API Well Number: 43047553940000

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
Atchee Wash #33-9

2. TYPE OF WORK
DRILL NEW WELL ◉ REENTER P&A WELL ○ DEEPEN WELL ○

3. FIELD OR WILDCAT
NATURAL BUTTES

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

5. UNIT or COMMUNITIZATION AGREEMENT NAME

6. NAME OF OPERATOR
ONSHORE ROYALTIES, LLC

7. OPERATOR PHONE
361 570-1600

8. ADDRESS OF OPERATOR
PO Box 2326, Victoria, TX, 77902

9. OPERATOR E-MAIL
mhahn@xeogc.com

10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)
UTU-73451

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	1469 FSL 471 FEL	NESE	33	10.0 S	23.0 E	S
Top of Uppermost Producing Zone	1469 FSL 471 FEL	NESE	33	10.0 S	23.0 E	S
At Total Depth	1469 FSL 471 FEL	NESE	33	10.0 S	23.0 E	S

21. COUNTY
UINTAH

22. DISTANCE TO NEAREST LEASE LINE (Feet)
471

23. NUMBER OF ACRES IN DRILLING UNIT
40

25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)
1320

26. PROPOSED DEPTH
MD: 8297 TVD: 8297

27. ELEVATION - GROUND LEVEL
5215

28. BOND NUMBER
#UTB000644

29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE
White River Sec.23-10S-23E, Water Right #49-2185

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 - 2000	24.0	J-55 ST&C	8.3	Premium Lite High Strength	250	3.38	11.0
							Class G	329	1.2	15.6
L1	7.875	4.5	2000 - 8297	11.6	N-80 LT&C	8.6	Premium Lite High Strength	200	3.3	11.0
							Class G	400	1.56	14.3

ATTACHMENTS

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

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

NAME Alyssa Andrews | **TITLE** Operations Engineer | **PHONE** 720 420-5749

SIGNATURE | **DATE** 06/15/2015 | **EMAIL** alyssa.andrews@iptenergyservices.com

API NUMBER ASSIGNED
43047553940000

APPROVAL

Permit Manager

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API Well Number: 43047553940000

Onshore Royalties, LLC

Atchee Wash #33-9
Drilling Plan

Uintah County, Utah
June 2, 2015

Written by: Andrew Spencer, Drilling Engineer
Reviewed By: John Kroshus, Drilling Manager

IPT, Inc: 1707 Cole Boulevard, Suite 200 | Golden, CO 80401 USA | P: 720.420.5700 | F: 720.420.5800 | www.iptenergyservices.com

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Contents

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1.0 General Information

Operator – Onshore Royalties, LLC

Well Name & Number – Atchee Wash #33-9

API Number –

Location – NESE Sec. 33 Twn. 10S Rng. 23E

Lat/Long – 39.902211 / -109.324161

County – Uintah, UT

Field – Natural Buttes

Rig – TBD

Ground Elevation / KB – 5,214.4' / TBD

TVD / MD (ft) – 8,297

Directions to Location –

Drilling Objectives

1. No lost time accidents, near misses, or harm to the environment
2. Wellbore is positioned as per Client specification, Production casing is landed at depth and the resulting cement job provides good hydraulic isolation and wellbore mechanical integrity for the service life of the well.
3. Objective formations drilled with clean fluids for highest quality wellbore.

IPT CONTACT LIST				
Integrated Petroleum Technologies, Inc Contacts				
Andy Peterson	Senior VP Operations	(720) 420-5722	(970) 203-4263	andy.peterson@iptenergyservices.com
Ed Pilcher	Drilling Superintendent		(970) 768-6746	ed.pilcher@iptenergyservices.com
Neel Duncan	VP Operations	(720) 420-5731	(303) 947-9402	neel.duncan@iptenergyservices.com
John Kroshus	Drilling Manager	(720) 420-5721	(720) 280-1536	john.kroshus@iptenergyservices.com
Dennis Geiss	Assistant Drilling Superintendent		(307) 299-6404	dennis.geiss@iptenergyservices.com
Andrew Spencer	Drilling Engineer	(720) 420-5703	(720) 335-2859	andrew.spencer@iptenergyservices.com
Ras Parras	Wellsite Supervisor		(970) 260-2834	eparras2010@live.com
Chris Montoya	Wellsite Supervisor		(970) 779-7527	chris.montoya@iptenergyservices.com
Red Benge	Wellsite Supervisor		(970) 203-4850	red.benge@iptenergyservices.com
Derek Petrie	Permit Supervisor	(720) 420-5748	(307) 389-8350	derek.petrie@iptenergyservices.com

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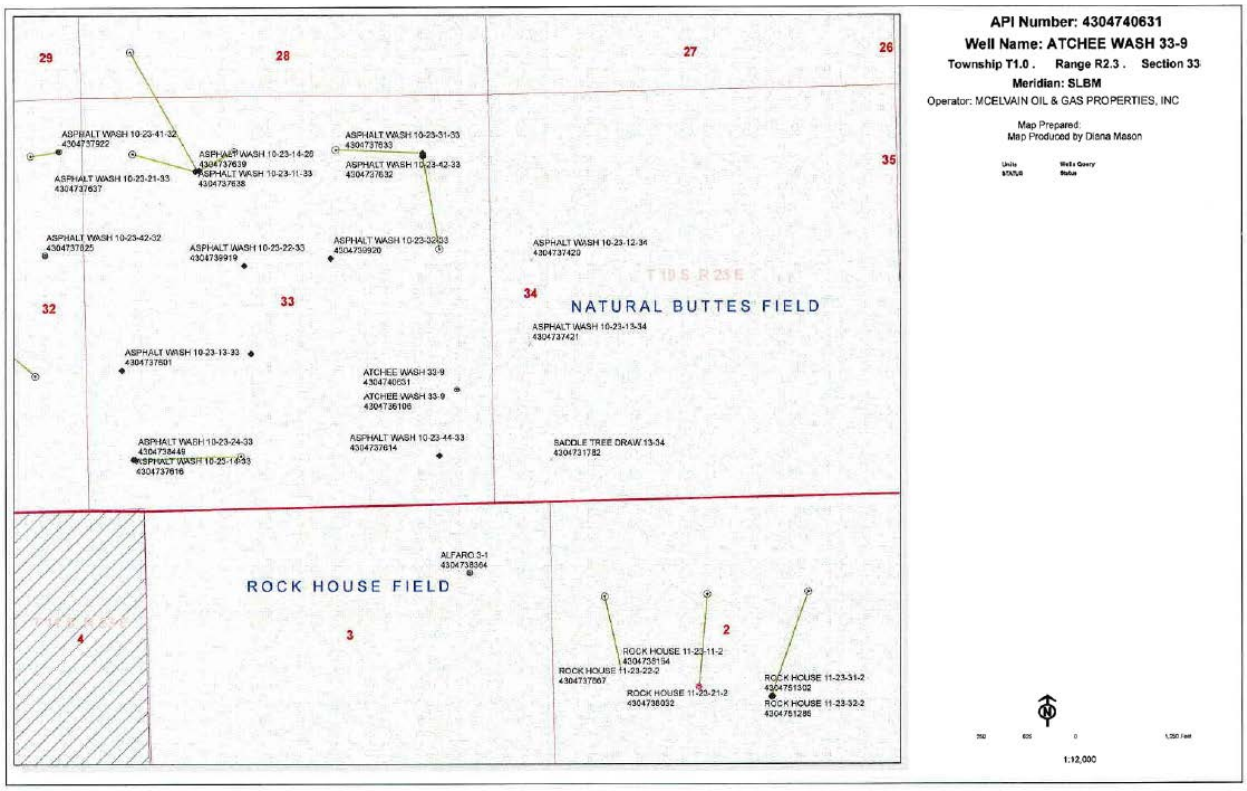
2.0 Basis of Design

Onshore Royalties, LLC	Atchee Wash #33-9	Footages: 1469' FSL / 471' FEL STR: NESE Sec. 33 T10S R23E Lat/Long 39.902211 / -109.324161			Drilling Contractor: TBD TD MD / TVD (ft): 8297'/8297' RKB / GL: TBD/5214.4'		
Geologic Tops	**TVD (ft)** / **(MD ft)**	**Hole Section**	**Problems**	**Bit/BHA**	**Drilling Fluids**	**Casing**	**Logging**	**Cement**
Green River **Surface Shoe**	1512 / 2,000'	Surface Drill 12-1/4" 0' - 2000'	Wellbore Stability Depth Dependent on Birds Nest Zone	12-1/4" Tricone 3 x 16s 6-1/2 MM, Teledrift 9 jts: 6-1/4" DC 3 jts: 4-1/2" HWDP 30 jts: 4" HWDP 4" DP to surface	Air/Clean Water FL: NC Water/Gel Type	API 5K wellhead 9-5/8", 24#, J-55, STC from Surface to 2000' Centralizers - bottom 3 joints and every 2nd jt thereafter, Cement basket 3rd jt from surface	No Logs	**LEAD:** 250sk, 3.38 Cf/sk, 11 ppg, Premium Lite II, .05#/sk Static Free, .25#/sk Cello Flake, 5#/sk KOL Seal, .002 gps FP-6L, 10% Bentonite, .5% Sodium Metasilicate, 3% Potassium Chloride **TAIL:** 329sks, 1.2cf/sk, 15.6ppg,Class G, 2% Calcium Chloride, .25#/sk Cello Flake
Uteland Butte Limestone	3,512' / 3,512'							
WASATCH	3,612' / 3,612'							
MESAVERDE								
CASTLEGATE	7,787' / 7,787'	Production Liner: Drill 7-7/8" Hole 2000' - 8297'		7-7/8' MDi613, 3x15s .26RPG 7/8 Lobe, 2.6 stage NOV Mud Motor X/O 3-1/2" X XT39 4" HWDP 4" DP to surface	Water/Gel Type 8.4-8.6 ppg Vis: 30 FL: 8-10 (mL/30min)	4-1/2" 11.6# N-80 LTC 2000'-TD	Tripecombo Microlog logs	Production Casing will be cemented to 2,500' or higher LEAD: 200sk, 3.3cf/sk, 11ppg, Premium Lite II, .25#/sk Cello Flake, .05#/sk Static Free, 5#/sk KOL Seal, 3% potassium Chloride, .055 gps FP-6L, 10% Bentonite, .5 Sodium Metasilicate TAIL: 400sk, 1.56 cf/sk, 14.3ppg Class "G", .05% Static Free, 2 sodium Chloride, .1% R-3, 2% Bentonite
MANCOS	8,147' / 8,147'							
TD	8,297' / 8,297'							

3.0 Offset Analysis & Geological Tops



3.1 Geological Tops (TVD)

Formation	Drilled Depth	Subsea
GREEN RIVER	1512	3702
UTELAND BUTTE LIMESTONE	3512	1702
WASATCH	3612	1602
MESAVERDE	5612	-398
CASTLEGATE	7787	-2573
MANCOS	8147	-2933
TD	8297	-3083

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4.0 Specific Location Information

The location surface is federally owned land. Respectful use of the land and access to it must be enforced and observed by all parties involved in the drilling and completion operations. All applicable Federal, State and County guidelines, as well as other requirements as spelled out in the Surface User Agreement, shall be followed during this project.

