

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

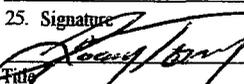
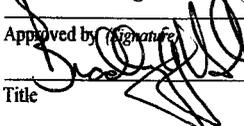
FORM APPROVED
OMB No. 1004-0136
Expires January 31, 2004

5. Lease Serial No. UTU81052	
6. If Indian, Allottee or Tribe Name	
7. If Unit or CA Agreement, Name and No.	
8. Lease Name and Well No. Utah Great Eagle Federal 15-1	
9. API Well No. 93-041-30048	
1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER	10. Field and Pool, or Exploratory Widcat
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone	11. Sec., T. R. M. or Blk. and Survey or Area Sec 15 T23S R1W Salt Lake City Meridian
2. Name of Operator Utah Great Eagle, LLC	12. County or Parish Sevier
3a. Address 301 W. Northern Lights Blvd., #410 Anchorage, Alaska 99509	13. State UT
3b. Phone No. (include area code) (907) 339-7214	
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface 2187 FSL 486 FWL N1WSW At proposed prod. zone 2591 FSL 1714 FWL	
14. Distance in miles and direction from nearest town or post office* Approximately 7.5 miles SE of Sigurd, Utah	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 486' FWL of S15 of R1W T23S SLC Merid	16. No. of acres in lease 680
17. Spacing Unit dedicated to this well not determined	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. N/A	19. Proposed Depth 10,000 FT
20. BLM/BIA Bond No. on file 023-006-630	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6190' estimated graded elevation	22. Approximate date work will start* 08/17/2007
23. Estimated duration 50-90 Days	

24. Attachments

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

- | | |
|---|--|
| 1. Well plat certified by a registered surveyor. | 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 shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature 	Name (Printed/Typed) Rocky Terry	Date 7/11/07
Title Agent for Utah Great Eagle, LLC	435-619-3724	
Approved by (Signature) 	Name (Printed/Typed) BRADLEY G. HILL	Date 07-23-07
Title ENVIRONMENTAL MANAGER		

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.

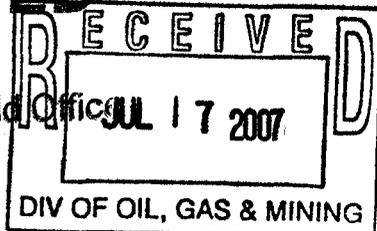
*(Instructions on page 2)

Federal Approval of this
Action is Necessary

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JUL 12 2007

Richfield BLM Field Office



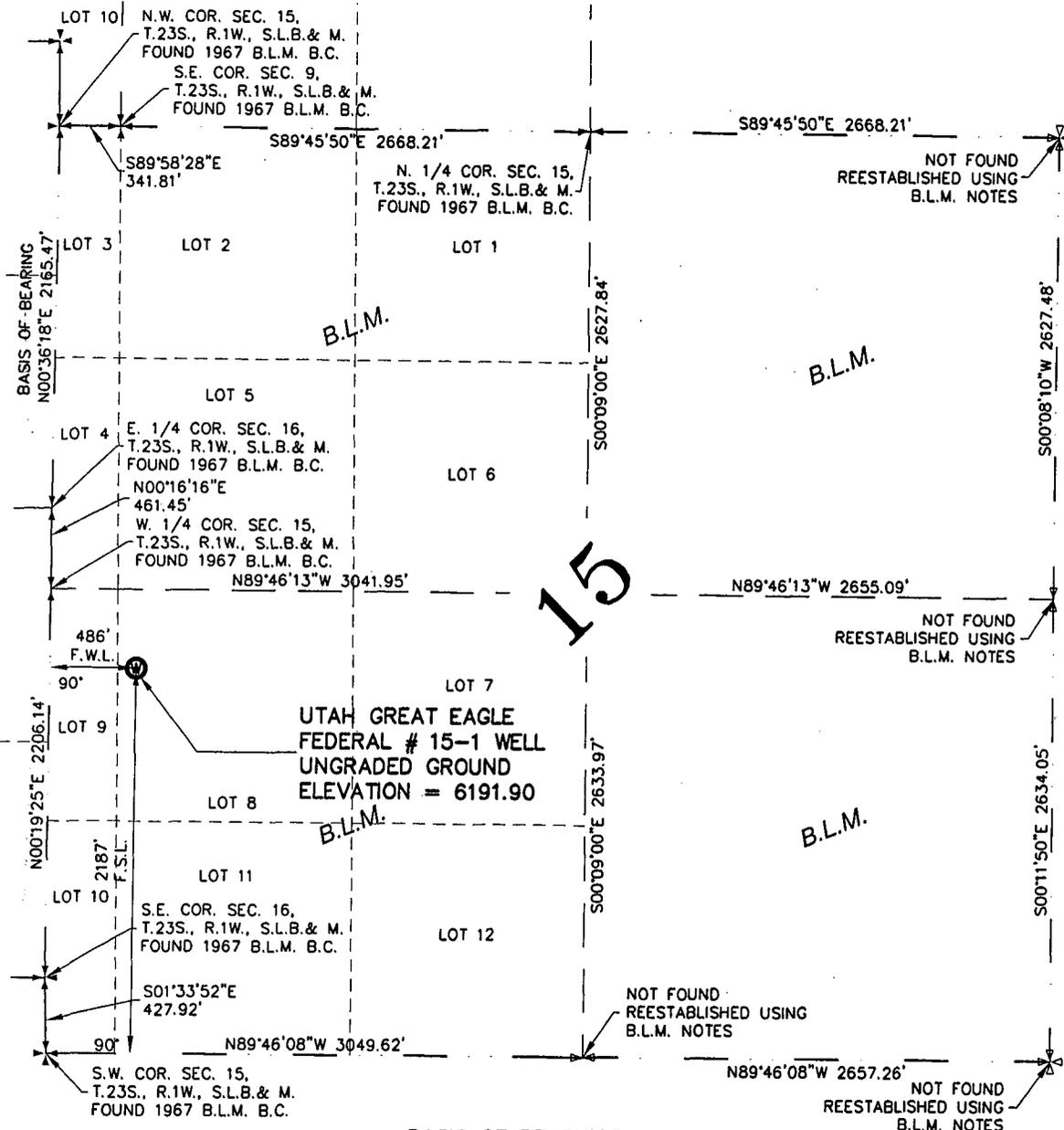
Surf

BUL

421652X
4294864Y
38.800968
- 111.962247

422029X
4294973Y
38.801941
- 111.897915

Section 15, T.23 S., R.1 W., S.L.B. & M.



BASIS OF BEARINGS

BASIS OF BEARING USED WAS N00°36'18"E BETWEEN THE EAST QUARTER CORNER OF SECTION 16, AND THE NORTHWEST CORNER OF SECTION 15, T.23 S., R.1 W., S.L.B. & M.
LATITUDE = 38°48'01.5890" (38.800441389) NAD 83
LONGITUDE = -111°54'13.9377" (-111.903871583) NAD 83

PROJECT Utah Great Eagle, L.L.C.

WELL LOCATION, LOCATED AS SHOWN IN LOT 8 OF SECTION 15, T.23 S., R.1 W., S.L.B. & M. SEVIER COUNTY, UTAH

LEGEND

- ✦ = SECTION CORNERS (LOCATED)
- ✧ = QUARTER SECTION CORNERS (LOCATED)
- ✧ = SECTION CORNERS (NOT LOCATED)
- ✧ = QUARTER SECTION CORNERS (NOT LOCATED)
- ⊙ = PROPOSED WELL HEAD

NOTE: THE PURPOSE OF THIS SURVEY WAS TO PLAT THE UTAH GREAT EAGLE, L.L.C. FEDERAL 15-1 WELL LOCATION, LOCATED IN LOT 8 OF SECTION 15, T.23 S., R.1 W., S.L.B. & M., SEVIER COUNTY, UTAH.

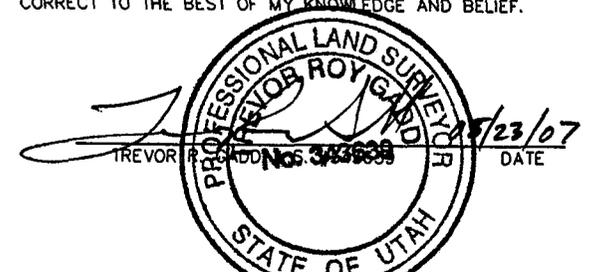
BASIS OF ELEVATION

ELEVATION BASED ON U.S.G.S. BENCH MARK T-30 LOCATED IN THE SW 1/4 OF SECTION 17, T.23 S., R.1 W., S.L.B. & M. N.A.V.D. 88 ELEVATION = 5778.34



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.



Jones & Demille Engineering
1535 South 100 West - Richfield, Utah 84701
Phone (435) 896-8266
Fax (435) 896-8268
www.jonesanddemille.com

Well Location Plat for Utah Great Eagle, L.L.C.

Utah Great Eagle Federal # 15-1

DESIGNED	SURVEYED	CHECKED	DRAWN	PROJECT NO.	SHEET NO.
-	K.B./G.N.	T.R.G.	T.W.G.	0701-199	1
DATE	DWG. NAME	SCALE			
05/23/07	WELL_LOC.	1"=1000'			

EXACT Engineering, Inc.

www.exactengineering.com

415 S. Boston Ave., Suite 734, Tulsa, OK 74103 • (918) 599-9400 • (918) 599-9401 (fax)

Steven R. Hash, P.E.
Registered Professional Engineer
stevehash@exactengineering.com

July 3, 2007

Ms. Diane Whitney
UTAH DIVISION OF OIL, GAS & MINING
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

Re: Directional Drilling R649-3-11
Application for Permit to Drill (wildcat) – Utah Great Eagle, LLC
Federal 15-1
NW SW Sec 15 T23S – R01W
Sevier County, UT

Dear Ms. Whitney,

On behalf of Utah Great Eagle, LLC of 301 West Northern Lights Blvd # 410, Anchorage, Alaska 99503 phone (907) 339-7214, we are hereby submitting this letter in accordance with Oil and Gas Conservation Rule 649-3-11 pertaining to the Exception to Location and Siting of Wells.

1. Surface location (proposed): 2187' FSL & 486' FWL of Sec 15
Bottom hole Location (proposed): 2591' FSL & 1714' FWL of Sec 15
2. This well is permitted as a directional well in order to obtain favorable surface location topography and to conform to the surface landowner's desired use of the surface area.
3. Utah Great Eagle, LLC, hereby certifies that it is, or it represents, the sole working interest owner(s) within 460 feet of the entire directional well bore.

Based upon the information stated herein, Utah Great Eagle, LLC respectfully request that this permit be granted pursuant to Rule 649-3-11

Very Truly Yours,

Steven R. Hash, P.E.
Consulting Petroleum Engineer

Copy to: Utah Great Eagle, LLC
File

Utah Great Eagle, LLC
Federal 15-1 Well
Application for Permit to Drill
7/2/07

Prepared By:

Rockford Terry

Agent for Utah Great Eagle, LLC
P.O. Box 552
St. George, UT 84771
Cell: 435-619-3724
Fax: 435-635-2531
rtservices@tksinc.us

Steven R. Hash, P.E.

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Cellular (918) 629-9801
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Joe Fetzer

Petros Environmental Group, Inc.
5575 S. Sycamore St., #126
Littleton, CO 80120
Main: 303-798-2669
Fax: 303-798-2608
Cell: 303-829-6367
www.petrosenvironmental.com

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JUL 17 2007

DIV. OF OIL, GAS & MINING

UTAH GREAT EAGLE

DRILLING PLAN

Federal 15-1

NW/4 SW/4 Section 15, Township 23 South, Range 1 West, S.L.B.&M.
Sevier County, Utah

Plan Summary:

It is planned to drill this confidential exploratory 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 10,100' (10,000 tvd) to test the Navajo and Kaibab 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:	2187' FSL & 486' FWL, Sec 15, T23S, R1W, S.L.B. & M.
Bottom Hole Location @ top target (Navajo)	2341' FSL & 954' FWL, Sec 15, T23S, R1W, S.L.B. & M.
Bottom Hole Location @ total depth	2591' FSL & 1714' FWL, Sec 15, T23S, R1W, S.L.B. & M.

Conductor casing will be set at approximately 120 feet and cemented to surface. A 12-1/4" hole will be drilled vertically to 1800' where 9-5/8" surface casing will be set and cemented to surface. An 8-3/4" hole will be deviated below surface casing to approximately 14 degrees from vertical to reach the uppermost target Navajo at approximately 4350' (4290' tvd). The wellbore will then be allowed to drop angle to 8 degrees to TD projected at 10,100' (10,000 tvd). The well will be logged and if significant porosity and hydrocarbon shows are encountered, then 5-1/2" casing will be set and cemented at TD.

Drilling activities at this well are expected to commence as early as September 1, 2007 if regulatory approvals are obtained.

Well Name: Federal 15-1

Surface Location: 2187' FSL & 486' FWL
 NW/4 SW/4 Sec 15, T23S, R1W, S.L.B. & M
 Sevier County, Utah

TD Bottom-Hole Location: 2591' FSL & 1714' FWL, Sec 15, T23S, R1W, S.L.B. & M

Elevations (est): 6190' GL, 6209' KB

I. Geology:

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

<u>Formation</u>	<u>TVD Interval (KB)</u>	<u>MD Interval (KB)</u>	<u>Contents</u>	<u>Pressure Gradient</u>
Jurassic Arapien	19 - 4023	19 - 4071	Shale	0.44 psi/ft
Twin Creek LS	4023 - 4290	4071 - 4347	Lime	0.44 psi/ft
Navajo SS	4290 - 5577	4347 - 5646	Sand	0.44 psi/ft
Triassic Kayenta	5577 - 9477	5646 - 9564	Sand	0.44 psi/ft
Permian Kaibab	9477 - 10000	9564 - 10100	Sand	0.44 psi/ft
Total Depth	10000	10100		

II. Well Control:

The contracted drilling rig has a 5M BOP system. BOPE will be in place and tested 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.):

<u>BOPE Item</u>	<u>Flange Size and Rating</u>
Annular Preventer	13-5/8" 5M
Double Rams (5" Pipe - top, Blind - bottom)	13-5/8" 5M
Drilling Spool w/ 2 side outlets (4" Choke Line, 4" Kill Line)	13-5/8" 5M x 13-5/8" 5M
Spacer Spool	13-5/8" 5M x 11" 5M
Casing Head (9-5/8" SOW, w/ two 2-1/16" SSO's)	9-5/8" SOW x 11" 5M

Auxiliary Equipment (5M Min.):

<u>BOPE Item</u>
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 chokes will be straight lines, or use tee blocks or be targeted with running tees if there are turns, 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"	24"		Conductor			120' GL
12.25"	9.625"	36.0	J-55	STC	10.625"	1800' KB
8.75"	5.500"	20.0	L-80	LTC	6.050"	10,100' KB

	<u>Surface</u>	<u>Intermediate</u>	<u>Production</u>
Casing O. D. (in)	9.625		5.500
Casing Grade	J-55		L-80
Weight of Pipe (lbs/ft)	36.0		20.0
Connection	STC		LTC
Top Setting Depth - MD (ft)	0		0
Top Setting Depth - TVD (ft)	0		0
Bottom Setting Depth - MD (ft)	1800		10100
Bottom Setting Depth - TVD (ft)	1800		10000
Maximum Mud Weight - Inside (ppg)	9.0		10.5
Maximum Mud Weight - Outside (ppg)	9.0		10.5
Design Cement Top - MD (ft)	0		4050
Design Cement Top - TVD (ft)	0		4000
Max. Hydrostatic Inside w/ Dry Outside (psi)	842		5460
Casing Burst Rating (psi)	3520		9190
Burst Safety Factor (1.10 Minimum)	4.18		1.68
Max. Hydrostatic Outside w/ Dry Inside (psi)	842		5460
Collapse Rating	2020		8830
Collapse Safety Factor (1.125 Minimum)	2.4		1.62
Casing Weight in Air (kips)	64.8		202
Body Yield (kips)	564		466
Joint Strength (kips)	394		416
Tension Safety Factor (1.80 Minimum)	6.08		2.06

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.

B. Cementing Program

Casing Size	Cement Slurry	Quantity (sks)	Density (ppg)	Yield (ft³/sk)
9.625"	Lead: CBM Lite	200	10.5	4.12
	Tail: Premium Plus	260	15.6	1.19
5.500"	Stg 1 - Lead: 50:50 POZ	650	14.35	1.22
	Stg 1 - Tail: Prem Plus	150	15.6	1.19
S	Stg 2 – Lead:50:50 POZ	650	14.35	1.22
	Stg 2 – Tail: Prem Plus	150	15.6	1.19

u

Surface: 9-5/8" surface casing will be cemented from setting depth (1800' md) to surface and topped out with premium cement if necessary. 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.

Intermediate: None

Production: 5-1/2" production casing will be cemented in two (2) stages from setting depth (10100') to 4000'. A minimum of 20 percent silica will be added to the cement slurry if bottom-hole temperature exceeds 230 °F. Slurry volume will be based on calipered hole size plus 20% excess. Hardware will include a guide shoe, float collar, top plug, and centralizers as needed across any pay zones. Water and preflush fluid pumped ahead of the slurry will separate cement from the drilling fluids.

- Other:**
- The BLM will be notified at least twenty-four hours prior to running and cementing the surface and production casing strings.
 - Actual cement slurries for all casing will be based on final service company recommendations.
 - 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.
 - Adequate time will be allowed before drilling out for the cement at the casing shoe to achieve a minimum 500-psi compressive strength.
 - All casing strings will be tested to 1500 psi before drilling out and if pressure declines by more than 10 percent in 30 minutes, corrective action will be taken.
 - 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.

IV. Mud Program:

Depth	Mud Weight (ppg)	Mud Type	Viscosity	Fluid Loss
0 – 1800'	8.4 – 9.2	Fresh Water	26 – 50	N/C to 12 cc
1800' – 10100'	9.2 – 10.5	Salt Mud	36 – 50	N/C to 12 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, gel strength, filtration, 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 1800 feet to TD. Samples will be caught, cleaned, bagged, and marked as required.
- B. Drill Stem Tests: No DST's are expected.
- C. Coring: No whole coring is planned. Rotary side-wall cores may be taken at select intervals in conjunction with open-hole 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 at a minimum survey resistivity, gamma radiation, and sonic velocity.

VI. Expected Bottom-Hole Pressure and Abnormal Conditions:

- A. Hydrogen Sulfide: Hydrogen Sulfide (H₂S) 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 0.44 psi/ft.
- C. Temperature: No abnormally high temperatures are expected. Bottom-hole temperature is expected to be approximately 190 °F.

end

Utah Great Eagle, LLC
Federal 15-1
486' FWL and 2187' FSL
Section 15, T23S, R1W
Sevier County, UT
Federal Lease UTU 81052

Surface Use Plan of Operations

Utah Great Eagle, LLC (Operator) proposes to drill and explore for hydrocarbons using a directional drilling program with the intention of penetrating the Navajo 1, Navajo 2 and additional formations to a total exploration depth of 10,000 ft. A directional drilling program is planned in order to minimize additional disturbance that would be caused by possible subsequent wells and pads. The directional drilling technique also becomes more economical due to the difficult topography of this leased section.

This Application for Permit to Drill (APD) is filed subsequent to a Revised Notice of Staking (NOS) submitted to the Richfield, Utah Field Office of the Bureau of Land Management (BLM) on May 29, 2007. An onsite inspection was held with BLM staff and representatives of the Operator on May 10, 2007. All specific concerns expressed by the BLM representatives have been addressed in this application.

This Surface Use Plan (SUP) is submitted to comply with Bureau of Land Management (BLM) *Onshore Oil and Gas Order 1: Approval of Operations*, under authority prescribed in 43 CFR 3160. Construction specifications are per BLM and U.S. Forest Service *Surface Operating Standards for Oil and Gas Exploration and Development (Gold Book)*. Appropriate Onshore Oil and Gas Orders and those of the Utah Division of Oil, Gas and Mining (UDOGM) will be followed in the construction, drilling, completion, operation, plugging, and reclamation of this well.

1. EXISTING ROADS

To reach the proposed location, from Sigurd, Utah, proceed south-southeast along Utah highway 24 approximately 2.5 miles to the intersection with the paved Sevier County Dump Road. Proceed east along the Dump Road a distance of approximately 1.7 miles to the intersection with an existing unpaved road which will be upgraded and modified in places to provide access to the proposed location. Operator will ensure that existing roads are maintained in the same or better condition than before operations began.

2. ACCESS ROADS TO BE CONSTRUCTED OR RECONSTRUCTED

Leaving the paved Dump Road, there will be necessary modifications to approximately 1.6 miles of existing road and construction of new road for an additional 0.7 miles for a total new access road length of 2.31 miles. The road will proceed south from the Dump road for 1.9 miles, then

deviating easterly across private property to the pad location. This unimproved road will be modified to allow access for over-the-road trucks to travel to the pad site.

Modifications to the existing access road will be kept to the minimum sufficient to allow safe passage of project vehicles. The deviation through the private property will be newly constructed road consisting of approximately .25 miles and then entering Section 15 with newly constructed road of approximately .15 miles to the pad site. Running surface width of the location access road will be 14 feet with a maximum disturbed width not to exceed 40 feet excepting those areas specified in Engineering Exhibits. Total access road disturbance will be approximately 6.3 acres less existing road disturbance of 1.3 acres, which leaves a net proposed disturbance of approximately 5 acres. Maximum grades will be less than 8% excepting two locations where proposed switchbacks ascend steep terrain, each being approximately a 10% grade. Low water crossings will be used to the extent feasible as required to access the well pad. Culverts, if required, will be installed to *Gold Book* standards prior to commencement of drilling operations. Existing fill is estimated to be adequate for approximately 80% of the proposed roadway. Some areas will require road base to allow access, especially on steeper grades. Fill materials will be similar to local surface materials and will be obtained from properly permitted local sources. The locations of existing and proposed roads are indicated in **Map A**.

Engineering and specifications for improvements to the existing road and new road construction will be provided with the APD.

An application for off-lease Right-of-Way for the portions of the access road crossing federal surface is being filed with the Richfield Office of the BLM concurrently with the APD. Approximately 0.15 mile of the access road is on-lease and approximately 1.06 mile off-lease on BLM surface, 0.20 mile on Sevier County surface, 0.29 mile on State of Utah surface, and 0.62 mile on private surface.

Available topsoil will be removed and windrowed prior to road construction. Topsoil stockpiled for more than ten months will be stabilized with a cover crop. Removed soil and overburden will be stored so as to be available for reclamation purposes. No removed soil or overburden will be pushed into drainages or stored where transport into drainages could occur. Silt fencing will be used where necessary to prevent sediment transport. Following construction, topsoil will be evenly re-spread over the road embankment and borrow ditch slopes. Equipment will be limited to that appropriate to the scale and scope required for construction. In the event that caliches, bedrock or other immovable structures are encountered during road and/or pad construction, conventional drilling and blasting will be performed in accordance with all OSHA/IMSHA regulations.

3. LOCATION OF EXISTING WELLS WITHIN A ONE MILE RADIUS OF THE PROPOSED WELL

As of May, 2007, there are no existing or proposed oil or gas wells located within one mile of the proposed location.

A water well used for irrigation purposes, bearing Utah Water Right Number 63-1086, is located approximately 0.5 mile east southeast of the proposed location. The well was drilled to 85 feet and the right is held by J.L. Davis of Venice, Utah.

4. LOCATIONS OF EXISTING AND/OR PROPOSED FACILITIES IF WELL IS PRODUCTIVE

The dimension of the proposed well pad, as indicated in the attached location diagram, displays a total disturbed area, exclusive of topsoil piles, of approximately 4.26 acres. The well pad will be of a minimum size sufficient to conduct safe operations. Cuts and fills are as specified in Engineering Exhibits. Fill areas will be bermed to control runoff. The well pad will be slightly sloped to allow appropriate surface runoff to the area's normal drainage pattern.

Topsoil removed during construction of the well site will be stored for reclamation purposes. If the proposed well is not productive, reclamation procedures will be completed in accordance with Best Management Practices (BMPs) and requirements of the BLM. In general and where required, soil erosion control measures will consist of appropriate BMPs to reduce the potential for erosion. All required soil erosion and sedimentation safeguards will be built into the well pad, access roads, and future proposed pipeline routes to protect any nearby lowlands where appropriate.

In the event of a productive well, any produced liquids stored on-site, as well as fuel and any hazardous materials would be contained in above-ground on-site storage tanks or containers. Such containers would be surrounded by lined berms of sufficient area and height to contain 125% of the volume of the largest container.

If the well is productive of gas, a pipeline would need to be constructed to transport the gas from the well site. Depending on the results of the 15-1 Federal well, and of possible subsequent wells, a pipeline could be installed to convey oil and/or other produced fluids from the well site to an off-lease transfer facility in order to minimize the traffic to the well site. In either case, the pipelines and any associated facilities would be permitted by a separate application at a later date and do not constitute a part of the Proposed Action. Temporary trucking of hydrocarbons from the well site may proceed until the pipeline construction is completed.

BLM will be contacted prior to construction of production facilities and a Sundry Notice will be filed at BLM direction.

Electrical power transmission lines are not proposed at this time. Electrical transmission lines may be brought into the location in the future. A right-of-way grant application will be filed with BLM and a right-of-way granted prior to construction of any electrical transmission lines.

The traveled portion of the production site will be covered with gravel as necessary for all-weather access following installation of production facilities, if the well is successful. Production facilities may include a gas meter house, pump jack, portable generator(s), produced water storage tank(s), oil storage tank(s), and fuel tanks for generator(s). Site preparation will be done using standard construction equipment. All above ground structures will be painted a

color specified by BLM to minimize visual contrast with the landscape. The actual equipment and facilities to be installed will depend upon the results of production testing and will be authorized by Sundry Notice.

5. LOCATION AND TYPE OF WATER SUPPLY

Water for the proposed drilling operation will be purchased locally from an existing pond located on Kings Meadow Ranch. The water will be conveyed by a temporary above ground pipeline over private, County and Utah State property to a staging site on private property or directly to the well site depending upon conditions. (see attached pipeline map). If a staging site is used, the water will then be trucked from that point to the well site. Operator filed an Application for Temporary Change of Water with the Utah Division of Water Rights for use of Water Right 63-2529 on June 18, 2007. Any wastewater/mud generated will be stored in a polyethylene lined reserve pit.

Water of salinity levels less than 10,000 mg/liter will be used for drilling and cementing. Mixing of cement is anticipated to use approximately 414 bbls of water. Preparation of drilling fluids is anticipated to use approximately 30,000 bbls of water, which will increase if loss of circulation occurs. Transport of water supplies is estimated to require approximately 300 truckloads, assuming a 100 bbl. capacity truck.

6. SOURCE OF CONSTRUCTION MATERIALS

Construction materials will consist of native materials from borrow areas. Surfacing materials will be obtained from local permitted sources, where required. No construction materials will be taken from Federal lands without prior approval from the Authorized Officer.

Transportation of construction materials will not require additional access roads.

7. METHODS FOR HANDLING WASTE DISPOSAL

The site will be well maintained and monitored. Rented portable toilets and adequate refuse containers will be used onsite with all generated waste hauled off the site and properly disposed of. There will be no chemical disposal of any type onsite.

Wastes

A reserve pit will be excavated in such a manner as to avoid the collection of surface runoff. The reserve pit will be used to contain drilling fluids, which may include salt and chemicals, and will serve as the disposal site for cuttings following completion of the well. No trash will be disposed in the reserve pit.

Human waste will be stored in portable, self-contained chemical toilets. Toilet holding tanks will be pumped out as required, or following well completion. Disposal of human wastes will be at an approved sewage facility and in compliance with applicable rules and regulations of the Utah Department of Environmental Quality (UDEQ).

Trash and other solid waste (including cans, paper, cable, etc.) will be contained in portable trashcans or barrels. The trash will be disposed of into a UDEQ-approved sanitary landfill as needed or upon completion of operations. Disposal of used motor oil or other hydrocarbon products stored in closed containers will be done at an approved disposal facility.

Cleanup and removal from the location of all trash, debris, and other waste materials will be done immediately following drilling and completion operations.

Hazardous Materials

Operator and its contractors shall ensure that all use, production, storage, transport, and disposal of hazardous and extremely hazardous materials associated with the drilling, completion, and production of wells, and project operations will be in accordance with all applicable existing or hereafter promulgated federal, state and local government rules, regulations, and guidelines.

Hazardous materials will be stored in an off-site facility located on private surface and transported to the well location only as needed. Potentially hazardous materials will not be left at the proposed well locations. Transport of hazardous substances will be in compliance with applicable regulations of the U.S. Department of Transportation (DOT) as codified in 49 CFR 100 *et seq.* Any release of hazardous substances in excess of reportable quantities as established in 40 CFR, Part 117 will be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended. A copy of the report will also be furnished to the Authorized Officer and all other appropriate federal and state agencies.

Operator will maintain a file of current Material Safety Data Sheets (MSDS) for all chemicals, compound, or substances used in the production process. MSDSs for such materials used by subcontractors during drilling, construction, and completion operations are the responsibility of the subcontractors as indicated in the Emergency Planning and Community Right to Know Act (42 USC Chapter 116) (EPCRA). Operator will require that subcontractors maintain those MSDSs for which they are responsible and will notify all Project staff and subcontractors of the locations of these data sheets.

A listing of hazardous materials, which Operator or its subcontractors anticipate may be present during drilling, completion, and production operations, is indicated in **Table 1**.

Table 1 Potential Hazardous Materials List

Hazardous Material	Purpose
Diesel	Fuel
Gasoline (unleaded)	Fuel
Grease	Equipment lubrication
Engine oil	Engine lubrication
Ethylene glycol	Engine coolant
Cement	Cementing casing in hole
Calcium chloride	Cement additive
Hydraulic fluid	Hydraulic equipment
Acetylene	Fuel for torch
Propane	De-icing of lines and equipment
Methanol	De-icing of gas and water lines
Liquid polymer	Drilling mud flocculating agent
Bentonite gel	Drilling mud viscosity agent
3/4 inch bentonite chips	Well plugging
Pipe joint compound (no lead)	Pipe thread lubrication
Pipe thread compound (no lead)	Pipe thread sealant

8. ANCILLARY FACILITIES

No ancillary facilities are proposed

9. WELLSITE LAYOUT

The well site layout for the proposed well is indicated in the attached **Layout and Cut and Fill diagrams**. A maximum of approximately 25 feet of cut and approximately 26 feet of fill is proposed.

Construction will not commence during times when soils are saturated or when damage to adjacent watersheds could occur. Construction will not use frozen materials.

Temporary living facilities may include portable trailer housing for drilling crews and personnel. In the event that the well becomes productive, a small trailer may be placed at the well site for maintenance and security personnel.

The reserve pit will be located as drawn in the attached **Well Pad Layout Diagram**. The pit will be approximately 110 feet by 220 feet with a depth of 12 feet. Excavated topsoil will be stored for later reclamation purposes. A polyethylene liner will be used with a minimum thickness of 12 mils. Construction of the pit will follow all governing rules and regulations including those outlined in the *Gold Book*. Adequate drill site drainage and sedimentation control measures will be incorporated in the operational plan. Optional measures for erosion and runoff control may include utilization of earthen dikes along the fill portion of the pad perimeter and stabilization of slopes as necessary with location of reserve pit in the cut portion of the drilling pad.

A minimum of one half of the total depth of the pit at its deepest point will be below original ground surface. A minimum of two feet of freeboard will be maintained at all times. Pit fluids will be limited to saltwater, bentonite, polymer, and bio-degradable soap.

To protect stock and wildlife, the pit will be fenced on three sides during drilling operations and on all sides after drilling operations prior to reclamation. Posts will be firmly set in the ground and fencing will be set back at least two feet from the edge of the pit. Fencing will be maintained in good condition until the pit is closed.

10. PLANS FOR RECLAMATION OF THE SURFACE

Reserve Pit

Upon cessation of operations, the pit will be fenced on all sides and evaporated down. After evaporation and/or evacuation, the pit will be backfilled and compacted. The topsoil stockpiled for the pit and pad will be replaced and the ground contoured to approximate the original topography. Following drying of the pit contents, cuttings and the remnants of the drilling mud will be buried beneath a minimum of three feet of earth.

Surface Reclamation

Rehabilitation will commence following removal of the drilling rig. Areas not required for production will be re-contoured and landscaped to approximate the original topography and cover as closely as practical. Removed and segregated topsoil will be distributed evenly over the reclaimed surface and seeded with a grass seed mixture approved by the Authorized Officer.

During reclamation of the site, the fill material will be pushed back into the cuts and up over the back slope. No depressions will be left to trap surface runoff. Spreading will not be done when the ground or topsoil is frozen or wet.

The modified access road will be reclaimed in accordance with all conditions set forth by the BLM in regards to required filling, contouring, and re-vegetation.

Notice of Intent to Abandon will be filed with the BLM for final recommendations for surface reclamation.

Reseeding

Re-vegetation will be accomplished using methods approved by BLM. Operator will use only certified weed free, pure live seed. The proposed reclamation seed mix recommended by BLM is indicated in **Table 2**.

