

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> Ute Tribal 21-12J				
<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> ANTELOPE CREEK				
<b>4. TYPE OF WELL</b> Oil Well      Coalbed Methane Well: NO						<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> ANTELOPE CREEK				
<b>6. NAME OF OPERATOR</b> PETROGLYPH OPERATING CO						<b>7. OPERATOR PHONE</b> 208 685-7685				
<b>8. ADDRESS OF OPERATOR</b> 960 Broadway Avenue, Ste 500, Boise, ID, 83703						<b>9. OPERATOR E-MAIL</b> ppowell@pgei.com				
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> 1420H623516			<b>11. MINERAL OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>			<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input checked="" 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> Ute Indian Tribe			<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>		
LOCATION AT SURFACE		1971 FSL 1072 FWL		NWSW	21	5.0 S	3.0 W	U		
Top of Uppermost Producing Zone		1235 FSL 110 FWL		SWSW	21	5.0 S	3.0 W	U		
At Total Depth		1235 FSL 110 FWL		SWSW	21	5.0 S	3.0 W	U		
<b>21. COUNTY</b> DUCHESNE			<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 1072			<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 533				
<b>27. ELEVATION - GROUND LEVEL</b> 6382			<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 15			<b>26. PROPOSED DEPTH</b> MD: 6409 TVD: 6232				
<b>28. BOND NUMBER</b> LPM4138336			<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> 43-8342							
<b>Hole, Casing, and Cement Information</b>										
<b>String</b>	<b>Hole Size</b>	<b>Casing Size</b>	<b>Length</b>	<b>Weight</b>	<b>Grade &amp; Thread</b>	<b>Max Mud Wt.</b>	<b>Cement</b>	<b>Sacks</b>	<b>Yield</b>	<b>Weight</b>
Cond	20	14	0 - 54	5.0	Unknown	10.0	Class G	25	1.17	15.8
Surf	12.25	8.625	0 - 494	24.0	J-55 ST&C	10.0	Class G	227	1.17	15.8
Prod	7.875	5.5	0 - 6409	15.5	J-55 LT&C	10.0	Class G	486	1.92	12.5
							Class G	350	1.46	13.4
<b>ATTACHMENTS</b>										
<b>VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES</b>										
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER					<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN					
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)					<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER					
<input type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)					<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP					
<b>NAME</b> Ed Trotter				<b>TITLE</b> Agent			<b>PHONE</b> 435 789-4120			
<b>SIGNATURE</b>				<b>DATE</b> 05/29/2013			<b>EMAIL</b> edtrotter@easilink.com			
<b>API NUMBER ASSIGNED</b> 43013521940000				<b>APPROVAL</b>  Permit Manager						

**CONFIDENTIAL**  
**NINE POINT DRILLING PLAN**  
**PETROGLYPH OPERATING COMPANY, INC**  
**UTE TRIBAL 21-12J**  
**NW SW, SEC 21, T5S, R3W**  
**DUCHESNE COUNTY, UTAH**

**1. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:**

Formation		Subsea	TVD	MD
Rig KB~14.4' above GGL		6397	0	0
Surface Formation = Uinta				
Uinta		6382	15	15
Green River		4951	1446	1449
Trona		3607	2790	2862
Mahogany Shale		3476	2921	3002
"B" Marker	Waterflood Unit Interval	2405	3992	4141
"X" Marker		1922	4475	4642
Douglas Creek Marker		1777	4620	4790
"B" Limestone		1406	4991	5166
Base Castle Peak Limestone		843	5554	5731
BSCARB		422	5975	6150
Wasatch		163	NDE	NDE
Rig TD		165	6232	6409

**2. ESTIMATED DEPTHS OF ANTICIPATED WATER, OIL, GAS OR MINERAL FORMATIONS:**

Substance	Formation	Subsea	TVD	MD
Base of moderately saline ground water*	Uinta	5800	597	597
Oil/Gas	Douglas Creek	1777	4620	4790
Oil/Gas	Castle Peak	843	5554	5731

Any water encountered during drilling shall be sampled, analyzed and reported to BLM, Vernal office using State of Utah DOGM Form 7 *Report of Water Encountered during Drilling*. The following analyses shall be performed on any water encountered:

Flow rate (or blowtest)	Temperature	pH	TDS
Dissolved Iron	Dissolved Magnesium	Dissolved Bicarb.	Dissolved Sulfate
Dissolved Calcium	Dissolved Sodium	Dissolved Carbonate	Dissolved Chloride

All depths through the "Base of moderately saline ground water"\* , along with any water encountered below that depth which is less than 10,000 TDS, shall be protected by the surface casing or by lifting the cement of the production casing into the surface casing.

\*Base of Moderately Saline Groundwater from Howells, Longson and Hunt, 1981, Utah State Technical Publication 92: The Base of the Moderately Saline Water in the Uinta Basin, Utah



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**3. PROPOSED CASING PROGRAM:**

String	Hole	Casing	Top - MD	Bottom - MD	Weight lb/ft	Grade	Thread
Conductor	20"	14"	surface	54'	steel	Cond'r	none
Surface	12-1/4"	8-5/8"	surface	494'	24	J-55	STC
Production	7-7/8"	5-1/2"	surface	6409'	15.5	J-55	LTC

String	Hole	Casing	Collapse	Burst	Tensile
Surface	12-1/4"	8-5/8"	1,370 psi	2,950 psi	244,000 lb
Production	7-7/8"	5-1/2"	4,040 psi	4,810 psi	248,000 lb

- All casing will be new or inspected.
- The surface and production strings shall have a minimum of one (1) centralizer on each of the bottom three (3) joints.
- The production string shall have a minimum of one (1) centralizer for every three (3) joints from TD to the top of the "B" marker at 4141' MD.

**4. PROPOSED CEMENTING PROGRAM:**

String	Top	Cement Description	Sacks	Excess	Weight (ppg)	Yield (ft <sup>3</sup> /sk)
	Bottom		Vol (ft <sup>3</sup> )			
Conductor	0 54	Construction Grade Cement	Sufficient volumes to grout Conductor			
Surface	0 494	Class G +2% CaCl <sub>2</sub> +0.25 lb/sk Cello Flake	227 265	30%	15.8	1.17
Production Lead	0 4141	EXPANDACEM (Class G +additives) + 1 lb/sk Granulite TR <sup>1</sup> / <sub>4</sub> (LCM)	486 933	30%	12.5	1.92
Production Tail	4141 6409	EXPANDACEM (Class G +additives) + 1 lb/sk Granulite TR <sup>1</sup> / <sub>4</sub> (LCM)	350 511	30%	13.4	1.46

- The 8-5/8" surface casing shall be cemented back to surface. In the event that during the primary surface cementing operation the cement does not circulate to surface, or if the cement level should fall back more than 8 feet from surface, then a remedial surface cementing operation shall be performed to insure adequate isolation and stabilization of the surface casing.
- The 5-1/2" production casing shall be cemented back to surface. In the event that during the primary cementing operation the cement does not circulate to surface, a remedial cementing operation shall be performed only if necessary to lift cement above the Surface Casing Shoe at 494' MD.



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**5. MINIMUM PRESSURE CONTROL AND SAFETY EQUIPMENT:**

- An 8", 2000 PSI, Double Ram BOPE with Hydraulic Closing Unit shall be used.
- The flowline shall have a minimum diameter of 10".
- Auxiliary equipment shall be a Kelly Cock, Bit Float, and a TIW valve with drill pipe threads.
- Spark arrestors shall be equipped on all engine exhausts within 100 feet of the wellbore.
- See attached 2,000 psi BOP schematic diagram.

**BOPE TESTING PROCEDURE:**

- The BOPE shall be tested by a professional tester to conform to Onshore Order #2.

**6. MUD PROGRAM:**

**A. SURFACE HOLE**

- The surface hole will be drilled with an air/mist system from 0' to 494'. All cutting shall be directed to pit.
- A trailer-mounted compressor with a capacity of 2000 CFM will be used. Compressor will have a safety shut-off valve located less than 15 feet from the driller's controls of the rig.
- The rat and mouse holes will be drilled with the air rig after surface casing is cemented.
- The 140 barrel water truck used with the deduster will be the source of kill fluid in the highly unlikely event of pressure being encountered during drilling of the surface hole.
- Operator requests the following variances from Onshore Order 2 part E during drilling of the surface hole. Operator will use air drilling techniques only on surface hole:
  - Operator requests a variance to regulations requiring the blooie line discharge to be 100' from the wellbore. Due to reduced location size, the blooie line discharge will be approximately 75' from the wellbore and securely anchored.
  - Operator requests a variance to regulations requiring an automatic igniter or continuous pilot light on the blooie line. A mister shall be on the end of the blooie line.
  - Operator requests a variance to regulations requiring compressors be located in the opposite direction from the blooie line; a minimum of 100' from the wellbore. Due to the reduced location size, the compressors shall be located as close as is reasonable to the opposite direction from the blooie line and 75' from the wellbore.
  - Operator requests a variance to regulations requiring a BOPE on the hole when drilling the surface hole. An air bowl shall be utilized on the diverter system in place of a BOPE.



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**B. PRODUCTION HOLE**

- The production hole shall be drilled with a freshwater polymer system from 494' to 6409'. LSND mud if conditions warrant.
- Clay inhibition and hole stability shall be achieved with a Diammonium Phosphate (DAP) additive or similar source of clay-stabilizing ions. Anticipated mud weight is 8.3-8.8 lbs/gal. although mud weight up to 10lbs/gal may be used if necessary to prevent wellbore wall instability due to the planned inclination of the well.
- All cuttings and circulating medium shall be directed into the reserve pit. Total Dissolved Solids (TDS) are anticipated to be less than 3000 PPM.
- Sufficient mud inventory will be maintained on location in either tanks or the reserve pit during the drilling of the production hole to handle any adverse conditions that may arise.
- If necessary to control formation fluids or pressure, the system will be weighted with the addition of bentonite gel, and if pressure conditions warrant, with barite. Enough material shall be maintained on location to allow for the mudweight to be raised to 10.5 lbs/gal should need arise.
- During drilling operations, pit levels and flow from the well shall be monitored by instrumentation to include at least: a pit volume totalizer (PVT), a stroke counter, and a mud-flow indicator.
- A mud-gas separator shall be available on location. Operator does not plan on using a gas detector on the mud return due to the fact that any abnormal pressure is the result of offset water injection.

**C. HAZARDOUS MATERIALS AND POLLUTANTS**

- Chromate additives **shall NOT** be used in the mud system on Indian lands without prior DOGM approval to ensure adequate protection of freshwater aquifers.
- Chemicals subject to reporting under SARA Title III in an amounts equal to or greater than 10,000 pounds annually **shall NOT** be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completion of this well.
- Extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities **shall NOT** be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completion of this well.
- Hazardous substances specifically listed by the EPA as a hazardous waste, as defined in 40 CFR 261 (D), or any substances that through their use would lead to the generation of a hazardous waste, **shall NOT** be used in association with the drilling, testing, or completion of this well.

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**7. EVALUATION PROGRAM:**

Logs: Triple Combo TD to base of surface casing (AIT, DSN, CDL)  
 Base of surface casing to surface (GR only)

Cores: None planned

DST: None planned

Testing: Operator plans no testing until the completion phase of the well.

**8. ANTICIPATED ABNORMAL PRESSURE OR TEMPERATURE:**

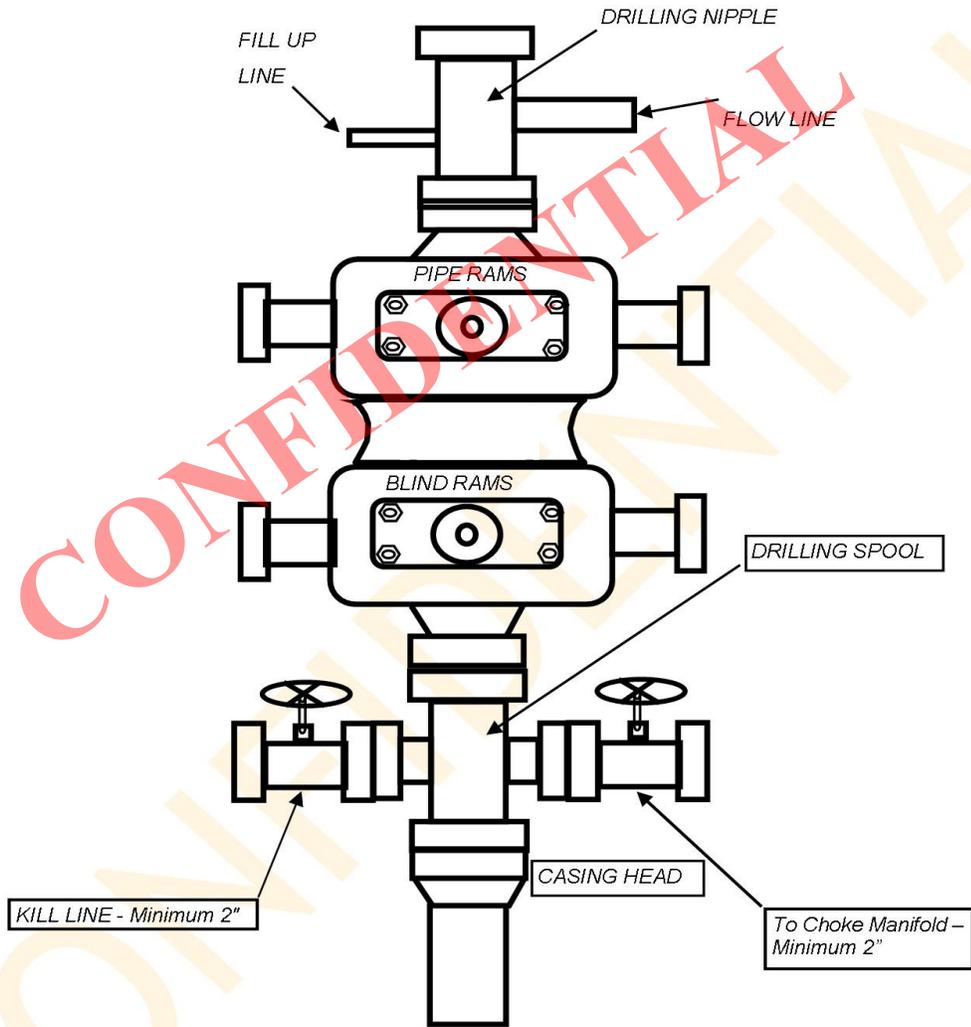
- Operator anticipates Bottom Hole Temperatures below 150°F, the maximum temperature for DAP drilling fluids.
- No H<sub>2</sub>S has been encountered or is known to exist from previous drilling in the area at this depth.
- Maximum pressure for hydrocarbon bearing zones at native conditions in this area is approximately 1602 PSI (0.25 PSI/ft gradient).
- This well is in the vicinity of active injection wells. Nearby active injection can cause pressures up to a 0.433 PSI/ft gradient (2775 PSI).