Every effort should be made to keep litter from collecting on the access roads, location, or any other areas that are within our area of influence. Please observe and adhere to signs and posted instructions. Stay on the roads, and restrict unnecessary driving to and from the rig. All gates must be utilized as designated. All Surface User Agreement terms must be followed.

5.0 Pre-Spud Considerations

Prior to commencing ANY operation, the following permits/documents must be in place and emailed to drillingreports@iptenergyservices.com:

1. Approved UTAH APD must be posted in doghouse
2. Emergency Response Plan
3. Storm Water Management Plan (SWMP)
4. Spill Prevention Control and Countermeasure (SPCC); Contractor supplied, covers rig diesel spills. Required to have on location; [www.epa .gov/oilspill/spcc.htm]

6. UTAH Oil and Gas receives 48 Hour MIRU Notice (>24 and <72 Hours)

7. Pason electronic data recorder (EDR) system with PVT must be fully rigged up and operational prior to spudding the well.

8. The following equipment and services need to be on location: 12-1/4" PDC bit and back-up bit. The 7-7/8" mud motor and BHA components should be delivered with Surface BHA. Attempts should be made to minimize multiple deliveries by coordinating loads. Camp housing for IPT / Onshore Royalties, LLC and Geology will be moved onto location while rig move and rig up are commencing.

Rig supervisors should also note the following:

1) Camp - The supervisors need to ask for an inspection of the buildings with the camp vendor / rig-up foreman before he leaves location. IPT needs to see a list of the entire inventory that is expected to be in the camp house at release. All of this has to be documented.
2) Rig acceptance - fill out checklist with the toolpusher and/or superintendent and send in with DDR.
3) Rig rental inventory - keep it up to date & days of use/standby
4) Material transfers - keep a list of all material that comes on location and leaves the location. This list should accompany all of the paperwork at the end of the well.

9. A Pre-Spud Meeting will be held prior to the commencement of Operations. All Contractor representatives and Drilling Crew will attend (Drilling Engineer to send out advance notice) and the meeting will be chaired by IPT Drilling Superintendent in which the following objectives will be reviewed

1) Drilling Objectives
2) Emergency Response. Conditions for Approval and SUA issues
3) Brief Review of Drilling Program – Drilling Engineer
4) Hole Problems, Risks and Mitigations

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5) Communications and deviation from plan
6) Level 1 gaps remaining from the Rig Inspection – Well Site Supervisor (WSS)
7) Administrative issues
8) Summary

Send Water sample to cementers for blend testing at 230°F.

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6.0 Surface Interval – Drilling, Casing, & Cementing Procedure

6.1 Objective

The objective is to safely drill a vertical 12-1/4” hole to a depth of approx. 2000’, run in and set 9-5/8” (36#/J-55/STC) casing, and perform a 1 stage cement job that brings the TOC to surface. All parameters that influence drilling & operational efficiencies should be optimized to complete this objective. It is to be ensured that the casing and cement provide an adequate barrier to the formation.

6.2 Drilling Procedure

Drill a vertical 12-1/4" hole to approx. 2000’ depending on the Birds Nest Zone. Surface hole will be TD’d 400’ beyond the top of this zone. This interval will be drilled with a MDi516 PDC bit. At surface a fisher pump will be utilized to pump fluids from the cellar to the shaker manifold. While drilling this section, maximize circulating rate, using high viscosity sweeps to clean the hole. If lost circulation is encountered, treat hole with sawdust sweeps. At TD make a wiper trip and verify the joint count, return to bottom and circulate to condition hole. Continue circulation for 30 minutes. POOH avoiding any swab effects to run 9-5/8" surface casing. Lay down BHA.

6.2.3 Bottom Hole Assembly

The Surface Interval will be drilled with a 12-1/4” MDi516, a .166 RPG NOV Mud Motor, and 4.5” HWDP/DP. Table 1 outlines the Bottom Hole Assembly and their connections. All Recommended Make up Torques are listed in Table 2.

Table 1: Surface Interval BHA

SURFACE BHA			
Qty	Equipment	Lower Connection	Uppper Connection
1	12-1/4" MDi516	N/A	6-5/8" API Regular Box
1	7/8 166RPG MM	6-5/8" API Regular Box	4-1/2" XH Box
1	Pony Monel	4-1/2" API Reg PIn	4-1/2" XH Box
1	UBHO	4-1/2" API Reg Pin	4-1/2" XH Box
1	Pony Monel	4-1/2" XH Pin	4-1/2" XH Box
2	Flex Collars	4-1/2" XH Pin	4-1/2" XH Box
3	6" Monels	4-1/2" XH Pin	4-1/2" XH Box
15	4-1/2" HWDP	4-1/2" XH Pin	4-1/2" XH Box
To Surface	4-1/2" DP	4" XH Pin	4" XH BOX

Table 2: Recommended Make up Torque

Equipment	ft-lbs
6-5/8" API Regular	40,000
4-1/2" API Regular	19,000
4-1/2" XH	28,021
6-1/4" XH DC	30,800

6.2.4 Drilling Fluids

A Drilling Fluids Vendor will provide the necessary additives and support to drill the surface interval. This will be a closed loop system that incorporates solids control. Overall this interval will be drilled with freshwater that has less than 8.8ppg and enough viscosity to clean the hole. Periodic high vis sweeps will be

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sent to provide additional cleaning and help ensure a quality wellbore. The entire drilling fluids program is attached in Appendix E.

6.2.5 Surface Casing Design

The surface casing will be a 9-5/8", 36#, J-55, STC that will include a float shoe, float collar, and landing joint to hang the casing. This casing will be set at surface TD and the initial design is detailed below in Table 3.

Table 3: 9-5/8" Surface Casing Design

9.625 Surface Casing									
WELL	Atchee Wash 33-9		DATE			CSG DATA-->		36.0	CSG #/ft
DEPTH (ft)	2010.00		CONTRACTOR					0.01268	CSG Displacement bbls/ft
SHOE (ft)	1995.00	RT TO WH	13.5	Rat Hole	10			0.07883	CSG Capacity bbls/ft
								0.85940	Buoyancy Factor
Rack#	Description		Accumulated Displ. (Bbls)	Accumulated Capacity (Bbls)	Length (ft)	Acum. Length (ft)	Top To RT (ft)	Weight (k#)	Comments
	Guide shoe		0.02	0.1182	1.50	1.50	1993.50	0.05	
1	9.625" 36# J55 LTC		0.55	3.4268	41.97	43.47	1951.53	1.34	Centralizer
	Float Collar		0.57	3.5419	1.46	44.93	1950.07	1.39	
2	9.625" 36# J55 LTC		1.10	6.8504	41.97	86.90	1908.10	2.69	
3	9.625" 36# J55 LTC		1.63	10.1597	41.98	128.88	1866.12	3.99	Centralizer
4	9.625" 36# J55 LTC		2.17	13.4683	41.97	170.85	1824.15	5.29	Centralizer
5	9.625" 36# J55 LTC		2.70	16.7768	41.97	212.82	1782.18	6.58	
6	9.625" 36# J55 LTC		3.23	20.0846	41.96	254.78	1740.22	7.88	
7	9.625" 36# J55 LTC		3.76	23.3939	41.98	296.76	1698.24	9.18	Centralizer
8	9.625" 36# J55 LTC		4.30	26.7024	41.97	338.73	1656.27	10.48	
9	9.625" 36# J55 LTC		4.83	30.0118	41.98	380.71	1614.29	11.78	
10	9.625" 36# J55 LTC		5.36	33.3203	41.97	422.68	1572.32	13.08	Centralizer
11	9.625" 36# J55 LTC		5.89	36.6288	41.97	464.65	1530.35	14.38	
12	9.625" 36# J55 LTC		6.43	39.9381	41.98	506.63	1488.37	15.67	
13	9.625" 36# J55 LTC		6.96	43.2467	41.97	548.60	1446.40	16.97	Centralizer
14	9.625" 36# J55 LTC		7.49	46.5552	41.97	590.57	1404.43	18.27	
15	9.625" 36# J55 LTC		8.02	49.8645	41.98	632.55	1362.45	19.57	
16	9.625" 36# J55 LTC		8.55	53.1731	41.97	674.52	1320.48	20.87	Centralizer
17	9.625" 36# J55 LTC		9.09	56.4816	41.97	716.49	1278.51	22.17	
18	9.625" 36# J55 LTC		9.62	59.7902	41.97	758.46	1236.54	23.47	
19	9.625" 36# J55 LTC		10.15	63.0987	41.97	800.43	1194.57	24.76	Centralizer
20	9.625" 36# J55 LTC		10.68	66.4080	41.98	842.41	1152.59	26.06	
21	9.625" 36# J55 LTC		11.22	69.7173	41.98	884.39	1110.61	27.36	
22	9.625" 36# J55 LTC		11.75	73.0259	41.97	926.36	1068.64	28.66	Centralizer/Basket
23	9.625" 36# J55 LTC		12.28	76.3336	41.96	968.32	1026.68	29.96	
24	9.625" 36# J55 LTC		12.81	79.6422	41.97	1010.29	984.71	31.26	
25	9.625" 36# J55 LTC		13.35	82.9507	41.97	1052.26	942.74	32.56	
26	9.625" 36# J55 LTC		13.88	86.2592	41.97	1094.23	900.77	33.85	Centralizer
27	9.625" 36# J55 LTC		14.41	89.5678	41.97	1136.20	858.80	35.15	
28	9.625" 36# J55 LTC		14.94	92.8763	41.97	1178.17	816.83	36.45	
29	9.625" 36# J55 LTC		15.48	96.1849	41.97	1220.14	774.86	37.75	
30	9.625" 36# J55 LTC		16.01	99.4934	41.97	1262.11	732.89	39.05	
31	9.625" 36# J55 LTC		16.54	102.8019	41.97	1304.08	690.92	40.35	Centralizer
32	9.625" 36# J55 LTC		17.07	106.1105	41.97	1346.05	648.95	41.64	
33	9.625" 36# J55 LTC		17.60	109.4190	41.97	1388.02	606.98	42.94	
34	9.625" 36# J55 LTC		18.14	112.7275	41.97	1429.99	565.01	44.24	
35	9.625" 36# J55 LTC		18.67	116.0361	41.97	1471.96	523.04	45.54	
36	9.625" 36# J55 LTC		19.20	119.3446	41.97	1513.93	481.07	46.84	
37	9.625" 36# J55 LTC		19.73	122.6532	41.97	1555.90	439.10	48.14	Centralizer
38	9.625" 36# J55 LTC		20.27	125.9617	41.97	1597.87	397.13	49.44	
39	9.625" 36# J55 LTC		20.80	129.2702	41.97	1639.84	355.16	50.73	
	9.625" 36# J55 LTC		21.33	132.5788	41.97	1681.81	313.19	52.03	
	9.625" 36# J55 LTC		21.86	135.8873	41.97	1723.78	271.22	53.33	
	9.625" 36# J55 LTC		22.40	139.1958	41.97	1765.75	229.25	54.63	Centralizer
	9.625" 36# J55 LTC		22.93	142.5044	41.97	1807.72	187.28	55.93	
	9.625" 36# J55 LTC		23.46	145.8129	41.97	1849.69	145.31	57.23	
	9.625" 36# J55 LTC		23.99	149.1214	41.97	1891.66	103.34	58.52	
	9.625" 36# J55 LTC		24.52	152.4300	41.97	1933.63	61.37	59.82	
	9.625" 36# J55 LTC		25.06	155.7385	41.97	1975.60	19.40	61.12	
	Landing joint		25.14	156.2769	6.83	1982.43	12.57	61.33	Landing joint
	KB		25.31	157.3412	13.50	1995.93	-0.93	61.75	KB
				Total	1995.93				

