

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 Willow Ridge 16-23-17D
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>		3. FIELD OR WILDCAT WILDCAT
4. TYPE OF WELL Oil Well Coalbed Methane Well: NO		5. UNIT or COMMUNITIZATION AGREEMENT NAME
6. NAME OF OPERATOR ANADARKO E&P ONSHORE, LLC		7. OPERATOR PHONE 720 929-6100
8. ADDRESS OF OPERATOR P.O. Box 173779, Denver, CO, 80217		9. OPERATOR E-MAIL Andy.Lytle@anadarko.com
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) ML-47572	11. MINERAL OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>	12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
13. NAME OF SURFACE OWNER (if box 12 = 'fee')		14. SURFACE OWNER PHONE (if box 12 = 'fee')
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')		16. SURFACE OWNER E-MAIL (if box 12 = 'fee')
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')	18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/>	19. SLANT VERTICAL <input checked="" type="checkbox"/> DIRECTIONAL <input type="checkbox"/> HORIZONTAL <input type="checkbox"/>

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	660 FNL 660 FWL	NWNW	17	16.0 S	23.0 E	S
Top of Uppermost Producing Zone	660 FNL 660 FWL	NWNW	17	16.0 S	23.0 E	S
At Total Depth	660 FNL 660 FWL	NWNW	17	16.0 S	23.0 E	S

21. COUNTY GRAND	22. DISTANCE TO NEAREST LEASE LINE (Feet) 660	23. NUMBER OF ACRES IN DRILLING UNIT 640
25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completion) 41.5	26. PROPOSED DEPTH MD: 8743 TVD: 8743	29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 43-8496
27. ELEVATION - GROUND LEVEL 7745	28. BOND NUMBER 22013542	

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 - 3600	43.5	P-110 LT&C	2.0	Premium Lite High Strength	1330	1.15	15.8
							Premium Lite High Strength	0	1.15	15.8
PROD	8.5		8743	26.0	P-110 LT&C	11.5	Premium Lite High Strength	262	1.89	12.5
							50/50 Poz	280	1.31	14.3

ATTACHMENTS

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

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

NAME Cara Mahler	TITLE Regulatory Analyst I	PHONE 720 929-6029
SIGNATURE	DATE 11/25/2013	EMAIL cara.mahler@anadarko.com
API NUMBER ASSIGNED 43019500410000		APPROVAL

Received: July 25, 2014

Anadarko Petroleum Corporation (APC) is proposing five potential new well locations in the Willow Ridge area.

Willow Ridge is comprised of three areas: Three Pines, One Eye Canyon and Bogart Canyon. The five proposed wells are in the Three Pines area which currently contains existing roads and development. The preliminary review of the area indicates that a multi-year evaluation process will take place throughout the Willow Ridge area; however the initial activity will only occur in areas where there is already existing wells/disturbance and associated infrastructure.

While APC is permitting these locations, it is undetermined whether all wells will be drilled and completed in this review phase.

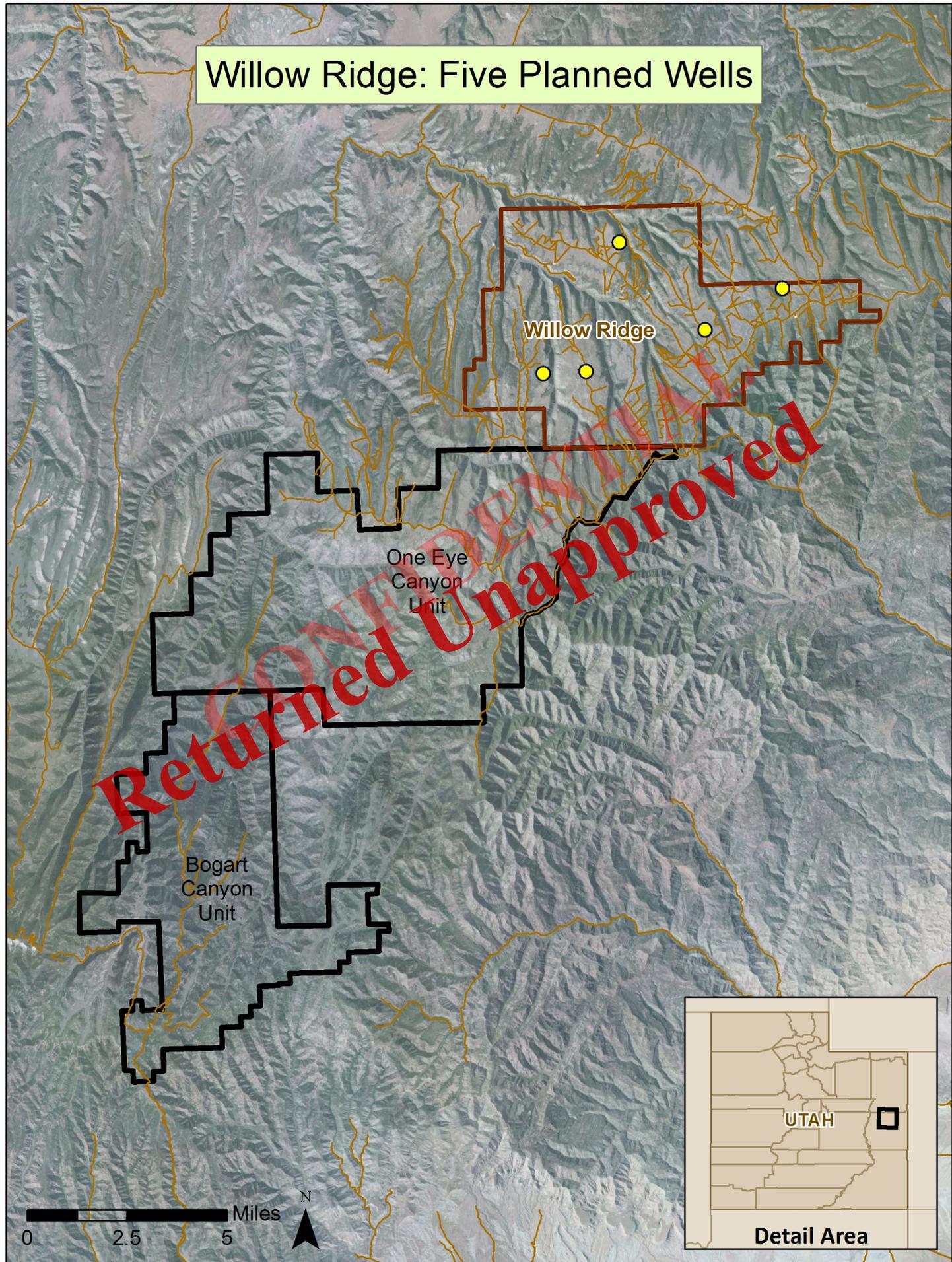
The five locations have been surveyed by certified third-party contractors for biological (Threatened and Endangered Species Act), paleontological and archeology sites throughout the Three Pines area. Due to safety and anticipated winter conditions, APC intends to upgrade existing roads where necessary in addition to constructing short access roads to the wellsites.

APC has generated a reclamation plan for the wells; which have been included in the Application for Permit to Drill. APC has generated a reclamation plan for the wells; which have been included in the Application for Permit to Drill. Reclamation will be completed in two phases; interim (following well completion) and final (at final abandonment of the location). Reclamation will include, but not limited to, re-contouring, soil bed preparation, topsoil placement, seeding and/or weed control.

See attached map.