Table 2 Recommended Reclamation Seed Mix

Species	Pounds Live Seed/Acre
Hycrest Crested Wheatgrass	1.0
Luna Pubescent Wheatgrass	1.5
Bozoisky Russian Wildrye	1.0
Magnar Great Basin Wildrye	1.0
Covar Sheep Fescue	1.0
Sandberg Bluegrass	1.0
Sherman Big Bluegrass	1.0
Yellow Sweetclover	1.0
Ranger Alfalfa	1.5
Appar Lewis Flax	1.5
Common Sunflower	1.0
Delar Small Burnet	1.5
Eski Sainfoin	1.0
Forage Kochia	1.0
TOTAL	16.0

Topsoil should be collected and piled and used in the rehabilitation process. All of the seed should be mixed together, except for the Forage Kochia, and then drill seeded. If drill seeding is not possible then the seed should be broadcasted using a four-wheeler equipped with a seeder at a seeding 16 lbs/acre. After broadcast seeding the main mix, then the area should be drug 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 for application rate of 8 lbs/acre.

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

11. SURFACE OWNERSHIP

The proposed well site is located in T23S, R1W, S15 SW¼, Sevier County, Utah. The surface and mineral rights of the exploration site are owned by the BLM. The proposed access road crosses lands owned by BLM, the State of Utah, Sevier County, and private interests. Contact information for surface owners is included in **Table 3**.

Table 3 Surface Owner Contact Information

Surface Owner	Address	Phone
Bureau of Land Management	150 E. 900 North Richfield, UT 84701	435-896-1500
Utah School and Institutional Trust Lands Administration	130 N. Main Richfield, UT 84701	435-896-6494
Sevier County	250 N. Main Richfield, UT 84701	435-893-0400
Steven Sandberg parcel # 4-181-1 Contact: Joy Ruttenbur		602-381-2502
LeGrand Larsen parcel # 4-181-2 Contact: Legrand Larsen	554 East 100 North Richfield, UT 94701	435-896-6454

Operator certifies that it has made good faith efforts to notify surface owners prior to entry onto their lands and that it has obtained, or has made a good faith effort to obtain a Surface Use Agreement with affected surface owners.

12. OTHER INFORMATION

Additional information relevant to development of this Surface Use Plan includes:

Mineral rights associated with the proposed well are leased to Hidden Resources Inc., (Lease # UTU81052). This lease includes all of Section 15 described above. Hidden Resources Inc., has entered into an agreement with Lucky 3, LLC and Eureka Group, LLC in exploring for oil and gas on the aforementioned lease. Lucky 3, LLC created an entity to act as the operator for the exploration project. The newly formed entity is known as Utah Great Eagle, LLC. Utah Great Eagle, LLC is registered to do business in the State of Utah.

The drill site is located on a westerly slope of the foothills of Cedar Mountain.

There are no existing water sources or surface water known in this area that will be impacted by this proposed exploration activity.

The well site is located on an alluvial fan overlying Jurassic age Arapien Shale. Below the thin, alluvial sands (and in places exposed on the surface) there exists a slightly alkaline substrate with gypsum veining mixed in a clay loam.

Air quality is not expected to be affected by the exploration or operation of the operation or a producing well. Elevated noise levels would be temporary and should not have a detrimental effect on the surrounding environment.

There are no known ranching activities that will be impacted by this operation.

The winter range will be minimally impacted by the operation due to the fact that Operator is utilizing an existing roadway. Road construction or other intensive exploration activities will not begin until after the May 15th end of winter range restriction. If the well becomes productive, the winter range for the deer and elk should only be minimally affected due to the fact that the oil will be piped rather than loaded at the well site. The only vehicles that will visit the well site will be for periodic maintenance. In the event the initial well is successful, temporary trucking of produced hydrocarbons may proceed until the pipeline is operational.

Control of noxious weeds shall be done per requirements of the Authorized Officer. Control will be achieved by mechanical or chemical methods using an Environmental Protection Agency-approved herbicide. No application of herbicide will occur without written approval of the BLM and application will be done by an EPA-certified pesticide technician.

A Class III Cultural Resource Inventory has been conducted covering all proposed well locations, rights-of-way, access roads, or other areas of potential surface disturbance as a part of this Surface Use Plan and the resulting report has been previously forwarded to BLM.

In the event that any cultural values, including sites, artifacts, or remains, are uncovered or observed during construction, drilling, completion, or reclamation activities they will be left undisturbed. In the event that any paleontological resources are uncovered or observed during construction, drilling, completion, or reclamation activities they will be left undisturbed. In either case, the Authorized Officer will be notified immediately.

In the event that human remains or vertebrate paleontological resources are discovered, Operator or its contractors will suspend all operations in the vicinity until notified to proceed by the Authorized Officer. The Authorized Officer will evaluate, or will have evaluated, such discoveries not later than 5 working days after being notified, and will determine what action shall be taken with respect to such discoveries.

There are no occupied dwellings located within one mile of the proposed location.

ATTACHMENTS

- Well site Layout Diagram Indicating Proposed Cut and Fill
- Cross-Section of Proposed Location
- Map of proposed Location Access

APPLICATION FOR TEMPORARY CHANGE OF WATER

Rec. by kc
DIVISION OF WATER RIGHTS
Fee Amt. \$ \$75.00
STATE OF UTAH JUN 18 2007 Receipt # 07-02946

RICHFIELD AREA

Check # 1136
For the purpose of obtaining permission to make a temporary change of water in the State of Utah, application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements of Section 73-3-3 Utah Code Annotated 1953, as amended.

CHANGE APPLICATION NUMBER: 633097
(c5595KFORBUSH)

WATER RIGHT NUMBER: 63-2529

This Change Application proposes to change the PLACE OF USE and NATURE OF USE.

1. OWNERSHIP INFORMATION.

A. NAME: Kings Meadow Ranches LLC
ADDRESS: P.O. Box 570125
Kings Meadow Road
Sigurd, Utah 84657
REMARKS: 101.532 acft. 33.564 ac. 30 eiu's

B. PRIORITY OF CHANGE: 6/18/07

FILING DATE: 6/18/07

C. EVIDENCED BY: 63-2529 (DEC)

* DESCRIPTION OF CURRENT WATER RIGHT: *

2. SOURCE INFORMATION.

A. QUANTITY OF WATER: 13.443 acre-feet

B. SOURCE: Kings Meadow Creek

COUNTY: Sevier

C. POINT(S) OF DIVERSION.

POINT OF DIVERSION -- SURFACE:

(1) S 1.011 feet E 1.711 feet from NW corner, Section 28, T 23S, R 1W, SLBM

3. WATER USE INFORMATION.

IRRIGATION: from Apr 1 to Oct 31.

IRRIGATING: 4.4810 acres.

Temporary Change

4. PLACE OF USE.

(Which includes all or part of the following legal subdivisions:)

BASE TOWN RANG SEC	NORTH-WEST 1/4				NORTH-EAST 1/4				SOUTH-WEST 1/4				SOUTH-EAST 1/4			
	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE
SL 23S 1W 18				***		X		***					***			

*-----
 * THE FOLLOWING CHANGES ARE PROPOSED:
 *-----

5. SOURCE INFORMATION.

- A. QUANTITY OF WATER: 13.443 acre-feet
- B. SOURCE: Kings Meadow Creek COUNTY: Sevier
- C. POINT(S) OF DIVERSION. Same as HERETOFORE.
- D. COMMON DESCRIPTION: 1 1/2 mi SE of Sigurd

6. WATER USE INFORMATION. Changed as Follows:

OIL EXPLORATION from Jul 18 to Jul 18. Oil drilling

7. PLACE OF USE. Changed as Follows:

(Which includes all or part of the following legal subdivisions:)

BASE TOWN RANG SEC	NORTH-WEST 1/4				NORTH-EAST 1/4				SOUTH-WEST 1/4				SOUTH-EAST 1/4			
	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE
SL 24S 2W 15				***				***	X	X	X	X	***			X

8. SIGNATURE OF APPLICANT(S).

The undersigned hereby acknowledges that even though he/she/they may have been assisted in the preparation of the above-numbered application, through the courtesy of the employees of the Division of Water Rights, all responsibility for the accuracy of the information contained herein, at the time of filing, rests with the applicant(s).


 Kenneth A. Claster
 Kings Meadow Ranches LLC

Proposed Action

Utah Great Eagle, LLC 15-1 Federal Well

Utah Great Eagle, LLC (Operator) proposes to drill the exploratory 15-1 Federal oil and gas well on surface and mineral estates owned by the United States and managed by the Richfield Field Office of the Bureau of Land Management (BLM). The proposed well would be located in the NW SW of Section 15, Township 23 South, Range 1 West, Salt Lake Principal Meridian, approximately 4.5 miles southeast of the town of Sigurd, Utah. The Proposed Action would involve a short-term surface disturbance of approximately 10.6 acres. Surface disturbance would occur on surface owned by the BLM, the State of Utah, Sevier County, and private entities. The Proposed Action would occur on federal oil and gas lease UTU 81052, consisting of 683 acres. A Federal Lands Policy and Management Act (FLPMA) Title V access Right-of-Way is required across Section 9, federal oil and gas lease UTU-073528. The hole would be directionally drilled.

To reach the proposed location, from Sigurd, Utah, proceed south-southeast along Utah highway 24 approximately 2.5 miles to the intersection with the paved Sevier County Dump Road. Any necessary agreements for use of the road would be obtained from Sevier County. Proceed east along the Dump Road a distance of approximately 1.7 miles to the intersection with an existing unpaved road which will be upgraded and modified in places to provide access to the proposed location. Proceed south and east a distance of approximately 2.3 miles on the upgraded and constructed access road to the location. Total surface disturbance for the proposed access road would be approximately 6.3 acres, including 1.3 acres of existing disturbance.

The well pad would be roughly rectangular, approximately 320 by 400 feet, with rounded corners. The reserve pit dimensions would be approximately 212 by 110 feet by 12 feet deep and would be lined with a minimum thickness 10 mil liner. The entire reserve pit would be constructed in cut material. Maximum cut and fill would be 25 feet and 26 feet, respectively. Cut volume would be approximately 34,993 cubic yards plus an additional 8,260 yards of pit volume; fill volume would be approximately 30,936 cubic yards for a net surplus of approximately 12,318 cubic yards. Topsoil would be segregated for reclamation use. The well pad would contain the drilling rig and all associated facilities and equipment required to drill the well. The reserve pit would be fenced on three sides during drilling operations and on the fourth side at the completion of the well. Erosion controls appropriate to protection of nearby surface water resources would be implemented. Groundwater and subsurface mineral zones would be protected by appropriate mud, casing, and cementation programs. Total surface disturbance of the well pad would be approximately 4.3 acres.

Sewage would be contained in portable, self-contained chemical toilets during operations. Trash would be stored in a portable, enclosed container for removal to a sanitary landfill. Water for drilling operations would be obtained from a local source permitted through the Utah Division of Water Rights and conveyed to the location via a temporary above ground pipeline located off federal surface.

In the event the 15-1 Federal is commercially productive of oil or gas, production facilities may include a wellhead, a gas meter house, pump jack, produced water storage tank, and oil or condensate storage tank. A pipeline would be installed to convey the hydrocarbons from the well site to the County Dump Road in order to minimize the traffic to the well site, however the pipeline would be approved as a separate action and does not constitute a part of the Proposed Action.

The traveled portion of the production site would be covered with gravel as necessary for all-weather access following installation of production facilities. Portions of the pad not required for production activities would re-contoured and reclaimed as soon as practical. If the well is not productive, it would be plugged and abandoned in compliance with appropriate regulations of the BLM and the Utah Division of Oil, Gas, and Mining. Reserve pit fluids would be allowed to dry or be pumped out for off-site disposal and the pit allowed to dry prior to backfilling and implementation of final reclamation efforts.

All permanent structures would be painted a flat, non-reflective color approved by BLM so as to minimize visual contrast with the surroundings.

Applicant-committed Environmental Protective Measures

- During construction and reclamation, no vehicles would be operated during periods of saturated soil conditions when surface ruts greater than 4 inches could occur along travel routes.
- To protect and minimize the possibility of fires during the construction phase, all equipment, including pickup trucks, would be equipped with fire extinguishers.
- Members of the construction crew would car pool to and from surrounding cities and towns to minimize vehicle-related emissions.
- To reduce the likelihood of the introduction of noxious and invasive weed species via project-related vehicles and equipment into the area, the following measures would be implemented:
 - Operator and its contractors would power-wash all construction equipment and vehicles prior to the start of construction. Any vehicles traveling between the project location and outside areas would be power-washed on a weekly basis.
 - Operator would implement an intensive weed control program beginning the first growing season after project completion. Weed control would be conducted through a Pesticide Use Proposal and Weed Control Plan submitted by Operator and approved by BLM.
- Should any significant cultural or fossil resources be unearthed, the construction would be re-routed or halted until the cultural sites or artifacts could be salvaged.

OPERATOR'S REPRESENTATIVE AND CERTIFICATION

Operator and Representative

Operator

Utah Great Eagle, LLC
301 Northern Lights Blvd., #410
Anchorage, AK 99509
Contact: Carl Marrs

Contact Information:

Office: 907-339-7214
Mobile: 907-360-0279
Fax: 907-339-8924
e-mail: marco077@gmail.com

Agent

Rockford Terry
P.O. Box 552
St. George, UT 84771

Contact Information:

Mobile: 435-619-3724
Fax: 435-635-2531
e-mail: rtservices@tksinc.us

Certification

Operator will conduct all operations outlined in this APD package in accordance with applicable Onshore Oil and Gas Orders and any applicable Notices to Lessees. Operator is responsible for the actions of its subcontractors. A copy of the Surface Use Plan will be furnished to each subcontractor to ensure compliance.

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that I 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 by Operator, its contractors and subcontractors 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 11 day of July 2007.



Rockford Terry
Field Representative and Agent for Utah Great Eagle, LLC

**APPLICATION FOR TRANSPORTATION AND
 UTILITY SYSTEMS AND FACILITIES
 ON FEDERAL LANDS**

FORM APPROVED
 OMB NO. 1004-0189
 Expires: November 30, 2008

FOR AGENCY USE ONLY

NOTE: Before completing and filing the application, the applicant should completely review this package and schedule a preapplication meeting with representatives of the agency responsible for processing the application. Each agency may have specific and unique requirements to be met in preparing and processing the application. Many times, with the help of the agency representative, the application can be completed at the preapplication meeting.

Application Number

Date filed

1. Name and address of applicant <i>(include zip code)</i> Utah Great Eagle, LLC 301 W. Northern Lights Blvd., #410 Anchorage, Alaska 99509	2. Name, title, and address of authorized agent if different from Item 1 <i>(include zip code)</i> Rockford Terry, Agent P.O. Box 552, St. George, UT 84771	3. TELEPHONE <i>(area code)</i> Applicant Authorized Agent
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4. As applicant are you? <i>(check one)</i> a. <input checked="" type="checkbox"/> Individual b. <input type="checkbox"/> Corporation* c. <input type="checkbox"/> Partnership/Association* d. <input type="checkbox"/> State Government/State Agency e. <input type="checkbox"/> Local Government f. <input type="checkbox"/> Federal Agency * If checked, complete supplemental page	5. Specify what application is for: <i>(check one)</i> a. <input checked="" type="checkbox"/> New authorization b. <input type="checkbox"/> Renewing existing authorization No. c. <input type="checkbox"/> Amend existing authorization No. d. <input type="checkbox"/> Assign existing authorization No. e. <input type="checkbox"/> Existing use for which no authorization has been received* f. <input type="checkbox"/> Other* * If checked provide details under Item 7
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6. If an individual, or partnership are you a citizen(s) of the United States? Yes No

7. Project description *[describe in detail]:* (a) Type of system or facility, (e.g., canal, pipeline, road); (b) related structures and facilities; (c) physical specifications (length, width, grading, etc.); (d) term of years needed; (e) time of year of use or operation; (f) Volume or amount of product to be transported; (g) duration and timing of construction; and (h) temporary work areas needed for construction *(Attach additional sheets, if additional space is needed.)*

Exploratory drilling operation including necessary access and drilling pad. Access and drill pad specifications are detailed in accompanying surface use plan as well as a detailed description of the proposed operation. Term of use is indefinite depending on success of exploration efforts. If the well is unproductive, the site and access will be reclaimed as outlined in surface use plan.

8. Attach a map covering area and show location of project proposal

9. State or local government approval: Attached Applied for Not required

10. Nonreturnable application fee. Attached Not required

11. Does project cross international boundary or affect international waterways? Yes No *(If "yes," indicate on map)*

12. Give statement of your technical and financial capability to construct, operate, maintain, and terminate system for which authorization is being requested.

Utah Great Eagle LLC, was created by the members of Lucky 3, LLC of Anchorage, Alaska. Members of Lucky 3, LLC have been actively involved in the industries of natural resource exploration and development, banking, and telecommunications for the past 30 years. A substantial budget has been created and allocated to ensure the completion of this project. The engineering and drilling contractors that have been retained to oversee and operate this project are highly experienced and reputable. The drilling contractor is Exact Engineering of Tulsa, Oklahoma. Steve Hash of Exact Engineering has operated in the region for the last several years as the drilling engineer for Wolverine Gas and Oil.

13a. Describe other reasonable alternative routes and modes considered.

None

b. Why were these alternatives not selected?

c. Give explanation as to why it is necessary to cross Federal Lands

Access over Federal land is the only option available.

14. List authorizations and pending applications filed for similar projects which may provide information to the authorizing agency. (Specify number, date, code, or name)

15. Provide statement of need for project, including the economic feasibility and items such as: (a) cost of proposal (construction, operation, and maintenance); (b) estimated cost of next best alternative; and (c) expected public benefits.

The need for domestic petroleum exploration is great due to the uncertain supply from foreign sources. The estimated cost for this project is \$3.5 million. See APD for further details.

16. Describe probable effects on the population in the area, including the social and economic aspects, and the rural lifestyles.

The probable effects include increased employment and growth in overall economy. No negative impacts are foreseen that will affect social or economic aspects. See APD for further details.

17. Describe likely environmental effects that the proposed project will have on: (a) air quality; (b) visual impact; (c) surface and ground water quality and quantity; (d) the control or structural change on any stream or other body of water; (e) existing noise levels; and (f) the surface of the land, including vegetation, permafrost, soil, and soil stability.

The impact on the environment is not expected to be significant. If the well is successful, a pipeline will be constructed which will eliminate the need for heavy traffic into the area. See APD for further details.

18. Describe the probable effects that the proposed project will have on (a) populations of fish, plantlife, wildlife, and marine life, including threatened and endangered species; and (b) marine mammals, including hunting, capturing, collecting, or killing these animals.

The only notable disturbance will be to the winter range of deer and elk. By using submersible pumps and a pipeline, the disturbance will be minimal. See APD.

19. State whether any hazardous material, as defined in this paragraph, will be used, produced, transported or stored on or within the right-of-way or any of the right-of-way facilities, or used in the construction, operation, maintenance or termination of the right-of-way or any of its facilities. "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C. 9601 et seq., and its regulations. The term hazardous materials also includes any nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas.

Potential hazardous materials are itemized in surface use plan/APD.

20. Name all the Department(s)/Agency(ies) where this application is being filed.

U.S. Bureau of Land Management
Utah Department of Oil, Gas & Mining
Sevier County

I HEREBY CERTIFY, That I am of legal age and authorized to do business in the State and that I have personally examined the information contained in the application and believe that the information submitted is correct to the best of my knowledge.

Signature of Applicant

Date

7/11/07

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 3)

(SF -299, page 2)

SUPPLEMENTAL

NOTE: The responsible agency(ies) will provide additional instructions

CHECK APPROPRIATE
BLOCK

I - PRIVATE CORPORATIONS	CHECK APPROPRIATE BLOCK	
	ATTACHED	FILED*
a. Articles of Incorporation	<input type="checkbox"/>	<input type="checkbox"/>
b. Corporation Bylaws	<input type="checkbox"/>	<input type="checkbox"/>
c. A certification from the State showing the corporation is in good standing and is entitled to operate within the State.	<input type="checkbox"/>	<input type="checkbox"/>
d. Copy of resolution authorizing filing	<input type="checkbox"/>	<input type="checkbox"/>
e. The name and address of each shareholder owning 3 percent or more of the shares, together with the number and percentage of any class of voting shares of the entity which such shareholder is authorized to vote and the name and address of each affiliate of the entity together with, in the case of an affiliate controlled by the entity, the number of shares and the percentage of any class of voting stock of that affiliate owned, directly or indirectly, by that entity, and in the case of an affiliate which controls that entity, the number of shares and the percentage of any class of voting stock of that entity owned, directly or indirectly, by the affiliate.	<input type="checkbox"/>	<input type="checkbox"/>
f. If application is for an oil or gas pipeline, describe any related right-of-way or temporary use permit applications, and identify previous applications	<input type="checkbox"/>	<input type="checkbox"/>
g. If application is for an oil and gas pipeline, identify all Federal lands by agency impacted by proposal.	<input type="checkbox"/>	<input type="checkbox"/>
II - PUBLIC CORPORATIONS		
a. Copy of law forming corporation	<input type="checkbox"/>	<input type="checkbox"/>
b. Proof of organization	<input type="checkbox"/>	<input type="checkbox"/>
c. Copy of Bylaws	<input type="checkbox"/>	<input type="checkbox"/>
d. Copy of resolution authorizing filing	<input type="checkbox"/>	<input type="checkbox"/>
e. If application is for an oil or gas pipeline, provide information required by Item "I-f" and "I-g" above.	<input type="checkbox"/>	<input type="checkbox"/>
III - PARTNERSHIP OR OTHER UNINCORPORATED ENTITY		
a. Articles of association, if any	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. If one partner is authorized to sign, resolution authorizing action is	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Name and address of each participant, partner, association, or other	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. If application is for an oil or gas pipeline, provide information required by Item "I-f" and "I-g" above.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

* If the required information is already filed with the agency processing this application and is current, check block entitled "Filed." Provide the file identification information (e.g., number, date, code, name). If not on file or current, attach the requested information.

d. Conditional Use Permits AND A LAND USE Application has been filed AT SEVIER County.

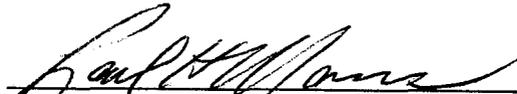
FEDERAL LANDS OWNED BY BUREAU OF LAND MANAGEMENT will be impacted by this proposed action. (SEE APD)

Utah Great Eagle LLC
301 West Northern Lights Blvd # 410
Anchorage, Alaska 99503
(907) 339-2714

July 6, 2007

TO WHOM IT MAY CONCERN:

Utah Great Eagle LLC., thru its authority under Article II section 1 granted by Lucky 3 LLC's Article II section 1 appointment of its managing partner Carl H. Marrs. Under that authority Carl H. Marrs hereby appoints Rocky Terry as it's agent to Utah Great Eagle LLC., the authority to execute all documents necessary or required by the Department of Interior, Bureau of Land Management, the State of Utah, the Sevier County or any other required agency to permit roads, pads, and Drilling operations on T23S, 1W section 15 in Sevier County, Utah.



Utah Great Eagle LLC
Carl H. Marrs
Managing Partner

OPERATING AGREEMENT
OF
UTAH GREAT EAGLE, LLC

COPY

ARTICLE I
FORMATION

Section 1. Name: The name of this limited liability company (the "Company") is Utah Great Eagle, LLC.

Section 2. Business. The purpose of the Company is to invest in, manage, operate, and deal in oil and gas properties and projects. The Company shall also have the purpose of conducting any other lawful affairs for which a limited liability company may be organized under the Alaska Limited Liability Act.

Section 3. Term. If its existence is not sooner terminated, the Company shall continue until the following event: the Company sells, abandons or otherwise transfers ownership of all direct and indirect interests in oil and gas properties as the Company may hereafter acquire.

Section 4. Registered Agent and Office. The Company's registered agent is Turner & Mede, P.C. and the address for the Company's registered office is 1500 W. 33rd Avenue, Suite 200, Anchorage, Alaska 99503.

ARTICLE II
MEMBERS

Section 1. Member Managed Company. The Company shall be managed by the Members. Except as otherwise required by law or this Operating Agreement, the consent of a majority of the Units issued in the Company shall be required to decide the affairs of the Company. The Company may hire one or more employees upon such terms and to perform such duties as the Members may decide. Unless otherwise agreed by holders of a majority of the Units issued in the Company (not counting Units held by a financially-interested Member), the Members shall serve without compensation. Until otherwise determined by the Company, upon consent of a majority of the Units, the Company will be generally managed by Lucky 3, LLC ("Lucky"), who will serve without compensation, unless otherwise determined by the Members. In its capacity as manager, Lucky shall have exclusive power to manage the affairs of the Company, except as to those matters requiring the consent of Members holding at least a majority of the Units in the Company.

Section 2. Annual Meeting. The annual meeting of the Members shall be held at the principal office of the Company in Anchorage, Alaska, or at such other place, either within or without the State of Alaska, as may be designated by the Members, and specified in

the notice of such meeting. Each such meeting shall be held on the last day of September each year, if not a legal holiday, and, if a legal holiday, then on the next succeeding business day.

Section 3. Special Meetings. Special meetings of the Members of the Company may be held on any day when called by Members who hold at least twenty-five percent (25%) of all Units outstanding and entitled to vote thereat. The place of special meetings shall be Anchorage, Alaska, unless another place is designated by the Members who hold at least twenty-five percent (25%) of all Units outstanding and entitled to vote thereat. Written or telephone notice of special meetings shall be given to all Members no less than three (3) days prior to the date of such meeting. Special meetings may be conducted entirely or in part by telephone or by any other medium allowing direct communication of the Members.

Section 4. Quorum. Except as may be otherwise required by law, the holders of a majority of the Units issued in the Company shall constitute the quorum necessary for the meeting to occur. Except as may be otherwise required by law, the approval of a majority of the Units issued in the Company shall be necessary to decide the affairs of the Company.

Section 5. Decisions by Informal Action. All decisions that the Members may make at a meeting may also be made upon written consents. Except as may be otherwise required by law or this Operating Agreement, the approval of a majority of the Units issued in the Company, as given through written consents, shall be sufficient to decide the affairs of the Company.

Section 6. Consent of Two-Thirds of Members Required. Notwithstanding any other provision of this Operating Agreement, the consent of Members holding two-thirds of the Units issued in the Company shall be required for any of the following actions: (a) to amend the Articles of Organization; (b) to amend this Operating Agreement; and (c) to authorize a Member to perform an act on behalf of the Company that contravenes this Operating Agreement.

Section 7. Other Ventures. The Members may engage in business ventures and activities of any nature or description, independently or with others, whether or not in competition with the business of the Company, and shall have no obligation to disclose business opportunities available to them, and neither the Company nor any of the other Members shall have any rights in and to such independent ventures and activities or the income or profits derived therefrom.

ARTICLE III CERTIFICATE FOR UNITS OF SHARES

Section 1. Units. The Company shall issue Units to the Members to evidence their ownership interests and voting power in the Company.

Section 2. Form of Certificates. Each holder of Units shall be entitled to one or more certificates, signed by a duly authorized representative of the Company, which shall certify the number of Units held by him or her in the Company. However, no certificate for Units shall be issued until they are fully paid. All certificates shall note that the transfer of Units in the Company is restricted by the terms of this Operating Agreement. All certificates shall bear a legend stating that the securities they represent are not registered under the Securities Act of 1933 or the Alaska Securities Act of 1959 and cannot be resold without registration or exemption from it.

Section 3. Transfer of Units. Subject to the restrictions of Article VII of this Operating Agreement on the transferability of Member interests in the Company, Units of the Company shall be transferable upon the books of the Company by the holders thereof, upon surrender and cancellation of certificate(s) for a like number of Units, with duly executed assignment and power of transfer endorsed thereon or attached thereto, and with such proof of the authenticity of the signatures to such assignment and power of transfer as the Company or its agents may reasonably require. The transferee or assignee of any Member's interest shall have no right to participate in the management of the business and affairs of the Company or to become a Member except upon compliance with the requirements of Article VII.

Section 4. Lost, Stolen or Destroyed Certificates. The Company may issue a new certificate for Units in place of any certificate previously issued by it and alleged to have been lost, stolen or destroyed. The owner or the owner's legal representative may be required to give the Company a bond containing such terms as the Members may require to protect the Company or any person injured by the execution and delivery of a new certificate.

ARTICLE IV CAPITAL AND PROFITS AND LOSSES

Section 1. Capital Contributions. In connection with the formation of the Company, the following initial Members shall make initial capital contribution as follows:

- a. Lucky shall contribute all its right, title and interest in and to a 32% interest in oil and gas leasehold interests known as the King's Meadow Oil and Gas Prospect ("King's Meadow Lease"), in the vicinity of Richfield, Utah, located in Section 15, T23S, R1W, SL Meridian, Sevier

necessary or appropriate to permit Alesk and Porterhouse early to achieve maximum lawful benefit of tax losses, deductions, and depletion allowances available to the Company in respect to its activities. Once the full amount of capital contributions (without interest) have been returned to Alesk and Porterhouse, the profits and losses of the Company, for tax and financial-reporting purposes, and distributions to Members, shall thereafter be allocated to the Members in proportion to their ownership of the Units (as adjusted, in the case of Alesk and Porterhouse, as appropriate to reflect any disproportionate capital contributions made by them).

ARTICLE V ADDITIONAL FUNDS

Section 1. New Capital or Loans. If, as determined by the vote of a majority of the Units held by Members in the Company, additional funds are required to pay Company debts or the costs of operating beyond the contributions addressed in Article IV, then except as otherwise limited under Section 2 of this Article, such additional funds shall be advanced to the Company by the Members (and any assignee/transferee of a Company interest who has not been admitted as a Member) in proportion to the number of Units each Member (or assignee/transferee) then holds in the Company. Such additional funds advanced to the Company shall be treated as additional capital contributions or loans, as determined by the vote of two-thirds of the Units held by the Members of the Company.

Section 2. Limitation of Liability. Notwithstanding any provisions in this Operating Agreement to the contrary, except in the case of liability of one or more Members on personal guarantees of loans to the company, the liability and obligation of each Member to contribute additional capital to the Company under this Article V shall not exceed: (a) the capital contributions of such Member required under Article IV, plus (b) each Member's prorata share of \$100,000. The purpose of this Section is to impose an absolute limitation on the liability and risk of each Member (apart from the personal guarantees of loans to the Company).

ARTICLE VI INDEMNIFICATION

Section 1. Third Party Actions. To the extent permitted by law, the Company shall indemnify any Member who is or was a party, or who is threatened to be made a party, to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, including all appeals, by reason of the fact that he or she is or was a Member, managing Member or employee of the Company, or is or was serving at the request of the Company as a director, trustee, officer or employee of another limited liability company, corporation, partnership, joint venture, trust or other enterprise, against any and all expenses (including reasonable attorneys' fees), judgments, decrees, fines, penalties and amounts paid in settlement, which were actually and reasonably incurred by him or her in

**OPERATING AGREEMENT
OF
LUCKY 3, LLC**

**ARTICLE I
FORMATION**

Section 1. Name: The name of this limited liability company (the "Company") is Lucky 3, LLC.

Section 2. Business. The purpose of the Company is to invest in, manage, operate, and deal in oil and gas properties and projects. The Company shall also have the purpose of conducting any other lawful affairs for which a limited liability company may be organized under the Alaska Limited Liability Act.

Section 3. Term. If its existence is not sooner terminated, the Company shall continue until the following event: the Company sells, abandons or otherwise transfers ownership of all direct and indirect interests in oil and gas properties as the Company may hereafter acquire.

Section 4. Registered Agent and Office. The Company's registered agent is Turner & Mede, P.C. and the address for the Company's registered office is 1500 W. 33rd Avenue, Suite 200, Anchorage, Alaska 99503.

**ARTICLE II
MEMBERS**

Section 1. Member Managed Company. The Company shall be managed by the Members. Except as otherwise required by law or this Operating Agreement, the consent of two-thirds of the Units issued in the Company shall be required to decide the affairs of the Company. The Company may hire one or more employees upon such terms and to perform such duties as the Members may decide. Unless otherwise agreed by holders of two-thirds of the Units issued in the Company (not counting Units held by a financially-interested Member), the Members shall serve without compensation. Until otherwise determined by the Company, upon consent of two-thirds of the Units, the Company will be generally managed by Carl H. Marrs ("Marrs"), who will serve without compensation, unless otherwise determined by the Members. In his capacity as manager, Carl H. Marrs shall have exclusive power to manage the affairs of the Company, except as to those matters requiring the consent of Members holding at least two-thirds of the Units in the Company.

Section 2. Annual Meeting. The annual meeting of the Members shall be held at the principal office of the Company in Anchorage, Alaska, or at such other place, either within or without the State of Alaska, as may be designated by the Members, and specified in

Marrs	42 ³⁰ 25 Units
Persons	42 ³⁰ 25 Units
_____	50 ⁷⁵ 75 Units
_____	50 ⁷⁵ 75 Units

Profits and losses, for tax and financial-reporting purposes, and distributions to the Members, shall be allocated to the Members in proportion to their ownership of Units. The Company may adopt a cash-basis method of accounting for tax or financial-reporting purposes, or any other method of accounting consistent with generally-accepted accounting principles.