6.2.6 Running 9-5/8" Surface Casing

1) Lay casing out on racks stripping off thread protectors and measuring casing. Number joints of casing while measuring them. Visually inspect threads and casing joints to insure that pipe is clean and undamaged. Casing crew will drift all joints to minimum 8-3/4". If boxes and pins are doped with API-

modified dope, no thread cleaning will be done. If threads are coated with corrosion inhibitor, threads will be cleaned.

2) Circulate and condition mud and make a wiper trip. Verify depth with a joint count.
3) POOH, laying down the MM. Do not lay down drillpipe (LDDP).
4) Rig up casing crew with hydraulic casing tongs, 9-5/8" elevators, backup tongs, slips and spider. Check bails to make sure cement head will fit beneath blocks.
5) Pick up and run 600' of 9-5/8" 36# J-55 STC casing as follows:

   One shoe joint above float shoe, a float collar will be run. Install bow spring centralizer on joints 1, 2, and 3. After that, centralize every third joint with bow spring centralizers. Cement Basket 3 joints from surface. The first three joints of casing will be threadlocked. Continue running casing and installing Cameron Casing bowl on last joint and cement head on the landing joint.

6.2.7 Cementing 9-5/8" Surface Casing

1) Rig up to circulate with rig pump. Fill casing and break circulation.
2) Have safety meeting with cementers and review job plan.
3) Mix and pump the cement slurry as follows:
   a) Dual Slurry:
      i) Calculate volume for TOC at surface, plus 30% excess.
         (a) LEAD: 250sk, 3.38 Cf/sk, 11 ppg, Premium Lite II, .05#/sk Static Free, .25#/sk Cello Flake, 5#/sk KOL Seal, .002 gps FP-6L, 10% Bentonite, .5% Sodium Metasilicate, 3% Potassium Chloride
         (b) TAIL: 329sks, 1.2cf/sk, 15.6ppg,Class G, 2% Calcium Chloride, .25#/sk Cello Flake
      ii) Take at least two (2) dry and wet samples of the slurry and the mix water pumped to/from the mixing tubs at the start and near completion of the pumping job.
4) Wash lines and launch top plug and displace with drilling fluid until plug lands on float. Check tattle tale on head when plug launches to confirm plug has left head. Bump plug to 250 psi over last circulating pressure.
5) Check float to make sure that they are holding.
6) Flush all lines that may have cement residue to open top.

6.2.8 Installing Wellhead / BOP

1) Remove bullplug, install casing bowl valves. Install spools and DSAs as required.
2) Nipple up 5M BOPE stack to consist of: DSA (5M x 5M), 4-1/2" pipe ram, blind ram, annular preventer, rotating head.
3) RU BOP tester.
4) MU and set test plug.
5) Test annular preventer to 250 psi low and 1,500 psi high.
6) Test pipe rams, blind rams, choke lines and manifold to 250 psi low and 2,400 psi high with test pump.
7) Test casing to 1,500 psi.
8) Install wear bushing.

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7.0 Production Interval – Drilling, Casing, & Cement Procedure

7.1 Objective

The objective is to drill a 7 -7/8"" hole through the MANCOS Formation, clean the hole to ensure a quality wellbore ready to perform completion operations, run triple combo logs with microlog, and run in and set 4-1/2" Production Casing from surface to TD

7.2 Drilling Procedure

1) Test casing to 2,000 psi. Perform BOP drills as deemed necessary. Record in DDR.
2) Make up BHA consisting of 7-7/8" MSI613 PDC, (0.26) straight MM, 30 jts of 4" HWDP, and 4" DP.
3) Tag up on plug. Drill out plug and cement in shoe joint. Drill out mainhole section with 8.4-8.6 ppg mud weight. Treat mud for calcium contamination if necessary.
4) Drill to TD – through MANCOS Formation
5) At TD, Trip to Surface Casing and perform Reamer Run
6) POOH, laying down BHA, standing 4" HWDP and 4" DP. Pay particular attention to depth.
7) Rig up Loggers, run Triple Combo and Microlog as directed.
8) Rig up casing crew.
9) Run 4-1/2" Production Casing from surface to TD
10) Hang 4-1/2" Production Casing in Wellhead
11) POOH with pipe in derrick. POOH laying down DP.
12) Nipple down BOPE.
13) Nipple up 11" 5M x 7" 5M tubing head and night cap.

7.3 Bottom Hole Assembly

This interval will be drilled with a MDi613 Bit (6x14s), .26 RPG 7/8 Lobe 2.6 stage Motor, 4" HWDP, and 4" DP. Table 6 below outlines the BHA and Table 7 provide the Recommended Make up Torque.

Table 6: Injection Interval BHA

Production Interval BHA			
QTY	Equipment	Lower Connection	Upper Connection
1	7-7/8" MDi613	N/A	4-1/2" API Reg Pin
1	.26 RPG 7/8 Lobe, 2.6 Stage MM	4-1/2" API REg Box	4-1/2" XH Box
1	X/O 3-1/2" X XT39	4-1/2" XT39 PIN	4-1/2" XT39 BOX
45	4" HWDP	4" CT39 PIN	4" XH BOX
To Surf:	4" DP	4" XH Pin	4" XH BOX

Table 7: Recommended Make up Torque

Equipment	ft-lbs
4-1/2" API Regular	19,000
4-1/2" XH	28,021
4" XT39 (HWDP)	20,000
4" XT39 (DP)	22,000

7.4 Drilling Fluids

AES Drilling Fluids will provide the necessary additives and support to drill this interval. This interval will be drilled with a 8.9-9.2 ppg mud that incorporates a closed loop system. There are potentially loss circulation issues in the Lyons and extremely hard drilling. The Drilling Fluids Program is located in Appendix E.

RECEIVED: June 02, 2015

7.5 Running 4-1/2" Production Casing

1) Upon reaching TD and before POOH for final trip to run liner, drop a 2" OD drill pipe rabbit down drillpipe to verify workstring is free from obstructions that may prevent setting ball from reaching ball seat
2) Lay out the production casing and all tools and confirm that what has been delivered is as ordered. Make sure that tool companies are aware of the temperature that the packers will be run in and any peculiarities concerning fluids that may be used are discussed well ahead of time.
3) Function test BOPE after the BHA is out of the hole to insure that there is nothing trapped in the stack.
4) PU Down Jet Float Shoe and blank 5' pup joint with sealing baffle insert installed for internal workstring installation
5) RIH with 4 ½" casing system as per final tally. Make note of liner PU and SO weight and document
6) If circulation is required while RIH max circulating pressure should be limited to 1400psi (HNG hydraulic release running tool is pinned at 2100 psi)
7) RIH to TD with liner. Tag Bottom to ensure depth of TD. Gather PU and SO weights and document for reference. Once on depth circulate to condition hole as required by Onshore Royalties, LLC.
   a) Release and hang production casing
8) POOH with running tools and workstring
9) When out of hole, nipple down BOPE stack and nipple up nightcap. Secure well.
10) Clean tanks and release rig.

8.0 Rig Release

8.1 Wrap-Up Checklist

1) Note date and time of rig release on morning report.
2) Return all rental equipment and verify dates used with rental company.
   a) Locate all XOs, tools, & rental equipment before any load leaves location.
   b) Rental tracking spreadsheet should match all days and be sent to office.
3) Perform post-job third-party inspection on any rig-supplied or rental tubulars, report results to IPT office.
4) Send casing tallies, end-of-job reports and material transfer documents to IPT office.
5) Have pad and road dressed up after rig departure to prepare for completion operations.
6) Return any unused tubulars to yard for credit.
7) Fill in and submit material transfers, if necessary.
8) Do not leave any materials or trash behind.
9) Keep accurate account of all invoices for services performed during rig down. Some of the field tickets may not get signed by the time the drilling supervisor leaves location.

9.0 Recommended Practices

The following drilling practices should always be observed:

- Closely supervise all drilling and tripping operations.
- Be present at, and advise in, BHA makeup.
- Always establish circulation at the surface casing shoe when tripping in the hole.
- If well control issues are suspected, always perform a flow check at the deepest casing shoe while tripping in or out of the hole.
- Verify all cementing plugs are correct. Verify cementing load sheets are correct
- Wash and ream the last two joints of pipe in the hole while tripping to bottom.
- Be present while running casing in the hole and any other associated key operations.
- Evaluate surge and swab risks relative to the exposed formations.

9.1 Abnormalities

No abnormal pressures, temperatures or other hazards are anticipated. Oil and gas shows are anticipated in the WASATCH formation. Other wells drilled in the area have not encountered over pressured zones or H2S.

