

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

FORM 3

AMENDED REPORT

<b>APPLICATION FOR PERMIT TO DRILL</b>				<b>1. WELL NAME and NUMBER</b> Wolverine Federal 19-4			
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>				<b>3. FIELD OR WILDCAT</b> COVENANT			
<b>4. TYPE OF WELL</b> Oil Well Coalbed Methane Well: NO				<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> WOLVERINE			
<b>6. NAME OF OPERATOR</b> WOLVERINE GAS & OIL COMPANY OF UTAH, LLC				<b>7. OPERATOR PHONE</b> 435 896-1943			
<b>8. ADDRESS OF OPERATOR</b> 1140 N. Centennial Park Dr., Richfield, UT, 84701				<b>9. OPERATOR E-MAIL</b> ciron@wolvgas.com			
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> UTU 73528		<b>11. MINERAL OWNERSHIP</b> FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		<b>12. SURFACE OWNERSHIP</b> FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>			
<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>			
<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>			
<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b>		<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/>		<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>			
<b>20. LOCATION OF WELL</b>	<b>FOOTAGES</b>	<b>QTR-QTR</b>	<b>SECTION</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>MERIDIAN</b>	
<b>LOCATION AT SURFACE</b>	742 FNL 1972 FWL	NENW	19	23.0 S	1.0 W	S	
<b>Top of Uppermost Producing Zone</b>	550 FNL 580 FEL	NENE	19	23.0 S	1.0 W	S	
<b>At Total Depth</b>	550 FNL 580 FEL	NENE	19	23.0 S	1.0 W	S	
<b>21. COUNTY</b> SEVIER		<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 550		<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 40			
		<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 886		<b>26. PROPOSED DEPTH</b> MD: 7300 TVD: 6600			
<b>27. ELEVATION - GROUND LEVEL</b> 5823		<b>28. BOND NUMBER</b> WYB000616		<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Sigurd Town			

**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 checked="" type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP

<b>NAME</b> Charles Irons	<b>TITLE</b> Senior Landman	<b>PHONE</b> 435 896-1943
<b>SIGNATURE</b>	<b>DATE</b> 12/14/2010	<b>EMAIL</b> ciron@wolvgas.com
<b>API NUMBER ASSIGNED</b> 43041500050000	<b>APPROVAL</b>  Permit Manager	

<b>Proposed Hole, Casing, and Cement</b>						
<b>String</b>	<b>Hole Size</b>	<b>Casing Size</b>	<b>Top (MD)</b>	<b>Bottom (MD)</b>		
Surf	12.25	9.625	0	2400		
<b>Pipe</b>	<b>Grade</b>	<b>Length</b>	<b>Weight</b>			
	Grade J-55 ST&C	2400	36.0			

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Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Prod	8.75	7	0	7300		
Pipe	Grade	Length	Weight			
	Grade L-80 LT&C	4000	26.0			
	Grade HCN-80 LT&C	2400	26.0			
	Grade L-80 LT&C	900	26.0			

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# WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC

## DRILLING PLAN

### Wolverine Federal 19-4

**SHL: NE/4, NW/4 Section 19, Township 23 South, Range 1 West, S.L.B & M.**  
**BHL: NE/4, NE/4 Section 19, Township 23 South, Range 1 West, S.L.B & M.**  
**Sevier County, Utah**

#### Plan Summary:

It is planned to drill this confidential development well as a directional bore hole due to surface topography constraints and in accordance with the enclosed directional drilling plan. The well will be drilled to a measured depth of 7300' MD (~ 6600' TVD) to encounter the Twin Creek and Navajo formations. Well path deviation caused by subsurface geologic irregularities is expected to be the primary drilling concern in this area. No abnormal pressure is anticipated.

The planned location is as follows:

Surface Location: 742' FNL, 1972' FWL Section 19, T23S, R1W, S.L.B. & M.

Bottom Hole Location @ total depth 550' FNL, 580' FEL Section 19, T23S, R1W, S.L.B. & M.

Conductor casing will be set at approximately 120 feet GL and cemented to surface. A 12-1/4" hole will be drilled to approximately 2400' where 9-5/8" casing will be set and cemented to surface. An 8-3/4" hole will be drilled to a projected total depth of 7300' MD, at which the well will be logged and 7" casing will be set and cement will be brought to a minimum of 500 feet inside 9-5/8" casing. The well will be drilled vertically to 500' kick-off point, build angle at 1.7 deg/100' to a maximum angle of 34 degrees. At ~5100' MD, the angle will begin to drop to vertical as the well approaches the Twin Creek and Navajo formations.

Drilling activities will commence as soon as rig is available.

Wolverine Gas and Oil Company of Utah, LLC  
 Drilling Program  
 Wolverine Federal 19-4

**Well Name:** **Wolverine Federal 19-4**

**Surface Location:** 742' FNL, 1972' FWL  
 NE/4, NW/4 Section 19, T23S, R1W, S.L.B. & M.  
 Sevier County, Utah

**TD Bottom-Hole Location:** 550' FNL', 580' FEL  
 NE/4, NE/4 Sec. 19 T23S, R1W, Sevier County, Utah

**Elevations (est):** 5823' GL, 5845' DF

**I. Geology:**

Tops of important geologic markers and anticipated water, oil, gas, and mineral content are as follows:

<b>Formation</b>	<b>TVD (KB)</b>	<b>MD (KB)</b>	<b>Contents</b>	<b>Pressure Gradient</b>
Arapien	22'	22'		
Twin Creek	5693'	6383'	Oil & water	0.44 psi/ft
Navajo	6023'	6717'	Oil & water	0.44 psi/ft
Total Depth	6600'	7300'		

**II. Well Control:**

The contracted drilling rig will have a minimum 5M BOP system. BOPE will be in place and tested as a 5M system prior to drilling out the surface casing shoe. See attached schematic of BOPE.

A. The BOPE will, as a minimum, include the following:

Wellhead Equipment (5M Min.):

<b>BOPE Item</b>	<b>Flange Size and Rating</b>
Annular Preventer	11" 2.5M
Double Rams (5" Pipe - top, Blind - bottom)	11" 5M
Drilling Spool w/ 2 side outlets (4" Choke Line, 4" Kill Line)	11 5M x 11" 5M
Single Ram (Pipe)	11" 5M
DSA	
Casing Head (9-5/8" SOW w/ two 2-1/16" SSO's)	11" 5M

Auxiliary Equipment (5M Min.):

<b>BOPE Item</b>
Choke Line with 2 valves (3" minimum)
Kill Line with 2 valves and one check valve (2" Minimum)
2 Chokes with one remotely controlled at a location readily accessible to the driller
Upper and lower kelly cock valves with handles
Safety Valves to fit all drill string connections in use
Inside BOP or float sub
Pressure gauge on choke manifold
Fill-up line above the uppermost preventer
Wear bushing in casing head

B. **Choke manifold** will be functionally equipped and sized at a minimum as shown on the attached diagram. All choke lines will be straight lines unless turns have tee blocks or are targeted with running

tees, and all choke lines will be anchored. All valves (except chokes) in the kill line choke manifold and choke line will be full opening and allow straight through flow.

- C. **System accumulator** will have sufficient capacity to open the hydraulically-controlled gate valve and close all rams plus the annular preventer (3 ram system will have added 50 percent safety factor to compensate for any fluid loss in the control system or preventers) and retain a minimum pressure of 200 psi above pre-charge on the closing manifold without use of the closing unit pumps. The fluid reservoir capacity shall be double the usable fluid volume of the accumulator system capacity and the fluid level of the reservoir shall be maintained at the manufacturer's recommendations. The accumulator will have two (2) independent power sources available to close the preventers. Nitrogen bottles may be one of those sources, and if so, will have charge maintained per manufacturer's specifications.
- D. **Accumulator pre-charge pressure test** will be conducted prior to connecting the closing unit to the BOP stack and at least once every 6 months. The accumulator pressure will be corrected if the measured precharge pressure is found to be above or below the maximum or minimum specified limits. Only nitrogen gas will be used to precharge.
- E. **Power for the closing unit pumps** will be available to the unit at all times so that the pumps will automatically start when the closing valve manifold pressure has decreased to the pre-set level.
- F. **Accumulator pump capacity** will be such that, with the accumulator system isolated from service, the pumps will be capable of opening the hydraulically-operated gate valve (if so equipped), plus closing the annular preventer on the smallest size drill pipe to be used within 2 minutes, and retaining a minimum of 200 psi above the specified accumulator pre-charge pressure.
- G. **Locking devices**, either manual (i.e., hand wheels) or automatic, will be installed on the ram type preventers. A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve shall be maintained in the open position and shall be closed only when the power source for the accumulator system is inoperative.
- H. **Remote controls** will be readily accessible to the driller and will be capable of both opening and closing all preventers. Master controls shall be at the accumulator and shall be capable of opening and closing all preventers and the choke line valve.
- I. **Well control equipment testing** will be performed using clear water when the equipment is initially installed, whenever any seal subject to test pressure is broken, following related repairs, and as a minimum, every 30-day interval. The tests will apply to all related well control equipment.

Ram type preventers and associated equipment will be isolated and tested to 5000 psi. The annular preventer will be tested to 2500 psi. Pressure shall be maintained for at least 10 minutes or until requirements of test are met, whichever is longer, for all tests. A casing head valve will be open below the test plug during testing of the BOP stack. Valves will be tested from the working pressure side with all down-stream valves open. Kill line valves will be tested with the check valve held open or the ball removed.

Pipe and blind rams will be activated each trip, but not more than once a day. The annular preventers will be functionally operated at least weekly. A pit level drill will be conducted weekly for each crew. All BOPE drills and tests will be recorded in the IADC driller's log.

**III. Casing and Cementing:**

A. Casing Program (all new casing):

<u>Hole Size</u>	<u>Casing Size</u>	<u>Weight</u>	<u>Grade</u>	<u>Connection</u>	<u>Coupling Diameter</u>	<u>Setting Depth</u>
30"	20"		Conductor			120' GL
12.25"	9.625"	36	J-55	STC	10.625"	0' – 2400' DF
8.75"	7.0"	26	L-80	LTC	7.656"	4000' - surf' DF
8.75"	7.0"	26	HCL80	LTC	7.656"	4000' – 6400' DF
8.75"	7.0"	26	L-80	LTC	7.656"	6400' -7300' DF

**Casing String Design**

**1. 20 inch conductor set at 120' G.L.**

The 20" casing is used to allow drilling fluid to be diverted into the hole or into the tanks as needed. No design is conducted on the pipe.

**2. 9-5/8 inch casing – set at 2400' DF.**

Burst: Worst case burst load while drilling occurs if the well experiences an influx of gas from 6600 feet TVD. Assume the casing is filled with gas. In that case, assuming a fresh water pore pressure gradient to 6600 ft TVD and a gas gradient equal to 0.1 psi/ft, maximum burst differential pressure would occur at the surface:  $P = 0.433 \times 6600 - (0.1 \times 6600) = 2197$  psi. The selected casing, 9.625", 36 #/ft J-55 STC has a burst strength of 3520 psi. The burst design factor is  $DF_b = 3520/2197 = 1.6$ ,  $1.6 > 1.1$ , therefore OK.

Collapse: Worst case collapse load occurs if the casing is fully evacuated. Collapse pressure attributed to fresh water pore pressure gradient is:  $P = 0.433 \times 2280$  TVD (2400' MD) = 987 psi. The selected casing has collapse strength of 2020 psi. The collapse design factor is:  $DF_c = 2020/987 = 2.05 > 1.125$ , therefore OK.

Tension: String weight in air is:  $T = 36 \times 2400 = 86,400$  lbs. Joint strength is 394 kips. The tension design factor in air is:  $DF_t = 394,000/86,400 = 4.56 > 1.8$ , therefore OK.

**3. 7- inch casing set at 7300' MD D.F. (6600'TVD)**

Burst: Worst case burst load occurs if the well experiences an influx of gas from 6600' TVD, during production and evacuates the hole. Assume the casing is filled with gas. In that case, assuming a fresh water pore pressure gradient to 6600' TVD ft and a gas gradient equal to 0.1 psi/ft, maximum burst differential pressure would occur at the surface:  $P = 0.433 \times 6600 - (0.1 \times 6600) = 2197$ psi. The selected casing, 7", 26 #/ft L-80 LTC has burst strength of 7240 psi. The burst design factor is  $DF_b = 7240/2197 = 3.3$ ;  $> 1.1$ , therefore OK.

Collapse, fluid considerations: Worst case collapse load occurs if the casing is evacuated, or "pumped-off" during production. Collapse pressure attributed to fresh water pore pressure gradient is:  $P = 0.433 \times 6600 = 2857$  psi. The selected casing has collapse strength of 5410 psi. The collapse design factor is:  $DF_c = 5410/2857 = 1.89 > 1.125$ , therefore OK.

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Collapse, salt considerations: The Arapien formation contains salt stringers throughout. The salt stringers, due to creep, can apply unusually high collapse loads to the casing. Wolverine standard design for this area is to design for 1 psi/ft of depth external pressure across the salt sections and with a minimum design factor of 1.00. The maximum salt load would be at the base of the Arapien at ~ 5693' TVD.

- a. Maximum potential salt induced pressure applied to the 26# L-80 occurs at 4000 ft:  $P = 4000 \times 1 = 4000$  psi (assumes pumped-off conditions so no fluid back up inside casing). 7", 26 #/ft L-80 has collapse strength of 5410. The collapse design factor across from salts in the L-80 casing is  $DF_c = 5410/4000 = 1.35 > 1.0$ , therefore OK.
- b. Maximum potential salt induced pressure applied to 26# HCL-80 occurs at base of Arapien (top of Twin Creek) at ~ 5693' TVD:  $P = 5693' \times 1 = 5693$  psi (assumes pumped-off conditions so no fluid back up inside casing). 7", 26#/ft HCL-80 has collapse strength of 7800 psi. The collapse design factor across from salts in the HCL-80 casing is:  $DF_c = 7800/5693 = 1.37 > 1.0$ , therefore OK.

Tension: String weight in air is:  $T = 26 \times 7300 = 189,800$  lbs. Joint strength is 519 kips. The tension design factor is:  $DF_t = 519,000/189,800 = 2.73 > 1.8$ , therefore OK.

Casing with same or greater burst, collapse, and tension rating may be substituted for any of the planned casing sizes depending on availability and actual conditions.

Wolverine Gas and Oil Company of Utah, LLC  
 Drilling Program  
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**B. Cementing Program**

<u>Casing Size</u>	<u>Cement Slurry</u>	<u>Quantity (sks)</u>	<u>Density (ppg)</u>	<u>Yield (ft<sup>3</sup>/sk)</u>
9.625"	Lead: Light (Vericem)	260	11.0	3.48
	Tail: Premium Plus	210	15.8	1.19
7.00"				
	Lead: TXI Lightweight	390	12.0	3.01
	Tail: TXI Lightweight	130	14.4	1.29

**9-5/8" Surface Casing:**

9-5/8" casing will be cemented from setting depth (2400' MD DF) to surface in a single stage using the following mix. Hardware will include a guide shoe, float collar, top plug, and a minimum of one centralizer per joint on the bottom three (3) casing joints. Water or other preflush fluid pumped ahead of the slurry will separate cement from the drilling fluids. Cement volumes are based on 50% excess in the openhole, 1900 feet of 11 ppg lead cement from surface to 1900 feet and 500 feet of 15.8 ppg tail cement from 1500 to 2000 feet.

Cement: Lead: 260 sacks Light System (Vericem), 11 ppg, 3.48 cf/sx Yield

Tail: 210 sacks Premium, 15.8 ppg, 1.19 cf/sx Yield

**7" Production Casing:**

7" casing will be cemented from setting depth (7300 MD) to surface in two stages using the following mix. Hardware will include a guide shoe, two shoe joints, float collar, top plug, and a minimum of one centralizer per joint from TD to the stage tool. Centralizers will be placed to get adequate centralization. Water or other preflush fluid pumped ahead of the slurry will separate cement from the drilling fluids. Cement volumes are based on 25% excess in the openhole, 6700' of lead stage and 800' tail stage.

Cement: Lead: 390 sacks TXI Lightweight, 12 ppg, 3.01 cf/sx Yield, 18.46 gal/sk

Tail: 130 sacks TXI Liteweight, 14.4 ppg, 1.29 cf/sx Yield, 5.578 gal/sk

**Notes:**

- a. Final casing cement volumes will be adjusted when open-hole caliper logs obtained.
- b. Expected static BHT at 7300' MD (6600' TVD) is ~ 188 deg. F.
- c. Final cement slurry mix could be adjusted based vendor recommendation or vendor actually used for job. Cementing company has not been selected yet for this well.

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- d. The BLM will be notified at least twenty-four hours prior to running and cementing the surface and production casing strings.
- e. The size, weight, grade, type of thread, number of joints, and footage of all casing run will be recorded in the driller's log. The amount and type of all cement pumped will be recorded in the driller's log.
- f. Adequate time will be allowed before drilling out for the cement at the casing shoe to achieve a minimum 500-psi compressive strength.
- g. All casing strings will be tested to 1500 psi, but not exceeding 80% of burst, before drilling out and if pressure declines by more than 10 percent in 30 minutes, corrective action will be taken.
- h. Before drilling more than 20 feet of new hole below each casing string, a pressure integrity test of the casing shoe will be performed to a minimum of the mud weight equivalent anticipated to control the pore pressure to the next casing depth or at total depth of the well.

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**IV. Mud Program:**

<u>Depth</u>	<u>Mud Weight (ppg)</u>	<u>Mud Type</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0 – 2400'	8.7	Fresh Water	26 – 50	N/C to 12 cc
2400' - 7300	10.2	Salt Mud	36 – 50	< 8 cc

- A. After mudding up, slow pump rates will be taken daily and recorded in the driller’s log.
- B. Visual mud monitoring equipment will be in place to detect volume changes indicating loss or gain of circulating fluid volume.
- C. Abnormal pressures are not anticipated. In the event such pressures are to be anticipated, electronic/mechanical mud monitoring equipment will be in place and include as a minimum; pit volume totalizer (PVT); stroke counter; and flow sensor.
- D. A mud test will be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, yield point, gel strength, filtrated, and pH.
- E. The 10M BOPE system is not required for conditions on this well and use of the trip tank is not anticipated.
- F. Gas detecting equipment will be installed in the mud return system, and hydrocarbon gas shall be monitored for pore pressure changes. The presence of Hydrogen Sulfide gas is not expected.
- G. The need to vent combustible or noncombustible gas is not expected. If needed, a flare system designed to gather and burn all gas will be available. The flare line discharge will be located more than 100 feet from the well head and it will be positioned downwind of the prevailing wind direction. The flare line will have straight lines unless turns are targeted with running tees and it will be anchored. The flare system will have an effective method for ignition.
- H. Abnormal pressure is not expected. If abnormal pressure is to be anticipated, a mud-gas separator (gas buster) will be installed and operable beginning at a point at least 500 feet above any anticipated hydrocarbon zone of interest.

**V. Evaluation:**

- A. Mud Log: A mud logging unit will be in operation from a depth of approximately 1000 feet to TD. Samples will be caught, cleaned, bagged, and marked as required.
- B. Drill Stem Tests: There is no DST planned.
- C. Coring: There are no whole cores planned. Sidewall cores may be taken in conjunction with logging operations.
- D. Wireline Logs: Wireline logs will be run as hole conditions allow from total depth to surface casing to assist in determining lithology and potential for hydrocarbon recovery. The logging tools will include, at a minimum, resistivity, gamma ray, neutron/density log and caliper.

**VI. Expected Bottom-Hole Pressure and Abnormal Conditions:**

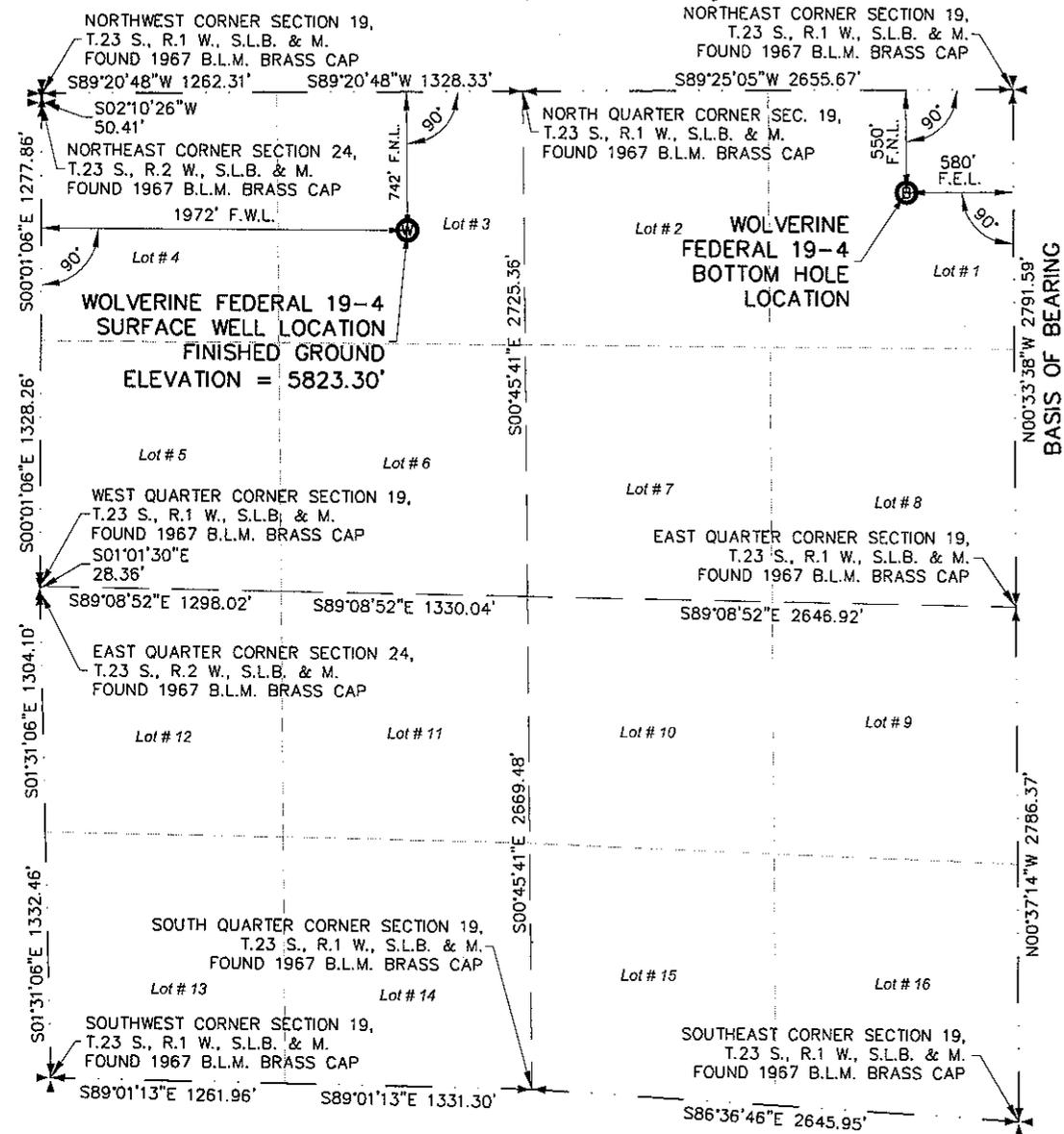
- A. Hydrogen Sulfide: Hydrogen Sulfide (H<sub>2</sub>S) gas is not expected in the geologic formations to be penetrated by this well.
- B. Pressure: No abnormally pressured zones are expected in this well. The pressure gradient for all potentially productive formations is expected to be approximately 0.44psi/ft.
- C. Temperature: Bottom-hole temperature at TD is expected to be approximately 188 deg. F.

Wolverine Gas and Oil Company of Utah, LLC  
Drilling Program  
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end

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# Section 19, T.23 S., R.1 W., S.L.B. & M.



**PROJECT**  
**Wolverine Gas & Oil Company of Utah, L.L.C.**

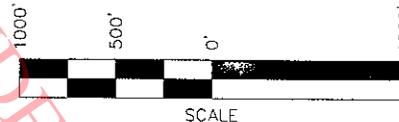
WELL LOCATION, LOCATED AS SHOWN IN THE N.E. 1/4 OF THE N.W. 1/4 OF SECTION 19, T.23 S., R.1 W., S.L.B. & M. SEVIER COUNTY, UTAH

**LEGEND**

- = SECTION CORNERS (LOCATED)
- = QUARTER SECTION CORNERS (LOCATED)
- = PROPOSED SURFACE WELL LOCATION
- = PROPOSED BOTTOM HOLE LOCATION

NOTE: THE PURPOSE OF THIS SURVEY WAS TO PLAT THE WOLVERINE FEDERAL 19-4 LOCATION. LOCATED IN THE N.E. 1/4 OF THE N.W. 1/4 OF SECTION 19, T.23 S., R.1 W., S.L.B. & M. SEVIER COUNTY, UTAH.

**BASIS OF ELEVATION**  
 ELEVATION BASED ON N.A.V.D. 1988



**CERTIFICATE**

THIS IS TO CERTIFY THAT THIS 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.