**ARTICLE V
ADDITIONAL FUNDS**

Section 1. New Capital or Loans. If, as determined by the vote of two-thirds of the Units held by Members in the Company, additional funds are required to pay Company debts or the costs of operating, except as otherwise limited under Section 2 of this Article, such additional funds shall be advanced to the Company by the Members (and any assignee/transferee of a Company interest who has not been admitted as a Member) in proportion to the number of Units each Member (or assignee/transferee) then holds in the Company. Such additional funds advanced to the Company shall be treated as additional capital contributions or loans, as determined by the vote of two-thirds of the Units held by the Members of the Company.

Section 2. Limitation of Liability. Notwithstanding any provisions in this Operating Agreement to the contrary, except in the case of liability of one or more Members on personal guarantees of loans to the company, the liability and obligation of each Member to contribute capital to the Company shall not exceed: (a) the capital contributions of such Member required under Article IV, plus (b) each Member's prorata share of \$20,000. The purpose of this Section is to impose an absolute limitation on the liability and risk of each Member (apart from the personal guarantees of loans to the Company).

**ARTICLE VI
INDEMNIFICATION**

Section 1. Third Party Actions. To the extent permitted by law, the Company shall indemnify any Member who is or was a party, or who is threatened to be made a party, to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, including all appeals, by reason of the fact that he or she is or was a Member, managing Member or employee of the Company, or is or was serving at the request of the Company as a director, trustee, officer or employee of another limited liability company, corporation, partnership, joint venture, trust-or other enterprise, against any and all expenses (including reasonable attorneys' fees), judgments, decrees, fines, penalties and

amounts paid in settlement, which were actually and reasonably incurred by him or her in connection with such action, suit or proceeding, if he or she acted in good faith and in a manner which he or she reasonably believed to be in, or at least not opposed to, the best interests of the Company, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or plea of nolo contendere or its equivalent shall not, of itself, create a presumption that the person did not act in good faith and in a manner which he or she reasonably believed to be in, or at least not opposed to, the best interests of the Company.

Section 2. Derivative Actions. To the extent permitted by law, the Company shall indemnify any Member who is or was a party, or who is threatened to be made a party, to any threatened, pending or completed action or suit, including all appeals, by or on behalf of the Company in order to procure a judgment in its favor by reason of the fact that he or she is or was a Member of the Company, or serving as a managing Member, against any and all expenses (including reasonable attorneys' fees) which were actually and reasonably incurred by him or her in connection with the defense or settlement of such action or suit, so long as he or she acted in good faith and in a manner which he or she reasonably believed to be in, or at least not opposed to, the best interests of the Company; except that no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been finally adjudged to be liable for negligence or misconduct in the performance of his or her duty to the Company unless, and only to the extent that, the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability and in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnification for such expenses as the court shall deem proper.

Section 3. Rights After Successful Defense. To the extent that a Member or managing member has been successful on the merits or otherwise in defense of any action, suit or proceeding referred to in Sections 1 or 2, or in defense of any claim, issue or matter therein, he or she shall be indemnified against expenses (including reasonable attorneys' fees) actually and reasonably incurred by him or her in connection therewith.

Section 4. Other Determination of Rights. Except in a situation governed by Section 3, any indemnification under Section 1 or 2 (unless ordered by a court) shall be made by the Company only as authorized in a specific case upon a determination that indemnification of the Member is proper under the circumstances because he or she has met the applicable standard of conduct set forth in Section 1 or 2. Such determination shall be made by the Members.

Section 5. Advances of Expenses. Expenses of each person indemnified hereunder, which were incurred in defending against a civil, criminal, administrative or investigative action, suit or proceeding (including all appeals), or threat thereof, may be paid by the Company in advance of the final disposition of such action, suit or proceeding, if

authorized by the Members (whether disinterested or not) following receipt of a written unlimited general undertaking by or on behalf of the Member to repay such amount if it is ultimately determined that an applicable standard of conduct was not met.

Section 6. Nonexclusiveness. The indemnification provided by this Article shall not be deemed exclusive of any other rights to which those seeking indemnification may be entitled as a matter of law.

Section 7. Purchase of Insurance. The Company may purchase and maintain insurance on behalf of any person who is a Member of the Company against any liability asserted against him or her and incurred by him or her in any such capacity, or arising out of his or her status as such, whether or not the Company would have the power to indemnify him or her against such liability under the provisions of this Article or the laws of the State of Alaska.

ARTICLE VII RESTRICTIONS ON MEMBER'S TRANSFERABILITY

Section 1. New Members. A new Member may be admitted into the Company only if: (i) all the other Members unanimously approve of such admission; and (ii) said new Member executes such instruments as the other Members determine are necessary or desirable to effect such admission and to confirm the agreement of the person or entity being admitted to be bound by all of the covenants, terms and conditions of this Operating Agreement. Said new Member shall receive a capital interest and an interest in the net profits and net losses and cash flow of the Company in an amount to be determined by the number of Units acquired in the Company. Acquisition of Units under Section 4 or Section 5 of this Article VII entitles the transferee to all financial interests represented by the acquired Units in and to the capital, profits, losses and cash flow of the Company, but does not confer voting powers or other attributes of full Member status except upon compliance with this Section 1.

Section 2. Withdrawal from the Company. The Company shall have no obligation to purchase some or all of the Company's interest held by a Member. No Member may partially or completely withdraw from the Company.

Section 3. Restrictions on Transfer and Encumbrance. Each of the Members agrees that he or she will not, without the prior written consent of two-thirds of the Units held by other Members, transfer, assign, sell, give, pledge, hypothecate or otherwise encumber his or her interest in the Company, and any attempt to do any of the foregoing without such prior written consent shall be null and void and of no effect.

- (A) the vote of all Members holding an interest in the Company;
- (B) the expiration of the term of the Company;
- (C) the death of a Member if that Member's heir does not agree, or his or her heirs do not unanimously agree, to be bound by this Operating Agreement; or
- (D) the incompetency, bankruptcy, retirement or resignation of a Member.

Notwithstanding Subsections (C) and (D) above, the Company shall not be terminated and dissolved in the circumstances described in those Subsections if the remaining Members vote unanimously to continue the Company.

Section 2. Accounting and Winding Up On Termination. Upon the termination of the Company as herein provided, a full and general accounting shall be taken of the Company's business, and the affairs of the Company shall be wound up. Any net profits or net losses earned or incurred since the previous accounting shall be allocated among the Members. The Members shall wind up and liquidate the Company by selling the Company's assets and distributing the net proceeds therefrom, in cash, after the payment of all Company liabilities (including expenses and fees incurred in connection with the sale of assets and liquidation), to the Members in proportion to their respective interests in profits and losses.

Section 3. Continuing Governance. In the event of a dissolution of the Company, the business affairs of the Company shall continue to be governed by the terms of this Agreement during the winding up of the Company's business and affairs.

ARTICLE IX MISCELLANEOUS

Section 1. Limitation of Liability. No Member shall have, solely by virtue of such Member's status as a Member in the Company, any personal liability whatever, whether to the Company, to any Members or to the creditors of the Company, for the debts or obligations of the Company or any of its losses beyond the amount committed by such Member to the capital of the Company.

Section 2. No Third-Party Beneficiary. This Operating Agreement is entered into among the Members for their exclusive benefit. This Operating Agreement is not intended for the benefit of any creditor or any person who is not a Member. No creditor or any person who is not a Member shall have any rights under this Operating Agreement or any other agreement between the Company and any Member with respect to any contribution or otherwise.

Section 3. Investment Purposes. Each Member acknowledges that the securities represented by the Units of the Company are not registered under the Securities act of 1933 or the Alaska Securities Act of 1959. Each Member further acknowledges that he or she is buying for investment purposes only and agrees that the securities represented by the Units will not be resold without registration under the Securities Act of 1933 and the Alaska Securities Act of 1959, or exemption from such registration.

Section 4. Entire Agreement. This Agreement constitutes the complete and final agreement among the parties and supersedes any prior agreements, negotiations, representations or understandings.

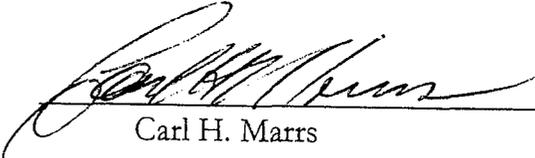
Section 5. Governing Law. This Agreement is governed by the laws of the State of Alaska.

Section 6. Counterparts. This Agreement may be signed in several counterparts, each of which shall constitute an agreement, binding on all of the parties hereto, notwithstanding that all of the parties are not signatory to the same counterpart.

IN WITNESS WHEREOF, the Members hereto have executed this Agreement on the dates indicated below.

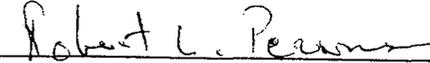
MEMBERS:

Dated: 4/20/06



Carl H. Marrs

Dated: 4/22/06



Robert L. Persons

Dated: _____

Name: _____

Dated: _____

Name: _____

NA

Appendix B

Applicant-committed Environmental Protective Measures

The following applicant-committed environmental protective measures have been incorporated into the design of the Proposed Action:

Air Quality

- To reduce the emission of fugitive dust, routine watering and/or application of magnesium chloride will be applied, as needed, to disturbed lands, such as the well pad and access road.

Cultural Resources

- The Proponent will inform all persons in the area, who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites or for collecting artifacts.
- If historic or archaeological materials are uncovered during construction, the Proponent will immediately stop work that might further disturb such materials and contact BLM.

Invasive Species

- 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 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, will also be sprayed and/or cleaned.
- The Proponent will be responsible for controlling invasive and noxious weeds on lands disturbed by the approved operations. The Proponent will apply for permits for the application of herbicides as appropriate from the BLM, State or county. Pesticides will be applied by a licensed pesticide contractor with permission of the surface owner.
- 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 (spread), and the treatment will continue until the weeds have been eradicated. If noxious weeds are found the BLM will be notified of their occurrence.

Water Quality

- All borehole fluids will be contained in the reserve pit. All appropriate measures will be taken to prevent leakage into the substratum or onto the surface. All appropriate measures will be taken to prevent overflow, and a minimum of two feet of freeboard will be maintained in the reserve pit.
- Upon completion of drilling operations, the reserve pit will be de-watered as stated in the SUP or as approved by BLM if a change is requested by the Proponent. Once the waste fluid has been removed, the reserve pit fence will be completed by constructing the fourth

side, and the pit will be allowed to completely dry. All junk, debris, or other foreign material will be removed before initiating any dirt work to restore the location.

- The fence around the reserve pit will be maintained in good repair during drilling operations and while the pit is drying. It will remain in place until the pit is completely dry and site restoration begins. All fences will be constructed to BLM standards.
- Sanitation will comply with local and state regulations for the disposal of human waste.
- Any accumulations of hydrocarbons in the reserve pit will be removed and recovered for sale unless it is determined by BLM to be waste oil. All waste oil will be disposed of properly at approved facilities.
- For reclamation, the polyurethane liner in the reserve pit, which is exposed above the cuttings, will be cut, removed from the site, and disposed in an authorized landfill. The reserve pit will be backfilled to slightly above grade to allow for settling of the unconsolidated fill material.

Soils and Watersheds

- All equipment and vehicles will be confined to the access road and well pad.
- The top 6 to 8 inches of soil material will be stripped and removed from the access road and well pad and stockpiled for future reclamation of the site. Topsoil will be stockpiled separately from any other excavated materials. Topsoil will be reserved for reclamation and not utilized for any other purpose.
- If the topsoil is stockpiled for more than one year, the stockpile will be seeded with the seed mix approved by BLM for this project.
- At the time of upgrading the access road, where the existing access road is bypassed or otherwise not used, the abandoned segments will be reclaimed. These segments will be re-contoured to eliminate the road and re-seeded with the seed mixture recommended by BLM for this project.
- The reserve pit and that portion of the location and access road not needed for production or production facilities will be reclaimed as specified by BLM. All stockpiled topsoil, in proportion to the area being reclaimed, will be used in reclaiming areas without an on-going operation.
- Site reclamation will include:
 - removing the road base material from the access road and any other surfaces that may be covered by such material (see additional statement below);
 - re-contouring the location to approximate natural contours, to the extent practicable; evenly redistributing stockpiled topsoil over the re-contoured areas;
 - scarifying re-contoured areas, including the access road, by use of a disk or harrow prior to seeding; and
 - drilling or broadcasting seeds.
- The surface of the re-contoured land will be left in a slightly roughened condition to collect precipitation and to promote seed germination. Fencing the well pad with a four-strand barbed wire fence may be considered to keep livestock and wildlife off the reclaimed land, until vegetation is reestablished. Vehicular traffic on the reclaimed access road should be restricted by blocking the lower, south end of the road with boulders and/or an earthen berm at least 4 feet high that extends beyond the shoulders of the re-contoured road bed.

- Seed used for reclamation will be certified, pure-live and weed-free seed and applied in a manner indicated by BLM. Seed tags will be available, if requested by BLM. If the seeding is unsuccessful, subsequent seeding will occur until satisfactory re-establishment of vegetation and soil stabilization is accomplished.
- Road base material, used in the construction of the access road, will be removed from the site and disposed in a proper manner. The access road will be re-contoured by use of an excavator or similar equipment, rather than simply ripping the surface. Culverts will be removed from the site and disposed in an approved landfill.

Visual Resources

- All permanent structures (i.e., those on location for six (6) months or longer), including pumping units, will be painted a flat, non-reflective color as specified by the BLM and will be painted within six (6) months of construction or installation. Facilities that are required to comply with Occupational Safety and Health Act (OSHA) will be excluded.

Fuels and Fire Management

- 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 (RIFC) will be notified.

• INTERDISCIPLINARY TEAM ANALYSIS RECORD CHECKLIST

Project Title: Utah Great Eagle, LLC Federal Glenwood 15-1

NEPA Log Number: UT-05-06-040 EA

File/Serial Number: N/A

Project Leader: Bert Hart

DETERMINATION OF STAFF: (Choose one of the following abbreviated options for the left column)

NP = not present in the area impacted by the proposed or alternative actions

NI = present, but not affected to a degree that detailed analysis is required

PI = present with potential for significant impact analyzed in detail in the EA; or identified in a DNA as requiring further analysis

NC = (DNAs only) actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section C of the DNA form.

Determination	Resource	Rationale for Determination	Signature	Date
CRITICAL ELEMENTS				
PI	Air Quality	Small amounts of dust and exhaust emissions from equipment and vehicles could impact air quality during construction, drilling, completion, and production. These impacts are discussed further in Chapter 4.0 of the EA.	Phil Zieg	
NP	Areas of Critical Environmental Concern	There are no ACECs located in the vicinity of the Project Area. Lands included within the nominated Rainbow Hills ACEC in the proposed RMP are located west of the Project Area (<i>Source: Bureau of Land Management (BLM). 2005. Evaluation Report: Areas of Critical Environmental Concern, Richfield Resource Management Plan</i>). Thus, there would be no impacts as a result of the Proposed Action.	Tim Finger	
NP	Cultural Resources	Class I and III inventories have been completed in the project area. Details of these finds are discussed in the Cultural Resource Inventory Report, which is included in the project record but may not be available to the public because of sensitive information. As only isolated finds were located during the survey, there would be no impacts as a result of the Proposed Action.	Chris Horting-Jones	
NP	Environmental Justice	In connection with the resource management plan revision, an evaluation was made to determine if there are any minority or low income populations within the boundaries of the Richfield Field Office. The evaluation revealed that at the county level, no populations that meet the criteria for minority or low income are present (<i>Source: Bureau of Land Management (BLM). 2003. Baseline Socioeconomic Profile, Richfield Field Office Resource Management Plan / Environmental Impact Statement</i>). Therefore, the Proposed Action would not have a disproportionately high and adverse effect on low income or minority populations.	Bert Hart	
NP	Farmlands (Prime or Unique)	There are no prime or unique farmlands in the project area. Thus, there would be no impacts as a result of the Proposed Action.	Brant Hallows	
NI	Floodplains	The project area is drained by small, ephemeral, dry drainages. Any floodplain impacts, whether negative or positive, would be	Brant Hallows	

Determination	Resource	Rationale for Determination	Signature	Date
		negligible to the natural environment. Project is not contrary to Executive Order 11988 - Floodplain Management.		
PI	Invasive, Non-native Species	The Proposed Action could result in the introduction of, or increase of invasive and non-native weeds in the of the project area however, the introduction and increase of invasive and non-native weeds could be mitigated if the equipment used to construct access routes or conduct exploration activities are washed to remove invasive weed seeds prior to entering the project area. Also, Proponent would be responsible for weed control on all areas disturbed due to exploratory activities until the areas are fully reclaimed. Otherwise, the possibility for the introduction of invasive weeds is substantially increased. These impacts are discussed further in Chapter 4.0 of the EA.	Burke Williams	
NP	Native American Religious Concerns	There are no known Native American concerns within the project area.	Chris Horting-Jones	
NP	Threatened, Endangered or Candidate Plant Species	The project area would be located within an area largely burned-over in 1995 and subsequently chained over and re-seeded with reclamation grasses. No federally threatened, endangered, or candidate plants or BLM sensitive species (collectively called TES plant species) or potential habitats are known to occur in the project area. Thus, there would be no impacts as a result of the Proposed Action.	Larry Greenwood	
NP	Threatened, Endangered or Candidate Animal Species	There are no populations of or habitats for TES wildlife species in the project area. Thus, there would be no impacts as a result of the Proposed Action. See Attached Clearance.	Larry Greenwood	
NI	Wastes (hazardous or solid)	Operator and its contractors shall ensure that all use, production, storage, transport, and disposal of hazardous and extremely hazardous materials associated with the drilling, completion, and production of wells, and project operations will be in accordance with all applicable existing or hereafter promulgated federal, state and local government rules, regulations, and guidelines. Hazardous materials will be stored in an off-site facility located on private surface and transported to the well location only as needed. Potentially hazardous materials will not be left at the proposed well locations. Transport of hazardous substances will be in compliance with applicable regulations of the U.S. Department of Transportation (DOT) as codified in 49 CFR 100 <i>et seq.</i> Any release of hazardous substances in excess of reportable quantities as established in 40 CFR, Part 117 will be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended. A copy of the report will also be furnished to the Authorized Officer and all other appropriate federal and state agencies. The Richfield Field Office will be promptly verbally notified in the event of any such spills and such spills will be promptly cleaned up in accordance with State and Federal Laws, regulations and procedures.	Stan Adams	
PI	Water Quality (drinking/ground)	Surface and ground water could be impacted by construction, drilling, completion, and production through sedimentation and potential spills. These impacts are discussed further in Chapter 4.0 of the EA.	Phil Zieg	
NP	Wetlands/Riparian Zones	There are no wetlands or riparian zones within the project area. Thus, there would be no impacts as a result of the Proposed Action.	Larry Greenwood	

Determination	Resource	Rationale for Determination	Signature	Date														
NP	Wild and Scenic Rivers	There are no designated wild and scenic rivers present, and an evaluation done for the proposed RMP found that there are no river segments either eligible or suitable for potential wild and scenic river designation by Congress (<i>Bureau of Land Management (BLM) 2005a. Wild and Scenic River Eligibility and Tentative Classification Report, Richfield Resource Management Plan</i>). Thus, there would be no impacts as a result of the Proposed Action.	Tim Finger															
NP	Wilderness	There are no lands designated as wilderness present, there are no lands re-inventoried for determination of wilderness characteristics in the BLM 1999 reinventory, and there are no lands under review by Congress for potential wilderness designation. Thus, there would be no impacts as a result of the Proposed Action.	Tim Finger															
OTHER RESOURCES / CONCERNS																		
NI	Rangeland Health Standards and Guidelines	BLM Standards and Guidelines would not be affected by the small-scale surface disturbance and short-term nature of the Proposed Action. Furthermore, BLM-required mitigation measures would help ensure that standards and guidelines are maintained.	Burke Williams															
NI	Livestock Grazing	Effects on livestock grazing activities and forage availability would be negligible, consisting of the disturbance of approximately 2 AUMs, based on an assumed average of 5 acres/AUM over most of the project area.	Burke Williams															
NI	Woodland / Forestry	The proposed project is located in an area formerly including pinyon-juniper woodlands. Almost all of the woodland area which would be disturbed was burned over by a human-caused range fire in 1995. The burn area was subsequently chained over and reseeded with reclamation grasses. Current vegetation consists dominantly of various grasses, sagebrush, and some pinyon pine. There would be minimal impacts to woodland resources.	Bob Bate															
PI	Vegetation including Special Status Plant Species other than FWS candidate or listed species	<p>The proposed project site is dominated by big sagebrush, cheatgrass, Utah juniper, pinyon pine, Indian ricegrass, needle-and-thread grass, crested wheatgrass, luna pubescent wheatgrass and bluebunch wheatgrass. Portions of the area were burned by a man caused fire and rehabilitated by using a combination of broadcast seeding (airplane)/ single chaining and drill seeding.</p> <p>Whenever there is surface disturbance, the vegetation is impacted. In this case, approximately 12.7 acres of vegetation would be lost in the short term, due to construction activities as discussed in Chapter 4.0 of the EA. Rehabilitation of the disturbance would be a positive impact, because seeding with desirable, perennial species could result in better, future vegetation. Loss of vegetation during the proposed action is a minor, short-term impact. Long-term benefits, due to rehabilitation through seeding, far out weigh any short-term loss of the current vegetative resource on the proposed project area.</p> <p>Recommended seed mixture should be as follows:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;"><u>Species</u></th> <th style="text-align: right;"><u>lbs. / acre</u></th> </tr> </thead> <tbody> <tr> <td>Hycrest Crested Wheatgrass</td> <td style="text-align: right;">1.0</td> </tr> <tr> <td>Luna Pubescent Wheatgrass</td> <td style="text-align: right;">1.5</td> </tr> <tr> <td>Bozoisky Russian Wildrye</td> <td style="text-align: right;">1.0</td> </tr> <tr> <td>Magnar Great Basin Wildrye</td> <td style="text-align: right;">1.0</td> </tr> <tr> <td>Covar Sheep Fescue</td> <td style="text-align: right;">1.0</td> </tr> <tr> <td>Sandberg Bluegrass</td> <td style="text-align: right;">1.0</td> </tr> </tbody> </table>	<u>Species</u>	<u>lbs. / acre</u>	Hycrest Crested Wheatgrass	1.0	Luna Pubescent Wheatgrass	1.5	Bozoisky Russian Wildrye	1.0	Magnar Great Basin Wildrye	1.0	Covar Sheep Fescue	1.0	Sandberg Bluegrass	1.0	Larry Greenwood	
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Determination	Resource	Rationale for Determination	Signature	Date																		
		<table> <tr> <td>Sherman Big Bluegrass</td> <td>1.0</td> </tr> <tr> <td>Yellow Sweetclover</td> <td>1.0</td> </tr> <tr> <td>Ranger Alfalfa</td> <td>1.5</td> </tr> <tr> <td>Appar Lewis Flax</td> <td>1.5</td> </tr> <tr> <td>Common Sunflower</td> <td>1.0</td> </tr> <tr> <td>Delar Small Burnet</td> <td>1.5</td> </tr> <tr> <td>Eski Sainfoin</td> <td>1.0</td> </tr> <tr> <td>Forage Kochia</td> <td>1.0</td> </tr> <tr> <td>TOTAL</td> <td>16.0</td> </tr> </table> <p>Topsoil should be collected and piled and used in the rehabilitation process. All of the seed should be mixed together, except for the Forage Kochia, and then drill seeded. If drill seeding is not possible then the seed should be broadcasted using a four-wheeler equipped with a seeder at a seeding 16 lbs/acre. After broadcast seeding the main mix, then the area should be drug with a small harrow (used with four wheeler), which would cover the seed.</p> <p>If the area is drill seeded, then a small tractor equipped with a farm drill should be used for application rate of 8 lbs/acre.</p> <p>All of the seeding should be done in the late Fall (October/November) to prevent premature sprouting and subsequent winter killing of the forb species, due to early Fall precipitation and warm soil temperatures.</p>	Sherman Big Bluegrass	1.0	Yellow Sweetclover	1.0	Ranger Alfalfa	1.5	Appar Lewis Flax	1.5	Common Sunflower	1.0	Delar Small Burnet	1.5	Eski Sainfoin	1.0	Forage Kochia	1.0	TOTAL	16.0		
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TOTAL	16.0																					
PI	Fish and Wildlife Including Special Status Species other than FWS candidate or listed species, eg. Migratory birds.	The project area is within crucial winter habitat for deer and elk (Source: Utah Division of Wildlife Resources. 2004. Big Game Habitat Mapping). Effects on deer and elk include loss of winter forage in the grasslands portion of the project area. Effects on other wildlife species include loss of hunting/foraging habitats, impacts to breeding/nesting and/or hiding area, loss of thermal cover, and direct mortality of small or slow-moving wildlife that use the chained area and surrounding woodlands. These impacts are discussed further in Chapter 4.0 of the EA.	Larry Greenwood																			
PI	Soils/Watershed	The Proposed Action would result in direct impacts to soils including loss of topsoil and its productivity, soil compaction and sedimentation into the Sevier River watershed. These impacts are discussed further in Chapter 4.0 of the EA.	Brant Hallows																			
NI	Recreation	The proposed well pad and access road are located between approximately 3.5 and 4.5 miles southeast of the town of Sigurd, Utah. The project would involve road construction, upgrading of an existing access road, and construction of a well pad. These activities would not affect existing dispersed recreational opportunities in the area.	Tim Finger																			
NI	Visual Resources	The visual landscape would be affected by increased traffic, the construction and upgrading of roads and a well pad, the presence of construction, drilling, completion, and production equipment, and drill rig lighting during nighttime hours. The Proposed Action would be in compliance with the objectives of VRM Class IV, which comprises the project area..	Tim Finger																			
PI	Geology/Mineral Resources/Energy Production	In the vicinity of the project, exposed bedrock is Jurassic Arapien Shale and Tertiary volcanic rocks. The access road at the north end may cross outcrop of Arapien Shale and Quaternary alluvium, and the parent material for the alluvium would be material debris from the local bedrock. Most of the access and the well pad would be constructed in Tuff of Osiris (ash-flow tuff) and Andesite Breccias (mudflows) with interbedded volcanic sandstone and conglomerate, flows and flow breccias. (Source: Williams and	Michael Jackson																			

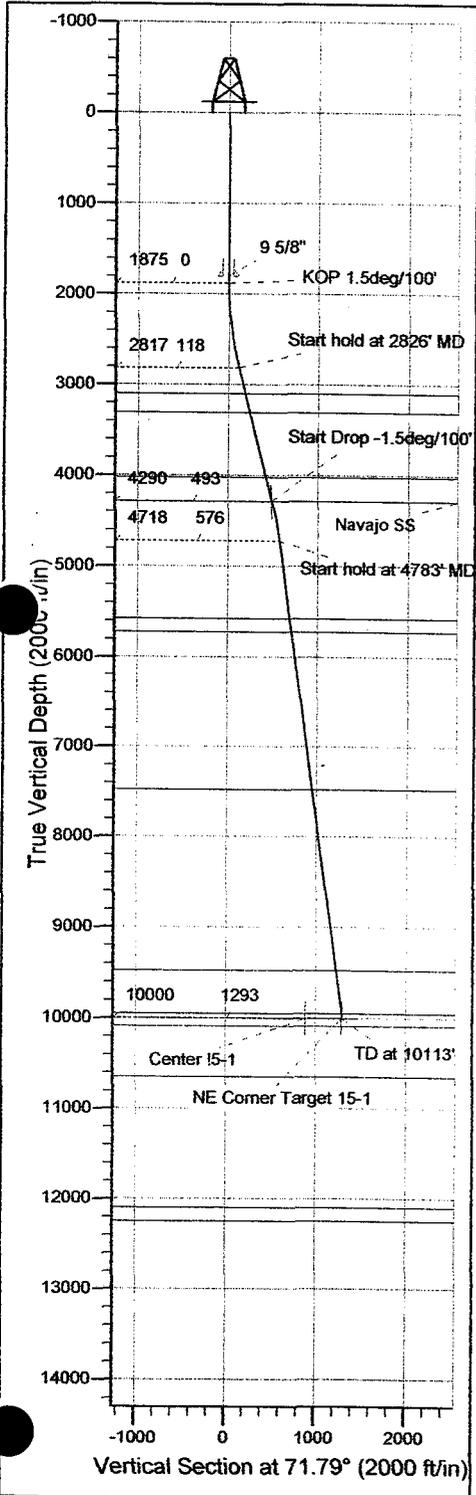
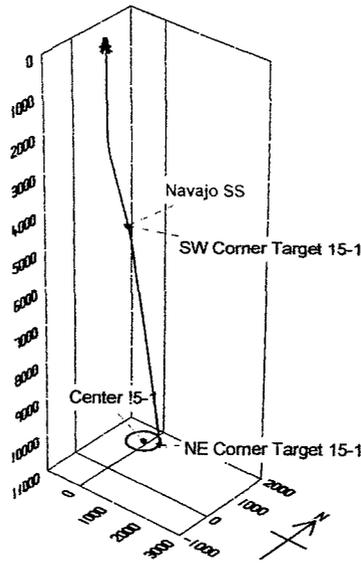
Determination	Resource	Rationale for Determination	Signature	Date
		<p><i>Hackman, 1971, Geology, structure, and uranium deposits of the Salina quadrangle, Utah: USGS, Map 1-591, scale 1:250,000).</i> Constructing roads in moderately consolidated volcanic deposits could be prone to mass movement, such as slumping, but with adequate design for run-off and infiltration of surface water, such construction would not pose an impact that normal engineering design cannot adequately control and mitigate the impact. The well pad would be constructed on relatively flat, level surface.</p> <p>A mining claim is properly recorded with BLM in T. 23 S., R. 1 W., Sec. 9, SE. The claimant has no authorized operations filed with the BLM, although casual use operations would be allowed. A claimant does not have an exclusive use of public land; therefore, there is no conflict at this time. If claim monuments (location and claim corners) are noted within the road corridor, then the monuments will need to be protected.</p> <p>An oil and gas lease, UTU-73528, and exploration unit, UTU-80800X, are present at Sec. 9 and 10, which are held by Wolverine Gas and Oil Company. A lease does not have a right to an exclusive use of public land, and there are no approved operations.</p> <p>Hidden Resources has a lease, UTU-81052, and Utah Great Eagle's proposed operations are subject to the lease terms.</p> <p>Utah Great Eagle has an approved NOI, UTU-79926, for geophysical operations for oil and gas exploration; operations were completed in 2006. The proposed lease operations would not be in conflict with the approved NOI.</p> <p>Impacts to ground water and the presence of hydrogen sulfide are considered in evaluating the drilling program. These potential impacts are addressed by assessing the mud program and casing program and by witnessing well operations as required by BLM policy. Impacts to surface water could result from spills, leaks and use of equipment. Such impacts would be mitigated by constructing an impermeable reserve pit, containment berms, diversion dikes, and clean up of any inadvertent spills or leaks.</p> <p>Drilling an exploratory well would provide information related subsurface stratigraphy and structure. Such information would benefit the applicant through exploration for oil and gas. Such information will eventually be public and would be a benefit to geologic interpretation of the area. If producible oil and gas in paying quantities is discovered, then the economic development of the mineral resources would benefit the lessee and would add to the national energy supply.</p> <p>The subsurface formations may contain salt or gypsum. Drilling in strata with possible salt or gypsum deposits are adequately addressed in the Drilling Program and the requirements for conformance with the regulations and onshore orders.</p>		
NI	Paleontology	<p>Vertebrate fossils are not known at the project site. The Arapien Shale could have marine fossils, but these are not anticipated. The Tertiary volcanic units are unknown to contain fossils. If the operation is subject to a mitigation to cease work and notify the AO, if fossils are discovered, then possible impacts would be mitigated.</p>	Michael Jackson	

Determination	Resource	Rationale for Determination	Signature	Date
NI	Lands/Access	As described, the proposed action would not affect access to public land. No roads providing access to public land would be closed on a long term basis. Any proposed project would be subject to valid prior existing rights and any associated activities would be coordinated with right-of-way (ROW) Holders and adjacent non-federal landowners. Off-lease ancillary facilities that cross public land, if any, may require a separate authorization. Existing ROW in proposed operation areas would not be affected because site specific mitigation applied would ensure that they would be avoided, restored or replaced. The described area is not located within an identified ROW corridor. Potential issues include but are not limited to surface disturbance within and outside described project areas and generated trash/.debris should be removed from public land and discarded at an authorized facility.	Nancy DeMille	
NI	Fuels/Fire Management	The Proposed Action would not affect BLM's fire management program.	Russ Ivie	
PI	Socio-economics	Drilling an exploration well could impact the local social structure and economy. For the short-term, land surveyors, landmen, construction crews, drilling crews, and logging crews would be involved during the drilling phase. Construction and drilling operations are expected to take about 60-90 days. This activity would lead to work crews lodging in local facilities with subsequent of expenditures in local markets. If the well is producible in paying quantities, the local social structure and economy could experience long-term impacts. These impacts could result in beneficial economic development, a need for additional infrastructure to provide goods and services to work forces, and possible changes to the economic and social base of the local community. Production could lead to additional exploration and development, increased oil and gas activities, additional employment, and royalties. Long term impacts could be in the range of 10-40 years.	Bert Hart	
NP	Wild Horses and Burros	None present (<i>Source: Bureau of Land Management (BLM). 2007. Utah Wild Horse Herd Management Areas Map</i>). No impacts.	Donna Albrecht	
NP	Wilderness Characteristics	The BLM has never conducted a wilderness inventory on these lands. The project is located an area largely burned over in a 1995 human-caused range fire. Following the fire, the former woodland area was largely chained over and reseeded with reclamation grasses. The proposed well is located approximately 1.5 miles from the Sevier County paved dump road and access to the well is provided by that road. Elements of naturalness and solitude are affected by the fire and reclamation efforts and the proximity to the dump road. Thus, there would be no impacts to wilderness characteristics as a result of the Proposed Action.	Tim Finger	