RECEIVED: June 02, 2015

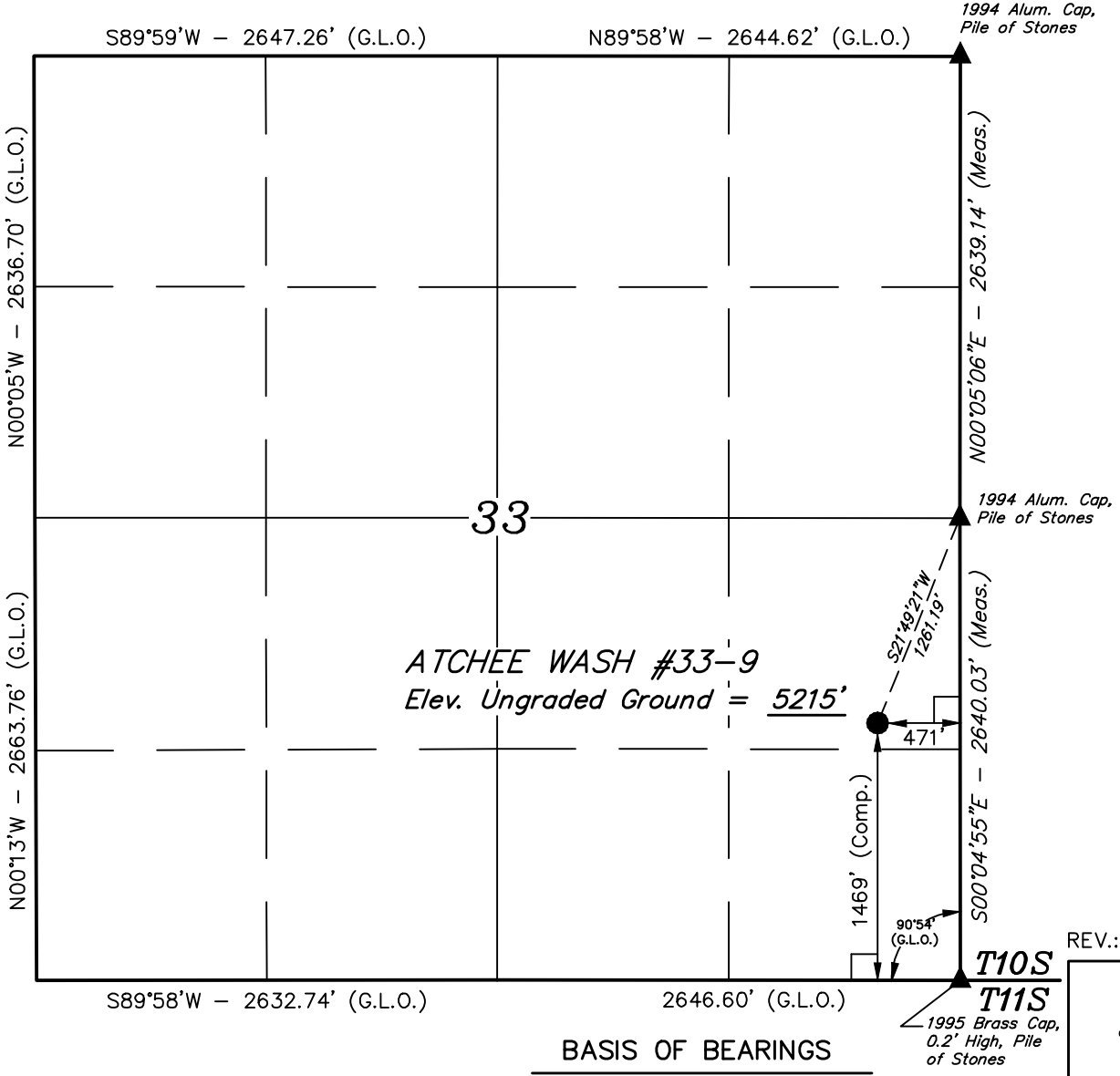
API Well Number: 43047553940000

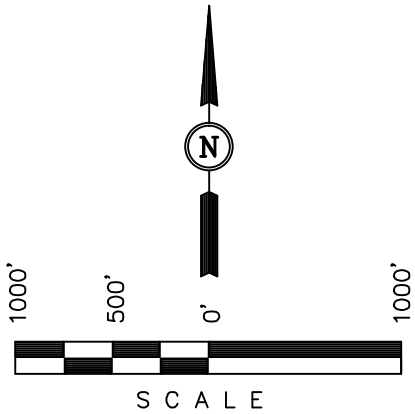
ONSHORE ROYALTIES, LLC

Well location, ATCHEE WASH #33-9, located as shown in the NE 1/4 SE 1/4 of Section 33, T10S, R23E, S.L.B.&M. Uintah County, Utah.

BASIS OF ELEVATION

BENCH MARK 57 EAM LOCATED IN THE NE 1/4 OF SECTION 24, T11S, R23E, S.L.B.&M. TAKEN FROM THE RED WASH SE. QUADRANGLE, UTAH, UINTAH COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5192 FEET.





BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.

(AUTONOMOUS NAD 83)
LATITUDE = 39°54'07.96" (39.902211)
LONGITUDE = 109°19'26.98" (109.324161)

LEGEND:

- = 90° SYMBOL
- = PROPOSED WELL HEAD.
- = SECTION CORNERS LOCATED.

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.

REGISTERED LAND SURVEYOR No. 6631032 BRANDON C. BOWTHORPE STATE OF UTAH

Brandon C. Bowthorpe
REGISTERED LAND SURVEYOR
REGISTRATION NO. 6631032
STATE OF UTAH

05-14-15

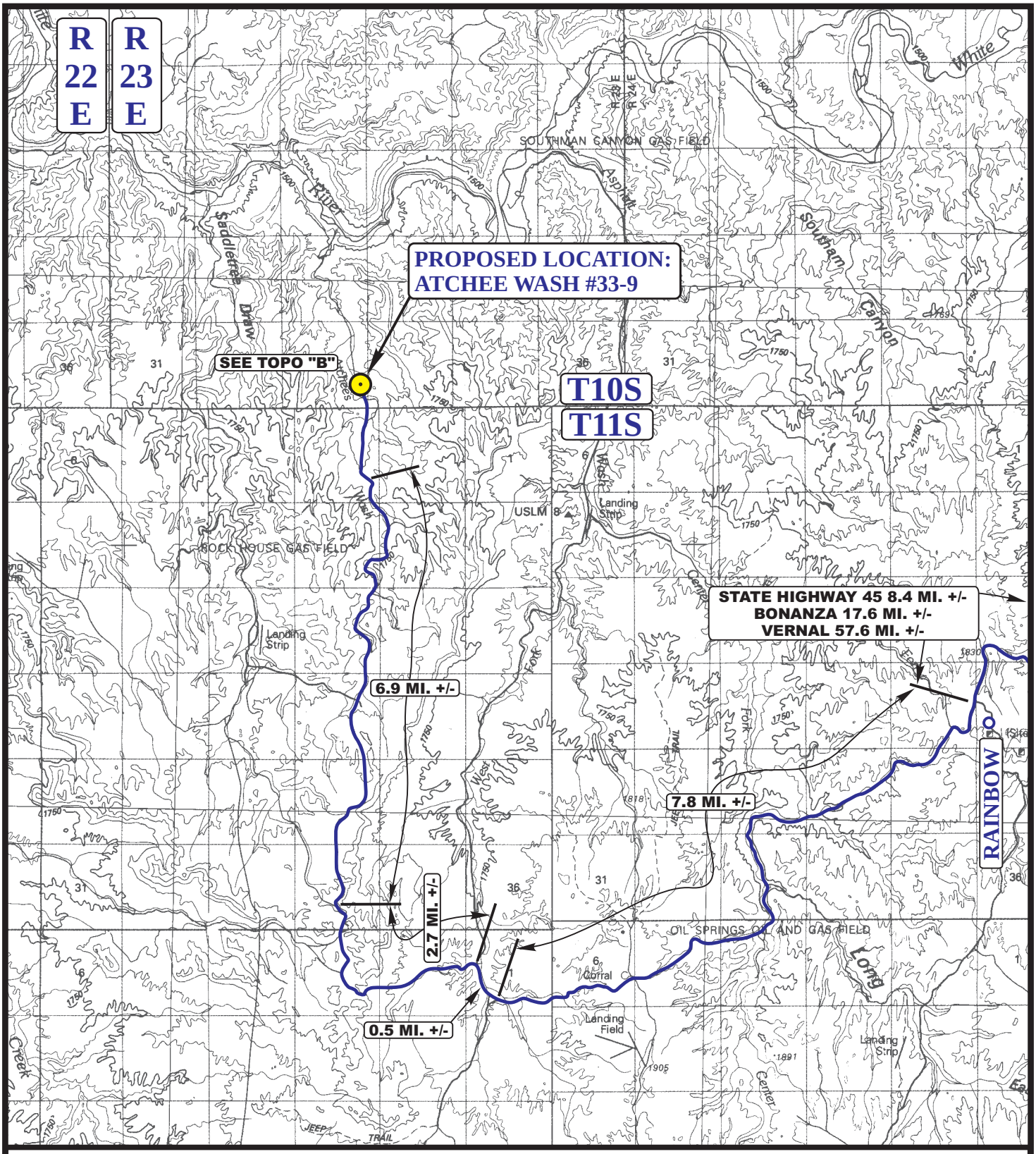
REV.: 05-14-15 J.M.C.

UINTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST – VERNAL, UTAH 84078
(435) 789-1017

SCALE	DATE SURVEYED:	DATE DRAWN:
1" = 1000'	4-2-04	4-7-04
PARTY: D.A. T.A. C.G.	REFERENCES: G.L.O. PLAT	
WEATHER: COOL	FILE: ONSHORE ROYALTIES, LLC	

RECEIVED: June 02, 2015

API Well Number: 43047553940000



LEGEND:

PROPOSED LOCATION

N

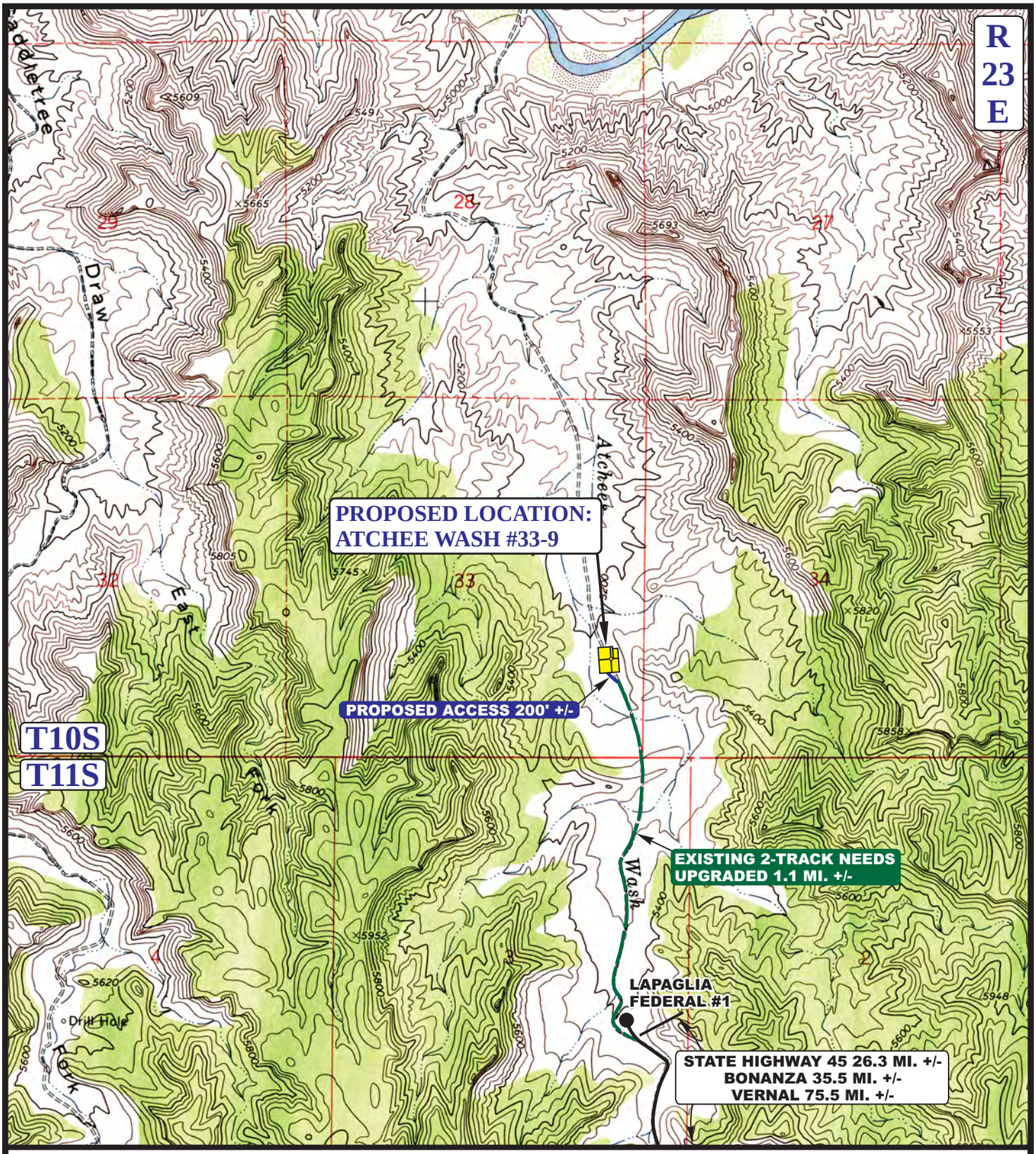
ONSHORE ROYALTIES, LLC

ATCHEE WASH #33-9
SECTION 33, T10S, R23E, S.L.B.&M.
1469' FSL 471' FEL

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

TOPOGRAPHIC MAP	07 MONTH	08 DAY	04 YEAR	A TOPO
SCALE: 1:100,000	DRAWN BY: P.M.	REV: 05-14-15 J.M.C.		

API Well Number: 43047553940000



LEGEND:

EXISTING ROAD

PROPOSED ACCESS ROAD

EXISTING 2-TRACK NEEDS UPGRADED

N

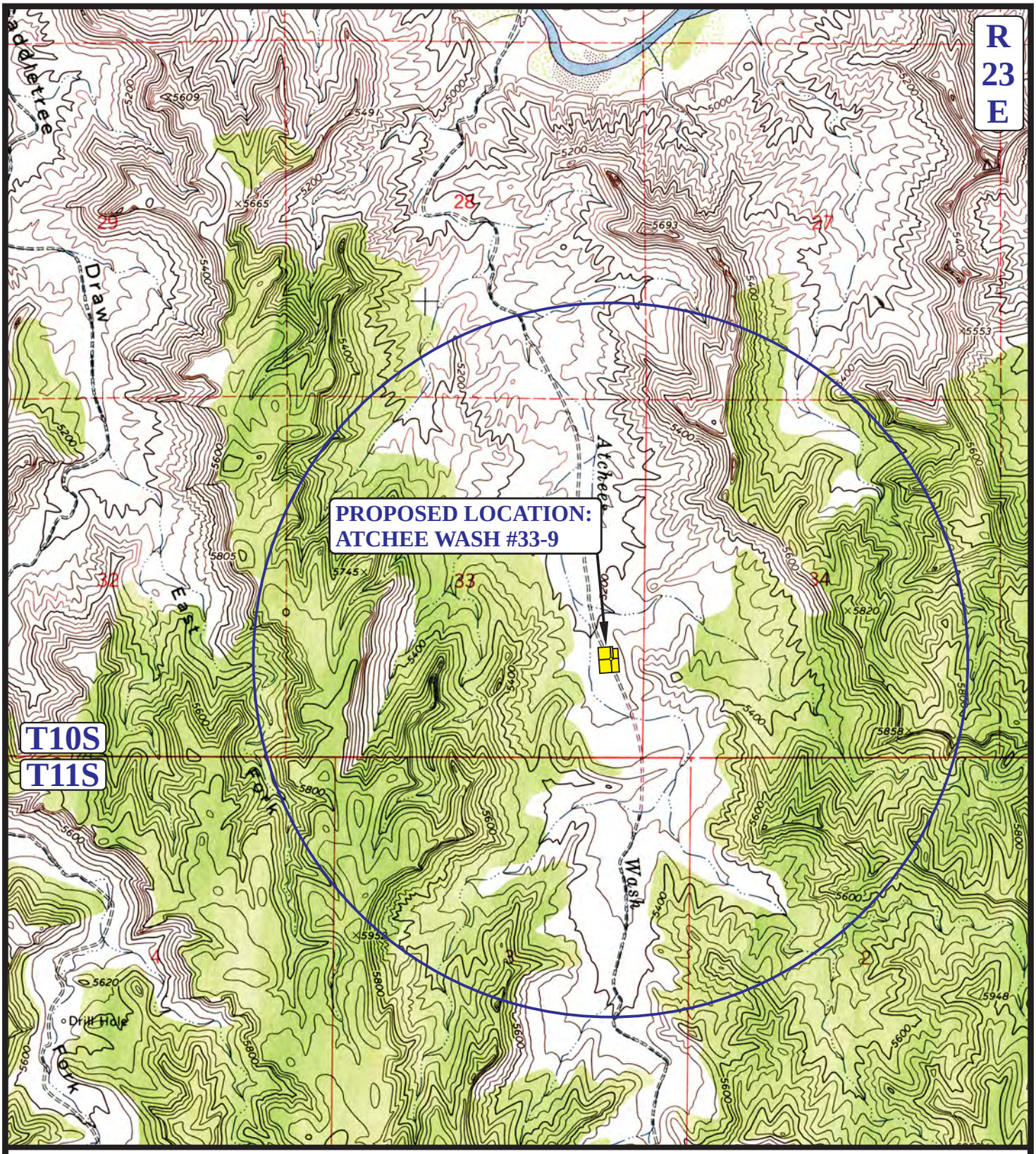
ONSHORE ROYALTIES, LLC

ATCHEE WASH #33-9
SECTION 33, T10S, R23E, S.L.B.&M.
1469' FSL 471' FEL

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

TOPOGRAPHIC MAP	07 MONTH	08 DAY	04 YEAR	B TOPO
SCALE: 1" = 2000'	DRAWN BY: P.M.	REV: 05-14-15 J.M.C.		

API Well Number: 43047553940000



LEGEND:

- DISPOSAL WELLS
- PRODUCING WELLS
- SHUT IN WELLS
- WATER WELLS
- ABANDONED WELLS
- TEMPORARILY ABANDONED

N

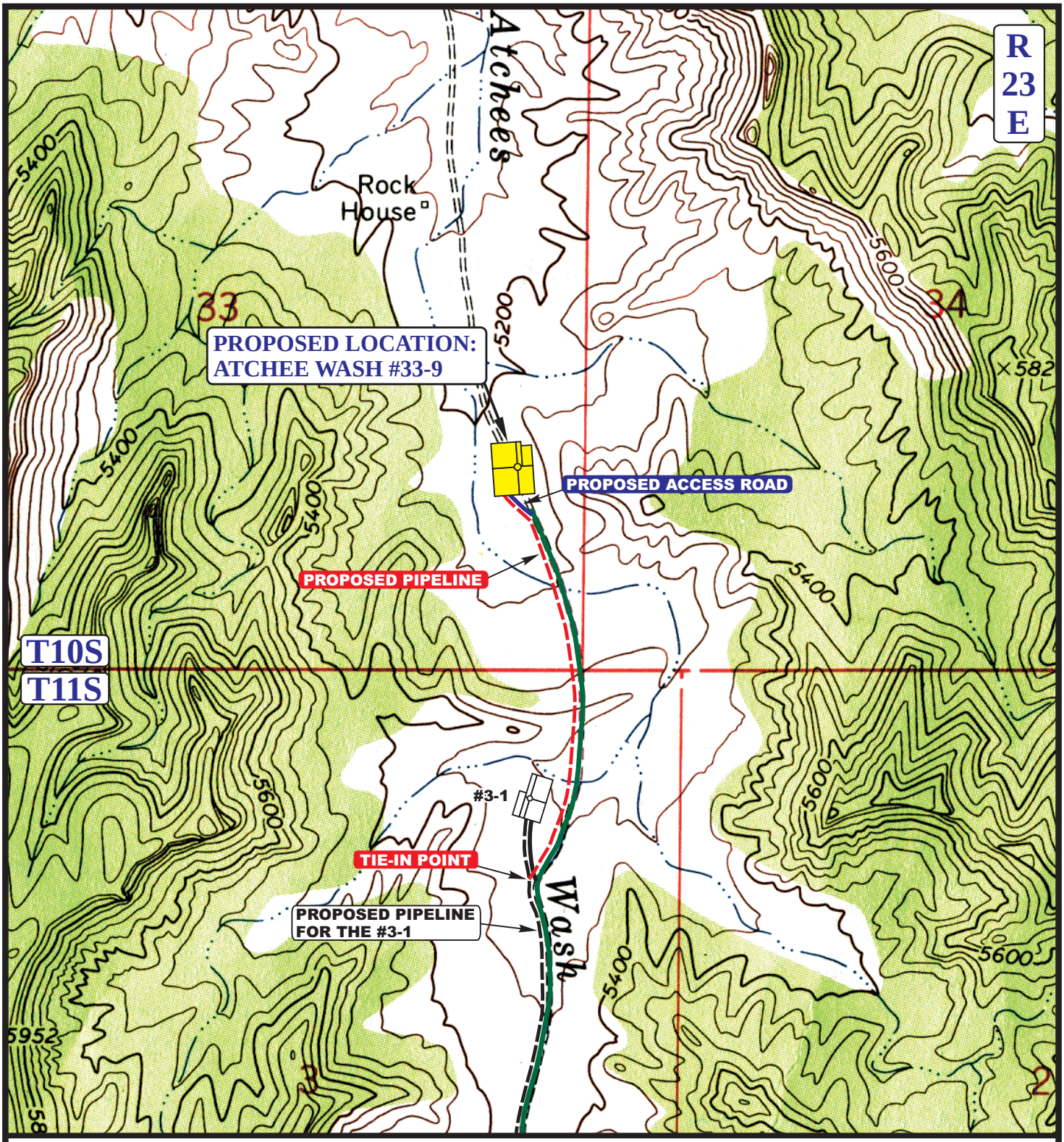
ONSHORE ROYALTIES, LLC

ATCHEE WASH #33-9
SECTION 33, T10S, R23E, S.L.B.&M.
1469' FSL 471' FEL

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

TOPOGRAPHIC MAP	07 MONTH	08 DAY	04 YEAR	C TOPO
SCALE: 1" = 2000'	DRAWN BY: P.M.	REV: 05-14-15 J.M.C.		

API Well Number: 43047553940000



APPROXIMATE TOTAL PIPELINE DISTANCE = 2,900' +/-

LEGEND:

PROPOSED ACCESS ROAD
EXISTING PIPELINE
PROPOSED PIPELINE

N

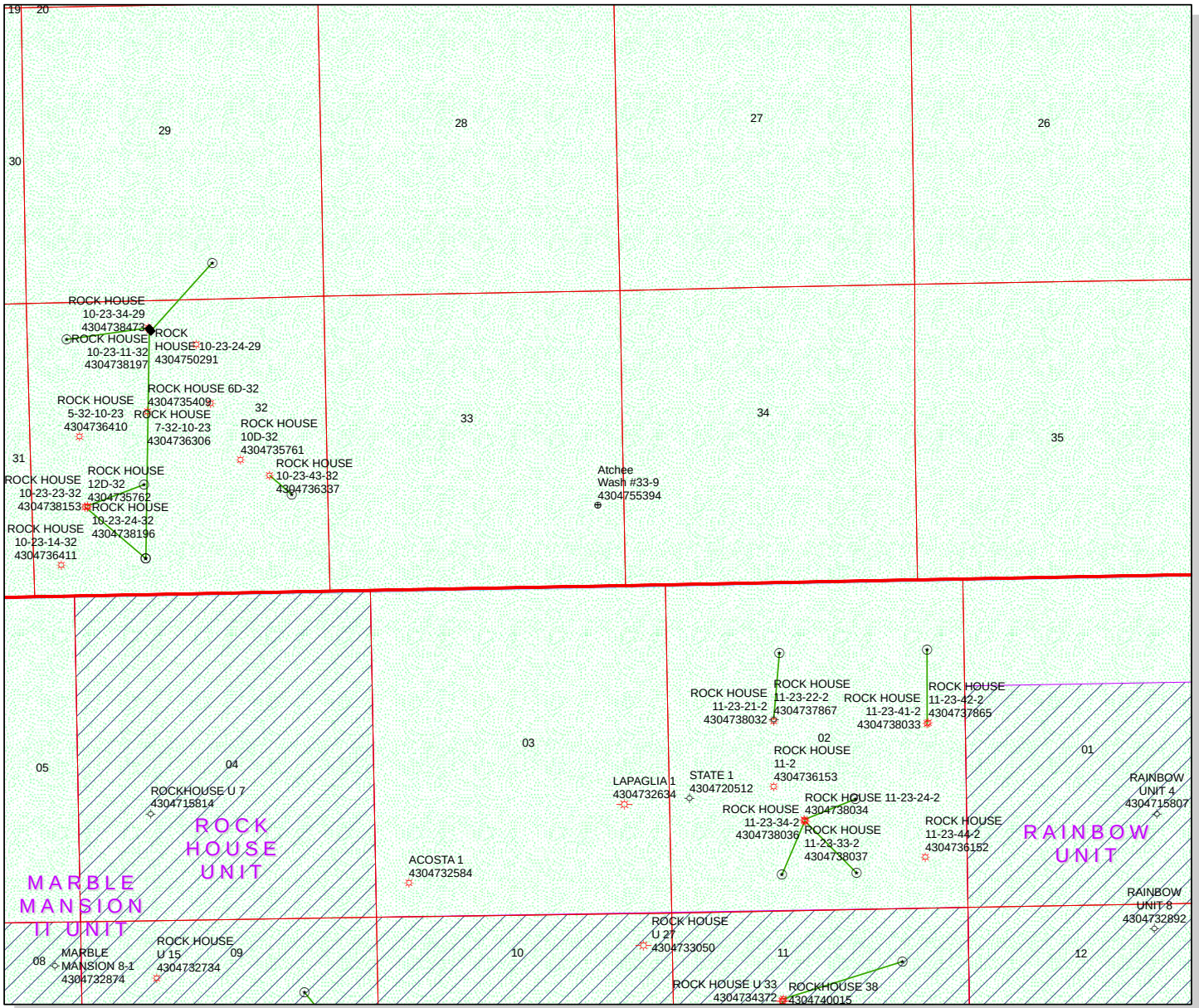
ONSHORE ROYALTIES, LLC

ATCHEE WASH #33-9
SECTION 33, T10S, R23E, S.L.B.&M.
1469' FSL 471' FEL

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

TOPOGRAPHIC MAP	07 MONTH	08 DAY	04 YEAR	D TOPO
SCALE: 1" = 1000'	DRAWN BY: P.M.	REV: 05-14-15 J.M.C.		

API Well Number: 43047553940000



API Number: 4304755394

Well Name: Atchee Wash #33-9

Township: T10.0S Range: R23.0E Section: 33 Meridian: S

Operator: ONSHORE ROYALTIES, LLC

Map Prepared: 6/18/2015
Map Produced by Diana Mason

Wells Query

Status

- APD - Aproved Permit
- DRL - Spuded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LOC - New Location
- OPS - Operation Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- SGW - Shut-in Gas Well
- SOW - Shut-in Oil Well
- TA - Temp. Abandoned
- TW - Test Well
- WDW - Water Disposal
- WIW - Water Injection Well
- WSW - Water Supply Well

Units

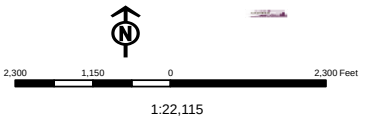
STATUS

- 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



1:22,115

RECEIVED: June 18, 2015

API Well Number: 43047553940000

IPT

Integrated Petroleum Technologies, Inc.

June 18, 2015

VIA ELECTRONIC TRANSMITTAL

State of Utah
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

RE: Oil and Gas Conservation General Rules
R649-3-3, Exception to Location and Siting of Wells
Atchee Wash #33-9
1469' FSL and 471'FEL
Sec. 33, T10S, R23E
Uintah County, Utah

Onshore Royalties LLC is proposing the Atchee Wash #33-9 well. Please note that this location was staked at non-standard spacing in accordance with Rule 649-3-2 of the Utah Division of Oil, Gas, and Mining. This was done for geologic considerations. Please also note that there are no other working interest owners within a 460' radius. Therefore, Onshore Royalties LLC is requesting your administrative approval of this exception to the spacing.

Should you have any questions or concerns please contact the undersigned at 720-420-5749.

Sincerely,

Alyssa Andrews

Alyssa Andrews
Operations Engineer
Integrated Petroleum Technologies, Inc
Consultant to Onshore Royalties LLC

RECEIVED: June 18, 2015

API Well Number: 43047553940000

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 6/15/2015
API NO. ASSIGNED: 43047553940000
WELL NAME: Atchee Wash #33-9
OPERATOR: ONSHORE ROYALTIES, LLC (N4140)
PHONE NUMBER: 720 420-5749
CONTACT: Alyssa Andrews

PROPOSED LOCATION: NESE 33 100S 230E
Permit Tech Review: ☑

SURFACE: 1469 FSL 0471 FEL
Engineering Review: ☐

BOTTOM: 1469 FSL 0471 FEL
Geology Review: ☑

COUNTY: UINTAH
LATITUDE: 39.90218
LONGITUDE: -109.32413
UTM SURF EASTINGS: 643259.00
NORTHINGS: 4418244.00
FIELD NAME: NATURAL BUTTES
LEASE TYPE: 1 - Federal
LEASE NUMBER: UTU-73451
PROPOSED PRODUCING FORMATION(S): MANCOS
SURFACE OWNER: 1 - Federal
COALBED METHANE: NO

RECEIVED AND/OR REVIEWED:

- ☑ **PLAT**
- ☑ **Bond:** FEDERAL - #UTB000644
- ☐ **Potash**
- ☐ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ☑ **Water Permit:** White River Sec.23-10S-23E, Water Right #49-2185
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ☐ **Intent to Commingle**

Commingling Approved

LOCATION AND SITING:

- ☐ **R649-2-3.**

Unit:

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

Board Cause No: R649-3-3
Effective Date:
Siting:

- ☐ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations:
1 - Exception Location - dmason
4 - Federal Approval - dmason
23 - Spacing - dmason

RECEIVED: June 23, 2015

GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

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

Permit To Drill
****

Well Name: Atchee Wash #33-9
API Well Number: 43047553940000
Lease Number: UTU-73451
Surface Owner: FEDERAL
Approval Date: 6/23/2015

Issued to:
ONSHORE ROYALTIES, LLC , PO Box 2326, Victoria, TX 77902

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 R649-3-3. The expected producing formation or pool is the MANCOS 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

Exception Location:
Appropriate information has been submitted to DOGM and administrative approval of the requested exception location is hereby granted.