12/1/10

REGISTERED LAND SURVEYOR  
 KARY B. MONROE, P.L.S. #161861  
 KARY B. MONROE  
 MONROE Jones & DeMille Engineering, Inc.  
 1675 South Hwy. 10 Price, Utah 84501  
 Phone 435.637.8266 Voice 435.637.8266  
 Fax 435.637.8268 Fax 435.637.8268  
 www.jonesanddemille.com

**BASIS OF BEARINGS**

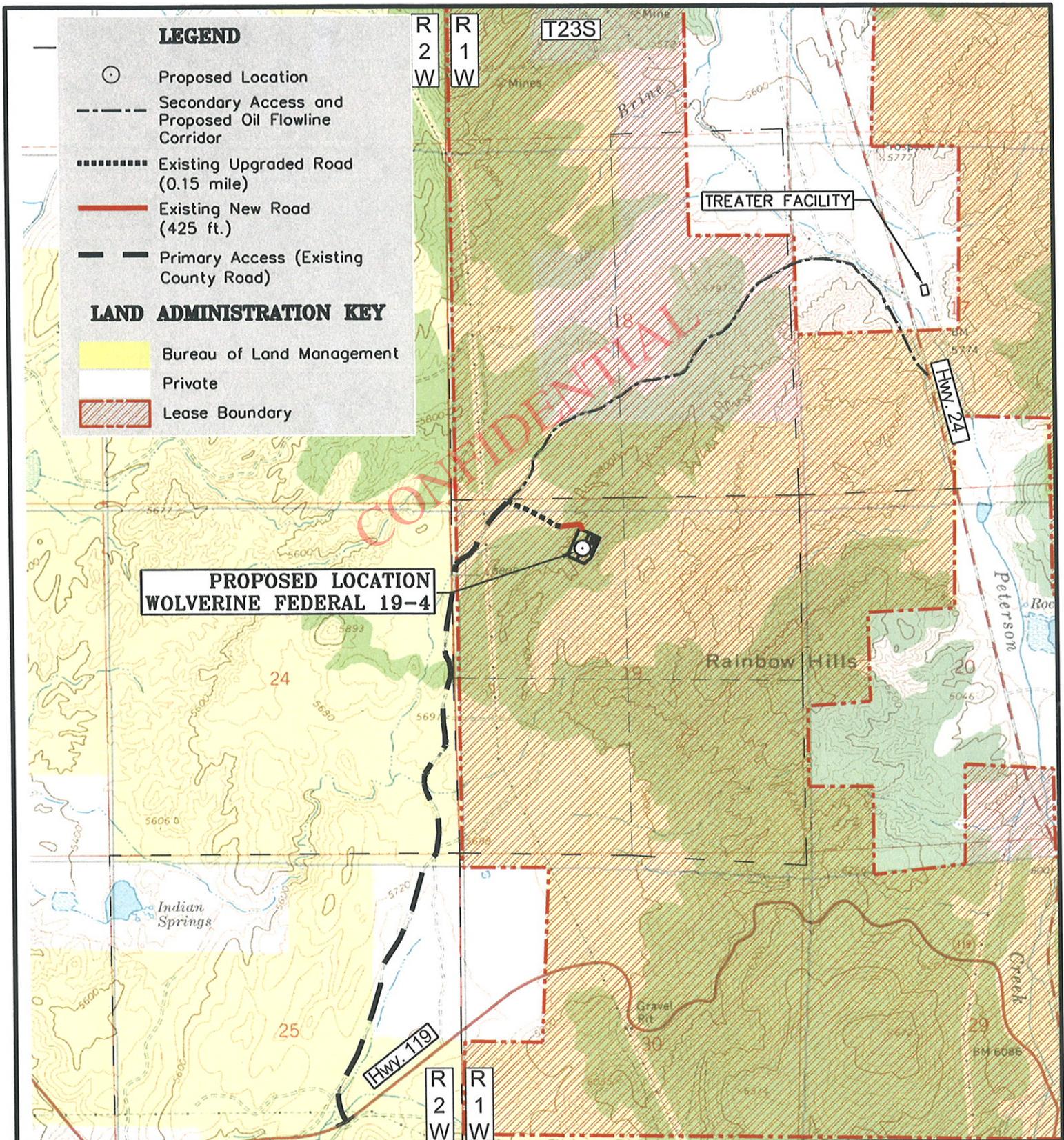
BASIS OF BEARING USED WAS N00°33'38"W BETWEEN THE EAST QUARTER CORNER AND THE NORTHEAST CORNER OF SECTION 19, T.23 S., R.1 W., S.L.B. & M.  
 S.H.L. LAT.: 38°47'34.1465" (38.792818482) NAD83 - UTM ZONE 12 NAD27 N 14087939.078  
 S.H.L. LONG.: -111°57'10.2498" (-111.952847176) NAD83 - UTM ZONE 12 NAD27 E 1369138.029  
 B.H.L. LAT.: 38°47'36.4559" (38.793459971) - UTM ZONE 12 NAD27 N 14088144.638  
 B.H.L. LONG.: -111°56'36.1508" (-111.943375223) - UTM ZONE 12 NAD27 E 1371839.236

**Well Location Plat for**

**Wolverine Gas & Oil Company of Utah, L.L.C.**

DESIGNED -	SURVEYED J.G.C.	CHECKED T.R.G.	DRAWN T.W.G.	PROJECT NO. 0912-147	SHEET NO. 1
DATE 06/03/10		DWG. NAME 0912-147...	SCALE 1"=1000'		

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**PROPOSED LOCATION  
WOLVERINE FEDERAL 19-4**

**TREATER FACILITY**

Wolverine Federal 19-4  
Section 19, T.23 S., R.1 W., S.L.B. & M.  
1972' FWL 742' FNL



**Jones & DeMille Engineering, Inc.**  
1535 South 100 West  
Richfield, Utah 84701  
Voice 435.896.8266  
Fax 435.896.8268  
www.jonesanddemille.com

1675 South HWY 10  
Price, Utah 84501  
Voice 435.637.8266  
Fax 435.637.8268



SCALE: 1"=2000'

Wolverine Gas & Oil Co. of Utah, LLC

Wolverine Federal 19-4

Vicinity Map

DRAWN: L.G. 02-2010	PEN TBL: _1stndrd-hp2600.ctb	PROJECT: 0912-147	SHEET: 1
CHECK: D.R. 02-2010	FILE: VICINITY	LAST UPDATE: 12/1/2010	



Company: Wolverine Gas & Oil  
 Field: Development  
 Cty/Blk/Par: Sevier County, UT  
 Well Name: WF 19-4  
 Rig: \_\_\_\_\_

Job Number: \_\_\_\_\_  
 Magnetic Decl.: \_\_\_\_\_  
 Grid Corr.: \_\_\_\_\_  
 Total Survey Corr.: \_\_\_\_\_  
 Target Info: \_\_\_\_\_

Calculation Method Minimum Curvature  
 Proposed Azimuth 85.65  
 Depth Reference \_\_\_\_\_  
 Tie Into: Surface

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No.	Tool Type	Survey Depth (ft)	Incl (°)	Azimuth (°)	Course Lgth (ft)	TVD (ft)	VS (ft)	Coordinates		Closure		DLS (°/100')	Bld Rate (°/100')	Wlk Rate (°/100')
								N/S (ft)	E/W (ft)	Dist (ft)	Ang (°)			
0		0	0.00	0.00		0.00		0.00	0.00					
1		100.00	0.00	0.00	100	100.00	0.00	0.00 N	0.00 E	0.00	0.00	0.00	0.0	0.0
2		200.00	0.00	0.00	100	200.00	0.00	0.00 N	0.00 E	0.00	0.00	0.00	0.0	0.0
3		300.00	0.00	0.00	100	300.00	0.00	0.00 N	0.00 E	0.00	0.00	0.00	0.0	0.0
4		400.00	0.00	0.00	100	400.00	0.00	0.00 N	0.00 E	0.00	0.00	0.00	0.0	0.0
5		500.00	1.70	85.72	100	499.99	1.48	0.11 N	1.48 E	1.48	85.72	1.70	1.7	85.7
6		600.00	3.40	85.72	100	599.88	5.93	0.44 N	5.92 E	5.93	85.72	1.70	1.7	0.0
7		700.00	5.10	85.72	100	699.60	13.34	1.00 N	13.31 E	13.34	85.72	1.70	1.7	0.0
8		800.00	6.80	85.72	100	799.06	23.71	1.77 N	23.64 E	23.71	85.72	1.70	1.7	0.0
9		900.00	8.50	85.72	100	898.17	37.02	2.76 N	36.92 E	37.02	85.72	1.70	1.7	0.0
10		1,000.00	10.20	85.72	100	996.84	53.27	3.98 N	53.12 E	53.27	85.72	1.70	1.7	0.0
11		1,100.00	11.90	85.72	100	1094.98	72.43	5.41 N	72.23 E	72.43	85.72	1.70	1.7	0.0
12		1,200.00	13.60	85.72	100	1192.51	94.50	7.05 N	94.24 E	94.50	85.72	1.70	1.7	0.0
13		1,300.00	15.30	85.72	100	1289.34	119.45	8.91 N	119.12 E	119.45	85.72	1.70	1.7	0.0
14		1,400.00	17.00	85.72	100	1385.39	147.27	10.99 N	146.86 E	147.27	85.72	1.70	1.7	0.0
15		1,500.00	18.70	85.72	100	1480.57	177.92	13.28 N	177.42 E	177.92	85.72	1.70	1.7	0.0
16		1,600.00	20.40	85.72	100	1574.81	211.38	15.78 N	210.79 E	211.38	85.72	1.70	1.7	0.0
17		1,700.00	22.10	85.72	100	1668.00	247.62	18.48 N	246.93 E	247.62	85.72	1.70	1.7	0.0
18		1,800.00	23.80	85.72	100	1760.08	286.61	21.39 N	285.82 E	286.61	85.72	1.70	1.7	0.0
19		1,900.00	25.50	85.72	100	1850.97	328.32	24.50 N	327.41 E	328.32	85.72	1.70	1.7	0.0
20		2,000.00	27.20	85.72	100	1940.58	372.70	27.82 N	371.67 E	372.70	85.72	1.70	1.7	0.0
21		2,100.00	28.90	85.72	100	2028.83	419.73	31.32 N	418.56 E	419.73	85.72	1.70	1.7	0.0
22		2,200.00	30.60	85.72	100	2115.64	469.35	35.03 N	468.04 E	469.35	85.72	1.70	1.7	0.0
23		2,300.00	32.30	85.72	100	2200.95	521.52	38.92 N	520.07 E	521.52	85.72	1.70	1.7	0.0
24		2,400.00	34.00	85.72	100	2284.67	576.20	43.00 N	574.59 E	576.20	85.72	1.70	1.7	0.0
25		2,500.00	34.00	85.72	100	2367.57	632.12	47.18 N	630.36 E	632.12	85.72	0.00	0.0	0.0



Company: Wolverine Gas & Oil  
 Field: Development  
 Cty/Blk/Par: Sevier County, UT  
 Well Name: WF 19-4  
 Rig: \_\_\_\_\_

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 Magnetic Decl.: \_\_\_\_\_  
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 Total Survey Corr.: \_\_\_\_\_  
 Target Info: \_\_\_\_\_

Calculation Method Minimum Curvature  
 Proposed Azimuth 85.65  
 Depth Reference \_\_\_\_\_  
 Tie Into: Surface

DRAFT COPY-For APD Purposes Only

No.	Tool Type	Survey Depth (ft)	Incl (°)	Azimuth (°)	Course Lgth (ft)	TVD (ft)	VS (ft)	Coordinates		Closure		DLS (°/100')	Bld Rate (°/100')	Wlk Rate (°/100')
								N/S (ft)	E/W (ft)	Dist (ft)	Ang (°)			
26		2,600.00	34.00	85.72	100	2450.48	688.04	51.35 N	686.12 E	688.04	85.72	0.00	0.0	0.0
27		2,700.00	34.00	85.72	100	2533.38	743.96	55.52 N	741.88 E	743.96	85.72	0.00	0.0	0.0
28		2,800.00	34.00	85.72	100	2616.29	799.88	59.70 N	797.65 E	799.88	85.72	0.00	0.0	0.0
29		2,900.00	34.00	85.72	100	2699.19	855.80	63.87 N	853.41 E	855.80	85.72	0.00	0.0	0.0
30		3,000.00	34.00	85.72	100	2782.09	911.72	68.04 N	909.17 E	911.72	85.72	0.00	0.0	0.0
31		3,100.00	34.00	85.72	100	2865.00	967.64	72.22 N	964.94 E	967.64	85.72	0.00	0.0	0.0
32		3,200.00	34.00	85.72	100	2947.90	1023.56	76.39 N	1020.70 E	1023.56	85.72	0.00	0.0	0.0
33		3,300.00	34.00	85.72	100	3030.80	1079.47	80.56 N	1076.46 E	1079.48	85.72	0.00	0.0	0.0
34		3,400.00	34.00	85.72	100	3113.71	1135.39	84.74 N	1132.23 E	1135.39	85.72	0.00	0.0	0.0
35		3,500.00	34.00	85.72	100	3196.61	1191.31	88.91 N	1187.99 E	1191.31	85.72	0.00	0.0	0.0
36		3,600.00	34.00	85.72	100	3279.52	1247.23	93.08 N	1243.75 E	1247.23	85.72	0.00	0.0	0.0
37		3,700.00	34.00	85.72	100	3362.42	1303.15	97.26 N	1299.52 E	1303.15	85.72	0.00	0.0	0.0
38		3,800.00	34.00	85.72	100	3445.32	1359.07	101.43 N	1355.28 E	1359.07	85.72	0.00	0.0	0.0
39		3,900.00	34.00	85.72	100	3528.23	1414.99	105.60 N	1411.04 E	1414.99	85.72	0.00	0.0	0.0
40		4,000.00	34.00	85.72	100	3611.13	1470.91	109.77 N	1466.81 E	1470.91	85.72	0.00	0.0	0.0
41		4,100.00	34.00	85.72	100	3694.03	1526.83	113.95 N	1522.57 E	1526.83	85.72	0.00	0.0	0.0
42		4,200.00	34.00	85.72	100	3776.94	1582.75	118.12 N	1578.33 E	1582.75	85.72	0.00	0.0	0.0
43		4,300.00	34.00	85.72	100	3859.84	1638.67	122.29 N	1634.10 E	1638.67	85.72	0.00	0.0	0.0
44		4,400.00	34.00	85.72	100	3942.75	1694.59	126.47 N	1689.86 E	1694.59	85.72	0.00	0.0	0.0
45		4,500.00	34.00	85.72	100	4025.65	1750.51	130.64 N	1745.62 E	1750.51	85.72	0.00	0.0	0.0
46		4,600.00	34.00	85.72	100	4108.55	1806.42	134.81 N	1801.39 E	1806.43	85.72	0.00	0.0	0.0
47		4,700.00	34.00	85.72	100	4191.46	1862.34	138.99 N	1857.15 E	1862.35	85.72	0.00	0.0	0.0
48		4,800.00	34.00	85.72	100	4274.36	1918.26	143.16 N	1912.91 E	1918.26	85.72	0.00	0.0	0.0
49		4,900.00	34.00	85.72	100	4357.26	1974.18	147.33 N	1968.68 E	1974.18	85.72	0.00	0.0	0.0
50		5,000.00	34.00	85.72	100	4440.17	2030.10	151.51 N	2024.44 E	2030.10	85.72	0.00	0.0	0.0



Company: Wolverine Gas & Oil  
 Field: Development  
 Cty/Blk/Par: Sevier County, UT  
 Well Name: WF 19-4  
 Rig: \_\_\_\_\_

Job Number: \_\_\_\_\_  
 Magnetic Decl.: \_\_\_\_\_  
 Grid Corr.: \_\_\_\_\_  
 Total Survey Corr.: \_\_\_\_\_  
 Target Info: \_\_\_\_\_

Calculation Method Minimum Curvature  
 Proposed Azimuth 85.65  
 Depth Reference \_\_\_\_\_  
 Tie Into: Surface

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No.	Tool Type	Survey Depth (ft)	Incl (°)	Azimuth (°)	Course Lgth (ft)	TVD (ft)	VS (ft)	Coordinates		Closure		DLS (°/100')	Bld Rate (°/100')	Wlk Rate (°/100')
								N/S (ft)	E/W (ft)	Dist (ft)	Ang (°)			
51		5,100.00	34.00	85.72	100	4523.07	2086.02	155.68 N	2080.20 E	2086.02	85.72	0.00	0.0	0.0
52		5,200.00	32.30	85.72	100	4606.79	2140.70	159.76 N	2134.73 E	2140.70	85.72	1.70	-1.7	0.0
53		5,300.00	30.60	85.72	100	4692.10	2192.88	163.66 N	2186.76 E	2192.88	85.72	1.70	-1.7	0.0
54		5,400.00	28.90	85.72	100	4778.92	2242.50	167.36 N	2236.24 E	2242.50	85.72	1.70	-1.7	0.0
55		5,500.00	27.20	85.72	100	4867.17	2289.52	170.87 N	2283.13 E	2289.52	85.72	1.70	-1.7	0.0
56		5,600.00	25.50	85.72	100	4956.77	2333.90	174.18 N	2327.39 E	2333.90	85.72	1.70	-1.7	0.0
57		5,700.00	23.80	85.72	100	5047.66	2375.61	177.29 N	2368.98 E	2375.61	85.72	1.70	-1.7	0.0
58		5,800.00	22.00	85.72	100	5139.77	2414.52	180.20 N	2407.79 E	2414.52	85.72	1.80	-1.8	0.0
59		5,900.00	20.50	85.72	100	5232.97	2450.76	182.90 N	2443.93 E	2450.76	85.72	1.50	-1.5	0.0
60		6,000.00	19.00	85.72	100	5327.08	2484.55	185.42 N	2477.62 E	2484.55	85.72	1.50	-1.5	0.0
61		6,100.00	17.50	85.72	100	5422.05	2515.87	187.76 N	2508.85 E	2515.87	85.72	1.50	-1.5	0.0
62		6,200.00	16.00	85.72	100	5517.81	2544.69	189.91 N	2537.59 E	2544.69	85.72	1.50	-1.5	0.0
63		6,300.00	14.50	85.72	100	5614.28	2570.99	191.87 N	2563.82 E	2570.99	85.72	1.50	-1.5	0.0
64		6,400.00	13.00	85.72	100	5711.41	2594.76	193.65 N	2587.52 E	2594.76	85.72	1.50	-1.5	0.0
65		6,500.00	11.00	85.72	100	5809.22	2615.55	195.20 N	2608.25 E	2615.55	85.72	2.00	-2.0	0.0
66		6,600.00	10.00	85.72	100	5907.55	2633.77	196.56 N	2626.43 E	2633.77	85.72	1.00	-1.0	0.0
67		6,700.00	8.50	85.72	100	6006.24	2649.84	197.76 N	2642.46 E	2649.85	85.72	1.50	-1.5	0.0
68		6,800.00	7.00	85.72	100	6105.33	2663.33	198.77 N	2655.90 E	2663.33	85.72	1.50	-1.5	0.0
69		6,900.00	5.50	85.72	100	6204.73	2674.21	199.58 N	2666.76 E	2674.22	85.72	1.50	-1.5	0.0
70		7,000.00	4.00	85.72	100	6304.38	2682.49	200.20 N	2675.02 E	2682.50	85.72	1.50	-1.5	0.0
71		7,100.00	2.50	85.72	100	6404.22	2688.16	200.62 N	2680.67 E	2688.17	85.72	1.50	-1.5	0.0
72		7,200.00	1.00	85.72	100	6504.17	2691.22	200.85 N	2683.71 E	2691.22	85.72	1.50	-1.5	0.0
73		7,300.00	0.00	85.72	100	6604.17	2692.09	200.91 N	2684.58 E	2692.09	85.72	1.00	-1.0	0.0
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Company: Wolverine Gas & Oil  
 Field: Development  
 Cty/Blk/Par: Sevier County, UT  
 Well Name: WF 19-4  
 Rig: \_\_\_\_\_

Job Number: \_\_\_\_\_  
 Magnetic Decl.: \_\_\_\_\_  
 Grid Corr.: \_\_\_\_\_  
 Total Survey Corr.: \_\_\_\_\_  
 Target Info: DRAFT COPY-For APD Purposes Only

Calculation Method Minimum Curvature  
 Proposed Azimuth 85.65  
 Depth Reference \_\_\_\_\_  
 Tie Into: Surface

No.	Tool Type	Survey Depth (ft)	Incl (°)	Azimuth (°)	Course Lgth (ft)	TVD (ft)	VS (ft)	Coordinates		Closure		DLS (°/100')	Bld Rate (°/100')	Wlk Rate (°/100')
								N/S (ft)	E/W (ft)	Dist (ft)	Ang (°)			

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No.	Tool Type	Survey Depth (ft)	Incl (°)	Azimuth (°)	Course Lgth (ft)	TVD (ft)	VS (ft)	Coordinates		Closure		DLS (°/100')	Bld Rate (°/100')	Wlk Rate (°/100')
								N/S (ft)	E/W (ft)	Dist (ft)	Ang (°)			

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Company: Wolverine Gas & Oil  
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 Cty/Blk/Par: Sevier County, UT  
 Well Name: WF 19-4  
 Rig: \_\_\_\_\_

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Calculation Method Minimum Curvature  
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								N/S (ft)	E/W (ft)	Dist (ft)	Ang (°)			

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Company: Wolverine Gas & Oil  
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								N/S (ft)	E/W (ft)	Dist (ft)	Ang (°)			

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Calculation Method Minimum Curvature  
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 Depth Reference \_\_\_\_\_  
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No.	Tool Type	Survey Depth (ft)	Incl (°)	Azimuth (°)	Course Lgth (ft)	TVD (ft)	VS (ft)	Coordinates		Closure		DLS (°/100')	Bld Rate (°/100')	Wlk Rate (°/100')
								N/S (ft)	E/W (ft)	Dist (ft)	Ang (°)			

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								N/S (ft)	E/W (ft)	Dist (ft)	Ang (°)			

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## SURFACE USE PLAN OF OPERATIONS

*For inclusion with Application for Permit to Drill*

**Name of Operator:** Wolverine Gas and Oil Company of Utah, LLC  
**Address:** 1140 N Centennial Park Drive  
Richfield, Utah 84701

### **Wolverine Federal 19-4**

**Surface Well Location:** 742' FNL & 1972' FWL, being in Lot 3 (NE4/NW4)  
Section 19, T23S, R1W, SLB&M  
Sevier County, Utah

**Bottom Hole Location:** 550' FNL & 580' FEL, being in Lot 1 (NE4/NE4)  
Section 19, T23S, R1W, SLB&M  
Sevier County, Utah

**Access Road Location:** Access road to be a combination of an upgraded existing two-track road from Berkley Anderson Road near the north line of Section 19, continuing southeasterly a distance of about 710 feet; then a new road to be constructed, continuing southeasterly a distance of about 530 feet to the well pad.. Both upgraded and constructed portions of road are on BLM lease #UTU-73528, and are unitized in Wolverine's Federal Unit. Berkley Anderson Road is a Class B (gravel) county-maintained road.

State and fee surface use is not required for construction and drilling of the referenced well. BLM is the surface owner at the drill pad site, the bottom hole location and the access road. Federal surface use is being requested with the associated Application for Permit to Drill (APD) through the BLM – Richfield Field Office.

The proposed well is to be drilled from the existing drill pad of the Wolverine Federal 19-3 well and will require no additional surface disturbance. Portions of the below narrative are taken from the Surface Use Plan of Operations for the Wolverine Federal 19-3, and contain future tense references to construction that has already been completed.

#### ***Existing Roads:***

The vicinity map in the APD packet shows the proposed well location and its proximity to Highway 24, Highway 119, and Berkley Anderson Road. The proposed well surface location is about 2.9 miles northeast of the Town of Glenwood, Utah, and is about 3.6 miles south-southeast of Sigurd, Utah.

**Driving directions:** From Interstate 70, take Exit #48 and go south to Sigurd, Utah, on SR 24; from Sigurd, continue southerly on SR 24 approximately 4 miles, to the first well pad (the C Pad) on the right side of the road past the CPF (Central Production Facility). Turn right onto Berkley Anderson Road, going northerly, thence westerly around the toe of the hill, thence southerly about 1.8 miles to the well access road on the left. Follow lease road to well site. Alternatively, heavy traffic should avoid the C Pad turnoff and should stay on SR 24 to the SR 119 intersection. Follow SR 119 westerly to the south end of Berkley Anderson road, then follow it northerly about 2 miles to the well access road on the right. The surface condition of most of Berkley Anderson Road is not presently adequate to bear all-season rig traffic and will need upgrade and improvement from the two-track turnoff southerly to Highway 119. All portions of the road needing realignment are on BLM land. These improvements will be performed under the conditions of an encroachment permit from Sevier County Road Department, and conditions of approval from BLM.

***Access Roads to be Constructed and Reconstructed:***

The following described road construction was performed under the approved APD for the Wolverine Federal 19-3 well. Drawing sheets referenced below can be found in the APD file for that well:

The proposed access road will require the construction of a driveway ramp and improvements to the existing two-track road from its intersection with Berkley Anderson Road, a distance of about 710 feet; then a new road to be constructed, continuing southeasterly a distance of about 510 feet to the well pad. The improved road will have a travel surface 12' in width, with one truck turnout at the driveway ramp that will have a travel surface 20' in width, being 100' in length. The new road will have a travel surface generally 14' in width.

See Typical Section sheets TS-01 and TS-02 for road design, and Plan and Profile sheets PP-01 and PP-02 for dimensions.

The upgrade to Berkley Anderson road will consist, for the most part, of laying down a 4" thick granular base. There are three sections of the road that will need a slight realignment to increase visibility, allow for traffic to pass, and to increase safety. These sections are shown in overview on Plan Sheet PL-03, and in detail on PP-03, PP-04 and PP-05. Construction detail is shown on Sheet TS-02 (Type 3; typical). A culvert (30" CMP x 40') will need to be installed as shown on sheet PP-03.

Road construction, operation and maintenance will be in compliance with the terms and conditions of the Conditions of Approval, the American Association of State Highway and Transportation (AASHTO) safety standards, and will meet criteria for the Manual of Uniform Traffic Control Devices (MUTCD) manual for signs.

Energy dissipating structures and silt fences will be utilized to minimize erosion that may result from the road construction.

All existing county roads and the new lease road will be maintained and kept in good repair during all phases of operation. Vehicle operators will obey posted speed restrictions and observe safe speeds commensurate with road and weather conditions.

***Location of Existing Wells within a one-mile radius :***

All wells located within a one-mile radius of the proposed wells are listed below:

<b>Well</b>	<b>Type</b>	<b>Surface Location *</b>	<b>Bottom Hole Location *</b>
KMR 17-1	Producer-oil	SE4NW4 Section 17	SE4NW4 Section 17
WF 17-2	Producer-oil	SE4SW4 Section 17	SE4SW4 Section 17
WF 17-3	Producer-oil	SE4NW4 Section 17	NW4SW4 Section 17
WF 17-4	Producer-oil	SE4NW4 Section 17	NW4SE4 Section 17
WF 17-5	Producer-oil	SE4NW4 Section 17	SE4NE4 Section 17
WF 17-6	Producer-oil	SE4NW4 Section 17	NW4NE4 Section 17
KMR 17-7	Producer-oil	SE4NW4 Section 17	SW4NW4 Section 17
WF 17-8	Producer-oil	NE4SW4 Section 17	NE4SW4 Section 17
WF 17-9	Producer-oil	NE4SW4 Section 17	SW4SW4 Section 17
WS 17-10	Producer-oil	NE4NW4 Section 20	SW4SE4 Section 17
WF 17-11	Producer-oil	SE4NW4 Section 17	SE4NE4 Section 17
WF 17-12	Producer-oil	SE4NW4 Section 17	SW4NE4 Section 17
WF 17-13	Producer-oil	SE4NW4 Section 17	NW4NE4 Section 17
KMR 17-14	Producer-oil	SE4NW4 Section 17	NE4NW4 Section 17
WF 18-1	Producer-oil	SE4SW4 Section 17	SE4SE4 Section 18
WF 19-1	Producer-oil	SE4SW4 Section 17	NE4NE4 Section 19
WF 19-2	Producer-oil	NE4NW4 Section 20	NE4SE4 Section 19
WF 19-3	Producer-oil	NE4NW4 Section 19	NW4SE4 Section 19
WF 20-1	Producer-oil	SE4SW4 Section 17	NW4NW4 Section 20
WF 20-2	Producer-oil	NE4NW4 Section 20	SW4NW4 Section 20
WS 20-3	Producer-oil	NE4NW4 Section 20	SE4NW4 Section 20
WF 20-4	Producer-oil	NE4NW4 Section 20	NE4NW4 Section 20

WF 8-1	Dry Hole-plugged	SE4NW4 Section 17	SE4SE4 Section 8
SWD-1	Disposal-active	SW4SW4 Section 8	SW4SW4 Section 8
Water well	Culinary water supply	SW4NE4 Section 20	SW4NE4 Section 20

\*All wells are located in T23S-R1W

**Location of Planned Wells:**

At present there are no planned wells that have approval to be drilled within a one-mile radius of the proposed well.

**Location of Existing and/or Proposed Facilities if Well is Productive:**

(a) *On well pad* –A temporary testing facility may be constructed on this location in the event drilling is successful, consisting of treater/separator, tanks and related components. The facility would be surrounded by a dike of sufficient capacity to contain the storage capacity of the largest tank. All loading lines and valves would be located inside the berm surrounding the tank battery.

(b) *Off well pad* – In the event production is achieved, produced oil and water would be transported by pipeline installed along the access road and down the center of Berkley Anderson Road northerly to a tie-in junction with previously-installed pipeline associated with the C Pad production. The pipeline system would consist of a 9-foot deep trench with an electric line and communications line placed in the bottom, covered by 3 feet of fill, then 2 flowlines to carry produced oil and water would be placed and buried 6 feet below the surface. The trench would be compacted and the surface of Berkley Anderson Road returned to an all-season roadway condition. That installation would be covered under a Sundry Notice approved prior to construction. NOTE: That Sundry has been approved and the pipeline system has been installed.

**Location and Type of Water Supply (Rivers, Creeks, Lakes, Ponds and Wells):**

The Operator intends to purchase water from the Town of Sigurd, which was the supply for drilling the Wolverine Federal 19-3 well. Source of water is the town springs near Kings Meadow Reservoir. Water will be trucked to the reserve pit from a fire hydrant on the south end of town, as directed by the Town of Sigurd. Should additional water sources be pursued they will be properly permitted through the State of Utah – Division of Water Rights. The BLM will be notified of any changes in water supply.

**Construction Materials:**

Natural earth materials used for fill on the well pad will be taken from cuts made in construction of the pad. Imported granular borrow from an approved source will be applied to the surface of the well pad and access road where deemed necessary. No construction materials will be removed from federal lands.