**9. DIRECTIONAL WELL PLAN:**

- Well shall be drilled directionally in order to limit surface disturbance.
- A Positive Displacement Motor with a bent sub of 1.25° to 1.75° will be used to control well path.
- A directional survey shall be taken at least one (1) time per 100' of drilling.
- Anti-collision equipment will not be used as there are no existing wells in the vicinity of the proposed well path.
- While cutting the Waterflood Unit Interval from 4141' to 6150', the actual well path may be allowed to vary up to 100' horizontally from plan in order to prevent excessive slide drilling. Above and below the Waterflood Unit Interval, variances in excess 100' horizontally from plan may be allowed.
- Directional drilling plan is attached.

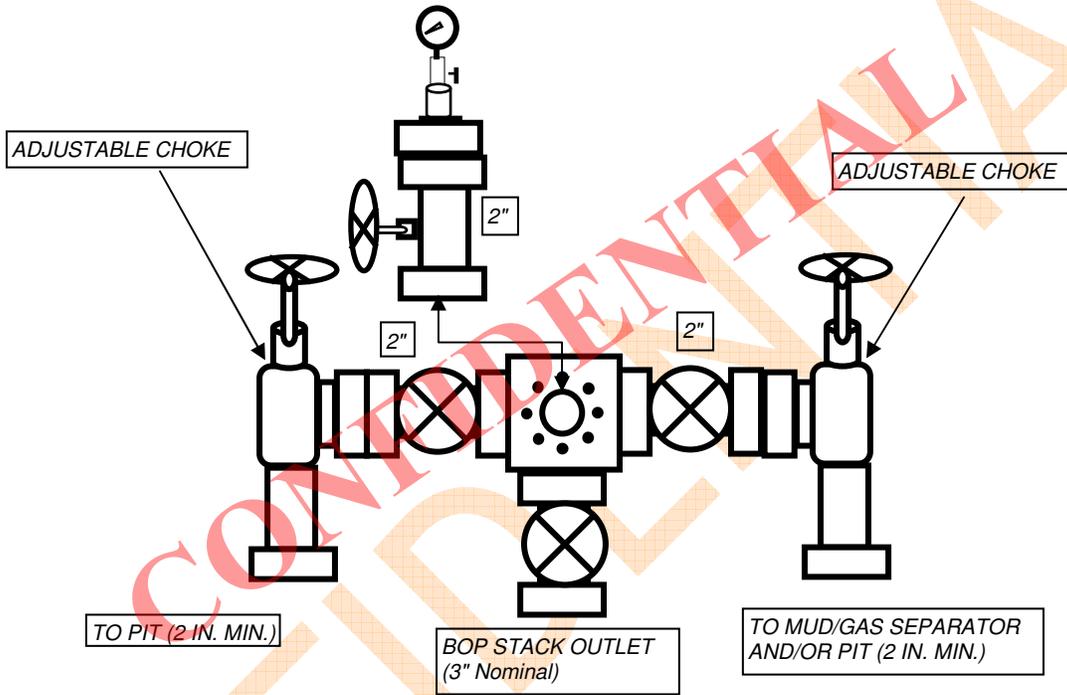
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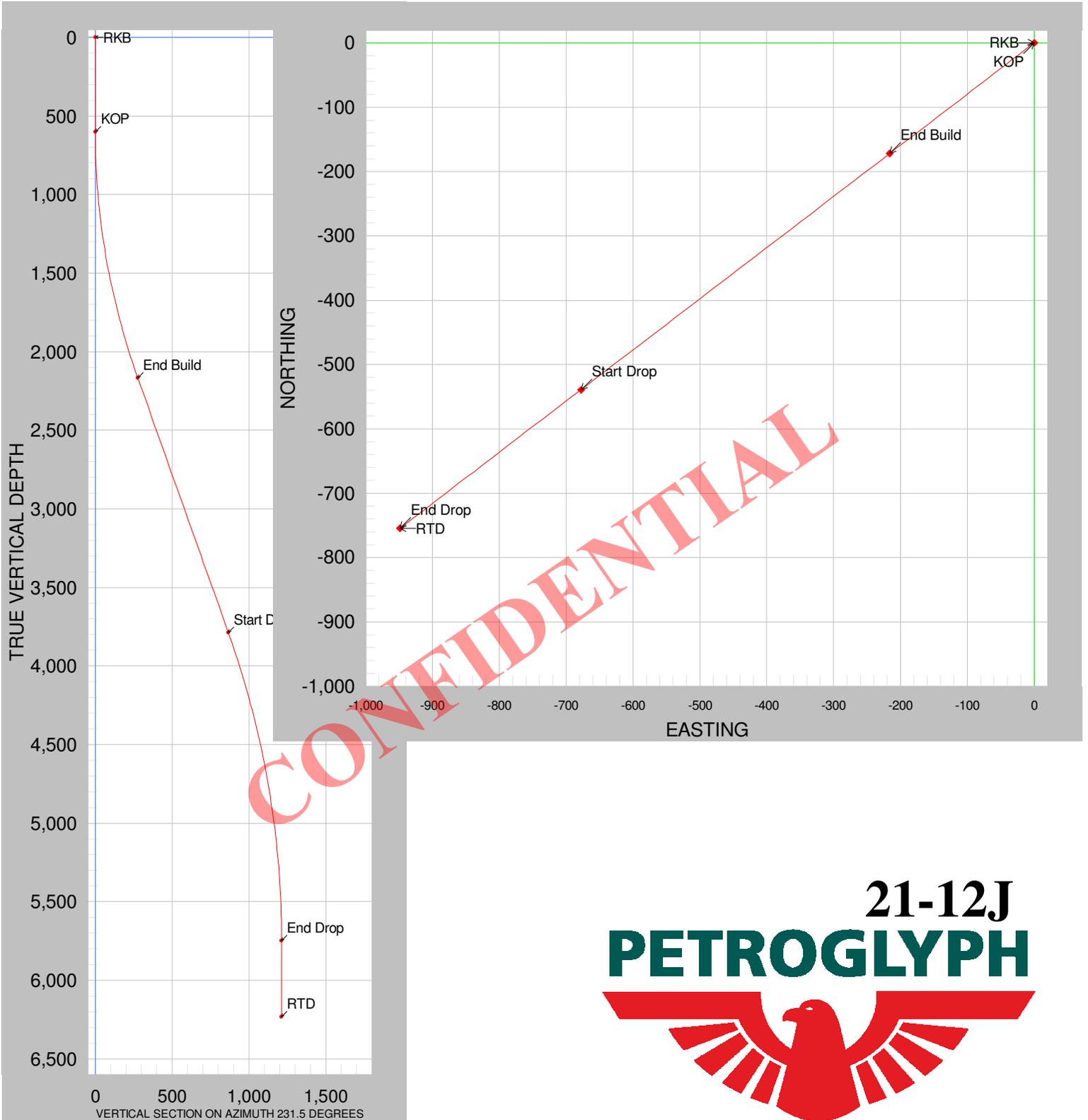
*TYPICAL 2,000 p.s.i. BLOWOUT PREVENTER*



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TYPICAL 2,000 p.s.i. CHOKE MANIFOLD





#	Reference	Type	MD	Inc	Azi	TVD	N	E	DLS	Vert S
0	RKB	Tie Point	0.00	0.00	0.00	0.00	0.00	0.00		0.00
1	KOP	Vertical	600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00
2	End Build	Build	2200.00	20.00	231.50	2167.70	-172.08	-216.34	1.25	276.43
3	Start Drop	Tangent	3925.00	20.00	231.50	3788.67	-539.36	-678.06	0.00	866.41
4	End Drop	Drop	5925.00	0.00	0.00	5748.31	-754.46	-948.48	1.00	1211.95
5	RTD	Vertical	6409.00	0.00	0.00	6232.31	-754.46	-948.48	0.00	1211.95

## 21-12J, Plan 1

<b>Operator</b>	<b>Units</b> feet, %/100ft	11:19 Thursday, May 02, 2013 Page 1 of 4
<b>Field</b>	<b>County</b> Duchesne	<b>Vertical Section Azimuth</b> 231.5
<b>Well Name</b> 21-12J	<b>State</b> UT	<b>Survey Calculation Method</b> Minimum Curvature
<b>Plan</b> 1	<b>Country</b> USA	<b>Database</b> Access

<b>Location Site</b> SHL: 1971' FSL 1072' FWL BHL: 1235' FSL 110' FWL	<b>MapZone</b>	<b>Lat Long Ref</b>
<b>Slot Name</b>	<b>SurfaceX</b>	<b>Surface Long</b>
<b>Well Number</b>	<b>SurfaceY</b>	<b>Surface Lat</b>
<b>Project</b>	<b>Z Datum</b>	<b>Ground Level</b>
	<b>Surface Z</b>	

**DIRECTIONAL WELL PLAN**

MD*	INC*	AZI*	TVD*	N*	E*	DLS*	V. S.*	MapE*	MapN*	SysTVD*
ft	deg	deg	ft	ft	ft	%/100ft	ft	ft	ft	ft
*** RKB (at MD = 0.00)										
0.00	0.00	0.0	0.00	0.00	0.00		0.00			
50.00	0.00	0.0	50.00	0.00	0.00	0.00	0.00			
100.00	0.00	0.0	100.00	0.00	0.00	0.00	0.00			
150.00	0.00	0.0	150.00	0.00	0.00	0.00	0.00			
200.00	0.00	0.0	200.00	0.00	0.00	0.00	0.00			
250.00	0.00	0.0	250.00	0.00	0.00	0.00	0.00			
300.00	0.00	0.0	300.00	0.00	0.00	0.00	0.00			
350.00	0.00	0.0	350.00	0.00	0.00	0.00	0.00			
400.00	0.00	0.0	400.00	0.00	0.00	0.00	0.00			
450.00	0.00	0.0	450.00	0.00	0.00	0.00	0.00			
500.00	0.00	0.0	500.00	0.00	0.00	0.00	0.00			
550.00	0.00	0.0	550.00	0.00	0.00	0.00	0.00			
*** KOP (at MD = 600.00)										
600.00	0.00	0.0	600.00	0.00	0.00	0.00	0.00			
650.00	0.63	231.5	650.00	-0.17	-0.21	1.25	0.27			
700.00	1.25	231.5	699.99	-0.68	-0.85	1.25	1.09			
750.00	1.88	231.5	749.97	-1.53	-1.92	1.25	2.45			
800.00	2.50	231.5	799.94	-2.72	-3.41	1.25	4.36			
850.00	3.13	231.5	849.88	-4.24	-5.33	1.25	6.82			
900.00	3.75	231.5	899.79	-6.11	-7.68	1.25	9.81			
950.00	4.38	231.5	949.66	-8.31	-10.45	1.25	13.36			
1000.00	5.00	231.5	999.49	-10.86	-13.65	1.25	17.44			
1050.00	5.63	231.5	1049.28	-13.74	-17.27	1.25	22.07			
1100.00	6.25	231.5	1099.01	-16.96	-21.32	1.25	27.24			
1150.00	6.88	231.5	1148.68	-20.52	-25.79	1.25	32.96			
1200.00	7.50	231.5	1198.29	-24.41	-30.69	1.25	39.21			
1250.00	8.13	231.5	1247.82	-28.64	-36.01	1.25	46.01			
1300.00	8.75	231.5	1297.28	-33.21	-41.75	1.25	53.35			
1350.00	9.38	231.5	1346.66	-38.11	-47.91	1.25	61.22			
1400.00	10.00	231.5	1395.94	-43.35	-54.50	1.25	69.64			
1450.00	10.63	231.5	1445.14	-48.92	-61.50	1.25	78.59			
1500.00	11.25	231.5	1494.23	-54.83	-68.93	1.25	88.07			
1550.00	11.88	231.5	1543.21	-61.07	-76.77	1.25	98.10			
1600.00	12.50	231.5	1592.09	-67.64	-85.03	1.25	108.65			
1650.00	13.13	231.5	1640.84	-74.54	-93.71	1.25	119.74			

## 21-12J, Plan 1

<b>Operator</b>	<b>Units</b> feet, %/100ft	11:19 Thursday, May 02, 2013 Page 2 of 4
<b>Field</b>	<b>County</b> Duchesne	<b>Vertical Section Azimuth</b> 231.5
<b>Well Name</b> 21-12J	<b>State</b> UT	<b>Survey Calculation Method</b> Minimum Curvature
<b>Plan</b> 1	<b>Country</b> USA	<b>Database</b> Access

<b>Location Site</b> SHL: 1971' FSL 1072' FWL BHL: 1235' FSL 110' FWL	<b>MapZone</b>	<b>Lat Long Ref</b>
<b>Slot Name</b>	<b>SurfaceX</b>	<b>Surface Long</b>
<b>Well Number</b>	<b>SurfaceY</b>	<b>Surface Lat</b>
<b>Project</b>	<b>Z Datum</b>	
	<b>Surface Z</b>	<b>Ground Level</b>