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Willow Ridge: Five Planned Wells



Anadarko E&P Onshore, LLC

Willow Ridge 16-23-17D

Surface: 660 FNL / 660 FWL NWNW
BHL: 660 FNL / 660 FWL NWNW

Section 17 T16S R23E

Grand County, Utah
Mineral Lease: ML-47572

DRILLING PROGRAM

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

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Green River	Surface	
Wasatch	1,648'	
Mesaverde	2,525'	
Castlegate	4,936'	
Mancos B	5,660'	
Base of Mancos B	6,436'	
Lower Mancos:		
Niobrara Equivalent	6,850'	Gas + Oil
Mn34	7,723'	Gas + Oil
Upper LBG Shale	8,086'	Gas + Oil
Juana Lopez	8,702'	Gas
Dakota Silt	8,643'	
TVD	8,743'	
TD	8,743'	

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

7. **Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 8743' TVD, approximately equals
5,246 psi (0.59 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 3,223 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:**

None

10. **Other Information:**

Please refer to the attached Drilling Program.

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KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL		WT.	GR.	CPLG.	DESIGN FACTORS			
							BURST	COLLAPSE	LTC	DQX
									TENSION	
CONDUCTOR	13.375	0	to 100	68.00	N80	BTC				
SURFACE	9.625	0	to 3,600	43.50	P110	DQX	8700	4420	1388000	
PRODUCTION	7	0	to 8,743	26.00	P110	DQX	9950	6230	853000	

Surface Casing:

(Burst Assumptions: TD = 12.0 ppg) 0.62 psi/ft = frac gradient @ surface shoe
Fracture at surface shoe with 0.1 psi/ft gas gradient above

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

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 3000 psi) 0.6 psi/ft = bottomhole gradient

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

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	FYCS	WEIGHT	YIELD
SURFACE	TAIL	3,600'	Premium cmt + 2% CaCl + 0.25 pps flocele	1,330	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl			15.80	1.15
PRODUCTION	LEAD	3,250'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extendel	262	20%	12.50	1.89
	TAIL	2,393'	50/50 Poz/G + 10% salt + 2% gel 0.1% R	280	20%	14.30	1.31

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

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

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. A centralizer on the first 3 joints off bottom and every joint thereafter up to the 2nd joint within the surface shoe.

ADDITIONAL INFORMATION

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

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

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

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

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

DRILLING ENGINEER:

Nick Spence / Frank Fernandez

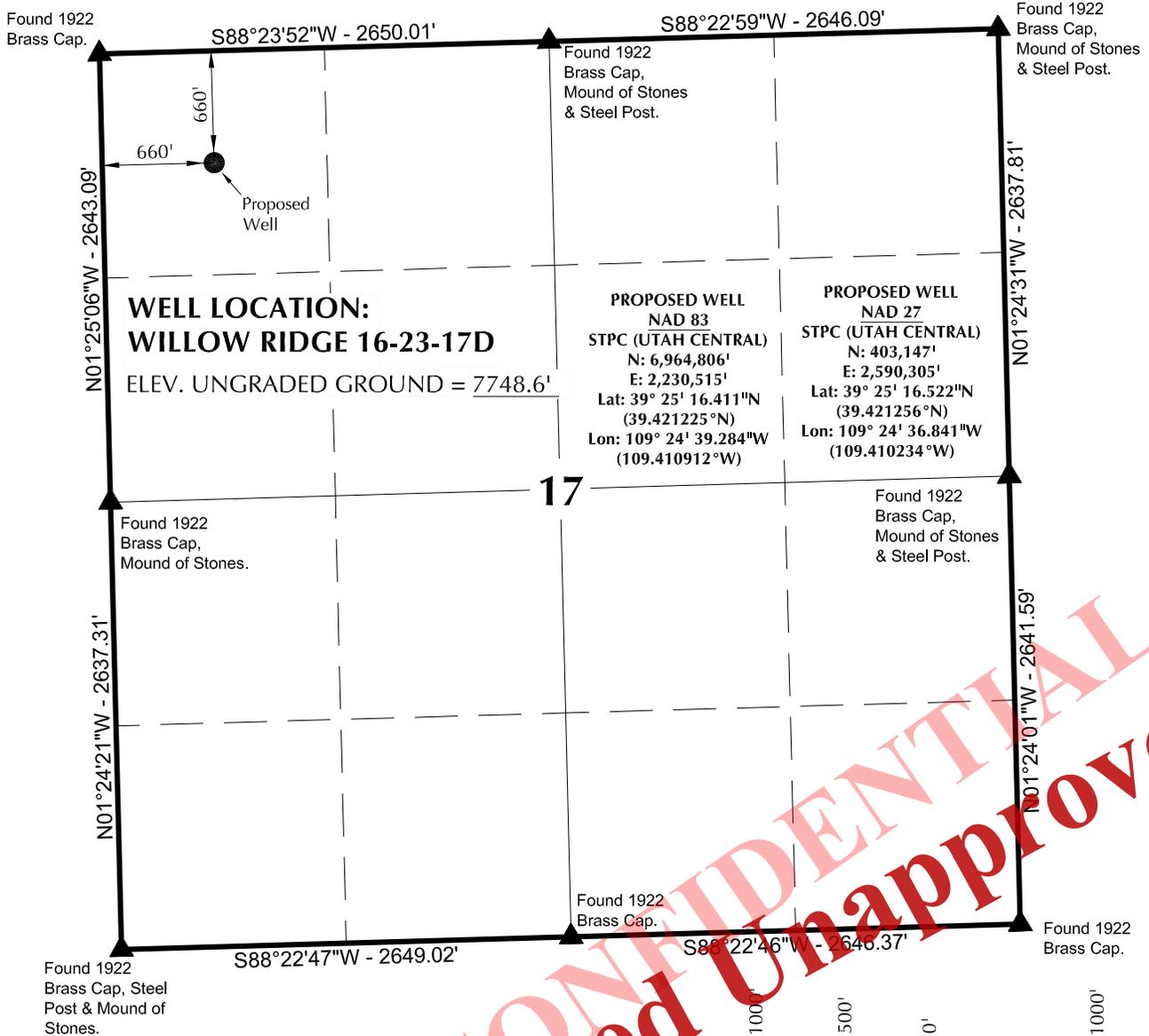
DATE:

DRILLING SUPERINTENDENT:

Doyle Holmes

DATE:

T16S, R23E, S.L.B.&M.



NOTES:

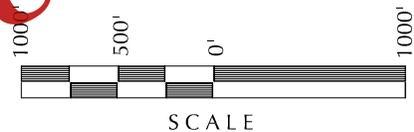
- ▲ = Section Corner Located
- △ = Section Corner Located (Not Monumented)
- 1. Well footages are measured at right angles to the Section Lines.
- 2. Elevations Based on NAVD 88 (GEOID12)
- 3. Basis of Bearings Derived From Utah Coordinate System 1983 Central Zone Unless Otherwise Noted.
- 4. All Measured Distances Are Grid, U.S. Survey Foot. Combined Scale Factor: 0.9995604150

Anadarko E&P Onshore LLC
1099 18th Street - Denver, Colorado 80202

WELL PAD - WILLOW RIDGE 16-23-17D

**WILLOW RIDGE 16-23-17D
WELL PLAT**
660' FNL, 660' FWL
NW ¼ NW ¼ OF SECTION 17, T16S, R23E,
S.L.B.&M., GRAND COUNTY, UTAH.

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



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.

