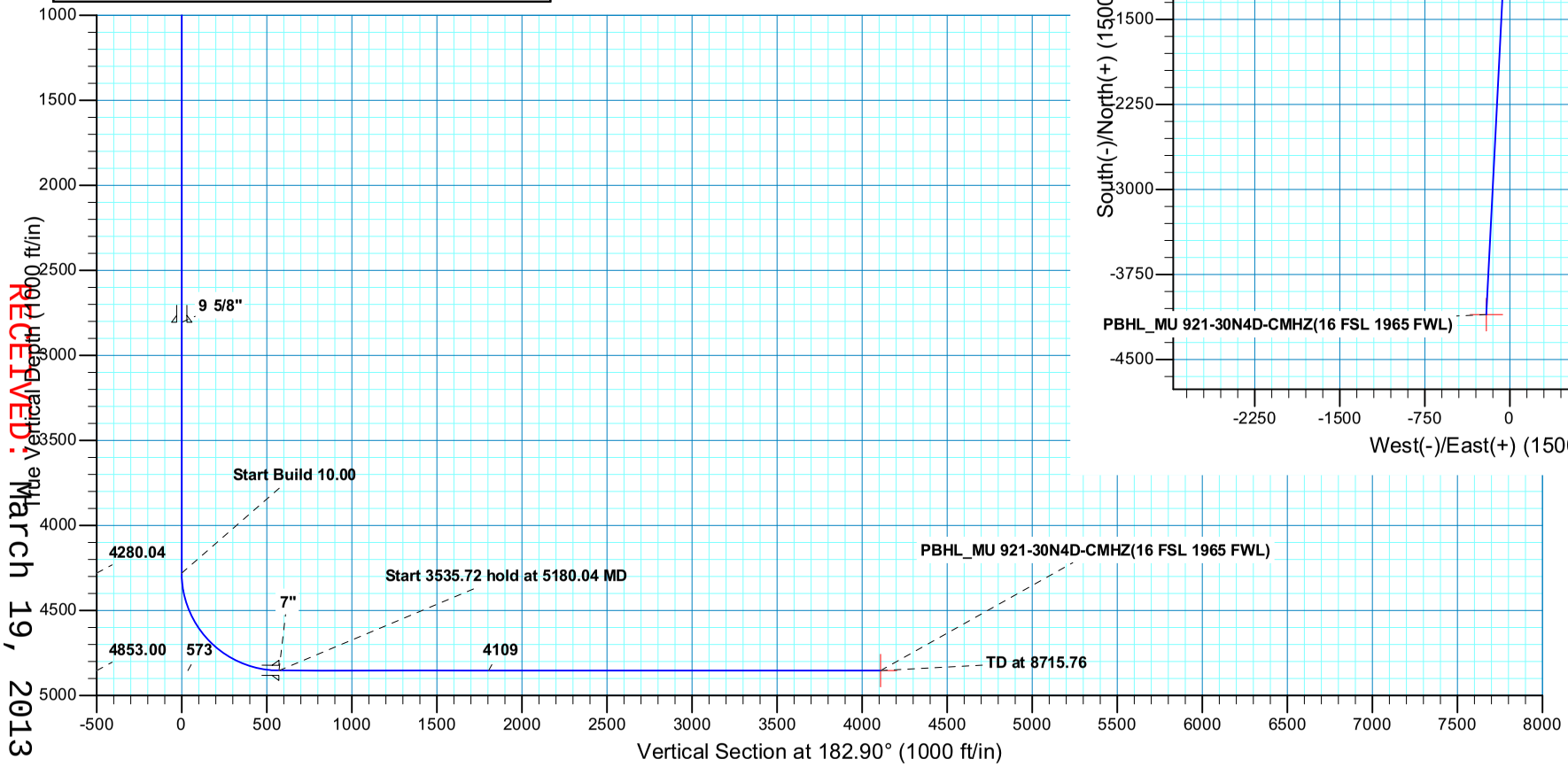
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1594.00	1594.00	GREEN RIVER
1857.00	1857.00	BIRDSNEST
2355.00	2355.00	MAHOGANY MARKER
4349.00	4349.17	GREEN RIVER LOWER
4798.00	4926.94	UTELAND BUTTE

CASING DETAILS

TVD	MD	Name	Size
2805.00	2805.00	9 5/8"	9.625
4853.00	5180.04	7"	7.000





Plan: PLAN #1 PRELIMINARY (MU 921-30N3D-UBHZ/OH)
Created By: Robert Scott Date: 9:01, December 14 2012

RECEIVED: March 19, 2013
Received: March 04, 2013

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MU 921-30C PAD
Well: MU 921-30N4D-CMHZ
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

API Well Number: 43047536910000

WELL DETAILS: MU 921-30N4D-CMHZ

GL 4858 & KB 19
@ 4877.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14533140.06	2033459.65	40.0109850	-109.5963670

SECTION DETAILS

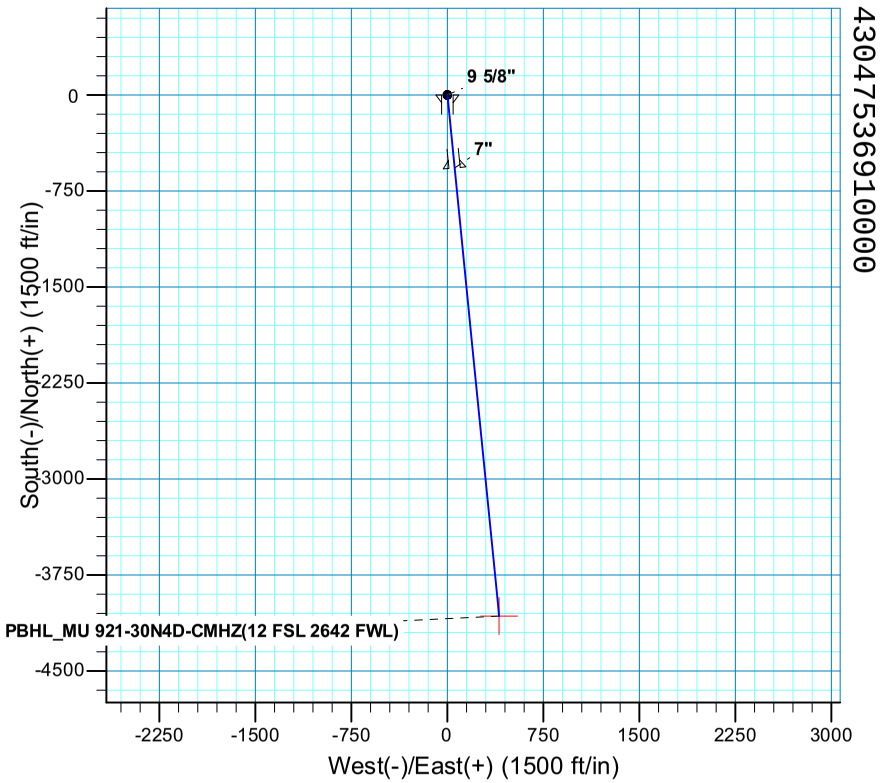
MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3783.04	0.00	0.00	3783.04	0.00	0.00	0.00	0.00	0.00	
4683.04	90.00	174.34	4356.00	-570.16	56.54	10.00	174.34	572.96	
8200.34	90.00	174.34	4356.00	-4070.29	403.63	0.00	0.00	4090.25	PBHL

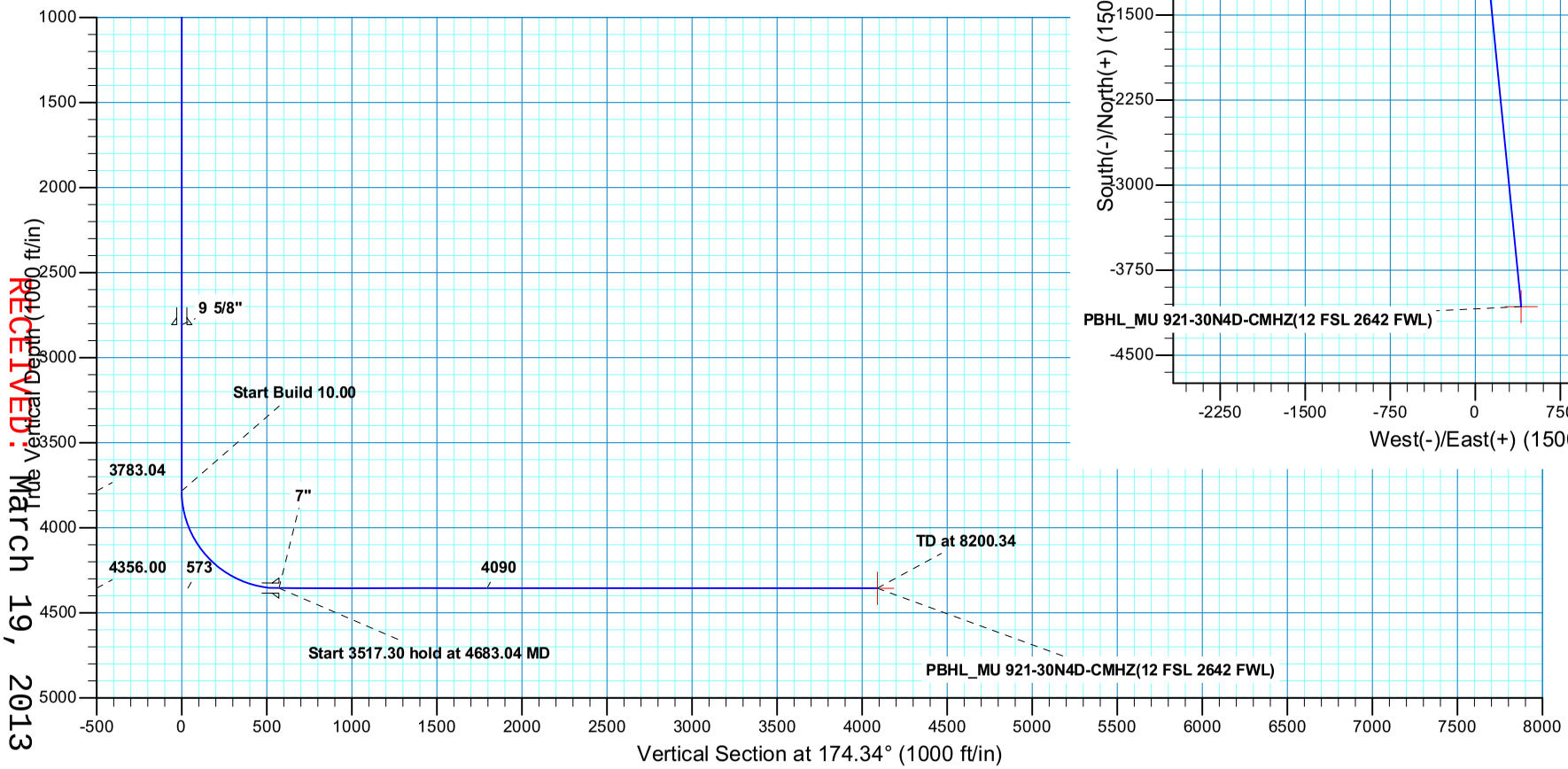
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1593.00	1593.00	GREEN RIVER
1856.00	1856.00	BIRDSNEST
2356.00	2356.00	MAHOGANY MARKER
4346.00	4575.84	GREEN RIVER LOWER

CASING DETAILS

TVD	MD	Name	Size
2806.00	2806.00	9 5/8"	9.625
4356.00	4683.04	7"	7.000





Plan: PLAN #1 PRELIMINARY (MU 921-30N4D-CMHZ/OH)
Created By: RobertScott Date: 9:00, December 14 2012

RECEIVED: March 19, 2013
Received: March 04, 2013

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MU 921-30C PAD
Well: MU 921-30N4D-UBHZ
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

API Well Number: 43047536910000

WELL DETAILS: MU 921-30N4D-UBHZ

GL 4858 & KB 19
@ 4877.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14533151.74	2033437.62	40.0110180	-109.5964450