**DIRECTIONAL WELL PLAN**

MD*	INC*	AZI*	TVD*	N*	E*	DLS*	V. S.*	MapE*	MapN*	SysTVD*
ft	deg	deg	ft	ft	ft	%/100ft	ft	ft	ft	ft
1700.00	13.75	231.5	1689.47	-81.77	-102.80	1.25	131.36			
1750.00	14.38	231.5	1737.97	-89.34	-112.31	1.25	143.51			
1800.00	15.00	231.5	1786.34	-97.23	-122.23	1.25	156.18			
1850.00	15.63	231.5	1834.56	-105.45	-132.56	1.25	169.39			
1900.00	16.25	231.5	1882.64	-113.99	-143.31	1.25	183.12			
1950.00	16.88	231.5	1930.57	-122.87	-154.46	1.25	197.37			
2000.00	17.50	231.5	1978.33	-132.06	-166.03	1.25	212.15			
2050.00	18.13	231.5	2025.94	-141.59	-178.00	1.25	227.44			
2100.00	18.75	231.5	2073.37	-151.43	-190.37	1.25	243.25			
2150.00	19.38	231.5	2120.63	-161.60	-203.15	1.25	259.58			
*** END BUILD (at MD = 2200.00)										
2200.00	20.00	231.5	2167.70	-172.08	-216.34	1.25	276.43			
2250.00	20.00	231.5	2214.69	-182.73	-229.72	0.00	293.53			
2300.00	20.00	231.5	2261.67	-193.37	-243.10	0.00	310.63			
2350.00	20.00	231.5	2308.66	-204.02	-256.49	0.00	327.73			
2400.00	20.00	231.5	2355.64	-214.66	-269.87	0.00	344.83			
2450.00	20.00	231.5	2402.63	-225.31	-283.25	0.00	361.93			
2500.00	20.00	231.5	2449.61	-235.95	-296.64	0.00	379.03			
2550.00	20.00	231.5	2496.60	-246.60	-310.02	0.00	396.14			
2600.00	20.00	231.5	2543.58	-257.25	-323.40	0.00	413.24			
2650.00	20.00	231.5	2590.57	-267.89	-336.79	0.00	430.34			
2700.00	20.00	231.5	2637.55	-278.54	-350.17	0.00	447.44			
2750.00	20.00	231.5	2684.54	-289.18	-363.55	0.00	464.54			
2800.00	20.00	231.5	2731.52	-299.83	-376.94	0.00	481.64			
2850.00	20.00	231.5	2778.51	-310.47	-390.32	0.00	498.74			
2900.00	20.00	231.5	2825.49	-321.12	-403.70	0.00	515.84			
2950.00	20.00	231.5	2872.47	-331.77	-417.09	0.00	532.94			
3000.00	20.00	231.5	2919.46	-342.41	-430.47	0.00	550.04			
3050.00	20.00	231.5	2966.44	-353.06	-443.85	0.00	567.15			
3100.00	20.00	231.5	3013.43	-363.70	-457.24	0.00	584.25			
3150.00	20.00	231.5	3060.41	-374.35	-470.62	0.00	601.35			
3200.00	20.00	231.5	3107.40	-384.99	-484.00	0.00	618.45			
3250.00	20.00	231.5	3154.38	-395.64	-497.39	0.00	635.55			
3300.00	20.00	231.5	3201.37	-406.28	-510.77	0.00	652.65			
3350.00	20.00	231.5	3248.35	-416.93	-524.15	0.00	669.75			

## 21-12J, Plan 1

<b>Operator</b>	<b>Units</b> feet, %/100ft	11:19 Thursday, May 02, 2013 Page 3 of 4
<b>Field</b>	<b>County</b> Duchesne	<b>Vertical Section Azimuth</b> 231.5
<b>Well Name</b> 21-12J	<b>State</b> UT	<b>Survey Calculation Method</b> Minimum Curvature
<b>Plan</b> 1	<b>Country</b> USA	<b>Database</b> Access

<b>Location Site</b> SHL: 1971' FSL 1072' FWL BHL: 1235' FSL 110' FWL	<b>MapZone</b>	<b>Lat Long Ref</b>
<b>Slot Name</b>	<b>SurfaceX</b>	<b>Surface Long</b>
<b>Well Number</b>	<b>SurfaceY</b>	<b>Surface Lat</b>
<b>Project</b>	<b>Z Datum</b>	<b>Ground Level</b>
	<b>Surface Z</b>	

**DIRECTIONAL WELL PLAN**

MD*	INC*	AZI*	TVD*	N*	E*	DLS*	V. S.*	MapE*	MapN*	SysTVD*
ft	deg	deg	ft	ft	ft	%/100ft	ft	ft	ft	ft
3400.00	20.00	231.5	3295.34	-427.58	-537.54	0.00	686.85			
3450.00	20.00	231.5	3342.32	-438.22	-550.92	0.00	703.95			
3500.00	20.00	231.5	3389.31	-448.87	-564.30	0.00	721.05			
3550.00	20.00	231.5	3436.29	-459.51	-577.69	0.00	738.16			
3600.00	20.00	231.5	3483.27	-470.16	-591.07	0.00	755.26			
3650.00	20.00	231.5	3530.26	-480.80	-604.45	0.00	772.36			
3700.00	20.00	231.5	3577.24	-491.45	-617.84	0.00	789.46			
3750.00	20.00	231.5	3624.23	-502.10	-631.22	0.00	806.56			
3800.00	20.00	231.5	3671.21	-512.74	-644.60	0.00	823.66			
3850.00	20.00	231.5	3718.20	-523.39	-657.99	0.00	840.76			
3900.00	20.00	231.5	3765.18	-534.03	-671.37	0.00	857.86			
*** START DROP (at MD = 3925.00)										
3925.00	20.00	231.5	3788.67	-539.36	-678.06	0.00	866.41			
3950.00	19.75	231.5	3812.19	-544.65	-684.71	1.00	874.91			
4000.00	19.25	231.5	3859.32	-555.04	-697.78	1.00	891.60			
4050.00	18.75	231.5	3906.59	-565.17	-710.52	1.00	907.88			
4100.00	18.25	231.5	3954.01	-575.05	-722.93	1.00	923.75			
4150.00	17.75	231.5	4001.56	-584.66	-735.02	1.00	939.20			
4200.00	17.25	231.5	4049.25	-594.02	-746.79	1.00	954.23			
4250.00	16.75	231.5	4097.06	-603.12	-758.23	1.00	968.85			
4300.00	16.25	231.5	4145.00	-611.96	-769.34	1.00	983.05			
4350.00	15.75	231.5	4193.07	-620.54	-780.13	1.00	996.83			
4400.00	15.25	231.5	4241.25	-628.86	-790.59	1.00	1010.20			
4450.00	14.75	231.5	4289.54	-636.92	-800.71	1.00	1023.14			
4500.00	14.25	231.5	4337.95	-644.71	-810.51	1.00	1035.66			
4550.00	13.75	231.5	4386.47	-652.24	-819.98	1.00	1047.75			
4600.00	13.25	231.5	4435.08	-659.51	-829.11	1.00	1059.42			
4650.00	12.75	231.5	4483.80	-666.51	-837.92	1.00	1070.67			
4700.00	12.25	231.5	4532.62	-673.25	-846.39	1.00	1081.49			
4750.00	11.75	231.5	4581.52	-679.72	-854.52	1.00	1091.89			
4800.00	11.25	231.5	4630.52	-685.92	-862.32	1.00	1101.86			
4850.00	10.75	231.5	4679.60	-691.86	-869.79	1.00	1111.40			
4900.00	10.25	231.5	4728.76	-697.53	-876.92	1.00	1120.51			
4950.00	9.75	231.5	4778.00	-702.94	-883.71	1.00	1129.19			
5000.00	9.25	231.5	4827.32	-708.08	-890.17	1.00	1137.44			

## 21-12J, Plan 1

<b>Operator</b>	<b>Units</b> feet, %100ft	11:19 Thursday, May 02, 2013 Page 4 of 4
<b>Field</b>	<b>County</b> Duchesne	<b>Vertical Section Azimuth</b> 231.5
<b>Well Name</b> 21-12J	<b>State</b> UT	<b>Survey Calculation Method</b> Minimum Curvature
<b>Plan</b> 1	<b>Country</b> USA	<b>Database</b> Access

<b>Location Site</b> SHL: 1971' FSL 1072' FWL BHL: 1235' FSL 110' FWL	<b>MapZone</b>	<b>Lat Long Ref</b>
<b>Slot Name</b>	<b>SurfaceX</b>	<b>Surface Long</b>
<b>Well Number</b>	<b>SurfaceY</b>	<b>Surface Lat</b>
<b>Project</b>	<b>Z Datum</b>	
	<b>Surface Z</b>	<b>Ground Level</b>

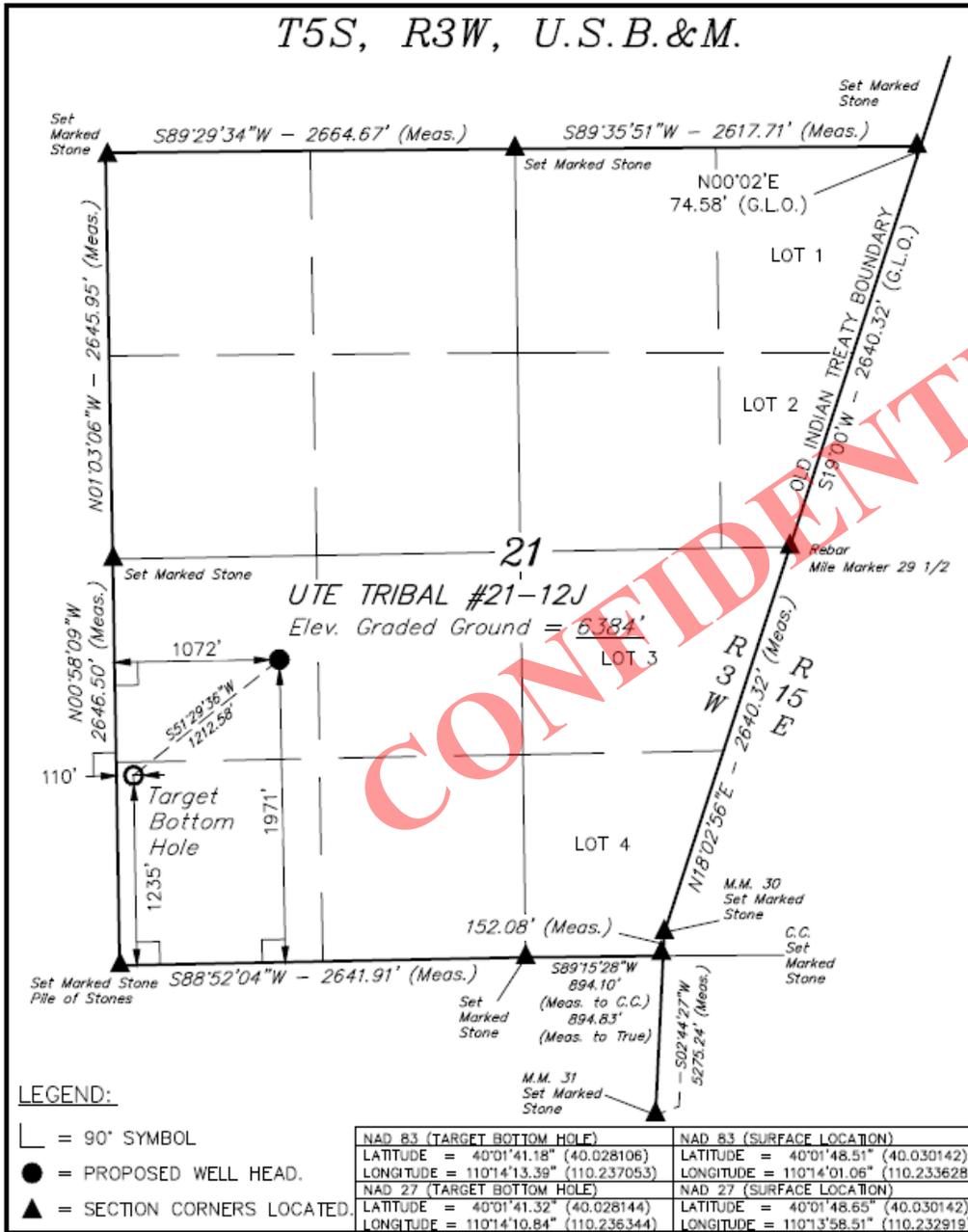
**DIRECTIONAL WELL PLAN**

MD*	INC*	AZI*	TVD*	N*	E*	DLS*	V. S.*	MapE*	MapN*	SysTVD*
ft	deg	deg	ft	ft	ft	%100ft	ft	ft	ft	ft
5050.00	8.75	231.5	4876.70	-712.94	-896.29	1.00	1145.27			
5100.00	8.25	231.5	4926.15	-717.55	-902.08	1.00	1152.66			
5150.00	7.75	231.5	4975.67	-721.88	-907.52	1.00	1159.61			
5200.00	7.25	231.5	5025.24	-725.94	-912.63	1.00	1166.14			
5250.00	6.75	231.5	5074.87	-729.73	-917.40	1.00	1172.23			
5300.00	6.25	231.5	5124.54	-733.26	-921.83	1.00	1177.89			
5350.00	5.75	231.5	5174.27	-736.51	-925.92	1.00	1183.12			
5400.00	5.25	231.5	5224.04	-739.49	-929.67	1.00	1187.91			
5450.00	4.75	231.5	5273.85	-742.21	-933.08	1.00	1192.27			
5500.00	4.25	231.5	5323.70	-744.65	-936.15	1.00	1196.19			
5550.00	3.75	231.5	5373.57	-746.82	-938.88	1.00	1199.68			
5600.00	3.25	231.5	5423.48	-748.72	-941.27	1.00	1202.73			
5650.00	2.75	231.5	5473.41	-750.35	-943.32	1.00	1205.35			
5700.00	2.25	231.5	5523.36	-751.71	-945.02	1.00	1207.53			
5750.00	1.75	231.5	5573.33	-752.79	-946.39	1.00	1209.28			
5800.00	1.25	231.5	5623.32	-753.61	-947.41	1.00	1210.59			
5850.00	0.75	231.5	5673.31	-754.15	-948.10	1.00	1211.46			
5900.00	0.25	231.5	5723.31	-754.42	-948.44	1.00	1211.89			
*** END DROP (at MD = 5925.00)										
5925.00	0.00	0.0	5748.31	-754.46	-948.48	1.00	1211.95			
5950.00	0.00	0.0	5773.31	-754.46	-948.48	0.00	1211.95			
6000.00	0.00	0.0	5823.31	-754.46	-948.48	0.00	1211.95			
6050.00	0.00	0.0	5873.31	-754.46	-948.48	0.00	1211.95			
6100.00	0.00	0.0	5923.31	-754.46	-948.48	0.00	1211.95			
6150.00	0.00	0.0	5973.31	-754.46	-948.48	0.00	1211.95			
6200.00	0.00	0.0	6023.31	-754.46	-948.48	0.00	1211.95			
6250.00	0.00	0.0	6073.31	-754.46	-948.48	0.00	1211.95			
6300.00	0.00	0.0	6123.31	-754.46	-948.48	0.00	1211.95			
6350.00	0.00	0.0	6173.31	-754.46	-948.48	0.00	1211.95			
6400.00	0.00	0.0	6223.31	-754.46	-948.48	0.00	1211.95			
*** RTD (at MD = 6409.00)										
6409.00	0.00	0.0	6232.31	-754.46	-948.48	0.00	1211.95			

T5S, R3W, U.S.B.&M.