No. 6028691
11-12-13
John R. Laugh
PROFESSIONAL LAND SURVEYOR
REGISTRATION No. 6028691
STATE OF UTAH

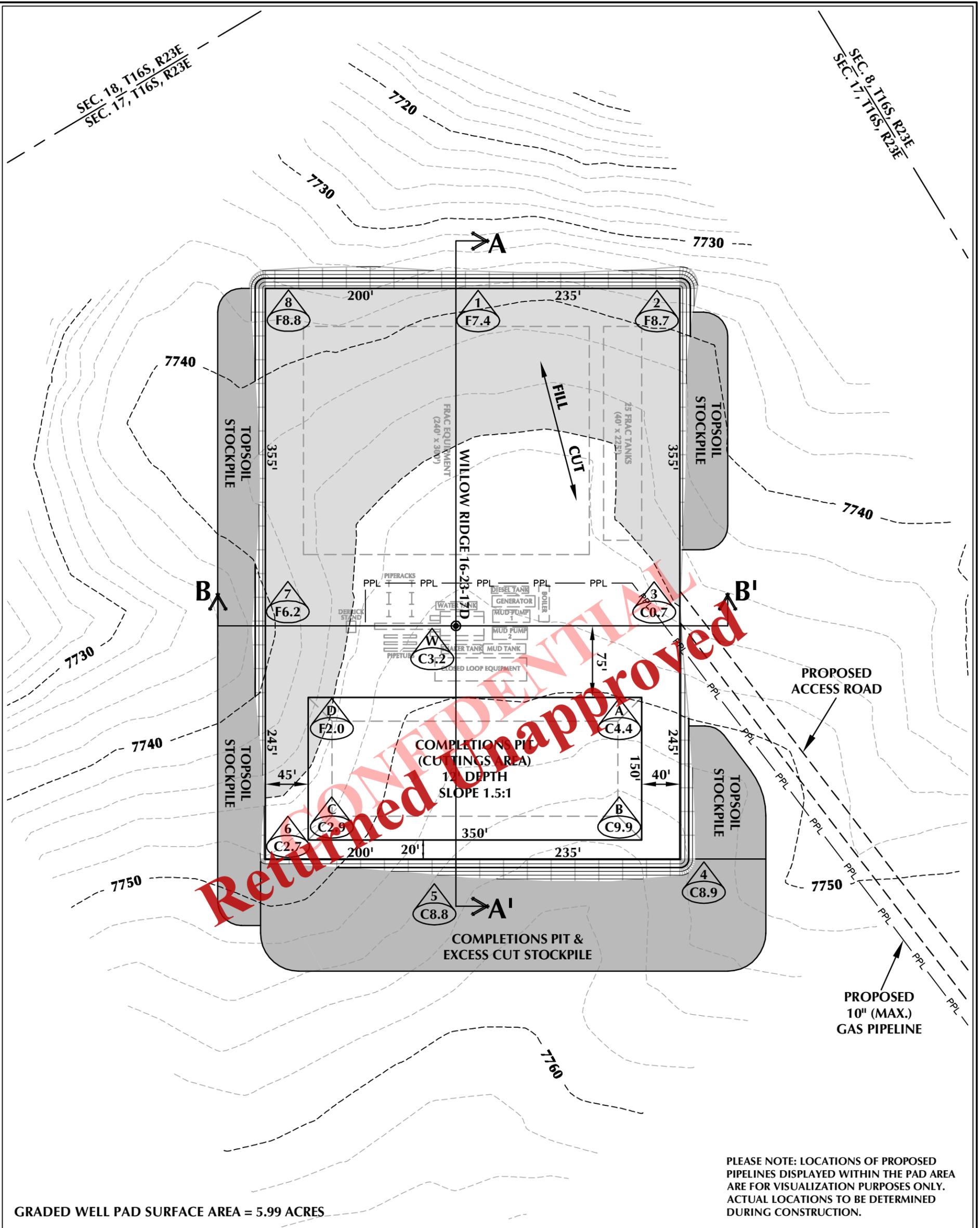


TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 11-04-13	SURVEYED BY: J.W.A.	SHEET NO: 1
DATE DRAWN: 11-06-13	DRAWN BY: M.W.W.	
SCALE: 1" = 1000'	Date Last Revised:	1 OF 12

SEC. 18, T16S, R23E
SEC. 17, T16S, R23E

SEC. 8, T16S, R23E
SEC. 17, T16S, R23E



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GRADED WELL PAD SURFACE AREA = 5.99 ACRES

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

WELL PAD - WILLOW RIDGE 16-23-17D DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 7748.6'
 FINISHED GRADE ELEVATION = 7745.4'
 CUT SLOPES = 2:1
 FILL SLOPES = 2:1
 TOTAL WELL PAD AREA = 6.61 ACRES
 TOTAL DISTURBANCE AREA = 8.93 ACRES
 SHRINKAGE FACTOR = 1.10
 SWELL FACTOR = 1.00

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 19,496 C.Y.
 TOTAL FILL FOR WELL PAD = 18,267 C.Y.
 TOPSOIL @ 6" DEPTH = 5,335 C.Y.
 EXCESS MATERIAL = 1,229 C.Y.

COMPLETIONS PIT QUANTITIES

TOTAL CUT FOR COMPLETIONS PIT +/- 19,530 C.Y.
 COMPLETIONS PIT CAPACITY (2' OF FREEBOARD) +/- 75,730 BARRELS

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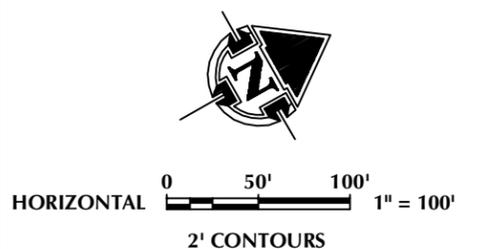
WELL PAD - WILLOW RIDGE 16-23-17D

WELL PAD - LOCATION LAYOUT
 WILLOW RIDGE 16-23-17D
 660' FNL & 660' FWL
 LOCATED IN SECTION 17, T16S, R23E,
 S.L.B.&M., GRAND COUNTY, UTAH

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

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

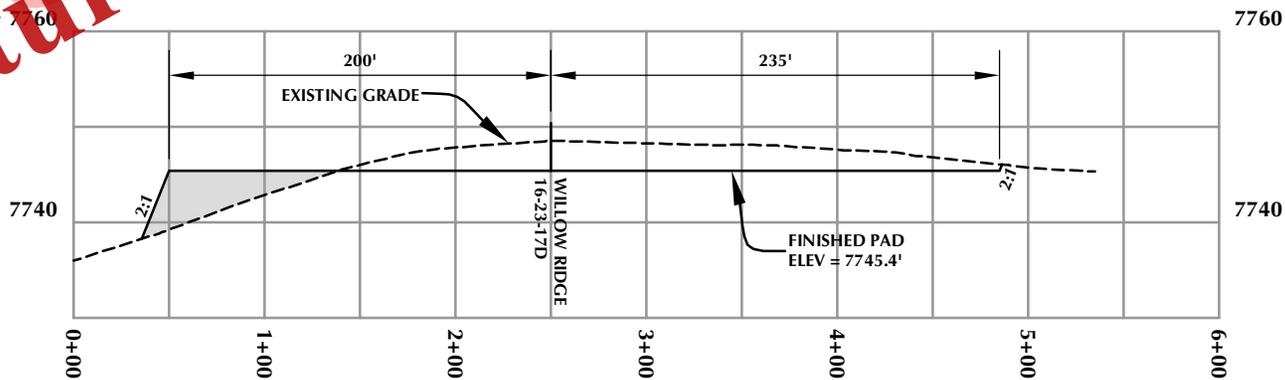


SCALE: 1"=100' DATE: 11/14/13 SHEET NO: 2 OF 12

Received: November 25, 2013



CROSS SECTION A-A'



CROSS SECTION B-B'

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 1099 18th Street - Denver, Colorado 80202

WELL PAD - WILLOW RIDGE 16-23-17D

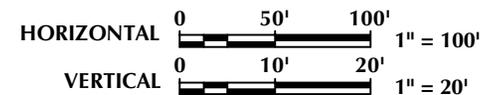
**WELL PAD - CROSS SECTIONS
 WILLOW RIDGE 16-23-17D
 660' FNL & 660' FWL
 LOCATED IN SECTION 17, T16S, R23E,
 S.L.B.&M., GRAND COUNTY, UTAH**