SECTION DETAILS

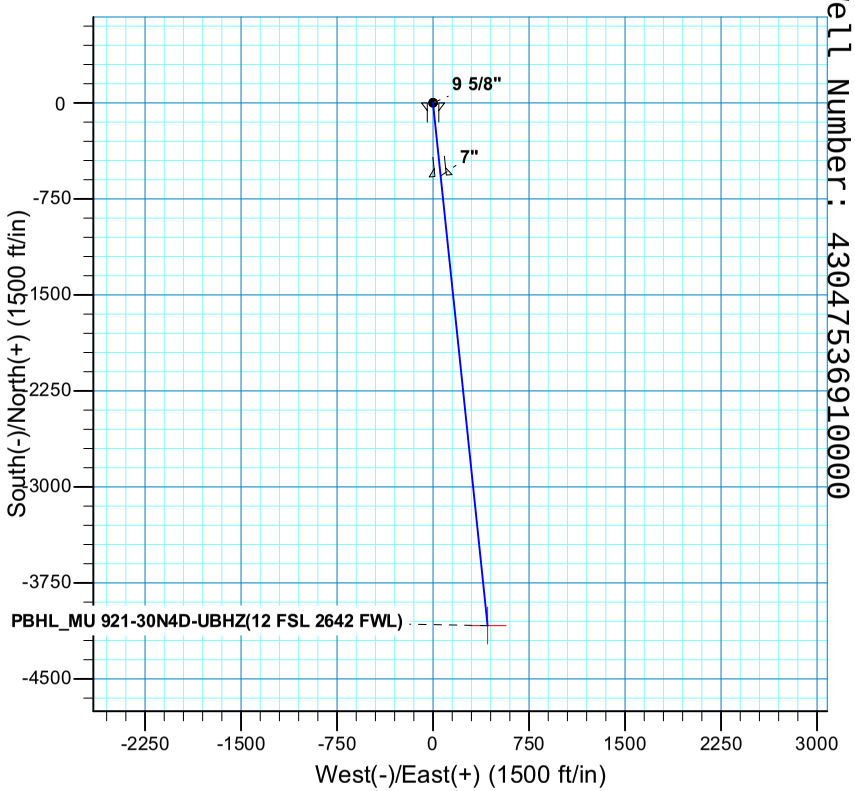
MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4279.04	0.00	0.00	4279.04	0.00	0.00	0.00	0.00	0.00	
5179.04	90.00	174.05	4852.00	-569.87	59.39	10.00	174.05	572.96	
8710.51	90.00	174.05	4852.00	-4082.31	425.47	0.00	0.00	4104.42	PBHL

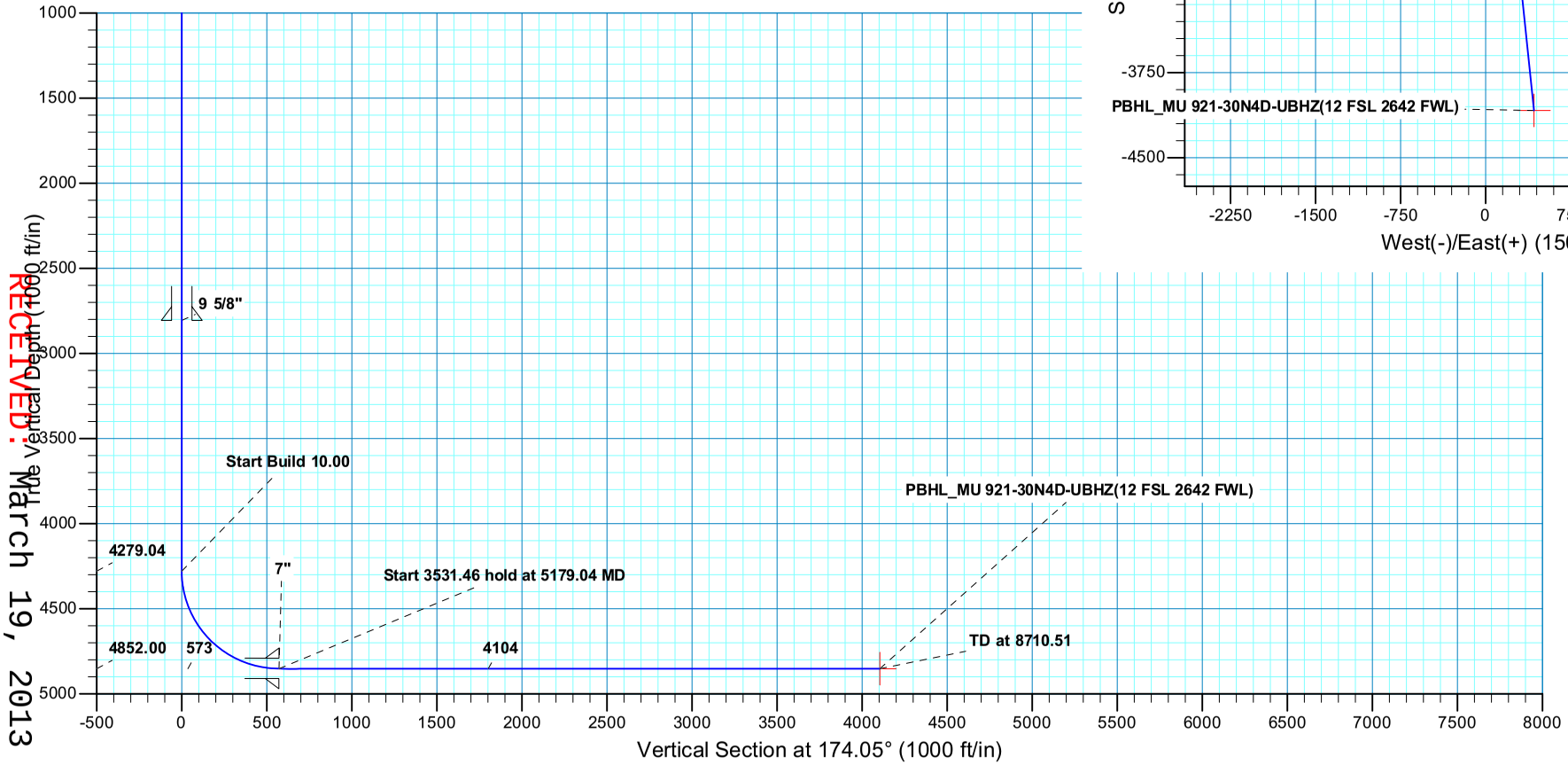
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1593.00	1593.00	GREEN RIVER
1856.00	1856.00	BIRDSNEST
2356.00	2356.00	MAHOGANY MARKER
4347.00	4347.16	GREEN RIVER LOWER
4797.00	4925.94	UTELAND BUTTE

CASING DETAILS

TVD	MD	Name	Size
2806.00	2806.00	9 5/8"	9.625
4852.00	5179.04	7"	7.000





Plan: PLAN #1 PRELIMINARY (MU 921-30N4D-UBHZ/OH)
Created By: Robert Scott Date: 9:01, December 14 2012

RECEIVED: March 19, 2013
Received: March 04, 2013

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MU 921-30C PAD
Well: MU 921-19C1A-CMHZ
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

API Well Number: 43047536910000

WELL DETAILS: MU 921-19C1A-CMHZ

GL 4858 & KB 19
@ 4877.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14533223.24	2033305.69	40.0112200	-109.5969120

SECTION DETAILS

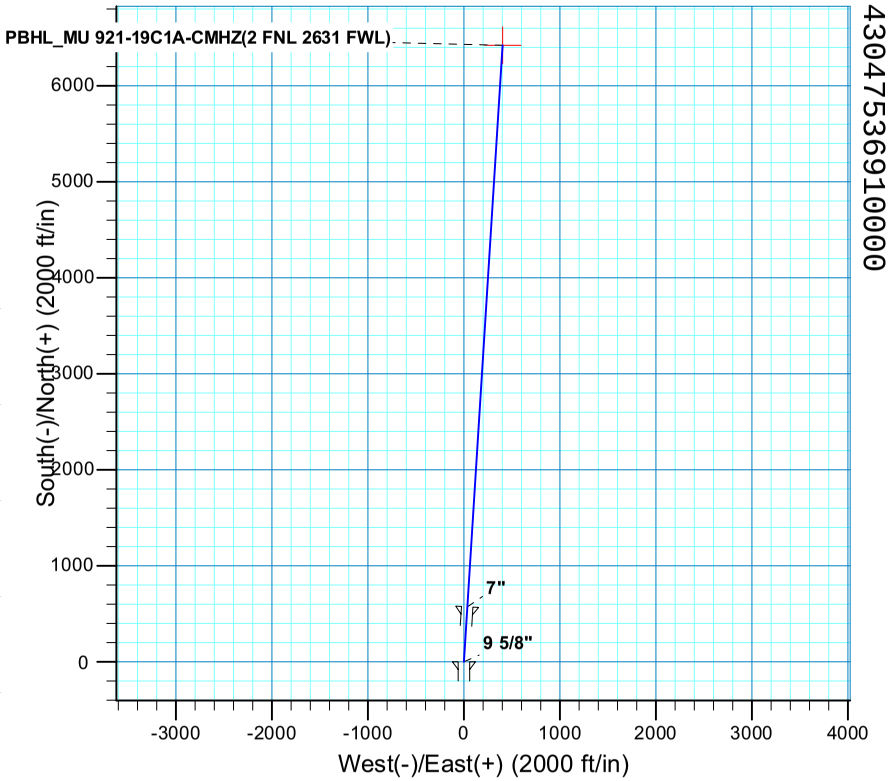
MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3783.04	0.00	0.00	3783.04	0.00	0.00	0.00	0.00	0.00	
4683.04	90.00	3.60	4356.00	571.83	35.98	10.00	3.60	572.96	
10544.00	90.00	3.60	4356.00	6421.22	404.01	0.00	0.00	6433.92	PBHL

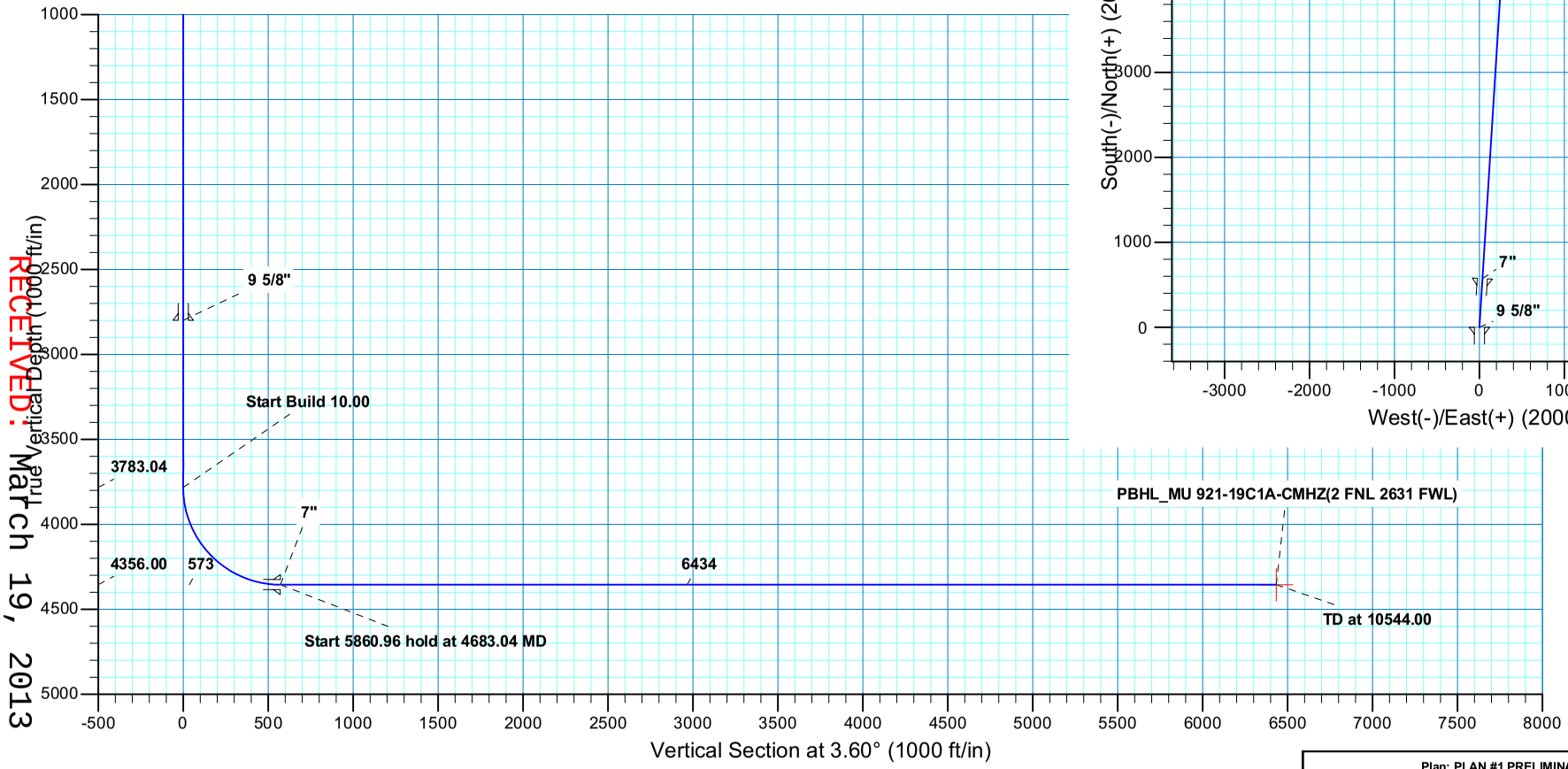
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1592.00	1592.00	GREEN RIVER
1854.00	1854.00	BIRDSNEST
2349.00	2349.00	MAHOGANY MARKER
4346.00	4575.84	GREEN RIVER LOWER