PETROGLYPH OPERATING CO., INC.

Well location, UTE TRIBAL #21-12J, located as shown in the NW 1/4 SW 1/4 of Section 21, T5S, R3W, U.S.B.&M., Duchesne County, Utah.

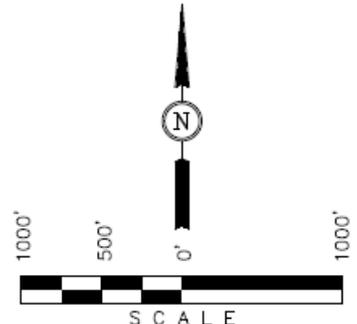


BASIS OF ELEVATION

BRASS CAP SET IN CONCRETE BY SUNRISE ENGINEERING LOCATED IN THE SE 1/4 OF SECTION 16, T5S, R3W, U.S.B.&M., SAID ELEVATION IS MARKED AS BEING 6281.9 FEET.

BASIS OF BEARINGS

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



CERTIFICATE

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

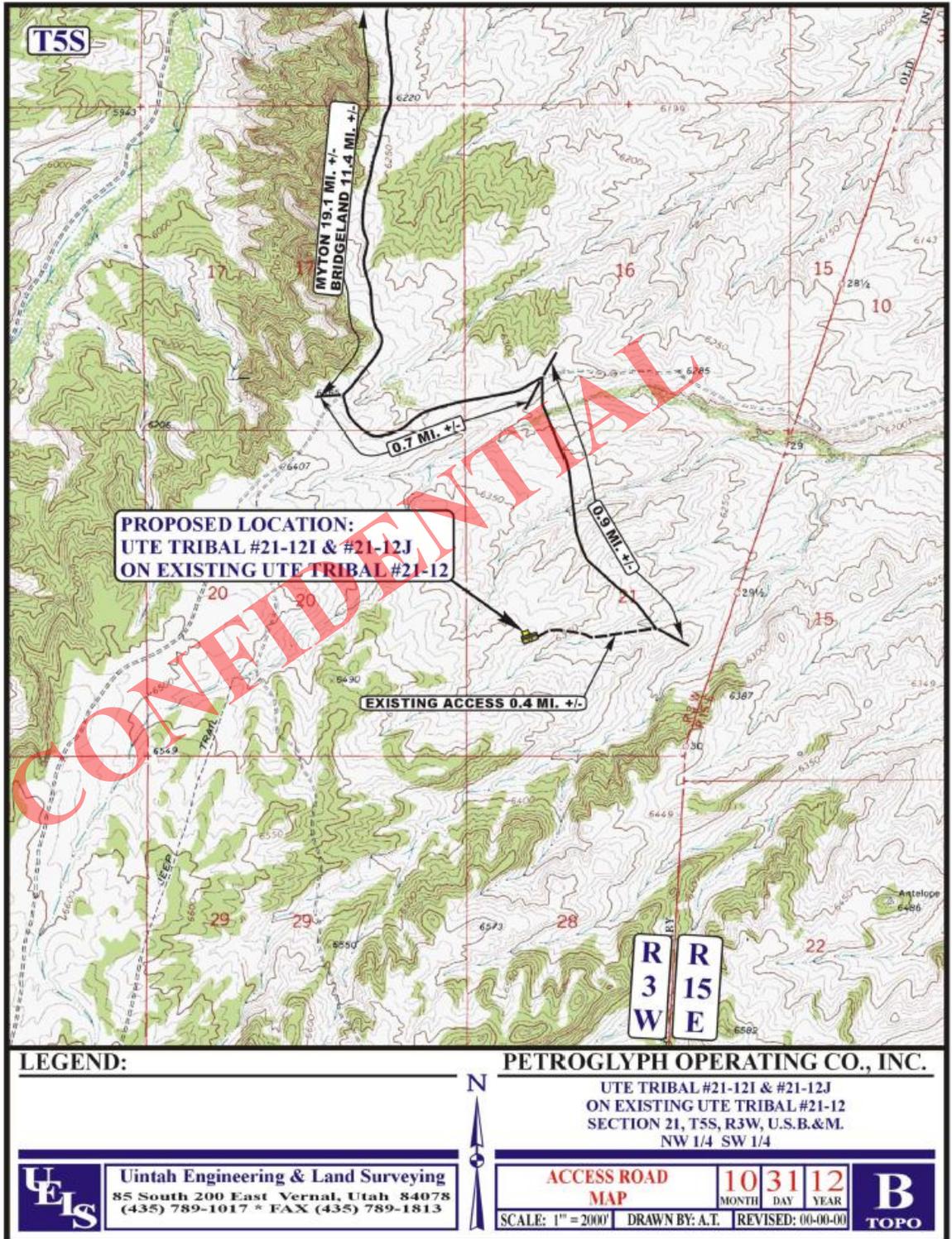


LEGEND:

- └─┘ = 90° SYMBOL
- = PROPOSED WELL HEAD.
- ▲ = SECTION CORNERS LOCATED.

NAD 83 (TARGET BOTTOM HOLE) LATITUDE = 40°01'41.18" (40.028106) LONGITUDE = 110°14'13.39" (110.237053)	NAD 83 (SURFACE LOCATION) LATITUDE = 40°01'48.51" (40.030142) LONGITUDE = 110°14'01.06" (110.233628)
NAD 27 (TARGET BOTTOM HOLE) LATITUDE = 40°01'41.32" (40.028144) LONGITUDE = 110°14'10.84" (110.236344)	NAD 27 (SURFACE LOCATION) LATITUDE = 40°01'48.65" (40.030142) LONGITUDE = 110°13'58.51" (110.232919)

UTAH ENGINEERING & LAND SURVEYING 85 SOUTH 200 EAST - VERNAL, UTAH 84078 (435) 789-1017		
SCALE 1" = 1000'	DATE SURVEYED: 10-12-12	DATE DRAWN: 11-01-12
PARTY G.O. B.S. A.T.		REFERENCES G.L.O. PLAT
WEATHER COOL		FILE FILE PETROGLYPH OPERATING CO., INC.



**PETROGLYPH OPERATING CO., INC.**  
**P.O. BOX 607**  
**ROOSEVELT, UTAH 84066**

May 29, 2013

Ms. Diana Mason  
State of Utah  
Division of Oil, Gas & Mining  
1594 West North Temple, Suite 1210  
P.O. Box 145801  
Salt Lake City, UT 84114-5801

Re: Directional Drilling R649-3-11

Ute Tribal 21-12J:                    1971' FSL & 1072' FWL, NW/SW, (Surface Hole)  
   1235' FSL & 110' FWL, SW/SW, (Bottom Hole)  
   Sec. 21, T5S, R3W, U.S.B.&M.,  
   Duchesne County, Utah

Dear Ms. Mason,

Pursuant to the filing of Petroglyph Operating Co., Inc.'s Application for Permit to Drill regarding the above referenced well on May 29, 2013, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

- The Ute Tribal 21-12J is located within the Antelope Creek Unit Area.
- Petroglyph Operating Co., Inc. is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and drilling directionally from this location, Petroglyph Operating Co., Inc. will be able to utilize the existing road and pipelines in the area.
- Furthermore, Petroglyph Operating Co., Inc. hereby certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information, Petroglyph Operating Co., Inc. requests the permit be granted pursuant to R649-3-11.

Respectfully Submitted,

Ed Trotter,  
Agent  
P.O. Box 1910  
Vernal, UT 84078  
Phone: (435)789-4120  
Fax: (435)789-1420  
E-mail: edtrotter@easilink.com

**Certification**

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions that presently exist; that the statements made in the Plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Petroglyph Operating Co., Inc. and its contractors and subcontractors in conformity with this Plan and the terms and conditions under which it is approved.

Please be advised that Petroglyph Operating Co., Inc. is considered to be the operator of the **UTE TRIBAL 21-12J Well, located in the NW/SW of Section 21, T5S, R3W, Duchesne County, Utah; Lease #14-20-H62-3516;** and is responsible under the terms and conditions of the lease for the operations conducted upon the leased lands. Bond Coverage is provided under Bond #LPM4138335.

\_\_\_\_\_

Date

\_\_\_\_\_

Ed Trotter, as Agent for  
Petroglyph Operating Co., Inc.

CONFIDENTIAL





## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 5/29/2013

API NO. ASSIGNED: 43013521940000

WELL NAME: Ute Tribal 21-12J

OPERATOR: PETROGLYPH OPERATING CO (N3800)

PHONE NUMBER: 435 789-4120

CONTACT: Ed Trotter

PROPOSED LOCATION: NWSW 21 050S 030W

Permit Tech Review: 

SURFACE: 1971 FSL 1072 FWL

Engineering Review: 

BOTTOM: 1235 FSL 0110 FWL

Geology Review: 

COUNTY: DUCHESNE

LATITUDE: 40.03020

LONGITUDE: -110.23287

UTM SURF EASTINGS: 565455.00

NORTHINGS: 4431181.00

FIELD NAME: ANTELOPE CREEK

LEASE TYPE: 2 - Indian

LEASE NUMBER: 1420H623516

PROPOSED PRODUCING FORMATION(S): GREEN RIVER

SURFACE OWNER: 2 - Indian

COALBED METHANE: NO

## RECEIVED AND/OR REVIEWED:

- PLAT
- Bond: INDIAN - LPM4138336
- Potash
- Oil Shale 190-5
- Oil Shale 190-3
- Oil Shale 190-13
- Water Permit: 43-8342
- RDCC Review:
- Fee Surface Agreement
- Intent to Commingle

Commingling Approved

## LOCATION AND SITING:

- R649-2-3.
- Unit: ANTELOPE CREEK
- R649-3-2. General
- R649-3-3. Exception
- Drilling Unit
- Board Cause No: Cause 214-2
- Effective Date: 6/9/2000
- Siting: Suspends General Siting
- R649-3-11. Directional Drill

Comments: Presite Completed  
IRR SEC:

Stipulations: 4 - Federal Approval - dmason  
15 - Directional - dmason



GARY R. HERBERT  
Governor

GREGORY S. BELL  
Lieutenant Governor

# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

## Permit To Drill

\*\*\*\*\*

**Well Name:** Ute Tribal 21-12J  
**API Well Number:** 43013521940000  
**Lease Number:** 1420H623516  
**Surface Owner:** INDIAN  
**Approval Date:** 6/5/2013

### Issued to:

PETROGLYPH OPERATING CO, 960 Broadway Avenue, Ste 500, Boise, ID 83703

### Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 214-2. The expected producing formation or pool is the GREEN RIVER Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

### Duration:

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

### General:

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

### Conditions of Approval:

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

In accordance with 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.

### Notification Requirements:

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

- Within 24 hours following the spudding of the well - contact Carol Daniels at 801-538-5284

(please leave a voicemail message if not available)

OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil &

Gas website  
at <http://oilgas.ogm.utah.gov>

**Reporting Requirements:**

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

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

**Approved By:**

A handwritten signature in black ink, appearing to read "John Rogers", written over a faint, illegible stamp or background.

For John Rogers  
Associate Director, Oil & Gas

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<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>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> 1420H623516
		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute In
<b>1. TYPE OF WELL</b> Oil Well		<b>7. UNIT or CA AGREEMENT NAME:</b> ANTELOPE CREEK
<b>2. NAME OF OPERATOR:</b> PETROGLYPH OPERATING CO		<b>8. WELL NAME and NUMBER:</b> Ute Tribal 21-12J
<b>3. ADDRESS OF OPERATOR:</b> 960 Broadway Avenue, Ste 500 , Boise, ID, 83703		<b>9. API NUMBER:</b> 43013521940000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1971 FSL 1072 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWSW Section: 21 Township: 05.0S Range: 03.0W Meridian: U		<b>9. FIELD and POOL or WILDCAT:</b> ANTELOPE CREEK
		<b>COUNTY:</b> DUCHESNE
		<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"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 12/2/2013	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> DRILLING REPORT Report Date:	<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.

This well was spud on 12/02/2013 at approximately 9:30 A.M. Using a Bucket Rig (BR 2) provided by Craig's Roustabout Service, Vernal Utah, we set 60' of 16" Conductor. For additional information please contact our staff at 435-722-2531.

**Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY  
December 02, 2013**

<b>NAME (PLEASE PRINT)</b> Rodrigo Jurado	<b>PHONE NUMBER</b> 435 722-5302	<b>TITLE</b> Regulatory & Compliance Spc
<b>SIGNATURE</b> N/A	<b>DATE</b> 12/2/2013	

**RECEIVED**

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

JUN 06 2013

APPLICATION FOR PERMIT TO DRILL OR REENTER **BLM**

5. Lease Serial No. 1420H623516	
6. If Indian, Allottee or Tribe Name UINTAH AND OURAY	
7. If Unit or CA Agreement, Name and No. 1420H624650	
8. Lease Name and Well No. UTE TRIBAL 21-12J	
9. API Well No. 43-013-52194	
10. Field and Pool, or Exploratory ANTELOPE CREEK	
11. Sec., T., R., M., or Blk. and Survey or Area Sec 21 T5S R3W Mer UBM SME: BIA	
12. County or Parish DUCHESNE	13. State UT
17. Spacing Unit dedicated to this well	
20. BLM/BIA Bond No. on file LPM4138335	
23. Estimated duration 45 DAYS	

**CONFIDENTIAL**

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER	
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	
2. Name of Operator PETROGLYPH OPERATING CO INC Contact: ED H TROTTER Email: edtrotter@easilink.com	
3a. Address ROOSEVELT, UT 84066	3b. Phone No. (include area code) Ph: 435-789-4120 Fx: 435-789-1420
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NWSW 1971FSL 1072FWL 40.030142 N Lat, 110.233628 W Lon At proposed prod. zone SWSW 1235FSL 110FWL 40.028144 N Lat, 110.236344 W Lon	
14. Distance in miles and direction from nearest town or post office* 21.1 MILES SOUTHWEST OF MYTON, UTAH	
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1072	16. No. of Acres in Lease
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 15	19. Proposed Depth 6409 MD 6232 TVD
21. Elevations (Show whether DF, KB, RT, GL, etc.) 6382 GL	22. Approximate date work will start 08/15/2013

24. Attachments

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

DIV. OF OIL, GAS & MINING

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>1. Well plat certified by a registered surveyor.</li> <li>2. A Drilling Plan.</li> <li>3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).</li> </ul> | <ul style="list-style-type: none"> <li>4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).</li> <li>5. Operator certification</li> <li>6. Such other site specific information and/or plans as may be required by the authorized officer.</li> </ul> |
|--|--|

25. Signature (Electronic Submission)	Name (Printed/Typed) LESTER FARNSWORTH Ph: 435-722-2531	Date 05/31/2013
Title DISTRICT MANAGER		
Approved by (Signature) 	Name (Printed/Typed) Jerry Kenczka	Date NOV 12 2013
Title Assistant Field Manager Lands & Mineral Resources		
Office VERNAL FIELD OFFICE		

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

**CONDITIONS OF APPROVAL ATTACHED**

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

Additional Operator Remarks (see next page)

Electronic Submission #209219 verified by the BLM Well Information System  
For PETROGLYPH OPERATING CO INC, sent to the Vernal  
Committed to AFMSS for processing by JOHNETTA MAGEE on 06/10/2013 (13JM1042AE)

NOTICE OF APPROVAL

**UDOGM**

\*\* BLM REVISED \*\*

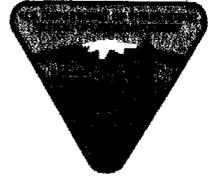


UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



**CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL**

Company: PETROGLYPH OPERATING CO INC  
Well No: UTE TRIBAL 21-12J  
API No: 43-013-52194

Location: NWSW, Sec. 21, T5S, R3W  
Lease No: 14-20-H62-3516  
Agreement: N/A

**OFFICE NUMBER: (435) 781-4400**

**OFFICE FAX NUMBER: (435) 781-3420**

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR  
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

**NOTIFICATION REQUIREMENTS**

Construction Activity (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	- The Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist shall be notified at least 48 hours in advance of any construction activity. The Ute Tribal office is open Monday through Thursday.
Construction Completion (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	- Upon completion of the pertinent APD/ROW construction, notify the Ute Tribe Energy & Minerals Dept. for a Tribal Technician to verify the Affidavit of Completion. Notify the BLM Environmental Scientist prior to moving on the drilling rig.
Spud Notice (Notify BLM Petroleum Engineer)	- Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify BLM Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:blm_ut_vn_opreport@blm.gov">blm_ut_vn_opreport@blm.gov</a> .
BOP & Related Equipment Tests (Notify BLM Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify BLM Petroleum Engineer)	- Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

***SURFACE USE PROGRAM  
CONDITIONS OF APPROVAL (COAs)***

- Both existing and new infrastructure will be painted Covert Green
- Remove all tanks and production systems until drilling operations are complete.
- Remove all existing flow-lines on the new damage until drilling operations are complete.
- The damage corners will be re-staked before dirt work commences and a Tribal Compliance officer will be present to ensure that the dirt stays within the authorized areas.

**DOWNHOLE PROGRAM  
CONDITIONS OF APPROVAL (COAs)**

**SITE SPECIFIC DOWNHOLE COAs:**

- Gamma Ray Log shall be run for Total Depth to Surface.
- CBL will be run from TD to TOC.
- Cement for the surface casing will be circulated to the surface.
- Cement for the long-string shall be circulated 200' above surface casing shoe.

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

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of

each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.

- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well by CD (compact disc). This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

## OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at [www.ONRR.gov](http://www.ONRR.gov).
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if

performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9	
<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>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> 1420H623516	
		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE	
<b>1. TYPE OF WELL</b> Oil Well		<b>7. UNIT or CA AGREEMENT NAME:</b> ANTELOPE CREEK	
<b>2. NAME OF OPERATOR:</b> PETROGLYPH OPERATING CO		<b>8. WELL NAME and NUMBER:</b> Ute Tribal 21-12J	
<b>3. ADDRESS OF OPERATOR:</b> 960 Broadway Avenue, Ste 500 , Boise, ID, 83703		<b>9. API NUMBER:</b> 43013521940000	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1971 FSL 1072 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWSW Section: 21 Township: 05.0S Range: 03.0W Meridian: U		<b>9. FIELD and POOL or WILDCAT:</b> ANTELOPE CREEK	
		<b>COUNTY:</b> DUCHESNE	
		<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"/> NOTICE OF INTENT Approximate date work will start:  <input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 3/14/2014  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input checked="" type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION  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.			
<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY</b> June 04, 2014			
<b>NAME (PLEASE PRINT)</b> Rodrigo Jurado		<b>PHONE NUMBER</b> 435 722-5302	<b>TITLE</b> Regulatory & Compliance Spc
<b>SIGNATURE</b> N/A		<b>DATE</b> 6/4/2014	

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

FORM 9

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>			5. LEASE DESIGNATION AND SERIAL NUMBER: <b>14-20-H62-3516</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.			6. IF INDIAN, ALLOTTEE OR TRIBE NAME: <b>Ute Indian Tribe</b>
1. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER _____			7. UNIT or CA AGREEMENT NAME: <b>14-20-H62-4650</b>
2. NAME OF OPERATOR: <b>Petroglyph Operating Company Inc.</b>			8. WELL NAME and NUMBER: <b>Ute Tribal 21-12J</b>
3. ADDRESS OF OPERATOR: P.O. Box 607 CITY <b>Roosevelt</b> STATE <b>UT</b> ZIP <b>84066</b>		PHONE NUMBER: <b>(435) 722-2531</b>	9. API NUMBER: <b>4301352194</b>
4. LOCATION OF WELL FOOTAGES AT SURFACE: <b>1971' FSL 1072' FWL</b> COUNTY: <b>Duchesne</b> QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <b>NWSW 21 5S 3W U</b> STATE: <b>UTAH</b>			10. FIELD AND POOL, OR WILDCAT: <b>Antelope Creek</b>

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input checked="" type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: <b>3/14/2014</b>	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

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

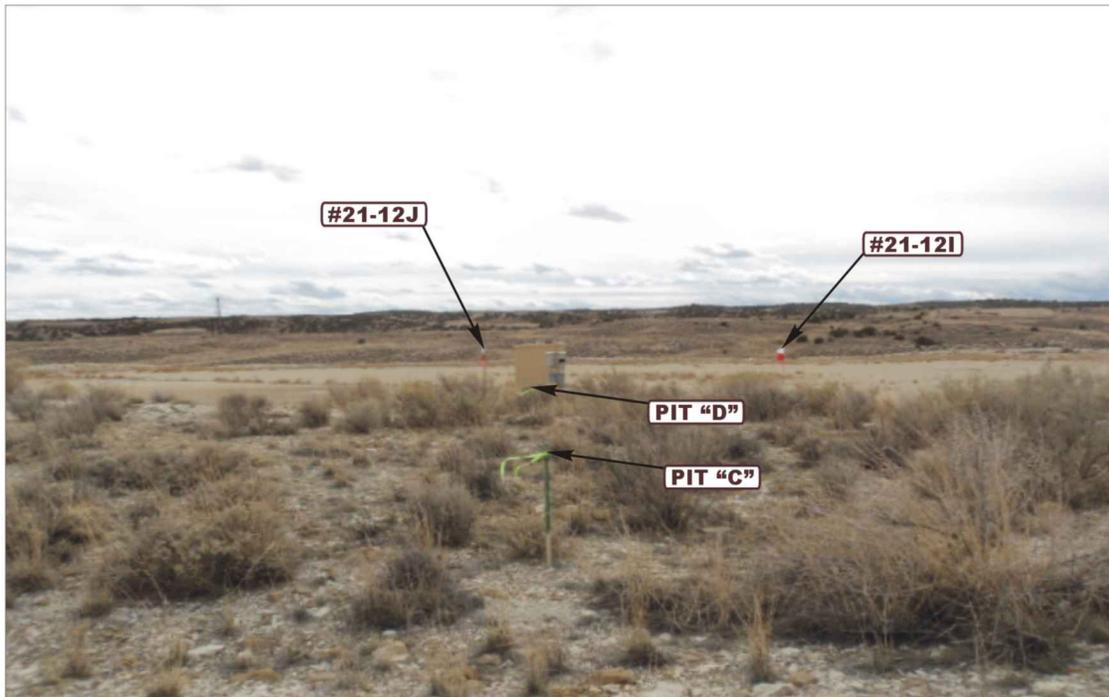
On 2/10/2014 Petroglyph Operating ran GR/CBL and found ETOC @ 116', then on 2/11/2014 perforated the following: 6049-52, 5925-27, 5877-85, 5794-98, 5770-72, 5714-17, 5672-75, 5651-54, 5642-45, 5626-29, 5383-85, 5355-57, 5259-61, 5249-52, 5121-24 & 5080-82. We isolated and fracture treated the following intervals:  
 5,877'-6,052': 507 Bbls of fluid containing 49,000#'s of sand,  
 5,626'-5,798': 662 Bbls of fluid containing 59,000#'s of sand,  
 5,249'-5,385': 442 Bbls of fluid containing 24,000#'s of sand,  
 5,080'-5,124': 331 Bbls of fluid containing 13,000#'s of sand.  
 Isolation plugs used were Halliburton 8K Composite Plugs, fluid used was Delta 140 18# gelled fluid, sand used was 20/40 Mesh Premium White Sand and plugs used were Titan 3-1/8", containing 22.7 gram charges, 0.42" EHD, 23.54" TTP @ 4 SPF @ 120\* Phased. All plugs were drilled out and cleaned out to PBSD, 6,136'. The well was swabbed until a good oil cut was see, then ran a pump on 3/14/2014 and put to pump.

NAME (PLEASE PRINT) <u>Rodrigo Jurado</u>	TITLE <u>Regulatory Compliance Specialist</u>
SIGNATURE	DATE <u>6/2/2014</u>

(This space for State use only)

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<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>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> 1420H623516
<b>1. TYPE OF WELL</b> Oil Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> PETROGLYPH OPERATING CO		<b>7. UNIT or CA AGREEMENT NAME:</b> ANTELOPE CREEK
<b>3. ADDRESS OF OPERATOR:</b> 960 Broadway Avenue, Ste 500 , Boise, ID, 83703		<b>8. WELL NAME and NUMBER:</b> Ute Tribal 21-12J
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1971 FSL 1072 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWSW Section: 21 Township: 05.0S Range: 03.0W Meridian: U		<b>9. API NUMBER:</b> 43013521940000
<b>9. FIELD and POOL or WILDCAT:</b> ANTELOPE CREEK		<b>9. FIELD and POOL or WILDCAT:</b> ANTELOPE CREEK
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>COUNTY:</b> DUCHESNE
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>STATE:</b> UTAH
<b>TYPE OF SUBMISSION</b>  <input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 12/2/2013  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input type="checkbox"/> DRILLING REPORT Report Date:	<b>TYPE OF ACTION</b>  <input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION  <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION  <input checked="" type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION  OTHER: <input type="text" value="Revised WH Spacing"/>
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> The well head spacing on the pad referenced above was revised to accommodate the footprint of the available drill rig, Capstar 334. The well's revised location is 1988' FSL, 1114' FWL, NW/SW Section 21, Township 5 South, Range 3 West, Duchesne County Utah. Please see the attached revised plats.		
<b>NAME (PLEASE PRINT)</b> Rodrigo Jurado		<b>PHONE NUMBER</b> 435 722-5302
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory & Compliance Spc
<b>DATE</b> 6/26/2014		<b>FOR RECORD ONLY</b> June 27, 2014

**PETROGLYPH OPERATING CO., INC.**  
**UTE TRIBAL #21-12I & #21-12J ON EXISTING UTE TRIBAL #21-12**  
**LOCATED IN DUCHESNE COUNTY, UTAH**  
**SECTION 21, T5S, R3W, U.S.B.&M.**



**PHOTO: VIEW FROM PIT "C" TO LOCATION STAKE**

**CAMERA ANGLE: SOUTHEASTERLY**



**PHOTO: VIEW OF EXISTING ACCESS**

**CAMERA ANGLE: WESTERLY**



- Since 1964 -

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

**LOCATION PHOTOS**

**10** | **31** | **12**  
MONTH | DAY | YEAR

**PHOTO**

TAKEN BY: G.M.