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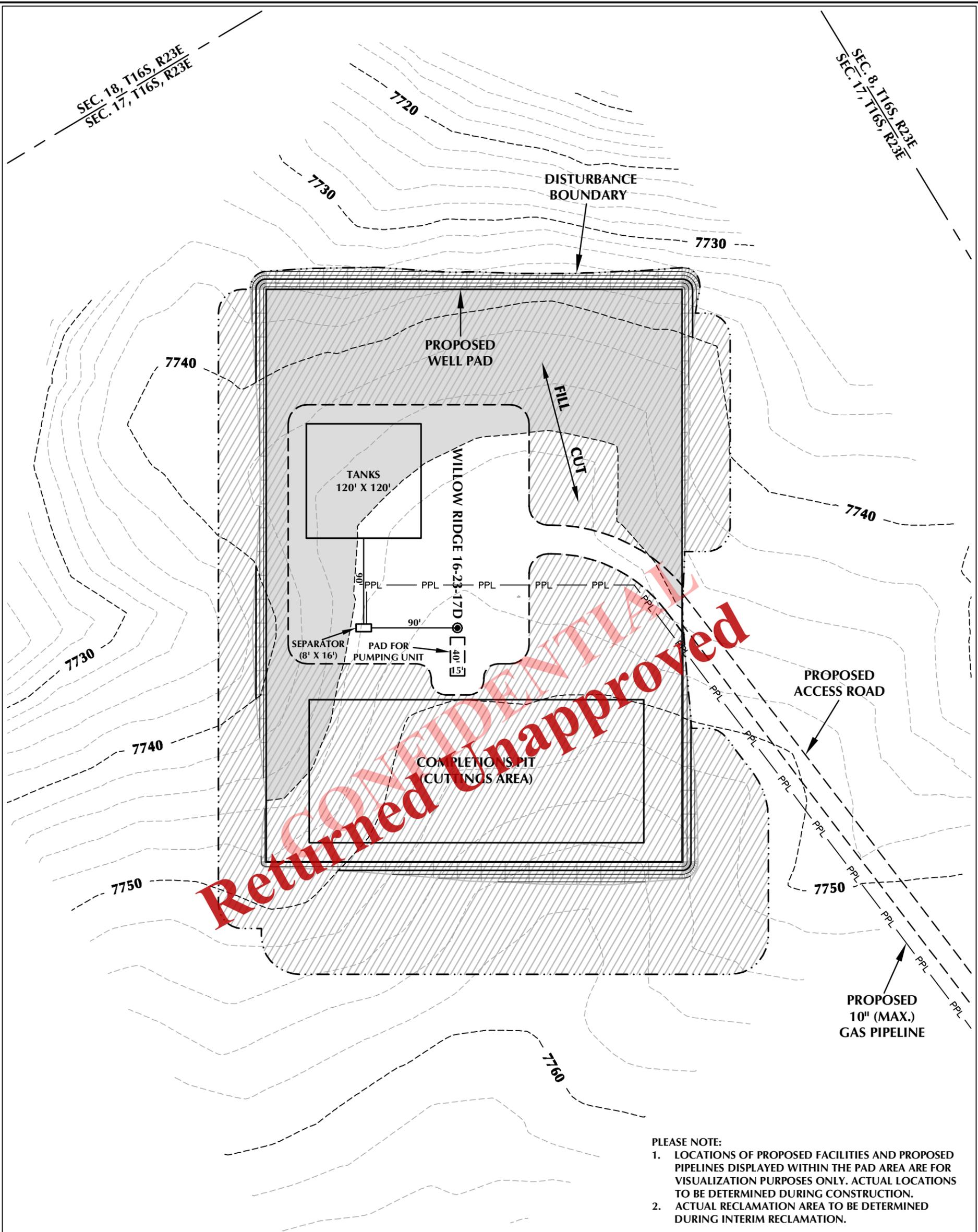


SCALE: 1"=100'	DATE: 11/14/13	SHEET NO:
REVISED:		3 3 OF 12

Received: November 25, 2013

SEC. 18, T16S, R23E
SEC. 17, T16S, R23E

SEC. 8, T16S, R23E
SEC. 17, T16S, R23E



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PLEASE NOTE:

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

WELL PAD - WILLOW RIDGE 16-23-17D RECLAMATION DESIGN SUMMARY

TOTAL DISTURBANCE AREA = 8.93 ACRES
 RECLAMATION AREA = 7.19 ACRES
 TOTAL WELL PAD AREA AFTER RECLAMATION = 1.74 ACRES

Anadarko E&P Onshore LLC
 1099 18th Street - Denver, Colorado 80202

WELL PAD - WILLOW RIDGE 16-23-17D

WELL PAD - RECLAMATION LAYOUT
 WILLOW RIDGE 16-23-17D
 660' FNL & 660' FWL
 LOCATED IN SECTION 17, T16S, R23E,
 S.L.B.&M., GRAND COUNTY, UTAH

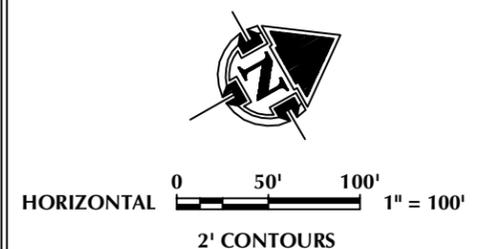


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 Fax 307-674-0182

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



SCALE: 1"=100'	DATE: 11/14/13	SHEET NO:
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PHOTO VIEW: FROM LOCATION STAKE TO CORNER #5 CAMERA ANGLE: SOUTHEASTERLY



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD CAMERA ANGLE: WESTERLY

Anadarko E&P Onshore LLC
 1099 18th Street - Denver, Colorado 80202

WELL PAD - WILLOW RIDGE 16-23-17D

LOCATION PHOTOS
WILLOW RIDGE 16-23-17D
660' FNL, 660' FWL
LOCATED IN SECTION 17, T16S, R23E,
S.L.B.&M., GRAND COUNTY, UTAH.