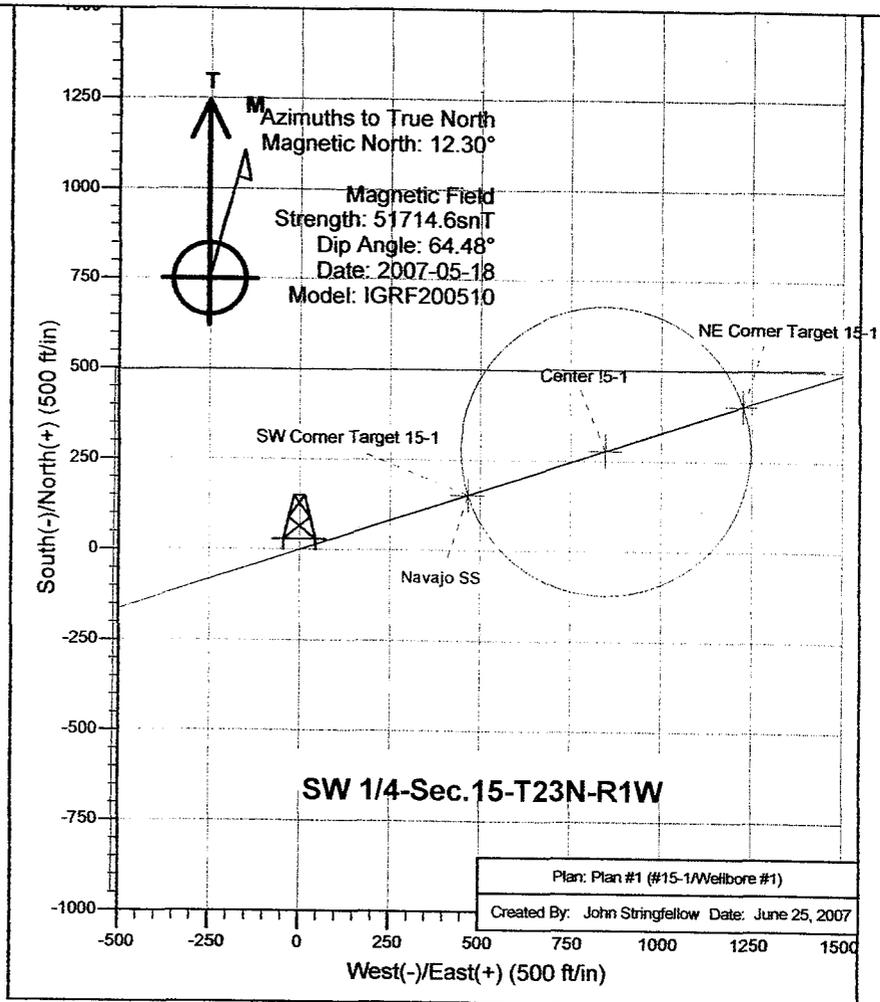
FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
NEPA / Environmental Coordinator			
Authorized Officer			

Utah Great Eagle
 Federal #15-1
 Sec. 15, T23S, R1W
 Sevier Co., Utah
 Lat.: 38°48'01".5890"N
 Long.: -111°54'13.9377"W
 Ground Elev. 6191'



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	Target
2	1800.0	0.00	0.00	1800.0	0.0	0.0	0.00	0.00	0.0	
3	1875.0	0.00	0.00	1875.0	0.0	0.0	0.00	0.00	0.0	
4	2826.5	14.27	71.79	2816.7	36.8	112.0	1.50	71.79	117.9	
5	4346.7	14.27	71.79	4290.0	154.0	468.0	0.00	492.7	575.9	SW Corner Target 15-1
6	4783.0	7.73	71.79	4718.1	180.0	547.1	1.50	180.00	575.9	
7	10113.4	7.73	71.79	10000.0	404.0	1228.0	0.00	0.00	1292.7	NE Corner Target 15-1





Utah Great Eagle

Sevier Co., Utah

Federal #15-1

#15-1

Wellbore #1

Plan: Plan #1

Standard Planning Report

25 June, 2007

Crescent Directional Drilling

Planning Report

Database: EDM 2003.16 Single User Db
Company: Utah Great Eagle
Project: Sevier Co., Utah
Site: Federal #15-1
Well: #15-1
Wellbore: Wellbore #1
Design: Plan #1

Local Co-ordinate Reference: Well #15-1
TVD Reference: WELL @ 6216.0ft (RKB Elev)
MD Reference: WELL @ 6216.0ft (RKB Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Project	Sevier Co., Utah		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Utah Central Zone		

Site	Federal #15-1				
Site Position:		Northing:	6,732,070.04 ft	Latitude:	38° 48' 1.589 N
From:	Lat/Long	Easting:	1,525,305.33 ft	Longitude:	111° 54' 13.938 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	-0.26 °

Well	#15-1					
Well Position	+N/-S	0.0 ft	Northing:	6,732,070.04 ft	Latitude:	38° 48' 1.589 N
	+E/-W	0.0 ft	Easting:	1,525,305.33 ft	Longitude:	111° 54' 13.938 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,191.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF200510	2007-05-18	(°)	(°)	(nT)
			12.30	64.48	51,715

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	71.79

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,875.0	0.00	0.00	1,875.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,826.5	14.27	71.79	2,816.7	36.8	112.0	1.50	1.50	0.00	71.79	
4,346.7	14.27	71.79	4,290.0	154.0	468.0	0.00	0.00	0.00	0.00	SW Corner Target
4,783.0	7.73	71.79	4,718.1	180.0	547.1	1.50	-1.50	0.00	180.00	
10,113.4	7.73	71.79	10,000.0	404.0	1,228.0	0.00	0.00	0.00	0.00	NE Corner Target 1

Crescent Directional Drilling

Planning Report

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Company: Utah Great Eagle
Project: Sevier Co., Utah
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Well: #15-1
Wellbore: Wellbore #1
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Local Co-ordinate Reference: Well #15-1
TVD Reference: WELL @ 6216.0ft (RKB Elev)
MD Reference: WELL @ 6216.0ft (RKB Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
9 5/8"										
1,875.0	0.00	0.00	1,875.0	0.0	0.0	0.0	0.00	0.00	0.00	
KOP 1.5deg/100'										
2,000.0	1.88	71.79	2,000.0	0.6	1.9	2.0	1.50	1.50	0.00	
2,500.0	9.38	71.79	2,497.2	15.9	48.5	51.0	1.50	1.50	0.00	
2,826.5	14.27	71.79	2,816.7	36.8	112.0	117.9	1.50	1.50	0.00	
Start hold at 2826' MD										
3,000.0	14.27	71.79	2,984.8	50.2	152.6	160.7	0.00	0.00	0.00	
3,120.9	14.27	71.79	3,102.0	59.5	180.9	190.5	0.00	0.00	0.00	
Juurassic Arapien										
3,338.6	14.27	71.79	3,313.0	76.3	231.9	244.2	0.00	0.00	0.00	
Arapien										
3,500.0	14.27	71.79	3,469.4	88.7	269.7	283.9	0.00	0.00	0.00	
4,000.0	14.27	71.79	3,954.0	127.3	386.8	407.2	0.00	0.00	0.00	
4,071.2	14.27	71.79	4,023.0	132.8	403.5	424.8	0.00	0.00	0.00	
Twin Creek LS										
4,346.7	14.27	71.79	4,290.0	154.0	468.0	492.7	0.00	0.00	0.00	
Start Drop -1.5deg/100' - Navajo SS - SW Corner Target 15-1										
4,500.0	11.97	71.79	4,439.3	164.9	501.1	527.5	1.50	-1.50	0.00	
4,783.0	7.73	71.79	4,718.0	180.0	547.1	575.9	1.50	-1.50	0.00	
Start hold at 4783' MD										
5,000.0	7.73	71.79	4,933.0	189.1	574.8	605.1	0.00	0.00	0.00	
5,500.0	7.73	71.79	5,428.5	210.1	638.6	672.3	0.00	0.00	0.00	
5,649.9	7.73	71.79	5,577.0	216.4	657.8	692.5	0.00	0.00	0.00	
Triassic Kayenta										
5,797.2	7.73	71.79	5,723.0	222.6	676.6	712.3	0.00	0.00	0.00	
Wingate										
6,000.0	7.73	71.79	5,924.0	231.1	702.5	739.6	0.00	0.00	0.00	
6,500.0	7.73	71.79	6,419.4	252.1	766.4	806.8	0.00	0.00	0.00	
7,000.0	7.73	71.79	6,914.9	273.1	830.3	874.0	0.00	0.00	0.00	
7,500.0	7.73	71.79	7,410.3	294.2	894.1	941.3	0.00	0.00	0.00	
7,567.3	7.73	71.79	7,477.0	297.0	902.7	950.3	0.00	0.00	0.00	
Sinbad LS										
8,000.0	7.73	71.79	7,905.8	315.2	958.0	1,008.5	0.00	0.00	0.00	
8,500.0	7.73	71.79	8,401.3	336.2	1,021.9	1,075.8	0.00	0.00	0.00	
9,000.0	7.73	71.79	8,896.7	357.2	1,085.7	1,143.0	0.00	0.00	0.00	
9,500.0	7.73	71.79	9,392.2	378.2	1,149.6	1,210.2	0.00	0.00	0.00	
9,585.6	7.73	71.79	9,477.0	381.8	1,160.6	1,221.7	0.00	0.00	0.00	
Permian Kaibab LS										
10,000.0	7.73	71.79	9,887.6	399.2	1,213.5	1,277.5	0.00	0.00	0.00	
10,059.6	7.73	71.79	9,946.7	401.7	1,221.1	1,285.5	0.00	0.00	0.00	
Center 15-1										
10,062.9	7.73	71.79	9,950.0	401.9	1,221.5	1,285.9	0.00	0.00	0.00	
White Rim SS										
10,113.4	7.73	71.79	10,000.0	404.0	1,228.0	1,292.7	0.00	0.00	0.00	
TD at 10113' - NE Corner Target 15-1										

Crescent Directional Drilling

Planning Report

Database: EDM 2003.16 Single User Db
Company: Utah Great Eagle
Project: Sevier Co., Utah
Site: Federal #15-1
Well: #15-1
Wellbore: Wellbore #1
Design: Plan #1

Local Co-ordinate Reference: Well #15-1
TVD Reference: WELL @ 6216.0ft (RKB Elev)
MD Reference: WELL @ 6216.0ft (RKB Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Center 15-1 - hit/miss target - Shape	0.00	0.00	10,000.0	279.0	848.0	6,732,345.18	1,526,154.60	38° 48' 4.346 N	111° 54' 3.227 W
- plan misses by 396.4ft at 10059.6ft MD (9946.7 TVD, 401.7 N, 1221.1 E) - Circle (radius 400.0)									
NE Corner Target 15- - plan hits target - Point	0.00	0.00	10,000.0	404.0	1,228.0	6,732,468.47	1,526,535.12	38° 48' 5.581 N	111° 53' 58.427 W
SW Corner Target 15- - plan hits target - Point	0.00	0.00	4,290.0	154.0	468.0	6,732,221.91	1,525,774.04	38° 48' 3.111 N	111° 54' 8.026 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,800.0	1,800.0	9 5/8"	9-5/8	12-1/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
9,585.6	9,477.0	Permian Kaibab LS		0.00	
10,062.9	9,950.0	White Rim SS		0.00	
5,797.2	5,723.0	Wingate		0.00	
	12,250.0	TD		0.00	
	10,648.0	Cedar Mesa		0.00	
4,071.2	4,023.0	Twin Creek LS		0.00	
	10,090.0	Toroweap		0.00	
3,120.9	3,102.0	Juurassic Arapien		0.00	
7,567.3	7,477.0	Sinbad LS		0.00	
5,649.9	5,577.0	Triassic Kayenta		0.00	
	12,100.0	Elephany Canyon		0.00	
3,338.6	3,313.0	Arapien		0.00	
4,346.7	4,290.0	Navajo SS		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,875.0	1,875.0	0.0	0.0	KOP 1.5deg/100'
2,826.5	2,816.7	0.0	0.0	Start hold at 2826' MD
4,346.7	4,290.0	36.8	112.0	Start Drop -1.5deg/100'
4,783.0	4,718.1	154.0	468.0	Start hold at 4783' MD
10,113.4	10,000.0	180.0	547.1	TD at 10113'

PRESSURE CONTROL SYSTEM SCHEMATIC

Prepared by:
 EXACT Engineering, Inc
 Tulsa, OK (918) 599-9400

Operator:

Utah Great Eagle

Well name and number

Federal 15-1

5M BOP Stack -- to be utilized while drilling holes for protective and production casings thru lower Arapien, Twin Creek & Navajo & below intervals

Max. anticipated surface pressure 5000 psi

Annular B.O.P. 13-5/8" - 5M WP

B.O.P. pipe Rams 13-5/8" - 5M W.P.
 (Pipe/Blind)

Check Valve 2" 5M WP

Valve 2" 5M WP

Valve 2" 5M WP

B.O.P. blind Rams 11 - 5M W.P.
 (Pipe/Blind)

Valve 3" 5M WP

Valve 3" 5M WP

Kill Line Manifold

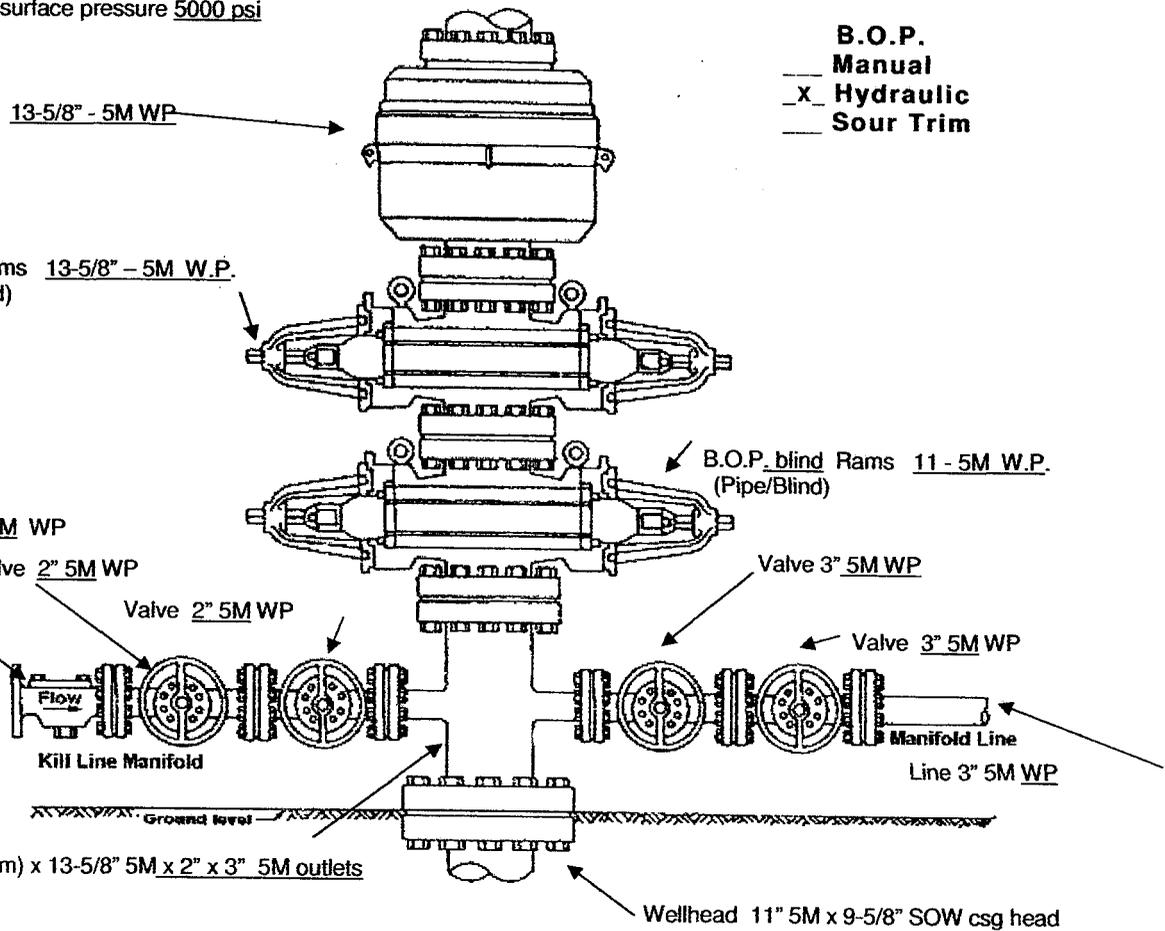
Manifold Line
 Line 3" 5M WP

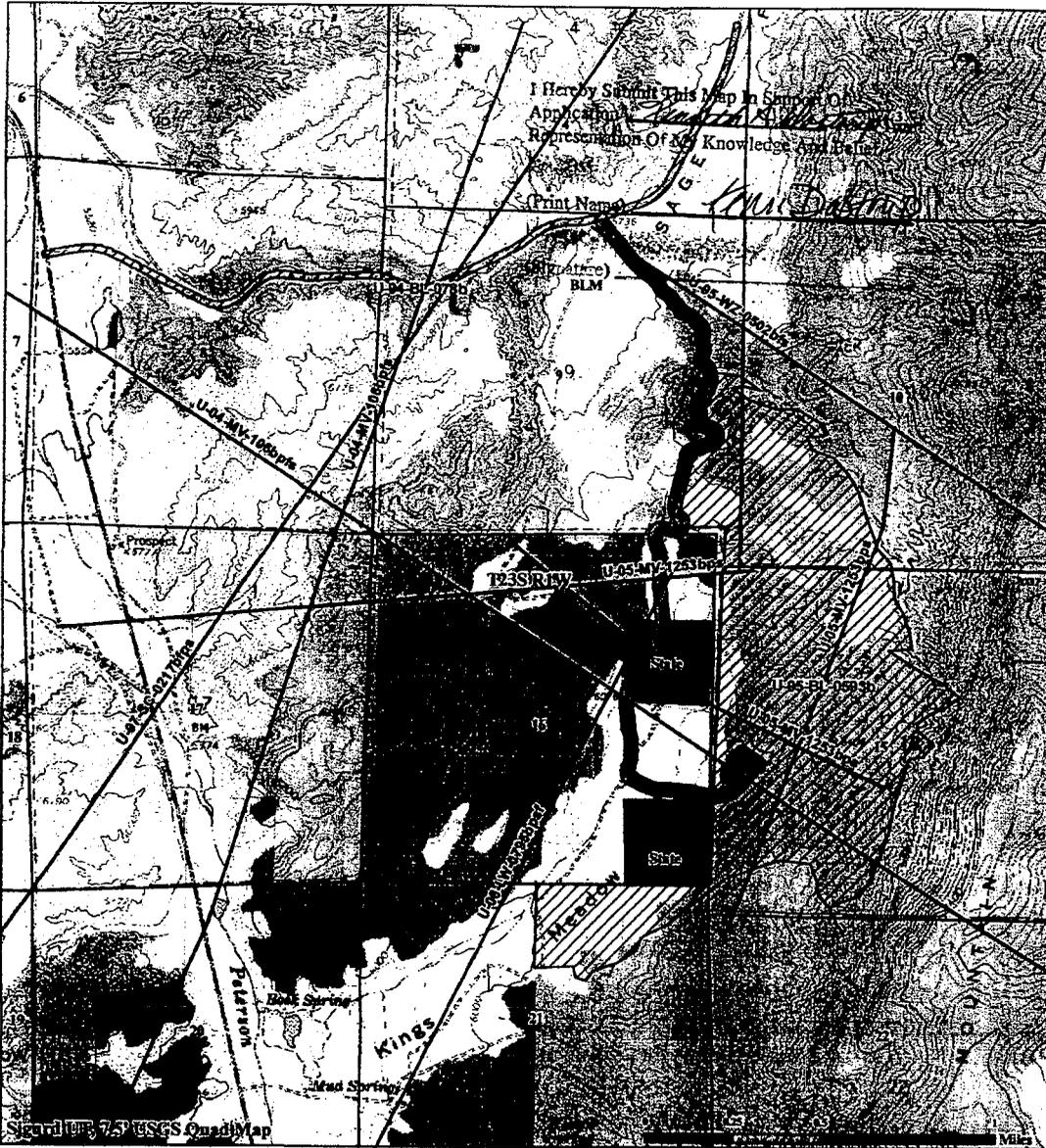
Ground level

Spool 11" 5M (btm) x 13-5/8" 5M x 2" x 3" 5M outlets

Wellhead 11" 5M x 9-5/8" SOW csg head

B.O.P.
 ___ Manual
X Hydraulic
 ___ Sour Trim





I hereby Submit this Map in Support of
 Application for *Utah Great Eagle LLC*
 Representation of My Knowledge and Belief
 (Print Name) *Lynn D. ...*

Legend	
	Previous Project Lines
	Previous Projects
	Current Survey
	Pad
	BLM
	DOD
	WATER
	NPS
	PRIVATE
	STATE
	TRIBAL
	USFS
	USFWS

1:24,000
 Projection: UTM
 NAD 83 Zone 12

Utah Great Eagle LLC	
Federal 15-1	
 WESTERN LAND SERVICES Richfield, UT 84701 (435) 896-5501	
CONFIDENTIAL	
Prepared By: DTJ	Date: May 23, 2007



JON M. HUNTSMAN, JR.
Governor
GARY R. HERBERT
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES
Division of Water Rights

MICHAEL R. STYLER
Executive Director

JERRY D. OLDS
State Engineer/Division Director

ORDER OF THE STATE ENGINEER

For Temporary Change Application Number 63-2529 (t33097)

Temporary Change Application Number 63-2529 (t33097) in the name of Kings Meadow Ranches LLC was filed on June 18, 2007, to change the place of use and change the nature of use of 13.443 acre-feet of water as evidenced by Water Right Number 63-2529. Heretofore, the water has been diverted from a surface source located South 1011 feet and East 1711 feet from the NW Corner of Section 28, T23S, R1W, SLB&M. The water has been used for the irrigation of 4.481 acres from April 1 to October 31. The water was used in all or portion(s) of Section 18, T23S, R1W, SLB&M.

Hereafter, it is proposed to divert 13.443 acre-feet of water from the same point as heretofore. The nature of use of the water is being changed to other purposes. The water is to be used for oil exploration (Oil drilling). The place of use of the water is being changed to all or portion(s) of Section 15, T24S, R2W, SLB&M.

Notice of this temporary change application was not published in a newspaper. It is the opinion of the State Engineer that it meets the criteria of Section 73-3-3 of the Utah Code for the approval of temporary change applications.

Review has been made of the proposed changes and the underlying right. It is the opinion of the State Engineer that this application can be approved without adversely affecting prior rights provided certain conditions are imposed.

It is, therefore, **ORDERED** and Temporary Change Application Number 63-2529 (t33097) is hereby **APPROVED** subject to prior rights and with the following conditions:

- 1) The amount of water diverted by the applicant from the well shall be limited to 13.443 acre-feet annually.
- 2) To accommodate the use approved under this application, the diversion of 13.443 acre-feet of water from the historic diversion for the irrigation of 4.481 acres shall cease.

This temporary change application shall expire one year from the date hereof.

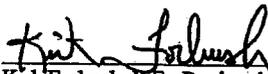
It is the applicant's responsibility to maintain a current address with this office and to update ownership of their water right. Please notify this office immediately of any change of address or for assistance in updating ownership.

ORDER OF THE STATE ENGINEER
Temporary Change Application Number
63-2529 (t33097)
Page 2

Your contact with this office, should you need it, is with the Sevier River/Southern Regional Office. The telephone number is 435-896-4429.

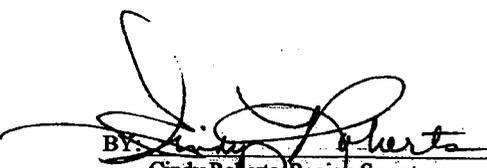
This Order is subject to the provisions of Administrative Rule R655-6-17 of the Division of Water Rights and to Sections 63-46b-13 and 73-3-14 of the Utah Code which provide for filing either a Request for Reconsideration with the State Engineer or an appeal with the appropriate District Court. A Request for Reconsideration must be filed with the State Engineer within 20 days of the date of this Order. However, a Request for Reconsideration is not a prerequisite to filing a court appeal. A court appeal must be filed within 30 days after the date of this Order, or if a Request for Reconsideration has been filed, within 30 days after the date the Request for Reconsideration is denied. A Request for Reconsideration is considered denied when no action is taken 20 days after the Request is filed.

Dated this 19 day of June, 2007.


Kirk Forbush, P.E., Regional Engineer

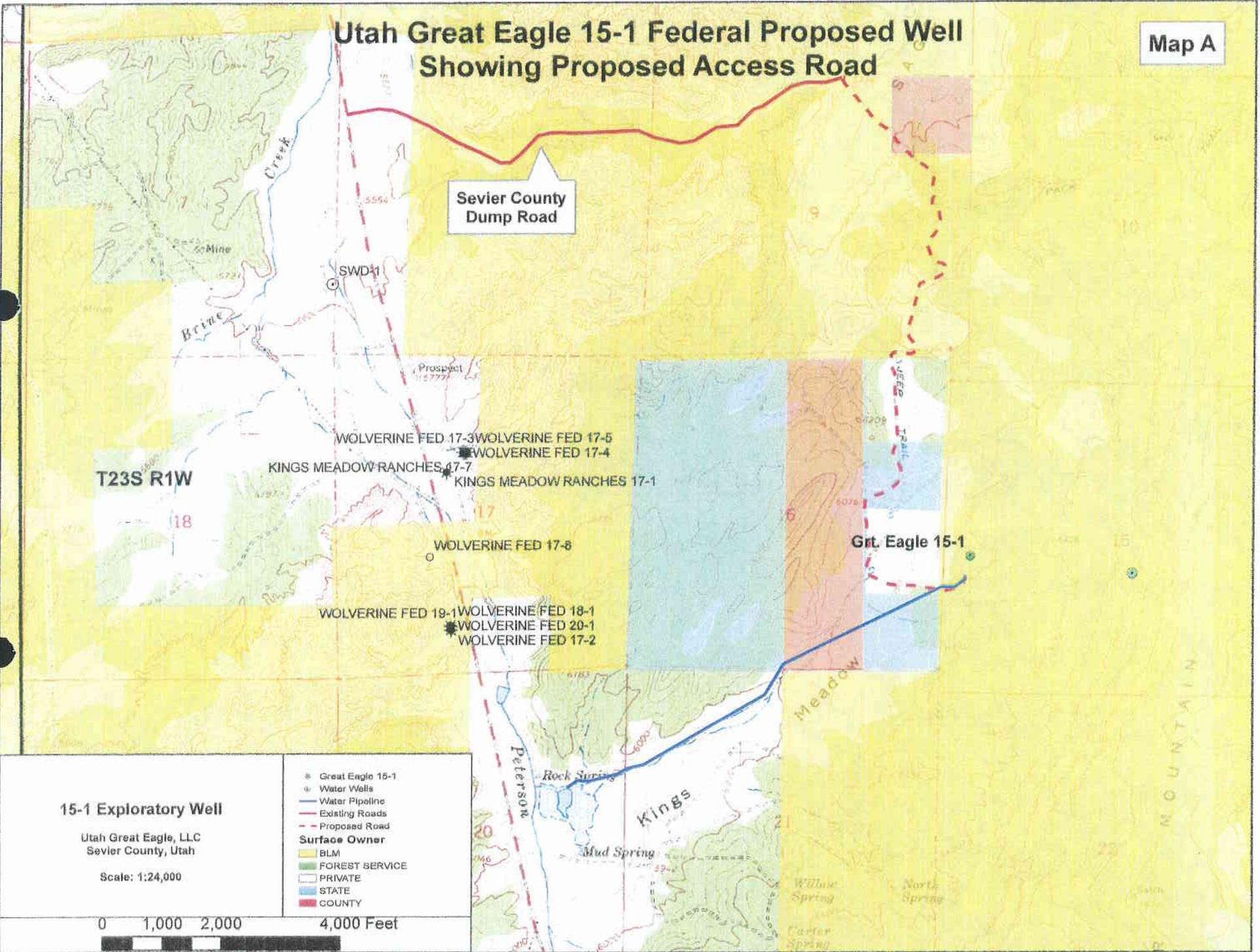
Mailed a copy of the foregoing Order this 19th day of June, 2007 to:

Kings Meadow Ranches LLC
P.O. Box 570125
Kings Meadow Road.
Sigurd, Utah 84657


BY: Cindy Roberts
Cindy Roberts, Region Secretary

Utah Great Eagle 15-1 Federal Proposed Well Showing Proposed Access Road

Map A



Sevier County
Dump Road

T23S R1W

WOLVERINE FED 17-3 WOLVERINE FED 17-5
WOLVERINE FED 17-4
KINGS MEADOW RANCHES 17-7
KINGS MEADOW RANCHES 17-1

WOLVERINE FED 17-8

Grt. Eagle 15-1

WOLVERINE FED 19-1 WOLVERINE FED 18-1
WOLVERINE FED 20-1
WOLVERINE FED 17-2

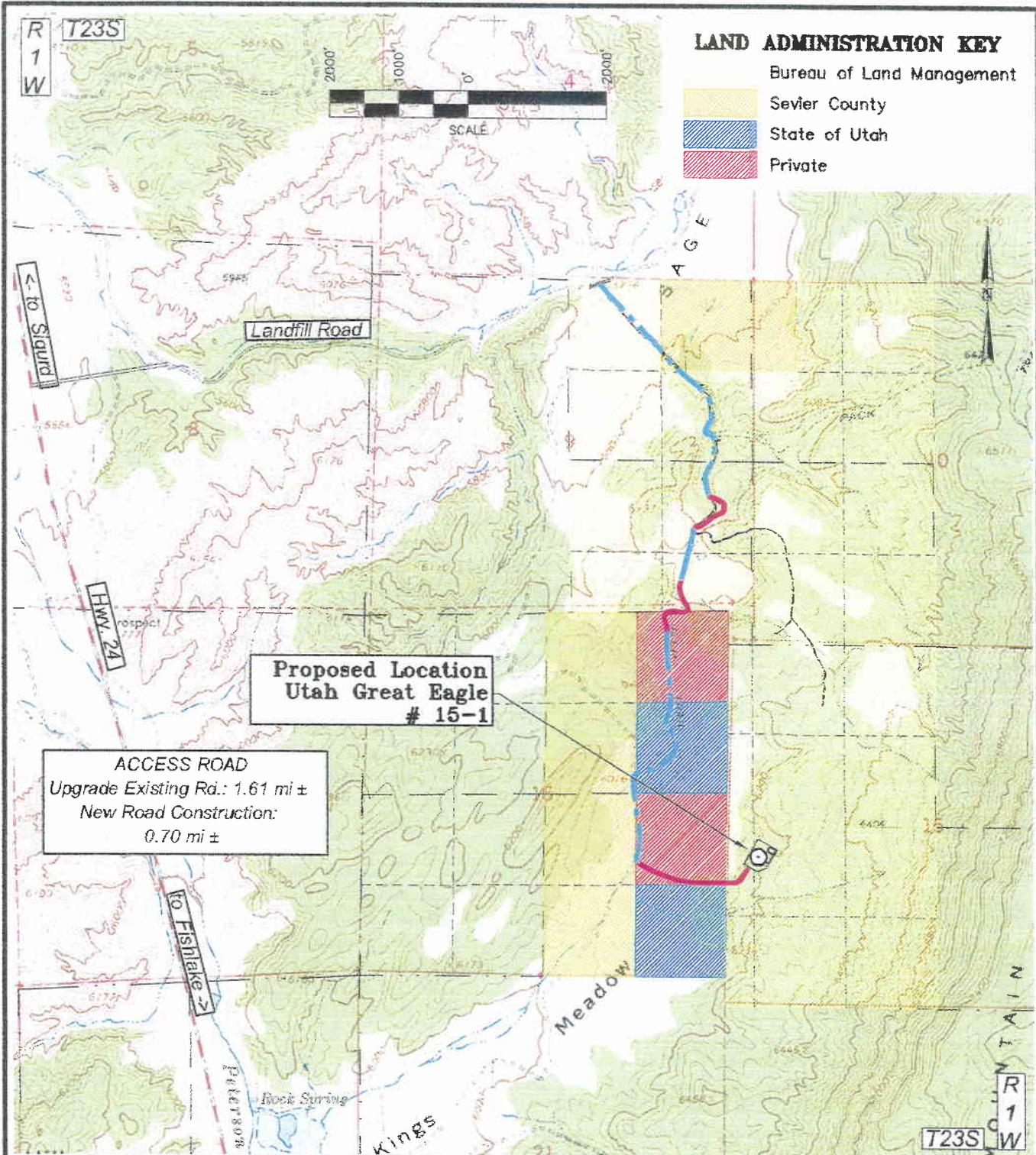
15-1 Exploratory Well

Utah Great Eagle, LLC
Sevier County, Utah

Scale: 1:24,000

- Great Eagle 15-1
- Water Wells
- Water Pipeline
- Existing Roads
- - - Proposed Road
- Surface Owner**
- BLM
- FOREST SERVICE
- PRIVATE
- STATE
- COUNTY

0 1,000 2,000 4,000 Feet



LAND ADMINISTRATION KEY

- Bureau of Land Management
- Sevier County
- State of Utah
- Private

**Proposed Location
Utah Great Eagle
15-1**

ACCESS ROAD
Upgrade Existing Rd.: 1.61 mi ±
New Road Construction:
0.70 mi ±

LEGEND

- PROPOSED LOCATION
- EXISTING ROAD
- NEEDING UPGRADE
- NEW ROAD CONST.