CASING DETAILS

TVD	MD	Name	Size
2799.00	2799.00	9 5/8"	9.625
4356.00	4683.04	7"	7.000





Plan: PLAN #1 PRELIMINARY (MU 921-19C1A-CMHZ/OH)
Created By: Robert Scott Date: 16:03, December 14 2012

RECEIVED: March 19, 2013
Received: March 04, 2013

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MU 921-30C PAD
Well: MU 921-19C1A-UBHZ
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

API Well Number: 43047536910000

WELL DETAILS: MU 921-19C1A-UBHZ

GL 4858 & KB 19
@ 4877.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14533234.91	2033283.66	40.0112530	-109.5969900

SECTION DETAILS

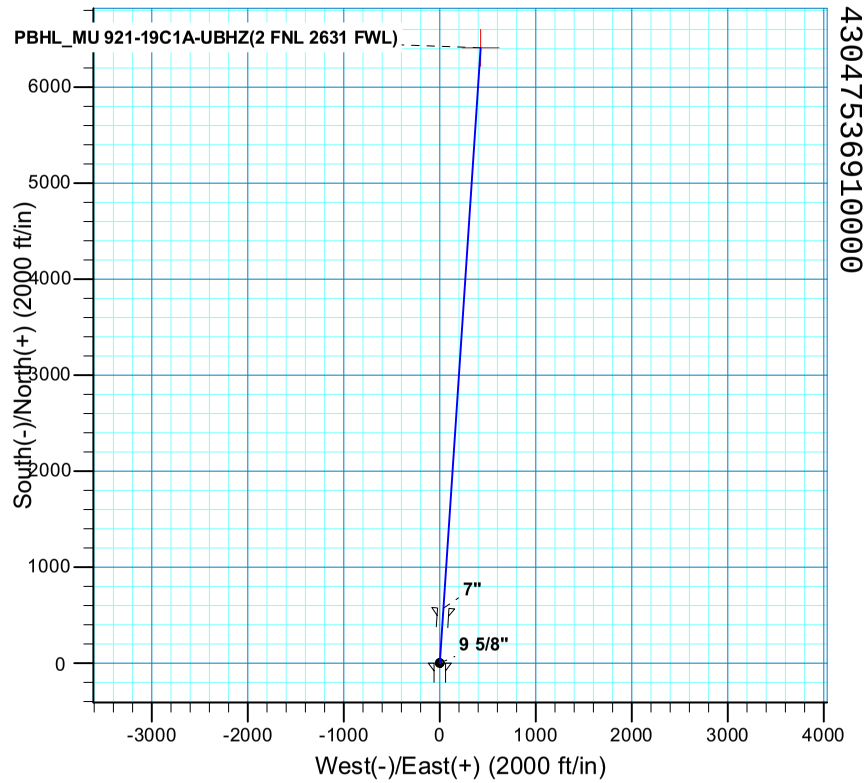
MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4282.04	0.00	0.00	4282.04	0.00	0.00	0.00	0.00	0.00	
5182.04	90.00	3.80	4855.00	571.70	37.99	10.00	3.80	572.96	
11032.42	90.00	3.80	4855.00	6409.20	425.85	0.00	0.00	6423.33	PBHL

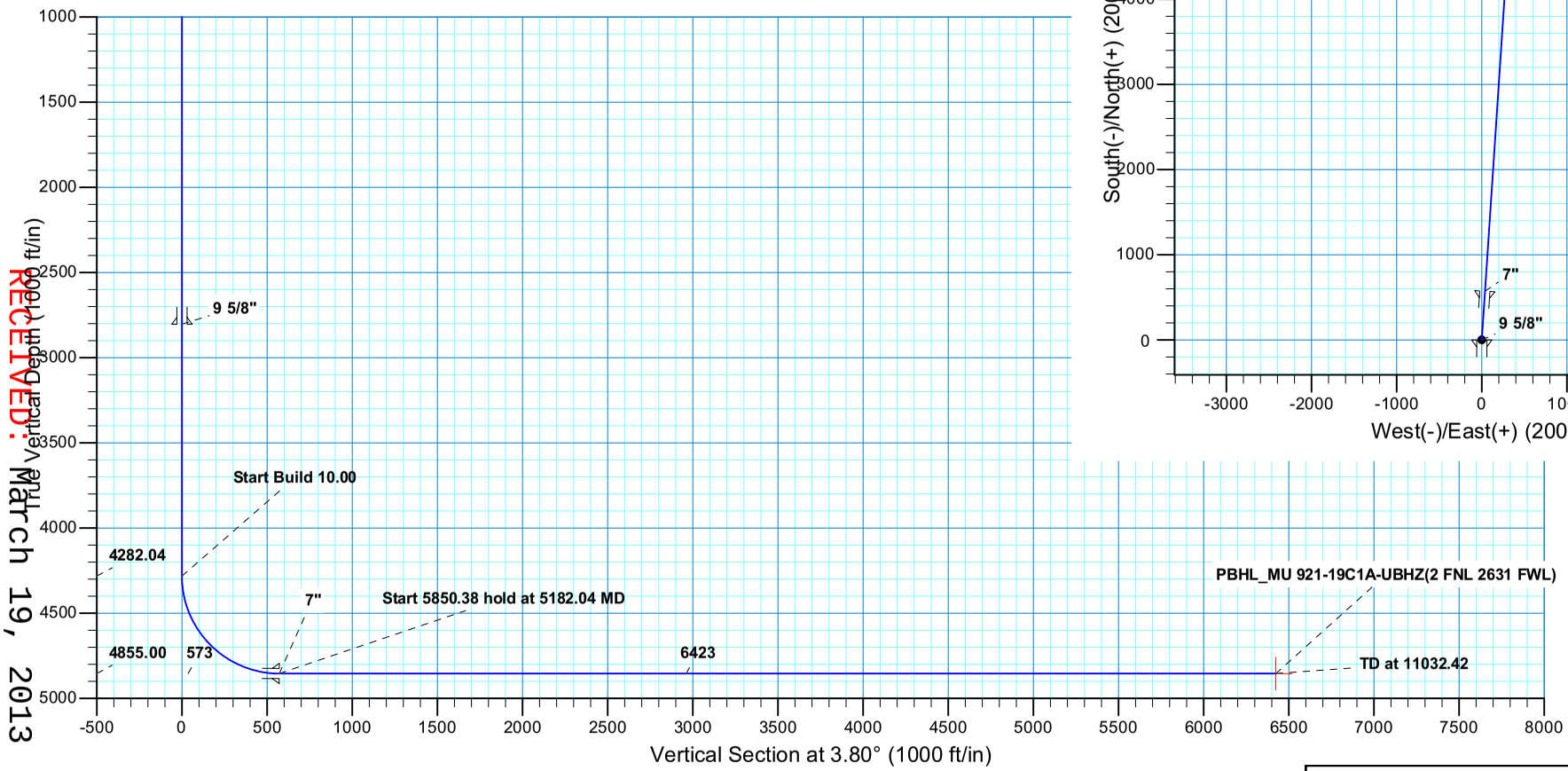
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1596.00	1596.00	GREEN RIVER
1858.00	1858.00	BIRDSNEST
2353.00	2353.00	MAHOGANY MARKER
4351.00	4351.17	GREEN RIVER LOWER
4800.00	4928.94	UTELAND BUTTE

CASING DETAILS

TVD	MD	Name	Size
2803.00	2803.00	9 5/8"	9.625
4855.00	5182.04	7"	7.000

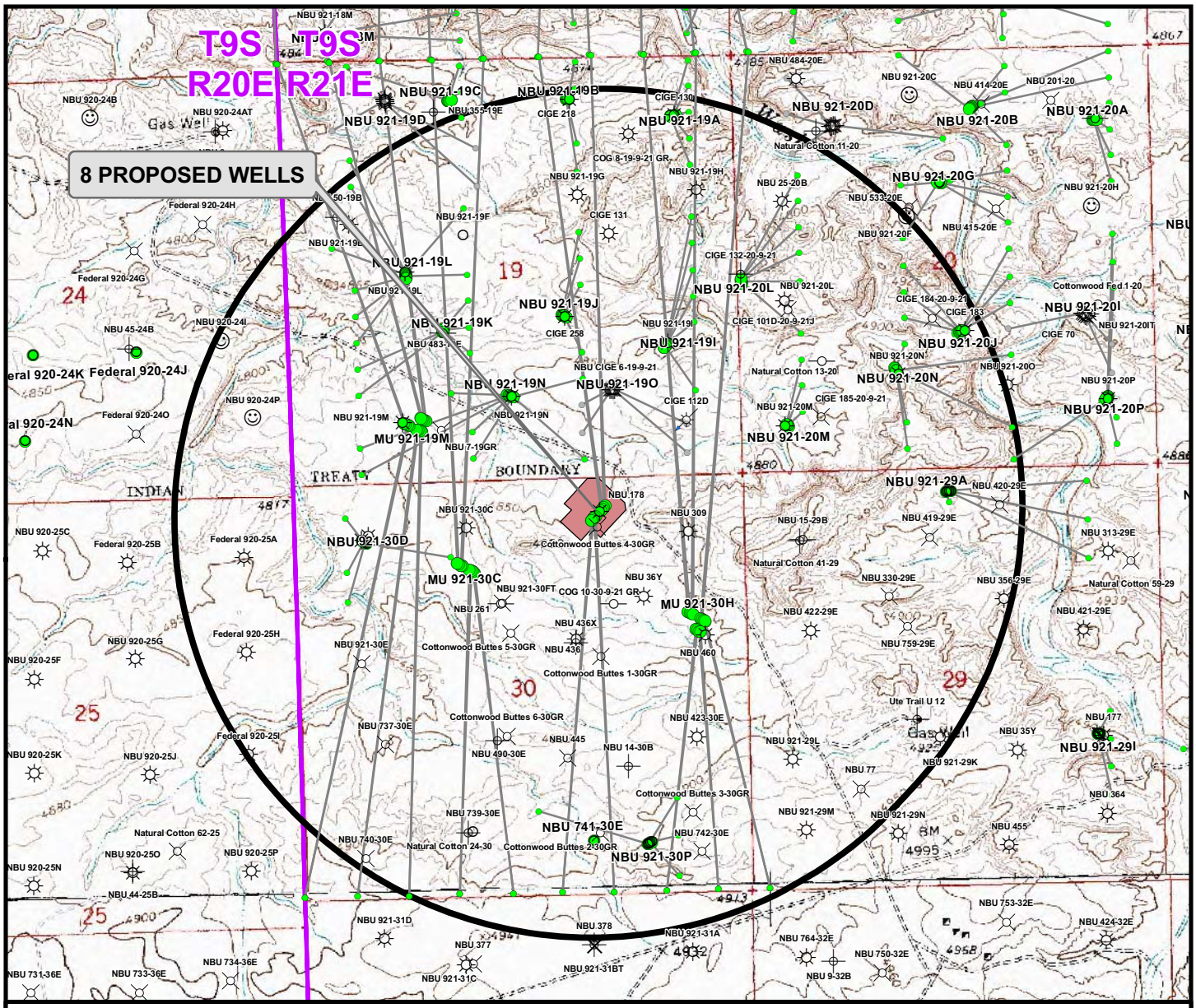




Plan: PLAN #1 PRELIMINARY (MU 921-19C1A-UBHZ/OH)
Created By: RobertScott Date: 9:00, December 14 2012

RECEIVED: March 19, 2013
Received: March 04, 2013

API Well Number: 43047536910000


T9S T9S
R20E R21E
8 PROPOSED WELLS
NBU 921-19C
NBU 921-19B
NBU 921-19D
NBU 921-19A
NBU 921-20D
NBU 921-20B
NBU 921-20A
NBU 921-20G
NBU 921-19L
NBU 921-19J
NBU 921-20L
NBU 921-20I
NBU 921-20J
NBU 921-19K
NBU 921-19I
NBU 921-19N
NBU 921-19O
NBU 921-20N
NBU 921-20P
NBU 921-20M
MU 921-19M
NBU 921-29A
NBU 921-30D
MU 921-30C
MU 921-30H
NBU 921-29I
NBU 741-30E
NBU 921-30P
TREATY BOUNDARY
INDIAN
Gas Well
Natural Cotton 11-20
Natural Cotton 13-20
Natural Cotton 41-29
Natural Cotton 59-29
Natural Cotton 62-25
Natural Cotton 24-30
Cottonwood Buttes 4-30GR
Cottonwood Buttes 5-30GR
Cottonwood Buttes 1-30GR
Cottonwood Buttes 6-30GR
Cottonwood Buttes 3-30GR
Cottonwood Buttes 230GR
Ute Trail U 12
Cottonwood Fed 1-20
Federal 920-24H
Federal 920-24G
Federal 920-24K
Federal 920-24J
Federal 920-24O
Federal 920-25B
Federal 920-25A
Federal 920-25H
Federal 920-25I
NBU 920-24B
NBU 920-24AT
NBU 920-24I
NBU 920-24P
NBU 920-25C
NBU 920-25G
NBU 920-25F
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NBU 733-36E
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NBU 377
NBU 378
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NBU 9-32B
NBU 753-32E
NBU 424-32E
NBU 455
NBU 364
NBU 177
NBU 35Y
NBU 921-29K
NBU 77
NBU 921-29L
NBU 921-29M
NBU 921-29N
NBU 423-30E
NBU 14-30B
NBU 445
NBU 490-30E
NBU 737-30E
NBU 739-30E
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NBU 36Y
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NBU 356-29E
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NBU 201-20
NBU 484-20E
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NBU 921-19G
NBU 921-19H
NBU 921-19F
NBU 921-19E
NBU 921-19I
NBU 921-20L
NBU 921-20N
NBU 921-20O
NBU 921-20M
NBU 921-20T
CIGE 218
CIGE 130
CIGE 131
CIGE 258
CIGE 112D
CIGE 132-20-9-21
CIGE 101D-20-9-21J
CIGE 184-20-9-21
CIGE 183
CIGE 70
CIGE 185-20-9-21
COG 8-19-9-21 GR
COG 10-30-9-21 GR
NBU CIGE 6-19-9-21
NBU 7-19GR
NBU 921-19M
NBU 921-19N
NBU 921-30C
NBU 921-19L
NBU 921-19K
NBU 921-19J
NBU 921-19I
NBU 921-19G
NBU 921-19H
NBU 921-19F
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NBU 921-20J
NBU 921-20N
NBU 921-20P
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NBU 921-19N
NBU 921-19O
NBU 921-19C
NBU 921-19D
NBU 921-19A
NBU 921-20B
NBU 921-20A
NBU 921-20D
NBU 921-20G