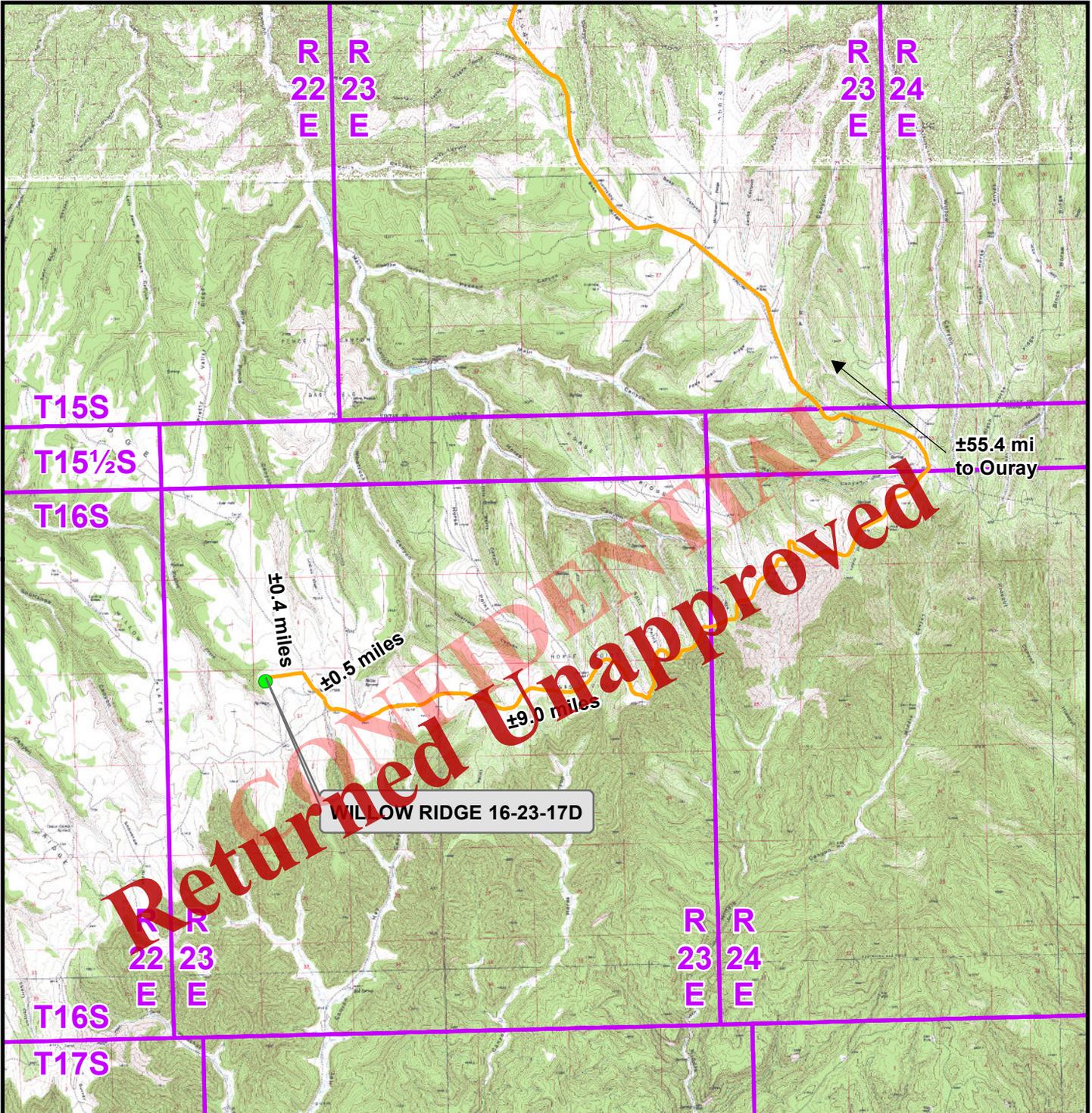


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DATE PHOTOS TAKEN: 11-04-13	PHOTOS TAKEN BY: J.W.A.	SHEET NO: 5 5 OF 12
DATE DRAWN: 11-06-13	DRAWN BY: M.W.W.	
Date Last Revised:		

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Legend

- Proposed Well Location
- Access Route - Proposed

WELL PAD - WILLOW RIDGE 16-23-17D

TOPO A
 WILLOW RIDGE 16-23-17D
 660' FNL & 660' FWL
 LOCATED IN SECTION 17, T16S, R23E,
 S.L.B.&M., GRAND COUNTY, UTAH

**Anadarko E&P
 Onshore LLC**
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SCALE: 1:100,000

NAD83 USP Central

SHEET NO:

DRAWN: TL

DATE: 14 Nov 2013

6

REVISED:

DATE:

6 OF 12

Received: November 25, 2013

T16S T16S
R22E R23E

WILLOW RIDGE 16-23-17D

±2,105ft

±64.4mi
to Ouray

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Legend

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

Total Proposed Road Length: ±2,105ft

WELL PAD - WILLOW RIDGE 16-23-17D

TOPO B
WILLOW RIDGE 16-23-17D
660' FNL & 660' FWL
LOCATED IN SECTION 17, T16S, R23E,
S.L.B.&M., GRAND COUNTY, UTAH

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Denver, Colorado 80202

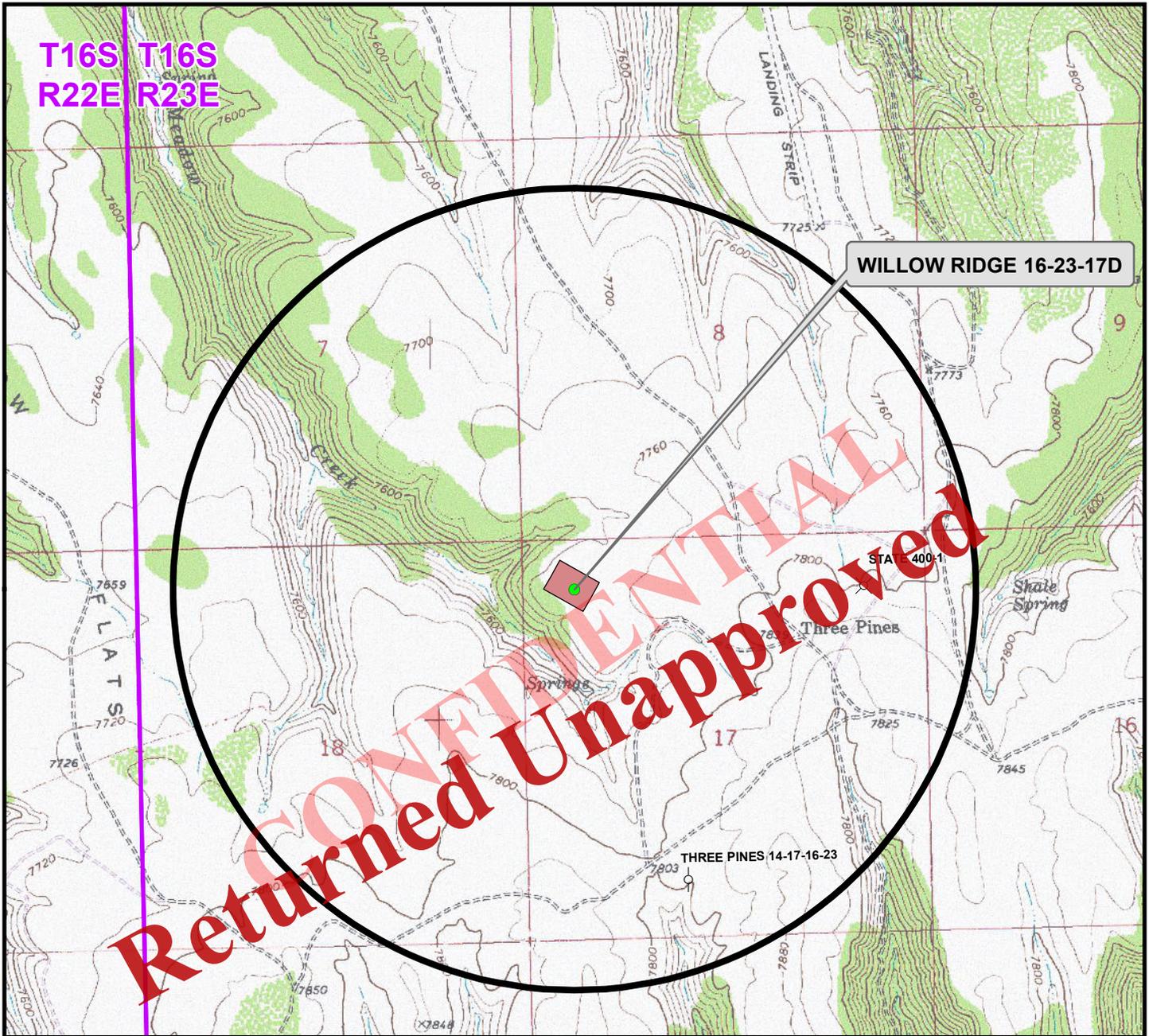


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SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 7 7 OF 12
DRAWN: TL	DATE: 14 Nov 2013	
REVISED:	DATE:	

Received: November 25, 2013

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

Proposed Well	Nearest Well Bore	Footage
WILLOW RIDGE 16-23-17D	THREE PINES 14-17-16-23	±4,112ft

Legend

- Well - Proposed
- Well Pad
- Well - 1 Mile Radius

- ☀ Producing
- ☺ Spudded
- ⊙ APD Approved
- ⊖ New Permit (Not yet approved or drilled)
- ⊕ Drilling Operations Suspended
- ✕ Returned APD (Unapproved)
- ⊖ Temporarily-Abandoned
- ⊙ Active Injector
- ⊖ Location Abandoned
- ⊖ Plugged and Abandoned
- ⊖ Shut-In