Utah Great Eagle
Section 15, T.23 S., R.1 W., S.L.B. & M.
486' FWL 2187' FSL

Utah Great Eagle

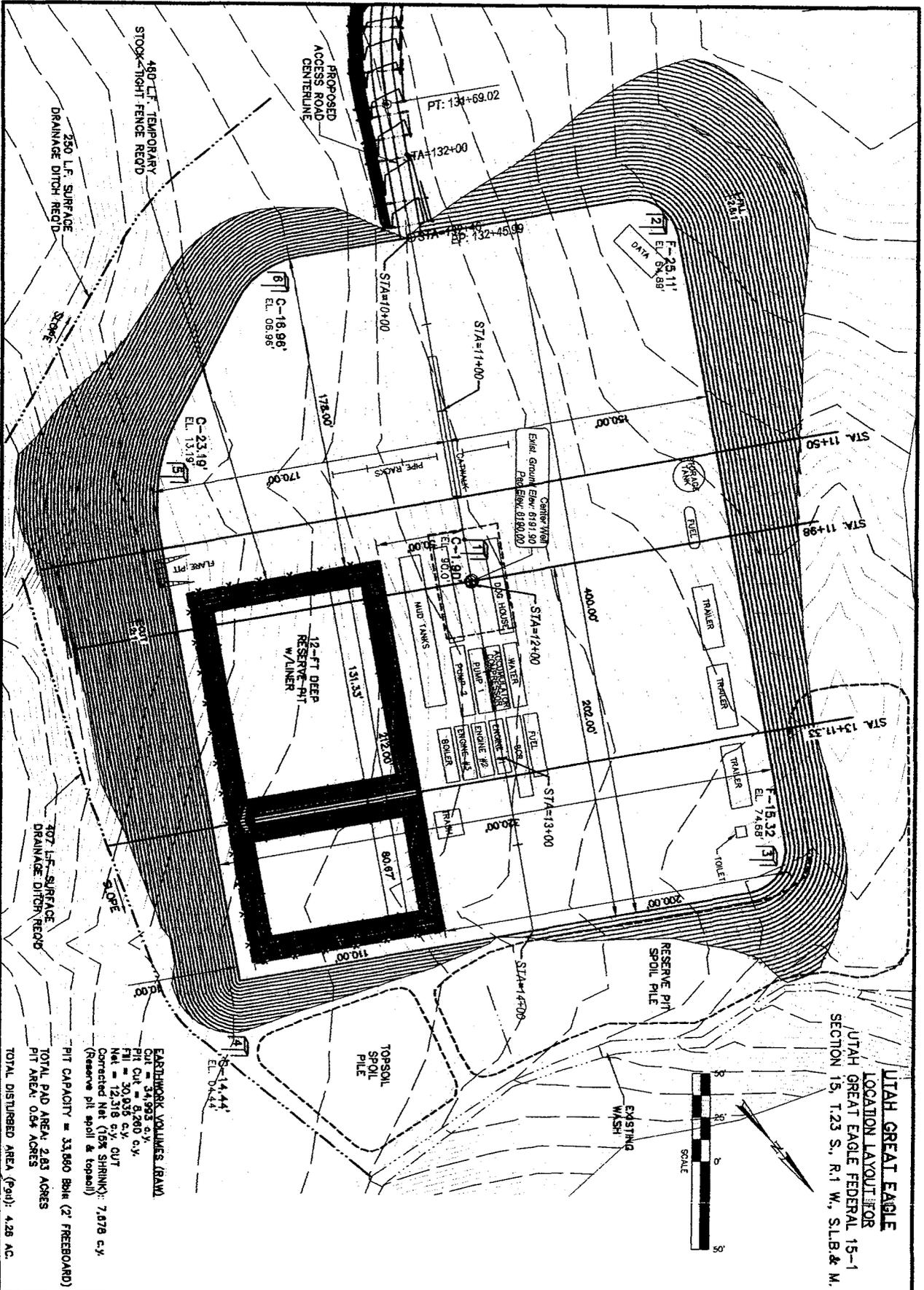
Federal #15-1

Vicinity Map

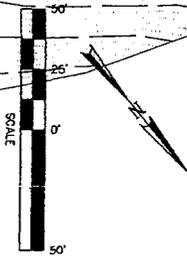


Jones & DeMille Engineering
1535 South 100 West - Richfield, Utah 84701
(435) 896-8266 Phone
(435) 896-8268 Fax
www.jonesanddemille.com

SCALE: 1"=2000'	ENG.: D.H.R.	PROJ.#: 0701-199
DATE: 03/02/07	DWG.BY: T.R.G.	DWG.NAME: vicinity



UTAH GREAT EAGLE
LOCATION LAYOUT FOR
UTAH GREAT EAGLE FEDERAL 15-1
SECTION 15, T23 S, R1 W, S1B & M.



EASTWORK VOLUMES (BAW)
 CUT = 34,993 c.y.
 PIT CUT = 6,260 c.y.
 FILL = 30,935 c.y.
 Net = 12,518 c.y. CUT
 Corrected Net (15% SHRINK): 7,678 c.y.
 (Reserve pit spoil & topsoil)

PIT CAPACITY = 33,980 Bbl (2' FREEBOARD)

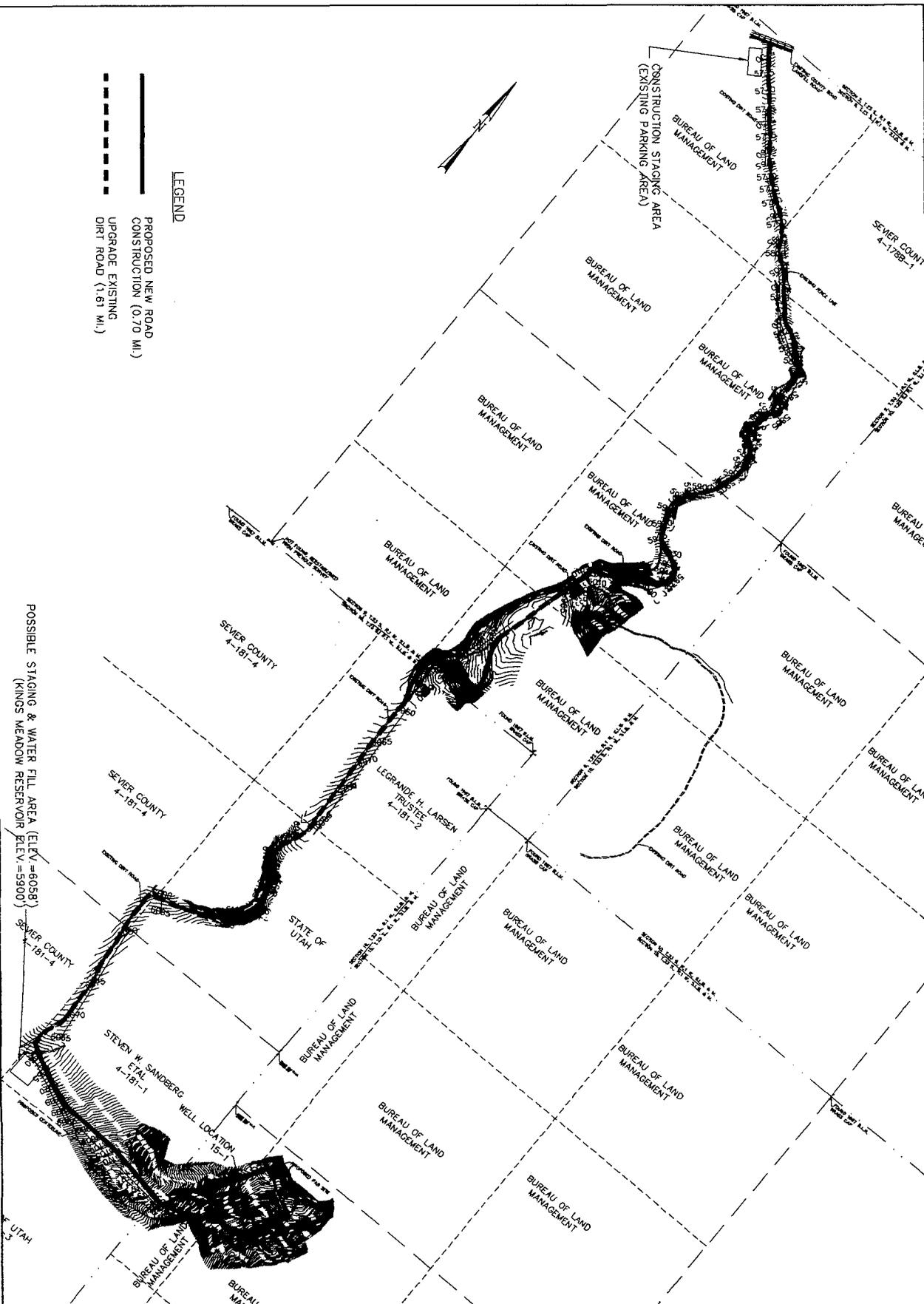
TOTAL PAD AREA: 2.83 ACRES
PIT AREA: 0.59 ACRES
TOTAL DISTURBED AREA (PAD): 4.28 AC.

Utah Great Eagle Federal 15-1		Jones & DeMille Engineering		DATE: 05-07		REVISION: 01		SCALE: 1:50		DWG NAME: 0701-199		DWG CREATED: 05/23/2007		LAST UPDATE: 5/23/2007	
WELL & ACCESS PAD		1500 South 1000 West - P.O. Box 1000, Salt Lake City, UT 84143		KJ		CJ		1:50		0701-199		05/23/2007		5/23/2007	
WELL PAD SITE PLAN		Phone: (801) 966-2700 Fax: (801) 966-2004		KJ		CJ		1:50		0701-199		05/23/2007		5/23/2007	
PROJECT NUMBER: 0701-199		www.jonesanddemille.com		KJ		CJ		1:50		0701-199		05/23/2007		5/23/2007	
SEWER		SHEET NO. SP-01		KJ		CJ		1:50		0701-199		05/23/2007		5/23/2007	

LEGEND

— PROPOSED NEW ROAD CONSTRUCTION (0.70 MI.)

- - - UPGRADE EXISTING DIRT ROAD (1.61 MI.)



POSSIBLE STAGING & WATER FILL AREA (ELEV. = 8058)
(KINGS MEADOW RESERVOIR (ELEV. = 5300))

Sewier COUNTY EX-1-1	Utah Great Eagle		Jones & DeMille Engineering 1533 South 110 West - Henrieville, Utah 84701 Phone: (435) 887-8286 Fax: (435) 884-8288 www.jonesanddemille.com						
	Federal 15-1 Location & Access				REVIEW				REMARKS
	PROPERTY OWNERSHIP MAP		DATE: 04-07	DATE:	SCALE: 1"=600'		DWG NAME: 0701-199		DATE CREATED: 04/25/2007
PROJECT NUMBER: 0701-199		DATE:		DATE:		DATE:		DATE:	
						ORIGINAL SUBMISSION FOR AUTHORIZATION REVISIONS SHY SET: 0/01/2007		LAST UPDATE: 8/29/2007	

**WORKSHEET
APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 07/17/2007

API NO. ASSIGNED: 43-041-30048

WELL NAME: UT GREAT EAGLE FED 15-1
 OPERATOR: UTAH GREAT EAGLE, LLC (N3195)
 CONTACT: ROCKY TERRY

PHONE NUMBER: 907-339-7214

PROPOSED LOCATION:

NWSW 15 230S 010W
 SURFACE: 2187 FSL 0486 FWL
 BOTTOM: 2591 FSL 1714 FWL
 COUNTY: SEVIER
 LATITUDE: 38.80097 LONGITUDE: -111.9023
 UTM SURF EASTINGS: 421652 NORTHINGS: 4294869
 FIELD NAME: WILDCAT (1)

INSPECT LOCATN BY: / /		
Tech Review	Initials	Date
Engineering		
Geology		
Surface		

LEASE TYPE: 1 - Federal
 LEASE NUMBER: UTU81052
 SURFACE OWNER: 1 - Federal

PROPOSED FORMATION: NAVA
 COALBED METHANE WELL? NO

RECEIVED AND/OR REVIEWED:

- Plat
- Bond: Fed[1] Ind[] Sta[] Fee[]
(No. 023-006-630)
- Potash (Y/N)
- Oil Shale 190-5 (B) or 190-3 or 190-13
- Water Permit
(No. 63-2529)
- RDCC Review (Y/N)
(Date: _____)
- Fee Surf Agreement (Y/N)
- Intent to Commingle (Y/N)

LOCATION AND SITING:

- _____ R649-2-3.
- Unit: _____
- _____ R649-3-2. General
- Siting: 460 From Qtr/Qtr & 920' Between Wells
- _____ R649-3-3. Exception
- _____ Drilling Unit
- Board Cause No: _____
- Eff Date: _____
- Siting: _____
- R649-3-11. Directional Drill

COMMENTS: _____

STIPULATIONS: _____

*1- Federal Approval
2- Spacing Strip*

9

10

T23S R1W

16

UT GREAT
EAGLE FED 15-1

BHL
15-1

15

OPERATOR: UT GREAT EAGLE (N3195)

SEC: 15 T.23S R. 1W

FIELD: WILDCAT (001)

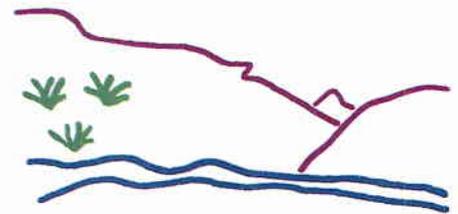
COUNTY: SEVIER

SPACING: R649-3-11 / DIRECTIONAL DRILLING

- Field Status**
- ABANDONED
 - ACTIVE
 - COMBINED
 - INACTIVE
 - PROPOSED
 - STORAGE
 - TERMINATED

- Unit Status**
- EXPLORATORY
 - GAS STORAGE
 - NF PP OIL
 - NF SECONDARY
 - PENDING
 - PI OIL
 - PP GAS
 - PP GEOTHERML
 - PP OIL
 - SECONDARY
 - TERMINATED

- Wells Status**
- GAS INJECTION
 - GAS STORAGE
 - LOCATION ABANDONED
 - NEW LOCATION
 - PLUGGED & ABANDONED
 - PRODUCING GAS
 - PRODUCING OIL
 - SHUT-IN GAS
 - SHUT-IN OIL
 - TEMP. ABANDONED
 - TEST WELL
 - WATER INJECTION
 - WATER SUPPLY
 - WATER DISPOSAL
 - DRILLING



Utah Oil Gas and Mining



PREPARED BY: DIANA MASON
DATE: 23-JULY-2007



JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil Gas and Mining

JOHN R. BAZA
Division Director

July 23, 2007

Utah Great Eagle, LLC
301 W Northern Lights Blvd. #410
Anchorage, AK 99509

Re: Utah Great Eagle Federal 15-1 Well, Surface Location 2187' FSL, 486' FWL, NW SW, Sec. 15, T. 23 South, R. 1 West, Bottom Location 2591' FSL, 1714' FWL, NW SW, Sec. 15, T. 23 South, R. 1 West, Sevier County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. § 40-6-1 *et seq.*, Utah Administrative Code R649-3-1 *et seq.*, and the attached Conditions of Approval, approval to drill the referenced well is granted.

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. The API identification number assigned to this well is 43-041-30048.

Sincerely,

Gil Hunt
Associate Director

pab
Enclosures

cc: Sevier County Assessor
Bureau of Land Management, Utah State Office



Operator: Utah Great Eagle, LLC
Well Name & Number Utah Great Eagle Federal 15-1
API Number: 43-041-30048
Lease: UTU81052

Surface Location: NW SW Sec. 15 T. 23 South R. 1 West
Bottom Location: NW SW Sec. 15 T. 23 South R. 1 West

Conditions of Approval

1. 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.

2. Notification Requirements

Notify the Division within 24 hours of spudding the well.

- Contact Carol Daniels at (801) 538-5284

Notify the Division prior to commencing operations to plug and abandon the well.

- Contact Dustin Doucet at (801) 538-5281 (801) 733-0983 home

3. Reporting Requirements

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

4. State approval of this well does not supersede the required federal approval, which must be obtained prior to drilling.
5. 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.
6. 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.

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: Utah Great Eagle, LLC

Well Name: UT Great Eagle Fed 15-1

API No: 43-041-30048 Lease Type: Federal

Section 15 Township 23S Range 01W County Sevier

Drilling Contractor Pete Martin Rig # Bucket

SPUDDED:

Date 5-16-08

Time _____

How Dry

Drilling will Commence: _____

Reported by Steve Hash

Telephone # _____

Date 5-16-08 Signed RM

CONFIDENTIAL

From: "Steve Hash" <SteveHash@exactengineering.com>
To: <al_mckee@blm.gov>, <dustindoucet@utah.gov>
Date: 5/16/2008 8:09 AM
Subject: Utah Great Eagle; Federal 15-1 spud notice; API# 43-041-30048 T 235 R 01 W S-15

CC: <markjones@utah.gov>, <rigsite04@exactengineering.com>, <marco077@gmail.com>

Gentlemen, We expect to move in Pete Martin Drilling today and set ~100' of 24 inch conductor casing tomorrow 5/17/2008. SST Rig#58 will begin moving in early next week. Please maintain ALL information on this exploratory well as confidential. The rig phone no will be 435-979-5777.

Directions: 2.5 mi south of Sigurd on SH 24, then left onto county landfill blacktop 1.7 mi, then right (south) 2.3 mi to location. Thank you

Steve

Steven R. Hash, P.E.

EXACT Engineering, Inc.

20 E 5th St, Suite 310

Tulsa, OK 74103

office (918) 599-9400 office fax (918) 599-9401

cell (918) 629-9801 mobile fax (918) 526-3861

stevehash@exactengineering.com

www.exactengineering.com

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MAY 16 2008
DIV. OF OIL, GAS & MINING

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

FORM 6

ENTITY ACTION FORM

Operator: Utah Great Eagle, LLC Operator Account Number: N 3195
Address: 301 W Northern Lights Blvd #410
city Anchorage
state AL zip 99503 Phone Number: (907) 339-7214

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304130048	Utah Great Eagle Federal 15-1		NWSW	15	23S	1W	Sevier
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
A	99999	16927	5/16/2008		6/19/08		
Comments: <u>BHL --- NE SW Sec 15 T23S R1W Sevier Co</u> <i>NAVA</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)

Steven R Hash - Consulting Engineer

Name (Please Print)

Steven R. Hash

Signature

EXACT (918) 599-9400

5/27/2008

Title

Date

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DIV. OF OIL, GAS & MINING

UTAH DIVISION OF OIL, GAS AND MINING

NOTICE OF REPORTING PROBLEMS

Operator: Utah Great Eagle, LLC Account: N3195 Today's Date: 10/23/2008

Problems:

- Late Report(s)
- Inaccurate Report(s)
- Incomplete Report(s)
- Other: _____

Failure to submit reports in a timely, accurate, and complete manner may result in the issuance of a Notice of Violation by the Division of Oil, Gas and Mining, and may result in the Division pursuing enforcement action as outlined in Rule R649-10, Administrative Procedures, and Section 40-6-11 of the Utah Code.

To avoid compliance action, these reporting problems should be resolved within 7 days.

Send reports to:

Utah Division of Oil, Gas and Mining
 1594 West North Temple, Suite 1210
 P.O. Box 145801
 Salt Lake City, Utah 84114-5801

Fax to:

(801) 359-3940

15 235 1w

Type of Report	Month(s) of Problem Report		
<input type="checkbox"/> Production – Form 10 <input type="checkbox"/> Disposition – Form 11 <input type="checkbox"/> Gas Plant – Form 13 <input type="checkbox"/> Enhanced Recovery – UIC Form 2 <input type="checkbox"/> Injection – UIC Form 3 <input type="checkbox"/> Other _____			
Type of Report	Well Name(s)	API Number(s)	Drilling Commenced
<input type="checkbox"/> Spud Notice – Form 9 <input checked="" type="checkbox"/> Drilling Reports – Form 9 <input type="checkbox"/> Well Completion Report – Form 8 <input type="checkbox"/> Other _____	UT Great Eagle Fed 15-1 <input checked="" type="checkbox"/> List Attached	4304130048	05/16/2008

Description of Problem:

Per R649-3-6 2.4 The operator shall submit a monthly status report for each drilling well on Form 9, Sundry Notice and Reports on Wells. The report should include the well depth and a description of the operations conducted on the well during the month.

If you have questions or concerns regarding this matter, please contact Rachel Medina at (801) 538-5260 .

cc: Compliance File
 RAM
 Well File
 CHD

43-041-30048
15 23s 1W

EXACT Engineering, Inc.

20 East Fifth St., Suite 310, Tulsa, OK 74103

www.exactengineering.com

(918) 599-9400 • (918) 599-9401 (fax)

Steven R. Hash, P.E.
Registered Professional Engineer
stevehash@exactengineering.com

June 22, 2008

CONFIDENTIAL **CONFIDENTIAL**

Mr. Al McKee
Bureau of Land Management
Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155

Mr. Dustin Doucet
Utah Division of Oil, Gas & Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

Re: Drilling Update #1 – Utah Great Eagle Federal 15-1 (Wildcat)
Sec 15 T23S R01W
Sevier Co, UT
API# 43-041-30048

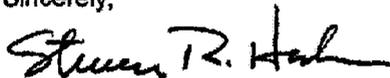
Gentlemen,

On behalf of Utah Great Eagle, LLC, please note that conductor casing hole was spud on May 16, 2008 and subsequently 67 feet of 24 inch conductor casing was set below ground level and grouted to surface with redi-mix cement. SST Rig #58 was moved in and drilling of the 17-1/2" hole commenced on June 4, 2008. Loosely consolidated surface rock material, boulders and other loose granular material made drilling the surface hole especially difficult. During this process, a 20 inch casing sleeve was suspended at 155 ft KB and the 17-1/2" hole was drilled to 675 ft KB. 13-3/8" 68ppf J55 BTC new casing was set at 675 ft KB on June 22, 2008 and cemented with 400 sx. There were no cement returns to surface. Both annuli were topped out through 1 inch pipe with 370 sx of premium cement to 60 ft from ground level. Eight yards of redi-mix were used to fill up to surface in the 24" x 20" annulus as well as in the 20" x 13-3/8" annulus.

The associated daily drilling reports for this activity are enclosed.

We respectfully request that the enclosed information remain confidential.

Sincerely,



Steven R. Hash, P.E.

Enclosures

copy without enclosures via email to:

Utah Great Eagle, LLC:
EXACT Engineering, Inc.

Rhonda Nordenson, Carl Marrs
well file

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APR 23 2009

DIV. OF OIL, GAS & MINING

Petroleum Consulting, Property Management & Field Services
complete well design, construction & management, drilling, completion, production, pipelines, appraisals,
due diligence, acquisitions, procedures, field supervision

Operator: Utah Great Eagle, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

Table with 8 columns: DATE, WELL, CONTRACTOR, COUNTY, STATE, SPUD DATE, API#, SUPERVISOR, DAYS F/ SPUD, PRESENT OPERATIONS @ 2400 Hour, TOTAL DEPTH, PROGRESS, DRILLING TIME, ROP, TD FORMATION, AUTH. DEPTH

MUD DATA

Table with 14 columns: DATE/TIME, DEPTH, WT, VIS, PV, YP, GELS, FILTRATE, CAKE/32, SOLIDS, SAND, PH, CHLORIDES, CALCIUM, SALT, LCM

BIT DATA

Table with 18 columns: BIT RUN, BIT NO, SIZE, MFG., TYPE, IADC CODE, SERIAL NO., JETS 1/32 or TFA, IN, OUT, FOOTAGE, HOURS, ROP, MTR Y/N, RT+MTR, WOB, DULL GRADING (IR, OR, DC, LOC, B/S, G/16, OC), REASON PLD

HYDRAULICS

SLOW PUMP PSI

Table with 13 columns: PUMP NO., MANUFACTURER, LINER, STROKE LENGTH, GAL / STK 95%, SPM, GPM, AV DP, AV DC, PUMP PRESS, MOTOR DIFF PSI, DEPTH, SPM

DRILL STRING

TUBULARS INVENTORY

GENERAL INFO

Table with 14 columns: BOTTOM HOLE ASSEMBLY#, LENGTH, O.D., I.D., TYPE, SIZE, #/FT, GRADE, CONN, QUAN, COND, SOURCE, RIG INFO

SURVEYS

Table with 18 columns: MD, INCL, AZIMUTH, TVD, N+S-, E+ / W-, SECTION, DLS, TOOL, MD, INCL, AZIMUTH, TVD, N+S-, E+ / W-, SECTION, DLS, TOOL

DAILY ACTIVITY

Table with 4 columns: FROM, TO, HRS, LAST 24 HOURS

SEE COST DETAIL PAGE UNDER SEPARATE COVER FOR ESTIMATED DRY HOLE COST

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DIV. OF OIL, GAS & MINING

Operator: Utah Great Eagle, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

Table with 7 columns: DATE, WELL, CONTRACTOR, COUNTY, STATE, SPUD DATE, API#, SUPERVISOR. Values include 06/04/08, Federal 15-1, SST #58, Sevier, UT, 6/4/08, 43-041-30048, Steve Hash.

Table with 10 columns: DAYS F/SPUD, PRESENT OPERATIONS @ 2400 Hour, TOTAL DEPTH, PROGRESS, DRILLING TIME, ROP, TD FORMATION, AUTH. DEPTH. Values include 1, Drilling, 121, 29, 9.50, 3.05, Navajo, 10,000.

MUD DATA

Table with 14 columns: DATE/TIME, DEPTH, WT, VIS, PV, YP, GELS, FILTRATE, CAKE#2, SOLIDS, SAND, PH, CHLORIDES, CALCIUM, SALT, LCM. Value: 3500 cfm @ 140.

BIT DATA

Table with 18 columns: BIT RUN NO, SIZE, MFG, TYPE, IADC CODE, SERIAL NO, JETS or TFA, IN, OUT, FOOTAGE, HOURS, ROP, MTR Y/N, RPM, WOB, DULL GRADING (IR, OR, DC, LOC, B/S, G/16, OC, REASON PLD). Values include 1, 17.500, Reed, HP53A, 517, X11070H, 2x24 + ope, 92, 29, 9.50, 3.05, N, 30=0, 5-8.

HYDRAULICS

SLOW PUMP PSI

Table with 13 columns: PUMP NO, MANUFACTURER, LINER, STROKE LENGTH, GAL / STK 95%, SPM, GPM, AV DP, AV DC, PUMP PRESS, MOTOR DIFF PSI, DEPTH SPM. Values include 1, Emsco style, 6.0, 12, 4.18, 0, 0, 1.

DRILL STRING

TUBULARS INVENTORY

GENERAL INFO

Table with 14 columns: BOTTOM HOLE ASSEMBLY#, LENGTH, O.D., I.D., TYPE, SIZE, #/FT, GRADE, CONN, QUAN, COND, SOURCE, RIG INFO. Includes rows for Bit 17-1/2", DC 8", NRS, DC 8", and a TOTAL row.

SURVEYS

Table with 18 columns: MD, INCL, AZIMUTH, TVD, N+S-, E+ / W-, SECTION, DLS, TOOL, MD, INCL, AZIMUTH, TVD, N+S-, E+ / W-, SECTION, DLS, TOOL.

DAILY ACTIVITY

Table with 4 columns: FROM, TO, HRS, LAST 24 HOURS. Contains a detailed log of drilling activities from 0:00 to 24:00.

SEE COST DETAIL PAGE UNDER SEPARATE COVER FOR ESTIMATED DRY HOLE COSTS

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DIV. OF OIL, GAS & MINING

Operator: Utah Great Eagle, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

Table with 8 columns: DATE, WELL, CONTRACTOR, COUNTY, STATE, SPUD DATE, API#, SUPERVISOR, DAYS F/SPUD, PRESENT OPERATIONS @ 2400 Hour, TOTAL DEPTH, PROGRESS, DRILLING TIME, ROP, TD FORMATION, AUTH. DEPTH

MUD DATA

Table with 14 columns: DATE/TIME, DEPTH, WT, VIS, PV, YP, GELS, FILTRATE, CAKE/32, SOLIDS, SAND, PH, CHLORIDES, CALCIUM, SALT, LCM

BIT DATA

Table with 18 columns: BIT RUN NO, BIT SIZE, MFG., TYPE, IADC CODE, SERIAL NO., JETS 1/32 or TFA, IN, OUT, FOOTAGE, HOURS, ROP, MTR Y/N, RPM, WOB, DULL GRADING (IR, OR, DC, LOC, B/S, G/16, OC, REASON PLD)

HYDRAULICS

SLOW PUMP PSI

Table with 14 columns: PUMP NO., MANUFACTURER, LINER, STROKE LENGTH, GAL / STK 95%, SPM, GPM, AV DP, AV DC, PUMP PRESS., MOTOR DIFF PSI, DEPTH SPM

DRILL STRING

TUBULARS INVENTORY

GENERAL INFO

Table with 14 columns: BOTTOM HOLE ASSEMBLY#, LENGTH, O.D., I.D., TYPE, SIZE, #/FT, GRADE, CONN, QUAN, COND, SOURCE, RIG INFO

SURVEYS

Table with 18 columns: MD, INCL., AZIMUTH, TVD, N+S, E+ / W-, SECTION, DLS, TOOL

DAILY ACTIVITY

Table with 4 columns: FROM, TO, HRS, LAST 24 HOURS

SEE COST DETAIL PAGE UNDER SEPARATE COVER FOR ESTIMATED DRY HOLE COST

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Operator: Utah Great Eagle, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

Table with 8 columns: DATE, WELL, CONTRACTOR, COUNTY, STATE, SPUD DATE, API#, SUPERVISOR, DAYS F/SPUD, PRESENT OPERATIONS @ 2400 Hour, TOTAL DEPTH, PROGRESS, DRILLING TIME, ROP, TD FORMATION, AUTH. DEPTH

MUD DATA

Table with 14 columns: DATE/TIME, DEPTH, WT, VIS, PV, YP, GELS, FILTRATE, CAKE/32, SOLIDS, SAND, PH, CHLORIDES, CALCIUM, SALT, LCM

BIT DATA

Table with 20 columns: BIT RUN, BIT NO, SIZE, MFG., TYPE, IADC CODE, SERIAL NO., JETS 1/32 or TFA, IN, OUT, FOOTAGE, HOURS, ROP, MTR Y/N, RPM RT+MTR, WOB, IR, OR, DC, LOC, B/S, G/16, OC, REASON PLD

HYDRAULICS

SLOW PUMP PSI

Table with 13 columns: PUMP NO., MANUFACTURER, LINER, STROKE LENGTH, GAL / STK 95%, SPM, GPM, AV DP, AV DC, PUMP PRESS., MOTOR DIFF PSI, DEPTH SPM

DRILL STRING

TUBULARS INVENTORY

GENERAL INFO

Table with 14 columns: BOTTOM HOLE ASSEMBLY#, LENGTH, O.D., I.D., TYPE, SIZE, #/FT, GRADE, CONN, QUAN, COND, SOURCE, RIG INFO

SURVEYS

Table with 18 columns: MD, INCL., AZIMUTH, TVD, N+S-, E+/W-, SECTION, DLS, TOOL, MD, INCL., AZIMUTH, TVD, N+S-, E+/W-, SECTION, DLS, TOOL

DAILY ACTIVITY

Table with 4 columns: FROM, TO, HRS, LAST 24 HOURS

RECEIVED

SEE COST DETAIL PAGE UNDER SEPARATE COVER FOR ESTIMATED DRY HOLE COSTS

APR 23 2009

DIV. OF OIL, GAS & MINING

Engineering and Supervision

EXACT Engineering, Inc.