**Methods for Handling Waste Disposal:**

The reserve pit will be used for the disposal of waste mud and drill cuttings. All borehole fluids and salts will be contained in the reserve pit. It will be located in cut material and will be lined with 12 mil minimum thickness plastic nylon reinforced liner material. The liner will overlay a felt liner pad only if sharp rock edges result from excavation. The pit liner will overlap the top of the pit walls and be covered with dirt and/or rocks to hold it in place. No trash, scrap pipe, etc. that could puncture the liner will be disposed of in the pit. Pit walls will be sloped no greater than 2:1. A minimum 2-foot freeboard will be maintained in the pit at all times during the drilling and completion operations. After evaporation of fluids, back-fill of sub-soil and compaction to prevent settling will occur within 90 days of cessation of pit use. If necessary, any remaining fluids will be pumped out of the pit and transported off site.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completion of the well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completion of the well.

Wastewater will not be discharged on the surface at this site and the drilling of the well will not require a wastewater management plan.

All rubbish and debris will be kept in containers on the well site, and will be hauled to an approved disposal site upon completion of drilling operations and as needed during such operations. There will be no chemical disposal of any type.

Self-contained, portable toilets will be used for human waste, and the waste will be disposed at an approved human waste disposal facility. Sanitation will comply with local and state regulations.

***Ancillary Facilities:***

No ancillary facilities are anticipated at this time.

***Well Site Layout:***

Pad Location and Layout Drawings in the APD packet show the proposed well site layout including location of the reserve pit and access road onto the pad, turnaround areas, parking areas, living facilities, soil material stockpiles, and the orientation of the rig with respect to the pad and other facilities. Cross section sheets in said packet show cuts and fills required for construction, and their relationship to topography. As detailed above under Methods for Handling Waste Disposal, the reserve pit will be lined and appropriate measures as described above will be taken to prevent leakage. The pit will be fenced on three sides during drilling operations and then the fourth side will be immediately fenced when the rig is moved off location.

The pad and road designs would be consistent with BLM specifications.

A pre-construction meeting with responsible company representative and contractors will be conducted at the project site prior to commencement of surface-disturbing activities. The pad and road will be construction-staked (centerline and exterior boundaries) prior to this meeting.

All surface disturbing activities will be supervised by a qualified, responsible company representative who is aware of the terms and conditions of approval from the BLM under the APD.

All cut and fill slopes will be such that stability can be maintained for the life of the activity.

The stockpiled topsoil (first 8 inches or maximum available) will be isolated in a berm around the well pad. Topsoil will be stockpiled for reclamation in such a way as to prevent soil loss and contamination.

Water spraying may be implemented if necessary to minimize dust.

***Plans for Reclamation of the Surface:***

**(For further specifications see Addendum to Surface Plan of Operations, attached hereto)**

Edges of the access road and stockpiled topsoil will be seeded the first fall.

Interim Reclamation: In the event production is achieved the Operator will perform interim reclamation of the site. Interim reclamation will consist of reclamation of the reserve pit and reclamation of that portion of the well pad not needed for ongoing operations. After evaporation of fluids, the pit will be back-filled with sub-soil and/or rock and compacted to prevent settling. The pit area will be surfaced with gravel to render it a usable part of the well pad. All portions of the pad no longer necessary for well workover, testing or treating will be contoured to match the surrounding terrain to the best extent practicable. Stockpiled topsoil will be evenly distributed thereon, scarified and seeded as per BLM conditions of approval.

Final Reclamation: In the event the well is a dry hole, or at such time that all production ceases and the well has been plugged and abandoned, the Operator will perform final reclamation of the site. Final reclamation will consist of reclamation of the reserve pit, the well pad and the new-construction portion of the lease road as it crosses BLM land.

Any accumulation of hydrocarbons in the reserve pit will be removed and recovered for sale unless it is determined by the authorized officer to be waste oil. All waste oil will be disposed of properly at approved facilities. The portion of the reserve pit liner which is exposed above the cuttings will be cut and removed from the site and disposed in an authorized landfill. After evaporation of fluids, the pit will be back-filled with subsoil and/or rock from the reserve pit stockpile and compacted to prevent settling.

Road base material used in the construction of the access road and pad will be removed from the site and disposed in a proper manner. If the reserve pit has adequate capacity, then some or all of the road base material may be buried

in the reserve pit, provided that the granular is not contaminated by oil or other waste materials. The new construction portion of the access road will be contoured using an excavator or similar equipment, rather than simply ripping the surface.

Subsoil from the portions of the well pad that are fill will be pulled up onto the pad in order to reestablish the original slope to the best extent possible. The portions that are cut will be filled to match the original slope of the land to the best extent possible. Topsoil from the stockpile will then be evenly distributed over the entire impacted area, including the new-construction portion of the access road. The entire impacted area will be scarified and seeded in late fall, using the seed mix and methods described in BLM conditions of approval. Final reclamation will take place within 180 days after plugging date of the last well on site, depending on weather, season and other extenuating circumstances.

During the life of the project and until the site is released from liability for reclamation, the project will be inspected at least annually for noxious weeds. If invasive noxious weeds are found, the weeds will be treated to eliminate further reproduction, and treatment shall continue until the weeds have been eradicated. If noxious weeds are found, the BLM will be notified of their occurrence.

***Surface Ownership:***

The surface of the proposed well site and the access road is federally owned and is administered by the Bureau of Land Management, United States Department of Interior.

***Other Information:***

Heavy equipment used to construct and rehabilitate the well pad and access road will be cleaned and/or sprayed to remove any noxious or invasive weeds and seeds, prior to entering to the project site. Any other equipment and vehicles that have been used in other locations where noxious weeds or seeds could have attached to the equipment will also be sprayed and/or cleaned.

All equipment and vehicles will be confined to the access roads and well pad.

Western Land Services has conducted a Class III archeological survey and has submitted same under separate cover to the appropriate agencies.

Western Land Services has prepared an EA for the proposed operation.

No stream alteration or drainage crossings are involved that require additional State or Federal approval.

All permanent structures, including pumping units, constructed or installed will be painted a flat, non-reflective color as described on page 40 of the Gold Book (Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, 4<sup>th</sup> Edition 2006). Permanent structures are defined as being on location for six months or longer. Facilities required to comply with Occupational Safety and Health Act (OSHA) shall be excluded.

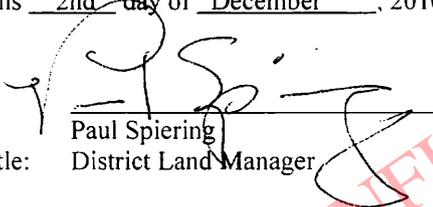
Fire suppression equipment will be available to suppress any wildfires caused by construction or related activities. In the event of a wildfire the Richfield Interagency Fire Center (435) 896-8404 will be notified.

## Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I, or someone under my direct supervision, have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that 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 the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 2nd day of December, 2010.

Signature:



Position Title:

Paul Spiering  
District Land Manager

Address:

Wolverine Gas and Oil Company of Utah, LLC  
1140 N Centennial Park Drive  
Richfield, Utah 84701

Telephone:

435-896-1943

Field representative: Charlie Irons

Address:

Wolverine Gas and Oil Company of Utah, LLC  
1140 N Centennial Park Drive  
Richfield, Utah 84701

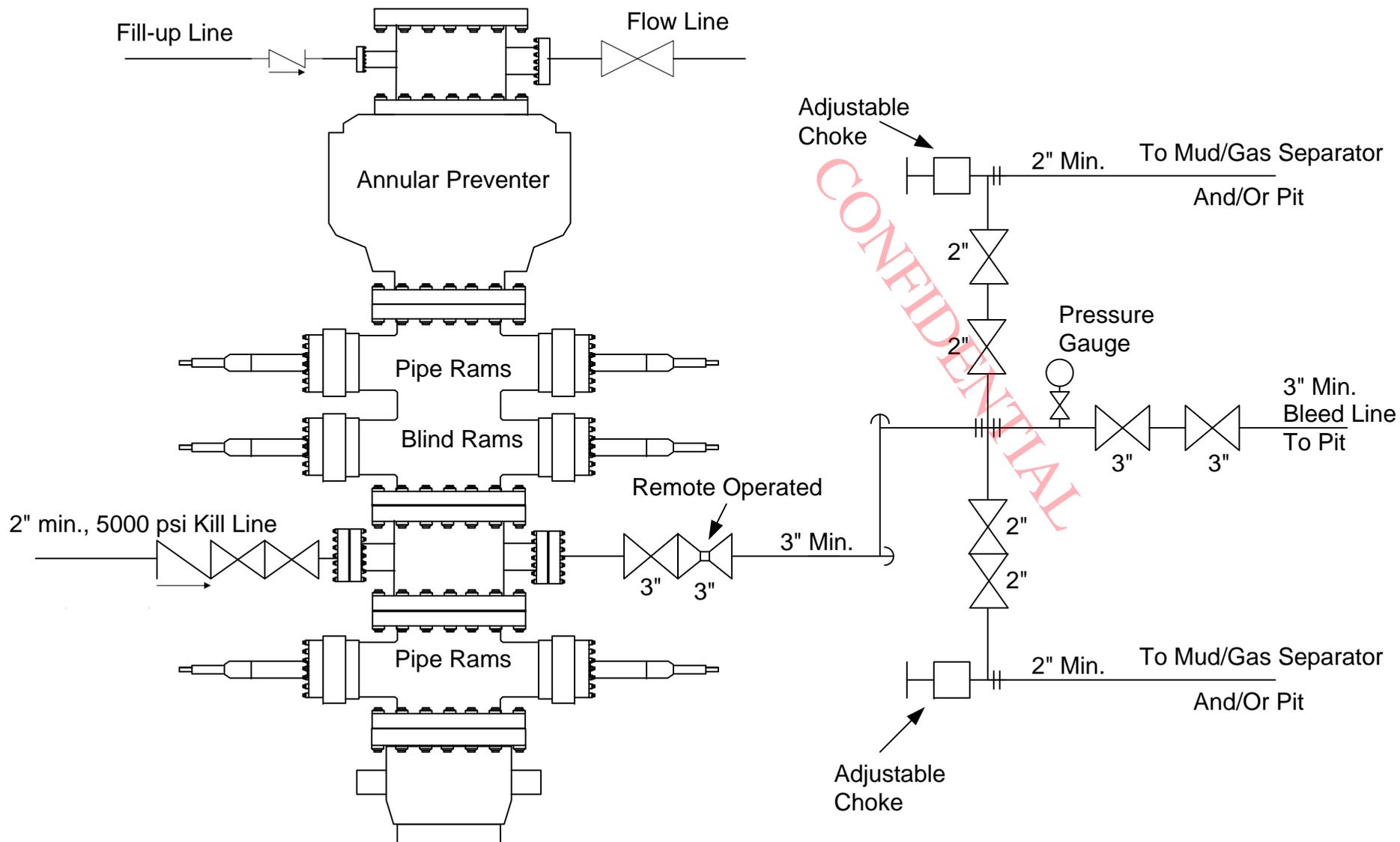
Telephone:

435-896-1943

*Agents not directly employed by the operator must submit a letter from the operator authorizing that agent to act or file this application on their behalf.*

# 5k BOPE Schematic

(Not to Scale)



CONFIDENTIAL

## WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC

Energy Exploration in Partnership with the Environment



December 9, 2010

Diana Mason  
Permitting—Petroleum Technician  
Utah Division of Oil, Gas and Mining  
P.O. Box 145801  
Salt Lake City, Utah 84114-5801

Re: Application for Permit to Drill (Utah ePermit #3262)  
Wolverine Gas and Oil Company of Utah, LLC  
**Wolverine Federal 19-4**  
**Directional Drilling Letter**

Dear Mrs. Mason:

Wolverine Gas and Oil Company of Utah, LLC (Wolverine) hereby submits this letter as part of the *Application for Permit to Drill* (APD) for the referenced well, with the attached plat:

- R649-3-11, Directional Drilling Application Plat showing proposed BHL.

The Town of Sigurd, Utah will be the source for water during drilling and completion operations on this proposed well. The surface at the planned drill site is federally owned, administered by the Bureau of Land Management.

This letter and the accompanying plat are intended to serve as an application for directionally drilling the well per R649-3-11. Wolverine is the owner of all oil and gas within 460 feet from all points along the intended wellbore for the well. Information relating to R649-3-11 is as follows:

Operator: Wolverine Gas and Oil Company of Utah, LLC

Address: 1140 N Centennial Park Drive  
Richfield, Utah 84701

Well: Wolverine Federal 19-4

Wolverine Gas and Oil Company of Utah, LLC  
1140 N Centennial Park Drive. Richfield, Utah 84701. Phone: 435-896-1943, Fax: 435-893-2134

Field: Covenant

Reservoir: Navajo

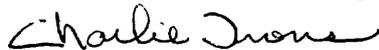
County: Sevier

Reason: Restrictive topography and to minimize surface impact

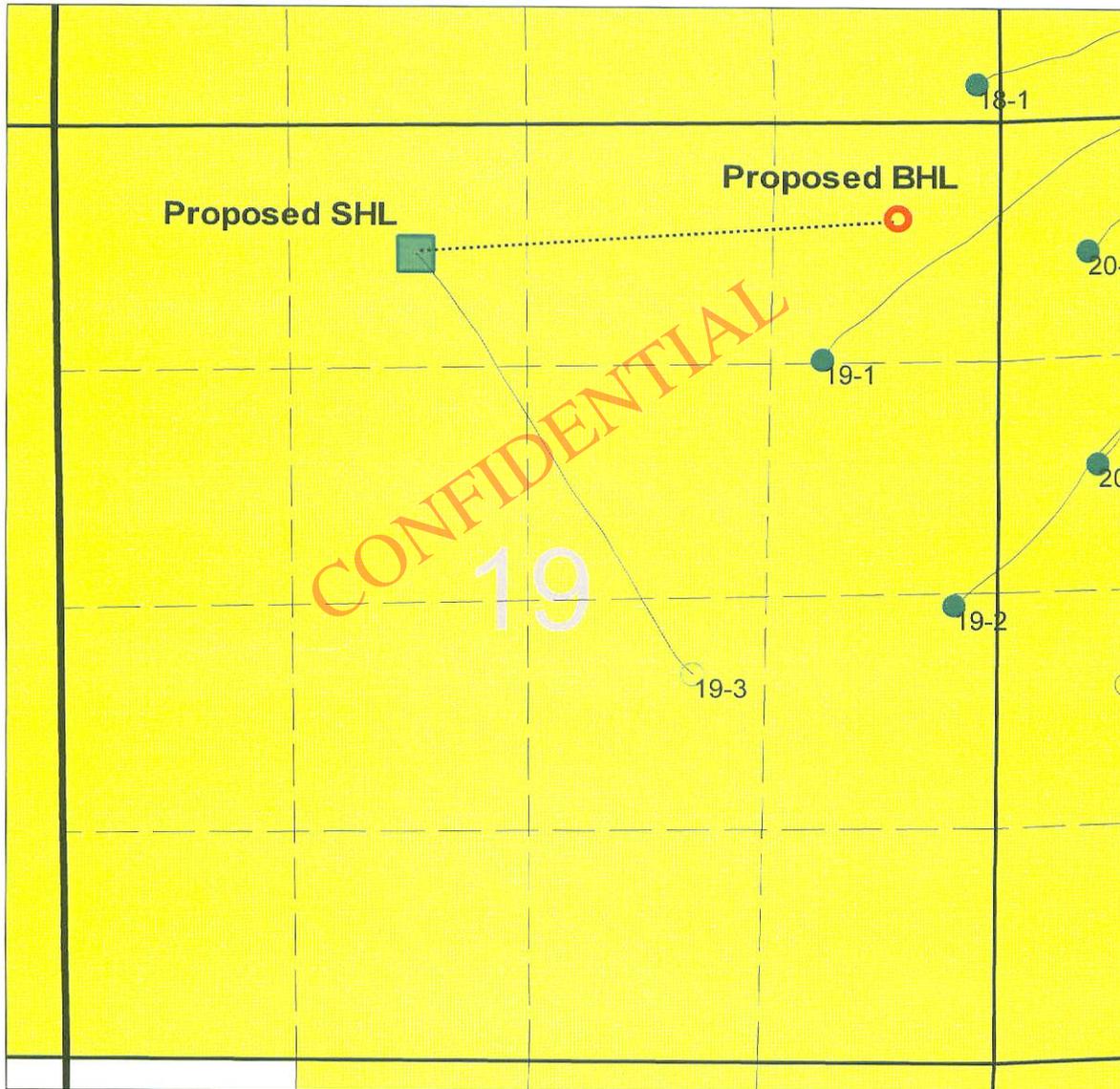
Please accept this letter as Wolverine's written request for confidential treatment of all information contained in and relating to this application and proposed well.

Thank you for consideration of this application. Please feel free to contact me or Paul Spiering of this office if you have any questions or need additional information.

Sincerely,



Charlie Irons  
Senior Landman



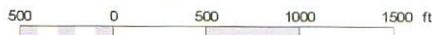
### Wolverine Federal 19-4 Well Location

SHL: 1972' FWL, 742' FNL, NE/4 NW/4, Sec. 19, T23S, R1W, Sevier Co., UT

BHL: 580' FEL, 550' FNL, NE/4 NE/4, Sec. 19, T23S, R1W, Sevier Co., UT

-  Wolverine Lease
-  Proposed SHL
-  Proposed BHL

1 inch = 1000 feet



	<p><b>WOLVERINE GAS &amp; OIL CORPORATION</b> <i>Energy Exploration in Partnership with the Environment</i></p> <p>ONE RIVERFRONT PLAZA 55 CAMPAU, N.W. GRAND RAPIDS, MI 49503-2616 (616) 458-1150</p>
<p>Directional Drilling Application Plat (R649-3-11)</p>	
<p>Date: 12/7/2010</p>	<p>Data Source: DOCUMENT IS: MJL 12072010 PROP 19-4 DIRECTIONAL DRILLING.GMP</p>

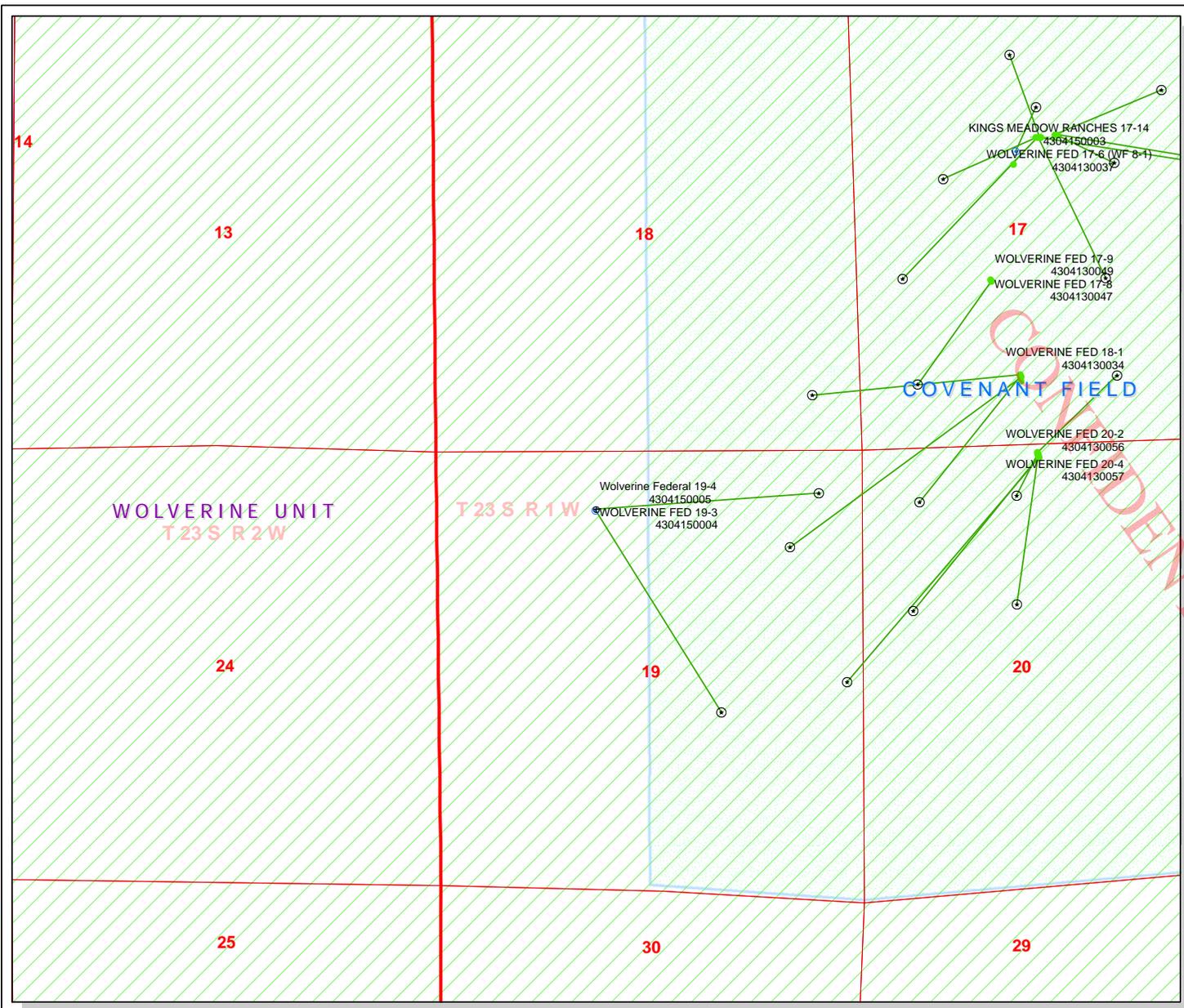
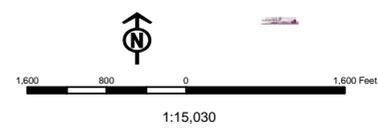
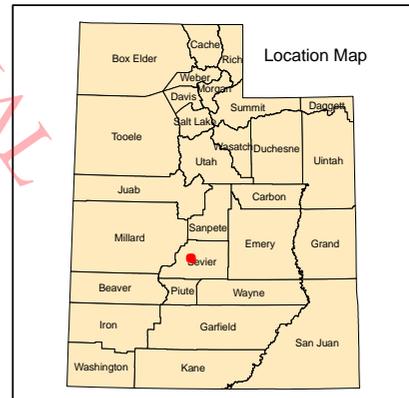
API Number: 4304150005  
Well Name: Wolverine Federal 19-4  
Township 23.0 S Range 01.0 W Section 19  
Meridian: SLBM  
Operator: WOLVERINE GAS & OIL COMPAN

Map Prepared:  
Map Produced by Diana Mason

SGID93.ENERGY.DNR.Oil&Gas.Wells.Units

*- call other values -*

<b>Status</b>	<b>STATUS</b>
APD - Approved Permit	ACTIVE
DRL - Spooled (Drilling Commenced)	EXPLORATORY
GIW - Gas Injection	GAS STORAGE
GS - Gas Storage	NF PP OIL
LA - Location Abandoned	NF SECONDARY
LOC - New Location	PI OIL
OPS - Operation Suspended	PP GAS
PK - Plugged Abandoned	PP GEOTHERMAL
POW - Producing Gas Well	PP OIL
RET - Returned APD	SECONDARY
SGW - Shut-in Gas Well	TERMINATED
SOW - Shut-in Oil Well	
TA - Temp. Abandoned	<b>Fields</b>
TW - Test Well	Unknown
WW - Water Disposal	ABANDONED
WW - Water Injection Well	ACTIVE
WSW - Water Supply Well	COMBINED
	INACTIVE
	STORAGE
	TERMINATED
	Sections
	Township
	Bottom Hole Location - AGRC



CONFIDENTIAL

# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office

P.O. Box 45155

Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:

3160

(UT-922)

December 17, 2010

Memorandum

To: Field Office Manger, Richfield Field Office

From: Michael Coulthard, Petroleum Engineer

Subject: 2011 Plan of Development Wolverine Unit  
Sanpete and Sevier County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following well is planned for calendar year 2011 within the Wolverine Unit, Sevier County, Utah.

API #	WELL NAME	LOCATION
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(Proposed PZ NAVAJO)

43-041-50005	Wolverine Federal	19-4 Sec 19 T23S R01W 0742 FNL 1972 FWL
	BHL	Sec 19 T23S R01W 0550 FNL 0580 FEL

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

Michael L. Coulthard

Digitally signed by Michael L. Coulthard  
DN: cn=Michael L. Coulthard, o=Bureau of Land Management, ou=Branch of Minerals, email=Michael\_Coulthard@blm.gov, c=US  
Date: 2010.12.17 07:17:47 -0700

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

MCoulthard:mc:12-17-10

**WORKSHEET  
APPLICATION FOR PERMIT TO DRILL**

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**APD RECEIVED:** 12/14/2010

**API NO. ASSIGNED:** 43041500050000

**WELL NAME:** Wolverine Federal 19-4

**OPERATOR:** WOLVERINE GAS & OIL COMPANY OF UTAH, LLC (N1655)

**PHONE NUMBER:** 435 896-1943

**CONTACT:** Charles Irons

**PROPOSED LOCATION:** NENW 19 230S 010W

**Permit Tech Review:**

**SURFACE:** 0742 FNL 1972 FWL

**Engineering Review:**

**BOTTOM:** 0550 FNL 0580 FEL

**Geology Review:**

**COUNTY:** SEVIER

**LATITUDE:** 38.79281

**LONGITUDE:** -111.95218

**UTM SURF EASTINGS:** 417306.00

**NORTHINGS:** 4294008.00

**FIELD NAME:** COVENANT

**LEASE TYPE:** 1 - Federal

**LEASE NUMBER:** UTU 73528

**PROPOSED PRODUCING FORMATION(S):** NAVAJO

**SURFACE OWNER:** 1 - Federal

**COALBED METHANE:** NO

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**RECEIVED AND/OR REVIEWED:**

- PLAT**
- Bond:** FEDERAL - WYB000616
- Potash**
- Oil Shale 190-5**
- Oil Shale 190-3**
- Oil Shale 190-13**
- Water Permit:** Sigurd Town
- RDCC Review:**
- Fee Surface Agreement**
- Intent to Commingle**

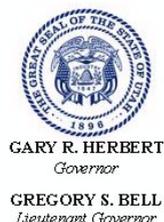
**Commingling Approved**

**LOCATION AND SITING:**

- R649-2-3.**  
**Unit:** WOLVERINE
  - R649-3-2. General**
  - R649-3-3. Exception**
  - Drilling Unit**  
**Board Cause No:** R649-3-11
  - Effective Date:**
  - Siting:**
  - R649-3-11. Directional Drill**
- 

**Comments:** Presite Completed

**Stipulations:** 4 - Federal Approval - dmason  
15 - Directional - dmason  
23 - Spacing - dmason



# 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:** Wolverine Federal 19-4  
**API Well Number:** 43041500050000  
**Lease Number:** UTU 73528  
**Surface Owner:** FEDERAL  
**Approval Date:** 12/21/2010

### Issued to:

WOLVERINE GAS & OIL COMPANY OF UTAH, LLC, 1140 N. Centennial Park Dr., Richfield, UT 84701

### 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 R649-3-11. The expected producing formation or pool is the NAVAJO Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

### Duration:

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

### General:

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

### Conditions of Approval:

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

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

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, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, 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 <https://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

**Exhibit #1**

**Wolverine Federal 19-4  
API: 43041500050000  
Sec 19, T23S, R1W  
Sevier County, UT**

Sundry: Alter Casing, Change Plans

Wolverine Gas and Oil Company of Utah, LLC originally proposed setting 9-5/8", 36 #/ft J-55 STC casing at 2400' MD in the approved APD. Wolverine is proposing modifying the surface casing with the addition of 9-5/8", 40 #/ft, LTC to the string and setting casing at 2100' MD. The proposed changes are the result of the available casing to purchase, and discovery of damaged casing during pre-job inspection which leaves us with less casing available on location. The casing will still be set in the Arapien formation. The performance specs of 9-5/8" 40#/ft casing exceeds the performance specs of the 36#/ft casing. The proposed casing string will include 46 joints (~1940') of 9-5/8" 40 #/ft, plus four joints 9-5/8, 36 #/ft LTC, (166.6' includes stick up) for a proposed setting depth of 2100' MD. The performance specs of 9-5/8" 40 #/ft J-55 LTC are: Burst: 3950 psi; Collapse: 2570 psi; Tension 520,000 lbs (controlled by API joint strength).