WELL PAD - WILLOW RIDGE 16-23-17D

**TOPO C
WILLOW RIDGE 16-23-17D
660' FNL & 660' FWL
LOCATED IN SECTION 17, T16S, R23E,
S.L.B.&M., GRAND COUNTY, UTAH**

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SCALE: 1" = 2,000ft

NAD83 USP Central

SHEET NO:

DRAWN: TL

DATE: 14 Nov 2013

8

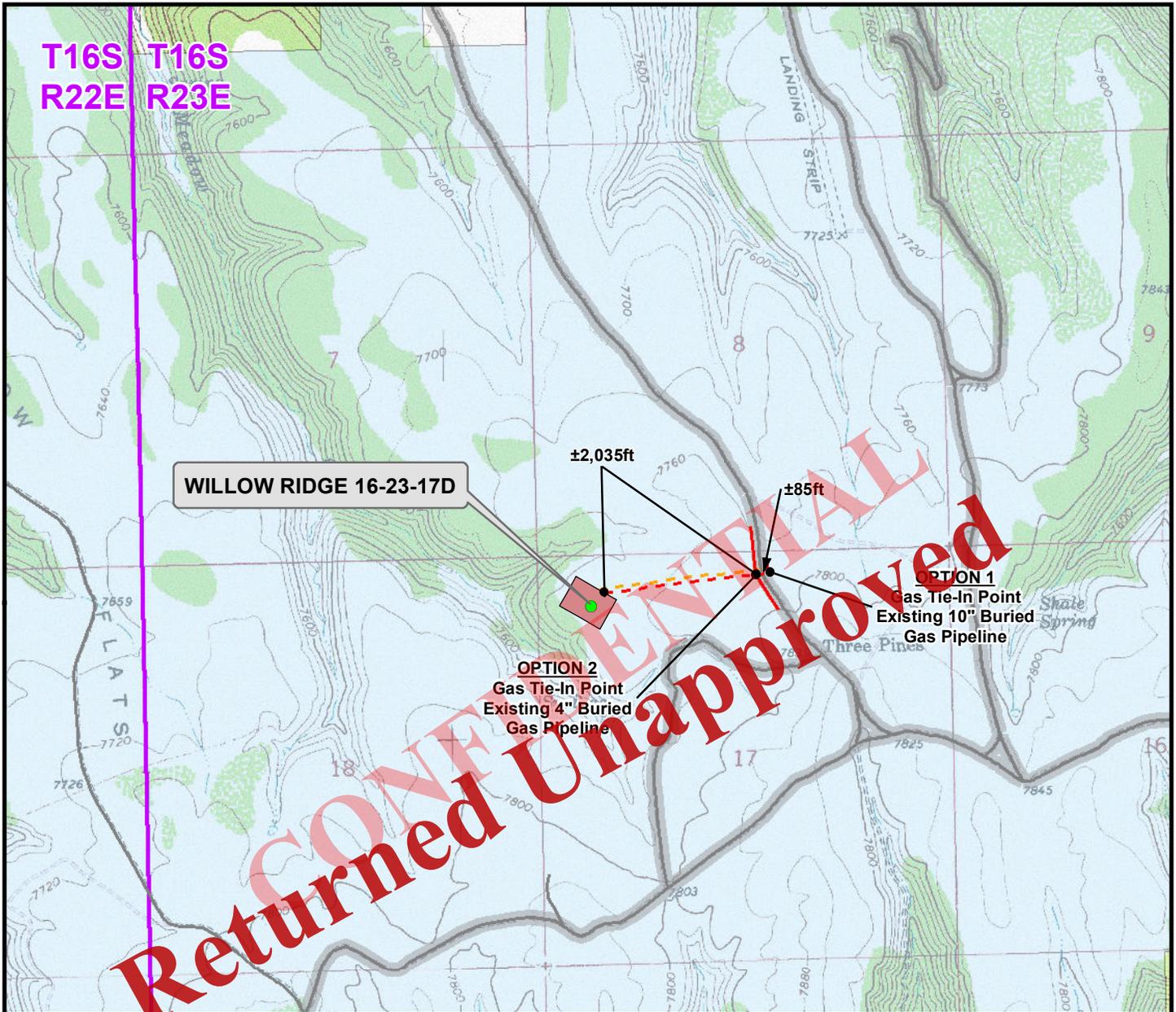
REVISED:

DATE:

8 OF 12

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WILLOW RIDGE 16-23-17D

±2,035ft
 ±85ft
OPTION 2
 Gas Tie-In Point
 Existing 4" Buried
 Gas Pipeline

OPTION 1
 Gas Tie-In Point
 Existing 10" Buried
 Gas Pipeline

OPTION 1

OPTION 2

Proposed Gas Pipeline	Length
Buried 10" (Max.) (Meter House to Edge of Pad)	±405ft
Buried 10" (Max.) (Edge of Pad to Existing 10" Gas Pipeline)	±2,120ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±2,525ft

Proposed Gas Pipeline	Length
Buried 10" (Max.) (Meter House to Edge of Pad)	±405ft
Buried 10" (Max.) (Edge of Pad to Existing 4" Gas Pipeline)	±2,035ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±2,440ft

Legend

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

WELL PAD - WILLOW RIDGE 16-23-17D

TOPO D
WILLOW RIDGE 16-23-17D
 660' FNL & 660' FWL
 LOCATED IN SECTION 17, T16S, R23E,
 S.L.B.&M., GRAND COUNTY, UTAH

Anadarko E&P
Onshore LLC
 1099 18th Street
 Denver, Colorado 80202



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



SCALE: 1" = 2,000ft
 DRAWN: TL
 REVISED:

NAD83 USP Central
 DATE: 14 Nov 2013
 DATE:

SHEET NO:
9
 9 OF 12

T16S
R23E

±2,035ft

±85ft

OPTION 1
Gas Tie-In Point
Existing 10" Buried
Gas Pipeline

OPTION 2
Gas Tie-In Point
Existing 4" Buried
Gas Pipeline

WILLOW RIDGE 16-23-17D

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OPTION 1

OPTION 2

Proposed Gas Pipeline	Length
Buried 10" (Max.) (Meter House to Edge of Pad)	±405ft
Buried 10" (Max.) (Edge of Pad to Existing 10" Gas Pipeline)	±2,120ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±2,525ft

Proposed Gas Pipeline	Length
Buried 10" (Max.) (Meter House to Edge of Pad)	±405ft
Buried 10" (Max.) (Edge of Pad to Existing 4" Gas Pipeline)	±2,035ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±2,440ft

Legend

- Well - Proposed ■ Well Pad - Proposed - - - Gas Pipeline - Proposed - - - Road - Proposed ■ Bureau of Land Management □ State
- Well - Existing ■ Well Pad - Existing - - - Gas Pipeline - To Be Upgraded - - - Road - Existing ■ Indian Reservation □ Private
- Gas Pipeline - Existing — County Road

WELL PAD - WILLOW RIDGE 16-23-17D

TOPO D2 (PAD & PIPELINE DETAIL)
WILLOW RIDGE 16-23-17D
 660' FNL & 660' FWL
 LOCATED IN SECTION 17, T16S, R23E,
 S.L.B.&M., GRAND COUNTY, UTAH

Anadarko E&P
Onshore LLC
 1099 18th Street
 Denver, Colorado 80202



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



SCALE: 1" = 500ft	NAD83 USP Central	10
DRAWN: TL	DATE: 14 Nov 2013	
REVISED:	DATE:	

10 OF 12

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Received: November 25, 2013

T16S T16S
R22E R23E

WILLOW RIDGE 16-23-17D

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Proposed Well	Distance To Nearest Lease Boundary
WILLOW RIDGE 16-23-17D	660ft

Legend

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

WELL PAD - WILLOW RIDGE 16-23-17D

TOPO E
WILLOW RIDGE 16-23-17D
660' FNL & 660' FWL
LOCATED IN SECTION 17, T16S, R23E,
S.L.B.&M., GRAND COUNTY, UTAH

**Anadarko E&P
Onshore LLC**
1099 18th Street
Denver, Colorado 80202



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



SCALE: 1" = 2,000ft

NAD83 USP Central

SHEET NO:

DRAWN: TL

DATE: 14 Nov 2013

11

REVISED:

DATE:

11 OF 12

Anadarko E&P Onshore LLC
WELL PAD – WILLOW RIDGE 16-23-17D
WELL – WILLOW RIDGE 16-23-17D
Section 17, T16S, R23E, S.L.B.&M.