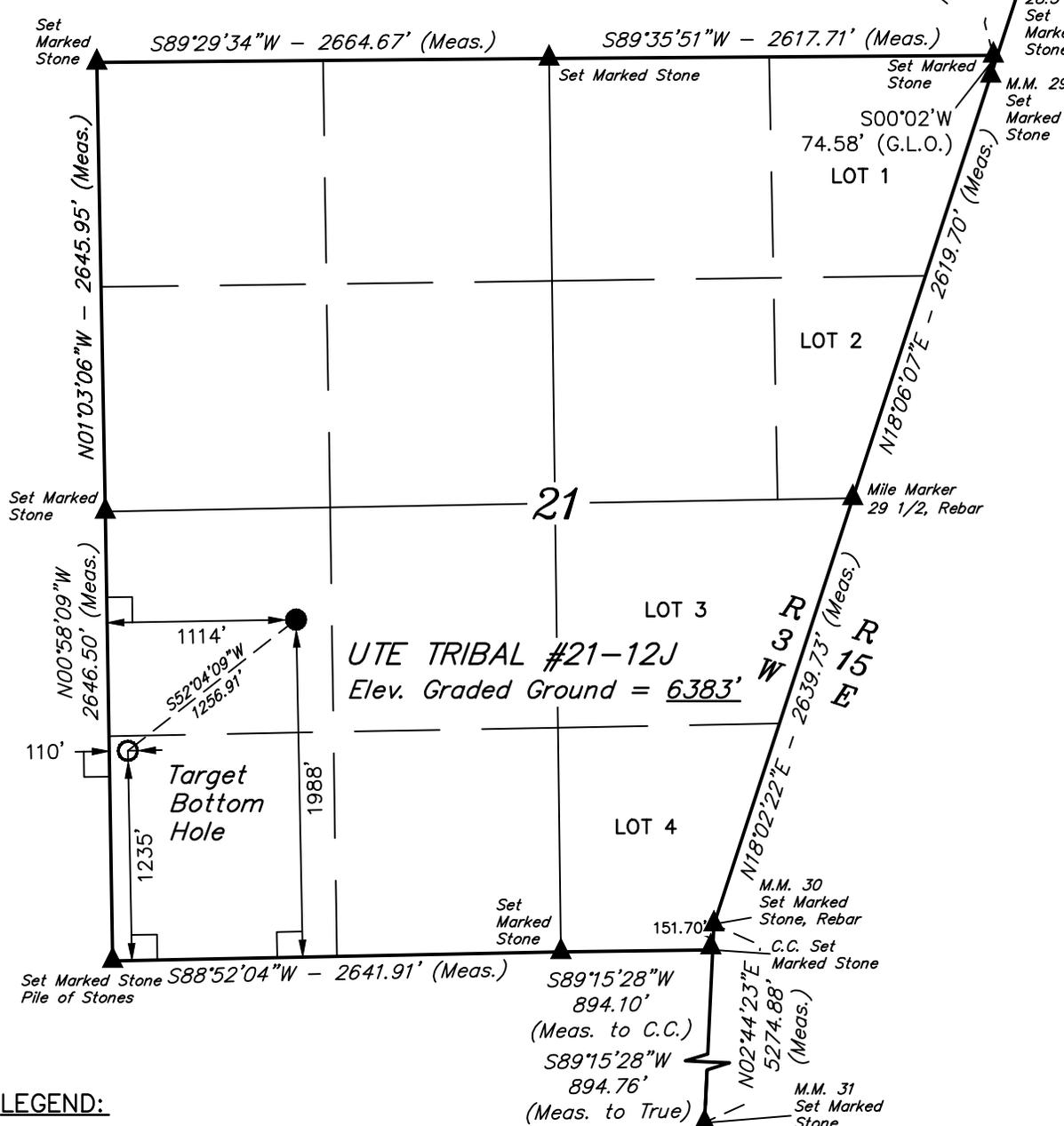
DRAWN BY: A.T.

REVISED: 00-00-00

# T5S, R3W, U.S.B.&M.

## PETROGLYPH OPERATING CO., INC.

Well location, UTE TRIBAL #21-12J, located as shown in the NW 1/4 SW 1/4 of Section 21, T5S, R3W, U.S.B.&M., Duchesne County, Utah.

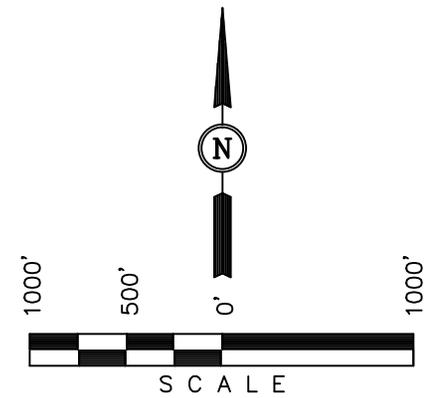


### BASIS OF ELEVATION

BRASS CAP SET IN CONCRETE BY SUNRISE ENGINEERING LOCATED IN THE SE 1/4 OF SECTION 16, T5S, R3W, U.S.B.&M. SAID ELEVATION IS MARKED AS BEING 6281.9 FEET.

### BASIS OF BEARINGS

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



### CERTIFICATE

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

*Robert K. Kay*  
 REGISTERED LAND SURVEYOR  
 REGISTRATION NO. 161319  
 STATE OF UTAH

REV: 11-27-13 S.F.

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

- LEGEND:**
- └─┘ = 90° SYMBOL
  - = PROPOSED WELL HEAD.
  - ▲ = SECTION CORNERS LOCATED.

NAD 83 (TARGET BOTTOM HOLE)	NAD 83 (SURFACE LOCATION)
LATITUDE = 40°01'41.18" (40.028106)	LATITUDE = 40°01'48.68" (40.030189)
LONGITUDE = 110°14'13.39" (110.237053)	LONGITUDE = 110°14'00.51" (110.233475)
NAD 27 (TARGET BOTTOM HOLE)	NAD 27 (SURFACE LOCATION)
LATITUDE = 40°01'41.32" (40.028144)	LATITUDE = 40°01'48.82" (40.030228)
LONGITUDE = 110°14'10.84" (110.236344)	LONGITUDE = 110°13'57.96" (110.232767)

SCALE 1" = 1000'	DATE SURVEYED: 10-12-12	DATE DRAWN: 11-01-12
PARTY G.O. B.S. A.T.		REFERENCES G.L.O. PLAT
WEATHER COOL	FILE FILE PETROGLYPH OPERATING CO., INC.	

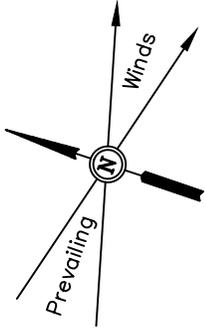
**PETROGLYPH OPERATING CO., INC.**

**LOCATION LAYOUT FOR**

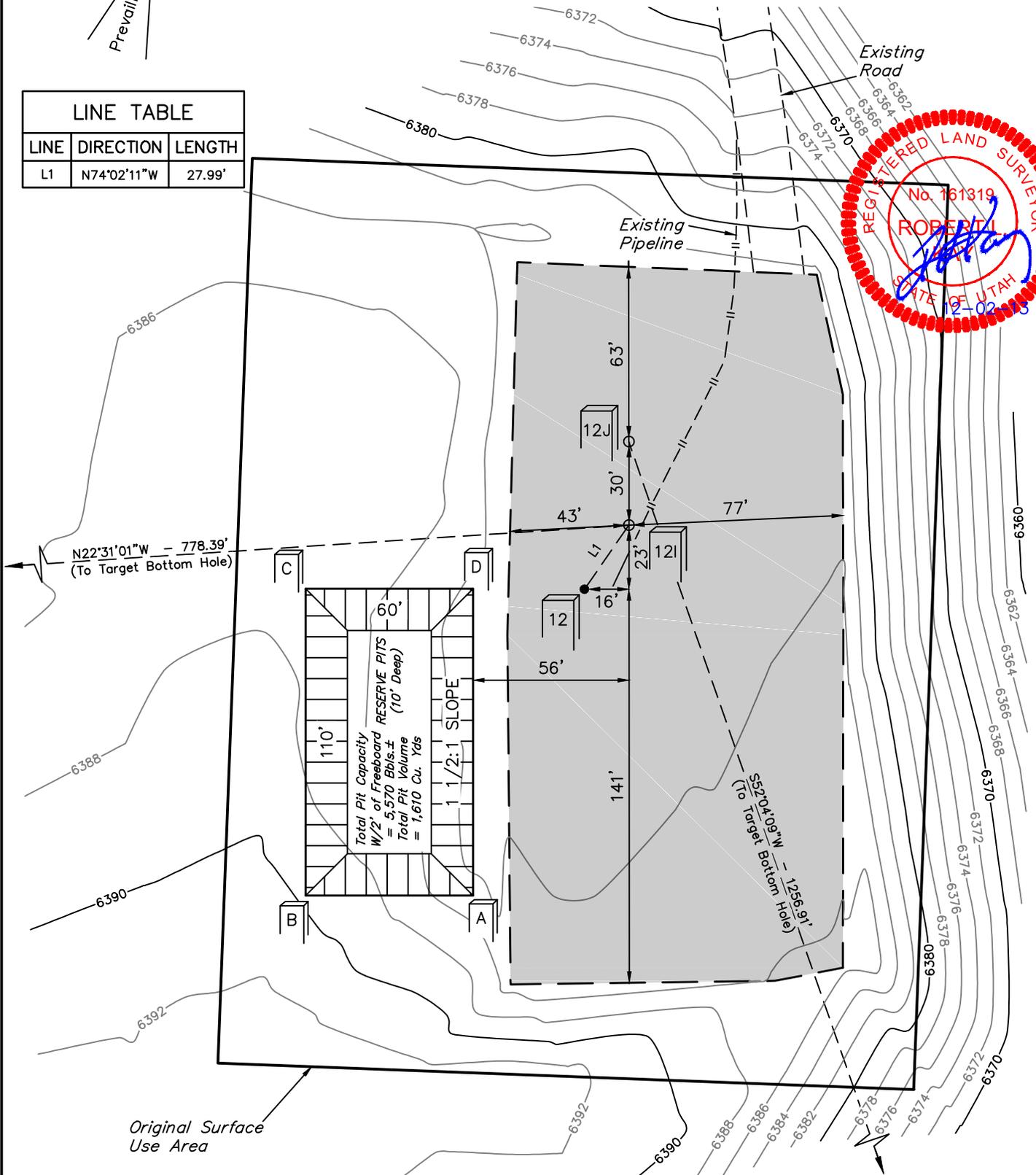
UTE TRIBAL #21-12I & #21-12J  
 ON EXISTING UTE TRIBAL #21-12  
 SECTION 21, T5S, R3W, U.S.B.&M.  
 NW 1/4 SW 1/4

**FIGURE #1**

SCALE: 1" = 50'  
 DATE: 11-02-12  
 DRAWN BY: A.T.  
 REV: 11-27-13 S.F.



LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N74°02'11"W	27.99'



**RESERVE PITS**  
 (10' Deep)  
 Total Pit Capacity  
 W/2' of Freeboard  
 = 5,570 Bbls.±  
 Total Pit Volume  
 = 1,610 Cu. Yds  
 1 1/2:1 SLOPE

FINISHED GRADE ELEV. AT #21-12 LOC. STAKE = 6382.4'

**UINTAH ENGINEERING & LAND SURVEYING**  
 85 So. 200 East \* Vernal, Utah 84078 \* (435) 789-1017

RECEIVED: Jun. 26, 2014

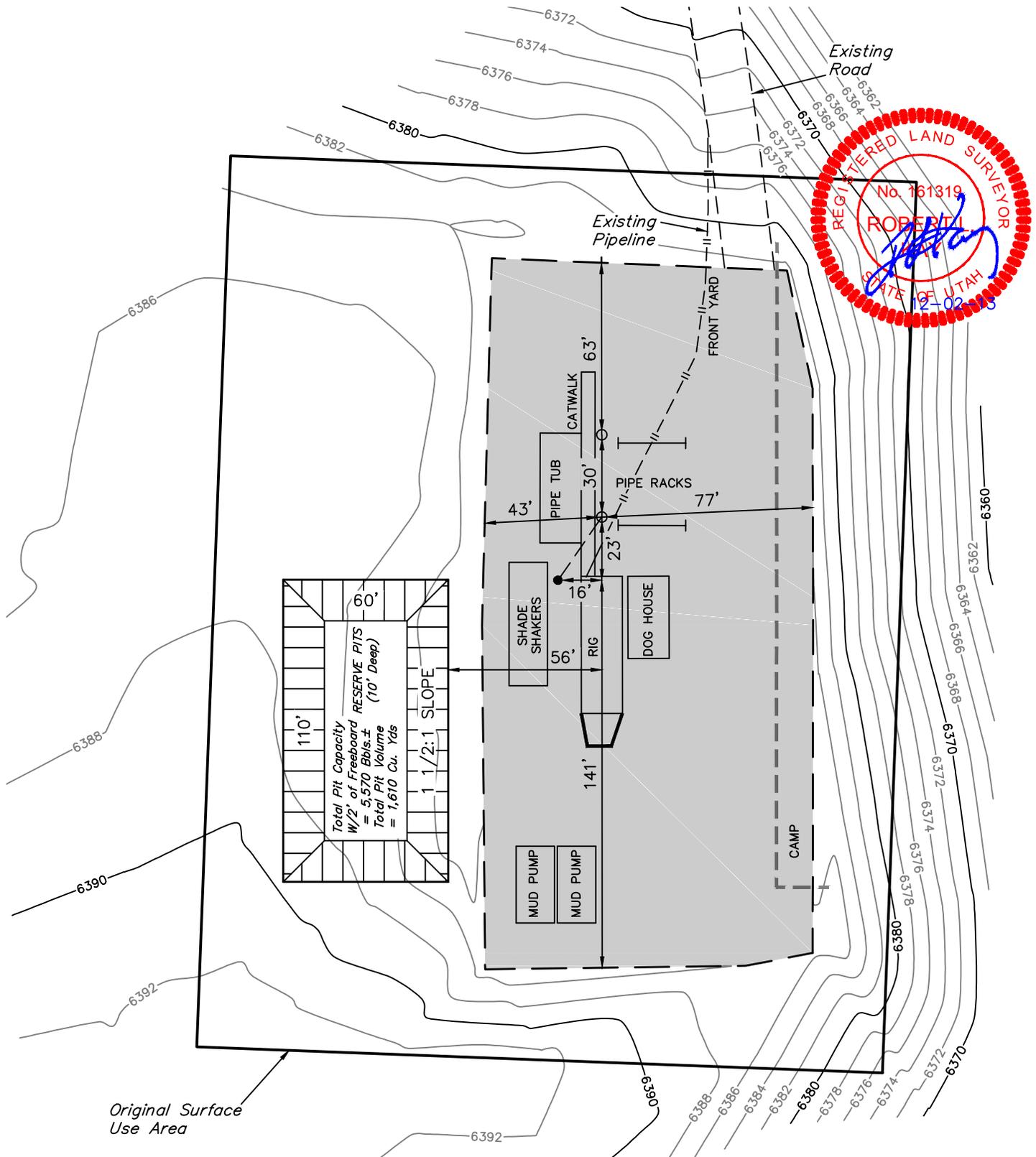
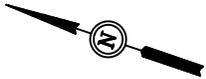
# PETROGLYPH OPERATING CO., INC.