**Cementing:** The original proposed cementing program was based on a Halliburton blend. We intend to use Schlumberger for cementing the surface casing. The revised cementing program, using Schlumberger, now consists of the following:

**Lead:** 377 sacks Schlumberger Class G + 0.2% D046 anti-foam + 2% D079 extender + ¼ lb/sk D029 lost circulation control agent (cellophane flakes) + 0.1% D013 retarder mixed at 12.5 ppg, 2.11 cf/sk Yield, with cement 0-1500', using 60% excess factor in the openhole.

**Tail:** 230 sacks Schlumberger Class G + ¼ lb/sk D029 loss circulation control agent + 0.2% D046 anti-foam agent mixed at 15.8 ppg, 1.16 cf/sk Yield, with cement from ~1500 to 2100 feet, using 60% excess factor in the openhole.

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JAN 18 2011  
DIV. OF OIL, GAS & MINING**

**CONFIDENTIAL**



**WOLVERINE GAS AND OIL COMPANY  
OF UTAH, LLC**

*Energy Exploration in Partnership with the Environment*

January 13, 2011

Mr. Stan Andersen  
Fluid Minerals Group, BLM  
Richfield Field Office  
150 East 900 North  
Richfield, UT 84701

Re: Wolverine Federal 19-4

Dear Mr. Anderson,

Enclosed is a Sundry for the subject well.

Please let me know if you have any questions or concerns regarding the above mentioned document.

Please consider this our official request to keep the enclosed document confidential.

Sincerely,

Helene Bardolph  
Engineering Administrative Assistant

Enclosures

cc: Mr. John Rogers, UDOGM

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**JAN 18 2011**

**DIV. OF OIL, GAS & MINING**

Carol Daniels - Wolverine Federal 19-4 Update T 235 ROW 5-19 43-041.50005

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff", "Allen, Geoff", "Arthurs, Shane", "Blair, Richard", "Brock Pope", "Chamberlain, Don", "Childers, Eli", "Chris Schaugaard", "Daniel Jenkins", "Daniels, Carol", "De la Torre, Juan C", "Dennis", "Denton, Derek", "Dieste, Bobby", "Doucet, Dustin", "Dustin Dunning", "Foreman, Ron", "George Zamantakis", "Hall, Denise", "Hammell, Hank", "Harry Melnikoff", "Hendricks, Marvin", "Hutcinson, Clayton", "Jim Barry", "Jimmy Germon", "Jones, Mark", "Kulow, Kyle", "Kyle Cox", "LaDee Roundy", "Larimore, Mark", "Lewis, John", "Martin Pete", "Matt Harmon", "McCoy, Charlene", "McCoy, Tim", "Nilles, Chris", "O'Connell, David", "Perry, Bud (Smith Bits)", "Pickup, Marc", "Rees, John M", "Revert, Scott", "Robinson, Darin", "Ryan Thomas", "Shaun Burns", "Shawn Moulton", "Shelton, Shorty", "Steffen, Dana", "Tujillo, Chris", "Tyler Ross", "Winkler, Matt", "Zimmerman, Bill", "Kent Donner", "McKinley, Nate"  
**Date:** 1/14/2011 7:13 AM  
**Subject:** Wolverine Federal 19-4 Update

1/13/2011 7:46 AM

**Current Activity**

Drilling at 1780 ft

**EST Timing**

ESTIMATED SCHEDULE					
DATE	DAY	START TIME	HR	DESCRIPTION	EQUIPMENT
14-Jan	Friday	7:00	8.00	Drill 1780-2100	Call Franks w/10 hrs notice at 1800', Call State/BLM Csg/Cmt job
14-Jan		15:00	1.00	CBU for casing	Call Schlumberger Cementers w/ 8 hrs notice
		16:00	3.00	POOH for casing	
		19:00	7.00	RU and run casing	
15-Jan	Saturday	2:00	1.00	Circ and condition for cement	
		3:00	0.50	RD Casers	
		3:30	4.00	Cement casing	
		7:30	4.50	Lay down 6 5/8" HWDP in mouse hole	
		12:00	1.50	Top Job	
		13:30	3.00	Drain riser clean cellar, RD Howco	
		16:30	2.00	Cut off Casing, remove riser	Call FMC/Welder/DoubleJack
		18:30	3.00	Final cut and weld on braden head	
		21:30	1.00	Test weld	
		22:30	9.00	Nipple up BOPE	
16-Jan	Sunday	7:30	5.00	Pressure test BOPE	
		12:30			

Tom Zupan  
 Drilling Supervisor  
 Wolverine Gas and Oil Company of Utah, LLC  
 Rig (970) 812-0022  
 Cell (970) 314-8219  
 Fax (435) 304-1222  
 wolvexpl@drillmail.net

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JAN 19 2011

DIV. OF OIL, GAS & MINING

**Carol Daniels - Wolverine Federal 19-4 Notification of Spudding Surface hole**

---

*T235 RO1W 5-19 43-041-50003*

**From:** "Wolverine Exploration Rig"  
**To:** "Hendricks, Marvin" , "Jones, Mark" , , "Daniels, Carol"  
**Date:** 1/14/2011 8:17 AM  
**Subject:** Wolverine Federal 19-4 Notification of Spudding Surface hole  
**CC:** "Higuera, Ed" , "Irons, Charlie"

---

This email is notification of intent to case and cement the 12 ¼" x 9 5/8" surface hole of the Wolverine Federal 19-4 well this evening. It is anticipated that we will begin to run casing at about 7pm and that we will cement in the very early hours Saturday morning. If there is any major change in timing I will notify you.

Well: Wolverine Federal 19-4  
Rig: Patterson UTI 304  
API: 43041500050000  
Lease: UTU 73528

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 812-0022**  
**Cell (970) 314-8219**  
**Fax (435) 304-1222**  
**wolvexpl@drillmail.net**

**RECEIVED****JAN 19 2011****DIV. OF OIL, GAS & MINING**

**Carol Daniels - Wolverine Federal 19-4 Update**

*T 335 R01W S-19 43-0415 0005*

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
 "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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 Ross" , "Winkler, Matt" , "Zimmerman, Bill" , "Kent Donner" , "McKinley, Nate"  
**Date:** 1/16/2011 7:19 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/16/2011 7:16 AM

Nippling up BOPE

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 812-0022**  
**Cell (970) 314-8219**  
**Fax (435) 304-1222**  
[wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net)

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**DIV. OF OIL, GAS & MINING**

**Carol Daniels - Wolverine Federal 19-4 Update** T 235 Rolw 5-19 43-041-50005

---

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
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Ross" , "Winkler, Matt" , "Zimmerman, Bill" , "Kent Donner" , "McKinley, Nate"  
**Date:** 1/17/2011 7:32 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/17/2011 7:30 AM'

Washing down to tag up on wiper plugs.

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 812-0022**  
**Cell (970) 314-8219**  
**Fax (435) 304-1222**  
**[wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net)**

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**Carol Daniels - Wolverine Federal 19-4 Update** T295R01W 5-19 43-041-5005

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**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Ross" , "Winkler, Matt" , "Zimmerman, Bill" , "Kent Donner" , "McKinley, Nate"  
**Date:** 1/18/2011 8:08 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/18/2011 8:05 AM

Drilling 8 ¾" hole at 2503'.

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 812-0022**  
**Cell (970) 314-8219**  
**Fax (435) 304-1222**  
**[wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net)**

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DIV. OF OIL, GAS & MINING

**Carol Daniels - Wolverine Federal 19-4 Update** *T235 ROW 5-19 43-041-50005*

---

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Ross" , "Winkler, Matt" , "Zimmerman, Bill" , "Kent Donner" , "McKinley, Nate"  
**Date:** 1/19/2011 7:29 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/19/2011 7:26 AM

Drilling at 3288' (planned TD 7326')

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 812-0022**  
**Cell (970) 314-8219**  
**Fax (435) 304-1222**  
**wolvexpl@drillmail.net**

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**JAN 19 2011**

**DIV. OF OIL, GAS & MINING**

**Carol Daniels - Wolverine Federal 19-4 Update** *T 735 R 01W S-19 43-041-50005*

---

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Ross" , "Winkler, Matt" , "Zimmerman, Bill" , "Kent Donner" , "McKinley, Nate"  
**Date:** 1/20/2011 7:11 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/20/2011 7:08 AM

Drilling at 3792' (planned TD 7326')

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 812-0022**  
**Cell (970) 314-8219**  
**Fax (435) 304-1222**  
**[wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net)**

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JAN 20 2011

DIV OF OIL, GAS & MINING

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

FORM 6

ENTITY ACTION FORM

Operator: Wolverine Gas and Oil Company of Utah, LLC  
Address: 55 Campau NW  
city Grand Rapids  
state MI zip 49503

Operator Account Number: N 1655  
Phone Number: (616) 458-1150

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304150005	Wolverine Federal 19-4		NENW	19	23S	1W	Sevier
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
<i>AB</i>	99999	<i>13995</i>	1/8/2011		<i>1/26/2011</i>		
Comments: <i>NAVA</i> BHL: 550' FNL & 580' FEL, <u>NENE</u> , Sec 19, T23S, R1W <i>B HL NENE</i>							

**CONFIDENTIAL**

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

ACTION CODES:

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

Helene Bardolph

Name (Please Print)

*Helene Bardolph*  
Signature

Engineering Assistant

1/20/2011

Title

Date

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JAN 20 2011

DIV. OF OIL, GAS & MINING

CONFIDENTIAL

Form 3160-5  
(September 2001)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0135  
Expires January 31, 2004

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

**SUBMIT IN TRIPLICATE - Other instructions on reverse side**

1. Type of Well  
 Oil Well    Gas Well    Other

2. Name of Operator  
 Wolverine Gas & Oil Company of Utah, LLC

3a. Address  
 55 Campau NW, Grand Rapids, MI 49503

3b. Phone No. (include area code)  
 616-458-1150

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
 742' FNL & 1972' FWL, Sec 19, T23S, R1W, NENW

5. Lease Serial No.  
 UTU 73528

6. If Indian, Allottee or Tribe Name  
 N/A

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

8. Well Name and No.  
 Wolverine Federal 19-4

9. API Well No.  
 430415000500000

10. Field and Pool, or Exploratory Area  
 Covenant

11. County or Parish, State  
 Sevier

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input checked="" type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

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

Please see attached Exhibit #1

**COPY SENT TO OPERATOR**

Date: 1.25.2011

Initials: KS

14. I hereby certify that the foregoing is true and correct  
Name (Printed/Typed)

Edward A. Higuera

Title Manager - Development

Signature

Date 01-13-2011

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

Title

Pet. Eng.

Date

1/20/2011

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

Office

DOG M

Federal Approval Of This  
Action Is Necessary

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

(Instructions on reverse)

CONFIDENTIAL

**Carol Daniels - Wolverine Federal 19-4 Update**

T 235 R 014<sup>S-19</sup> 43-041-50005

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet, Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kulow, Kyle" , "Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shaun Burns" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Winkler, Matt" , "Zimmerman, Bill" , "Kent Donner" , "McKinley, Nate"  
**Date:** 1/21/2011 6:35 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/21/2011 6:32 AM

Drilled to 4168' (planned TD 7326')  
MWD failed, CBU for Trip.

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 812-0022**  
**Cell (970) 314-8219**  
**Fax (435) 304-1222**  
**[wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net)**

**RECEIVED**

**JAN 24 2011**

**DIV. OF OIL, GAS & MINING**

**Carol Daniels - Wolverine Federal 19-4 Update** *T235R01WS-19 43-041-50005*

---

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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"Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim  
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"LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin Hendricks" ,  
"Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" ,  
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Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" ,  
"Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/21/2011 4:04 PM  
**Subject:** Wolverine Federal 19-4 Update

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1/21/2011 3:59 PM

TIH, bit depth 2,500', hole depth 4,168'

Permitted depth 7,300'

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
**API 43-041-50005-00-00**  
**Rig (970) 812-0022**  
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**Carol Daniels - Wolverine Federal 19-4 Update** T 235 R01W5-19 43-041-50005

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**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet, Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin Hendricks" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shaun Burns" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/22/2011 10:25 AM  
**Subject:** Wolverine Federal 19-4 Update

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1/22/2011 10:20 AM

Drilling at 4,503', PR 20-30 fph

Next casing point at 7,300'

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
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*T 235 R0145-19 43-041-50005*

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 Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" ,  
 "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/23/2011 8:48 AM  
**Subject:** Wolverine Federal 19-4 Update

1/23/2011 8:44 AM

Drilling at 4,779', PR 10 fph

Casing point is at 7,300' firm

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
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*T235 ROW 5-19 43-041-50005*

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 "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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 Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" ,  
 "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/24/2011 5:19 AM  
**Subject:** Wolverine Federal 19-4 Update

1/24/2011 5:15 AM

Drilling at 5,114, PR 30 fph,

Casing point is 7,300' firm

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
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*T 235 ROWS-19 43041-50009*

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"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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"Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim  
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"LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin Hendricks" ,  
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Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" ,  
"Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/25/2011 7:07 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/25/2011 7:04 AM

Orient directional tools, hole depth 5,423'

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
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"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis,  
Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/26/2011 7:17 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/26/2011 7:13 AM

Drilling at 5,745', PR 15 fph

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
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T935 R01W 5-19 43-041-50005

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**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet, Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "KC Schultz" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin Hendricks" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shaun Burns" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/27/2011 7:39 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/27/2011 7:35 AM

Drilling at 5,984', PR 5 fph

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
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Carol Daniels - Wolverine Federal 19-4 Update T 235 R01W 5-19 43-041-50005

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**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Shorty" , , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis,  
Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/28/2011 7:31 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/28/2011 7:27 AM

Drilling at 6,244', PR 16 fph

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
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"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/29/2011 5:08 AM  
**Subject:** Wolverine Federal 19-4 Update

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1/29/2011 5:03 AM

Tripping, hole depth 6,269'

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
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*TABS ROW S-19 93-041-50005*

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**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/30/2011 7:16 AM  
**Subject:** Wolverine Federal 19-4 Update

1/30/2011 7:11 AM

Drilling at 6,420', PR 60 fph

Casing point is 7,300'

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
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**Carol Daniels - Wolverine Federal 19-4 Update**

*TASSR01W5-19 43-041-50005*

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**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
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Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/31/2011 7:10 AM  
**Subject:** Wolverine Federal 19-4 Update

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1/31/2011 7:06 AM

Drilling at 6,816', PR 14 fph

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
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**Carol Daniels - Wolverine Federal 19-4 Update**

*T 235 R01W 5-19 43-041-50005*

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**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
 "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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 Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/31/2011 1:27 PM  
**Subject:** Wolverine Federal 19-4 Update

1/31/2011 12:56 PM

The top of the pay zone has been picked.

Total depth will be from 7,320 to 7,420'

Current depth is 6,891', PR 20 fph

A trip may be necessary before we reach TD

Logs will determine if production casing will be run

Preliminary data indicates casing most likely will be run

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
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**Carol Daniels - Wolverine Federal 19-4 Update**

*T 235 ROW 5-19 43-041-50005*

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet, Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "KC Schultz" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin Hendricks" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shaun Burns" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 2/1/2011 7:10 AM  
**Subject:** Wolverine Federal 19-4 Update

---

2/1/2011 7:04 AM

Drilling at 7,181', PR 39 fph,

TD expected this evening,

Plan: TD, circ and cond, TOH for logs, log, TIH, TOH LD DP&BHA, run casing, cement

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
**API 43-041-50005-00-00**  
**Rig (970) 812-0022**  
**Cell (720) 351-7470**  
**Fax (435) 304-1222**  
**[wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net)**

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**Carol Daniels - Wolverine Federal 19-4 Update** T 235 R01W 5-19 43-041-50005

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Shorty" , , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis,  
Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 2/1/2011 6:49 PM  
**Subject:** Wolverine Federal 19-4 Update

---

2/1/2011 6:45 PM

Total depth of 7,405' MD reached.

Open hole loggers have been called for Wednesday morning.

**Bill Donovan**  
**Drilling Supervisor**  
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**Carol Daniels - Wolverine Federal 19-4 Update**

*T235 R91W 5-19 43-041-50005*

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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"Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim  
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Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis,  
Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 2/2/2011 8:37 AM  
**Subject:** Wolverine Federal 19-4 Update

---

2/2/2011 8:32 AM

Halliburton rigging up for first logging run

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
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**Carol Daniels - Wolverine Federal 19-4 Update**

T 235 19014 5-19 43-041-50005

**From:** "Wolverine Exploration Rig"

**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet, Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "KC Schultz" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin Hendricks" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shaun Burns" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"

**Date:** 2/3/2011 4:40 AM

**Subject:** Wolverine Federal 19-4 Update

2/3/2011 4:36 AM

TIH at 1,310'

Plan:

TIH, circulate and condition mud, TOH laying down drill pipe, run casing

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
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**Carol Daniels - Wolverine Federal 19-4 Update**

*T235 R01W 5-19 43-046-50005*

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet, Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "KC Schultz" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin Hendricks" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shaun Burns" , "Shawn Moulton" , "Shelton, Shorty" , , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 2/3/2011 9:03 PM  
**Subject:** Wolverine Federal 19-4 Update

---

2/3/2011 8:57 PM

TOH LD DP at 2,088'

The plan is to run casing tonight and cement tomorrow.

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
**API 43-041-50005-00-00**  
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Carol Daniels - Wolverine Federal 19-4 update

T 235 Row 5-19 43-041-5005

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 2/4/2011 8:02 AM  
**Subject:** Wolverine Federal 19-4 update

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2/4/2011 7:58 AM

Running 7" casing at 2,500'

Cementers to be on location at 4:00 PM today

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
**API 43-041-50005-00-00**  
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FEB 04 2011

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**Carol Daniels - Wolverine Federal 19-4 update** T 735 R014 5-19 43,041-50005

---

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis,  
Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 2/5/2011 6:29 AM  
**Subject:** Wolverine Federal 19-4 update

---

2/5/2011 6:25 AM

ND BOP to cut off 7" csg.

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 812-0022**  
**Cell (970) 314-8219**  
**Fax (435) 304-1222**  
**[wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net)**

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**FEB 05 2011**

**DIV. OF OIL, GAS & MINING**

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>  <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 73528
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  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.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  <b>7. UNIT or CA AGREEMENT NAME:</b> WOLVERINE
<b>1. TYPE OF WELL</b> Oil Well	<b>8. WELL NAME and NUMBER:</b> WOLVERINE FED 19-4
<b>2. NAME OF OPERATOR:</b> WOLVERINE GAS & OIL COMPANY OF UTAH, LLC	<b>9. API NUMBER:</b> 43041500050000
<b>3. ADDRESS OF OPERATOR:</b> One Riverfront Plaza 55 Campau NW, Grand Rapids, MI, 49503	<b>PHONE NUMBER:</b> 616 458-1150 Ext
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0742 FNL 1972 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 19 Township: 23.0S Range: 01.0W Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> COVENANT  <b>COUNTY:</b> SEVIER  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 2/22/2010	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  
 Please see attached document for drilling report details.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**

<b>NAME (PLEASE PRINT)</b> Helene Bardolph	<b>PHONE NUMBER</b> 616 458-1150	<b>TITLE</b> Engineering Administrative Assistant
<b>SIGNATURE</b> N/A		<b>DATE</b> 2/22/2011

Wolverine Gas & Oil Company of Utah, LLC  
Wolverine Federal 19-4  
NE¼ NW¼ Sec 19-T23S-R1W surface location  
Sevier County, Utah

8 January 2011

Depth 120' GL, 16 @ 120' GL. Drill conductor hole, set & cement conductor casing. MW – none, Vis. – none, FL – none. Surveys: none.

9 January 2011

Depth 120' GL, 16 @ 120' GL. RURT. MW – none, Vis. – none, FL – none. Surveys: none.

10 January 2011

Depth 120' GL, 16 @ 120' GL. RURT. MW – none, Vis. – none, FL – none. Surveys: none

11 January 2011

Depth 372' DF, 16 @ 142' DF. PU tools, spud 12¼ hole at 0900, 01/10/11, drill, rig repair. MW – 8.6, Vis. – 41, FL – 15.8. Surveys: none.

12 January 2011

Depth 556' DF, 16 @ 142' DF. Rig repair, drill. MW – 8.7, Vis. – 45, FL – 13.2. Surveys: 0.11° @ 284', 0.28° @ 315', 0.17° @ 349', 0.22° @ 379', 0.62° @ 409', 1.33° @ 440' & 1.77° @ 470'.

13 January 2011

Depth 890' DF, 16 @ 142' DF. Drill, trip for new motor, drill. MW – 8.6, Vis. – 42, FL – 50. Surveys: 5.27° @ 590', 5.6° @ 620', 5.93° @ 651', 6° @ 681', 6° @ 713', 6.13° @ 743' & 6.41° @ 740'.

14 January 2011

Depth 1700' DF, 16 @ 142' DF. Drill & survey. MW – 8.9, Vis. – 51, FL – 12.3. Surveys: 12.25° @ 1027', 13.34° @ 1059', 16.11° @ 1154', 18.5° @ 1249', 19.9° @ 1345', 21.54° @ 1440' & 23.1° @ 1536'.

15 January 2011

Depth 2100' DF, 16 @ 142' DF. Drill, C&C, POOH, LD directional tools, run 9⅝ surface casing. MW – 9.4, Vis. – 43, FL – 30. Surveys: 24.32° @ 1631', 26.02° @ 1726', 28.79° @ 1822', 31.42° @ 1917', 33.7° @ 2012' & 33.24° @ 2041'.

16 January 2011

Depth 2100' GL, 16 @ 142' DF. Ran 46 jts 9⅝ 40# J-55 & 4 jts 9⅝ 36# J-55 LTC, set at 2100', cement w/ 378 sx Schlumberger light mixed @ 12.5 ppg, tail w/ 282 sx Schlumberger Cl. "G" mixed @ 15.8 ppg, woc, LD bha, cut off casing, weld on & test bradenhead, NU BOP's. MW – 10.3, Vis. – 66, FL – 80. Surveys: none.

17 January 2011

Depth 2100' GL, 16 @ 142' DF. NU BOP's, test BOP's, install wear bushing, PU directional tools, SWDP, jars, test directional tools. MW – 10.7, Vis. – 73, FL – 6.2. Surveys: none Depth 120' GL, 16 @ 120' GL. RURT. MW – none, Vis. – none, FL – none. Surveys: none

18 January 2011 Depth 2450' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. TIH, drill shoe, FIT to 11.2 ppg emw, drill string plugged, trip for new tools, drill & survey. MW – 10.5, Vis. – 50, FL – 5.6. Surveys: 33.1° @ 2172', 33.02° @ 2268' & 33.09° @ 2363'.

19 January 2011

Depth 3243' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. Drill & survey. MW – 10.5, Vis. – 59, FL – 9.2. Surveys: 33.63° @ 2554', 33.51° @ 2649', 33.69° @ 2744', 33.83° @ 2840', 33.88° @ 2934', 33.7° @ 3031' & 33.78° @ 3125'.

20 January 2011

Depth 3774' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. Drill & survey. MW – 10.6, Vis. – 59, FL – 9.8. Surveys: 33.69° @ 3221', 33.71° @ 3316', 33.73° @ 3411', 33.69° @ 3506', 34.61° @ 3600' & 34.29° @ 3695'.

21 January 2011

Depth 4168' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. Drill & survey, C&C. MW – 10.6, Vis. – 57, FL – 9.4. Surveys: 34.39° @ 3790', 33.93° @ 3885', 34.45° @ 3890' & 34.41° @ 4075'.

22 January 2011

Depth 4425' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. C&C, trip for new motor, drill & survey. MW – 10.6, Vis. – 53, FL – 8.8. Surveys: 34.39° @ 3790', 33.93° @ 3885', 34.45° @ 3980', 34.41° @ 4075', 34.35° @ 4171' & 34.77° @ 4266'.

23 January 2011

Depth 4755 MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. Drill & survey. MW – 10.7, Vis. – 58, FL – 7.4. Surveys: 34.52° @ 4361', 34.49° @ 4456', 34.47° @ 4552' & 34.58° @ 4647'.

24 January 2011

Depth 5127' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. Drill & survey. MW – 10.6, Vis. – 53, FL – 7.8. Surveys: 33.52° @ 4743', 33.51° @ 4838', 33.64° @ 4932' & 33.93° @ 5027'.

25 January 2011

Depth 5421' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. Drill & survey. MW – 10.7, Vis. – 54, FL – 8. Surveys: 33.6° @ 5091', 33.9° @ 5155', 33.7° @ 5218', 33.7° @ 5281' & 33.7° @ 5342'.

26 January 2011

Depth 5730' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. Drill & survey. MW – 10.7, Vis. – 52, FL – 8.2. Surveys: 31.4° @ 5405', 30.6° @ 5468', 30.4° @ 5532' & 30.8° @ 5594'.

27 January 2011

Depth 5982' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. Drill & survey. MW – 10.7, Vis. – 56, FL – 7.8. Surveys: 29.8° @ 5657', 27.8° @ 5720', 25.7° @ 5783', 23.2° @ 5846' & 20.9° @ 5909'.

28 January 2011

Depth 6197' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. Drill & survey, C&C. MW – 10.7, Vis. – 52, FL – 7.6. Surveys: 19.5° @ 5972', 17.3° @ 6035', 15.7° @ 6098' & 13.3° @ 6160'.

29 January 2011

Depth 6273' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. Drill, trip for bit & motor, MWD failed trip for new MWD, wait on tools. MW – 10.6, Vis. – 55, FL – 7.5. Surveys: none.

30 January 2011

Depth 6391' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. Wait on tools, GIH w/new tools, drill & survey. MW – 10.6, Vis. – 50, FL – 8.2. Surveys: 12° @ 6247'.

31 January 2011

Depth 6796' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. Drill & survey. MW – 10.6, Vis. – 54, FL – 9.9. Surveys: 9.9° @ 6341', 7.2° @ 6404', 5.1° @ 6467', 3.7° @ 6530', 2.3° @ 6593', 2° @ 6657' & 1.0° @ 6720'.

1 February 2011

Depth 7152' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. Drill & survey. MW – 10.6, Vis. – 56, FL – 8.7. Surveys: 0° @ 6783', 0° @ 6846', 0° @ 6909', 0° @ 6972' & 0° @ 7035'.

2 February 2011

Depth 7345' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. Drill & survey, C&C, POOH, RU loggers. MW – 10.7, Vis. – 53, FL – 8.3. Surveys: 0° @ 7098', 7161', 7223', 7298' & 7349'.

3 February 2011

Depth 7345' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. RU Halliburton loggers, run open hole logs, GIH. MW – 10.7, Vis. – 62, FL – 8.4. Surveys: none.

4 February 2011

Depth 7345' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. GIH, C&C, LDDP & BHA, RU casing crew, run 7" casing. MW – 10.7, Vis. – 58, FL – 8.2. Surveys: none.

5 February 2011

Depth 7345' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. Run 7" casing, C&C, land casing at 7345', cement w/ Schlumberger, pumped 40 bbl MudPush II mixed at 11.2 ppg, 465 sx Poz/G mixed at 12.0 ppg (yield 3.02 cf/sk), tail w/ 140 sx TX lite wt mixed at 14.4 ppg (yield 1.36 cf/sk), displace w/ 278 bw, cement circulated to pit, bump plug to 1980 psi, floats held, WOC@ 01:33 2/5/11. MW – 10.7, Vis. – 45, FL – 8. Surveys: none.

6 February 2011

Depth 7345' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. PU BOP stack, rough cut 7" casing, set stack back on bradenhead, dump & clean mud tanks, RD and winterize to put rig on standby, rig released 18:00 hrs 2/5/11, rig on standby awaiting move to Rough Canyon Fed. 30-1. MW – none, Vis. – none, FL – none. Surveys: none.