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MU 921-30B PAD
Well: MU 921-19B1B-UBHZ
Wellbore: OH
Design: PLAN#1 PRELIMINARY

Anadarko Petroleum Corporation

API Well Number: 43047536910000

WELL DETAILS: MU 921-19B1B-UBHZ

GL 4853 & KB 19 @ 4872.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14533953.79	2035097.67	40.0131480	-109.5904730

SECTION DETAILS

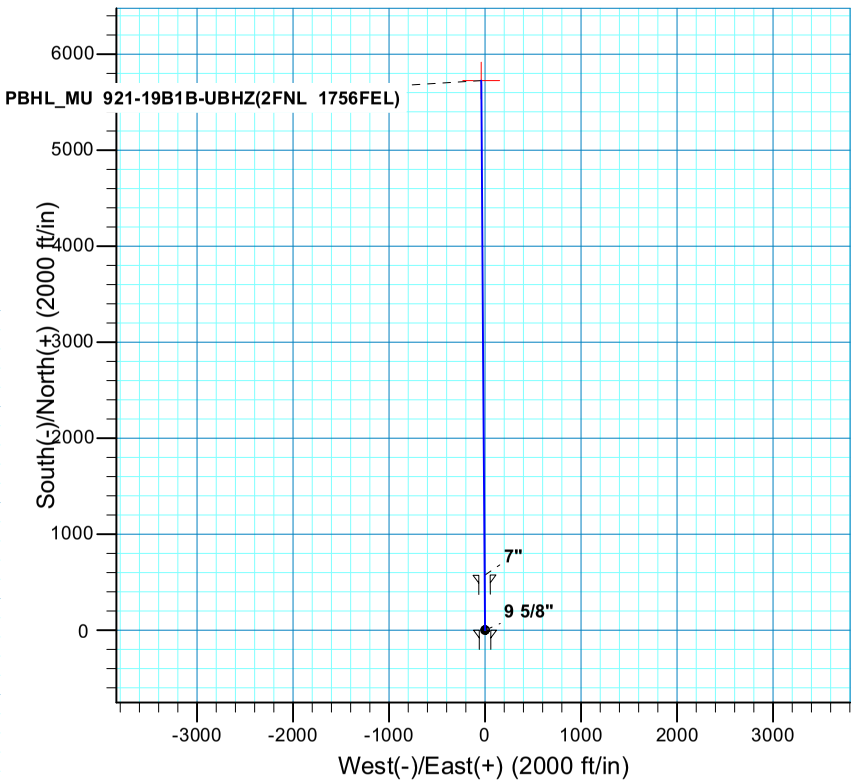
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4293.04	0.00	0.00	4293.04	0.00	0.00	0.00	0.00	0.00	
5193.04	90.00	359.61	4866.00	572.94	-3.90	10.00	359.61	572.96	
10343.63	90.00	359.61	4866.00	5723.42	-38.93	0.00	0.00	5723.55	PBHL_MU 921-19B1B-UBHZ(2

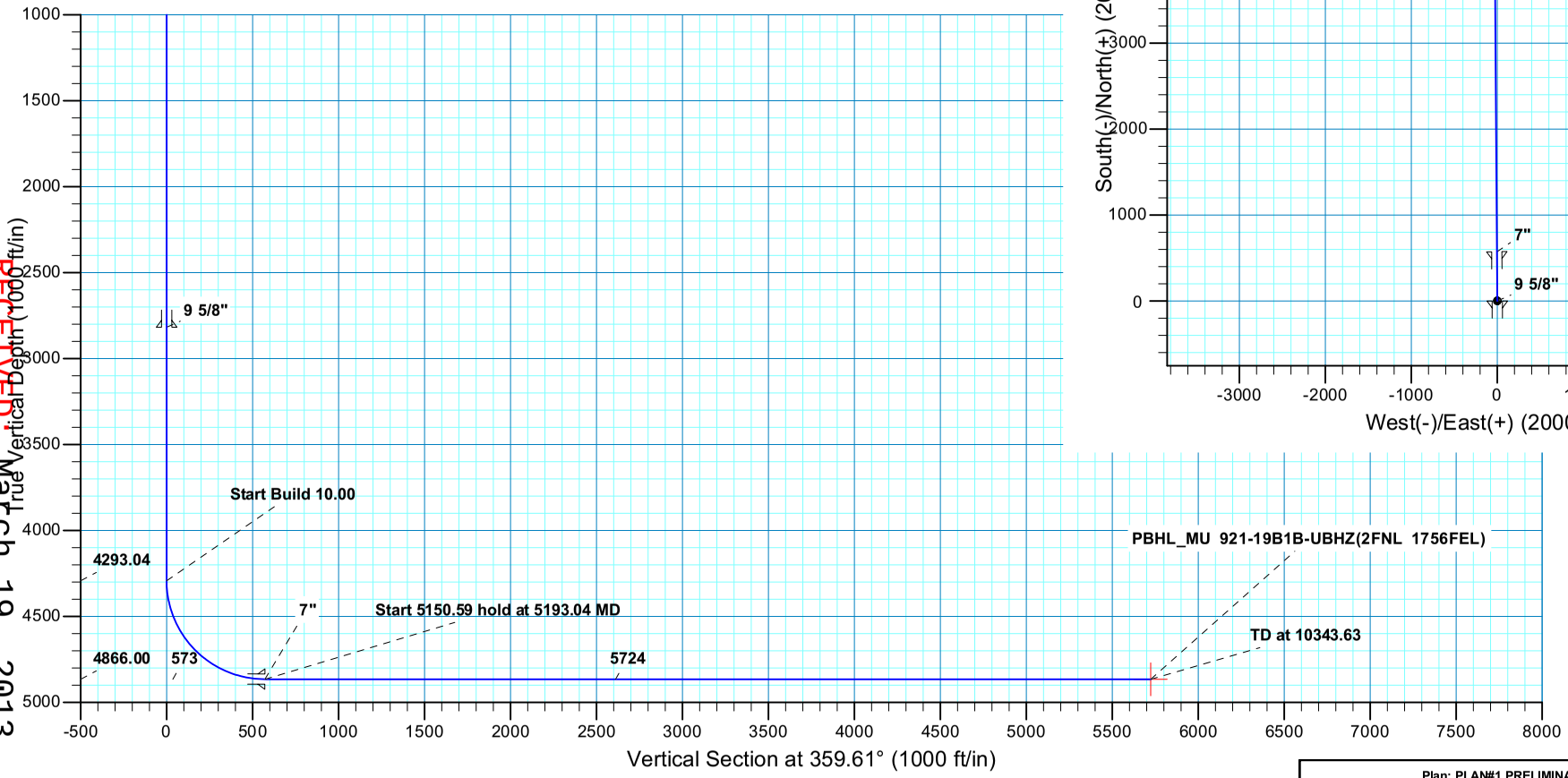
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1594.00	1594.00	GREEN RIVER
1866.00	1866.00	BIRDSNEST
2368.00	2368.00	MAHOGANY
4357.00	4357.13	GREEN RIVER LOWER
4811.00	4939.94	UTELAND BUTTES

CASING DETAILS

TVD	MD	Name	Size
2818.00	2818.00	9 5/8"	9.625
4866.00	5193.04	7"	7.000





Plan: PLAN#1 PRELIMINARY (MU 921-19B1B-UBHZ/OH)
Created By: Robert Scott Date: 12:06, December 19 2012

RECEIVED: March 19, 2013
Received: March 08, 2013

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MU 921-30B PAD
Well: MU 921-19B2A-CMHZ
Wellbore: OH
Design: PLAN#1 PRELIMINARY

Anadarko Petroleum Corporation

API Well Number: 43047536910000

WELL DETAILS: MU 921-19B2A-CMHZ

GL 4853 & KB 19 @ 4872.00ft (ASSUMED)
A

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14533935.67	2035080.60	40.0130990	-109.5905350

SECTION DETAILS

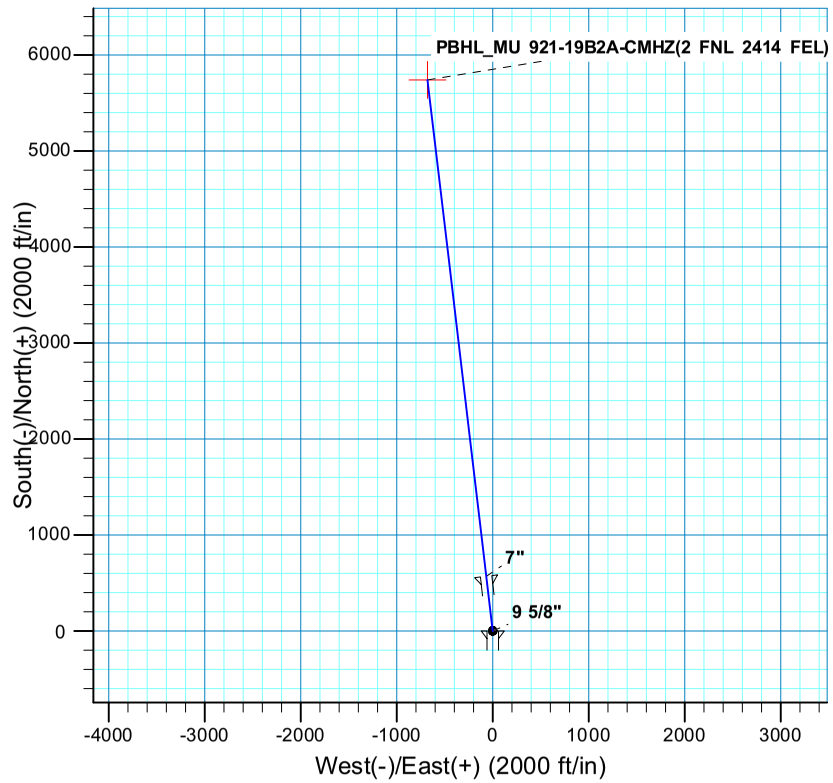
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3794.04	0.00	0.00	3794.04	0.00	0.00	0.00	0.00	0.00	
4694.04	90.00	353.25	4367.00	568.99	-67.33	10.00	353.25	572.96	
9901.67	90.00	353.25	4367.00	5740.54	-679.27	0.00	0.00	5780.59	PBHL_MU 921-19B2A-CMHZ