## TYPICAL RIG LAYOUT FOR

UTE TRIBAL #21-12I & #21-12J  
ON EXISTING UTE TRIBAL #21-12  
SECTION 21, T5S, R3W, U.S.B.&M.  
NW 1/4 SW 1/4

**FIGURE #2**

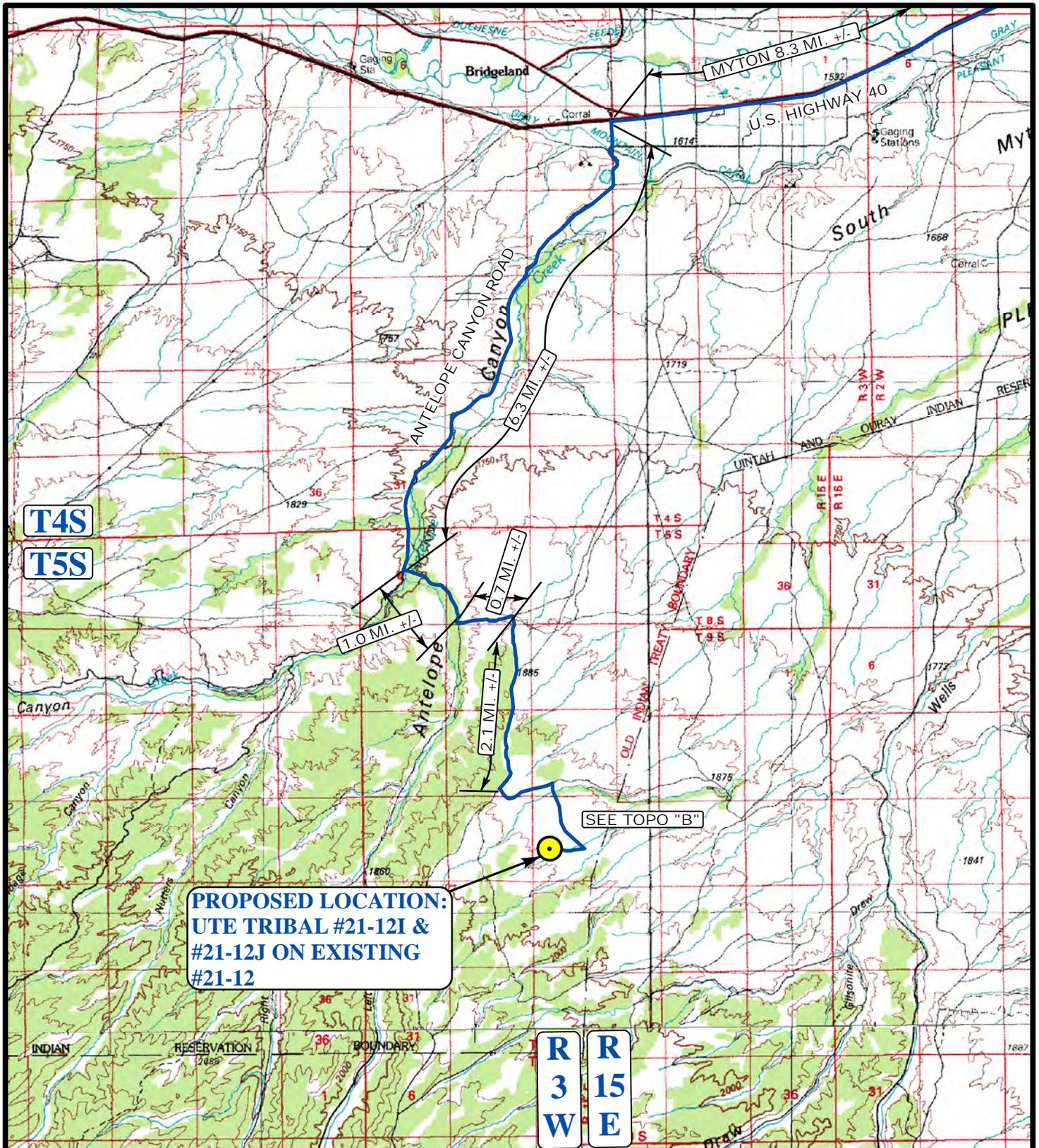
SCALE: 1" = 50'  
DATE: 11-02-12  
DRAWN BY: A.T.  
REV: 11-27-13 S.F.



**PETROGLYPH OPERATING CO., INC.  
UTE TRIBAL #21-12I & #21-12J  
ON EXISTING UTE TRIBAL #21-12  
SECTION 21, T5S, R3W, U.S.B.&M.**

PROCEED IN A SOUTHWESTERLY DIRECTION FROM MYTON, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 8.8 MILES TO THE JUNCTION OF THIS ROAD AND ANTELOPE CANYON ROAD TO THE SOUTH; TURN LEFT AND PROCEED IN A SOUTHERLY, THEN SOUTHWESTERLY DIRECTION ALONG ANTELOPE CANYON ROAD APPROXIMATELY 6.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN LEFT AND PROCEED IN A SOUTHEASTERLY DIRECTION APPROXIMATELY 1.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY DIRECTION APPROXIMATELY 0.6 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTH; TURN RIGHT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 2.1 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN LEFT AND PROCEED IN A SOUTHEASTERLY, THEN NORTHEASTERLY DIRECTION APPROXIMATELY 0.7 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION APPROXIMATELY 0.9 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE WEST; TURN RIGHT AND PROCEED IN A WESTERLY DIRECTION APPROXIMATELY 0.4 MILES TO THE EXISTING LOCATION

TOTAL DISTANCE FROM MYTON, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 21.1 MILES.



**PROPOSED LOCATION:  
UTE TRIBAL #21-12I &  
#21-12J ON EXISTING  
#21-12**

**LEGEND:**

PROPOSED LOCATION

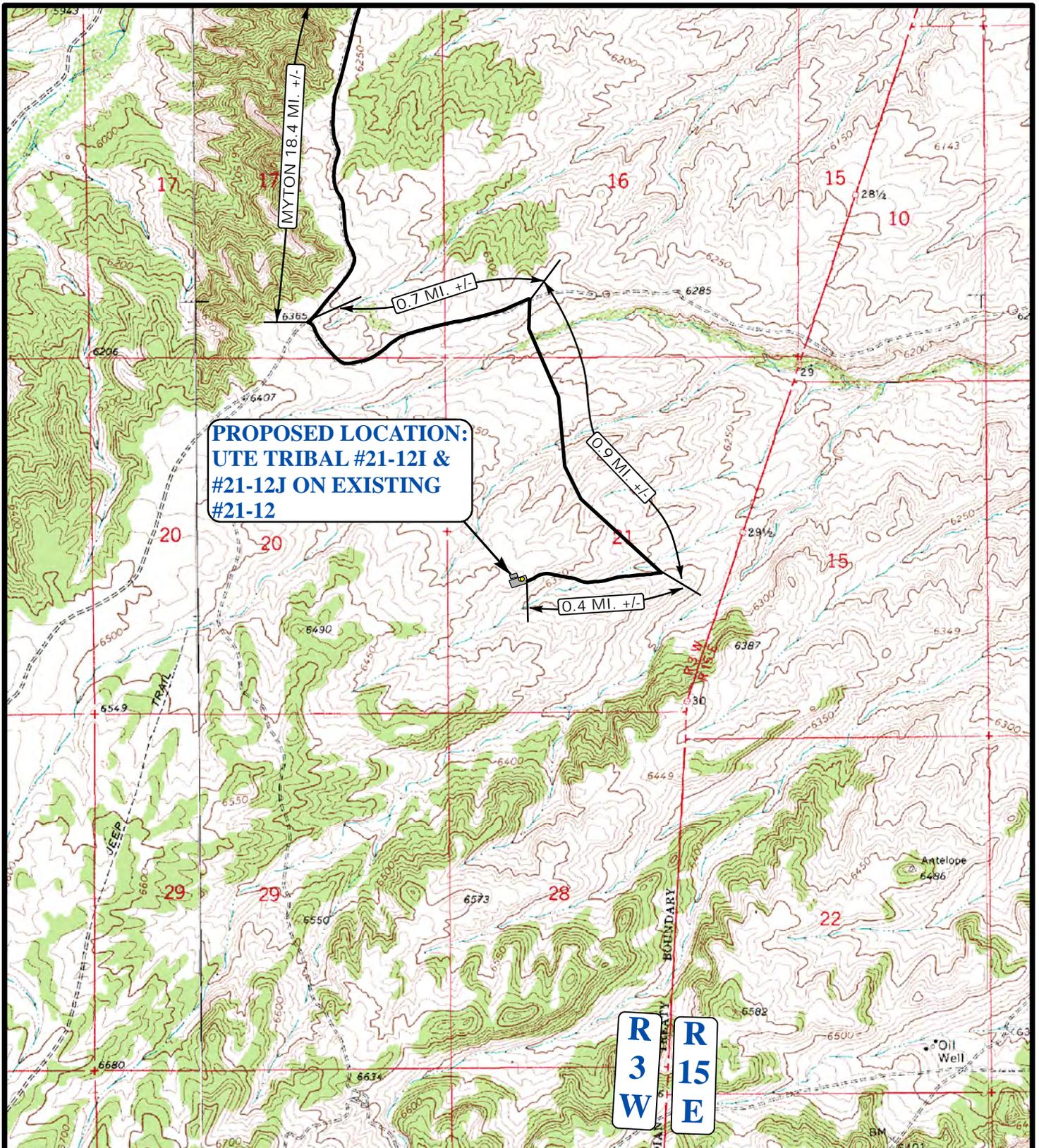
**R  
3  
W**      **R  
15  
E**

**PETROGLYPH OPERATING CO., INC.**

**UTE TRIBAL #21-12I & #21-12J  
ON EXISTING #21-12  
SECTION 21, T5S, R3W, U.S.B.&M.  
NW1/4 SW1/4**

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

**ACCESS ROAD  
MAP**      **10** **31** **12**  
MONTH DAY YEAR  
SCALE: 1:100,000      DRAWN BY: A.T.      REV: 11-20-13 L.S.      **A  
TOPO**



**PROPOSED LOCATION:  
UTE TRIBAL #21-12I &  
#21-12J ON EXISTING  
#21-12**

**R  
3  
W** **R  
15  
E**

**LEGEND:**

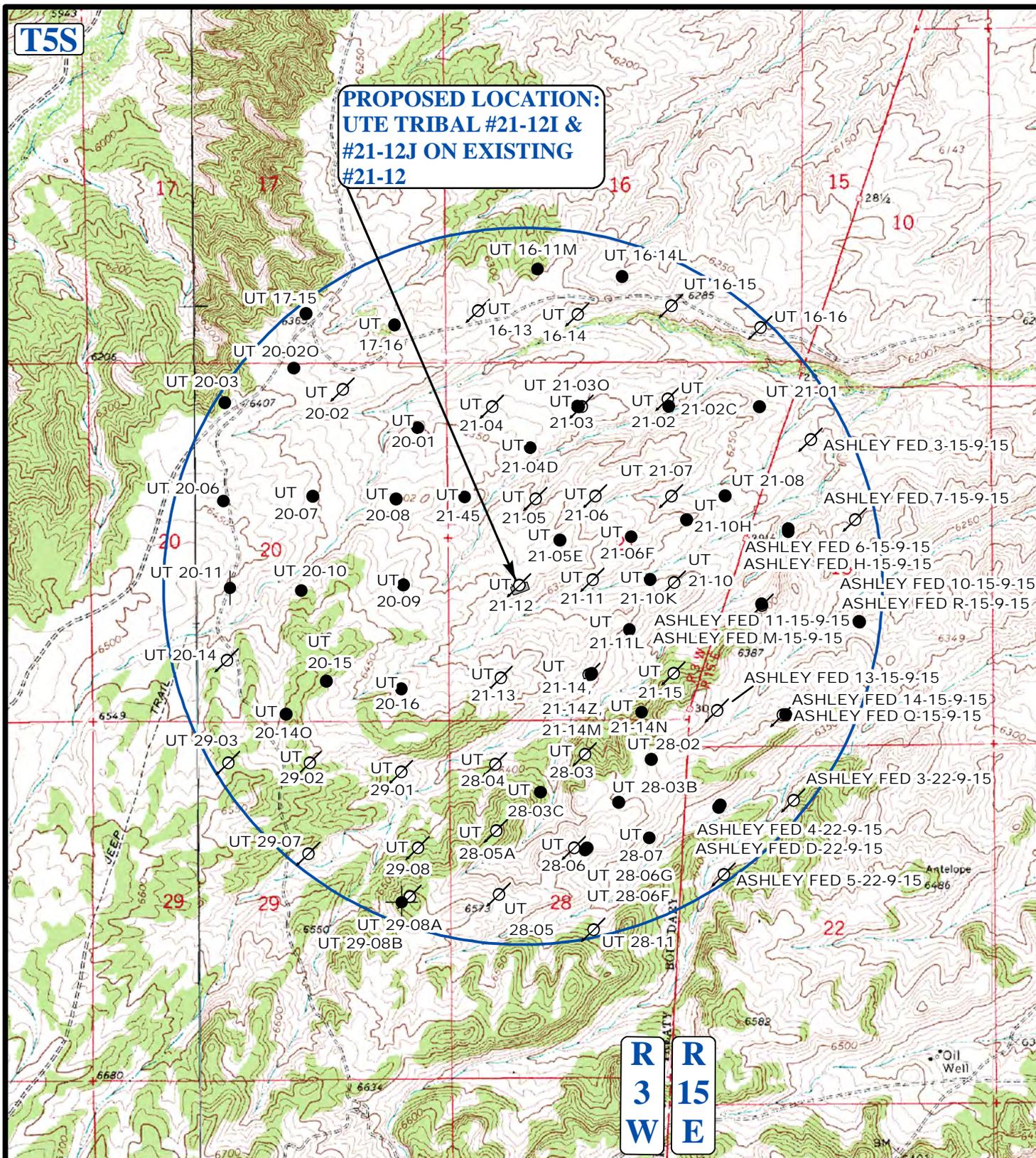
————— EXISTING ROADS

**PETROGLYPH OPERATING CO., INC.**

**UTE TRIBAL #21-12I & #21-12J  
ON EXISTING #21-12  
SECTION 21, T5S, R3W, U.S.B.&M.  
NW1/4 SW1/4**

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

**ACCESS ROAD  
MAP** **10 31 12**  
MONTH DAY YEAR  
SCALE: 1" = 2000' DRAWN BY: A.T. REV: 11-20-13 L.S. **B  
TOPO**



**PROPOSED LOCATION:  
UTE TRIBAL #21-12I &  
#21-12J ON EXISTING  
#21-12**

**R  
3  
W**      **R  
15  
E**

**LEGEND:**

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

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

**PETROGLYPH OPERATING CO., INC.**

**UTE TRIBAL #21-12I & #21-12J  
ON EXISTING #21-12  
SECTION 21, T5S, R3W, U.S.B.&M.  
NW 1/4 SW 1/4**

**TOPOGRAPHIC MAP**      **10 31 12**  
 MONTH DAY YEAR      **C TOPO**  
 SCALE: 1" = 2000'      DRAWN BY: A.T.      REV: 11-20-13 L.S.