7 February 2011

Depth 7345' MD, 9<sup>5</sup>/<sub>8</sub> @ 2100' MD. Rig on standby, final report from the drilling dept. MW – none, Vis. – none, FL – none. Surveys: none.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**CONFIDENTIAL**

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

FORM APPROVED  
OMB NO. 1004-0137  
Expires: March 31, 2007

1a. Type of Well  Oil Well  Gas Well  Dry  Other  
 b. Type of Completion:  New Well  Work Over  Deepen  Plug Back  Diff. Resvr.,  
 Other \_\_\_\_\_

2. Name of Operator **Wolverine Gas & Oil Co. of Utah, LLC**

3. Address **55 Campau NW, Grand Rapids, MI 49503**

3a. Phone No. (include area code)  
**616-458-1150**

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

At surface **742' FNL, 1972' FWL, NENW, Sec. 19, T23S, R1W**

At top prod. interval reported below **562' FNL, 593' FEL, NENE, Sec. 19, T23S, R1W**

At total depth **562' FNL, 593' FEL, NENE, Sec. 19, T23S, R1W**

*BHL reviewed  
by HSM*

5. Lease Serial No.  
**UTU-73528**

6. If Indian, Allottee or Tribe Name  
**N.A.**

7. Unit or CA Agreement Name and No.  
**Wolverine Fed Exploration Unit**

8. Lease Name and Well No.  
**Wolverine Federal 19-4**

9. AFI Well No.  
**43041500050005**

10. Field and Pool, or Exploratory  
**Covenant Field**

11. Sec., T., R., M., on Block and  
Survey or Area **19, T23S, R1W,  
NENW**

12. County or Parish **Sevier** 13. State  
**UT**

14. Date Spudded  
**01/10/2011**

15. Date T.D. Reached  
**02/02/2011**

16. Date Completed **4/17/2011**  
 D & A  Ready to Prod.

17. Elevations (DF, RKB, RT, GL)\*  
**5845' KB, 5823' GL**

18. Total Depth: MD **7335'**  
TVD **6596' 87**

19. Plug Back T.D.: MD **7256'**  
TVD **6515' 08**

20. Depth Bridge Plug Set: MD  
TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)  
**DLL/MSFL/GR, SDL/DSN/GR, XMRI, BCS, CBL**

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

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

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
22"	16"		0	142'		12 yds Redi-c		surface	
14-3/4"	9 5/8/J55	40#	0	2100'		653 sx PremG	199 bbls	surface	
8-3/4"	7"/N80	26#	0	1357'		Lead-465 G	248 bbls	surface	
	7/HCL80	26#	1357'	6470'		Tail-140 TX	34 bbls		
	7"/L80	26#	6470'	7335'					

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2 7/8	6787							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) Navajo	6904	6985	6904-6920	.41"	96	Producing - Open
B)			6944-6964	.41"	120	Producing - Open
C)			6974-6985	.41"	66	Producing - Open
D)						

26. Perforation Record

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

Depth Interval	Amount and Type of Material
6944-6964	1600 gallons of 7-1/2% FE HCL acid with 60 buoyant balls
6974-6985	800 gallons of 7-1/2% FE HCL acid with no balls

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
04/17/2011	05/01/2011	24	→	670	Tr	70	40		Electric Submersible Pump
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
			→	670	Tr	70			Producing Oil Well

28a. Production - Interval B

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

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MAY 16 2011

\*(See instructions and spaces for additional data on page 2)

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28b. Production - Interval C

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

28c. Production - Interval D

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

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

Vented

30. Summary of Porous Zones (Include Aquifers):

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

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
Navajo 1	6802'		Oil and Water	Arapien Twin Creek I Navajo I	Surface 6434' 6802'

32. Additional remarks (include plugging procedure):

33. Indicate which items have been attached by placing a check in the appropriate boxes:

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

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

Name (please print) Matthew Rivers Title Production Engineer  
 Signature  Date 05/09/2011

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

# HALLIBURTON

## DIRECTION FIELD PRINT

COMPANY  
WELL  
FIELD  
COUNTY  
STATE

WOLVERINE OIL AND GAS  
WOLVERINE FEDERAL 19-4  
COVENANT  
SEVIER  
UT

COMPANY WOLVERINE OIL AND GAS  
WELL WOLVERINE FEDERAL 19-4  
FIELD COVENANT  
COUNTY SEVIER  
STATE UT

API No. 43041500050000  
Location SHL: 742' FNL & 1972' FWL NENW  
SEC. 19, T-23S, R-1W

**RECEIVED**  
**MAY 16 2011**  
DIV. OF OIL, GAS & MINING

Other Services:  
RWCH  
BSAT  
XRFI  
SFTT

Sect. 19 Twp. 23 S Rge. 1 W

Permanent Datum	GL	Elev. 5823.0 ft	Elev.: K.B.	5845.0 ft
Log measured from	KB	22.0 ft above perm. Datum	D.F.	5845.0 ft
Drilling measured from	KB		G.L.	5823.0 ft
Date	02-Feb-11			
Run No.	ONE			
Depth - Driller	7345.00 ft			
Depth - Logger	7335.0 ft			
Bottom - Logged Interval	7333.0 ft			
Top - Logged Interval	2000.0 ft			
Casing - Driller	9.625 in	@ 2100.0 ft		@
Casing - Logger	2092.0 ft			
Bit Size	8.750 in		@	@
Type Fluid in Hole	WBM			
Density	Viscosity	10.6 ppg	59.00 s/qt	
PH	Fluid Loss	10.00 pH	8.9 cptom	
Source of Sample	MUD TANK			
Rm @ Meas. Temperature	0.012 ohmm	@ 50.40 degF		@
Rmf @ Meas. Temperature	0.06 ohmm	@ 75.00 degF		@
Rmc @ Meas. Temperature	0.018 ohmm	@ 75.00 degF		@
Source Rmf	Rmc	CHART	CHART	
Rm @ BHT	0.30 ohmm	@ 181.0 degF		@
Time Since Circulation	8.0 hr			
Time on Bottom	02-Feb-11 10:25			
Max. Rec. Temperature	181.0 degF	@ 7335.0 ft		@
Equipment	Location	11014853	G.J., CO	
Recorded By	W. MATSON			
Witnessed By	BILL DONOVAN			

Fold here

Service Ticket No.: 7937302		API Serial No.: 43041500050000		PGM Version: VM INSITE R3.2.1 (Build 7)	
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE			RESISTIVITY SCALE CHANGES		
Date	Sample No.	Type Log	Depth	Scale Up Hole	Scale Down Hole
Depth-Driller					
Type Fluid in Hole					
Density					
Viscosity					
Fluid Loss					
Source of Sample					
Rm @ Meas. Temp	@	Run No.	Tool Type & No.	Pad Type	Tool Pos.
Rmf @ Meas. Temp.	@	ONE	DLLT	N/A	CENT.
Rmc @ Meas. Temp.	@	ONE	P994M829S212		N/A
Source Rmf		ONE	MSFL	SLIM.	CENT.
Rm @ BHT	@		S212M038		
Rmf @ BHT	@				
Rmc @ BHT	@				
EQUIPMENT DATA			RESISTIVITY EQUIPMENT DATA		
GAMMA			DENSITY		
Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	11004661	Serial No.	10951314	Serial No.	10993888
Model No.	GTET	Model No.	SDLT	Model No.	DSNT
Diameter	3.625"	Diameter	4.5"	Diameter	3.625"
Detector Model No.	102A	Log Type	GAMMA/GAMMA	Log Type	THERM/THERM
Type	SCINT	Source Type	Cs-137	Source Type	Am241Be
Length	8"	Serial No.	5153 GW	Serial No.	DSN-388
Distance to Source	11'	Strength	1.5 Ci	Strength	15 Ci
LOGGING DATA			EQUIPMENT DATA		
ACOUSTIC			NEUTRON		
Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	11004661	Serial No.	10951314	Serial No.	10993888
Model No.	GTET	Model No.	SDLT	Model No.	DSNT
Diameter	3.625"	Diameter	4.5"	Diameter	3.625"
Detector Model No.	102A	Log Type	GAMMA/GAMMA	Log Type	THERM/THERM
Type	SCINT	Source Type	Cs-137	Source Type	Am241Be
Length	8"	Serial No.	5153 GW	Serial No.	DSN-388
Distance to Source	11'	Strength	1.5 Ci	Strength	15 Ci

GENERAL			GAMMA		ACOUSTIC			DENSITY			NEUTRON			
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	TD	CSG	REC	0	150	30%	0%	55.5 us/ft	30%	0%	2.65 g/cc	30%	0%	SAND

**DIRECTIONAL INFORMATION**

Maximum Deviation @ KOP @

Remarks: RUN ONE: RWCH/GTET/SDL/DSN/DLLT

RUN TWO: RWCH/GTET/BSAT

RUN THREE: RWCH/D4TG/XRMI

RUN FOUR: RWCH/D4TG/SFTT

ANNULAR HOLE VOLUME CALCULATED FOR 7" PRODUCTION CASING.

TENSION PULLS MAY AFFECT TOOL RESPONSE

YOUR CREW TODAY: J. WILKERSON, M. BRANDELL RIG: PATT 304

THANKYOU FOR CHOOSING HALLIBURTON ENERGY SERVICES, G.J. CO., (970)523-3600.

HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

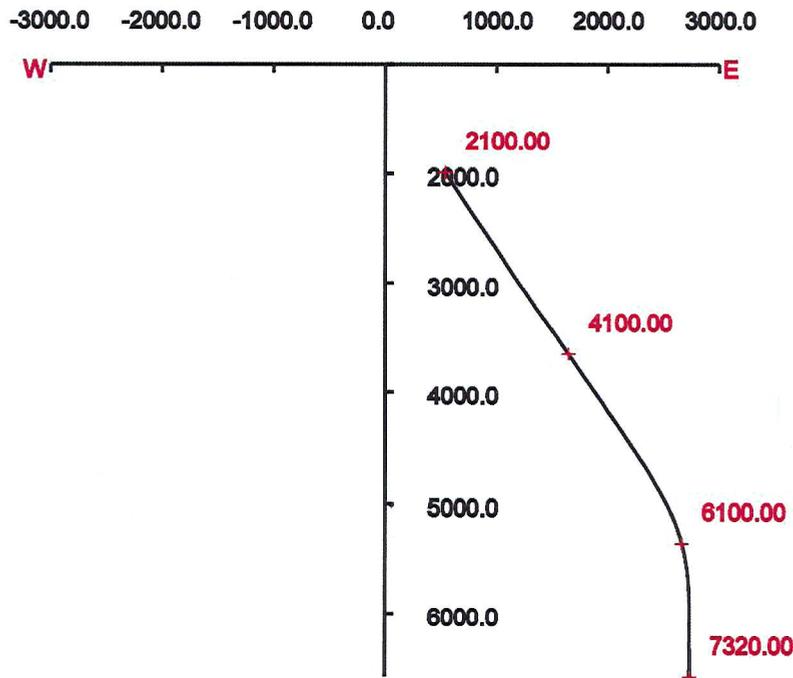
HALLIBURTON

**HALLIBURTON**

**TVD SURVEY REPORT**

Hole Position Calculation Method:	Minimum Curvature	Tie in Data	Depth:	0.00	ft
Magnetic Declination:	11.857 deg		TVD:	0.00	ft
			Inclination:	0.0	deg
			Azimuth:	0.00	deg
			N/S Departure:	0.00	ft
			E/W Departure:	0.00	ft

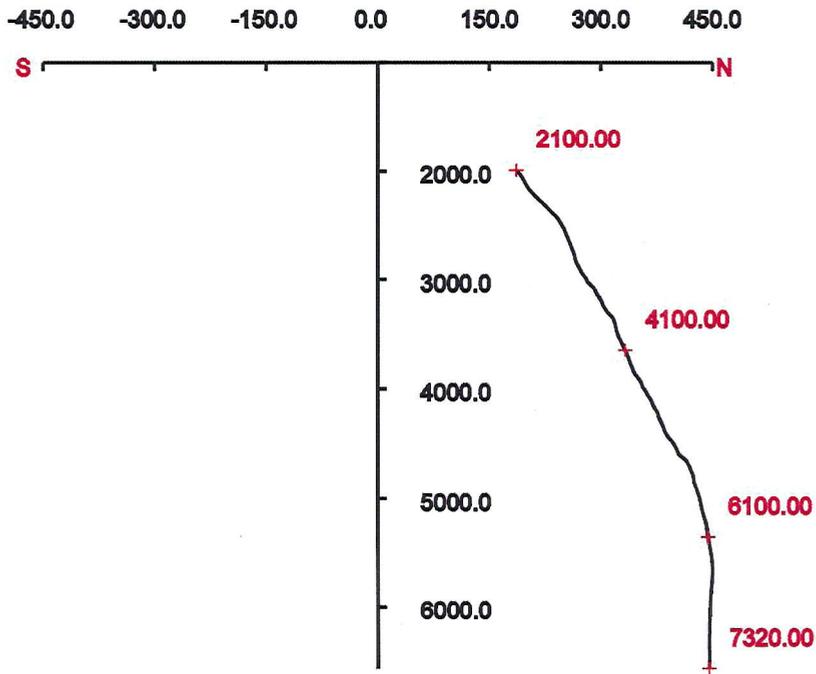
**TVD CROSS SECTION LOOKING NORTH**



MD : 7320.00 feet

Horizontal Scale: 1000 feet/division  
 Depth Scale: 1000 feet/division

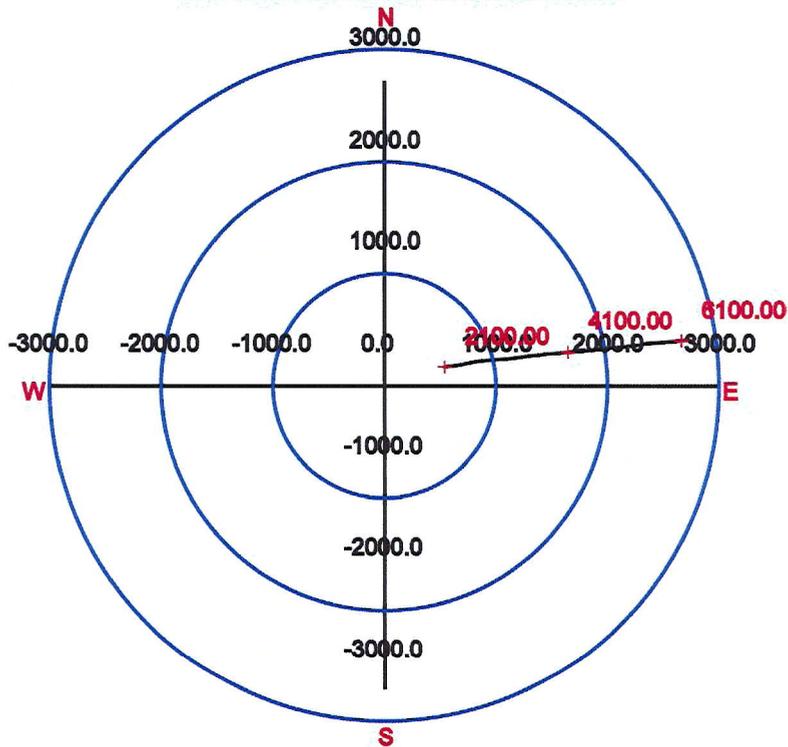
**TVD CROSS SECTION LOOKING WEST**



MD : 7320.00 feet

Horizontal Scale: 150 feet/division  
 Depth Scale: 1000 feet/division

**TVD CROSS SECTION LOOKING DOWN**



MD : 7320.00 feet  
 Scale: 1000 feet/division

Measured Depth (ft)	Inclination (deg)	True Vertical Depth (ft)	Azimuth (deg)	N/S Departure (ft)	E/W Departure (ft)
2100.00	32.0	1992.20	71.00	186.26	540.99

2130.00	32.2	2017.62	82.25	189.93	556.45
2160.00	34.5	2042.68	79.79	192.52	572.75
2190.00	33.6	2067.54	83.04	195.03	589.35
2220.00	33.1	2092.60	84.00	196.89	605.74
2250.00	33.4	2117.68	82.22	198.87	622.08
2280.00	32.2	2142.88	83.42	200.90	638.22
2310.00	33.7	2168.06	79.62	203.32	654.35
2340.00	33.5	2193.05	77.94	206.55	670.63
2370.00	32.2	2218.24	79.18	209.78	686.59
2400.00	34.2	2243.35	75.47	213.40	702.60
2430.00	34.7	2268.08	76.78	217.47	719.08
2460.00	35.1	2292.69	75.85	221.53	735.76
2490.00	32.3	2317.65	79.51	225.10	752.00
2520.00	34.3	2342.73	76.85	228.48	768.12
2550.00	34.0	2367.55	77.93	232.16	784.55
2580.00	34.2	2392.40	78.59	235.58	801.01
2610.00	36.9	2416.81	75.04	239.57	817.98
2640.00	32.7	2441.47	84.02	242.74	834.74
2670.00	34.0	2466.53	82.38	244.70	851.11
2700.00	34.2	2491.36	82.11	246.97	867.80
2730.00	33.8	2516.22	82.98	249.15	884.45
2760.00	33.3	2541.21	84.42	250.97	900.94
2790.00	33.1	2566.32	85.31	252.44	917.29
2820.00	33.3	2591.43	84.66	253.87	933.65
2850.00	33.2	2616.52	85.01	255.35	950.03
2880.00	33.4	2641.59	84.47	256.86	966.43
2910.00	33.2	2666.67	85.27	258.33	982.83
2940.00	33.5	2691.73	84.55	259.80	999.26
2970.00	32.9	2716.82	85.79	261.18	1015.64
3000.00	33.9	2741.86	83.34	262.75	1032.09
3030.00	31.7	2767.09	87.31	264.09	1048.26
3060.00	32.2	2792.55	86.46	264.95	1064.10
3090.00	31.5	2818.05	87.82	265.75	1079.89
3120.00	33.8	2843.31	83.13	267.04	1096.01
3150.00	33.4	2868.30	83.08	269.04	1112.49
3180.00	33.3	2893.36	83.04	271.03	1128.86
3210.00	33.0	2918.46	83.41	272.97	1145.17
3240.00	33.1	2943.60	83.44	274.84	1161.44
3270.00	35.6	2968.37	78.37	277.54	1178.14
3300.00	33.2	2993.13	83.32	280.26	1194.84
3330.00	32.9	3018.29	85.02	281.92	1211.09
3360.00	37.8	3042.78	75.98	284.85	1228.15
3390.00	36.9	3066.62	77.90	288.97	1245.88
3420.00	33.7	3091.10	83.08	291.87	1262.96
3450.00	33.3	3116.11	84.09	293.72	1279.43
3480.00	34.3	3141.04	82.29	295.70	1296.01
3510.00	34.3	3165.82	81.51	298.08	1312.74
3540.00	34.1	3190.64	83.44	300.29	1329.45
3570.00	34.0	3215.50	86.91	301.70	1346.18
3600.00	34.6	3240.29	84.05	303.04	1363.02
3630.00	35.7	3264.82	80.95	305.30	1380.14
3660.00	34.5	3289.37	83.71	307.61	1397.23
3690.00	38.4	3313.51	75.95	310.80	1414.73
3720.00	35.7	3337.45	81.16	314.41	1432.42
3750.00	35.0	3361.92	84.14	316.64	1449.64
3780.00	33.9	3386.65	87.05	317.95	1466.56
3810.00	35.4	3411.33	84.78	319.17	1483.58
3840.00	34.0	3436.00	88.49	320.18	1500.61
3870.00	34.0	3460.87	86.90	320.85	1517.38
3900.00	34.4	3485.67	85.91	321.91	1534.22
3930.00	33.9	3510.50	85.81	323.13	1551.02
3960.00	34.8	3535.27	83.55	324.70	1567.87
3990.00	34.9	3559.88	83.37	326.66	1584.91
4020.00	34.3	3584.58	84.71	328.43	1601.85

4050.00	34.2	3609.37	85.18	329.91	1618.67.
4080.00	35.1	3634.05	83.36	331.62	1635.64
4110.00	34.5	3658.69	84.13	333.49	1652.65
4140.00	34.1	3683.47	84.71	335.13	1669.48
4170.00	34.9	3708.19	84.43	336.74	1686.40
4200.00	33.8	3732.97	86.02	338.15	1703.25
4230.00	33.6	3757.93	85.40	339.39	1719.85
4260.00	34.6	3782.77	83.96	340.96	1736.60
4290.00	33.7	3807.59	85.21	342.55	1753.37
4320.00	33.2	3832.61	86.64	343.73	1769.88
4350.00	35.2	3857.42	82.27	345.37	1786.67
4380.00	36.6	3881.71	79.45	348.18	1804.04
4410.00	34.5	3906.12	82.91	350.86	1821.26
4440.00	34.9	3930.79	80.71	353.30	1838.17
4470.00	31.9	3955.83	87.31	355.06	1854.58
4500.00	33.7	3981.05	84.00	356.30	1870.78
4530.00	36.4	4005.62	80.40	358.65	1887.82
4560.00	35.1	4029.97	82.44	361.27	1905.14
4590.00	33.9	4054.71	84.50	363.21	1922.00
4620.00	35.5	4079.39	80.62	365.43	1938.91
4650.00	34.5	4103.98	84.58	367.65	1955.95
4680.00	33.8	4128.81	85.72	369.07	1972.71
4710.00	34.7	4153.62	83.96	370.59	1989.52
4740.00	33.8	4178.42	84.04	372.35	2006.29
4770.00	35.7	4203.08	80.96	374.59	2023.22
4800.00	33.2	4227.83	86.56	376.46	2040.07
4830.00	31.4	4253.19	89.16	377.07	2056.08
4860.00	36.4	4278.11	80.21	378.70	2072.68
4890.00	32.8	4302.80	86.34	380.73	2089.57
4920.00	34.9	4327.71	81.84	382.47	2106.19
4950.00	33.2	4352.57	86.50	384.19	2122.90
4980.00	32.5	4377.76	86.02	385.25	2139.15
5010.00	34.9	4402.71	81.47	387.09	2155.69
5040.00	33.2	4427.57	84.16	389.20	2172.36
5070.00	36.7	4452.16	77.46	391.98	2189.30
5100.00	36.1	4476.31	80.32	395.42	2206.76
5130.00	33.9	4500.88	83.83	397.80	2223.80
5160.00	35.0	4525.61	81.48	399.98	2240.64
5190.00	32.2	4550.59	85.51	401.88	2257.14
5220.00	34.3	4575.67	83.81	403.42	2273.52
5250.00	31.8	4600.80	85.66	404.93	2289.82
5280.00	42.5	4624.75	67.57	409.42	2307.18
5310.00	33.0	4648.49	82.97	414.31	2324.74
5340.00	32.9	4673.67	81.93	416.46	2340.90
5370.00	31.2	4699.11	83.59	418.47	2356.68
5400.00	29.9	4724.94	84.97	419.99	2371.86
5430.00	30.6	4750.85	83.33	421.54	2386.90
5460.00	30.7	4776.65	83.96	423.23	2402.11
5490.00	28.4	4802.75	87.65	424.33	2416.86
5520.00	29.4	4829.02	89.00	424.75	2431.34
5550.00	30.3	4855.04	86.21	425.38	2446.26
5580.00	30.9	4880.87	83.49	426.75	2461.45
5610.00	29.4	4906.81	84.59	428.32	2476.44
5640.00	29.6	4932.92	85.55	429.59	2491.15
5670.00	29.8	4958.98	84.53	430.87	2505.96
5700.00	28.3	4985.21	85.51	432.14	2520.47
5730.00	27.2	5011.75	86.14	433.16	2534.40
5760.00	25.7	5038.62	87.23	433.93	2547.74
5790.00	25.2	5065.71	85.75	434.72	2560.60
5820.00	24.2	5092.96	85.28	435.70	2573.10
5850.00	22.5	5120.51	84.97	436.71	2584.93
5880.00	20.9	5148.39	83.63	437.80	2595.95
5910.00	19.8	5176.52	83.46	438.97	2606.30
5940.00	20.7	5204.67	82.28	440.26	2616.60
5970.00	18.7	5232.91	86.08	441.30	2626.65

6000.00	17.7	5261.41	85.87	441.96	2636.01
6030.00	16.7	5290.07	85.19	442.65	2644.86
6060.00	16.4	5318.83	85.34	443.36	2653.36
6090.00	15.3	5347.69	87.00	443.91	2661.54
6120.00	14.4	5376.68	85.51	444.41	2669.22
6150.00	13.4	5405.81	84.25	445.05	2676.38
6180.00	12.1	5435.07	82.16	445.83	2682.95
6210.00	11.1	5464.45	83.12	446.60	2688.94
6240.00	10.4	5493.93	82.48	447.30	2694.48
6270.00	9.9	5523.46	82.03	448.01	2699.72
6300.00	8.5	5553.07	83.80	448.61	2704.48
6330.00	7.7	5582.77	83.99	449.06	2708.67
6360.00	6.5	5612.54	86.27	449.38	2712.36
6390.00	5.8	5642.37	88.10	449.54	2715.56
6420.00	5.1	5672.24	90.61	449.58	2718.41
6450.00	4.0	5702.14	92.82	449.51	2720.79
6480.00	3.4	5732.08	100.89	449.29	2722.71
6510.00	3.1	5762.03	100.63	448.97	2724.39
6540.00	2.0	5792.00	109.31	448.64	2725.70
6570.00	2.8	5821.97	112.10	448.19	2726.89
6600.00	1.8	5851.95	105.14	447.79	2728.03
6630.00	1.8	5881.93	121.27	447.42	2728.88
6660.00	1.4	5911.92	110.09	447.06	2729.62
6690.00	0.3	5941.92	166.24	446.85	2729.98
6720.00	0.6	5971.92	141.72	446.64	2730.10
6750.00	0.2	6001.92	73.32	446.53	2730.25
6780.00	0.2	6031.92	174.03	446.49	2730.30
6810.00	0.7	6061.91	124.05	446.33	2730.47
6840.00	0.1	6091.91	175.34	446.20	2730.63
6870.00	0.7	6121.91	163.31	446.00	2730.68
6900.00	0.6	6151.91	102.63	445.79	2730.89
6930.00	0.3	6181.91	254.08	445.74	2730.99
6960.00	0.5	6211.91	92.22	445.71	2731.06
6990.00	0.1	6241.91	266.24	445.70	2731.17
7020.00	0.7	6271.91	122.54	445.60	2731.30
7050.00	0.8	6301.91	76.00	445.55	2731.66
7080.00	0.3	6331.91	5.33	445.69	2731.87
7110.00	0.5	6361.90	87.46	445.78	2732.02
7140.00	0.3	6391.90	329.53	445.85	2732.12
7170.00	0.1	6421.90	330.02	445.92	2732.08
7200.00	0.1	6451.90	236.72	445.93	2732.06
7230.00	0.2	6481.90	289.32	445.93	2731.99
7260.00	0.4	6511.90	126.62	445.88	2732.04
7290.00	0.4	6541.90	119.34	445.76	2732.23
7320.00	0.5	6571.90	290.78	445.75	2732.21

**Horizontal displacement is relative to the well head.**

**Horizontal displacement (closure) at 7,320.00 ft is 2,768.33 ft along 80.73 deg (True).**





**Wolverine Federal 19-4**  
**API # 43-041-50005**  
**Covenant Field**  
**Section 19, T23S, R1W**  
**Sevier County, Utah**

**Tubing Detail (11/14/08)**

	22.00	KB
	-2.00	Landed above GL
215	6695.39	Tubing - 2-7/8", 6.5#, N-80, EUE, 8rd
1	1.10	Cup type SN
1	30.77	Tubing - 2-7/8", 6.5#, N-80, EUE, 8rd
1	4.75	Sub - 2-7/8", 6.5#, N-80, EUE, 8rd
1	.33	2 7/8" x 2 3/8" X-over
1	2.55	Y-Tool, Weatherford 2"x 1-1/4" (1.144" ID) instrument tube (end @ 6786' WLM, 6015' TVD)
1	10.05	Sub - 2-3/8", 4.7#, L-80, EUE, 8rd
1	11.97	Pump w/ Intake - Centrilift P12, Model 400PMSSD, 104 stage, 4.00' OD
1	6.10	Seal - Model FSB3DB H6 FER SSCV SB/SB PFSA HL 4.00" OD
1	11.93	Motor - Centrilift FMB, 56 Hp 4.50" OD
1	4.10	Downhole pressure sensor, Centinel III, 3.75" OD
1	.90	Centralizer, 2-3/8" x 5.75", 4-bladed
	6799.94	End of BHA
	-13.0	Wireline correction
	6786.94	KB MD-WLM (KB TVD-WLM 6045')

Note: No check or drain valve in this well.  
 Blanking plug in Y-Tool has a 5/8" OD catch rod  
 Tubing capacity = 0.00579 Bbl/ft, Burst = 10570 psi, Joint Yield = 144960 lbs

**Directional Data:**

MD	TVD	Incl.	MD	TVD	Incl.
500	500	2.5	4000	3577	34.4
750	749	6.2	4500	3989	34.5
1000	995	11.6	5000	4404	33.8
1250	1237	18.5	5500	4877	30.5
1500	1471	22.5	6000	5271	18.5
2000	1915	33.4	6500	5764	4.3
2500	2332	34.1	7000	6259	0.1
3000	2748	33.8	7335	6594	0.1
3500	3161	33.7			

**Wellhead Information:**

- Tubing head flange is 7-1/16", 5M with a 2-7/8" EUE 8rd top connection.