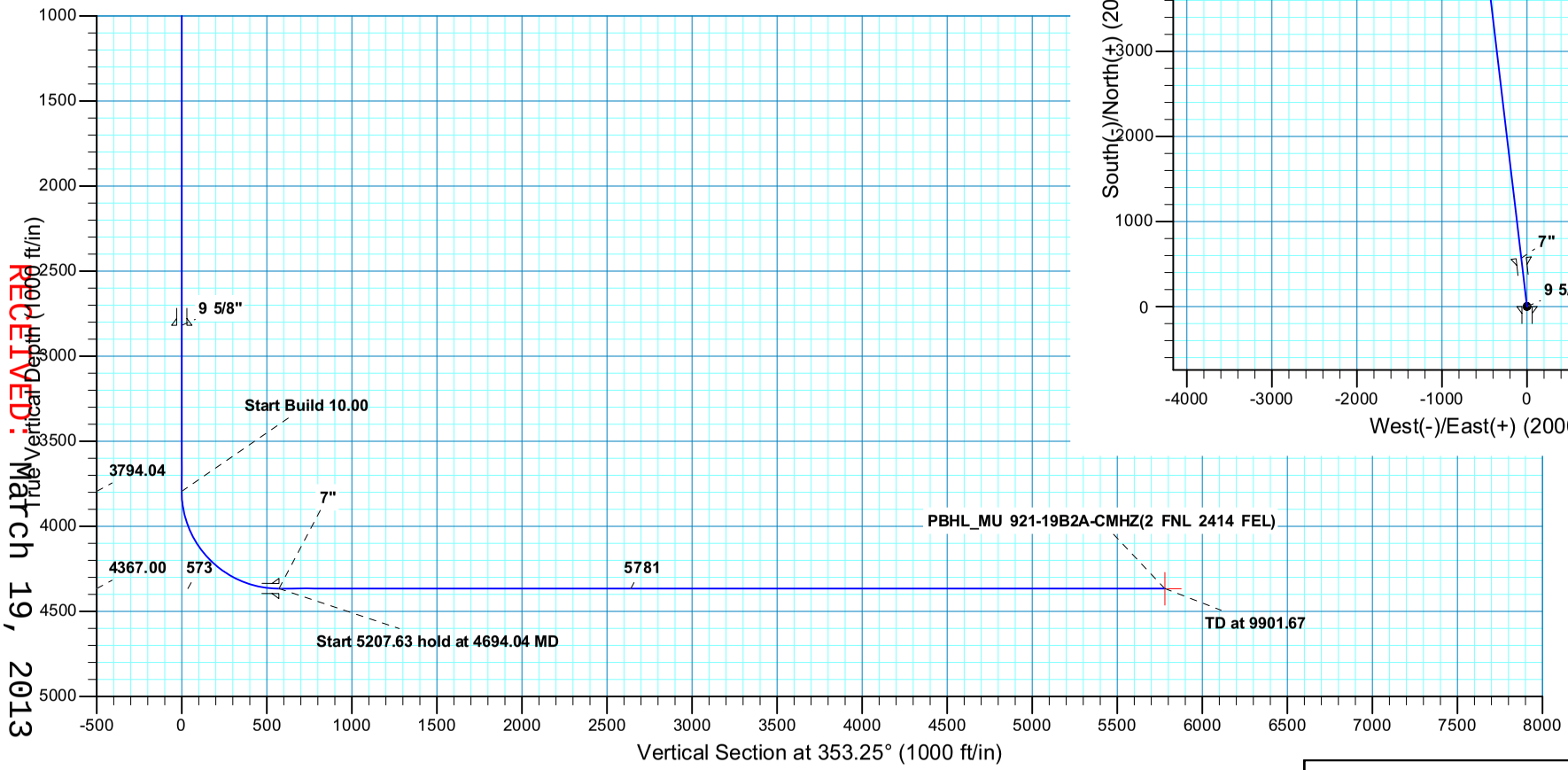
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1594.00	1594.00	GREEN RIVER
1865.00	1865.00	BIRDSNEST
2368.00	2368.00	MAHOGANY
4357.00	4586.84	GREEN RIVER LOWER

CASING DETAILS

TVD	MD	Name	Size
2818.00	2818.00	9 5/8"	9.625
4367.00	4694.04	7"	7.000





Plan: PLAN#1 PRELIMINARY (MU 921-19B2A-CMHZ/OH)
Created By: Robert Scott Date: 11:55, December 19 2012

RECEIVED: March 19, 2013
Received: March 08, 2013

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MU 921-30B PAD
Well: MU 921-19B2A-UBHZ
Wellbore: OH
Design: PLAN#1 PRELIMINARY

Anadarko Petroleum Corporation

API Well Number: 43047536910000

WELL DETAILS: MU 921-19B2A-UBHZ

GL 4853 & KB 19 @ 4872.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14533917.55	2035063.52	40.0130500	-109.5905970

SECTION DETAILS

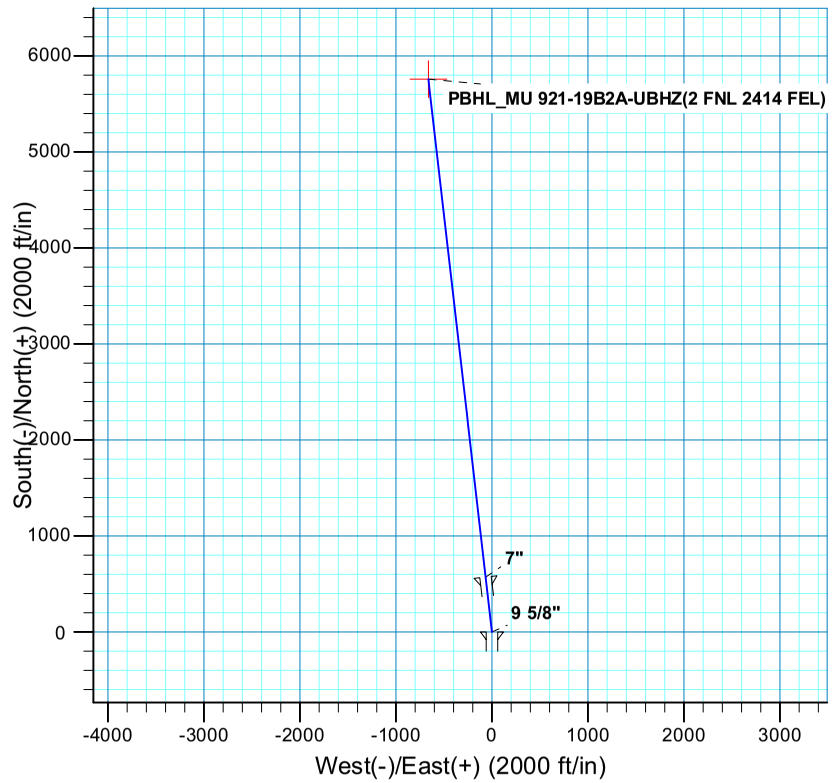
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4293.04	0.00	0.00	4293.04	0.00	0.00	0.00	0.00	0.00	
5193.04	90.00	353.44	4866.00	569.21	-65.43	10.00	353.44	572.96	
10416.39	90.00	353.44	4866.00	5758.39	-661.91	0.00	0.00	5796.30	PBHL_MU 921-19B2A-UBHZ

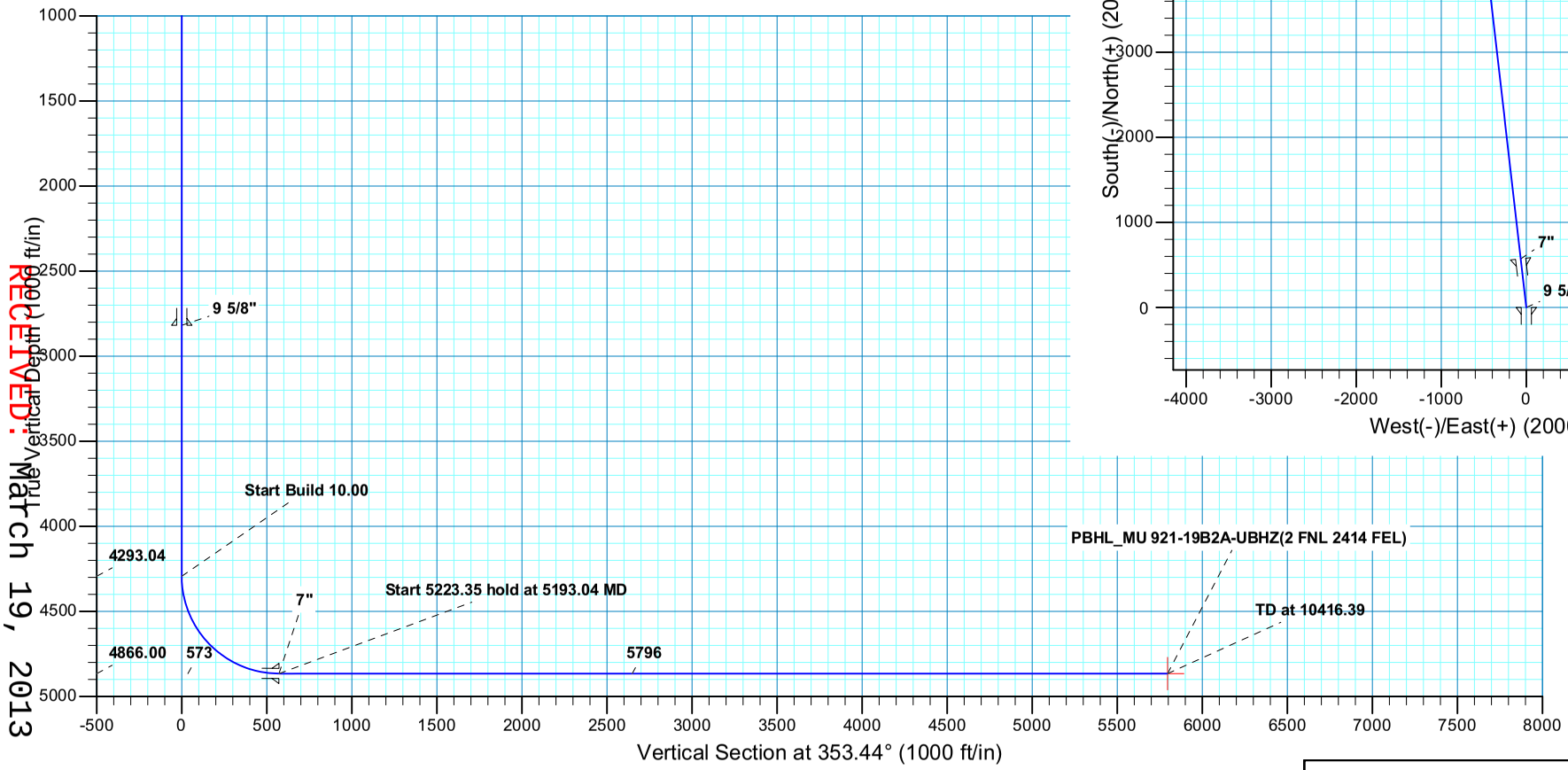
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1594.00	1594.00	GREEN RIVER
1865.00	1865.00	BIRDSNEST
2368.00	2368.00	MAHOGANY
4357.00	4357.13	GREEN RIVER LOWER
4811.00	4939.94	UTELAND BUTTES

CASING DETAILS

TVD	MD	Name	Size
2818.00	2818.00	9 5/8"	9.625
4866.00	5193.04	7"	7.000





Plan: PLAN#1 PRELIMINARY (MU 921-19B2A-UBHZ/OH)
Created By: Robert Scott Date: 12:06, December 19 2012

RECEIVED: March 19, 2013

Received: March 08, 2013

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone
Site: MU 921-30B PAD
Well: MU 921-30O3D-CMHZ
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

API Well Number: 43047536910000

WELL DETAILS: MU 921-30O3D-CMHZ

GL 4853 & KB 19 @ 4872.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14533808.83	2034960.20	40.0127560	-109.5909720

SECTION DETAILS

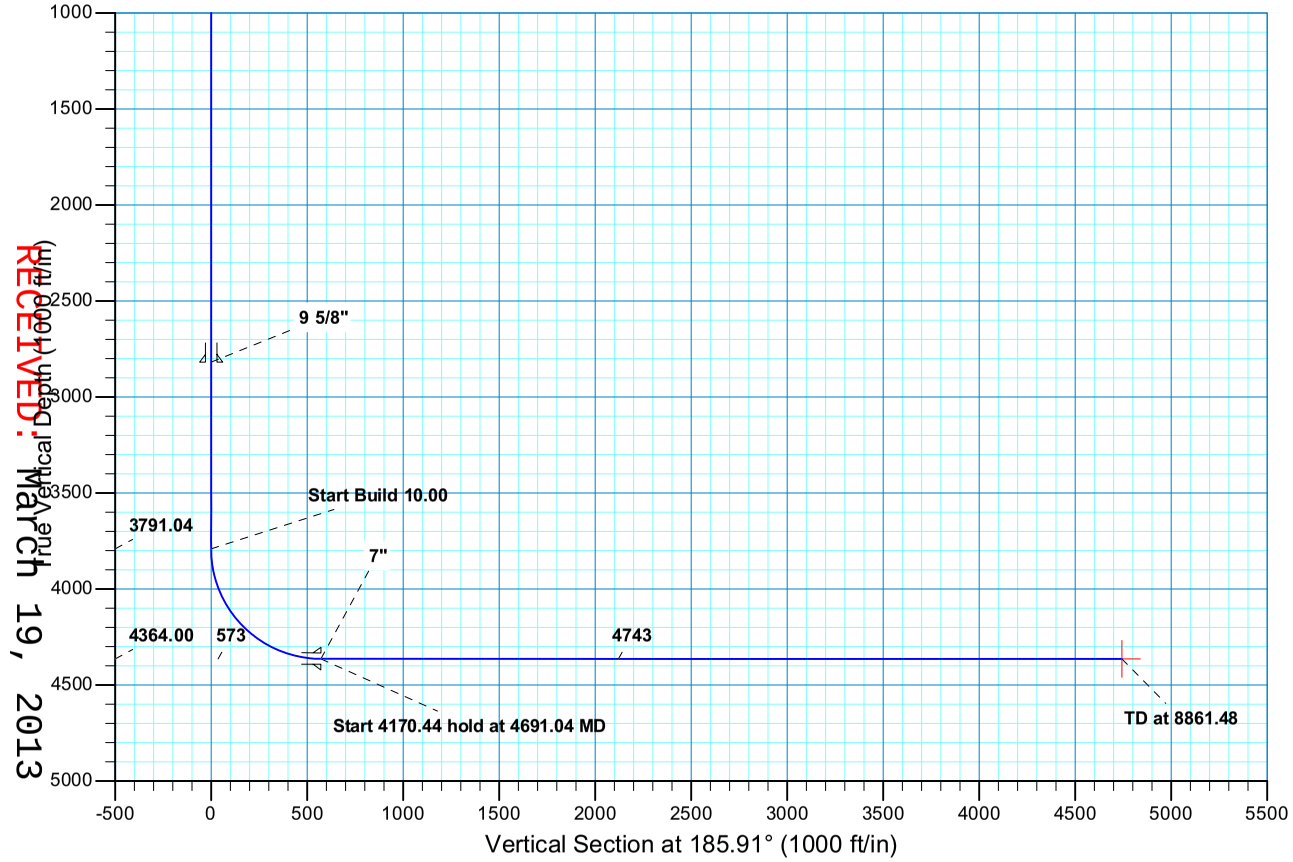
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3791.04	0.00	0.00	3791.04	0.00	0.00	0.00	0.00	0.00	
4691.04	90.00	185.91	4364.00	-569.91	-58.98	10.00	185.91	572.96	
8861.48	90.00	185.91	4364.00	-4718.20	-488.25	0.00	0.00	4743.40	PBHL_MU 921-30O3D-CMHZ(9 FSL 2372 FEL)