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

AMENDED REPORT  FORM 8  
(highlight changes)

<b>WELL COMPLETION OR RECOMPLETION REPORT AND LOG</b>		5. LEASE DESIGNATION AND SERIAL NUMBER: 14-20-H62-3516	
		6. IF INDIAN, ALLOTTEE OR TRIBE NAME Ute Indian Tribe	
1a. TYPE OF WELL: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input type="checkbox"/> OTHER _____		7. UNIT or CA AGREEMENT NAME 14-20-H62-4650	
b. TYPE OF WORK: NEW WELL <input checked="" type="checkbox"/> HORIZ LATS <input type="checkbox"/> DEEP-EN <input type="checkbox"/> RE-ENTRY <input type="checkbox"/> DIFF. RESVR <input type="checkbox"/> OTHER _____		8. WELL NAME and NUMBER Ute Tribal 21-12J	
2. NAME OF OPERATOR Petroglyph Operating Company, Inc.		9. API NUMBER: 4301352194	
3. ADDRESS OF OPERATOR P.O. Box 607 CITY Roosevelt STATE UT ZIP 84066		PHONE NUMBER: (435) 722-2531	10. FIELD AND POOL, OR WILDCAT Antelope Creek
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: 1988' FSL, 1114' FWL  AT TOP PRODUCING INTERVAL REPORTED BELOW: 1284' FSL, 226' FWL SWSW Sec. 21 T5S R3W  AT TOTAL DEPTH: 1263' FSL, 177' FWL SWSW Sec. 21 T5S R3W		11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN NWSW 21 5S 3W U	
		12. COUNTY Duchesne	13. STATE UTAH

14. DATE SPUDDED 12/2/2013	15. DATE T.D. REACHED 1/11/2014	16. DATE COMPLETED 3/14/2014	ABANDONED <input type="checkbox"/> READY TO PRODUCE <input checked="" type="checkbox"/>	17. ELEVATIONS (DF, RKB, RT, GL): 6,382' RKB
18. TOTAL DEPTH: MD 6,205 TVD 6,029	19. PLUG BACK T.D.: MD 6,136 TVD 5,960	20. IF MULTIPLE COMPLETIONS, HOW MANY? *		21. DEPTH BRIDGE MD PLUG SET: TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)  
**ACTR, SDDSN, Borehole Volume Plot, Cement Bond Log**

23.  
 WAS WELL CORED? NO  YES  (Submit analysis)  
 WAS DST RUN? NO  YES  (Submit report)  
 DIRECTIONAL SURVEY? NO  YES  (Submit copy)

24. CASING AND LINER RECORD (Report all strings set in well)

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
26	16 J-55	75	0	73				0	Conductor
12.25	8.625 J-55	24	0	518		G 350	72	0	
7.875	5.5 J-55	15.5	0	5,190		G 840	269	116'	CBL

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2.875	6,076							

26. PRODUCING INTERVALS					27. PERFORATION RECORD				
FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS	
(A) Green River	5,080	6,052	4,907	5,876	5,080 6,052	0.42	192	Open <input checked="" type="checkbox"/>	Squeezed <input type="checkbox"/>
(B)								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
5,080'-6,052'	1,942 Bbls of Delta 140 18# Gelled Fluid containing 145,000#;s of 20/40 Mesh Sand.

29. ENCLOSED ATTACHMENTS: <input checked="" type="checkbox"/> ELECTRICAL/MECHANICAL LOGS <input type="checkbox"/> SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION <input type="checkbox"/> GEOLOGIC REPORT <input type="checkbox"/> CORE ANALYSIS <input type="checkbox"/> DST REPORT <input checked="" type="checkbox"/> OTHER: <u>UDOGM Form 7</u>	30. WELL STATUS:  <b>POW</b>
---	------------------------------------

31. INITIAL PRODUCTION

INTERVAL A (As shown in item #26)

DATE FIRST PRODUCED 3/11/2014		TEST DATE 4/19/2014		HOURS TESTED 24		TEST PRODUCTION RATES: →	OIL - BBL 15	GAS - MCF 20	WATER - BBL 12	PROD. METHOD Rod Pump
CHOKE SIZE 36/64	TBG. PRESS. 130	CSG. PRESS. 132	API GRAVITY 40.30	BTU - GAS 1	GAS/OIL RATIO 1,333	24 HR PRODUCTION RATES: →	OIL - BBL 15	GAS - MCF 20	WATER - BBL 12	INTERVAL STATUS Open

INTERVAL B (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.:	CSG. PRESS.:	API GRAVITY:	BTU - GAS:	GAS/OIL RATIO:	24 HR PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	INTERVAL STATUS:

INTERVAL C (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.:	CSG. PRESS.:	API GRAVITY:	BTU - GAS:	GAS/OIL RATIO:	24 HR PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	INTERVAL STATUS:

INTERVAL D (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.:	CSG. PRESS.:	API GRAVITY:	BTU - GAS:	GAS/OIL RATIO:	24 HR PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	INTERVAL STATUS:

32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

Used for Fuel

33. 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.

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				Trona	2,849
				Mahogany	3,006
				Garden Gulch	3,752
				B Marker	4,158
				X Marker	4,652
				Y Marker	4,690
				Douglas Creek	4,802
				B Lime	5,178
				Castle Peak	5,734
				Basal Carbonate	6,154

35. ADDITIONAL REMARKS (Include plugging procedure)

Sfc loc revised, sundry and plat map was submitted. All Frac and Perf info is condensed, see NOI and Sub Rpt for detailed record

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) Rodrigo Jurado TITLE Regulatory Compliance Specialist  
 SIGNATURE  DATE 7/9/2014

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

\* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

\*\* ITEM 24: Cement Top - Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining  
 1594 West North Temple, Suite 1210  
 Box 145801  
 Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

Job Number: UT141401  
 Company: Petroglyph  
 Lease/Well: Ute Tribal 21-12J  
 Location: Section 21 T5S, R3W  
 Rig Name: Capstar 334  
 RKB: 6295  
 G.L. or M.S.L.: 6382

State/Country: UT/ USA  
 Declination: 11.05  
 Grid: True  
 File name: C:\WINSERVE\UT141401.SVY  
 Date/Time: 11-Jan-14 / 17:36  
 Curve Name: Ute Tribal\_21-12J\_Actual



**Payzone Directional Services LLC**

WINSERVE SURVEY CALCULATIONS  
 Minimum Curvature Method  
 Vertical Section Plane 231.50  
 Vertical Section Referenced to Wellhead  
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	Distance FT	CLOSURE Direction Deg	Dogleg Severity Deg/100
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
610.00	.10	121.80	610.00	-.28	.45	-.18	.53	121.80	.02
703.00	1.10	214.00	702.99	-1.06	.02	.64	1.06	178.80	1.19
796.00	1.80	237.70	795.96	-2.58	-1.71	2.95	3.10	213.52	.98
888.00	4.30	236.40	887.83	-5.27	-5.81	7.82	7.84	227.80	2.72
980.00	4.60	231.50	979.55	-9.47	-11.57	14.95	14.95	230.69	.53
1071.00	6.30	223.70	1070.14	-15.35	-17.87	23.54	23.56	229.34	2.03
1163.00	8.00	234.40	1161.42	-22.73	-26.57	34.94	34.96	229.45	2.34
1254.00	9.90	236.70	1251.31	-30.71	-38.25	49.06	49.06	231.24	2.12
1345.00	9.80	237.00	1340.97	-39.22	-51.29	64.56	64.57	232.59	.12

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
1437.00	10.80	235.00	1431.48	-48.43	-64.92	80.95	80.99	233.27	1.15
1529.00	12.60	236.70	1521.57	-58.89	-80.36	99.55	99.63	233.77	1.99
1620.00	13.30	232.00	1610.26	-70.78	-96.91	119.90	120.01	233.86	1.39
1712.00	14.30	234.00	1699.60	-83.97	-114.44	141.84	141.95	233.73	1.20
1803.00	14.20	232.70	1787.80	-97.34	-132.41	164.22	164.34	233.68	.37
1895.00	15.50	232.90	1876.73	-111.60	-151.19	187.80	187.92	233.57	1.41
1986.00	15.30	232.50	1964.46	-126.24	-170.42	211.96	212.08	233.47	.25
2078.00	15.70	227.30	2053.12	-142.07	-189.20	236.51	236.60	233.10	1.57
2169.00	17.00	227.40	2140.44	-159.43	-208.04	262.06	262.10	232.54	1.43
2260.00	17.60	228.40	2227.32	-177.57	-228.12	289.06	289.08	232.10	.74
2351.00	17.80	229.60	2314.01	-195.72	-249.00	316.70	316.71	231.83	.46
2443.00	18.80	233.80	2401.36	-213.59	-271.67	345.57	345.58	231.83	1.80
2534.00	19.20	234.80	2487.40	-230.87	-295.73	375.16	375.18	232.02	.57
2625.00	20.10	232.30	2573.10	-249.06	-320.33	405.74	405.76	232.13	1.35
2717.00	20.60	230.30	2659.36	-269.07	-345.29	437.73	437.75	232.07	.93
2808.00	20.40	230.00	2744.60	-289.49	-369.76	469.59	469.60	231.94	.25
2899.00	21.60	229.90	2829.55	-310.47	-394.72	502.18	502.19	231.81	1.32
2990.00	21.70	230.80	2914.14	-331.89	-420.57	535.75	535.75	231.72	.38
3081.00	22.30	229.20	2998.51	-353.81	-446.68	569.82	569.83	231.62	.93
3172.00	21.80	230.50	3082.85	-375.84	-472.79	603.97	603.97	231.52	.77
3264.00	22.90	231.30	3167.94	-397.90	-499.94	638.95	638.95	231.48	1.24
3355.00	24.20	230.30	3251.36	-420.88	-528.11	675.31	675.31	231.45	1.49
3446.00	24.30	229.70	3334.33	-444.91	-556.74	712.67	712.67	231.37	.29
3538.00	23.70	231.20	3418.38	-468.73	-585.59	750.08	750.08	231.32	.93
3629.00	21.40	231.30	3502.41	-490.58	-612.80	784.97	784.98	231.32	2.53
3721.00	20.50	229.50	3588.33	-511.53	-638.15	817.86	817.86	231.28	1.20
3812.00	19.40	228.20	3673.87	-531.96	-661.53	848.87	848.88	231.20	1.30
3904.00	18.80	228.90	3760.81	-551.89	-684.09	878.94	878.96	231.11	.70
3995.00	17.60	231.20	3847.25	-570.15	-705.87	907.34	907.37	231.07	1.54
4087.00	16.70	228.70	3935.16	-587.59	-726.64	934.46	934.49	231.04	1.26
4179.00	16.10	234.00	4023.42	-603.81	-746.89	960.40	960.43	231.05	1.75
4270.00	14.80	238.50	4111.14	-617.30	-767.01	984.55	984.56	231.17	1.94
4361.00	13.50	234.40	4199.38	-629.56	-785.56	1006.69	1006.70	231.29	1.80
4452.00	12.40	230.80	4288.06	-641.92	-801.77	1027.07	1027.08	231.32	1.50

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
4544.00	11.40	232.90	4378.08	-653.65	-816.67	1046.04	1046.04	231.33	1.18
4635.00	10.90	235.70	4467.37	-663.92	-830.95	1063.61	1063.61	231.38	.81
4726.00	10.00	234.60	4556.86	-673.35	-844.50	1080.08	1080.08	231.43	1.01
4818.00	9.10	231.50	4647.58	-682.50	-856.71	1095.33	1095.33	231.46	1.13
4909.00	8.50	237.40	4737.51	-690.60	-868.01	1109.22	1109.22	231.49	1.19
5000.00	7.70	236.40	4827.60	-697.60	-878.75	1121.98	1121.98	231.56	.89
5091.00	6.90	232.70	4917.86	-704.29	-888.18	1133.52	1133.52	231.59	1.02
5183.00	6.40	225.60	5009.25	-711.23	-896.24	1144.15	1144.15	231.57	1.04
5274.00	6.10	224.50	5099.71	-718.22	-903.25	1153.99	1153.99	231.51	.35
5365.00	6.10	232.90	5190.19	-724.59	-910.49	1163.63	1163.63	231.49	.98
5457.00	4.90	230.90	5281.77	-730.01	-917.44	1172.44	1172.44	231.49	1.32
5549.00	3.00	236.00	5373.55	-733.84	-922.49	1178.77	1178.77	231.50	2.10
5640.00	2.50	230.30	5464.44	-736.44	-925.99	1183.13	1183.13	231.50	.63
5732.00	2.00	218.40	5556.37	-738.98	-928.53	1186.70	1186.70	231.49	.74
5823.00	1.90	209.50	5647.32	-741.54	-930.26	1189.64	1189.64	231.44	.35
5915.00	1.70	215.30	5739.27	-743.98	-931.80	1192.37	1192.37	231.40	.29
6006.00	2.10	210.00	5830.22	-746.52	-933.41	1195.22	1195.22	231.35	.48
<b>Final Survey</b>									
6097.00	1.70	213.50	5921.17	-749.09	-934.99	1198.05	1198.06	231.30	.46
<b>Projection to Bit @TD</b>									
6205.00	1.70	213.50	6029.12	-751.76	-936.76	1201.10	1201.11	231.25	.00