Proceed in a westerly direction from Vernal, Utah, along U.S. Highway 40 approximately 13.9 miles to the junction of State Highway 88. Exit left and proceed in a southerly direction along State Highway 88 approximately 16.8 miles to Ouray, Utah. From Ouray, proceed in a southerly direction along the Seep Ridge Road (County B Road 2810) approximately 55.4 miles to the intersection of the Book Cliffs Ridge Road (County B Road 194) to the southwest. Exit right and proceed in a southwesterly direction along the Book Cliffs Ridge Road approximately 9.0 miles to the intersection of the Winter Ridge Road (County B Road 206) to the northwest. Exit right and proceed in a northwesterly direction along the Winter Ridge Road approximately 0.5 miles to the proposed access road to the west. Follow road flags in a westerly direction approximately 2,105 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 96.0 miles in a southerly direction.

CONFIDENTIAL
Returned Unapproved

Willow Ridge 16-23-17D

Surface:	660 FNL / 660 FWL	NWNW
BHL:	660 FNL / 660 FWL	NWNW

Section 17 T16S R23E
Mineral Lease: ML-47572

Grand County, Utah
Operator: Anadarko E&P Onshore, LLC

This SUPO contains surface operating procedures for Anadarko E&P Onshore, LLC, a wholly owned subsidiary of Anadarko Petroleum Corporation (APC) pertaining to actions that involve the State of Utah School and Institutional Trust Lands Administration (SITLA) in the development of minerals leased to APC (including but not limited to, APDs/SULAs/ROEs/ROWs and/or easements.)

See associated Utah Division of Oil, Gas, and Mining (UDOGM) Form 3(s), plats, maps, and other attachments for site-specific information on projects represented herein.

In accordance with Utah Oil & Gas Conservation Rule R649-3-10 pertaining to Vertical Drilling, these wells will be vertically 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.

A. Existing Roads:

Existing roads consist of county and improved/unimproved lease roads. Anadarko will maintain existing roads in a condition that is the same as or better than before operations began and in a safe and usable condition. Maintenance of existing roads will continue until final abandonment and reclamation of well pads and/or other facilities. The road maintenance may include, but is not limited to, blading, ditching, culvert installation/cleanout, surfacing, and dust control.

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

B. Planned Access Roads:

Approximately $\pm 2,105'$ (0.40 miles) of new road is proposed (see Topo Map B). Applicable Grand County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

If there are roads that are new or to be reconstructed, they will be located, designed, and maintained to meet the standards of SITLA and other commonly accepted Best Management Practices (BMPs). If a new road/corridor were to cross a water of the United States, Anadarko will adhere to the requirements of applicable Nationwide or Individual Permits of the Department of Army Corps of Engineers.

During the onsite, turnouts, major cut and fills, culverts, bridges, gates, cattle guards, low water crossings, or modifications needed to existing infrastructure/facilities were determined, as applicable, are typically shown on attached Exhibits and Topo maps.

C. Location of Existing and Proposed Facilities:

The proposed well location will be a new pad location.

Production facilities (see Well Pad Design Summary and Facilities Diagram):

Production facilities will be installed on the disturbed portion of the well pad and may include bermed components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) above ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

Gathering Facilities:

The following pipeline transmission facilities will apply if the well is productive (see Topo D):

Option No. 1:

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is $\pm 2,525'$ and the individual segments are broken up as follows:

- $\pm 405'$ (0.07 miles) – On lease number ML-47572, new 10" buried gas pipeline from the meter to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.
- $\pm 2,120'$ (0.40 miles) – On lease number ML-47572, new 10" buried gas pipeline from the edge of the pad to the existing 10" gas pipeline. Please refer to Topo D2 - Pad and Pipeline Detail.

Pipeline right-of-way that is not on lease will be applied for under a separate cover.

Option No. 2:

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is $\pm 2,440'$ and the individual segments are broken up as follows:

- $\pm 405'$ (0.07 miles) – On lease number ML-47572, new 10" buried gas pipeline from the meter to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.
- $\pm 2,035'$ (0.38 miles) – On lease number ML-47572, new 10" buried gas pipeline from the edge of the pad to the existing 4" gas pipeline. Please refer to Topo D2 - Pad and Pipeline Detail.

Pipeline right-of-way that is not on lease will be applied for under a separate cover.

There are no proposed liquid gathering lines.

Anadarko requests a temporary 45' construction right-of-way and a 30' permanent right-of-way.

The proposed trench width for the pipeline would range from 18-48 inches and will be excavated to a depth of 48 to 60 inches of normal soil cover or 24 inches of cover in consolidated rock. During construction blasting may occur along the proposed right-of-way where trenching equipment cannot cut into the bedrock. Large debris and

rocks removed from the earth during trenching and blasting that could not be returned to the trench would be distributed evenly and naturally in the project area. The proposed pipelines will be pressure tested pneumatically (depending on size) or with fluids (either fresh or produced). If fluids are used, there will be no discharge to the surface.

Pipeline signs will be installed along the right-of-way to indicate the pipeline proximity and ownership, as well as to provide emergency contact phone numbers. Above ground valves, T's, and/or cathodic protection will be installed at various locations for connection, corrosion prevention and/or for safety purposes.

D. Location and Type of Water Supply:

Water for drilling purposes will be obtained from one of the following sources:

Burton H. DeLambert Trust:
1050' FSL & 3150' FEL, Sec. 6 - T16S - R23E

JD Field Services:
Green River: 1087' FSL & 1020' FEL, Sec. 15 - T2N - R22E

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

White River: 501' FNL & 1676' FEL, Sec. 9 - T8S - R20E
471' FNL & 1676' FEL, Sec. 9 - T8S - R20E
900' FNL & 550' FEL, Sec. 35 - T9S - R22E
200' FNL & 950' FEL, Sec. 2 - T10S - R22E
275' FSL & 2275' FEL, Sec. 2 - T10S - R22E
122' FSL & 1350' FEL, Sec. 11 - T10S - R22E
1670' FSL & 500' FEL, Sec. 12 - T10S - R22E
959' FNL & 705' FEL, Sec. 13 - T10S - R22E
600' FSL & 900' FEL, Sec. 13 - T10S - R22E

Water Plant: 481' FNL & 2176' FEL, Sec. 9 - T8S - R20E
471' FNL & 2176' FEL, Sec. 9 - T8S - R20E

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

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

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

E. Source of Construction Materials:

Construction operations will typically be completed with native materials found on location. If needed, construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

F. Methods for Handling Waste Materials:

Should the well be productive, produced water will be contained in a water tank and will be transported by pipeline and/or truck to an approved disposal sites facilities and/or Salt Water Disposal (SWD) injection well. Currently, those facilities are:

RNI in Sec. 5 T9S R22E
NBU #159 in Sec. 35 T9S R21E
Ace Oilfield in Sec. 2 T6S R20E
MC&MC in Sec. 12 T6S R19E
Pipeline Facility in Sec. 36 T9S R20E
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E
Bonanza Evaporation Pond in Sec. 2 T10S R23E
Or to one of the following Anadarko active Salt Water Disposal (SWD) wells:
NBU 159 SWD in Sec. 35 T9S R21E
CIGE 112D SWD in Sec. 19 T9S R21E
CIGE 114 SWD in Sec. 34 T9S R21E
NBU 921-34K SWD in Sec. 34 T9S R21E
NBU 921-33F SWD in Sec. 34 T9S R21E

Anadarko will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completion of the wells on the pad. Using the closed loop drilling system will allow Anadarko to decrease the amount of disturbance/footprint on location compared to a single large drilling/completions pit.