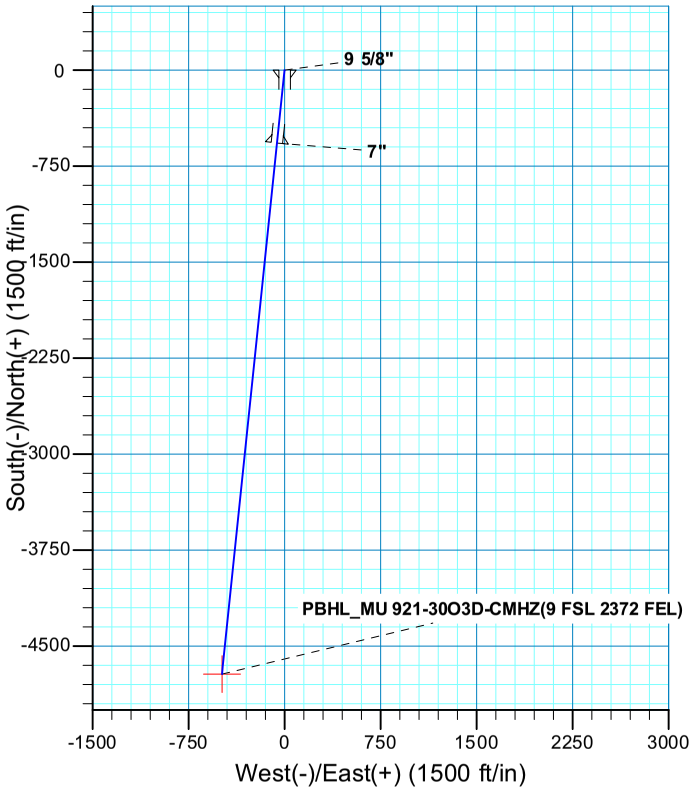
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1593.00	1593.00	GREEN RIVER
1863.00	1863.00	BIRDSNEST
2368.00	2368.00	MAHOGANY
4354.00	4583.84	GREEN RIVER LOWER

CASING DETAILS

TVD	MD	Name	Size
2818.00	2818.00	9 5/8"	9.625
4364.00	4691.04	7"	7.000





Plan: PLAN #1 PRELIMINARY (MU 921-30O3D-CMHZ/OH)
Created By: RobertScott Date: 16:27, January 08 2013

RECEIVED: March 19, 2013
Received: March 08, 2013

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MU 921-30B PAD
Well: MU 921-30O3D-UBHZ
Wellbore: OH
Design: PLAN#1 PRELIMINARY

Anadarko Petroleum Corporation

API Well Number: 43047536910000

WELL DETAILS: MU 921-30O3D-UBHZ

GL 4853 & KB 19 @ 4872.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14533790.34	2034943.13	40.0127060	-109.5910340

SECTION DETAILS

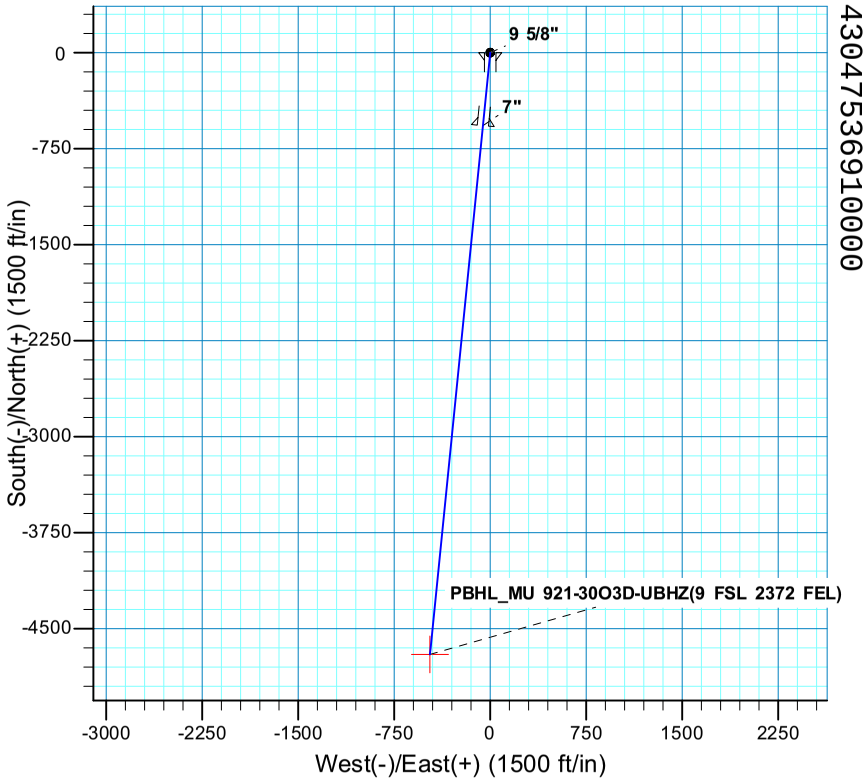
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4290.04	0.00	0.00	4290.04	0.00	0.00	0.00	0.00	0.00	
5190.04	90.00	185.72	4863.00	-570.10	-57.12	10.00	185.72	572.96	
9340.61	90.00	185.72	4863.00	-4699.99	-470.88	0.00	0.00	4723.52	PBHL_MU 921-30O3D-UBHZ

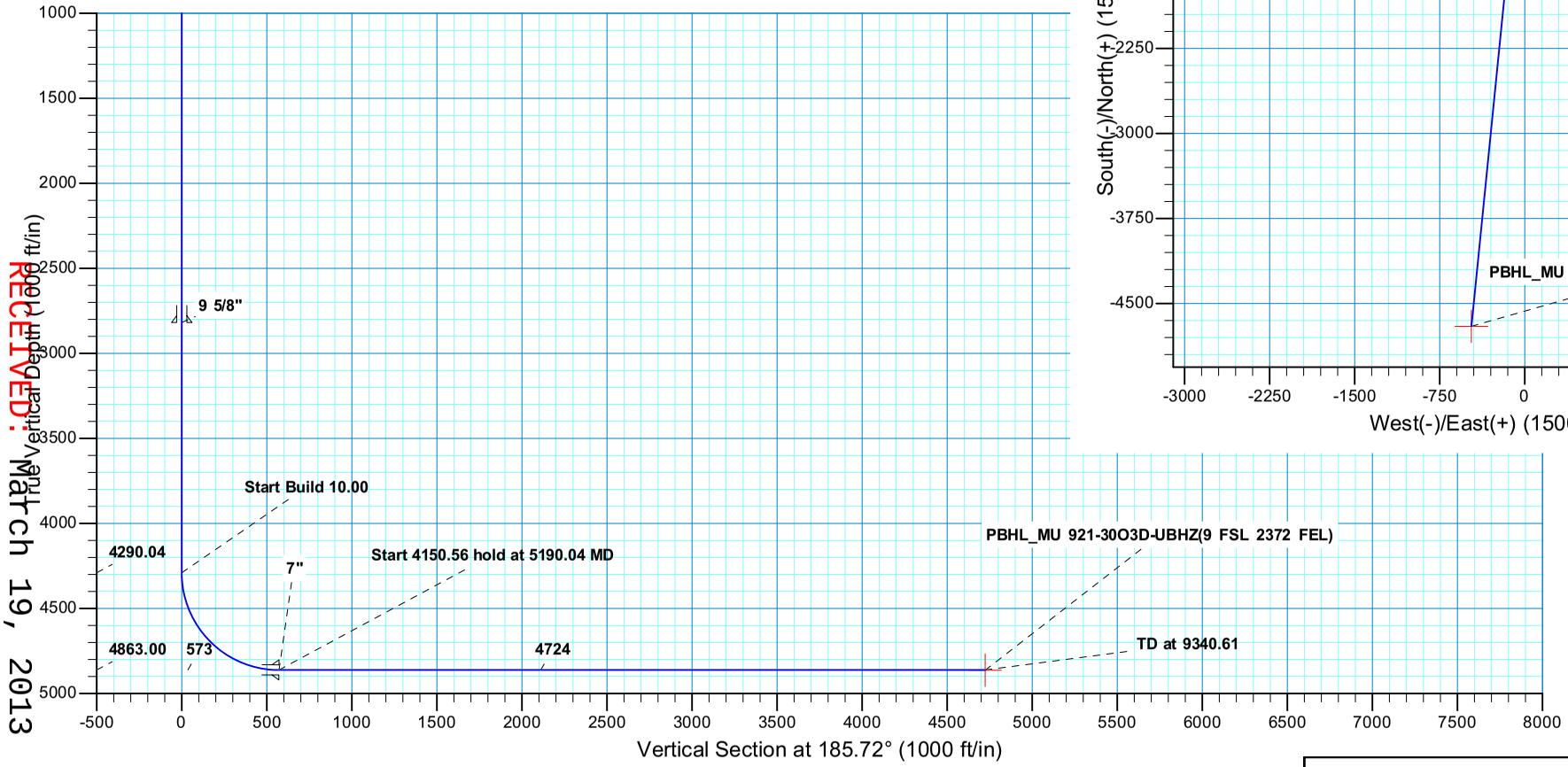
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1592.00	1592.00	GREEN RIVER
1863.00	1863.00	BIRDSNEST
2368.00	2368.00	MAHOGANY
4354.00	4354.13	GREEN RIVER LOWER
4808.00	4936.94	UTELAND BUTTES

CASING DETAILS

TVD	MD	Name	Size
2818.00	2818.00	9 5/8"	9.625
4863.00	5190.04	7"	7.000





Plan: PLAN#1 PRELIMINARY (MU 921-30O3D-UBHZ/OH)
Created By: Robert Scott Date: 12:01, December 19 2012

RECEIVED: March 19, 2013
Received: March 08, 2013

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MU 921-30B PAD
Well: MU 921-30O4D-CMHZ
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

API Well Number: 43047536910000

WELL DETAILS: MU 921-30O4D-CMHZ

GL 4853 & KB 19 @ 4872.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14533844.70	2034994.65	40.0128530	-109.5908470

SECTION DETAILS

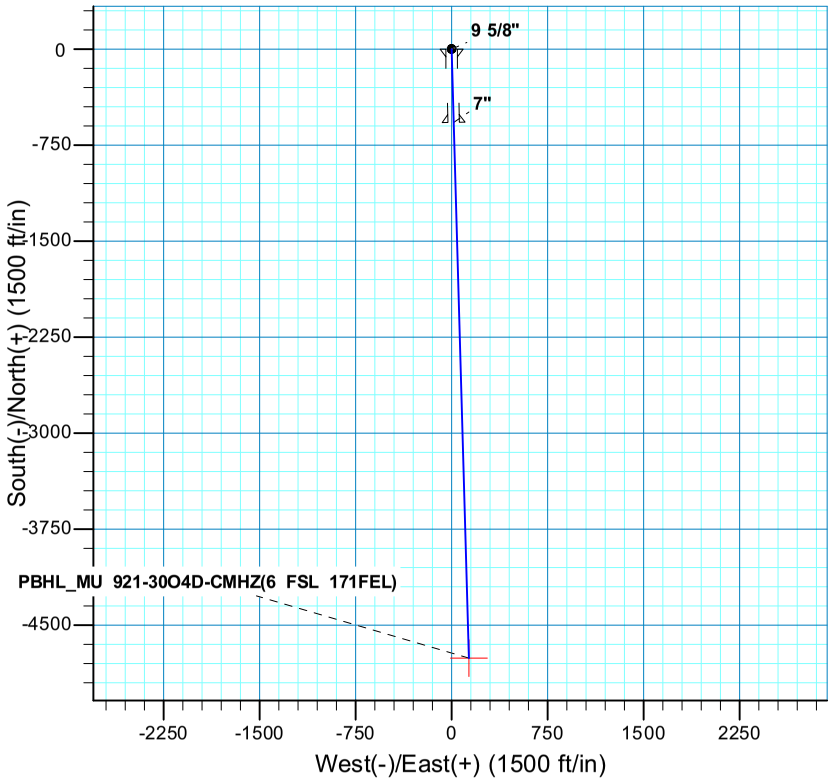
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3792.04	0.00	0.00	3792.04	0.00	0.00	0.00	0.00	0.00	
4692.04	90.00	178.38	4365.00	-572.73	16.19	10.00	178.38	572.96	
8878.16	90.00	178.38	4365.00	-4757.18	134.44	0.00	0.00	4759.08	PBHL_MU 921-30O4D-CMHZ