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.

This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the “Board”). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in

conformance with such analysis by filing a Request for Agency Action with the Board.

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

Sundry Number: 64867 API Well Number: 43047553940000

FEDERAL APPROVAL OF THIS ACTION IS NECESSARY

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-73451

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:

1. TYPE OF WELL
Gas Well

8. WELL NAME and NUMBER:
Atchee Wash #33-9

2. NAME OF OPERATOR:
ONSHORE ROYALTIES, LLC

9. API NUMBER:
43047553940000

3. ADDRESS OF OPERATOR:
PO Box 2326 , Victoria, TX, 77902

PHONE NUMBER:
361 570-1600 Ext

9. FIELD and POOL or WILDCAT:
NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
1469 FSL 0471 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: NESE Section: 33 Township: 10.0S Range: 23.0E 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: 8/30/2015	☐ 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
☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

Deepening the planned TD to 8400' and adjusted casing program.
Please see the updated drilling plan.

Approved by the Utah Division of Oil, Gas and Mining
July 21, 2015
Date:
By:

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Alyssa Andrews	720 420-5749	Operations Engineer
SIGNATURE		**DATE**
N/A		7/20/2015

RECEIVED: Jul. 20, 2015

Atchee Wash 33-9 Summary Drilling Plan - Confidential

Onshore Royalties LLC. requests that all information contained in this drilling plan and regarding this well is kept confidential.

Operator: Onshore Royalties, LLC
Well Name: Atchee Wash 33-9
Well Type: Vertical
Surface Location: NESE Section 33-T10S-R23E

RECEIVED: Jul. 20, 2015

1. Estimated Formation Tops

Formation Names	Depth to Top of Formation (ft MD/TVD, Vertical Well)	Formation Thickness (ft)
Green River	Surface	1,600'
Birds Nest	1,600'	3,512'
Uteland Butte LS	3,512'	3,612'
Wasatch	3,612'	5,612'
Mesaverde	5,612'	7,787'
Castlegate	7,787'	8,147'
Mancos	8,147'	8,147'-TD
TD	8,400	N/A

2. Estimated Depths of Anticipated Water, Oil, Gas Bearing Formations

Formation Names	Depth to Top of Formation (ft MD/TVD, Vertical Well)	Formation Thickness (ft)	Possible Resource(s)	Possible Hazard(s)	Remarks
Green River	Surface	1,600'	None Anticipated		
Birds Nest	1,600'	3,512'	Water	lost circulation	
Uteland Butte LS	3,512'	3,612'	Water		
Wasatch	3,612'	5,612'	Water/Oil/Gas	lost circulation	
Mesaverde	5,612'	7,787'	Water/Oil/Gas		
Castlegate	7,787'	8,147'	None Anticipated		
Mancos	8,147'	8,147'-TD	Water/Oil/Gas		
TD	8,400	N/A	Water/Oil/Gas		

RECEIVED: Jul. 20, 2015

3. Pressure Control

A. Minimum rated working pressure on rams of BOP will be 5000 psi.
B. BOP remote controls shall be located on the rig floor at a location readily accessible to the driller. Master controls shall be on the ground at the accumulator and shall have the capability to function all preventers.
C. BOP will have an annular preventer, pipe ram, and blind ram.
D. Drilling spool, or blowout preventer with 2 side outlets (choke side shall be a 3" minimum diameter, kill side shall be at least 2" diameter).
E. The kill line shall be 2" minimum and contain two kill line valves, and a check valve.
F. The choke line shall be 3" minimum and contain two choke line valves, one of which shall be controlled from the rig floor.
G. The choke and manifold shall contain two adjustable chokes.
H. Hand wheels shall be installed on all ram preventers.
I. Safety valves and wrenches (with subs for all drilling string connections) shall be available on the rig floor at all times.
J. Inside BOP or float sub shall also be available on the rig floor at all times.
K. Pressure gauge on choke manifold.
L. Upper kelly cock valve and lower kelly cock valve (both with handles) shall be available at all times.
M. All BOPE connections subjected to well pressure shall be flanged, welded, or clamped.
N. Fill-up line above the uppermost preventer.
O. BOP testing procedures and testing frequency will conform to 43 CFR 3160 Onshore Oil and Gas Order No. 2.
P. Function test and visual inspection of the BOP will conducted daily and noted in the IADC Daily Drilling report.
Q. Both high (5000 psi) and low pressure (250-350 psi) tests of the BOP will be conducted.
R. The Annular BOP will be pressure tested to a minimum of 50% of its rated working pressure, when initially installed, when any seal subject to pressure test is broken, and following any repairs, at a minimum of once per 30 days
S. Blind and Pipe Rams/BOP will be tested to a minimum of 100% of rated working pressure if isolated by a test plug, or to 70% of the internal yield of the casing if the BOP is not isolated from the casing.
T. Surface Casing will be tested from surface to TD (float collar) at 1,500 psi surface pressure (0.22 psi/ft or 1500 psi, whichever is greater, not to exceed 70% of the minimum internal yield) prior to drilling out the float collar.
U. A formation integrity test will be performed after drilling 10-15 feet of new hole, to a 11.0 ppg equivalent mud weight (approximately 1160 psi).
V. Production casing will be pressure tested to 0.22 psi/ft (1850 psi).

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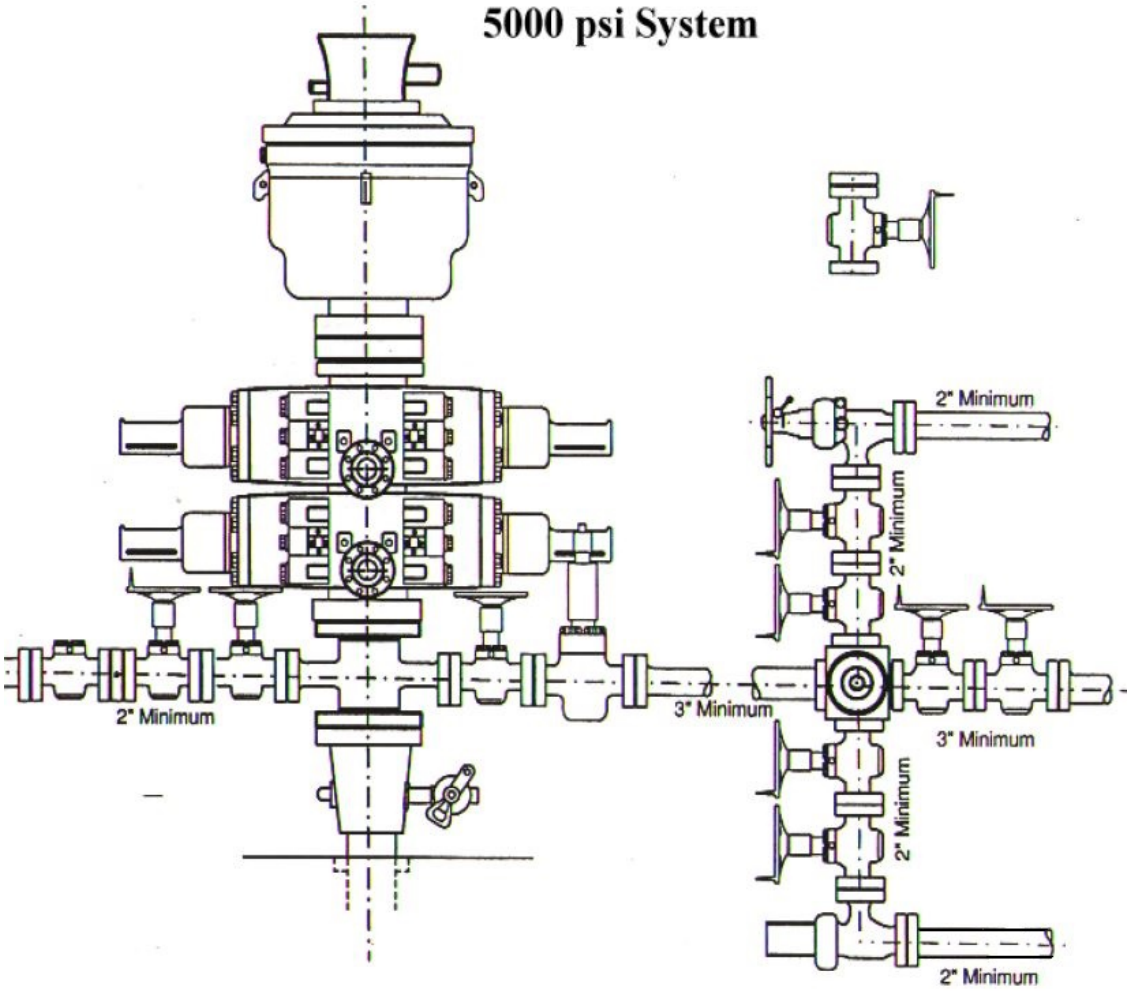
Figure 1: Typical Blowout Preventer Choke Manifold Arrangements

5,000 psi BOP stack minimum equipment. The actual dimensions and specifications will be determined when the drilling rig is selected.



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4. Casing Program

The proposed casing and cementing program has been designed to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones and any valuable deposits of minerals.

Final production casing selection will be made based on availability of the weights and grades listed below.

Wellbore Section	Hole Size	Drilling Fluids	Casing*	Cement
Conductor	20”	N/A	40' of 14” Conductor	Redi-Mix to surface
Surface (Surface - 2000' MD)	12-1/4"	Aerated Freshwater Mud / Freshwater / Gel Spud Mud Max MW 8.5 ppg	8-5/8" 24# J-55	TOC: Surface Lead: 12.0 ppg Type V Tail: 15.8 ppg Class G Top Job(s): 15.8 ppg Class G (see section 5 for more details)
Production (2000-8400' MD)	7-7/8"	Fresh Water / Gel, 8.4-11.0 ppg, DAP	5-1/2" 17# L-80/N-80 and/or 20# L-80/N-80	Lead: 12.0 ppg Type V Tail: 14.2 ppg 50/50 G/POZ (see section 5 for more details)
* Centralizers will be run on the first 3 joints of casing, then every third joint to surface on surface section. Centralizers will be run on the first 3 joints of casing, then every joint to 100' above the top of the Mancos formation, then on every joint from 100' below to 100' above any identifiable hydrocarbon zone, and then 2 inside surface casing.				