If Anadarko does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

Unless otherwise approved, no oil or other oil based drill additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water, biodegradable polymer soap, bentonite clay, and /or non-toxic additives will be used in the system.

Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be encountered during drilling, completions, or well testing, product will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be release into the pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternative is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as the hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods. (e.g. solidification)

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

For the protection of livestock and wildlife, all open pits and cellars will be fenced/covered to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after six (6) months from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift. Reserve pit liners will be cut off or folded as near to the mud surface as possible and as safety considerations allow and buried on location.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility.

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

Any undesirable event, including accidental release of fluids, or release in excess of reportable quantities, will be managed according to the notification requirements of UDOGMs "Reporting Oil and Gas Undesirable Events" rule. Where State wells are participatory to a Federal agreement, according to NTL-3A, the appropriate Federal agencies will be notified.

Materials Management

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

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

G. Ancillary Facilities:

None are anticipated.

H. Well Site Layout (see Well Pad Design Summary):

The location, orientation and aerial extent of each drill pad; reserve/completion/flare pit; access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure; proposed cuts and fills; and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

Coordinates are provided in the National Spatial Reference System, North American Datum, 1927 (NAD27) or NAD 83 latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

I. Plans for Reclamation of the Surface:

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

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

Interim Reclamation

Interim reclamation includes pit closure, re-contouring (where possible), soil bed preparation, topsoil placement, seeding, and/or weed control.

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

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

Final Reclamation

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

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

All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded.

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

Seeding and Measures Common to Interim and Final Reclamation

Reclaimed areas may be fenced to exclude grazing and encourage re-vegetation.

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to, erosion control blankets and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

Seeding will occur year-round as conditions allow. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The site specific seed mix will be provided by SITLA.

J. Surface/Mineral Ownership:

SITLA
675 East 500 South, Suite 500
Salt Lake City, UT 84102

L. Other Information:

None

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

Laura Abrams
Regulatory Analyst II
Anadarko E&P Onshore LLC
PO Box 173779
Denver, CO 80217-3779
(720) 929-6356

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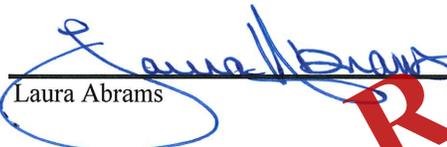
Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

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.

Anadarko E&P Onshore LLC is considered to be the operator of the subject well. Anadarko E&P Onshore, LLC agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, 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.



Laura Abrams

November 25, 2013

Date



Diana Mason <dianawhitney@utah.gov>

Anadarko Approval

Jeff Conley <jconley@utah.gov>

Wed, Dec 11, 2013 at 10:33 AM

To: "Mahler, Cara" <cara.mahler@anadarko.com>, Diana Mason <dianawhitney@utah.gov>, Bradley Hill <bradhill@utah.gov>

Cc: Jim Davis <jimdavis1@utah.gov>, Lavonne Garrison <lavonnegarrison@utah.gov>

Hello,

The following wells have been approved by SITLA for arch and paleo:

(4301950039) Willow Ridge 16-22-29D Requires paleo monitor for ground disturbing activities and additional bond which is being prepared.

(4301950040) Willow Ridge 16-22-28D Requires paleo monitor for ground disturbing activities and additional bond which is being prepared.

(4301950041) Willow Ridge 16-23-17D approved.

(4301950042) Willow Ridge 16-22-24D Requires paleo monitor for ground disturbing activities.

(4301950043) Willow Ridge 16-22-3M approved.

Thanks,

Jeff Conley
SITLA Resource Specialist
jconley@utah.gov
801-538-5157

CONFIDENTIAL
Returned Unapproved

Received: December 11, 2013



Fwd: Willow Ridge Vertical APD's

Bradley Hill <bradhill@utah.gov>

Tue, Jul 22, 2014 at 3:51 PM

To: Diana Mason <DIANAWHITNEY@utah.gov>, Dustin Doucet <DUSTINDOUCET@utah.gov>

Brad Hill P.G.
O & G Permitting Manager/Petroleum Geologist
State of Utah
Division of Oil, Gas, & Mining
Phone: (801)538-5315
Fax: (801)359-3940
email: bradhill@utah.gov

----- Forwarded message -----

From: **Abrams, Laura** <Laura.Abrams@anadarko.com>
Date: Tue, Jul 22, 2014 at 2:54 PM
Subject: Willow Ridge Vertical APD's
To: "Brad Hill (bradhill@utah.gov)" <bradhill@utah.gov>
Cc: "Lytle, Andy" <Andy.Lytle@anadarko.com>

Brad,

Thank you so much for the chat this afternoon. Per our conversation can you please rescind the following applications, as Anadarko has decided not to pursue them at this time?

- Willow Ridge 16-28-17D, API No. 43019500410000
- Willow Ridge 16-22-24D, API No. 43019500420000

Also, as discussed, Anadarko requests that UDOGM process the following application as submitted:

- Willow Ridge 16-22-28D, API No. 43019500400000, confidential status requested

You mentioned that this APD (16-22-28D) may need further attention regarding the casing design. Please let us know what this application will require to process per UDOGM's safety standards. We will be happy to make revisions prior to APD processing.

Thank you in advance for your help,

Laura Abrams
Regulatory Analyst II
Anadarko Petroleum Corporation
1099 18th Street
Denver, CO 80202
(720) 929-6356 – Direct

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Fwd: Willow Ridge Vertical APD's

Bradley Hill <bradhill@utah.gov>

Tue, Jul 22, 2014 at 3:51 PM

To: Diana Mason <DIANAWHITNEY@utah.gov>, Dustin Doucet <DUSTINDOUCET@utah.gov>

Brad Hill P.G.
O & G Permitting Manager/Petroleum Geologist
State of Utah
Division of Oil, Gas, & Mining
Phone: (801)538-5315
Fax: (801)359-3940
email: bradhill@utah.gov

----- Forwarded message -----

From: **Abrams, Laura** <Laura.Abrams@anadarko.com>
Date: Tue, Jul 22, 2014 at 2:54 PM
Subject: Willow Ridge Vertical APD's
To: "Brad Hill (bradhill@utah.gov)" <bradhill@utah.gov>
Cc: "Lytle, Andy" <Andy.Lytle@anadarko.com>

Brad,

Thank you so much for the chat this afternoon. Per our conversation can you please rescind the following applications, as Anadarko has decided not to pursue them at this time?

- Willow Ridge 16-28-17D, API No. 43019500410000
- Willow Ridge 16-22-24D, API No. 43019500420000

Also, as discussed, Anadarko requests that UDOGM process the following application as submitted:

- Willow Ridge 16-22-28D, API No. 43019500400000, confidential status requested

You mentioned that this APD (16-22-28D) may need further attention regarding the casing design. Please let us know what this application will require to process per UDOGM's safety standards. We will be happy to make revisions prior to APD processing.

Thank you in advance for your help,

Laura Abrams
Regulatory Analyst II
Anadarko Petroleum Corporation
1099 18th Street
Denver, CO 80202
(720) 929-6356 – Direct

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Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

July 25, 2014

ANADARKO E&P ONSHORE, LLC
P.O. Box 173779
Denver, CO 80217

Re: Application for Permit to Drill - GRAND County, Utah

Ladies and Gentlemen:

The Application for Permit to Drill (APD) for the Willow Ridge 16-23-17D well, API 43019500410000 that was submitted November 25, 2013 is being returned unapproved. If you plan on drilling this well in the future, you must first submit a new application.

Should you have any questions regarding this matter, please call me at (801) 538-5312.

Sincerely,

Diana Mason
Environmental Scientist

Enclosure

cc: Bureau of Land Management, Vernal, Utah