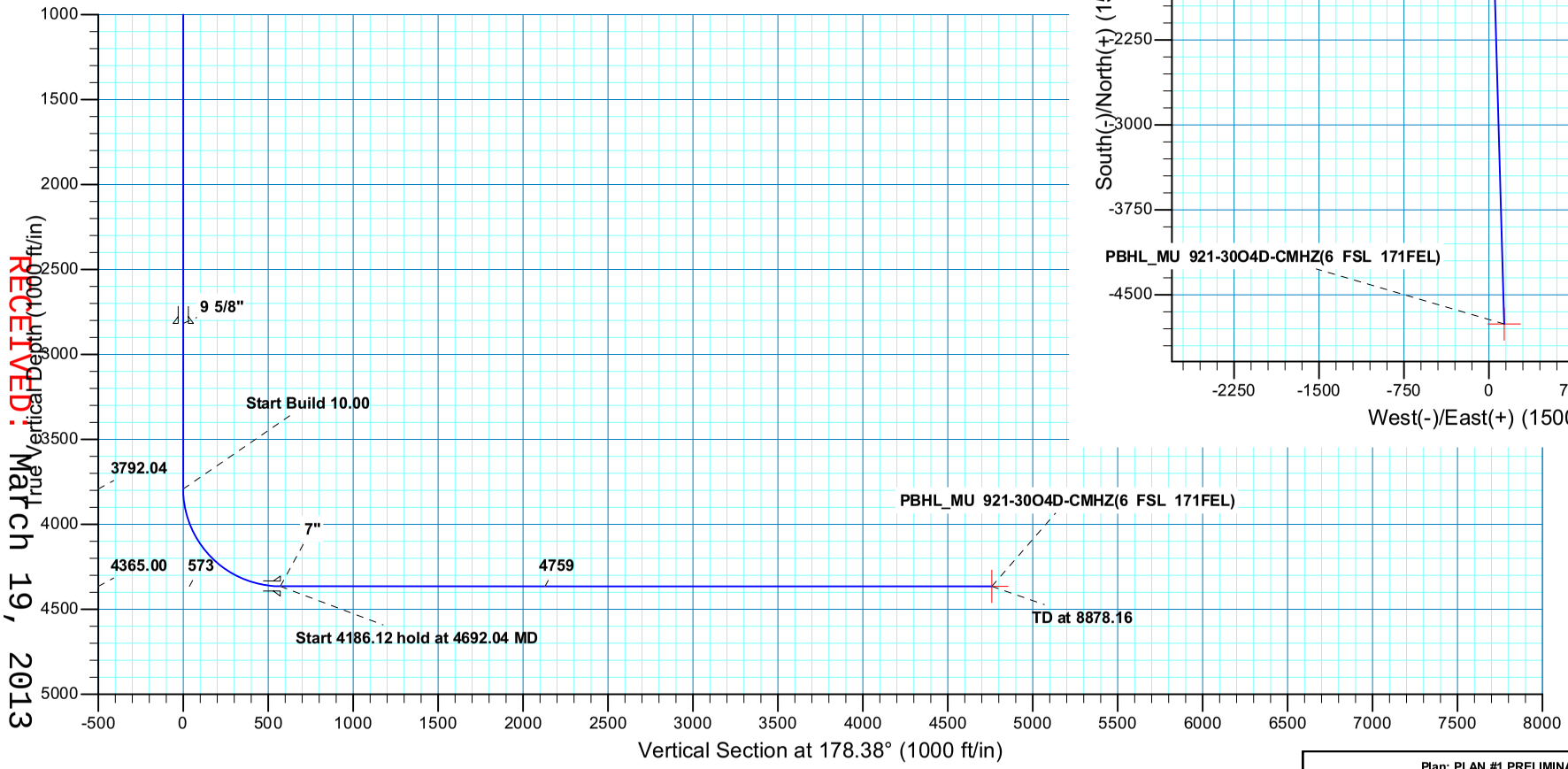
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1593.00	1593.00	GREEN RIVER
1864.00	1864.00	BIRDSNEST
2368.00	2368.00	MAHOGANY
4355.00	4584.84	GREEN RIVER LOWER

CASING DETAILS

TVD	MD	Name	Size
2818.00	2818.00	9 5/8"	9.625
4365.00	4692.04	7"	7.000





Plan: PLAN #1 PRELIMINARY (MU 921-30O4D-CMHZ/OH)
Created By: Robert Scott Date: 12:06, December 19 2012

RECEIVED: March 19, 2013
Received: March 08, 2013

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: MU 921-30B PAD
Well: MU 921-30O4D-UBHZ
Wellbore: OH
Design: PLAN#1 PRELIMINARY

Anadarko Petroleum Corporation

API Well Number: 43047536910000

WELL DETAILS: MU 921-30O4D-UBHZ

GL 4853 & KB 19
@ 4872.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14533826.95	2034977.56	40.0128050	-109.5909090

SECTION DETAILS

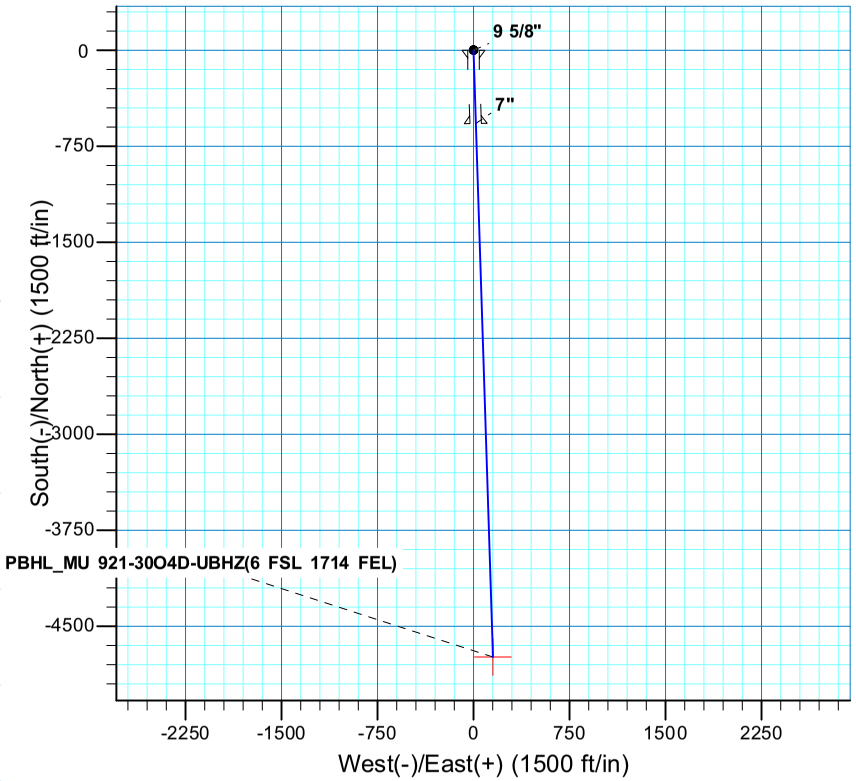
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4291.04	0.00	0.00	4291.04	0.00	0.00	0.00	0.00	0.00	
5191.04	90.00	178.17	4864.00	-572.66	18.34	10.00	178.17	572.96	
9360.21	90.00	178.17	4864.00	-4739.70	151.80	0.00	0.00	4742.13	PBHL_MU 921-30O4D-UBHZ(6

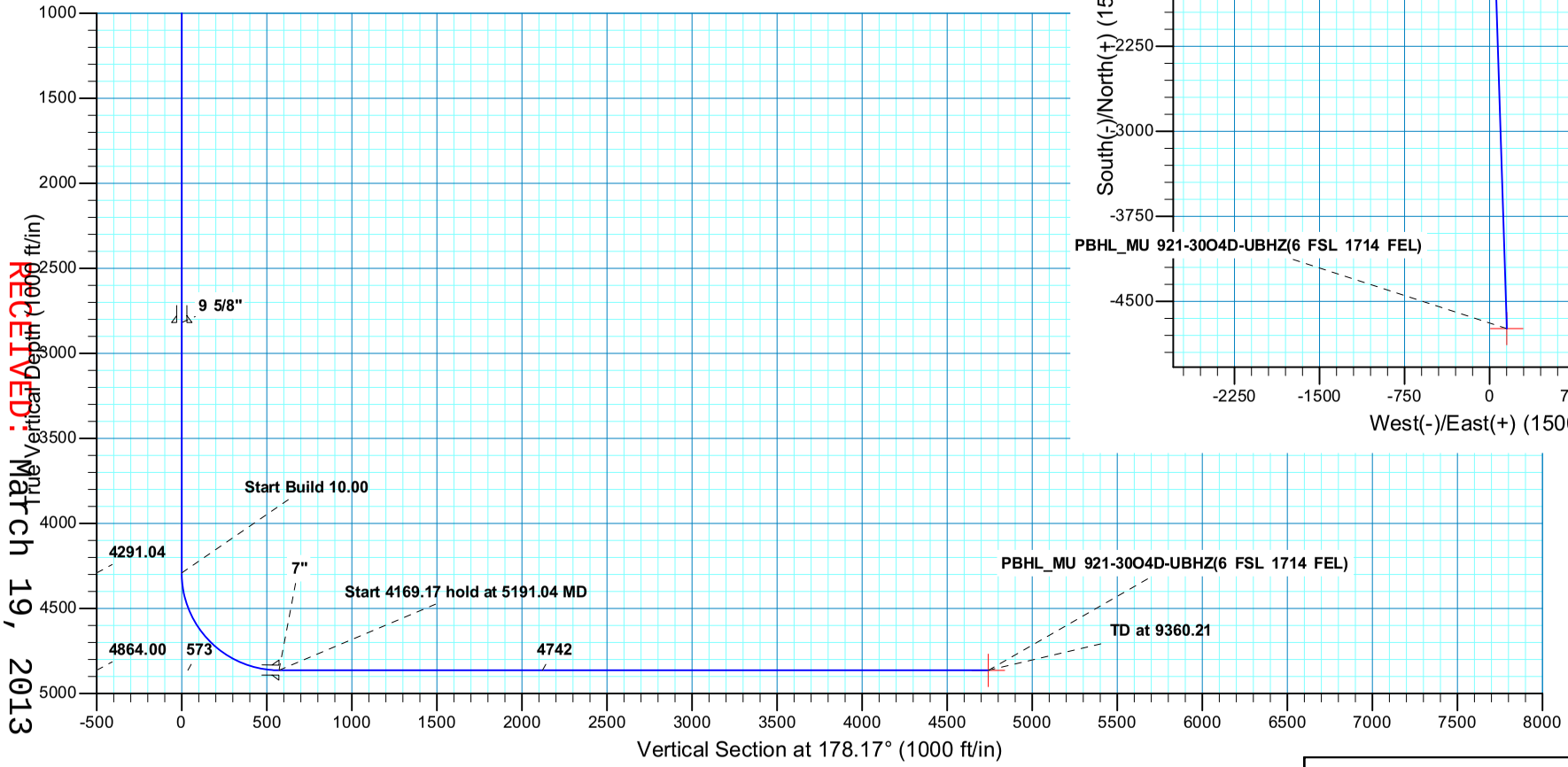
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1593.00	1593.00	GREEN RIVER
1864.00	1864.00	BIRDSNEST
2368.00	2368.00	MAHOGANY
4355.00	4355.13	GREEN RIVER LOWER
4809.00	4937.94	UTELAND BUTTES

CASING DETAILS

TVD	MD	Name	Size
2818.00	2818.00	9 5/8"	9.625
4864.00	5191.04	7"	7.000





Plan: PLAN#1 PRELIMINARY (MU 921-30O4D-UBHZ/OH)
Created By: Robert Scott Date: 12:01, December 19 2012

RECEIVED: March 19, 2013
Received: March 08, 2013

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 3/13/2013
API NO. ASSIGNED: 43047536910000
WELL NAME: MU 921-19B2A-UBHZ
OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)
PHONE NUMBER: 720 929-6029
CONTACT: Cara Mahler

PROPOSED LOCATION: NWNE 30 090S 210E
Permit Tech Review: ☑

SURFACE: 0449 FNL 1765 FEL
Engineering Review: ☐

BOTTOM: 0002 FNL 2414 FEL
Geology Review: ☑

COUNTY: UINTAH
LATITUDE: 40.01292
LONGITUDE: -109.59114
UTM SURF EASTINGS: 620239.00
NORTHINGS: 4430141.00
FIELD NAME: NATURAL BUTTES
LEASE TYPE: 1 - Federal
LEASE NUMBER: UTU0581
PROPOSED PRODUCING FORMATION(S): GREEN RIVER
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: MAVERICK

- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ☑ **Drilling Unit**

Board Cause No: Cause 197-13
Effective Date: 8/21/2012
Siting: Suspends General Siting

- ☐ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations:
4 - Federal Approval - dmason
17 - Oil Shale 190-5(b) - dmason
27 - Other - bhill

RECEIVED: March 20, 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: MU 921-19B2A-UBHZ
API Well Number: 43047536910000
Lease Number: UTU0581
Surface Owner: FEDERAL
Approval Date: 3/20/2013

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 197-13. The expected producing formation or pool is the GREEN RIVER 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

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 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.