(918) 599-9400 office

Operator: **Utah Great Eagle, LLC**

DAILY DRILLING REPORT

24 hrs - midnight to midnight

DATE 06/10/08	WELL Federal 15-1	CONTRACTOR SST #58	COUNTY, STATE Sevier, UT	SPUD DATE 6/4/08	API# 43-041-30048	SUPERVISOR Steve Hash	
DAYS F/ SPUD 7	PRESENT OPERATIONS @ 2400 Hour Drilling	TOTAL DEPTH 368	PROGRESS 170	DRILLING TIME 10.50	ROP 16.19	TD FORMATION Navajo	AUTH. DEPTH 10,000

MUD DATA

DATE/TIME	DEPTH	WT	VIS	PV	YP	GELS	FILTRATE	CAKE/32	SOLIDS	SAND	PH	CHLORIDES	CALCIUM	SALT	LCM
6/10	300	H2O													

BIT DATA

BIT RUN	BIT NO	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS 1/32 or TFA	IN	OUT	FOOTAGE	HOURS	ROP	MTR Y/N	RPM	WOB	DULL GRADING																				
																IR	OR	DC	LOC	B/S	G/16	OC	REASON PLD													
1	1	17.500	Reed	HP53A	517	X11070H	3x24 + ope	92	197	105	15.50	6.77	N	30+0	10																					
2	2	22.000																																		
3	1	17.500	Reed	HP53A	517	X11070H	3x24 + ope	197		276	26.00	10.62	N	45.00	10																					

HYDRAULICS

SLOW PUMP PSI

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK 95%	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MOTOR DIFF PSI	DEPTH	SPM
1	Emsco style	6.0	12	4.18	60	251					1	
2	Emsco style	6.0	12	4.18		0					2	
3						0					3	
					60	251						

DRILL STRING

TUBULARS INVENTORY

GENERAL INFO

BOTTOM HOLE ASSEMBLY#	LENGTH	O.D.	I.D.	TYPE	SIZE	#/FT	GRADE	CONN	QUAN	COND	SOURCE	RIG INFO
Bit 17-1/2"	1.40	17.500		DP	4.500	16.60	G-105	4.5 XH		WB	SST	Co Man 435-979-5777
Bit/float sub	3.00	9.000	2.875	DP								Mudlogger 435-979-5713
DC 8"	29.76	8.000	2.875	DP								Toolpusher
DC 8"	30.90	8.000	2.875	DC	8.000				4	WB	SST	Last BOP Test
DC 8"	30.72	8.000	2.875	DC	6.500				14	WB	SST	Next BOP Test
XO	2.50	8.000	2.875	SHWDF								Last Safety Meeting 6/8
				SHWDF								Last BOP Drill
				CSG	13.375	68.00	J55	BTC	16	new	B&L	Last Operate Pipe Rams
				CSG								Last Operate Blind Rams
				CSG								Last Operate Annular
TOTAL	98.28											
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE	GRD. ELEVATION	GL TO KB	KB ELEVATION	SURF CSG	INT CASING 1	INT CASING 2	PROD CSG	
43	18	43	43	0	6,190	25	6215	(13.375=700)	(9.625=6000)		(5.5=10000)	

SURVEYS

MD	INCL	AZIMUTH	TVD	N+S-	E+/W-	SECTION	DLS	TOOL	MD	INCL	AZIMUTH	TVD	N+S-	E+/W-	SECTION	DLS	TOOL
132	0.65																
313	0.26																

DAILY ACTIVITY

FROM	TO	HRS	LAST 24 HOURS:
0:00			note: 24in @ 92' kb (67' BGL) 20" RUN @ 123' NOT CEMENTED
0:00	2:30	2.50	Work thru 22" hole 97' to 180', hole looks good no torque no drag.
2:30	3:00	0.50	POOH
3:00	6:00	3.00	PU & run 120' 20"
6:00	10:00	4.00	Work 20" try to get past bridge @ 124'
10:00	11:00	1.00	Cut off & LD 20", ran to 123' KB
11:00	12:00	1.00	MU 17 1/2" & run BHA
12:00	12:30	0.50	Rig service
12:30	13:00	0.50	W&R 117 to 198
13:00	21:30	8.50	Drill 198 to 313
21:30	22:00	0.50	Wire line survey @ 313' -0.25 deg
22:00	0:00	2.00	Drill 313 to 368
0:00			
0:00			
0:00			
0:00			
0:00			7am drilling @ 463' Plan - Drill to 675 KB run 13 3/8" surface csng.
0:00			
0:00			
Daily Total		24.00	

SEE COST DETAIL PAGE UNDER SEPARATE COVER FOR ESTIMATED DRY HOLE COST

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APR 23 2009

DIV. OF OIL, GAS & MINING

Operator: Utah Great Eagle, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

Table with 9 columns: DATE, WELL, CONTRACTOR, COUNTY, STATE, SPUD DATE, API#, SUPERVISOR, DAYS F/ SPUD, PRESENT OPERATIONS @ 2400 Hour, TOTAL DEPTH, PROGRESS, DRILLING TIME, ROP, TD FORMATION, AUTH. DEPTH

MUD DATA

Table with 15 columns: DATE/TIME, DEPTH, WT, VIS, PV, YP, GELS, FILTRATE, CAKE/32, SOLIDS, SAND, PH, CHLORIDES, CALCIUM, SALT, LCM

BIT DATA

Table with 20 columns: BIT RUN, BIT NO, SIZE, MFG., TYPE, IADC CODE, SERIAL NO., JETS 1/32 or TFA, IN, OUT, FOOTAGE, HOURS, ROP, MTR Y/N, RPM, WOB, DULL GRADING (IR, OR, DC, LOC, B/S, G/16, OC, REASON PLD)

HYDRAULICS

SLOW PUMP PSI

Table with 14 columns for hydraulics (PUMP NO., MANUFACTURER, LINER, STROKE LENGTH, GAL / STK 95%, SPM, GPM, AV DP, AV DC, PUMP PRESS., MOTOR DIFF PSI) and 4 columns for slow pump psi (DEPTH, SPM)

DRILL STRING

TUBULARS INVENTORY

GENERAL INFO

Table with 14 columns for drill string (BOTTOM HOLE ASSEMBLY#, LENGTH, O.D., I.D., TYPE, SIZE, #/FT, GRADE, CONN, QUAN, COND, SOURCE) and 4 columns for tubulars inventory (#/FT, GRADE, CONN, QUAN, COND, SOURCE). General info includes RIG INFO.

SURVEYS

Table with 18 columns: MD, INCL, AZIMUTH, TVD, N+S-, E+ /W-, SECTION, DLS, TOOL, MD, INCL, AZIMUTH, TVD, N+S-, E+ /W-, SECTION, DLS, TOOL

DAILY ACTIVITY

Table with 4 columns: FROM, TO, HRS, LAST 24 HOURS. Contains activity log from 0:00 to 24:00.

SEE COST DETAIL PAGE UNDER SEPARATE COVER FOR ESTIMATED DRY HOLE COSTS

RECEIVED APR 23 2009 DIV. OF OIL, GAS & MINING

Operator: Utah Great Eagle, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

Table with header information including DATE (06/21/08), WELL (Federal 15-1), CONTRACTOR (SST #58), COUNTY, STATE (Sevier, UT), SPUD DATE (6/4/08), API# (43-041-30048), SUPERVISOR (Steve Hash), DAYS F/SPUD (18), PRESENT OPERATIONS @ 2400 Hour (WO Cementers), TOTAL DEPTH (675), PROGRESS, DRILLING TIME, ROP, #VALUE!, TD FORMATION (Navajo), AUTH. DEPTH (10,000).

MUD DATA

Table with columns: DATE/TIME, DEPTH, WT, VIS, PV, YP, GELS, FILTRATE, CAKE/32, SOLIDS, SAND, PH, CHLORIDES, CALCIUM, SALT, LCM. Values: 6/16, 663, 8.4, 58, 12, 15, 8/11, 32.0, 2, 1.00, tr, 8.5, 1,000, 120, 4-5%.

BIT DATA

Table with columns: BIT RUN, BIT NO, SIZE, MFG., TYPE, IADC CODE, SERIAL NO., JETS 1/32 or TFA, IN, OUT, FOOTAGE, HOURS, ROP, MTR Y/N, RPM RT+MTR, WOB, DULL GRADING (IR, OR, DC, LOC, B/S, G/16, OC, REASON PLD). Rows 3-6.

HYDRAULICS

SLOW PUMP PSI

Table with columns: PUMP NO., MANUFACTURER, LINER, STROKE LENGTH, GAL / STK 95%, SPM, GPM, AV DP, AV DC, PUMP PRESS., MOTOR DIFF PSI, DEPTH SPM. Rows 1-3.

DRILL STRING

TUBULARS INVENTORY

GENERAL INFO

Large table containing drill string details (BOTTOM HOLE ASSEMBLY#, LENGTH, O.D., I.D., TYPE, SIZE, #/FT, GRADE, CONN, QUAN, COND, SOURCE), tubulars inventory (TYPE, SIZE, #/FT, GRADE, CONN, QUAN, COND, SOURCE), and general info (RIG INFO, Co Man, Mudlogger, Toolpusher, etc.).

SURVEYS

Table with columns: MD, INCL., AZIMUTH, TVD, N+S-, E+ / W-, SECTION, DLS, TOOL. Multiple empty rows.

DAILY ACTIVITY

Table with columns: FROM, TO, HRS, LAST 24 HOURS. Activity log from 0:00 to 24:00.

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SEE COST DETAIL PAGE UNDER SEPARATE COVER FOR ESTIMATED DRY HOLE COSTS

APR 23 2009

DIV. OF OIL, GAS & MINING

Operator: Utah Great Eagle, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

Table with header information including DATE (06/22/08), WELL (Federal 15-1), CONTRACTOR (SST #58), COUNTY, STATE (Sevier, UT), SPUD DATE (6/4/08), API# (43-041-30048), SUPERVISOR (Steve Hash), DAYS F/SPUD (19), PRESENT OPERATIONS @ 2400 Hour (NU BOPE), TOTAL DEPTH (675), PROGRESS, DRILLING TIME, ROP, #VALUE!, TD FORMATION (Navajo), AUTH. DEPTH (10,000)

MUD DATA

Table with mud data columns: DATE/TIME (6/16), DEPTH (663), WT (8.4), VIS (58), PV (12), YP (15), GELS (8/11), FILTRATE (32.0), CAKE/32 (2), SOLIDS (1.00), SAND (tr), PH (8.5), CHLORIDES (1,000), CALCIUM (120), SALT, LCM, 4-5%

BIT DATA

Table with bit data columns: BIT RUN (3, 4, 5, 6), BIT NO (1, 4, 5, 6), SIZE (17.500, 17.500, 12.250, 17.500), MFG. (Reed, HTC, Reed, Kopper), TYPE (HP53A, X741A7, HP53A, Hammer), IADC CODE (517, 517, 517,), SERIAL NO. (X11070H, 6008077, RR,), JETS 1/32 or TFA (x24 + ope, open, open,), IN (197, 663, 663,), OUT, FOOTAGE (466,), HOURS (59.50,), ROP (7.83,), MTR Y/N (N,), RPM (45.00,), WOB (10,), DULL GRADING (IR, OR, DC, LOC, B/S, G/16, OC, REASON PLD)

HYDRAULICS

SLOW PUMP PSI

Table with hydraulic and slow pump data columns: PUMP NO. (1, 2, 3), MANUFACTURER (Emsco style), LINER (6.0), STROKE LENGTH (12), GAL / STK 95% (4.18), SPM (0), GPM (0), AV DP, AV DC, PUMP PRESS., MOTOR DIFF PSI, DEPTH (1, 2, 3), SPM

DRILL STRING

TUBULARS INVENTORY

GENERAL INFO

Table with drill string, tubulars inventory, and general info columns: BOTTOM HOLE ASSEMBLY# (17 1/2" Hammer, Bit/float sub, DC 8", DC 8", DC 8", XO), LENGTH, O.D., I.D., TYPE, SIZE, #/FT, GRADE, CONN, QUAN, COND, SOURCE, RIG INFO (Co Man 435-979-5777, Mudlogger 435-979-5713, Toolpusher, Last BOP Test, Next BOP Test, Last Safety Meeting 6/14, Last BOP Drill, Last Operate Pipe Rams, Last Operate Blind Rams, Last Operate Annular)

SURVEYS

Table with survey data columns: MD, INCL., AZIMUTH, TVD, N+S-, E+ / W-, SECTION, DLS, TOOL

DAILY ACTIVITY

Table with daily activity columns: FROM, TO, HRS, LAST 24 HOURS (WO cementers, RU cementers & pump 240 sks. 11# CBM lite lead cement, 160 sks. Premium G tail cement, WOC 1 hour, pump 150 sks. G cement W 3% cacl. WOC 1 hour, pump 170 SKS. Neat cement, Cut off all conductors, weld & test head, NU BOPE, Had no returns on primary or 1 inch jobs. But Fluid level up to 60 ft. Will top out w/ ready mix this am.)

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SEE COST DETAIL PAGE UNDER SEPARATE COVER FOR ESTIMATED DRY HOLE COSTS

Rachel Medina - Utah Great Eagle; Federal 15-1

From: "Steve Hash"
To:
Date: 8/27/2008 8:14 AM
Subject: Utah Great Eagle; Federal 15-1
CC: , ,

CONFIDENTIAL

AI, After opening the upper hole to 12-1/4" and cementing 9-5/8" intermediate casing at 3312 ft we continued drilling 8-3/4" hole from 9970' ft to 10845'. We are now conditioning hole for logs likely tonight. We could continue drilling. Rig phone 435-979-5777

Steve

Steven R. Hash P. E.
EXACT Engineering, Inc.
20 E. 5th St, Suite 310
Tulsa, Oklahoma 74103
+1 (918) 599-9400 Work
+1 (918) 599-9401 Fax
+1 (918) 629-9801 Mobile
+1 (918) 526-3861 Mobile Fax
SteveHash@exactengineering.com
<http://www.exactengineering.com>

Xc: UDOGM

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DIV. OF OIL, GAS & MINING

CONFIDENTIAL
www.exactengineering.com

EXACT Engineering, Inc.

20 East Fifth St., Suite 310, Tulsa, OK 74103

(918) 599-9400 • (918) 599-9401 (fax)

Steven R. Hash, P.E.
Registered Professional Engineer
stevehash@exactengineering.com

November 22, 2008

CONFIDENTIAL

Mr. Al McKee
Bureau of Land Management
Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155

Mr. Dustin Doucet
Utah Division of Oil, Gas & Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

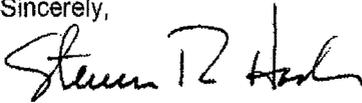
Re: Drilling Update #3 – (final) **Utah Great Eagle Federal 15-1 (Wildcat)**
Sec 15 T23S R01W
Sevier Co, UT
API# 43-041-30048

Gentlemen,

On behalf of Utah Great Eagle, LLC, please find enclosed daily drilling reports for the subject well from June 22, 2008 through the end of the well on August 31, 2008.

We respectfully request that the enclosed information remain confidential.

Sincerely,



Steven R. Hash, P.E.

Enclosures

copy without enclosures via email to:

Utah Great Eagle, LLC:
EXACT Engineering, Inc.

Rhonda Nordenson, Carl Marrs
well file

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DIV. OF OIL, GAS & MINING

Petroleum Consulting, Property Management & Field Services
complete well design, construction & management, drilling, completion, production, pipelines, appraisals,
due diligence, acquisitions, procedures, field supervision

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Operator: Utah Great Eagle, LLC

Table with columns: DATE, WELL, CONTRACTOR, COUNTY, STATE, SPOUSE DATE, AFF# (blank), WEL# (blank), SUPERVISOR, DAYS FI SPUD, PRESENT OPERATIONS @ 2400 Hour, TOTAL DEPTH, PROGRESS, DRILLING TIME, ROP, TD FORMATION, AUTH. DEPTH

MUD DATA

Table with columns: DATE/TIME, DEPTH, WT, VIS, PV, YP, GELS, FILTRATE, CAKE/32, SOLIDS, SAND, PH, CHLORIDES, CALCIUM, SALT, LCM

BIT DATA

Table with columns: BIT RUN, BIT NO, SIZE, MFG., TYPE, IADC CODE, SERIAL NO., JETS 1/32 or TFA, IN, OUT, FOOTAGE, HOURS, ROP, MTR Y/N, RPM, RT+MTR, WOB, DULL GRADING (IR, OR, DC, LOC, B/S, G/6, OC), REASON PLD

HYDRAULICS

SLOW PUMP PSI

Table with columns: PUMP NO., MANUFACTURER, LINER, STROKE LENGTH, GAL / STK 95%, SPM, GPM, AV DP, AV DC, PUMP PRESS., MOTOR DIFF PSI, DEPTH, SPM

DRILL STRING

TUBULARS INVENTORY

GENERAL INFO

Table with columns: BOTTOM HOLE ASSEMBLY#, LENGTH, O.D., I.D., TYPE, SIZE, #/FT, GRADE, CONN, QUAN, COND, SOURCE, RIG INFO

SURVEYS

Table with columns: MD, INCL, AZIMUTH, TVD, N+S-, E+/-, SECTION, DLS, TOOL

DAILY ACTIVITY

Table with columns: FROM, TO, HRS, LAST 24 HOURS

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SEE COST DETAIL PAGE UNDER SEPARATE COVER FOR ESTIMATED DRY HOLE COSTS

Utah Great Eagle, LLC
 Federal 15-1 well; Sevier Co, UT
 Sevier Co, UT

API# 43-041-30048

06/28/08	3205	255	9.9	37	NC	3130	12.50	87.10	Drilling
06/29/08	3355	150	9.9	36	NC	3318	9.80	79.40	Drilling
06/30/08	3506	151	9.7	36	NC	3506	9.10	74.90	Drilling
07/01/08	3828	322	10.5	36	NC	3787	6.70	77.10	Drilling
07/02/08	4020	192	10.5+	35	NC	3974	7.00	72.00	tight at 3000'-3100'. Drilling
07/03/08	4486	466	10.4	35	NC	4429	4.40	47.20	Drilling
07/04/08	4858	372	10.5	35	NC	4803	3.50	337.90	Drilling
07/05/08	5158	300	10.5	36	NC	5115	6.50	304.20	Drilling. ROP Increase. Stuck Pipe
07/06/08	5158	0	10.5	36	NC	5115	6.50	304.20	Stuck pipe. Fresh Water mud
07/07/08	5158	0	10.5	36	NC	5115	6.50	304.20	Wait on wireline. Jarring on fish
07/08/08	5158	0	9.7	36	NC	5115	6.50	304.20	Still Stuck
07/09/08	5158	0	9.5+	32	NC	5115	6.50	304.20	Backed off, prepare to sidetrack
07/10/08	5158	0	10	32	48	5115	6.50	304.20	set cement plug. WOC
07/11/08	5158	0	10	32	48	5115	6.50	304.20	Prepare to time Drill.
07/12/08	4100	-1058	10.4	35	32	4068	8.40	67.30	pick up directional tools. Sidetrack.
07/13/08	4137	37	10.2	36	11.2	4068	8.40	67.30	Time Drill. 75% cuttings. 25% cement
07/14/08	4455	318	10.2	41	8.4	4429	4.40	47.20	Drilling
07/15/08	4860	405	10.4	43	10.4	4803	3.50	337.90	Drilling
07/16/08	5345	485	10.4	39	16	5302	7.10	291.70	Drilling
07/17/08	5594	249	10.5	42	8	5552	4.20	278.30	Drilling
07/18/08	5700	106	10.5	40	7.2	5676	5.00	280.50	Trip out for Bit. Some tight spots
07/19/08	5762	62	10.5	40	7.2	5676	5.00	280.50	Tripped out. RR Bit. Drilling and milling.
07/20/08	5847	85	10.5	36	11.2	5773	8.80	269.70	Trip out for Bit
07/21/08	6278	431	10.6+	41	22	6210	8.10	273.10	Drilling
07/22/08	6711	433	10.6+	44	12	6678	2.60	280.50	Drilling
07/23/08	7050	339	10.5+	44	15.2	6959	1.50	314.20	Drilling
07/24/08	7388	338	10.5	43	20	7333	1.90	327.80	Drilling
07/25/08	7658	270	10.3+	42	26	7647	3.90	325.00	Drilling
07/26/08	7695	37	10.4+	39	28	7647	3.90	325.00	Drilling
07/27/08	7695	0	10.4	39	28	7647	3.90	325.00	test BOP. Repair Wellhead
07/28/08	7790	95	10.4	41	28	7707	4.40	338.40	Drilling
07/29/08	8145	355	10.4	43	26	8082	6.10	11.20	Drilling
07/30/08	8500	355	10.4+	43	21	8456	8.00	17.60	Drilling
07/31/08	8811	311	10.6+	43	17.6	8737	7.40	34.20	Drilling
08/01/08	9155	344	10.7	38	16	9110	6.10	29.60	Drilling
08/02/08	9560	405	10.5	45	22	9485	7.60	28.20	Drilling
08/03/08	9840	280	10.4	44	20	9766	7.60	358.40	Drilling
08/04/08	9970	130	10.4	37	22	9951	8.00	5.50	Tripped out for TD. RR Bit.
08/05/08	9970	0	10.6	44	23	9951	8.00	5.50	Drilling
08/06/08	9970	0				9951	8.00	5.50	
08/07/08	9970	0				9951	8.00	5.50	WOO.
08/08/08	807	-9163	10.6+	55	34.4	793	1.00	268.10	Prep to open hole to depth of 2600'
08/09/08	1272	465	10.5	51	36	1260	6.70	72.30	spot cement at 3300'
08/10/08	1332	60	10.4	42	40	1260	6.70	72.30	Set cement Plug. Drilling.
08/11/08	1678	346	10.4+	57	NC	1634	8.90	69.10	Drilling.
08/12/08	1750	72	10.5	65	NC	1728	10.50	71.80	Open hole with 8-3/4" bit and 12-1/4" bit.
08/13/08	1791	41	10.2+	90	NC	1728	10.50	71.80	Drill with hole opener
08/14/08	2269	478	10	65	NC	2197	9.80	71.50	Opening hole.
08/15/08	2564	295	9.9+	60	NC	2477	10.30	72.30	Tripped
08/16/08	3314	750	9.9+	50	NC	3227	11.70	83.90	Short trip. Run 9-5/8" casing to 3300'
08/17/08	3314	0	9.9	48	NC	3227	11.70	83.90	Csg on btm. Prepare to clean mud tanks.
08/18/08	3314	0	10.1	41	NC	3227	11.70	83.90	Rebuild surface mud. Get ready to drill.
08/19/08	8717	5403	10.6	40	10	8644	7.30	30.00	Wash and ream to bottom.
08/20/08	10040	1323	10.6	43	18	10044	12.70	351.60	Ream to bottom. Drilling new hole.
08/21/08	10252	212	10.6	43	40	10231	16.70	329.80	Trip out to pick up motor and tools.
08/22/08	10280	28	10.5	38	25	10231	16.70	329.80	Going back in hole.
08/23/08	10395	115	10.6	42	22	10387	18.70	322.80	Drilling
08/24/08	10617	222	10.6	40	15	10574	17.70	323.20	Drilling
08/25/08	10668	51	10.1	44	5	10574	17.70	323.20	Lost circulation
08/26/08	10822	154	10.4	42	8	10574	17.70	323.20	Still losing mud. Drilling, hitting fractures.
08/27/08	10845	23	10.4	39	8	10574	17.70	323.20	Trip for bit. Drilling. Some seepage.
08/28/08	10845	0	10.4	40	8	10574	17.70	323.20	Logging. Log to 10670'. New log
08/29/08	10845	0	10.5+	40	8.8	10574	17.70	323.20	Logged. Prepare to set cement plug.
08/30/08	10845	0	10.5+	40	8.8	10574	17.70	323.20	WOC.
08/31/08	10845	0	10.5	37	16	10574	17.70	323.20	P&A.
09/01/08	10845	0							

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 APR 23 2009

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CONFIDENTIAL

APPROVED
B.L.M. No. 1004-0137
Date: 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.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well <input checked="" type="checkbox"/> Oil Well: <input type="checkbox"/> Gas Well: <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
2. Name of Operator Utah Great Eagle, LLC		7. If Unit or CA/Agreement, Name and/or No.
3a. Address 301 W Northern Lights Blvd, #410, Anchorage, AK 99509	3b. Phone No. (include area code) 907-339-7214	8. Well Name and No. Utah Great Eagle Federal 15-1
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 2187" ESL & 486' FWL Sec 15 T23S R01W, Sevier Co, UT		9. API Well No. 43-041-30048
		10. Field and Pool, or Exploratory Area Exploratory
		11. County or Parish, State Sevier Co, UT

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

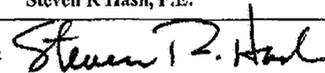
TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> 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 checked="" type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input checked="" 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.)

The subject well was drilled to a depth of 10845 on 8/27/2008. Electric logs were run and permission to temporarily abandon with cement plugs, allowing for future re-entry and deepening, was verbally granted by Al McKee, Engineer, SLC State Office on 8/28/2008. While circulating to spot plug #1 stuck drillpipe, backed off and left 11 jts of drillpipe from 10670-10350'. Pumped premium class G cement for all plugs mixed at 17ppg and 1.03 cfps.
 plug #1 - 10230' to 9630'; 600 ft with 300 sx CI G w/ 15% salt; mix at 17.0ppg, 1.03 cfps
 plug #2 - 6000' to 5750'; 250 ft with 125 sx (same as above)
 plug #3 - 3422' to 3222'; 200 ft across 9-5/8" sfc esg shoe at 3312' w 150 sx (same as above 2% CC); WOC 6 hrs, TIH with DP, tag 3222' w 10k Left 10.1 ppg mud in hole between plugs; Installed cap flange.

CONFIDENTIAL

xc: UDOGM

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) Steven R Hash, P.E.		Title Consulting Engineer - EXACT Engineering Inc
Signature 	Date 11/22/2008	

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)

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DIV. OF OIL, GAS & MINING

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CONFIDENTIAL
FOR APPROVAL
No. 1001
Expires March 31, 2010

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

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well <input checked="" type="checkbox"/> Oil Well; <input type="checkbox"/> Gas Well; <input type="checkbox"/> Other		5. Lease Serial No. UTU-81052
2. Name of Operator Utah Great Eagle, L.L.C.		6. If Indian, Allottee or Tribe Name
3a. Address 301 W Northern Lights Blvd, #410, Anchorage, AK 99509	3b. Phone No. (include area code) 907-339-7214	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 2187" FSL & 486' FWL Sec 15 T23S R01W, Sevier Co, UT		8. Well Name and No. Utah Great Eagle Federal 15-1
		9. API Well No. 43-041-30048
		10. Field and Pool, or Exploratory Area Exploratory
		11. County or Parish, State Sevier Co, UT

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 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 checked="" type="checkbox"/> Other <u>well status</u>
	<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	

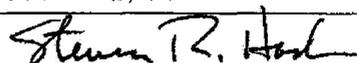
13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths 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.)

Well status October 31, 2008
Temporarily abandoned - operations suspended pending re-entry

CONFIDENTIAL

cc: UDOGM

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

Name (Printed/Typed) Steven R Hash, P.E.	Title Consulting Engineer - EXACT Engineering Inc
Signature 	Date 11/22/2008

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by: 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.	Title	Date
	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)

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APR 23 2009

DIV. OF OIL, GAS & MINING

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

CONFIDENTIAL

Lease Serial No.
U-81052

1a. Type of Well Oil Well Gas Well Dry Other
 b. Type of Completion: New Well Work Over Deepen Plug Back Diff. Resvr.,
 Other: suspended ops - T&A

6. If Indian, Allottee or Tribe Name
7. Unit or CA Agreement Name and No.

2. Name of Operator
Utah Great Eagle, LLC

8. Lease Name and Well No.
Utah Great Eagle Federal 15-1

3. Address **310 W. Northern Lights Blvd, #410
Anchorage, Alaska 99509**

3a. Phone No. (include area code)
(907) 339-7214

9. AFI Well No.
43-041-30048

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

10. Field and Pool or Exploratory
Exploratory

2187' FSL & 486' FWL Sec 15 T23S R01W, Sevier Co, UT

11. Sec., T., R., M., on Block and
Survey or Area **Sec 15 T23S R1W
Salt Lake City Meridian**

At surface (none)

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

At total depth **2453' FNL & 769' FWL Sec 15 T23S R01W, Sevier Co, UT**

14. Date Spudded **06/04/2008**

15. Date T.D. Reached **08/27/2008**

16. Date Completed **8/27/08**
 D & A Ready to Prod. **TA**

17. Elevations (DF, RKB, RT, GL)*
GL 6190' KB 6215'

18. Total Depth: MD **10845**
TVD **10744**

19. Plug Back T.D.: MD **3222'**
TVD **3222' 3190 HSM**

20. Depth Bridge Plug Set: MD **none**
TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
Spectral Density Dual Spaced Neutron Porosity; Dual Laterolog; Full Wave Sonic

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 Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
32	30	120	surface	60' BGL	na	14 yds 6sx grout	67	surface	none
26	24	94	surface	67' BGL	na	5 yds 9sx groute	24	surface	none
22	20	78	surface	155' KB	na	8 yds 9sx groute	38	surface	none
17-1/2	13-3/8	68	surface	675' KB	na	400sx Lite/G	184	surface	none
12-1/4	9-5/8	40	surface	3312' KB	na	800sx Vcem/G	87	surface	none
8-3/4	none	na	na	na	na	na	na	na	na

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
none								

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) none			na			
B)						
C)						
D)						

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

Depth Interval	Amount and Type of Material
na	na

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
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
			→					Plugged back to base of surface casing pending future operations	TA

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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JUL 01 2009

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

CONFIDENTIAL DEPT. OF OIL, GAS & MINING

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 (Solid, used for fuel, vented, etc.)

na

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
none				Arapien Shale	surface
				Twin Creek Lime	10,160
				Navajo Sand	10,610

32. Additional remarks (include plugging procedure):

Drilled to TD of 10,845md (10,744ftvd)
 cement plug #1 10230'-9630' (600ft) w 300sx CI G w 15% salt (17ppg, 1.03 cfps); left 11 jts drillpipe fish in hole from 10670'-10350'
 cement plug #2 6000'-5750' (250ft) w 125 sx CI G (same as above)
 cement plug #3 3422' to 3222' (200ft) w 150sx CI G (same as above) across 9-5/8" csg shoe at 3312'; WOC 9 hrs, TIH & tag plug at 3232' w 10k remaining surface plugs waived until future ops determined
 Left 10.1 ppg mud in hole between plugs; installed cap flange; suspend operations while evaluating for future deepening or re-entry
 Rig down and release rig; clean & secure location
 Well temporarily abandoned 8/31/2008

xc: DOGM

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) Steven R Hash (918) 599-9400 Title Consulting Engineer - EXACT Engineering, Inc.
 Signature *Steven R. Hash* Date 06/26/2009

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.