**Stimulation:**

04/18/11: 6974' - 6985' w/ 800 gallons 7-1/2% FE HCL acid and no balls @ 2.1 BPM ATP = 3000 psi  
FTP = 2700 psi

04/26/11: 6944' - 6964' w 1600 gallons 7-1/2% FE HCL acid with 60 buoyant balls (50%) @ 3 BPM  
ATP = 3500 psi; Ball action during pumping was noted

04/28/11: 6904' - 6920' perforated and swabbed. Left untreated due to high productivity.  
Well appears to have very good cement bond.

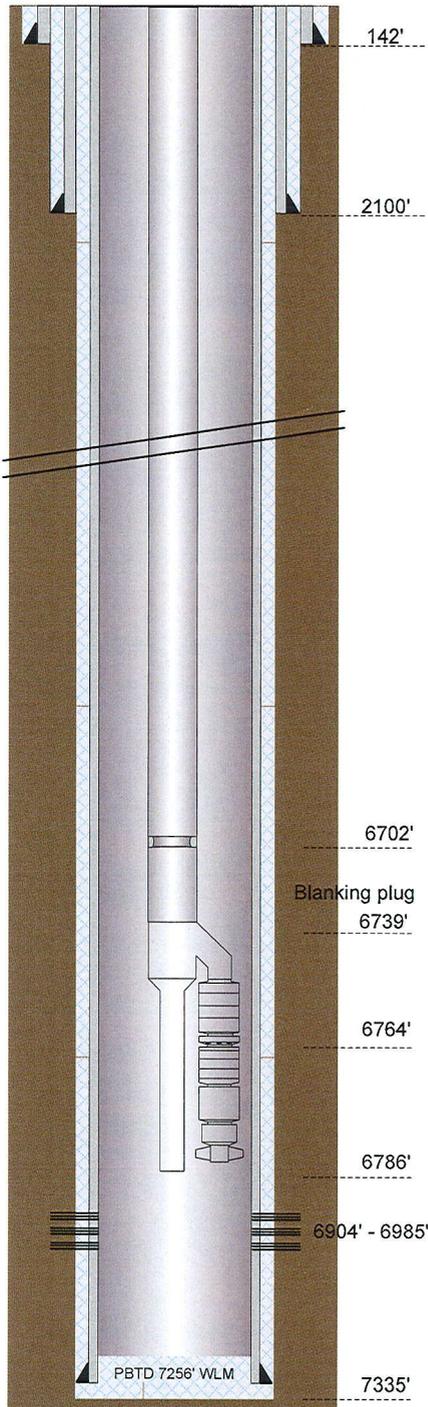
**Notes:**

Surface Location: NAD83 Latitude = 38.792818482, Longitude = -111.952847176  
 (02/02/11): Available Logs: DLL/MSFL, SDL/DSN, LSS, XRMI, CBL



**Wolverine Federal 19-4  
API # 43-041-50005  
Covenant Field  
Section 19, T23S, R1W  
Sevier County, Utah**

Ground Elevation: 5,823'  
KB Elevation: 5,845'



TD = 7335' MD (6596' TVD)  
PBTB = 7256' MD (6515' TVD)

**(Not to Scale)**

**Deviated Well**

Surface: 742' FNL 1972' FWL, NE NW, 19-23S-1W  
Top of Pay (6802' MD): 562' FNL, 593' FEL, NE NE, 19-23S-1W  
Total Depth (7345' MD): 562' FNL, 593' FEL, NE NE, 19-23S-1W

**Conductor Casing (01/08/11)**

Size: 16", 0.495" wall, 1 joint; 16", 0.210 wall, 2 joints  
Depth Landed: 142' KB  
Cement Data: Cemented to surface 12 yards Redi-mix

**Surface Casing (01/16/11)**

Size/Wt/Grade: 9-5/8", 40#, J-55, LTC, 8rd  
Depth Landed: 2100' KB  
Cement Data: Lead - 377 sks Premium G (12.5 ppg, 2.11 cf/sk),  
Tail - 276 sks Premium G (15.8 ppg, 1.16 cf/sk),  
Cemented to surface

**Production Casing (02/04/11)**

Size/Wt/Grade: 7", 26.0#, N-80/L-80/HCL-80, LTC, 8rd  
Properties: 7240 psi burst, 6.151" drift, 6.276" ID, 0.0382 Bbl/ft capacity  
Depth Landed: 7335' KB  
Cement Data: Lead - 465 sks Poz/G (12.0 ppg, 2.99 cf/sk),  
Tail - 140 sks TX Lite Weight (14.4 ppg, 1.38 cf/sk)  
Cemented to surface

**Navajo Perforations**

6904'- 6920' MD (6163'- 6179' TVD), 16' 96 holes (04/28/11)  
6944'- 6964' MD (6203'- 6223' TVD), 20' 120 holes (04/19/11)  
6974'- 6985' MD (6233'- 6244' TVD), 11' 66 holes (04/16/11)

-----  
Mid-Perf = 6945' MD (6204' TVD), 47' M (47.0' TV), 282 holes

**Tubing (4/30/11)** (see Page 2 for details)

End of BHA @ 6787' WLM (6046' TVD-WLM)  
Centinel @ 6782' WLM (6041' TVD-WLM)  
Y-Tool @ 6739' WLM (5998' TVD-WLM)  
Pump intake @ 6764' (6023' TVD-WLM)  
Seating Nipple @ 6702' (5961' TVD-WLM)

**PBTB**

4/14/11 Tagged 7269' Tubing measurement (7256' WLM)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

**SUNDRY NOTICES AND REPORTS ON WELLS**

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

5. Lease Serial No.  
**UTU-73528**

6. If Indian, Allottee or Tribe Name  
**NA**

7. If Unit or CA/Agreement, Name and/or No.  
**Wolverine Federal Unit**

8. Well Name and No.  
**Wolverine Federal 19-4**

9. API Well No.  
**43-041-50005**

10. Field and Pool, or Exploratory Area  
**Covenant Field**

11. County or Parish, State  
**Sevier County, Utah**

**SUBMIT IN TRIPLICATE- Other instructions on reverse side.**

1. Type of Well  
 Oil Well  Gas Well  Other

2. Name of Operator **Wolverine Gas and Oil Company of Utah, LLC**

3a. Address **55 Campau NW, Grand Rapids, Michigan 49503-2616**

3b. Phone No. (include area code) **616-458-1150**

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
**742' FNL, 1972' FWL, Sec. 19, T23S, R1W**

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

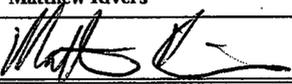
TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input checked="" type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

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

**Oil volumes in saleable quantities were recovered during completion operations of the Navajo Formation in this well on May 1, 2011.**

14. I hereby certify that the foregoing is true and correct

Name (Printed/Typed) **Matthew Rivers** Title **Production Engineer**

Signature  Date **05/06/2011**

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

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

Office \_\_\_\_\_

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

(Instructions on page 2)

**RECEIVED**

**MAY 16 2011**

**DIV. OF OIL, GAS & MINING**

**CONFIDENTIAL**

**Carol Daniels - Wolverine Federal 19-4 Update** *T 235 ROW 5-19 43-041-50005*

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope " ,  
 "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
 Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet,  
 Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis " , "Hall, Denise" ,  
 "Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim  
 Barry" , "Jimmy Germon" , "Jones, Mark" , "Kulow, Kyle" , "Kyle Cox" , "LaDee Roundy" ,  
 "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Matt Harmon" , "McCoy, Charlene" ,  
 "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup,  
 Marc" , "Rees, John M" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shaun  
 Burns" , "Shawn Moulton" , "Shelton, Shorty" , , "Steffen, Dana" , "Tujillo, Chris" , "Tyler  
 Ross" , "Winkler, Matt" , "Zimmerman, Bill" , "Kent Donner" , "McKinley, Nate"  
**Date:** 1/12/2011 7:48 AM  
**Subject:** Wolverine Federal 19-4 Update

1/12/2011 7:41 AM

Finished rig repairs, drilled to 572', beginning trip for directional tools

**EST Timing**

Finish trip at 1200 hrs 1/13  
 TD at 2100 ft 1200 hrs 1/14  
 2hrs circulation 1400 hrs 1/14  
 3hrs POOH 1700 hrs 1/14  
 2hrs laydown dir tools 1900 hrs 1/14  
 1hrs rig up Frank's 2000 hrs 1/14  
 4hrs run 9 5/8" casing 0000 hrs 1/15  
 1hrs circ and cond for cement 0100 hrs 1/15  
 2hrs cement with Schlumberger 0300 hrs 1/15

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 812-0022**  
**Cell (970) 314-8219**  
**Fax (435) 304-1222**  
**[wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net)**

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JAN 12 2011

DIV. OF OIL, GAS & MINING

**Carol Daniels - Wolverine Federal 19-4 Update** *T935 R01W 5-19 43-04150085*

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**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
 "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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 Ross" , "Winkler, Matt" , "Zimmerman, Bill" , "Kent Donner" , "McKinley, Nate"  
**Date:** 1/11/2011 7:30 PM  
**Subject:** Wolverine Federal 19-4 Update

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1/11/2011 7:20 PM

Drilling operations have once again commenced at 372'. Should reach TD in about 28 hours from now.

**EST Timing**

TD at 2200 hrs 1/12  
 2hrs circulation 0000 hrs 1/13  
 3hrs POOH 0300 hrs 1/13  
 2hrs laydown dir tools 0500 hrs 1/13  
 1hrs rig up Frank's 0700 hrs 1/13  
 4hrs run 9 5/8" casing 1100 hrs 1/13  
 1hrs circ and cond for cement 1200 hrs 1/13  
 2hrs cement with Schlumberger 1400 hrs 1/13

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**Drilling Supervisor**  
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JAN 12 2011

DIV. OF OIL, GAS & MINING

T235 ROW S-19 43-041-50005

**From:** "Wolverine Exploration Rig" <wolvexpl@drillmail.net>  
**To:** "Ainge, Jeff" <jainge@varelintl.com>, "Allen, Geoff" <geoff.allen@fmcti....>  
**Date:** 1/12/2011 5:10 PM  
**Subject:** Wolverine Federal 19-4 Update

1/12/2011 5:01 PM

CONFIDENTIAL

Drilling at 616 ft.

EST Timing

TD at 2100 ft 1700 hrs 1/13

2hrs circulation 1900 hrs 1/13

3hrs POOH 2200 hrs 1/13

2hrs laydown dir tools 0000 hrs 1/14

1hrs rig up Frank's 0100 hrs 1/14

4hrs run 9 5/8" casing 0500 hrs 1/14

1hrs circ and cond for cement 0600 hrs 1/14

2hrs cement with Schlumberger 0800 hrs 1/14

Tom Zupan

Drilling Supervisor

Wolverine Gas and Oil Company of Utah, LLC

Rig (970) 812-0022

Cell (970) 314-8219

Fax (435) 304-1222

wolvexpl@drillmail.net

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JAN 13 2011  
DIV. OF OIL, GAS & MINING

**Carol Daniels - Wolverine Federal 19-4 Update** T 235 R 01 W 5-19 43-041-50025

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
 "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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 Ross" , "Winkler, Matt" , "Zimmerman, Bill" , "Kent Donner" , "McKinley, Nate"  
**Date:** 1/13/2011 7:55 AM  
**Subject:** Wolverine Federal 19-4 Update

1/13/2011 7:46 AM

### Current Activity

Drilling at 920 ft

### EST Timing

TD at 2100 ft 0800 hrs 1/14  
 2hrs circulation 1000 hrs 1/14  
 3hrs POOH 1300 hrs 1/14  
 2hrs laydown dir tools 1500 hrs 1/14  
 1hrs rig up Frank's 1600 hrs 1/14  
 4hrs run 9 5/8" casing 2000 hrs 1/14  
 1hrs circ and cond for cement 2100 hrs 1/14  
 2hrs cement with Schlumberger 2300 hrs 1/14

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JAN 13 2011

DIV. OF OIL, GAS & MINING

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 812-0022**  
**Cell (970) 314-8219**  
**Fax (435) 304-1222**  
**[wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net)**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**CONFIDENTIAL**

FORM APPROVED  
OMB NO. 1004-0137  
Expires: March 31, 2007

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No.  
**UTU-73528**

6. If Indian, Allottee or Tribe Name  
**N.A.**

7. Unit or CA Agreement Name and No.  
**Wolverine Fed Exploration Unit**

8. Lease Name and Well No.  
**Wolverine Federal 19-4**

9. AFI Well No.  
**43041500050005**

10. Field and Pool, or Exploratory  
**Covenant Field**

11. Sec., T., R., M., on Block and Survey or Area  
**19, T23S, R1W, NENW**

12. County or Parish  
**Sevier**

13. State  
**UT**

14. Date Spudded  
**01/10/2011**

15. Date T.D. Reached  
**02/02/2011**

16. Date Completed  
**4/17/2011**  
 D & A  Ready to Prod.

17. Elevations (DF, RKB, RT, GL)\*  
**5845' KB, 5823' GL**

18. Total Depth: MD **7335'**  
TVD **6596' 87**

19. Plug Back T.D.: MD **7256'**  
TVD **6515' 08**

20. Depth Bridge Plug Set: MD  
TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)  
**DLL/MSFL/GR, SDL/DSN/GR, XMRI, BCS, CBL**

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

*BHL reviewed by HSM*

*296 874*

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

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
22"	16"		0	142'		12 yds Redi-c		surface	
14-3/4"	9 5/8/J55	40#	0	2100'		653 sx PremG	199 bbls	surface	
8-3/4"	7"/N80	26#	0	1357'		Lead-465 G	248 bbls	surface	
	7"/HCL80	26#	1357'	6470'		Tail-140 TX	34 bbls		
	7"/L80	26#	6470'	7335'					

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2 7/8	6787							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) Navajo	6904	6985	6904-6920	.41"	96	Producing - Open
B)			6944-6964	.41"	120	Producing - Open
C)			6974-6985	.41"	66	Producing - Open
D)						

26. Perforation Record

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

Depth Interval	Amount and Type of Material
6944-6964	1600 gallons of 7-1/2% FE HCL acid with 60 buoyant balls
6974-6985	800 gallons of 7-1/2% FE HCL acid with no balls

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
04/17/2011	05/01/2011	24	→	670	Tr	70	40		Electric Submersible Pump
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
			→	670	Tr	70			Producing Oil Well

28a. Production - Interval B

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

**RECEIVED**

MAY 16 2011

\*(See instructions and spaces for additional data on page 2)

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28b. Production - Interval C

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

28c. Production - Interval D

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

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

Vented

30. Summary of Porous Zones (Include Aquifers):

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

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
Navajo 1	6802'		Oil and Water	Arapien Twin Creek I Navajo I	Surface 6434' 6802'

32. Additional remarks (include plugging procedure):

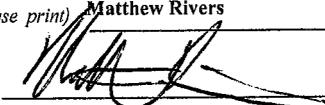
33. Indicate which items have been attached by placing a check in the appropriate boxes:

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

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

Name (please print) Matthew Rivers

Title Production Engineer

Signature 

Date 05/09/2011

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

# HALLIBURTON

DIRECTION FIELD PRINT

COMPANY WOLVERINE OIL AND GAS  
WELL WOLVERINE FEDERAL 19-4  
FIELD COVENANT  
COUNTY SEVIER  
STATE UT

RECEIVED  
MAY 16 2011  
DIV. OF OIL, GAS & MINING  
STATE UT

COMPANY WOLVERINE OIL AND GAS  
WELL WOLVERINE FEDERAL 19-4  
FIELD COVENANT  
COUNTY SEVIER  
STATE UT

API No. 43041500050000  
Location SHL: 742' FNL & 1972' FWL NENNW  
SEC. 19, T-23S, R-1W  
Sect. 19 Twp. 23 S Rge. 1 W  
Elev. 5823.0 ft  
Elev. 5845.0 ft  
D.F. 5845.0 ft  
G.L. 5823.0 ft

Other Services:  
RWCH  
BSAT  
XRMI  
SFTT

Permanent Datum	GL	Elev. 5823.0 ft
Log measured from	KB	Elev. 5845.0 ft
Drilling measured from	KB	G.L. 5823.0 ft
Date	02-Feb-11	
Run No.	ONE	
Depth - Driller	7345.00 ft	
Depth - Logger	7335.0 ft	
Bottom - Logged Interval	7333.0 ft	
Top - Logged Interval	2000.0 ft	
Casing - Driller	9.625 in @ 2100.0 ft	
Casing - Logger	2092.0 ft	
Bit Size	8.750 in	
Type Fluid in Hole	WBM	
Density	10.6 ppg	59.00 s/qt
PH	10.00 pH	8.9 cplm
Source of Sample	MUD TANK	
Rm @ Meas. Temperature	0.012 ohmm	@ 50.40 degF
Rmf @ Meas. Temperature	0.06 ohmm	@ 75.00 degF
Rmc @ Meas. Temperature	0.018 ohmm	@ 75.00 degF
Source Rmf	CHART	CHART
Rm @ BHT	0.30 ohmm	@ 181.0 degF
Time Since Circulation	8.0 hr	
Time on Bottom	02-Feb-11 10:25	
Max. Rec. Temperature	181.0 degF	@ 7335.0 ft
Equipment	11014853	G.J. CO
Recorded By	W. MATSON	
Witnessed By	BILL DONOVAN	

Fold here

Service Ticket No.: 7937302      API Serial No.: 43041500050000      PGM Version: WL INSITE R3.2.1 (Build 7)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE				RESISTIVITY SCALE CHANGES			
Date	Sample No.	Type Log	Depth	Scale Up Hole	Scale Down Hole		
Depth-Driller							
Type Fluid in Hole							
Density	Viscosity						
Ph	Fluid Loss						
Source of Sample							
RESISTIVITY EQUIPMENT DATA							
Rm @ Meas. Temp	@	@	Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
Rmf @ Meas. Temp.	@	@	ONE	DLLT	N/A	CENT.	N/A
Rmc @ Meas. Temp.	@	@		P994M829S212			
Source Rmf	Rmc		ONE	MSFL	SLIM.	CENT.	N/A
Rm @ BHT	@	@		S212M038			
Rmf @ BHT	@	@					
Rmc @ BHT	@	@					

EQUIPMENT DATA							
GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.	ONE	Run No.	ONE
Serial No.	11004661	Serial No.		Serial No.	10951314	Serial No.	10993888
Model No.	GTET	Model No.		Model No.	SDLT	Model No.	DSNT
Diameter	3.625"	No. of Cent.		Diameter	4.5"	Diameter	3.625"
Detector Model No.	102A	Spacing		Log Type	GAMMA/GAMMA	Log Type	THERM/THERM
Type	SCINT			Source Type	Cs-137	Source Type	Am241Be
Length	8"	LSA [Y/N]		Serial No.	5153 GW	Serial No.	DSN-388
Distance to Source	11'	FWDA [Y/N]		Strength	1.5 Ci	Strength	15 Ci

LOGGING DATA

GENERAL			GAMMA		ACOUSTIC		DENSITY		NEUTRON					
Run No.	Depth		Speed	Scale		Matrix		Scale		Matrix				
No.	From	To	ft/min	L	R	L	R	L	R	L	R			
ONE	TD	CSG	REC	0	150	30%	0%	55.5 us/ft	30%	0%	2.65 g/cc	30%	0%	SAND

**DIRECTIONAL INFORMATION**

Maximum Deviation @ \_\_\_\_\_ KOP @ \_\_\_\_\_

Remarks: RUN ONE: RWCH/GTET/SDL/DSN/DLLT  
 RUN TWO: RWCH/GTET/BSAT  
 RUN THREE: RWCH/D4TG/XRMI  
 RUN FOUR: RWCH/D4TG/SFTT  
 ANNULAR HOLE VOLUME CALCULATED FOR 7" PRODUCTION CASING.  
 TENSION PULLS MAY AFFECT TOOL RESPONSE

YOUR CREW TODAY: J. WILKERSON, M. BRANDELL RIG: PATT 304  
 THANKYOU FOR CHOOSING HALLIBURTON ENERGY SERVICES, G.J. CO, (970)523-3600.

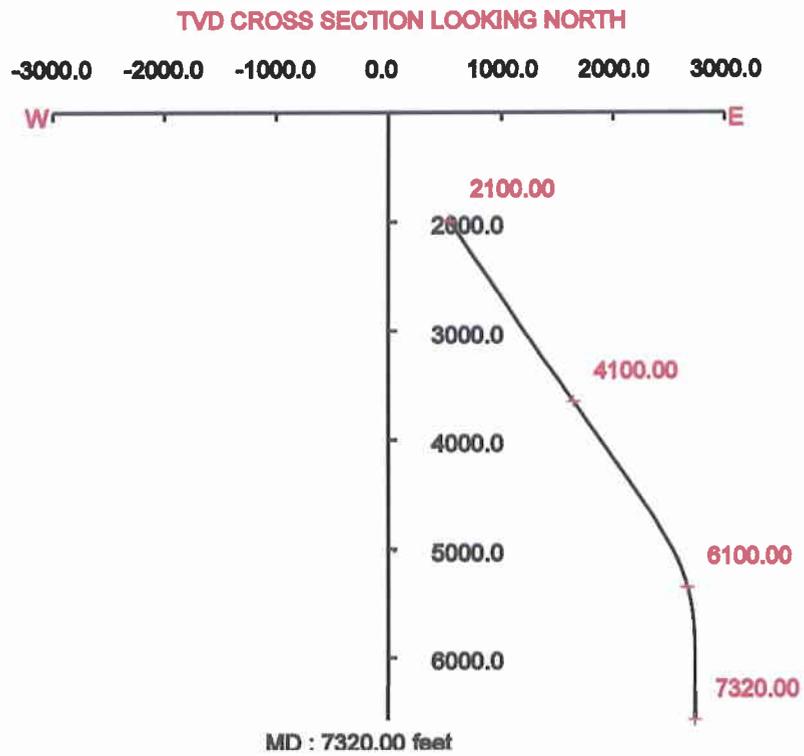
HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

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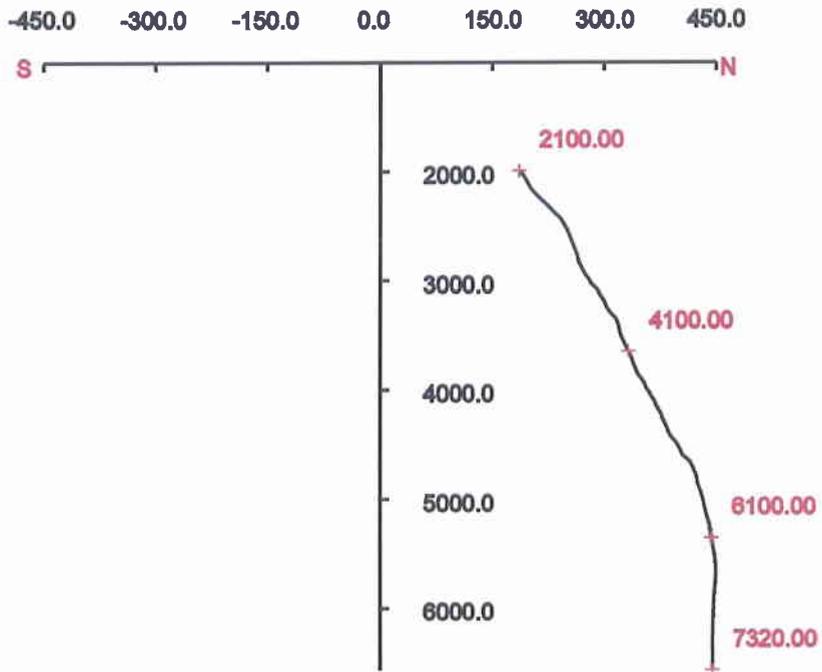
## TVD SURVEY REPORT

Hole Position Calculation Method:	Minimum Curvature	Tie in Data	Depth:	0.00	ft
Magnetic Declination:	11.857 deg		TVD:	0.00	ft
			Inclination:	0.0	deg
			Azimuth:	0.00	deg
			N/S Departure:	0.00	ft
			E/W Departure:	0.00	ft



Horizontal Scale: 1000 feet/division  
 Depth Scale: 1000 feet/division

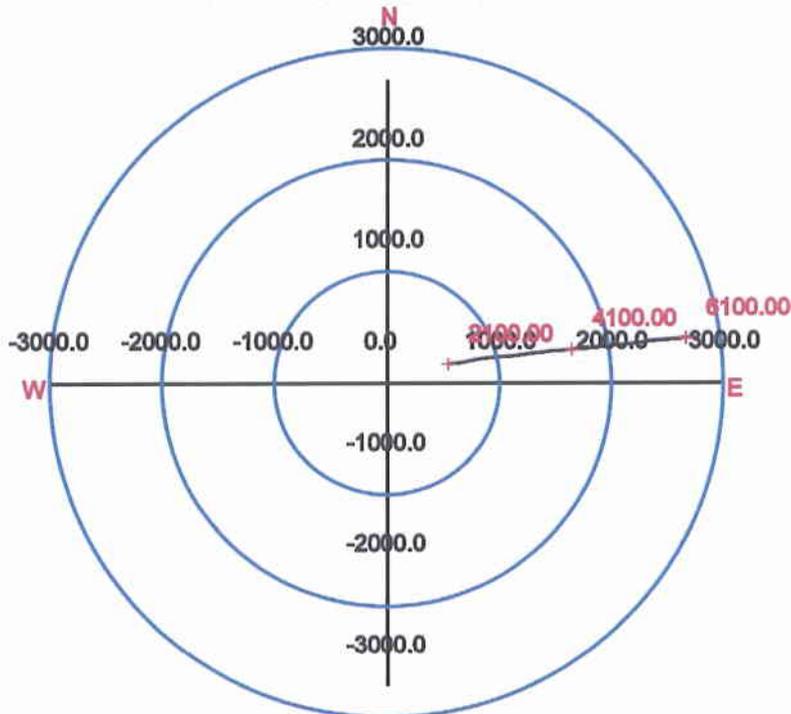
**TVD CROSS SECTION LOOKING WEST**



MD : 7320.00 feet

Horizontal Scale: 150 feet/division  
 Depth Scale: 1000 feet/division

**TVD CROSS SECTION LOOKING DOWN**



MD : 7320.00 feet  
 Scale: 1000 feet/division

Measured Depth (ft)	Inclination (deg)	True Vertical Depth (ft)	Azimuth (deg)	N/S Departure (ft)	E/W Departure (ft)
2100.00	32.0	1992.20	71.00	186.26	540.99