In accordance with Utah Admin. R.649-3-21, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

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

RECEIVED
JAN 18 2013
BLM

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER	5. Lease Serial No. UTU0581
	6. If Indian, Allottee or Tribe Name
	7. If Unit or CA Agreement, Name and No. UTU88574X
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone	8. Lease Name and Well No. MU 921-19B2A-UBHZ
2. Name of Operator KERR MCGEE OIL & GAS ONSHORE LP Contact: CARA MAHLER Email: cara.mahler@anadarko.com	9. API Well No. 43-047-53691
3a. Address 1368 SOUTH 1200 EAST VERNAL, UT 84078 / 3b. Phone No. (include area code) Ph: 720-929-6029 Fx: 720-929-7029	10. Field and Pool, or Exploratory NATURAL BUTTES
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface NWNE 449FNL 1765FEL 40.013014 N Lat, 109.591287 W Lon At proposed prod. zone NWNE 2FNL 2414FEL ~~40.013014~~ N Lat, ~~109.591287~~ W Lon Sec 19	11. Sec., T., R., M., or Blk. and Survey or Area Sec 30 T9S R21E Mer SLB SME: BLM
14. Distance in miles and direction from nearest town or post office* 46.4 MILES FROM VERNAL UTAH	12. County or Parish UINTAH / 13. State UT
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 2' / 16. No. of Acres in Lease 2399.60	17. Spacing Unit dedicated to this well
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 655' / 19. Proposed Depth 10416 MD 4866 TVD	20. BLM/BIA Bond No. on file WYB000291
21. Elevations (Show whether DF, KB, RT, GL, etc. 4853 GL / 22. Approximate date work will start 07/07/2013	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) CARA MAHLER Ph: 720-929-6029	Date 01/15/2013
Title REGULATORY ANALYST		
Approved by (Signature)	Name (Printed/Typed) Jerry Kenczka	Date AUG 21 2013
Title Assistant Field Manager Lands & Mineral Resources	Office VERNAL FIELD OFFICE	

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

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

RECEIVED
AUG 30 2013
DIV. OF OIL, GAS & MINING

Additional Operator Remarks (see next page)

Electronic Submission #183393 verified by the BLM Well Information System
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal
Committed to AFMSS for processing by JOHNETTA MAGEE on 01/25/2013 (13JM0176AE)

UDOGM

NOTICE OF APPROVAL

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Additional Operator Remarks:

The following wells are also on the MU 921-30B Pad:

MU 921-19B1B-CMHZ
MU 921-19B1B-UBHZ
MU 921-19B2A-CMHZ
MU 921-19B2A-UBHZ
MU 921-30O3D-CMHZ
MU 921-30O3D-UBHZ
MU 921-30O4D-CMHZ
MU 921-30O4D-UBHZ

The filing fee for this well will be hand delivered or sent via overnight UPS delivery.

Please contact Cara Mahler at 720-929-6029, or via email at cara.mahler@anadarko.com with any questions, comments or concerns regarding this application.

Revisions to Operator-Submitted EC Data for APD #183393

	Operator Submitted	BLM Revised (AFMSS)
Lease:	UTU0581	UTU0581
Agreement:	UTU88574X	UTU88574X (UTU88574X)
Operator:	KERR MCGEE OIL & GAS LP PO BOX 173779 DENVER, CO 80202-3779 Ph: 720-929-6000	KERR MCGEE OIL & GAS ONSHORE L 1368 SOUTH 1200 EAST VERNAL, UT 84078 Ph: 435.789.3995
Admin Contact:	CARA MAHLER REGULATORY ANALYST 1099 18TH STREET SUITE 1800 DENVER, CO 80202 Ph: 720-929-6029 Fx: 720-929-7029 E-Mail: cara.mahler@anadarko.com	CARA MAHLER REGULATORY ANALYST 1368 SOUTH 1200 EAST VERNAL, UT 84078 Ph: 720-929-6029 Fx: 720-929-7029 E-Mail: cara.mahler@anadarko.com
Tech Contact:	CARA MAHLER REGULATORY ANALYST 1099 18TH STREET SUITE 1800 DENVER, CO 80202	CARA MAHLER REGULATORY ANALYST 1368 SOUTH 1200 EAST VERNAL, UT 84078
Well Name: Number:	MU 921-19B2A-UBHZ	MU 921-19B2A-UBHZ
Location: State: County: S/T/R: Surf Loc:	 UT UINTAH Sec 30 T9S R21E Mer SLB NWNE 449FNL 1765FEL 40.013014 N Lat, 109.591287 W Lon	 UT UINTAH Sec 30 T9S R21E Mer SLB NWNE 449FNL 1765FEL 40.013014 N Lat, 109.591287 W Lon
Field/Pool:	NATURAL BUTTES	NATURAL BUTTES
Bond:	WYB000291	WYB000291

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

CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company:	**Kerr McGee Oil & Gas Onshore**	**Location:**	**NWNE SEC 30 T9S R21E**
Well No:	**MU 921-19B2A-UBHZ**	**Lease No:**	**UTU-0581**
API No:	**43-047-53691**	**Agreement:**	**NATURAL BUTTES**

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)

- 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).

  1. Paint facilities "Shadow Gray."
  2. Save and segregate the top six (6) inches of soil during well pad construction.
  3. Conduct a raptor survey prior to construction operations if such activities will take place during raptor nesting season (January 1 through September 30). If active raptor nests are identified during the survey, operations should be conducted according to the seasonal restrictions detailed in the Uinta Basin-specific RMP guidelines BLM 2008a.
  4. If construction and/or drilling operations have not been initiated prior to September 27, 2013, conduct a biological survey to determine the presence of Uinta Basin hookless cactus in accordance with the guidelines specified in the USFWS Rare Plant Conservation Measures and the BLM RMP ROD. KMG will implement commitments contained in the GNB BO.
  5. Monitor construction activities with a permitted archaeologist.
  6. Utilize applicable erosion BMPs to protect fill slopes.
  7. Replace pond during initial reclamation.
  8. If any blasting is needed during construction activities, the Operator must notify any active Gilsonite operation located within two miles of the location 48 hours prior to the blasting.

- Damage to livestock and livestock facilities will be reported as quickly as possible to the BLM and affected livestock operators. Operators will develop and employ prevention measures to avoid damaging fences, gates, and 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 will be braced and tied off per the BLM guidance. Where the fence is crossed by a road, the fence will be braced and a cattleguard and gate installed per BLM guidance.

DOWNHOLE PROGRAM
CONDITIONS OF APPROVAL (COAs)

SITE SPECIFIC DOWNHOLE COAs:

- Cement for the Intermediate casing shall be brought 200 feet above the surface casing shoe.
- A CBL shall be run from TD to TOC in the intermediate casing.
- Cement for the surface casing shall be circulated to the surface.
- Variances shall be granted as requested in Section 9 of the drilling plan.
- A variance is granted for the FIT test requirement.

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

DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

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

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

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

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

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

- **Please submit an electronic copy of all other logs run on this well in CD (compact disc) format to the Vernal BLM Field Office. This submission will supersede the requirement for submittal of paper logs to the BLM.**

- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.

- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at www.ONRR.gov.

- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:

    - Operator name, address, and telephone number.

    - Well name and number.

    - Well location (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

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.

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU0581

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: MAVERICK

1. TYPE OF WELL Oil Well

8. WELL NAME and NUMBER: MU 921-19B2A-UBHZ

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

9. API NUMBER: 43047536910000

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

PHONE NUMBER: 720 929-6100

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0449 FNL 1765 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 30 Township: 09.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION

- ✓ NOTICE OF INTENT — Approximate date work will start: 3/20/2014
- ☐ SUBSEQUENT REPORT — Date of Work Completion:
- ☐ 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.

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

Approved by the Utah Division of Oil, Gas and Mining

Date: February 12, 2014

By:

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

SIGNATURE	DATE
N/A	2/7/2014

RECEIVED: Feb. 07, 2014

The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Request for Permit Extension Validation Well Number 43047536910000

API: 43047536910000
Well Name: MU 921-19B2A-UBHZ
Location: 0449 FNL 1765 FEL QTR NWNE SEC 30 TWNP 090S RNG 210E MER S
Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.
Date Original Permit Issued: 3/20/2013

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

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

Signature: Teena Paulo **Date:** 2/7/2014
Title: Staff Regulatory Specialist **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

RECEIVED: Feb. 07, 2014

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU0581

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: MAVERICK

1. TYPE OF WELL Oil Well

8. WELL NAME and NUMBER: MU 921-19B2A-UBHZ

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

9. API NUMBER: 43047536910000

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: 0449 FNL 1765 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 30 Township: 09.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 2/6/2015	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	✓ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

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

Approved by the Utah Division of Oil, Gas and Mining
February 09, 2015
Date:
By:

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

SIGNATURE	DATE
N/A	2/6/2015

RECEIVED: Feb. 06, 2015

The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Request for Permit Extension Validation Well Number 43047536910000

API: 43047536910000
Well Name: MU 921-19B2A-UBHZ
Location: 0449 FNL 1765 FEL QTR NWNE SEC 30 TWNP 090S RNG 210E MER S
Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.
Date Original Permit Issued: 3/20/2013

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

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

Signature: Joel Malefyt **Date:** 2/6/2015
Title: Regualtory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

RECEIVED: Feb. 06, 2015

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

MAY 19 2015

BLM

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
UTU0581

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
UTU88574X

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

8. Well Name and No.
MU 921-19B2A-UBHZ

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

9. API Well No.
43-047-53691

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

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

10. Field and Pool, or Exploratory
NATURAL BUTTES

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 30 T9S R21E Mer SLB NWNE 449FNL 1765FEL

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

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

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

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

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

APD- 8/21/13
NEPA- 2013-165 EA

VERNAL FIELD OFFICE
ENG. RHH 6/4/15
GEOL.
E.S.
PET.
RECL.

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

CONDITIONS OF APPROVAL ATTACHED

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #302173 verified by the BLM Well Information System
For KERR-MCGEE OIL & GAS ONSHORE L, sent to the Vernal
Committed to AFMSS for processing by JOHNETTA MAGEE on 05/21/2015 ()

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

Signature (Electronic Submission) — Date 05/19/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

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

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

Office VERNAL FIELD OFFICE

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

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

UDOGM

CONDITIONS OF APPROVAL

Kerr McGee Oil and Gas Onshore LP.

Notice of Intent
APD Extension

Lease: UTU-0581
Well: MU 921-19B2A-UBHZ
Location: NWNE Sec 30-T9S-R21E

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

---

1. The extension and APD shall expire on 08/21/2017.

2. No other extension shall be granted.

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

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU0581

SUNDRY NOTICES AND REPORTS ON WELLS

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6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: MAVERICK

1. TYPE OF WELL Oil Well

8. WELL NAME and NUMBER: MU 921-19B2A-UBHZ

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

9. API NUMBER: 43047536910000

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

PHONE NUMBER: 720 929-6507

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0449 FNL 1765 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 30 Township: 09.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 2/26/2016	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	✓ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

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

Approved by the Utah Division of Oil, Gas and Mining
February 29, 2016
Date:
By:

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jennifer Thomas	720 929-6808	Regulatory Specialist
SIGNATURE N/A		**DATE** 2/26/2016

RECEIVED: Feb. 26, 2016

The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Request for Permit Extension Validation Well Number 43047536910000

API: 43047536910000
Well Name: MU 921-19B2A-UBHZ
Location: 0449 FNL 1765 FEL QTR NWNE SEC 30 TWNP 090S RNG 210E MER S
Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.
Date Original Permit Issued: 3/20/2013

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

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

Signature: Jennifer Thomas **Date:** 2/26/2016
Title: Regulatory Specialist **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

RECEIVED: Feb. 26, 2016