CONFIDENTIAL



Utah Great Eagle

Sevier Co., Utah

Federal #15-1

#15-1

Wellbore #1

CONFIDENTIAL

Survey: Survey #1

Standard Survey Report

09 September, 2008

CONFIDENTIAL



Crescent Directional Drilling

Survey Report

Company: Utah Great Eagle
Project: Sevier Co., Utah
Site: Federal #15-1
Well: #15-1
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well #15-1
TVD Reference: WELL @ 6216.0ft (RKB Elev)
MD Reference: WELL @ 6216.0ft (RKB Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Project	Sevier Co., Utah		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Utah Central Zone		

Site Federal #15-1

Site Position:		Northing:	6,732,070.04 ft	Latitude:	38° 48' 1.589 N
From:	Lat/Long	Easting:	1,525,305.33 ft	Longitude:	111° 54' 13.938 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	-0.26 °

Well #15-1

Well Position	+N/-S	0.0 ft	Northing:	6,732,070.04 ft	Latitude:	38° 48' 1.589 N
	+E/-W	0.0 ft	Easting:	1,525,305.33 ft	Longitude:	111° 54' 13.938 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,191.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2007-05-18	12.30	64.48	51,715

Design Wellbore #1

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
-----------------	-----	---------------	--------	----------------------	-----

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	71.79

Survey Program Date 2008-09-09

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
793.0	10,667.0	Survey #1 (Wellbore #1)		

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
793.0	1.00	268.10	793.0	-0.2	-6.9	-6.6	0.13	0.13	0.00
884.0	1.60	263.80	883.9	-0.4	-9.0	-8.6	0.67	0.66	-4.73
945.0	0.50	189.80	944.9	-0.7	-9.9	-9.6	2.52	-1.80	-121.31
1,010.0	2.20	107.30	1,009.9	-1.4	-8.7	-8.7	3.37	2.62	-126.92
1,072.0	3.50	83.80	1,071.8	-1.5	-5.7	-5.9	2.78	2.10	-37.90
1,166.0	4.80	73.60	1,165.6	-0.1	0.9	0.8	1.59	1.38	-10.85
1,260.0	6.70	72.30	1,259.1	2.7	9.9	10.3	2.03	2.02	-1.38
1,351.0	9.10	66.20	1,349.2	7.2	21.6	22.7	2.79	2.64	-6.70
1,447.0	9.50	65.70	1,444.0	13.5	35.7	38.2	0.43	0.42	-0.52
1,541.0	9.40	68.00	1,536.7	19.6	49.9	53.5	0.42	-0.11	2.45
1,634.0	8.90	69.10	1,628.5	25.0	63.7	68.3	0.57	-0.54	1.18
1,728.0	10.50	71.80	1,721.2	30.2	78.6	84.1	1.77	1.70	2.87



Crescent Directional Drilling

Survey Report

Company: Utah Great Eagle
Project: Sevier Co., Utah
Site: Federal #15-1
Well: #15-1
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well #15-1
TVD Reference: WELL @ 6216.0ft (RKB Elev)
MD Reference: WELL @ 6216.0ft (RKB Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,822.0	10.40	70.30	1,813.6	35.8	94.7	101.2	0.31	-0.11	-1.60
1,916.0	9.90	69.30	1,906.1	41.5	110.3	117.7	0.56	-0.53	-1.06
2,009.0	9.30	69.80	1,997.8	46.9	124.8	133.2	0.65	-0.65	0.54
2,103.0	9.60	69.80	2,090.6	52.2	139.3	148.6	0.32	0.32	0.00
2,197.0	9.80	71.50	2,183.2	57.5	154.2	164.5	0.37	0.21	1.81
2,290.0	9.70	71.30	2,274.9	62.5	169.2	180.2	0.11	-0.11	-0.22
2,384.0	10.00	72.10	2,367.5	67.6	184.4	196.3	0.35	0.32	0.85
2,477.0	10.30	72.30	2,459.0	72.6	200.0	212.7	0.32	0.32	0.22
2,571.0	10.10	73.60	2,551.6	77.5	216.0	229.3	0.32	-0.21	1.38
2,665.0	10.80	76.40	2,644.0	81.8	232.4	246.4	0.92	0.74	2.98
2,758.0	10.80	78.20	2,735.3	85.7	249.4	263.7	0.36	0.00	1.94
2,852.0	11.10	79.60	2,827.6	89.1	266.9	281.4	0.43	0.32	1.49
2,946.0	11.30	82.30	2,919.8	92.0	285.0	299.4	0.60	0.21	2.87
3,037.0	12.00	84.90	3,009.0	94.0	303.2	317.4	0.96	0.77	2.86
3,130.0	12.50	87.10	3,099.9	95.4	322.9	336.5	0.74	0.54	2.37
3,227.0	11.70	83.90	3,194.7	97.0	343.2	356.3	1.08	-0.82	-3.30
3,318.0	9.80	79.40	3,284.1	99.4	360.0	373.0	2.28	-2.09	-4.95
3,412.0	9.70	79.30	3,376.7	102.3	375.6	388.8	0.11	-0.11	-0.11
3,506.0	9.10	74.90	3,469.5	105.7	390.6	404.0	1.00	-0.64	-4.68
3,693.0	7.50	75.60	3,654.5	112.6	416.7	431.0	0.86	-0.86	0.37
3,787.0	6.70	77.10	3,747.8	115.4	427.9	442.6	0.87	-0.85	1.60
3,881.0	7.80	72.30	3,841.0	118.5	439.4	454.4	1.33	1.17	-5.11
3,974.0	7.00	72.00	3,933.3	122.2	450.8	466.4	0.86	-0.86	-0.32
4,068.0	8.40	67.30	4,026.4	126.6	462.6	479.0	1.63	1.49	-5.00
4,148.0	5.70	68.00	4,105.8	130.4	471.6	488.7	3.38	-3.37	0.87
4,242.0	4.80	60.60	4,199.4	134.0	479.4	497.3	1.20	-0.96	-7.87
4,332.5	4.41	47.88	4,289.6	138.2	485.3	504.2	1.21	-0.43	-14.06
SW Corner Target 15-1									
4,335.0	4.40	47.50	4,292.1	138.4	485.4	504.3	1.21	-0.30	-15.21
4,429.0	4.40	47.20	4,385.8	143.2	490.7	510.9	0.02	0.00	-0.32
4,523.0	3.80	51.00	4,479.6	147.6	495.8	517.1	0.70	-0.64	4.04
4,616.0	3.20	25.90	4,572.4	151.9	499.3	521.8	1.75	-0.65	-26.99
4,710.0	3.50	4.70	4,666.3	157.1	500.7	524.7	1.35	0.32	-22.55
4,803.0	3.50	337.90	4,759.1	162.6	499.8	525.6	1.74	0.00	-28.82
4,897.0	4.10	322.70	4,852.9	167.9	496.7	524.3	1.24	0.64	-16.17
4,990.0	4.80	319.00	4,945.6	173.5	492.2	521.7	0.81	0.75	-3.98
5,053.0	6.00	311.80	5,008.3	177.7	488.0	519.1	2.18	1.90	-11.43
5,115.0	6.50	304.20	5,070.0	181.8	482.7	515.3	1.56	0.81	-12.26
5,178.0	7.30	298.30	5,132.5	185.7	476.2	510.4	1.69	1.27	-9.37
5,240.0	7.70	294.30	5,194.0	189.3	468.9	504.6	1.06	0.65	-6.45
5,302.0	7.10	291.70	5,255.5	192.4	461.6	498.6	1.11	-0.97	-4.19
5,370.0	5.80	294.30	5,323.0	195.4	454.6	492.9	1.96	-1.91	3.82
5,427.0	4.40	296.50	5,379.8	197.6	450.0	489.2	2.48	-2.46	3.86
5,490.0	3.50	291.20	5,442.7	199.3	446.0	486.0	1.54	-1.43	-8.41
5,552.0	4.20	278.30	5,504.5	200.4	442.0	482.5	1.79	1.13	-20.81
5,676.0	5.00	280.50	5,628.1	202.0	432.2	473.7	0.66	0.65	1.77
5,773.0	8.80	269.70	5,724.4	202.7	420.6	462.9	4.12	3.92	-11.13
5,867.0	9.70	267.70	5,817.2	202.4	405.5	448.4	1.02	0.96	-2.13
5,929.0	10.50	272.10	5,878.2	202.4	394.6	438.1	1.79	1.29	7.10
6,023.0	9.30	270.80	5,970.8	202.8	378.5	422.9	1.30	-1.28	-1.38
6,117.0	8.70	268.40	6,063.7	202.7	363.8	408.9	0.75	-0.64	-2.55
6,210.0	8.10	273.10	6,155.7	202.9	350.2	396.1	0.98	-0.65	5.05
6,304.0	5.70	271.00	6,249.0	203.3	338.9	385.5	2.57	-2.55	-2.23
6,366.0	4.20	262.30	6,310.7	203.0	333.6	380.4	2.70	-2.42	-14.03



Crescent Directional Drilling

Survey Report

Company: Utah Great Eagle
Project: Sevier Co., Utah
Site: Federal #15-1
Well: #15-1
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well #15-1
TVD Reference: WELL @ 6216.0ft (RKB Elev)
MD Reference: WELL @ 6216.0ft (RKB Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,429.0	4.40	264.50	6,373.6	202.5	328.9	375.7	0.41	0.32	3.49
6,491.0	4.60	268.40	6,435.4	202.2	324.1	371.0	0.59	0.32	6.29
6,584.0	2.90	276.30	6,528.2	202.4	318.0	365.3	1.91	-1.83	8.49
6,678.0	2.60	280.50	6,622.1	203.0	313.5	361.3	0.38	-0.32	4.47
6,772.0	2.50	287.60	6,716.0	204.0	309.5	357.7	0.35	-0.11	7.55
6,865.0	1.70	293.50	6,808.9	205.2	306.3	355.1	0.89	-0.86	6.34
6,959.0	1.50	314.20	6,902.9	206.6	304.1	353.5	0.65	-0.21	22.02
7,052.0	2.20	336.40	6,995.8	209.1	302.5	352.7	1.06	0.75	23.87
7,146.0	2.70	344.40	7,089.7	212.9	301.2	352.7	0.64	0.53	8.51
7,239.0	1.70	343.90	7,182.7	216.3	300.3	352.8	1.08	-1.08	-0.54
7,333.0	1.90	327.80	7,276.6	219.0	299.0	352.5	0.58	0.21	-17.13
7,426.0	2.50	321.80	7,369.6	221.9	297.0	351.4	0.69	0.65	-6.45
7,488.0	2.90	327.80	7,431.5	224.2	295.3	350.6	0.79	0.65	9.68
7,582.0	3.60	325.70	7,525.3	228.7	292.4	349.2	0.76	0.74	-2.23
7,647.0	3.90	325.00	7,590.2	232.2	289.9	348.0	0.47	0.46	-1.08
7,707.0	4.40	338.40	7,650.0	236.0	287.9	347.3	1.81	0.83	22.33
7,800.0	5.40	351.60	7,742.7	243.6	286.0	347.8	1.61	1.08	14.19
7,894.0	6.00	2.80	7,836.2	252.9	285.6	350.3	1.34	0.64	11.91
7,988.0	5.60	9.80	7,929.8	262.4	286.6	354.2	0.86	-0.43	7.45
8,082.0	6.10	11.20	8,023.3	271.8	288.3	358.8	0.55	0.53	1.49
8,175.0	6.20	15.90	8,115.7	281.5	290.7	364.1	0.55	0.11	5.05
8,269.0	6.50	17.40	8,209.2	291.4	293.7	370.0	0.36	0.32	1.60
8,363.0	7.90	14.70	8,302.4	302.7	296.9	376.6	1.53	1.49	-2.87
8,456.0	8.00	17.60	8,394.5	315.1	300.5	383.9	0.44	0.11	3.12
8,550.0	7.40	26.00	8,487.7	326.8	305.1	391.9	1.36	-0.64	8.94
8,644.0	7.30	30.00	8,580.9	337.4	310.7	400.6	0.55	-0.11	4.26
8,737.0	7.40	34.20	8,673.1	347.4	317.1	409.8	0.59	0.11	4.52
8,829.0	5.60	45.90	8,764.5	355.5	323.6	418.5	2.42	-1.96	12.72
8,923.0	5.00	40.90	8,858.1	361.8	329.6	426.1	0.80	-0.64	-5.32
9,017.0	5.40	36.60	8,951.8	368.4	334.9	433.3	0.59	0.43	-4.57
9,110.0	6.10	29.60	9,044.3	376.2	340.0	440.5	1.06	0.75	-7.53
9,204.0	6.50	36.60	9,137.7	384.8	345.6	448.5	0.92	0.43	7.45
9,298.0	6.00	37.30	9,231.2	393.0	351.7	456.9	0.54	-0.53	0.74
9,391.0	6.60	30.50	9,323.6	401.5	357.4	465.0	1.03	0.65	-7.31
9,485.0	7.60	28.20	9,416.9	411.6	363.1	473.5	1.11	1.06	-2.45
9,579.0	7.30	20.40	9,510.1	422.7	368.1	481.8	1.12	-0.32	-8.30
9,672.0	7.60	9.00	9,602.3	434.3	371.1	488.3	1.62	0.32	-12.26
9,766.0	7.60	358.40	9,695.5	446.7	371.9	492.9	1.49	0.00	-11.28
9,860.0	7.70	12.60	9,788.7	459.0	373.1	497.9	2.01	0.11	15.11
9,951.0	8.00	5.50	9,878.8	471.3	375.1	503.5	1.11	0.33	-7.80
10,044.0	12.70	351.60	9,970.3	487.8	374.2	507.9	5.69	5.05	-14.95
NE Corner Target 15-1									
10,137.0	14.40	344.30	10,060.7	509.1	369.6	510.1	2.59	1.83	-7.85
10,231.0	16.70	329.80	10,151.3	532.0	359.6	507.8	4.79	2.45	-15.43
10,325.0	17.60	327.20	10,241.1	555.6	345.1	501.5	1.26	0.96	-2.77
10,387.0	18.70	322.80	10,300.0	571.4	334.0	495.9	2.83	1.77	-7.10
10,450.0	18.00	322.60	10,359.8	587.2	322.0	489.4	1.12	-1.11	-0.32
10,512.0	17.30	323.80	10,418.9	602.3	310.7	483.4	1.27	-1.13	1.94
10,574.0	17.70	323.20	10,478.0	617.3	299.6	477.5	0.71	0.65	-0.97
10,667.0	17.70	323.20	10,566.6	639.9	282.7	468.5	0.00	0.00	0.00

Projection to TD

10815
 10744
 108124
 $\sin 14.3 (175) = 54$



Crescent Directional Drilling

Survey Report

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Project: Sevier Co., Utah
Site: Federal #15-1
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Design: Wellbore #1

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North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Center I5-1 - hit/miss target - Shape	0.00	0.00	10,000.0	279.0	848.0	6,732,345.18	1,526,154.60	38° 48' 4.346 N	111° 54' 3.227 W
- survey misses by 518.1ft at 10031.6ft MD (9958.1 TVD, 485.2 N, 374.5 E)									
- Circle (radius 400.0)									
NE Corner Target 15- - survey misses by 858.4ft at 10044.0ft MD (9970.3 TVD, 487.8 N, 374.2 E) - Point	0.00	0.00	10,000.0	404.0	1,228.0	6,732,468.47	1,526,535.12	38° 48' 5.581 N	111° 53' 58.427 W
SW Corner Target 15- - survey misses by 23.4ft at 4332.7ft MD (4289.8 TVD, 138.2 N, 485.3 E) - Point	0.00	0.00	4,290.0	154.0	468.0	6,732,221.91	1,525,774.04	38° 48' 3.111 N	111° 54' 8.026 W

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
10,667.0	10,566.6	639.9	282.7	Projection to TD

Checked By: _____ Approved By: _____ Date: _____

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CONFIDENTIAL

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.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator
 Utah Great Eagle, LLC

3a. Address
 301 W Northern Lights Blvd, #410, Anchorage, AK 99509

3b. Phone No. (include area code)
 907-339-7214

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
 2187" FSL & 486' FWL Sec 15 T23S R01W, Sevier Co, UT

5. Lease Serial No.
 UTU-81052

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.
 Utah Great Eagle Federal 15-1

9. API Well No.
 43-041-30048

10. Field and Pool, or Exploratory Area
 Exploratory

11. County or Parish, State
 Sevier Co, UT

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 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 checked="" type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input checked="" 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.)

The subject well was drilled to a depth of 10845 on 8/27/2008. Electric logs were run and permission to temporarily abandon with cement plugs, allowing for future re-entry and deepening, was verbally granted by Al McKee, Engineer, SLC State Office on 8/28/2008. While circulating to spot plug #1 stuck drillpipe, backed off and left 11 jts of drillpipe from 10670-10350'. Pumped premium class G cement for all plugs mixed at 17ppg and 1.03 cfps.
 plug #1 - 10230' to 9630'; 600 ft with 300 sx CIG w/ 15% salt; mix at 17.0ppg, 1.03 cfps
 plug #2 - 6000' to 5750'; 250 ft with 125 sx (same as above)
 plug #3 - 3422' to 3222'; 200 ft across 9-5/8" sfc csg shoe at 3312' w 150 sx (same as above 2% CC); WOC 6 hrs, TIH with DP, tag 3222' w 10k
 Left 10.1 ppg mud in hole between plugs; Installed cap flange.

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xc: UDOGM

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

Name (Printed/Typed) Steven R Hash, P.E. Title Consulting Engineer - EXACT Engineering Inc

Signature Steven R. Hash Date 11/22/2008

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)

Utah Great Eagle Federal 15-1

NW/SW Sec. 15 T23S R1W

Sevier Co., Utah

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Well Data Summary

Well Name	Utah Great Eagle Fed # 15-1
Operator	Utah Great Eagle
Surface Location	NW/SW, Sec 15, T23S, R1W, Sevier Co. UT.
API #	43-041-30048
Well Classification	Wildcat
Drilling Contractor	SST #58
Elevation-Ground level	6190'
Kelly Bushing	6215'
Spud Date	June 4, 2008
TD Date	Aug 28, 2008
Surface Casing	13 3/8" at 675'; 9 5/8" at 3314'
Hole Size	17 1/2"12 1/4", 8 3/4"
Sample Interval	100' -10845'
Gas Detection	300' -10845'
Open Hole Logs	Sonic, DLL, Neutron Density, Gamma
Mud Type	Air Mist / Fresh Water Gel
TD	10845'
Well Status	P & A

Formation Tops

UGE Fed 15-1

KELLY BUSHING

6215'

Formation	Sample MD	TVD	Log MD	TVD	Subsea
Arapien	Surface				
Twin Creek	10160	10083	10140		-3925
Navajo	10610	10516	10606		-4391

Utah Great Eagle Federal 15-1
NW/SW Sec. 15 T23S R1W
Sevier CO. Utah
Sample Descriptions

- 700-730 SANDSTONE 100% Clear, white, very fine (upper) to medium (lower) grained, sub angular to sub rounded, medium to well sorted, poor cement, unconsolidated, calcareous cement, fair porosity, no show.
- 730-60 SANDSTONE 90% Clear, white, very fine (upper) to coarse (lower) grained, sub angular to sub rounded, poor sorted, poor cement, unconsolidated, calcareous cement, fair porosity, no show.
SHALE 10% Light grey, tan, brown, blocky, earthy, firm, non to slightly calcareous.
- 760-90 SHALE 50% Light grey, light grey brown, blocky, sandy, firm, very calcareous.
SILTSTONE 30% Light grey, light green, arenaceous, argillaceous, calcareous, firm.
SANDSTONE 20% Clear, white, very fine (upper) to coarse (lower) grained, sub angular to sub rounded, poor sorted, poor cement, unconsolidated, calcareous cement, fair porosity, no show.
- 790-820 SHALE 30% Light grey, green, grey brown, blocky, sandy, firm, very calcareous.
SILTSTONE 20% Light grey, light green, arenaceous, argillaceous, calcareous, firm.
SANDSTONE 50% Clear white, very fine (lower) to medium (upper) grained, sub rounded to sub angular, medium sorted, unconsolidated, friable, calcareous cement, no show.
- 820-850 SHALE 50% Light grey, green, grey brown, blocky, sandy, firm, very calcareous.
SANDSTONE 20% Clear white, very fine (lower) to medium (upper) grained, sub rounded to sub angular, medium sorted, unconsolidated, friable, calcareous cement, no show.
LIMESTONE 30% White, light grey, arenaceous, argillaceous, mudstone, soft.
- 850-880 SHALE 20% Light red, brown, light green, light grey, earthy to waxy, soft, non to very calcareous.
SANDSTONE 20% Clear white, very fine (lower) to medium (upper) grained, sub rounded to sub angular, medium sorted, unconsolidated, friable, calcareous cement, no show.
LIMESTONE 10% White, light grey, arenaceous, argillaceous, mudstone, soft.
- 880-910 SHALE 60% Light grey, light green, red brown, tan, blocky, earthy to waxy, soft, weak.
SILTSTONE 20% Light grey, arenaceous, argillaceous, micaceous, soft, calcareous.
LIMESTONE 20% Light grey, argillaceous, arenaceous, mudstone, soft.
- 910-40 SHALE 70% Light to dark grey, red brown green, blocky to platy, earthy, silty, soft, calcareous.
LIMESTONE 10% Light grey, argillaceous, arenaceous, mudstone, soft.
SANDSTONE 20% Clear white, very fine (lower) to medium (upper) grained, sub rounded to sub angular, medium sorted, poor cement, unconsolidated, friable, no show.
- 940-70 SHALE 80% Light to dark grey, red brown green, blocky to platy, earthy, silty, soft, calcareous.
SANDSTONE 20% Clear white, very fine (lower) to medium (upper) grained, sub rounded to sub angular, medium sorted, poor cement, unconsolidated, friable, no show.

- 970-1000 SHALE 90% Light grey red brown, grey brown, blocky earthy, silty, soft, calcareous.
SILTSTONE 10% Light grey, argillaceous, arenaceous, soft, calcareous.
- 1000-30 SHALE 40% Light grey, red brown, grey brown, blocky, earthy, silty, soft, calcareous.
SANDSTONE 60% Clear, white, very fine (upper) to very coarse (lower) grained, angular to sub rounded, poor sorted, poor cement, unconsolidated, friable, coarse, calcareous cement, no show.
- 1030-60 SHALE 60% Light grey, red brown, orange, light green, blocky, earthy, soft, calcareous.
SANDSTONE 40% Clear, white, very fine (upper) to very coarse (lower) grained, angular to sub rounded, poor sorted, poor cement, unconsolidated, friable, coarse, calcareous cement, no show.
- 1060-90 SHALE 70% Light grey, red brown, orange, light green, blocky, earthy, soft, calcareous.
SANDSTONE 30% Clear, white, very fine (upper) to very coarse (lower) grained, angular to sub rounded, poor sorted, poor cement, unconsolidated, friable, coarse, calcareous cement, no show.
- 1090-1120 SHALE 80% Red brown, orange, light grey, blocky, earthy, silty, soft, calcareous.
SILTSTONE 10% Orange, red brown, argillaceous, arenaceous, soft, calcareous.
SANDSTONE 10% Clear, white, very fine (upper) to very coarse (lower) grained, angular to sub rounded, poor sorted, poor cement, unconsolidated, friable, coarse calcareous cement, no show.
- 1120-50 SHALE 90% Red brown, orange, grey, mottled, blocky, earthy, silty, soft, very calcareous.
SANDSTONE 10% Clear, white, very fine (upper) to very coarse (lower) grained, angular to sub rounded, poor sorted, poor cement, unconsolidated, friable, calcareous cement, no show.
- 1150-80 SHALE 100% Red brown, orange, grey, mottled, blocky, earthy, silty, soft, very calcareous.
- 1180-1210 SANDSTONE 100% Clear, white, frosted, fine (upper) to coarse (lower) grained, sub rounded to angular, medium to poor sorted, poor cement, unconsolidated, friable, no show.
- 1210-40 SANDSTONE 100% Clear, white, frosted, fine (upper) to coarse (lower) grained, sub rounded to angular, medium to poor sorted, poor cement, unconsolidated, friable, no show.
- 1240-70 SANDSTONE 90% White, clear, frosted, light orange, very fine (upper) to medium (lower) grained, sub rounded to sub angular, medium sorted, poor cement, unconsolidated, friable, no show.
SHALE 10% Red brown, orange, grey, mottled, blocky, earthy, silty, soft, very calcareous.
- 1270-1300 SANDSTONE 90% White, clear, frosted, light orange, very fine (upper) to medium (lower) grained, sub rounded to sub angular, medium sorted, poor cement, unconsolidated, friable, no show.
SHALE 10% Red brown, orange, blocky, earthy, silty, soft, calcareous.
- 1300-30 SANDSTONE 100% White, clear frosted, very fine (upper) to fine (upper) grained, well sorted, poor cement, unconsolidated, friable, no show.
- 1330-60 SANDSTONE 100% White, clear frosted, very fine (upper) to coarse (lower) grained, poor sorted, poor cement, unconsolidated, friable, no show.
- 1360-90 SANDSTONE 100% White, clear frosted, very fine (upper) to coarse (lower) grained, sub rounded to sub angular, poor sorted, poor cement, unconsolidated, friable, no show.

- 1390-1420 SANDSTONE 80% White, clear, frosted, very fine (upper) to coarse (lower) grained, sub rounded to sub angular, poor sorted, poor cement, unconsolidated, friable, no show.
SHALE 20% Red brown, orange, brown, mottled, blocky, earthy, soft, calcareous.
- 1420-50 SANDSTONE 100% White, clear frosted, very fine (lower) to fair (lower) grained, sub angular to sub rounded, well sorted, poor cement, unconsolidated, friable, no show.
- 1450-80 SHALE 70% Red brown, grey brown, maroon, mottled, blocky, earthy, soft, calcareous.
SANDSTONE 30% White, clear, frosted, very fine (lower) to fair (lower) grained, sub angular to sub rounded, well sorted, poor cement, unconsolidated, friable, no show.
- 1480-1510 SHALE 30% Red brown, grey brown, maroon, mottled, blocky, earthy, soft, calcareous.
SANDSTONE 70% White, clear, frosted, very fine (upper) to coarse (lower) grained, sub angular to sub rounded, poor sorted, poor cement, unconsolidated, friable, no show.
- 1510-40 SHALE 30% Red brown, yellow brown, red, blocky, earthy, soft, calcareous.
SANDSTONE 70% White, clear, frosted, very fine (upper) to coarse (lower) grained, sub angular to sub rounded, poor sorted, poor cement, unconsolidated, friable, no show.
- 1540-70 SHALE 80% Red brown, yellow brown, red, blocky, earthy, soft, calcareous.
ANHYDRITE 10% White, translucent, crystalline, amorphous, soft.
SANDSTONE 10% White, clear frosted, very fine (upper) to coarse (lower) grained, sub angular to sub rounded, poor sorted, poor cement, unconsolidated, friable, no show.
- 1570-1600 SHALE 10% Red brown, yellow brown, red, blocky, earthy, soft, calcareous.
ANHYDRITE 10% White, translucent, crystalline, amorphous, soft.
SANDSTONE 80% White, clear, frosted, very fine (upper) to medium (lower) grained, sub angular to sub rounded, medium sorted, poor cement, unconsolidated, friable, no show.
- 1600-30 SANDSTONE 20% White, clear, frosted, very fine (upper) to medium (lower) grained, sub angular to sub rounded, medium sorted, poor cement, unconsolidated, friable, no show.
CHERT 30% White, translucent, smokey, hard.
LIMESTONE 50% White, light grey, chalky, argillaceous, soft.
- 1630-60 CHERT 20% White, translucent, smokey, hard.
- 1660-90 SHALE 30% Red brown, tan, maroon, blocky, earthy, soft, calcareous.
LIMESTONE 70% White, tan, chalky, occasionally microcrystalline, anhydritic, soft to firm.
- 1690-1720 SHALE 30% Light grey, light green, blocky, earthy, soft, limy.
LIMESTONE 70% White, light grey, tan, chalky, mudstone, anhydritic, soft.
- 1720-50 SHALE 80% Light to medium grey, grey green, red brown, blocky, waxy to earthy, soft, calcareous.
LIMESTONE 20% White, light grey tan, chalky, mudstone, anhydritic, soft.

- 1750-80 SHALE 40% Light to medium grey, grey green, red brown, blocky, waxy to earthy, soft, calcareous.
SANDSTONE 60% Clear, white, frosted, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium sorted, poor cement, unconsolidated, friable, no show.
- 1780-1810 SHALE 40% Light to medium grey, grey green, red, brown, blocky, waxy to earthy, soft, calcareous.
SANDSTONE 60% Clear, white, frosted, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium sorted, poor cement, unconsolidated, friable, no show.
- 1810-40 SHALE 30% Light to medium grey, grey green, red, brown, blocky, waxy to earthy, soft, calcareous.
SILTSTONE 20% Light grey, argillaceous, arenaceous, soft, calcareous.
SANDSTONE 50% Clear, white, frosted, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium sorted, poor cement, unconsolidated, friable, no show.
- 1840-70 SHALE 80% Red brown, grey green, light grey, blocky, earthy, very soft to gummy.
SANDSTONE 20% Clear, white, frosted, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium sorted, poor cement, unconsolidated, friable, no show.
- 1870-1900 SHALE 90% Red brown, grey green, light grey, blocky, earthy, very soft to gummy.
SANDSTONE 10% Clear, white, frosted, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium sorted, poor cement, unconsolidated, friable, no show.
- 1900-30 SHALE 60% Red brown, grey green, light grey, blocky, earthy, very soft to gummy.
LIMESTONE 40% Tan, white, chalky, mudstone, soft to firm.
- 1930-60 SHALE 80% Red brown, light grey, green, purple, blocky, earthy to waxy, soft, calcareous.
LIMESTONE 20% Tan, white, chalky, mudstone, soft to firm.
- 1960-90 SHALE 100% Red brown, light grey, green, purple, blocky, earthy to waxy, soft, calcareous.
- 1990-2020 SHALE 100% Red brown, purple, green, blocky, earthy to waxy, soft, calcareous.
- 2020-50 SHALE 100% Light green, light grey, red brown, blocky, earthy to waxy, soft, calcareous.
- 2050-80 SHALE 80% Light green, light grey, red brown, blocky, earthy to waxy, soft, calcareous.
SILTSTONE 10% Light grey, argillaceous, arenaceous, firm calcareous.
LIMESTONE 10% Light grey, white, chalky, argillaceous, silty, marlstone.
- 2080-2110 SHALE 80% Light green, light grey, red brown, blocky, earthy to waxy, soft, calcareous.
LIMESTONE 20% Light grey, argillaceous, silty, sandy, marlstone, firm.
- 2110-40 SHALE 80% Light green, light grey, red brown, blocky, earthy to waxy, soft, calcareous.
LIMESTONE 20% Light grey, argillaceous, silty, sandy, marlstone, firm.

- 2140-70 SHALE 80% Light to medium grey, grey green, red brown, blocky, earthy to waxy, soft, calcareous.
LIMESTONE 20% White, light grey, chalk, argillaceous, soft.
- 2170-2200 SHALE 80% Light to medium grey, grey green, red brown, blocky, earthy to waxy, soft, calcareous.
LIMESTONE 20% White, light grey, chalk, argillaceous, soft.
- 2200-30 SHALE 90% Red brown, green, light to medium grey, blocky, earthy to waxy, soft, calcareous.
LIMESTONE 10% White, light grey, chalk, argillaceous, soft.
- 2230-60 SHALE 40% Red brown, green, light to medium grey, blocky, earthy to waxy, soft, calcareous.
LIMESTONE 60% White, light grey tan, chalky, argillaceous, sandy, soft.
- 2260-90 SHALE 70% Red brown, light to medium grey, green, blocky, earthy to waxy, soft, calcareous.
LIMESTONE 30% White, light grey, tan, chalky, argillaceous, sandy, soft.
- 2290-2320 SHALE 40% Red brown, light to medium grey, green, blocky, earthy to waxy, soft, calcareous.
SILTSTONE 20% Light grey, argillaceous, arenaceous, soft to firm, limy.
LIMESTONE 40% White light grey, chalk, argillaceous, sandy, soft.
- 2320-50 SHALE 30% Red brown, light to medium grey, green, blocky, earthy to waxy, soft, calcareous.
SILTSTONE 10% Light grey, argillaceous, arenaceous, soft to firm, limy.
LIMESTONE 60% White, light grey, chalky, argillaceous, sandy, mudstone, soft.
- 2350-80 LIMESTONE 100% White, light grey, chalky, argillaceous, sandy, mudstone, very soft.
- 2380-2410 LIMESTONE 100% White, light grey, chalky, argillaceous, sandy, mudstone, very soft.
- 2410-40 SHALE 20% Light grey, light green, blocky to platy, earthy, very soft, very calcareous.
LIMESTONE 80% White, light grey, chalky, argillaceous, sandy, mudstone, very soft.
- 2440-70 SHALE 30% Red brown, light grey, light green, blocky to platy, earthy, very soft, very calcareous.
LIMESTONE 70% White, light grey, chalky, argillaceous, sandy, mudstone, very soft.
- 2470-2500 LIMESTONE 100% Light grey, white, light grey brown, chalky, argillaceous, sandy, mudstone, very soft.
- 2500-30 LIMESTONE 100% Light grey, light pink, white, chalky, argillaceous, sandy, mudstone, very soft.
- 2530-60 SHALE 80% Red brown, maroon, orange, blocky, earthy, sandy, very soft, very calcareous with traces interbedded anhydrite, white.
LIMESTONE 20% Light grey, light pink, white, chalky, argillaceous, sandy, mudstone, very soft.
- 2560-90 SHALE 100% Red brown, maroon, orange, blocky, earthy, sandy, very soft, very calcareous with traces interbedded anhydrite.

- 2590-2620 SHALE 100% Red brown, brown, orange, blocky, earthy, sandy, very soft, very calcareous.
- 2620-50 SHALE 60% Red brown, maroon, orange, blocky, earthy, sandy, very soft, very calcareous with traces interbedded anhydrite.
CHERT 10% Smokey, tan, brown.
LIMESTONE 30% Light grey, white, chalky, argillaceous, sandy, mudstone, very soft.
- 2650-80 SHALE 90% Red brown, orange, brown, blocky, earthy, sandy, very soft, very calcareous, with traces of interbedded anhydrite.
LIMESTONE 10% Light grey, white, chalky, argillaceous, sandy, mudstone, very soft.
- 2680-2710 SHALE 100% Red brown, orange, brown, blocky, earthy, sandy, very soft, very calcareous, with traces of interbedded anhydrite.
- 2710-40 SHALE 100% Red brown, orange, blocky, earthy, sandy, very soft, very calcareous, with traces interbedded anhydrite.
- 2740-70 SHALE 100% Red brown, orange, blocky, earthy, sandy, very soft, very calcareous, with traces interbedded anhydrite.
- 2770-2800 SHALE 80% Red brown, orange, blocky, earthy, sandy, very soft, very calcareous, with traces interbedded anhydrite.
SANDSTONE 20% Clear, frosted, white, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium sorted, unconsolidated, friable, no show.
- 2800-30 SHALE 90% Brown, tan, red brown, blocky, earthy, sandy, very soft, calcareous with traces of interbedded anhydrite.
SANDSTONE 10% Clear, frosted, white, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium sorted, unconsolidated, friable, no show.
- 2830-60 SHALE 80% Brown, tan, red brown, blocky, earthy, sandy, very soft, calcareous, with traces of interbedded anhydrite.
SILTSTONE 20% Orange, tan, argillaceous, arenaceous, soft to firm, calcareous.
- 2860-90 SHALE 70% Red brown, brown, purple, grey, blocky, earthy, silty, soft, calcareous.
SILTSTONE 20% Orange, tan, argillaceous, arenaceous, soft to firm, calcareous.
SANDSTONE 10% Clear, white, orange, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium sorted, unconsolidated, poor cement, friable, no show.
- 2890-2920 SHALE 80% Red brown, brown, purple, grey, blocky, earthy, silty, soft, calcareous with traces of interbedded anhydrite.
SILTSTONE 20% Orange, tan, argillaceous, arenaceous, soft to firm, calcareous.
- 2920-50 SHALE 80% Red brown, brown, grey, purple, blocky, earthy, silty, very soft, calcareous with traces interbedded anhydrite.
SILTSTONE 20% Orange, red brown, argillaceous, arenaceous, soft, calcareous.