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Minimum Design Safety Factors: Collapse: 1.125, Burst: 1.0, Tension: 1.80

Casing String				Casing Strength Properties			Safety Factors		
Size	Weight (lb/ft)	Grade	Connection	Collapse (psi)	Burst (psi)	Tensile (1000 lb)	Collapse	Burst	Tension
8-5/8”	24	J-55	ST&C	1,370	2,950	244	1.54	2.1	5.08
5-1/2"	17	L-80	LT&C	6,290	7,740	338	1.3	1.22	2.36
5-1/2"	17	N-80	LT&C	6,280	7,740	348	1.3	1.22	2.43
5-1/2"	20	L-80	LT&C	8,830	9,190	416	1.83	1.45	2.47
5-1/2"	20	N-80	LT&C	8,830	9,190	428	1.83	1.45	2.54

Casing Design Consideration/Safety Factors calculations shown for weakest weight/grade options only:

A. Surface Casing in a vertical hole at 2000’: 8-5/8” 24# J-55 ST&C

Collapse Design:
Evacuated casing with 8.5 ppg drilling fluid density:

= 8.5 * 0.052 * 2000’	= 884 psig
Rating	= 1,370 psig
S.F.	= 1.54

Burst Design:
Evacuated casing annulus with 0.7 psi/ft fracture gradient:

= 0.7 * 2000’	= 1400 psig
Rating	= 2,950 psig
S.F.	= 2.10

Tensile Design:
Designed on 24 lb/ft Air Weight :

= 2000’*24#/ft	= 48,000 lbf
Rating	= 244,000 lbf
S.F.	= 5.08

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B. Production Casing String in a vertical hole at 8400': 5-1/2" 17# N-80 LT&C

Collapse Design:
Evacuated casing with 11.0 ppg drilling fluid density:

= 11.0 * 0.052 * 8400'	= 4,805 psig
Rating	= 6,280 psig
S.F.	= 1.30

Burst Design:
Evacuated casing annulus with 0.75 psi/ft fracture gradient: 5-1/2" 17# L-80/N-80 LT&C

= 0.75 * 8400'	= 6,300 psig
Rating	= 7,740 psig
S.F.	= 1.22

Tensile Design:
Designed on 17 lb/ft Air Weight: 5-1/2" 17# L-80LT&C

= 17 lb/ft * 8400'	= 142,800 lbf
Rating	= 338,000 lbf
S.F.	= 2.36

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5. Cementing Program

A. Conductor Cement:
Redi-Mix cement from base of conductor (40') to surface

B. Surface Cement: TOC = Surface, excess = 50%

Lead: 12.0 ppg Type V cement, yield = 2.86 cf/sk, 130 sks (Estimated TOC=Surface)
Additives:
- 16% BWoC Gel
- 10#/sk Gilsonite
- 2#/sk GR3
- 3% BWoC Salt
- ¼#/sk Flocele
- 1% $CaCl_2$ (to be added to top-out cement if needed)

Tail: 15.8 ppg Class G cement, yield = 1.15 cf/sk, 121 sks (Estimated TOC=Surface)
Additives:
- ¼#/sk Flocele
- up to 2% $CaCl_2$

Top-Job(s), if needed: 15.8 ppg Class G cement, yield = 1.15 cf/sk, sks as needed to bring top of cement to surface (estimate 100sks)
Additives:
- ¼#/sk Flocele
- 2% $CaCl_2$

C. Production Cement – TOC = surface, excess = 35%

Lead: 12.0 ppg Class V cement, yield = 2.86 cf/sk, 319 sks (Estimated TOC = Surface')
Additives:
- 16% BWoC Gel
- 10#/sk Gilsonite
- 2#/sk GR3
- 10% BWoC Salt
- ¼#/sk Flocele

Tail: 14.2 ppg 50/50 POZ/G cement, yield = 1.26 cf/sk, 835 sks (Estimated TOC = 3900')
Additives:
- 2% BWoC Gel
- 10% BWoC Salt
- 0.2% CDI 33
- 0.2% CFL 175

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6. Mud System

A. Surface drilling fluids (Surface – 2000'): Drilling through reserve pit.

Freshwater with freshwater gel sweeps, 8.3 – 8.5 ppg, LCM if necessary. Mud up with freshwater gel if needed. If losses in Birds Nest are extensive, consider aerated mud or drilling blind.

Solids control: shaker

B. Production 2000-8400' (TD): Drilling through reserve pit.

Freshwater / native mud, 8.5-11.0 ppg, with viscosifiers, soap sticks, SAPP, DAP and other flocculants / clay inhibitors as needed, corrosion control, thinner and walnut shell as needed. LCM if needed.

Solids control: shaker, centrifuge

7. Testing and Logging Program

LOGS:	**Interval**
Density, Neutron, Resistivity, Photoelectric, Caliper	BSC-TD
CBL (if no cmt returns to surface)	TD-TOC
GR	TD-Surface
DST'S:	
None planned	
CORES:	
Sidewall cores may be considered based on shows of interest	

8. Abnormal Pressures or Temperatures; Potential Hazards

Lost circulation is anticipated in the Birds Nest, and is possible in the Wasatch.

The Mesa Verde and lower zones may be overpressured, requiring up to 11.0 ppg drilling fluid

9. Other Information

A. Directional Program: Not applicable (Vertical Well)

B. Onshore Royalties, LLC respectfully requests variances to Onshore Order #2 Section III E, for the drilling of the surface portion of the well. Requested variances are listed below:

a. Properly lubricated and maintained rotating head.
b. Spark arresters on engines or water cooled exhaust
c. Blooie line discharge 100 feet from well bore and securely anchored
d. Straight run on blooie line unless otherwise approved
e. Deduster equipment
f. Float valve above bit
g. Automatic igniter or continuous pilot light on the blooie line
h. Compressors located in the opposite direction from the blooie line a minimum of 100 feet from the well bore

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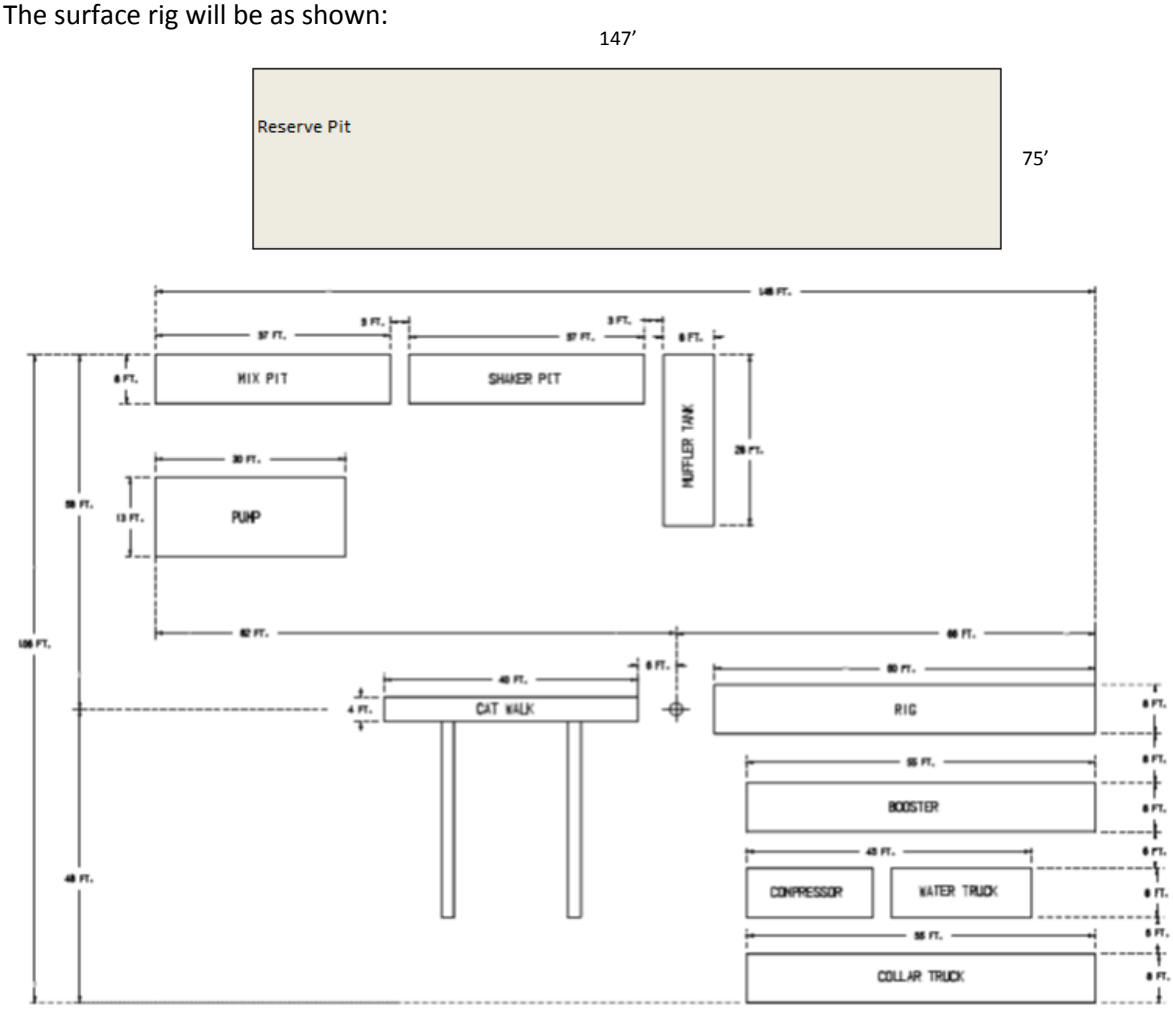
The surface rig will be as shown:



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GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

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

August 23, 2016

Onshore Royalties, LLC
P.O. BOX 2326
Victoria, TX 77902

Re: APD Rescinded – Atchee Wash #33-9, Sec. 33, T.10, R.23E, Uintah County, Utah API No. 43-047-55394

Ladies and Gentlemen:

The Application for Permit to Drill (APD) for the subject well was approved by the Division of Oil, Gas and Mining (Division) on June 23, 2015. No drilling activity at this location has been reported to the division. Therefore, approval to drill the well is hereby rescinded, effective August 23, 2016.

A new APD must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,

Diana Mason
Environmental Scientist

cc: Well File
Bureau of Land Management, Vernal

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UTAH DNR OIL, GAS & MINING