2130.00	32.2	2017.62	82.25	189.93	556.45
2160.00	34.1	2042.68	79.79	192.52	572.75
2190.00	33.6	2067.54	83.04	195.03	589.35
2220.00	33.1	2092.60	84.00	196.89	605.74
2250.00	33.4	2117.68	82.22	198.87	622.08
2280.00	32.2	2142.88	83.42	200.90	638.22
2310.00	33.7	2168.06	79.62	203.32	654.35
2340.00	33.5	2193.05	77.94	206.55	670.63
2370.00	32.2	2218.24	79.18	209.78	686.59
2400.00	34.2	2243.35	75.47	213.40	702.60
2430.00	34.7	2268.08	76.78	217.47	719.08
2460.00	35.1	2292.69	75.85	221.53	735.76
2490.00	32.3	2317.65	79.51	225.10	752.00
2520.00	34.3	2342.73	76.85	228.48	768.12
2550.00	34.0	2367.55	77.93	232.16	784.55
2580.00	34.2	2392.40	78.59	235.58	801.01
2610.00	36.9	2416.81	75.04	239.57	817.98
2640.00	32.7	2441.47	84.02	242.74	834.74
2670.00	34.0	2466.53	82.38	244.70	851.11
2700.00	34.2	2491.36	82.11	246.97	867.80
2730.00	33.8	2516.22	82.98	249.15	884.45
2760.00	33.3	2541.21	84.42	250.97	900.94
2790.00	33.1	2566.32	85.31	252.44	917.29
2820.00	33.3	2591.43	84.66	253.87	933.65
2850.00	33.2	2616.52	85.01	255.35	950.03
2880.00	33.4	2641.59	84.47	256.86	966.43
2910.00	33.2	2666.67	85.27	258.33	982.83
2940.00	33.5	2691.73	84.55	259.80	999.26
2970.00	32.9	2716.82	85.79	261.18	1015.64
3000.00	33.9	2741.86	83.34	262.75	1032.09
3030.00	31.7	2767.09	87.31	264.09	1048.26
3060.00	32.2	2792.55	86.46	264.95	1064.10
3090.00	31.5	2818.05	87.82	265.75	1079.89
3120.00	33.8	2843.31	83.13	267.04	1096.01
3150.00	33.4	2868.30	83.08	269.04	1112.49
3180.00	33.3	2893.36	83.04	271.03	1128.86
3210.00	33.0	2918.46	83.41	272.97	1145.17
3240.00	33.1	2943.60	83.44	274.84	1161.44
3270.00	35.6	2968.37	78.37	277.54	1178.14
3300.00	33.2	2993.13	83.32	280.26	1194.84
3330.00	32.9	3018.29	85.02	281.92	1211.09
3360.00	37.8	3042.78	75.98	284.85	1228.15
3390.00	36.9	3066.62	77.90	288.97	1245.88
3420.00	33.7	3091.10	83.08	291.87	1262.96
3450.00	33.3	3116.11	84.09	293.72	1279.43
3480.00	34.3	3141.04	82.29	295.70	1296.01
3510.00	34.3	3165.82	81.51	298.08	1312.74
3540.00	34.1	3190.64	83.44	300.29	1329.45
3570.00	34.0	3215.50	86.91	301.70	1346.18
3600.00	34.6	3240.29	84.05	303.04	1363.02
3630.00	35.7	3264.82	80.95	305.30	1380.14
3660.00	34.5	3289.37	83.71	307.61	1397.23
3690.00	38.4	3313.51	75.95	310.80	1414.73
3720.00	35.7	3337.45	81.16	314.41	1432.42
3750.00	35.0	3361.92	84.14	316.64	1449.64
3780.00	33.9	3386.65	87.05	317.95	1466.56
3810.00	35.4	3411.33	84.78	319.17	1483.58
3840.00	34.0	3436.00	88.49	320.18	1500.61
3870.00	34.0	3460.87	86.90	320.85	1517.38
3900.00	34.4	3485.67	85.91	321.91	1534.22
3930.00	33.9	3510.50	85.81	323.13	1551.02
3960.00	34.8	3535.27	83.55	324.70	1567.87
3990.00	34.9	3559.88	83.37	326.66	1584.91
4020.00	34.3	3584.58	84.71	328.43	1601.85

4050.00	34.2	3609.37	85.18	329.91	1618.67.
4080.00	35.1	3634.05	83.36	331.62	1635.64
4110.00	34.5	3658.69	84.13	333.49	1652.65
4140.00	34.1	3683.47	84.71	335.13	1669.48
4170.00	34.9	3708.19	84.43	336.74	1686.40
4200.00	33.8	3732.97	86.02	338.15	1703.25
4230.00	33.6	3757.93	85.40	339.39	1719.85
4260.00	34.6	3782.77	83.96	340.96	1736.60
4290.00	33.7	3807.59	85.21	342.55	1753.37
4320.00	33.2	3832.61	86.64	343.73	1769.88
4350.00	35.2	3857.42	82.27	345.37	1786.67
4380.00	36.6	3881.71	79.45	348.18	1804.04
4410.00	34.5	3906.12	82.91	350.86	1821.26
4440.00	34.9	3930.79	80.71	353.30	1838.17
4470.00	31.9	3955.83	87.31	355.06	1854.58
4500.00	33.7	3981.05	84.00	356.30	1870.78
4530.00	36.4	4005.62	80.40	358.65	1887.82
4560.00	35.1	4029.97	82.44	361.27	1905.14
4590.00	33.9	4054.71	84.50	363.21	1922.00
4620.00	35.5	4079.39	80.62	365.43	1938.91
4650.00	34.5	4103.98	84.58	367.65	1955.95
4680.00	33.8	4128.81	85.72	369.07	1972.71
4710.00	34.7	4153.62	83.96	370.59	1989.52
4740.00	33.8	4178.42	84.04	372.35	2006.29
4770.00	35.7	4203.08	80.96	374.59	2023.22
4800.00	33.2	4227.83	86.56	376.46	2040.07
4830.00	31.4	4253.19	89.16	377.07	2056.08
4860.00	36.4	4278.11	80.21	378.70	2072.68
4890.00	32.8	4302.80	86.34	380.73	2089.57
4920.00	34.9	4327.71	81.84	382.47	2106.19
4950.00	33.2	4352.57	86.50	384.19	2122.90
4980.00	32.5	4377.76	86.02	385.25	2139.15
5010.00	34.9	4402.71	81.47	387.09	2155.69
5040.00	33.2	4427.57	84.16	389.20	2172.36
5070.00	36.7	4452.16	77.46	391.98	2189.30
5100.00	36.1	4476.31	80.32	395.42	2206.76
5130.00	33.9	4500.88	83.83	397.80	2223.80
5160.00	35.0	4525.61	81.48	399.98	2240.64
5190.00	32.2	4550.59	85.51	401.88	2257.14
5220.00	34.3	4575.67	83.81	403.42	2273.52
5250.00	31.8	4600.80	85.66	404.93	2289.82
5280.00	42.5	4624.75	67.57	409.42	2307.18
5310.00	33.0	4648.49	82.97	414.31	2324.74
5340.00	32.9	4673.67	81.93	416.46	2340.90
5370.00	31.2	4699.11	83.59	418.47	2356.68
5400.00	29.9	4724.94	84.97	419.99	2371.86
5430.00	30.6	4750.85	83.33	421.54	2386.90
5460.00	30.7	4776.65	83.96	423.23	2402.11
5490.00	28.4	4802.75	87.65	424.33	2416.86
5520.00	29.4	4829.02	89.00	424.75	2431.34
5550.00	30.3	4855.04	86.21	425.38	2446.26
5580.00	30.9	4880.87	83.49	426.75	2461.45
5610.00	29.4	4906.81	84.59	428.32	2476.44
5640.00	29.6	4932.92	85.55	429.59	2491.15
5670.00	29.8	4958.98	84.53	430.87	2505.96
5700.00	28.3	4985.21	85.51	432.14	2520.47
5730.00	27.2	5011.75	86.14	433.16	2534.40
5760.00	25.7	5038.62	87.23	433.93	2547.74
5790.00	25.2	5065.71	85.75	434.72	2560.60
5820.00	24.2	5092.96	85.28	435.70	2573.10
5850.00	22.5	5120.51	84.97	436.71	2584.93
5880.00	20.9	5148.39	83.63	437.80	2595.95
5910.00	19.8	5176.52	83.46	438.97	2606.30
5940.00	20.7	5204.67	82.28	440.26	2616.60
5970.00	18.7	5232.91	86.08	441.30	2626.65

6000.00	17.7	5261.41	85.87	441.96	2636.01
6030.00	16.7	5290.07	85.19	442.65	2644.86
6060.00	16.4	5318.83	85.34	443.36	2653.36
6090.00	15.3	5347.69	87.00	443.91	2661.54
6120.00	14.4	5376.68	85.51	444.41	2669.22
6150.00	13.4	5405.81	84.25	445.05	2676.38
6180.00	12.1	5435.07	82.16	445.83	2682.95
6210.00	11.1	5464.45	83.12	446.60	2688.94
6240.00	10.4	5493.93	82.48	447.30	2694.48
6270.00	9.9	5523.46	82.03	448.01	2699.72
6300.00	8.5	5553.07	83.80	448.61	2704.48
6330.00	7.7	5582.77	83.99	449.06	2708.67
6360.00	6.5	5612.54	86.27	449.38	2712.36
6390.00	5.8	5642.37	88.10	449.54	2715.56
6420.00	5.1	5672.24	90.61	449.58	2718.41
6450.00	4.0	5702.14	92.82	449.51	2720.79
6480.00	3.4	5732.08	100.89	449.29	2722.71
6510.00	3.1	5762.03	100.63	448.97	2724.39
6540.00	2.0	5792.00	109.31	448.64	2725.70
6570.00	2.8	5821.97	112.10	448.19	2726.89
6600.00	1.8	5851.95	105.14	447.79	2728.03
6630.00	1.8	5881.93	121.27	447.42	2728.88
6660.00	1.4	5911.92	110.09	447.06	2729.62
6690.00	0.3	5941.92	166.24	446.85	2729.98
6720.00	0.6	5971.92	141.72	446.64	2730.10
6750.00	0.2	6001.92	73.32	446.53	2730.25
6780.00	0.2	6031.92	174.03	446.49	2730.30
6810.00	0.7	6061.91	124.05	446.33	2730.47
6840.00	0.1	6091.91	175.34	446.20	2730.63
6870.00	0.7	6121.91	163.31	446.00	2730.68
6900.00	0.6	6151.91	102.63	445.79	2730.89
6930.00	0.3	6181.91	254.08	445.74	2730.99
6960.00	0.5	6211.91	92.22	445.71	2731.06
6990.00	0.1	6241.91	266.24	445.70	2731.17
7020.00	0.7	6271.91	122.54	445.60	2731.30
7050.00	0.8	6301.91	76.00	445.55	2731.66
7080.00	0.3	6331.91	5.33	445.69	2731.87
7110.00	0.5	6361.90	87.46	445.78	2732.02
7140.00	0.3	6391.90	329.53	445.85	2732.12
7170.00	0.1	6421.90	330.02	445.92	2732.08
7200.00	0.1	6451.90	236.72	445.93	2732.06
7230.00	0.2	6481.90	289.32	445.93	2731.99
7260.00	0.4	6511.90	126.62	445.88	2732.04
7290.00	0.4	6541.90	119.34	445.76	2732.23
7320.00	0.5	6571.90	290.78	445.75	2732.21

**Horizontal displacement is relative to the well head.**

**Horizontal displacement (closure) at 7,320.00 ft is 2,768.33 ft along 80.73 deg (True).**





**Wolverine Federal 19-4**  
**API # 43-041-50005**  
**Covenant Field**  
**Section 19, T23S, R1W**  
**Sevier County, Utah**

**Tubing Detail (11/14/08)**

	22.00	KB
	-2.00	Landed above GL
215	6695.39	Tubing - 2-7/8", 6.5#, N-80, EUE, 8rd
1	1.10	Cup type SN
1	30.77	Tubing - 2-7/8", 6.5#, N-80, EUE, 8rd
1	4.75	Sub - 2-7/8", 6.5#, N-80, EUE, 8rd
1	.33	2 7/8" x 2 3/8" X-over
1	2.55	Y-Tool, Weatherford 2"x 1-1/4" (1.144" ID) instrument tube (end @ 6786' WLM, 6015' TVD)
1	10.05	Sub - 2-3/8", 4.7#, L-80, EUE, 8rd
1	11.97	Pump w/ Intake - Centrilift P12, Model 400PMSSD, 104 stage, 4.00' OD
1	6.10	Seal - Model FSB3DB H6 FER SSCV SB/SB PFSA HL 4.00" OD
1	11.93	Motor - Centrilift FMB, 56 Hp 4.50" OD
1	4.10	Downhole pressure sensor, Centinel III, 3.75" OD
1	.90	Centralizer, 2-3/8" x 5.75", 4-bladed
	6799.94	End of BHA
	-13.0	Wireline correction
	6786.94	KB MD-WLM (KB TVD-WLM 6045')

Note: No check or drain valve in this well.  
 Blanking plug in Y-Tool has a 5/8" OD catch rod  
 Tubing capacity = 0.00579 Bbl/ft, Burst = 10570 psi, Joint Yield = 144960 lbs

**Directional Data:**

<u>MD</u>	<u>TVD</u>	<u>Incl.</u>	<u>MD</u>	<u>TVD</u>	<u>Incl.</u>
500	500	2.5	4000	3577	34.4
750	749	6.2	4500	3989	34.5
1000	995	11.6	5000	4404	33.8
1250	1237	18.5	5500	4877	30.5
1500	1471	22.5	6000	5271	18.5
2000	1915	33.4	6500	5764	4.3
2500	2332	34.1	7000	6259	0.1
3000	2748	33.8	7335	6594	0.1
3500	3161	33.7			

**Wellhead Information:**

- Tubing head flange is 7-1/16", 5M with a 2-7/8" EUE 8rd top connection.

**Stimulation:**

04/18/11: 6974' - 6985' w/ 800 gallons 7-1/2% FE HCL acid and no balls @ 2.1 BPM ATP = 3000 psi  
FTP = 2700 psi

04/26/11: 6944' - 6964' w 1600 gallons 7-1/2% FE HCL acid with 60 buoyant balls (50%) @ 3 BPM  
ATP = 3500 psi; Ball action during pumping was noted

04/28/11: 6904' - 6920' perforated and swabbed. Left untreated due to high productivity.  
Well appears to have very good cement bond.

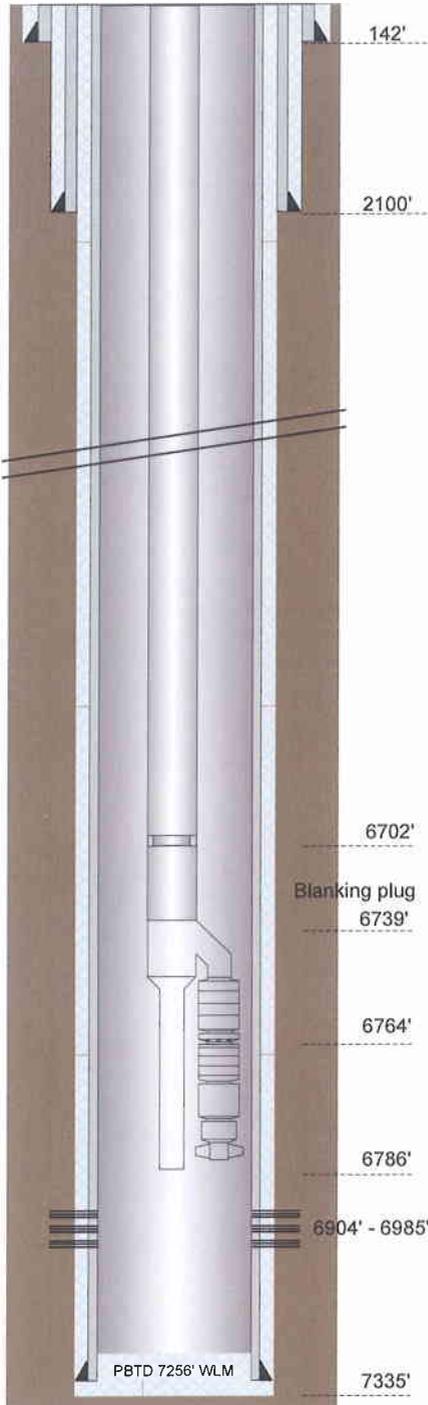
**Notes:**

Surface Location: NAD83 Latitude = 38.792818482, Longitude = -111.952847176  
(02/02/11): Available Logs: DLL/MSFL, SDL/DSN, LSS, XRMI, CBL



**Wolverine Federal 19-4**  
**API # 43-041-50005**  
**Covenant Field**  
**Section 19, T23S, R1W**  
**Sevier County, Utah**

Ground Elevation: 5,823'  
 KB Elevation: 5,845'



TD = 7335' MD (6596' TVD)  
 PBTD = 7256' MD (6515' TVD)

**(Not to Scale)**

**Deviated Well**

Surface: 742' FNL 1972' FWL, NE NW, 19-23S-1W  
 Top of Pay (6802' MD): 562' FNL, 593' FEL, NE NE, 19-23S-1W  
 Total Depth (7345' MD): 562' FNL, 593' FEL, NE NE, 19-23S-1W

**Conductor Casing (01/08/11)**

Size: 16", 0.495" wall, 1 joint; 16", 0.210 wall, 2 joints  
 Depth Landed: 142' KB  
 Cement Data: Cemented to surface 12 yards Redi-mix

**Surface Casing (01/16/11)**

Size/Wt/Grade: 9-5/8", 40#, J-55, LTC, 8rd  
 Depth Landed: 2100' KB  
 Cement Data: Lead - 377 sks Premium G (12.5 ppg, 2.11 cf/sk),  
 Tail - 276 sks Premium G (15.8 ppg, 1.16 cf/sk),  
 Cemented to surface

**Production Casing (02/04/11)**

Size/Wt/Grade: 7", 26.0#, N-80/L-80/HCL-80, LTC, 8rd  
 Properties: 7240 psi burst, 6.151" drift, 6.276" ID, 0.0382 Bbl/ft capacity  
 Depth Landed: 7335' KB  
 Cement Data: Lead - 465 sks Poz/G (12.0 ppg, 2.99 cf/sk),  
 Tail - 140 sks TX Lite Weight (14.4 ppg, 1.38 cf/sk)  
 Cemented to surface

**Navajo Perforations**

6904'- 6920' MD (6163'- 6179' TVD), 16' 96 holes (04/28/11)  
 6944'- 6964' MD (6203'- 6223' TVD), 20' 120 holes (04/19/11)  
 6974'- 6985' MD (6233'- 6244' TVD), 11' 66 holes (04/16/11)

Mid-Perf = 6945' MD (6204' TVD), 47' M (47.0' TV), 282 holes

**Tubing (4/30/11)** (see Page 2 for details)

End of BHA @ 6787' WLM (6046' TVD-WLM)  
 Centinel @ 6782' WLM (6041' TVD-WLM)  
 Y-Tool @ 6739' WLM (5998' TVD-WLM)  
 Pump intake @ 6764' (6023' TVD-WLM)  
 Seating Nipple @ 6702' (5961' TVD-WLM)

**PBTD**

4/14/11 Tagged 7269' Tubing measurement (7256' WLM)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

**SUNDRY NOTICES AND REPORTS ON WELLS**

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

5. Lease Serial No.  
**UTU-73528**

6. If Indian, Allottee or Tribe Name  
**NA**

7. If Unit or CA/Agreement, Name and/or No.  
**Wolverine Federal Unit**

8. Well Name and No.  
**Wolverine Federal 19-4**

9. API Well No.  
**43-041-50005**

10. Field and Pool, or Exploratory Area  
**Covenant Field**

11. County or Parish, State  
**Sevier County, Utah**

**SUBMIT IN TRIPLICATE- Other instructions on reverse side.**

1. Type of Well  
 Oil Well  Gas Well  Other

2. Name of Operator **Wolverine Gas and Oil Company of Utah, LLC**

3a. Address  
**55 Campau NW, Grand Rapids, Michigan 49503-2616**

3b. Phone No. (include area code)  
**616-458-1150**

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
**742' FNL, 1972' FWL, Sec. 19, T23S, R1W**

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

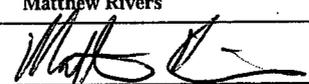
TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input checked="" type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

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

**Oil volumes in saleable quantities were recovered during completion operations of the Navajo Formation in this well on May 1, 2011.**

14. I hereby certify that the foregoing is true and correct

Name (Printed/Typed) **Matthew Rivers** Title **Production Engineer**

Signature  Date **05/06/2011**

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

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

Office \_\_\_\_\_

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

(Instructions on page 2)

**RECEIVED**  
**MAY 16 2011**  
DIV. OF OIL, GAS & MINING  
**CONFIDENTIAL**

**CONFIDENTIAL**

Form 3160-5  
(September 2001)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0135  
Expires January 31, 2004

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

5. Lease Serial No.  
**UTU 73528**

6. If Indian, Allottee or Tribe Name  
**N/A**

7. If Unit or CA/Agreement, Name and/or No.  
**Wolverine Federal Unit**

8. Well Name and No.  
**Wolverine Federal 19-4**

9. API Well No.  
**430415000500000**

10. Field and Pool, or Exploratory Area  
**Covenant**

11. County or Parish, State  
**Sevier**

**SUBMIT IN TRIPLICATE - Other instructions on reverse side**

1. Type of Well  
 Oil Well  Gas Well  Other

2. Name of Operator  
**Wolverine Gas & Oil Company of Utah, LLC**

3a. Address  
**55 Campau NW, Grand Rapids, MI 49503**

3b. Phone No. (include area code)  
**616-458-1150**

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
**742' FNL & 1972' FWL, Sec 19, T23S, R1W, NENW**

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input checked="" type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	_____
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	_____

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

Please see attached Exhibit #1

**COPY SENT TO OPERATOR**

Date: 1-25-2011

Initials: KS

14. I hereby certify that the foregoing is true and correct

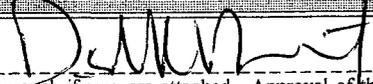
Name (Printed/Typed)  
**Edward A. Higuera**

Signature 

Title **Manager - Development**

Date **01-13-2011**

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by 

Title **Pet. Eng.**

Date **1/20/2011**

Office **DOG M**

Federal Approval Of This Action Is Necessary

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

(Instructions on reverse)

**CONFIDENTIAL**

**Exhibit #1**

**Wolverine Federal 19-4  
API: 43041500050000  
Sec 19, T23S, R1W  
Sevier County, UT**

Sundry: Alter Casing, Change Plans

Wolverine Gas and Oil Company of Utah, LLC originally proposed setting 9-5/8", 36 #/ft J-55 STC casing at 2400' MD in the approved APD. Wolverine is proposing modifying the surface casing with the addition of 9-5/8", 40 #/ft, LTC to the string and setting casing at 2100' MD. The proposed changes are the result of the available casing to purchase, and discovery of damaged casing during pre-job inspection which leaves us with less casing available on location. The casing will still be set in the Arapien formation. The performance specs of 9-5/8" 40#/ft casing exceeds the performance specs of the 36#/ft casing. The proposed casing string will include 46 joints (~1940') of 9-5/8" 40 #/ft, plus four joints 9-5/8, 36 #/ft LTC, (166.6' includes stick up) for a proposed setting depth of 2100' MD. The performance specs of 9-5/8" 40 #/ft J-55 LTC are: Burst: 3950 psi; Collapse: 2570 psi; Tension 520,000 lbs (controlled by API joint strength).

Cementing: The original proposed cementing program was based on a Halliburton blend. We intend to use Schlumberger for cementing the surface casing. The revised cementing program, using Schlumberger, now consists of the following:

Lead: 377 sacks Schlumberger Class G + 0.2% D046 anti-foam + 2% D079 extender + ¼ lb/sk D029 lost circulation control agent (cellophane flakes) + 0.1% D013 retarder mixed at 12.5 ppg, 2.11 cf/sk Yield, with cement 0-1500', using 60% excess factor in the openhole.

Tail: 230 sacks Schlumberger Class G + ¼ lb/sk D029 loss circulation control agent + 0.2% D046 anti-foam agent mixed at 15.8 ppg, 1.16 cf/sk Yield, with cement from ~1500 to 2100 feet, using 60% excess factor in the openhole.

**RECEIVED**  
**JAN 18 2011**  
**DIV. OF OIL, GAS & MINING**

**CONFIDENTIAL**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

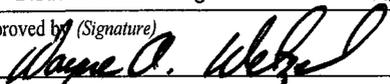
FORM APPROVED  
OMB No. 1004-0137  
Expires July 31, 2010

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU-73528
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator Wolverine Gas and Oil Company of Utah, LLC		7. If Unit or CA Agreement, Name and No. Wolverine Federal Unit
3a. Address 1140 N Centennial Park Drive Richfield, Utah 84701		8. Lease Name and Well No. Wolverine Federal 19-4
3b. Phone No. (include area code) 435-896-1943		9. API Well No. <b>43-041-50005</b>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 742' FNL, 1972' FWL Sec 19-T23S-R1W (being in Lot #3) At proposed prod. zone 550' FNL, 580' FEL Sec 19-T23S-R1W (being in Lot #1)		10. Field and Pool, or Exploratory Covenant Field Navajo
14. Distance in miles and direction from nearest town or post office* 2.9 miles northeast of Glenwood, Utah		11. Sec., T. R. M. or Blk. and Survey or Area Section 19, T23S, R1W, SLB&M
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 550'	16. No. of acres in lease 8236	17. Spacing Unit dedicated to this well 40 acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 886'	19. Proposed Depth 6600' TVD 7300' MD	20. BLM/BIA Bond No. on file BLM WYB000616
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 5823' GL; 5845' DF	22. Approximate date work will start* 01/08/2011	23. Estimated duration 40 days

24. Attachments

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

- |  |   |
|--|---|
| 1. Well plat certified by a registered surveyor.   | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.  | 5. Operator certification   |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM.             |

25. Signature 	Name (Printed/Typed) Paul Spiering	Date 12/07/2010
Title District Land Manager		
Approved by (Signature) 	Name (Printed/Typed) Wayne A. Wetzel	Date 6 JAN 2011
Title Richfield Field Manager	Office Richfield Field Office	

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

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

(Continued on page 2)

\*(Instructions on page 2)

**RECEIVED**  
**RECEIVED**  
DEC 07 2010 JAN 10 2011  
Richfield BLM Field Office DEPT. OF OIL, GAS & MINING

# ATTACHMENT 1 – STIPULATIONS / CONDITIONS OF APPROVAL

## Surface Use Conditions of Approval

Based on this environmental analysis the APD would be issued subject to regulations under 43 CFR 2800, 43 CFR 3100 and oil and gas onshore orders. The following mitigating stipulations that are either required by policy, law, or regulation or are needed to insure mitigation of associated surface disturbance activities. Wolverine Federal 19-4 will be drilled from the Covenant E-Pad, the Wolverine Federal 19-3 well is located on this pad and has been drilled previously. The following Conditions of Approval are taken from the APD associated with Wolverine Federal 19-3 and they also apply to this well.

1. The Holder shall implement erosion control and re-vegetation measures to insure that the lands disturbed by construction and maintenance activities would be restored to a stable, productive, and aesthetically acceptable condition.
2. Surface disturbances that are created on public land as a result of construction, maintenance, operation, and termination activities, outside of the travel width of the subject access road, shall be reshaped and re-contoured, to approximate natural contours and conditions, to the extent practicable; evenly redistributing stockpiled topsoil over the re-contoured areas, the cut and fill slopes, and all other disturbed areas and seeded. The seed mixture specified below would be utilized. There would be no primary or secondary noxious weeds in the seed mixture. The seed shall be certified weed-free seed. The Authorized Officer is to be notified a minimum of 15 days prior to seeding of the project.

<u>NAME</u>	<u>SEEDING RATE/ACRE</u>
Sandberg Bluegrass (High Plains Variety)	1.0 lb Pure Live Seed
Luna Pubescent Wheatgrass	1.5 lb Pure Live Seed
Bozoisky Russian Wildrye	2.0 lbs Pure Live Seed
Trailhead Great Basin Wildrye	1.5 lbs Pure Live Seed
Covar Sheep Fescue	2.0 lbs Pure Live Seed
Rocky Mountain Beeplant	0.5 lb Pure Live Seed
Gooseberry Leaf Globemallow	0.5 lb Pure Live Seed
Richfield Firecracker Penstemon (P. eatonii)	0.5 lb Pure Live Seed
Cedar Palmer Penstemon (P. palmeri)	0.5 lb Pure Live Seed
Appar Lewis Flax	2.0 lbs Pure Live Seed
Common Sunflower	2.0 lbs Pure Live Seed
Woming Big Sagebrush	0.5 lb Pure Live Seed
Black Sagebrush	0.5 lb Pure Live Seed
Forage Kochia	1.0 lb Pure Live Seed
<b>Total</b>	<b>16.0 lbs Pure Live Seed</b>

Topsoil should be collected and piled and used in the rehabilitation process. All of the seed should be mixed together and either broadcast seeded or drill seeded. If the area is broadcast seeded then this should be done by using a four-wheeler equipped with a seeder. Seeding rate should be 16 pounds per acre. After broadcast seeding, then the area should be dragged with a small harrow (used with four wheeler), which would cover the seed.

If the area is drill seeded then a small tractor equipped with a farm drill should be used. Seeding rate should be 8 pounds per acre.

All of the seeding should be done in mid to late Fall (October/November) to prevent premature sprouting and subsequent winter killing of the forb species, due to late summer/early Fall precipitation combined with warm soil temperatures.

The Holder shall have three growing seasons following issuance of the grant to establish an acceptable stand of one perennial plant per square foot. Failing this, the authorized Officer may accept whatever level of reclamation is achieved if a good faith attempt at reclamation has been demonstrated by the Holder.

3. The Holder shall be responsible for weed control within the limits of the described ROW areas. The Holder shall also be responsible for consultation and coordination with the Authorized Officer for acceptable weed control methods (within limits imposed in the grant stipulations). Equipment used to construct the subject access road shall be washed to remove invasive weed seeds prior to entering the project area.

4. Heavy equipment, used to construct and rehabilitate the access road and APD area, shall be cleaned and/or sprayed (power washed) to remove any noxious or invasive weeds and seeds, prior to being moved to the project site. Any other equipment and vehicles, that have been used at other locations, where noxious weeds or seeds could have attached to the equipment, must also be sprayed and/or cleaned.

5. To reduce the emission of fugitive dust, routine watering and/or application of magnesium chloride shall be applied to the access road, as needed.

6. Drilling and construction activities are likely to occur during late summer or fall. Impacts to nesting bird species, therefore, are not anticipated. Big game species, however, would be protected by activity restriction between December 15<sup>th</sup> and May 15<sup>th</sup>.

7. The Holder shall be responsible for informing all persons associated with this project that they shall be subject to prosecution for knowingly disturbing historic or archaeological sites or for collecting artifacts. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the Holder, or any person working on their behalf, on federal land shall be immediately reported to the Authorized Officer. The Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The Holder shall be responsible for the cost of the evaluation and any decision as to proper mitigation measures would be made by the Authorized Officer after consulting with the Holder.

8. The ROW and APD site areas shall be kept free of trash, litter, discarded materials, and debris that are on site or generated as a result of the Holder's activities. The areas shall be maintained a sanitary condition during all construction, operation, maintenance and termination activities. Waste materials shall be removed and disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, pipe, oil, oil drums, grease, petroleum products, ashes, concrete, construction materials, and equipment. Debris/waste shall not be buried or burned without Holder obtaining prior written permission from the Authorized Officer.

9. The Holder shall locate, handle, and store gas, diesel fuel, oil, lubricants, and other petroleum products in such a manner as to prevent them from entering into and contaminating soils on the public land. Should petroleum spills occur within the described area as a result of construction, maintenance, and termination activities, the Holder shall be responsible for clean-up of any spills in accordance with Federal and State regulation and associated costs.

10. Fire suppression equipment must be available to suppress any wildfires caused by construction or related activities. In the event of a wildfire, the BLM Richfield Field Office (RFO) and the Richfield Interagency Fire Center (RIFC) shall be notified. The RFO phone number is (435) 896-1515 and the RIFC Dispatch phone number is (435) 896-8404. Suppression of any wildfires started as a result of construction, operation, maintenance and termination activities shall be the liability of the Holder.

11. If at any time hereafter, the Holder wishes to reconstruct, remodel, or relocate any portion of the ROW areas or change, modify, or add improvements or facilities thereon, the prior written approval of the Authorized Officer must be obtained.

12. When the authorized use is no longer needed, and prior to abandonment of the facilities, the Holder or authorized representative shall meet with the Authorized Officer to arrange a joint inspection of the ROW. The inspection shall be held to agree on an acceptable abandonment and rehabilitation plan, which may include but not limited to removal of structures, recontouring and reseeding the areas. The Authorized Officer must approve the plan in writing prior to the Holder commencing any abandonment and/or rehabilitation activities.

13. All permanent structures, including pumping units, constructed or installed will be painted a flat, non-reflective color, as described on page 40 of the Gold Book (Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, 4<sup>th</sup> Edition 2006). Prior to painting permanent structures, the operator will submit a Sundry Notice for approval of a color proposed by the applicant. Permanent structures are defined as being on location for six months or longer. Facilities that must conform to a color standard required Occupational Safety and Health Act (OSHA) may not conform to the Gold Book standards.

14. Applicant committed measures outlined in the Surface Use Plan of Operations submitted with the Application for Permit to Drill are considered part of the Conditions of Approval. Conditions of Approval associated with Wolverine Federal 19-3 are also part of these Conditions of Approval.

15. A certified blaster shall be on site and perform the operations on an as-need basis. All applicable regulations including those of the Bureau of Alcohol, Tobacco and Firearms shall be followed for the use of explosive materials. No explosives shall be stored on site.

16. All safety measures shall be compliant with OSHA requirements.

17. During final reclamation the recontouring will be approved prior to top soil being spread.

### **Downhole Conditions of Approval**

## CONDITIONS OF APPROVAL

**Company:** Wolverine Gas and Oil Company of Utah, LLC  
**Well No:** Wolverine Federal #19-4  
**Location:** NENW Sec 19, T23S, R1W, SLB&M  
Sevier County, Utah  
**Lease No:** UTU-73528

---

### I. Please Note:

All lease and/or unit operations will be conducted in such a manner that full compliance is made with applicable laws, regulations (43 CFR parts 3100 and 3160), lease terms, Onshore Oil and Gas Orders, Notice to Lessee's, and this approved plan of operation.

A copy of the approved application and these conditions shall be maintained on location during all construction and drilling operations. Deviation from the approved plan requires prior approval from the BLM Price Field Office petroleum engineer.

The operator is fully responsible for the actions of his subcontractors.

Operators have the responsibility to assure that activities authorized by this permit are conducted in a manner that complies with other applicable Federal, State, and local laws and regulations.

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

This Application for Permit to Drill (APD) shall be valid for two years from the date of approval, provided the lease does not expire. If activities have not commenced by the end of the two-year period, the APD shall be returned to the operator without prejudice. Should the operator still desire to drill the well, a new APD must be submitted to this office. Upon written request by the operator, a one-time two year extension to this time period may be granted by the Authorized Officer (AO).

Failure to comply with the provisions of this permit (including applicable regulations, stipulations, and/or approval conditions) will be considered a violation subject to the enforcement provisions of 43 CFR Subpart 3163.

If fill materials are needed to maintain roads or well sites, proper permits must be obtained from the appropriate surface owner. On BLM administered lands, the use of materials shall conform with 43 CFR §3610.2-3.

## II. Required Notifications:

The operator and contractor shall contact the BLM Richfield Field Office at least 48 hours prior to commencement of access and site construction or reclamation activities. (Contact: Stan Andersen - (435) 896-1532).

The operator shall contact the BLM Price Field Office at least 24 hours prior to the following operations (Contact: Marvin Hendricks - (435) 636-3661, Fax (435) 636-3657):

- spudding (including dry hole digger or rig hole rigs);
- running and cementing all casing strings;
- pressure testing of BOPE or any casing string.
- pressure integrity test (mud weight equivalency test) of each casing shoe.

For newly drilled dry holes, and in any emergency situation, after hours notification and authorization may be obtained by contacting the following individuals, in the order listed:

Marvin Hendricks	(435) 650-9136 (Cell)
Petroleum Engineer	(435) 637-1850 (Home)
BLM Price Field Office	(435) 636-3661 (Office)
Email Address:	marvin_hendricks@blm.gov

Al McKee	(801) 828-7498 (Cell)
Petroleum Engineer	(801) 572-6911 (Home)
BLM Utah State Office	

## III. Conditions of Approval: (Note – new COAs are in bold print)

- A. **Drilling Plan** - The drilling plan of the Application for Permit to Drill will be supplemented as follows:
1. Onshore Order No. 2, *Drilling Operations*, requires that all formations containing usable quality water (less than 10,000 ppm) be protected via cement. If encountered while drilling, usable quality water would require protection by bring the cement at least  $\pm 100'$  above the usable quality water zone.
  2. During drilling operations, drilling reports (and mud reports) shall be emailed daily to the Price Field Office petroleum engineer. Within 30 days of finishing drilling and completion operations, a chronological daily operations history shall be submitted to this office.
  3. All required notifications shall be made to: Marvin Hendricks at (435) 636-3661 (office); or (435) 650-9136 (cell). Please leave as detailed as message as necessary.

4. A cement bond log (CBL) shall be run to determine the top of cement behind the production casing (and intermediate casing if this is run, unless cement returns are seen at surface), with a field copy sent to the BLM Price Field Office.
5. A complete set of angular deviation and directional surveys for this directional well will be submitted to the BLM Price Field Office petroleum engineer within 30 days of completing the well.
6. One digital copy of all logs (in PDF or TIFF format), and one hard copy of core descriptions, core analyses, drill stem tests, well-test data, geologic summaries, sample descriptions, and all other surveys or data obtained and compiled during the drilling and/or completion operations shall be submitted to the BLM Price Field Office, 125 South 600 West, Price, Utah, 84501.
7. Operations authorized by this permit shall not be suspended for more than 30 days without prior approval of the Authorized Officer (AO). All conditions of approval shall be applicable during any operations conducted with a replacement/completion rig.
8. Gas produced from this well may not be vented or flared beyond an initial authorized test period of 30 days or 50 MMCF following its completion, whichever comes first, without the prior written approval of the authorized officer. Should gas be vented or flared without approval beyond the authorized test period, the operator may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted and the operator shall be required to compensate the lessor for the portion of the gas vented or flared without approval which is determined to have been avoidably lost. In order to continue venting or flaring beyond the 30 day period, the operator shall be required to demonstrate that either the volume or physical properties of the gas make it uneconomical to recover and must receive authorization to continue venting or flaring from the authorized officer.
9. Section 102 (b) (3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3162.4-1 (c), requires that "not later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or sundry notice, Form 3160-5, or orally to be followed by a letter or sundry notice, of the date on which such production has begun or resumed."

The date on which production is begun or resumed will be construed for oil wells as the date on which liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which liquid hydrocarbons are first produced into a permanent storage facility, whichever occurs first; and, for gas wells as the date on which associated liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which gas is first measured through permanent metering facilities, whichever occurs first.

Should Wolverine fail to comply with the above requirement in the manner and time allowed, you shall be liable for a civil penalty of up to \$10,000 per violation for each day such violation continues, not to exceed a maximum of 20 days. See Section 109 (c) (3) of the Federal Oil and Gas Royalty Management Act of 1982 and the implementing regulations at Title 43 CFR 3162.4-1 (c) and 3163.2 (e) (2).



**WOLVERINE GAS AND OIL COMPANY  
OF UTAH, LLC**

*Energy Exploration in Partnership with the Environment*

January 13, 2011

Mr. Stan Andersen  
Fluid Minerals Group, BLM  
Richfield Field Office  
150 East 900 North  
Richfield, UT 84701

Re: Wolverine Federal 19-4

Dear Mr. Anderson,

Enclosed is a Sundry for the subject well.

Please let me know if you have any questions or concerns regarding the above mentioned document.

Please consider this our official request to keep the enclosed document confidential.

Sincerely,

Helene Bardolph  
Engineering Administrative Assistant

Enclosures

cc: Mr. John Rogers, UDOGM

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JAN 18 2011

DIV. OF OIL, GAS & MINING

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

FORM 6

ENTITY ACTION FORM

Operator: Wolverine Gas and Oil Company of Utah, LLC Operator Account Number: N 1655  
Address: 55 Campau NW  
city Grand Rapids  
state MI zip 49503 Phone Number: (616) 458-1150

Well 1

API Number	Well Name	QQ	Sec	Twp	Rng	County
4304150005	Wolverine Federal 19-4	NENW	19	23S	1W	Sevier
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date	
<i>AB</i>	99999	<i>13995</i>	1/8/2011		<i>1/26/2011</i>	
Comments: <i>NAVA</i> BHL: 550' FNL & 580' FEL, NENE, Sec 19, T23S, R1W <i>BHL NENE</i>						<b>CONFIDENTIAL</b>

Well 2

API Number	Well Name	QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date	
Comments:						

Well 3

API Number	Well Name	QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date	
Comments:						

ACTION CODES:

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

Helene Bardolph

Name (Please Print)

*Helene Bardolph*

Signature

Engineering Assistant

1/20/2011

Title

Date

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JAN 20 2011

(5/2000)

DIV. OF OIL, GAS & MINING

## DIVISION OF OIL, GAS AND MINING

**SPUDDING INFORMATION**Name of Company: WOLVERINE GAS & OIL COMPANY OF UTAHWell Name: WOLVERINE FEDERAL 19-4Api No: 43-041-50005 Lease Type FEDERALSection 19 Township 23S Range 01W County SEVIERDrilling Contractor PETE MARTIN DRILLING RIG # **SPUDDED:**Date 01/07/2011Time 2:30 PMHow DRY**Drilling will Commence:** Reported by TOM ZUPANTelephone # (970) 812-0022Date 01/10/2011 Signed CHD

**Carol Daniels - Wolverine Federal 19-4 Update** T 235 R01W 5-19 43-041-50005

---

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet,  
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"Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Matt Harmon" , "McCoy, Charlene" ,  
"McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup,  
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Burns" , "Shawn Moulton" , "Shelton, Shorty" , , "Steffen, Dana" , "Tujillo, Chris" , "Tyler  
Ross" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/11/2011 9:25 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/11/2011 9:22 AM

Spudded at 0900 1/10/11, drilled to 372' in 7 hours. TDS broke. Currently rig repair.

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 812-0022**  
**Cell (970) 314-8219**  
**Fax (435) 304-1222**  
**[wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net)**

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JAN 11 2011

DIV. OF OIL, GAS & MINING

**Carol Daniels - Wolverine Federal 19-4 Update** *T295R01W 5-19 43-041-50005*

---

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Ross" , "Winkler, Matt" , "Zimmerman, Bill" , "Kent Donner" , "McKinley, Nate"  
**Date:** 1/18/2011 8:08 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/18/2011 8:05 AM

Drilling 8 ¾" hole at 2503'.

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 812-0022**  
**Cell (970) 314-8219**  
**Fax (435) 304-1222**  
**[wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net)**

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**JAN 19 2011**

DIV. OF OIL, GAS & MINING

CONFIDENTIAL

**Carol Daniels - Wolverine Federal 19-4 Update** *Tazs Row 5-19 43-041-50005*

---

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
 "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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 Ross" , "Winkler, Matt" , "Zimmerman, Bill" , "Kent Donner" , "McKinley, Nate"  
**Date:** 1/19/2011 7:29 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/19/2011 7:26 AM

Drilling at 3288' (planned TD 7326')

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 812-0022**  
**Cell (970) 314-8219**  
**Fax (435) 304-1222**  
**[wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net)**

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JAN 19 2011

DIV. OF OIL, GAS & MINING

**Carol Daniels - Wolverine Federal 19-4 Update** T 235 K01W 5-19 43-041-50005

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Ross" , "Winkler, Matt" , "Zimmerman, Bill" , "Kent Donner" , "McKinley, Nate"  
**Date:** 1/17/2011 7:32 AM  
**Subject:** Wolverine Federal 19-4 Update

1/17/2011 7:30 AM'

Washing down to tag up on wiper plugs.

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 812-0022**  
**Cell (970) 314-8219**  
**Fax (435) 304-1222**  
**wolvexpl@drillmail.net**

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JAN 19 2011

DIV. OF OIL, GAS & MINING

CONFIDENTIAL

Carol Daniels - Wolverine Federal 19-4 Update

T335 RO1W 5-19 43-04150005

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
 "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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 Ross" , "Winkler, Matt" , "Zimmerman, Bill" , "Kent Donner" , "McKinley, Nate"  
**Date:** 1/16/2011 7:19 AM  
**Subject:** Wolverine Federal 19-4 Update

1/16/2011 7:16 AM

Nippling up BOPE

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 812-0022**  
**Cell (970) 314-8219**  
**Fax (435) 304-1222**  
**[wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net)**

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JAN 19 2011

DIV. OF OIL, GAS &amp; MINING

**Carol Daniels - Wolverine Federal 19-4 Notification of Spudding Surface hole***T235 R01W 5-19 43-041-50003*

**From:** "Wolverine Exploration Rig"  
**To:** "Hendricks, Marvin" , "Jones, Mark" , , "Daniels, Carol"  
**Date:** 1/14/2011 8:17 AM  
**Subject:** Wolverine Federal 19-4 Notification of Spudding Surface hole  
**CC:** "Higuera, Ed" , "Irons, Charlie"

---

This email is notification of intent to case and cement the 12 ¼" x 9 5/8" surface hole of the Wolverine Federal 19-4 well this evening. It is anticipated that we will begin to run casing at about 7pm and that we will cement in the very early hours Saturday morning. If there is any major change in timing I will notify you.

Well: Wolverine Federal 19-4  
Rig: Patterson UTI 304  
API: 43041500050000  
Lease: UTU 73528

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 812-0022**  
**Cell (970) 314-8219**  
**Fax (435) 304-1222**  
**[wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net)**

**RECEIVED****JAN 19 2011**

DIV. OF OIL, GAS &amp; MINING

CONFIDENTIAL

Carol Daniels - Wolverine Federal 19-4 Update T 235 R 01W 5-19 43-041.50005

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff", "Allen, Geoff", "Arthurs, Shane", "Blair, Richard", "Brock Pope", "Chamberlain, Don", "Childers, Eli", "Chris Schaugaard", "Daniel Jenkins", "Daniels, Carol", "De la Torre, Juan C", "Dennis", "Denton, Derek", "Dieste, Bobby", "Doucet, Dustin", "Dustin Dunning", "Foreman, Ron", "George Zamantakis", "Hall, Denise", "Hammell, Hank", "Harry Melnikoff", "Hendricks, Marvin", "Hutcinson, Clayton", "Jim Barry", "Jimmy Germon", "Jones, Mark", "Kulow, Kyle", "Kyle Cox", "LaDee Roundy", "Larimore, Mark", "Lewis, John", "Martin Pete", "Matt Harmon", "McCoy, Charlene", "McCoy, Tim", "Nilles, Chris", "O'Connell, David", "Perry, Bud (Smith Bits)", "Pickup, Marc", "Rees, John M", "Revert, Scott", "Robinson, Darin", "Ryan Thomas", "Shaun Burns", "Shawn Moulton", "Shelton, Shorty", "Steffen, Dana", "Tujillo, Chris", "Tyler Ross", "Winkler, Matt", "Zimmerman, Bill", "Kent Donner", "McKinley, Nate"  
**Date:** 1/14/2011 7:13 AM  
**Subject:** Wolverine Federal 19-4 Update

1/13/2011 7:46 AM

**Current Activity**

Drilling at 1780 ft

**EST Timing**

ESTIMATED SCHEDULE					
DATE	DAY	START TIME	HR	DESCRIPTION	EQUIPMENT
14-Jan	Friday	7:00	8.00	Drill 1780-2100	Call Franks w/10 hrs notice at 1800', Call State/BLM Csg/Cmt job
14-Jan		15:00	1.00	CBU for casing	Call Schlumberger Cementers w/ 8 hrs notice
		16:00	3.00	POOH for casing	
		19:00	7.00	RU and run casing	
15-Jan	Saturday	2:00	1.00	Circ and condition for cement	
		3:00	0.50	RD Casers	
		3:30	4.00	Cement casing	
		7:30	4.50	Lay down 6 5/8" HWDP in mouse hole	
		12:00	1.50	Top Job	
		13:30	3.00	Drain riser clean cellar, RD Howco	
		16:30	2.00	Cut off Casing, remove riser	Call FMC/Welder/DoubleJack
		18:30	3.00	Final cut and weld on braden head	
		21:30	1.00	Test weld	
		22:30	9.00	Nipple up BOPE	
16-Jan	Sunday	7:30	5.00	Pressure test BOPE	
		12:30			

Tom Zupan  
 Drilling Supervisor  
 Wolverine Gas and Oil Company of Utah, LLC  
 Rig (970) 812-0022  
 Cell (970) 314-8219  
 Fax (435) 304-1222  
 wolvexpl@drillmail.net

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JAN 19 2011

DIV. OF OIL, GAS & MINING

**Carol Daniels - Wolverine Federal 19-4 Update** T93S ROW S-19 43-041-50005

---

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Ross" , "Winkler, Matt" , "Zimmerman, Bill" , "Kent Donner" , "McKinley, Nate"  
**Date:** 1/20/2011 7:11 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/20/2011 7:08 AM

Drilling at 3792' (planned TD 7326')

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
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**Carol Daniels - Wolverine Federal 19-4 Update**

*T235 ROW 5-19 43-041-50005*

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" ,  
"Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/24/2011 5:19 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/24/2011 5:15 AM

Drilling at 5,114, PR 30 fph,

Casing point is 7,300' firm

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
**API 43-041-50005-00-00**  
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**Cell (720) 351-7470**  
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**wolvexpl@drillmail.net**

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**Carol Daniels - Wolverine Federal 19-4 Update** T 235 R01W 5-19 43-041-50005

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" ,  
"Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/23/2011 8:48 AM  
**Subject:** Wolverine Federal 19-4 Update

1/23/2011 8:44 AM

Drilling at 4,779', PR 10 fph

Casing point is at 7,300' firm

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
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**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
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Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" ,  
"Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/22/2011 10:25 AM  
**Subject:** Wolverine Federal 19-4 Update

1/22/2011 10:20 AM

Drilling at 4,503', PR 20-30 fph

Next casing point at 7,300'

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
**API 43-041-50005-00-00**  
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**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" ,  
"Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/21/2011 4:04 PM  
**Subject:** Wolverine Federal 19-4 Update

1/21/2011 3:59 PM

TIH, bit depth 2,500', hole depth 4,168'

Permitted depth 7,300'

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
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Carol Daniels - Wolverine Federal 19-4 Update

T 235 R 01 W <sup>3-19</sup> 43-041-50005

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
 "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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 Ross" , "Winkler, Matt" , "Zimmerman, Bill" , "Kent Donner" , "McKinley, Nate"  
**Date:** 1/21/2011 6:35 AM  
**Subject:** Wolverine Federal 19-4 Update

1/21/2011 6:32 AM

Drilled to 4168' (planned TD 7326')  
 MWD failed, CBU for Trip.

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
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Carol Daniels - Wolverine Federal 19-4 Update *T 235 R 01 W 5-19 43041-50005*

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**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
 "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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 Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" ,  
 "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/25/2011 7:07 AM  
**Subject:** Wolverine Federal 19-4 Update

1/25/2011 7:04 AM

Orient directional tools, hole depth 5,423'

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
**API 43-041-50005-00-00**  
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Carol Daniels - Wolverine Federal 19-4 Update T235 R01W5-19 43-041-50005

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**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/26/2011 7:17 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/26/2011 7:13 AM

Drilling at 5,745', PR 15 fph

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
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JAN 26 2011

DEPT. OF OIL, GAS & MINING

Carol Daniels - Wolverine Federal 19-4 Update

T235 P01W 5-19 43-041-50005

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**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
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Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis,  
Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/27/2011 7:39 AM  
**Subject:** Wolverine Federal 19-4 Update

1/27/2011 7:35 AM

Drilling at 5,984', PR 5 fph

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
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JAN 27 2011

DEPT. OF OIL, GAS & MINING

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Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis,  
Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/28/2011 7:31 AM  
**Subject:** Wolverine Federal 19-4 Update

1/28/2011 7:27 AM

Drilling at 6,244', PR 16 fph

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
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Carol Daniels - Wolverine Federal 19-4 Update *T 235 R 01W S-19 43-041-50005*

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**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,  
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Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis,  
Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/29/2011 5:08 AM  
**Subject:** Wolverine Federal 19-4 Update

---

1/29/2011 5:03 AM

Tripping, hole depth 6,269'

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
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**JAN 29 2011**

DIV. OF OIL, GAS & MINING

**Carol Daniels - Wolverine Federal 19-4 Update**

*T 235 201W 5-19 43-041-50005*

**From:** "Wolverine Exploration Rig"  
**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet, Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "KC Schultz" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin Hendricks" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shaun Burns" , "Shawn Moulton" , "Shelton, Shorty" , , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/30/2011 7:16 AM  
**Subject:** Wolverine Federal 19-4 Update

1/30/2011 7:11 AM

Drilling at 6,420', PR 60 fph

Casing point is 7,300'

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Wolverine Federal 19-4, AFE 244**  
**API 43-041-50005-00-00**  
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Carol Daniels - Wolverine Federal 19-4 Update

T235201W5-19 43-041-50005

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**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,  
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Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/31/2011 7:10 AM  
**Subject:** Wolverine Federal 19-4 Update

1/31/2011 7:06 AM

Drilling at 6,816', PR 14 fph

**Bill Donovan**  
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T 235 RO1W 5-19 43-041-50005

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Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 1/31/2011 1:27 PM  
**Subject:** Wolverine Federal 19-4 Update

1/31/2011 12:56 PM

The top of the pay zone has been picked.

Total depth will be from 7,320 to 7,420'

Current depth is 6,891', PR 20 fph

A trip may be necessary before we reach TD

Logs will determine if production casing will be run

Preliminary data indicates casing most likely will be run

**Bill Donovan**  
**Drilling Supervisor**  
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Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 2/1/2011 7:10 AM  
**Subject:** Wolverine Federal 19-4 Update

2/1/2011 7:04 AM

Drilling at 7,181', PR 39 fph,

TD expected this evening,

Plan: TD, circ and cond, TOH for logs, log, TIH, TOH LD DP&BHA, run casing, cement

**Bill Donovan**  
**Drilling Supervisor**  
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Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 2/1/2011 6:49 PM  
**Subject:** Wolverine Federal 19-4 Update

2/1/2011 6:45 PM

Total depth of 7,405' MD reached.

Open hole loggers have been called for Wednesday morning.

**Bill Donovan**  
**Drilling Supervisor**  
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**From:** "Wolverine Exploration Rig"  
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**Date:** 2/2/2011 8:37 AM  
**Subject:** Wolverine Federal 19-4 Update

2/2/2011 8:32 AM

Halliburton rigging up for first logging run

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
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Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 2/3/2011 4:40 AM  
**Subject:** Wolverine Federal 19-4 Update

2/3/2011 4:36 AM

TIH at 1,310'

Plan:

TIH, circulate and condition mud, TOH laying down drill pipe, run casing

**Bill Donovan**  
**Drilling Supervisor**  
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Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 2/3/2011 9:03 PM  
**Subject:** Wolverine Federal 19-4 Update

2/3/2011 8:57 PM

TOH LD DP at 2,088'

The plan is to run casing tonight and cement tomorrow.

**Bill Donovan**  
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**Carol Daniels - Wolverine Federal 19-4 update**

T 235 Row 5-19 43-041-5005

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Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"  
**Date:** 2/4/2011 8:02 AM  
**Subject:** Wolverine Federal 19-4 update

2/4/2011 7:58 AM

Running 7" casing at 2,500'

Cementers to be on location at 4:00 PM today

**Bill Donovan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
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**Date:** 2/5/2011 6:29 AM  
**Subject:** Wolverine Federal 19-4 update

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2/5/2011 6:25 AM

ND BOP to cut off 7" csg.

**Tom Zupan**  
**Drilling Supervisor**  
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