- 2950-80 SHALE 40% Red brown, brown, grey, purple, blocky, earthy, silty, very soft, calcareous with traces interbedded anhydrite.
SANDSTONE 60% White, clear, frosted, very fine (upper) to medium (upper) grained, sub rounded, unconsolidated, friable, no show.
- 2980-3010 SHALE 80% Red brown, brown grey, blocky, earthy, very soft, calcareous.
SILTSTONE 20% Orange, brown, argillaceous, arenaceous, soft, calcareous.
- 3010-40 SHALE 70% Red brown, brown, grey, blocky, earthy, very soft, calcareous, with traces of interbedded anhydrite, white, light grey.
SILTSTONE 20% Orange, brown, argillaceous, arenaceous, soft, calcareous.
- 3040-70 SHALE 70% Brown, red brown, grey, blocky, earthy, very soft, calcareous, with traces interbedded anhydrite.
SILTSTONE 30% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 3070-3100 SHALE 80% Brown, red brown, grey, blocky, earthy, very soft, calcareous, with traces interbedded anhydrite.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 3100-30 SHALE 60% Brown, red brown, light grey, blocky, earthy, soft, calcareous.
SILTSTONE 30% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
SANDSTONE 10% White, clear, frosted, very fine (upper) to medium (upper) grained, sub rounded, moderately sorted, unconsolidated, friable, no show.
- 3130-60 SHALE 10% Brown, red brown, light grey, blocky, earthy, soft, calcareous.
SILTSTONE 10% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
SANDSTONE 80% Clear, white frosted, very fine (upper) to coarse (upper) grained, sub rounded to sub angular, poor sorted, unconsolidated, friable, calcareous, no show.
- 3160-90 SHALE 80% Brown, red brown, blocky, earthy, soft, calcareous.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 3190-3220 SHALE 60% Brown, red brown, blocky, earthy, soft, calcareous.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
SANDSTONE 20% Clear, white, frosted, very fine (upper) to coarse (upper) grained, sub rounded to sub angular, poor sorted unconsolidated, friable, no show.
- 3220-50 SHALE 30% Brown, red brown, blocky, earthy, soft, calcareous.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous soft, with traces of interbedded anhydrite.
SANDSTONE 50% Clear, white, frosted, very fine (upper) to medium (upper) grained, sub rounded, moderatly sorted, poor cement, unconsolidated, friable, calcareous, no show.
- 3250-80 SHALE 70% Brown, red brown, blocky, earthy, soft, calcareous with interbedded anhydrite.
SILTSTONE 30% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 3280-3310 SHALE 70% Brown, red brown, blocky, earthy, soft, calcareous with interbedded anhydrite.
SILTSTONE 30% Brown red brown, argillaceous, arenaceous, soft, calcareous.

- 3310-40 SHALE 80% Brown, red brown, blocky, earthy, soft, calcareous with traces of interbedded anhydrite, white, translucent.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 3340-70 SHALE 70% Brown, red brown, blocky, earthy, soft, calcareous with traces of interbedded anhydrite, white, translucent.
SILTSTONE 30% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 3370-3400 SHALE 70% Brown, red brown, blocky, earthy, soft, calcareous.
SILTSTONE 30% Brown, red brown, argillaceous, arenaceous, soft, calcareous with traces interbedded anhydrite, white, soft.
- 3400-30 SHALE 70% Brown, red brown, blocky, earthy, soft, calcareous.
SILTSTONE 30% Brown, red brown, argillaceous, arenaceous, soft, calcareous with traces interbedded anhydrite, white, soft.
- 3430-60 SHALE 80% Brown, red brown, blocky, earthy, soft, calcareous.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous with traces interbedded anhydrite, white, soft.
- 3460-90 SHALE 70% Brown, red brown, blocky, earthy, soft, calcareous.
SILTSTONE 30% Brown, red brown, argillaceous, arenaceous, soft, calcareous with traces of interbedded anhydrite.
- 3490-2520 SHALE 70% Brown, red brown, blocky, earthy, soft, calcareous.
SILTSTONE 30% Brown, red brown, argillaceous, arenaceous, soft, calcareous with traces of interbedded anhydrite.
- 3520-50 SHALE 80% Purple, red brown, green, brown, blocky, earthy to waxy, soft, non to very calcareous, traces of interbedded anhydrite.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous with traces of interbedded anhydrite.
- 3550-80 SHALE 80% Brown, red brown, blocky, earthy, soft, calcareous, traces of interbedded anhydrite.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous with traces of interbedded anhydrite.
- 3580-3610 SHALE 80% Red brown, brown.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 3610-40 SHALE 30% Red brown, brown.
SILTSTONE 10% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
SANDSTONE 60% Light brown, white, brown, very fine (lower) to medium (upper) grained, sub angular to sub rounded, poor sorted, poor cement, predominantly unconsolidated, clay filled, calcareous cement, tight, no show.
- 3640-70 SHALE 80% Red brown, brown.
SILTSTONE 20% Brown red, brown, argillaceous, arenaceous, soft, calcareous.
SALT light orange, clear, being added to mud.

- 3670-3700 SHALE 80% Brown, red brown, blocky, earthy, soft, calcareous.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 3700-30 SHALE 80% Brown, red brown, earthy, blocky, soft, very calcareous with traces of interbedded anhydrite, white.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 3730-60 SHALE 80% Brown, red brown, earthy, blocky, soft, very calcareous with traces of interbedded anhydrite, white.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 3760-90 SHALE 70% Brown, red brown, earthy, blocky, soft, very calcareous, with traces of interbedded anhydrite, white.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
SANDSTONE 10% Light brown, clear, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium sorted, poor cement, predominantly unconsolidated, friable, calcareous, no show.
- 3790-3820 ANHYDRITE 10% White, light grey, amorphous, very soft.
SHALE 70% Brown, red brown, blocky, earthy, soft, very calcareous.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 3820-50 SHALE 70% Brown, red brown, blocky, earthy, soft, very calcareous.
SILTSTONE 10% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
LIMESTONE 20% Light grey, white, chalky, very soft, mudstone.
- 3850-80 SHALE 70% Brown, red brown, blocky, earthy, soft, very calcareous.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
SANDSTONE 10% Clear, light brown, very fine (upper) to coarse (lower) grained, sub rounded, poor sorted, poor cement, predominantly unconsolidated, friable, calcareous cement, no show.
- 3880-3910 SHALE 60% Brown, red brown, blocky, earthy, soft, very calcareous.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
SANDSTONE 20% Clear, light brown, very fine (upper) to coarse (lower) grained, sub rounded, poor sorted, poor cement, predominantly unconsolidated, friable, calcareous cement, no show.
- 3910-40 SHALE 80% Brown, red brown, blocky, earthy, soft, very calcareous with traces of interbedded anhydrite, white.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 3940-70 SHALE 70% Brown, red brown, blocky, earthy, soft, very calcareous with traces of interbedded anhydrite, white.
SILTSTONE 30% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 3970-4000 SHALE 70% Brown, red brown, blocky, earthy, soft, very calcareous with traces of interbedded anhydrite, white.
SILTSTONE 20% Light to medium brown, red brown, argillaceous, arenaceous, soft, very calcareous with traces of anhydrite.
SANDSTONE 10% Clear, light brown, very fine (upper) to coarse (lower) grained, sub rounded, poor sorted, poor cement, predominantly unconsolidated, friable, calcareous cement, no show.

- 4000-30 SHALE 80% Brown, red brown, blocky, earthy, soft, very calcareous with traces of anhydrite.
SILTSTONE 20% Light to medium brown, red brown, argillaceous, arenaceous, soft, very calcareous with traces of anhydrite.
- 4030-60 SHALE 70% Brown, red brown, blocky, earthy, soft, very calcareous with traces of anhydrite.
SILTSTONE 30% Light to medium brown, red brown, argillaceous, arenaceous, soft, very calcareous with traces of anhydrite.
- 4060-90 SHALE 60% Brown, red brown, blocky, earthy, soft, very calcareous with traces of anhydrite.
SILTSTONE 30% Light to medium brown, red brown, argillaceous, arenaceous, soft, very calcareous with traces of anhydrite.
SANDSTONE 10% Clear frosted, light brown, very fine (lower) to medium (lower) grained, sub rounded, medium sorted, poor cement, unconsolidated in parts, clay filled, friable, calcareous cement, no show.
- 4090-4120 SHALE 70% Brown, red brown, occasionally light to medium grey, grey green, blocky, earthy, soft, calcareous with traces of anhydrite, white, amorphous, soft.
SILTSTONE 30% Light to medium brown red brown, argillaceous, arenaceous, soft, very calcareous with traces of anhydrite.
- 4120-50 SHALE 80% Brown, red brown, occasionally light to medium grey, grey green, blocky, earthy, soft, calcareous with traces of anhydrite, white, amorphous, soft.
SILTSTONE 20% Light to medium brown red brown, argillaceous, arenaceous, soft, very calcareous with traces of anhydrite.
- 4150-80 SHALE 80% Brown, red brown, occasionally light to medium grey, grey green, blocky, earthy, soft, calcareous with traces of anhydrite, white, amorphous, soft.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 4180-4210 SHALE 80% Brown, red brown, blocky, earthy, soft, very calcareous.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 4210-40 SHALE 80% Brown, red brown, blocky, earthy, soft, very calcareous with traces of interbedded anhydrite, white, soft.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 4240-70 SHALE 80% Brown, red brown, blocky, earthy, soft, very calcareous with traces of interbedded anhydrite, white, soft.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 4270-4300 SHALE 60% Brown, red brown, blocky, earthy, soft, very calcareous with traces of interbedded anhydrite, white, soft.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
SANDSTONE 20% Clear, light brown, frosted, very fine (lower) to medium (upper) grained, poor sorted, poor cement, predominantly unconsolidated, clay filled, calcareous cement, friable, no show.

- 4300-30 SHALE 70% Brown, red brown, blocky, earthy, soft, very calcareous with traces of interbedded anhydrite, white, soft.
SILTSTONE 20% Brown, red brown, argillaceous, arenaceous, soft, calcareous.
SANDSTONE 10% Clear, light brown, frosted, very fine (lower) to medium (upper) grained, poor sorted, poor cement, predominantly unconsolidated, clay filled, calcareous cement, friable, no show.
- 4330-60 SHALE 80% Brown, red brown, blocky, earthy, soft, very calcareous with traces of interbedded anhydrite, white, soft.
SILTSTONE 20% Light brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 4360-90 SHALE 80% Light to medium brown, red brown, blocky, earthy, soft, calcareous.
SILTSTONE 20% Light brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 4390-4420 SHALE 80% Light to medium brown, red brown, blocky, earthy, soft, calcareous with traces of interbedded anhydrite.
SILTSTONE 20% Light brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 4420-50 SHALE 80% Red brown, light to medium brown, blocky, earthy, soft, calcareous with traces of interbedded anhydrite, white, soft.
SILTSTONE 20% Light brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 4450-80 SHALE 80% Red brown, light to medium brown, blocky, earthy, soft, calcareous with traces of interbedded anhydrite, white, soft.
SILTSTONE 20% Light brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 4480-4510 SHALE 50% Red brown, light to medium brown, blocky, earthy, soft, calcareous with traces of interbedded anhydrite, white, soft.
SILTSTONE 10% Light brown, red brown, argillaceous, arenaceous, soft, calcareous.
SANDSTONE 40% Clear, white, frosted, very fine (upper) to coarse (lower) grained, sub rounded, poor cement, poor sorted, unconsolidated, friable, no show.
- 4510-40 SHALE 90% Red brown, light to medium brown, blocky, earthy, soft, very calcareous with traces of interbedded anhydrite, white.
SILTSTONE 10% Light brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 4540-70 SHALE 90% Red brown, light to medium brown, blocky, earthy, soft, very calcareous with traces of interbedded anhydrite, white.
SILTSTONE 10% Light brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 4570-4600 SHALE 90% Red brown, light to medium brown occasionally grey, blocky earthy, soft, very calcareous with traces of interbedded anhydrite, white, amorphous, soft.
SILTSTONE 10% Light brown, red brown, argillaceous, arenaceous, soft, calcareous.

- 4600-30 SHALE 60% Red brown, light to medium brown occasionally grey, blocky earthy, soft, very calcareous with traces of interbedded anhydrite, white, amorphous, soft.
SILTSTONE 10% Light brown, red brown, argillaceous, arenaceous, soft, calcareous.
SANDSTONE 30% Clear light brown, very fine (upper) to medium (upper) grained, sub rounded, medium sorted, poor cement, predominantly unconsolidated, some clay matrix, friable, calcareous cement, no show.
- 4630-60 SHALE 80% Red brown, light to medium brown occasionally light grey, blocky, earthy, very soft to firm, calcareous.
SILTSTONE 20% Light brown, red brown, argillaceous, arenaceous, soft, calcareous with traces of interbedded anhydrite.
- 4660-90 SHALE 60% Red brown, light to medium brown occasionally light grey, blocky, earthy, very soft to firm, calcareous.
SILTSTONE 20% Light brown, red brown, argillaceous, arenaceous, soft, calcareous with traces of interbedded anhydrite.
SANDSTONE 20% Clear, frosted, light brown, very fine (lower) to medium (lower) grained, medium sorted, poor cement, predominantly unconsolidated, friable, calcareous, no show.
- 4690-4720 SHALE 90% Red brown, light to medium brown occasionally light grey, blocky, earthy, very soft to firm, calcareous with traces of interbedded anhydrite.
SILTSTONE 10% Light brown, red brown, argillaceous, arenaceous, soft, calcareous with traces of interbedded anhydrite.
- 4720-50 SHALE 90% Red brown, light to medium brown occasionally green grey, blocky, earthy, soft, calcareous with traces of interbedded anhydrite, white, soft.
SILTSTONE 10% Light brown, red brown, argillaceous, arenaceous, soft, calcareous with traces of interbedded anhydrite.
- 4750-80 SHALE 80% Red brown, light to medium brown occasionally green grey, blocky, earthy, soft, calcareous with traces of interbedded anhydrite, white, soft.
SILTSTONE 20% Light brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 4780-4810 SHALE 90% Red brown, light to medium brown occasionally green grey, blocky, earthy, soft, calcareous with traces of interbedded anhydrite, white, soft.
SILTSTONE 10% Light brown, red brown, argillaceous, arenaceous, soft, calcareous.
- 4810-40 SHALE 80% Red brown, brown, blocky, earthy, soft to firm, calcareous.
SILTSTONE 20% Light brown, light orange, red brown, argillaceous, arenaceous, soft, calcareous with traces of interbedded anhydrite.
- 4840-70 SHALE 90% Dark red brown, brown occasionally purple grey, blocky, earthy, calcareous with traces of interbedded anhydrite, white, soft.
SILTSTONE 10% Light brown, light orange, red brown, argillaceous, arenaceous, soft, calcareous with traces of interbedded anhydrite.

- 4870-4900 SHALE 80% Medium to dark red brown, brown occasionally purple grey, blocky, earthy, calcareous, with traces of interbedded anhydrite, white, soft.
SILTSTONE 20% Red brown, orange, arenaceous, argillaceous, soft to firm calcareous with traces of interbedded anhydrite.
- 4900-30 SHALE 60% Medium to dark red brown, brown occasionally purple grey, blocky, earthy, calcareous with traces of interbedded anhydrite, white, soft.
SILTSTONE 40% Red brown, orange, arenaceous, argillaceous, soft to firm calcareous with traces of interbedded anhydrite.
- 4930-60 SHALE 80% Red brown, light brown, blocky, earthy, very soft to firm, calcareous.
SILTSTONE 20% Red brown, orange, arenaceous, argillaceous, soft to firm calcareous with traces of interbedded anhydrite.
- 4960-90 SHALE 80% Red brown, light brown, blocky, earthy, very soft to firm, calcareous.
SILTSTONE 20% Red brown, orange, arenaceous, argillaceous, soft to firm calcareous with traces of interbedded anhydrite.
- 4990-5020 SHALE 80% Red brown, light brown, blocky, earthy, very soft to firm, calcareous.
SILTSTONE 20% Red brown, orange, brown, argillaceous, arenaceous, soft to firm, calcareous.
- 5020-50 SHALE 60% Red brown, light brown, blocky, earthy, very soft to firm, calcareous.
SILTSTONE 20% Red brown, orange, brown, argillaceous, arenaceous, soft to firm, calcareous.
SANDSTONE 20% Clear, orange, light brown, very fine (lower) to coarse (lower) grained, sub angular to sub rounded, poor sorted, poor cement, predominantly unconsolidated, friable, calcareous cement, no show.
- 5050-80 SHALE 60% Medium to dark brown, red brown, blocky, earthy, soft to firm, calcareous.
SILTSTONE 20% Red brown, orange, brown, argillaceous, arenaceous, soft to firm, calcareous.
SANDSTONE 20% Clear, orange, light brown, very fine (lower) to coarse (lower) grained, sub angular to sub rounded, poor sorted, poor cement, predominantly unconsolidated, friable, calcareous cement, no show.
Salt by drill rate, orange cast.
- 5080-5110 SHALE 40% Grey, red brown, brown, blocky, earthy, soft, calcareous.
LIMESTONE 60% Light grey, chalky, argillaceous, mudstone, gummy to soft.
- 5110-40 SHALE 20% Grey red brown, brown, blocky, earthy, soft, calcareous.
LIMESTONE 80% Light grey, chalky, argillaceous, mudstone, gummy to soft.
- 5140-58 SHALE 70% Light to medium grey, grey green, blocky, earthy to waxy, soft to firm, very calcareous.
LIMESTONE 30% Light grey, chalky, argillaceous, mudstone, gummy to soft.

SIDETRACK BACK TO 4100 SIDE TRACK #1

- 4100-30 CEMENT 40%
SHALE 40% Red brown, light brown, blocky, earthy, soft, calcareous.
SANDSTONE 20% Clear, white, frosted, very fine (upper) to medium (upper) grained, sub rounded, medium sorted, poor cement, unconsolidated, friable, no show.

- 4130-60 SHALE 70% Red brown, light brown, blocky, earthy, soft, calcareous with traces of interbedded anhydrite, white, soft.
SILTSTONE 30% Red brown, orange, brown, arenaceous, argillaceous, soft, calcareous.
- 4160-90 SHALE 80% Red brown, light to medium brown, blocky, earthy, very soft, calcareous with traces of interbedded anhydrite, white, tan, soft.
SILTSTONE 20% Red brown, orange, brown, arenaceous, argillaceous, soft, calcareous.
- 4190-4220 SHALE 80% Red brown, light to medium brown, blocky, earthy, soft, calcareous with interbedded anhydrite, white tan, soft.
SILTSTONE 20% Red brown, orange, brown, arenaceous, argillaceous, soft, calcareous.
- 4220-50 SHALE 80% Red brown, light to medium brown, blocky, earthy, soft, calcareous with interbedded anhydrite, white tan, soft.
SILTSTONE 20% Red brown, light brown, arenaceous, argillaceous, soft, calcareous.
- 4250-80 SHALE 90% Red brown, light to medium brown, blocky, earthy, soft, calcareous with interbedded anhydrite, white tan, soft.
SILTSTONE 10% Red brown, light brown, arenaceous, argillaceous, soft, calcareous.
- 4280-4310 SHALE 90% Red brown, light to medium brown, blocky, earthy, soft, calcareous, with traces of anhydrite.
SILTSTONE 10% Red brown, light brown, arenaceous, argillaceous, soft, calcareous.
- 4310-40 SHALE 70% Red brown, light to medium brown, blocky, earthy, soft, calcareous with interbedded anhydrite, white tan, soft.
SILTSTONE 30% Light brown, red brown, arenaceous, argillaceous, soft, calcareous with interbedded anhydrite, white, tan, soft.
- 4340-70 SHALE 80% Red brown, light to medium brown, blocky, earthy, soft, calcareous with interbedded anhydrite, white tan, soft.
SILTSTONE 20% Light brown, red brown, arenaceous, argillaceous, soft, calcareous with interbedded anhydrite, white, tan, soft.
- 4370-4400 SHALE 80% Red brown, light to medium brown, blocky, earthy, soft, calcareous with interbedded anhydrite, white tan, soft.
SILTSTONE 20% Light brown, red brown, arenaceous, argillaceous, soft, calcareous with interbedded anhydrite, white, tan, soft.
- 4400-30 SHALE 90% Red brown, light to medium brown, blocky, earthy, soft, calcareous with traces of interbedded anhydrite.
SILTSTONE 10% Light brown, red brown, arenaceous, argillaceous, soft, calcareous with interbedded anhydrite, white, tan, soft.
- 4430-60 SHALE 70% Red brown, light to medium brown, blocky, earthy, soft, calcareous with traces of interbedded anhydrite.
SILTSTONE 30% Light brown, orange, red brown, arenaceous, argillaceous, soft calcareous with traces of interbedded anhydrite, white, soft.

- 4460-90 SHALE 80% Red brown, light to medium brown, blocky, earthy, silty, soft, calcareous with traces of interbedded anhydrite.
SILTSTONE 20% Light to medium brown, arenaceous, argillaceous, soft, calcareous.
- 4490-4520 SHALE 80% Red brown, light to medium brown, blocky, earthy, silty, soft, calcareous with traces of interbedded anhydrite.
SILTSTONE 20% Light to medium brown, arenaceous, argillaceous, soft, calcareous.
- 4520-50 SHALE 80% Red brown, light to medium brown, blocky, earthy, very soft, calcareous with traces of interbedded anhydrite.
SILTSTONE 20% Light brown, orange, arenaceous, argillaceous, soft, calcareous.
- 4550-80 SHALE 90% Red brown, light to medium brown, blocky, earthy, very soft, calcareous with traces of interbedded anhydrite.
SILTSTONE 10% Light brown, orange, arenaceous, argillaceous, soft, calcareous.
- 4580-4610 SHALE 90% Light grey, blue grey, red brown, light brown, blocky, earthy to waxy, very soft, very calcareous.
SILTSTONE 10% Light brown, orange, arenaceous, argillaceous, soft, calcareous.
- 4610-40 SHALE 90% Red brown, light to medium brown, blocky, earthy, very soft, calcareous.
SILTSTONE 10% Red brown, orange, light brown, arenaceous, argillaceous, soft, calcareous.
- 4640-70 SHALE 100% Red brown, light to medium brown, blocky, earthy, very soft, calcareous with traces of interbedded anhydrite, soft, white.
- 4670-4700 SHALE 100% Red brown, medium brown, blocky, earthy, soft, calcareous with traces of anhydrite.
- 4700-30 SHALE 80% Red brown, light to medium brown, blocky, earthy, very soft, calcareous.
SILTSTONE 20% Red brown, orange, are, argillaceous, soft, calcareous.
- 4730-60 SHALE 100% Red brown, light to medium brown, blocky, earthy, very soft, calcareous.
- 4760-90 SHALE 100% Red brown, light to medium brown, blocky, earthy, very soft, calcareous with traces of interbedded anhydrite.
- 4790-4820 SHALE 90% Red brown, light to dark brown, blocky, earthy, very soft to firm, calcareous.
SILTSTONE 10% Red brown, orange, arenaceous, argillaceous, soft, calcareous.
- 4820-50 SHALE 80% Red brown, light to dark brown, blocky, earthy, very soft to firm, calcareous.
SILTSTONE 20% Red brown, orange, arenaceous, argillaceous, soft, calcareous.
- 4850-80 SHALE 90% Red brown, light to medium brown, blocky, earthy, very soft, calcareous.
SILTSTONE 10% Red brown, orange, arenaceous, argillaceous, soft, calcareous.
- 4880-4910 SHALE 90% Red brown, light to dark brown, blocky, earthy, very soft to firm, calcareous.
SILTSTONE 10% Red brown, orange, arenaceous, argillaceous, soft, calcareous.

- 4910-40 SHALE 60% Red brown, light to dark brown, blocky, earthy, very soft to firm, calcareous.
SILTSTONE 10% Red brown, orange, arenaceous, argillaceous, soft, calcareous.
SANDSTONE 30% Clear, light orange, frosted filled, very fine (upper) to medium (upper) grained, sub rounded, medium sorted, unconsolidated, friable, no show.
- 4940-70 SHALE 50% Red brown, light to dark brown, occasionally grey blue green, blocky, earthy, soft, calcareous.
SILTSTONE 10% Red brown, orange, arenaceous, argillaceous, soft, calcareous.
SANDSTONE 40% Clear, light orange, frosted, very fine (upper) to medium (upper) grained, sub rounded, medium sorted, unconsolidated, friable, no show.
- 4970-5000 SHALE 70% Red brown, brown, occasionally grey, blocky, earthy, soft, very calcareous.
SANDSTONE 30% Clear, light orange, frosted, very fine (upper) to medium (upper) grained, sub rounded, medium sorted, unconsolidated, friable, no show.
- 5000-30 SHALE 20% Red brown, brown, occasionally grey, blocky, earthy, soft, very calcareous.
LIMESTONE 80% Light grey, chalky, lithographic, argillaceous, mudstone, very soft to gummy.
- 5030-60 SHALE 30% Red brown, brown, occasionally grey, blocky, earthy, soft, very calcareous.
LIMESTONE 40% Light grey, chalky, lithographic, argillaceous, mudstone, very soft to gummy.
SANDSTONE 30% Clear, light orange, very fine (upper) to medium (lower) grained, sub rounded, medium sorted, unconsolidated, friable, no show.
- 5060-90 SHALE 10% Red brown, brown, occasionally grey, blocky, earthy, soft, very calcareous.
LIMESTONE 90% Light grey, chalky, lithographic, argillaceous, mudstone, very soft to gummy.
SALT?
- 5090-5120 SHALE 30% Light grey, red brown, blocky, earthy, soft, very calcareous.
LIMESTONE 70% Light grey, chalky, lithographic, argillaceous, mudstone, very soft to gummy.
- 5120-50 SHALE 20% Light grey, red brown, blocky, earthy, soft, very calcareous.
LIMESTONE 80% Light grey, chalky, argillaceous, anhydritic mudstone, very soft with traces of interbedded anhydrite.
- 5150-80 ANHYDRITE 10% White, chalky, soft.
SHALE 40% Light grey, red brown, blocky, earthy, soft, very calcareous.
LIMESTONE 50% Light grey, chalky, argillaceous, anhydritic mudstone, very soft with traces of interbedded anhydrite.
- 5180-5210 ANHYDRITE 10% White, chalky, soft.
SHALE 50% Light grey medium to dark brown, red brown, blocky, earthy, soft, calcareous.
LIMESTONE 40% Light grey, chalky, argillaceous, anhydritic, mudstone, very soft with traces of interbedded anhydrite.

- 5210-40 ANHYDRITE 10% White, translucent, chalky, amorphous, soft.
SHALE 70% Light to medium grey, blue grey, brown, red brown, blocky, earthy to waxy, soft, limy.
LIMESTONE 20% Light grey, chalky, argillaceous, anhydritic, mudstone, very soft with traces of interbedded anhydrite.
- 5240-70 ANHYDRITE 10% White, translucent, chalky, amorphous, soft.
SHALE 60% Light to medium grey, blue grey, brown, red brown, blocky, earthy to waxy, soft, limy.
LIMESTONE 30% Light grey, chalky, argillaceous, anhydritic, mudstone, very soft with traces of interbedded anhydrite.
- 5270-5300 ANHYDRITE 10% White, amorphous, soft.
SHALE 60% Light to medium grey, blue grey, brown, red brown, blocky, earthy to waxy, soft, limy.
LIMESTONE 30% Light grey, chalky, argillaceous, mudstone, very soft.
- 5300-30 ANHYDRITE 10% White, amorphous, soft.
SHALE 60% Light to medium grey brown, red brown, blocky, earthy, soft, very calcareous.
LIMESTONE 30% Light grey, chalky, argillaceous, mudstone, very soft.
- 5330-60 SHALE 70% Light to medium grey brown, red brown, blocky, earthy, soft, very calcareous.
LIMESTONE 30% Light grey, chalky, argillaceous, mudstone, very soft.
- 5360-90 ANHYDRITE 10% White, amorphous, soft.
SHALE 60% Light to medium grey brown, red brown, blocky, earthy, soft, very calcareous.
LIMESTONE 20% Light grey, chalky, argillaceous, mudstone, very soft.
SANDSTONE 10% Clear, light orange frosted, very fine (lower) to medium (upper) grained, sub rounded, poor sorted, unconsolidated, friable, no show.
- 5390-5420 ANHYDRITE 10% White, amorphous, soft.
SHALE 60% Light to medium grey, brown, red brown, blocky, soft, very calcareous.
SILTSTONE 20% Light grey, argillaceous, arenaceous, friable to firm, limy.
LIMESTONE 10% Light grey, chalky, argillaceous, mudstone, very soft.
- 5420-50 ANHYDRITE 10% White, amorphous, soft.
SHALE 60% Light to medium grey, brown, red brown, blocky, soft, very calcareous.
SILTSTONE 20% Light grey, argillaceous, arenaceous, friable to firm, limy.
LIMESTONE 10% Light grey, lithographic, mudstone, very soft.
- 5450-80 ANHYDRITE 20% White, translucent, amorphous, soft.
SHALE 60% Light to medium grey, red brown, blocky to platy, earthy, soft, very calcareous.
SILTSTONE 20% Light grey, argillaceous, arenaceous, friable to firm, very calcareous.
- 5480-5510 ANHYDRITE 40% White, translucent, amorphous, chalky, very soft.
SHALE 50% Light to medium grey, red brown, blocky to platy, earthy, soft, very calcareous.
LIMESTONE 10% Light grey, argillaceous, arenaceous, soft to firm, very calcareous.

- 5510-40 ANHYDRITE 30% White, translucent, amorphous, chalky, very soft.
 SHALE 50% Light to medium grey, red brown, blocky to platy, earthy, soft very calcareous.
 SILTSTONE 10% Light grey, argillaceous, arenaceous, friable to firm, calcareous.
 LIMESTONE 10% Light grey, argillaceous, arenaceous, soft to firm, very calcareous.
- 5540-70 ANHYDRITE 30% White, translucent, amorphous, chalky, very soft.
 SHALE 30% Light to medium grey, red brown, blocky to platy, earthy, soft very calcareous.
 SILTSTONE 10% Light grey, argillaceous, arenaceous, friable to firm, calcareous.
 SANDSTONE 30% Clear, light orange, very fine (lower) to fine (upper) grained, sub rounded, well sorted, poor cement, predominantly, unconsolidated, friable, no show.
- 5570-5600 ANHYDRITE 50% White, translucent, amorphous, chalky, very soft.
 SHALE 40% Light to medium grey, red brown, blocky to platy, earthy, soft very calcareous.
 SILTSTONE 10% Light grey, argillaceous, arenaceous, friable to firm, calcareous.
- 5600-30 ANHYDRITE 40% White, translucent, amorphous, very soft to firm.
 SHALE 30% Light to medium grey, red brown, blocky to platy, earthy, soft very calcareous.
 LIMESTONE 10% Light grey, chalky, lithographic, mudstone, very soft.
 SANDSTONE 20% Light orange, light grey, clear, very fine (lower) to fine (upper) grained, sub rounded, well sorted, poor cement, calcareous cement, predominantly unconsolidated, friable, no show.
- 5630-60 ANHYDRITE 20% White, translucent, amorphous, very soft to firm.
 SHALE 40% Light to medium grey, red brown, brown, blocky to platy, earthy, soft, very calcareous.
 LIMESTONE 10% Light grey, chalky, lithographic, mudstone, very soft.
 SANDSTONE 30% Light orange, light grey, clear, very fine (lower) to fine (upper) grained, sub rounded, well sorted, poor cement, calcareous cement, predominantly unconsolidated, friable, no show.
- 5660-90 ANHYDRITE 20% White, translucent, amorphous, very soft to firm.
 SHALE 50% Light to medium grey, red brown, brown, blocky to platy, earthy, soft, very calcareous.
 LIMESTONE 10% Light grey, chalky, lithographic, argillaceous, mudstone, very soft.
 SANDSTONE 20% Light orange, light grey, clear, very fine (lower) to fine (upper) grained, sub rounded, well sorted, poor cement, calcareous cement, predominantly unconsolidated, friable, no show.
- 5690-5720 ANHYDRITE 10% White, translucent, amorphous, very soft to firm.
 SHALE 40% Light to medium grey, red brown, brown, blocky to platy, earthy, soft, very calcareous.
 SILTSTONE 20% Light grey, grey brown, arenaceous, argillaceous, firm, limy.
 SANDSTONE 10% Light grey, very fine (lower) to very fine (upper) grained, sub rounded, well sorted, clay matrix, poor cement, calcareous cement, friable, no show.
 LIMESTONE 20% Light grey, chalky, lithographic, argillaceous, mudstone, very soft.
- 5720-50 ANHYDRITE 10% White, translucent, amorphous, very soft to firm.
 SHALE 50% Light to medium grey, blocky to platy, earthy, soft, very calcareous.
 SILTSTONE 20% Light grey, grey brown, arenaceous, argillaceous, firm, limy.
 LIMESTONE 20% Light grey, chalky, lithographic, mudstone, very soft, anhydritic.

- 5750-80 ANHYDRITE 10% White, translucent, amorphous, very soft to firm.
 SHALE 60% Light to medium grey, blocky to platy, earthy, soft, very calcareous.
 SILTSTONE 20% Light to medium grey, argillaceous, arenaceous, soft to firm, very calcareous.
 LIMESTONE 10% Light grey, chalky, lithographic, mudstone, very soft, anhydritic.
- 5780-5810 ANHYDRITE 10% White, translucent, amorphous, soft to firm.
 SHALE 60% Light to medium grey, blocky to platy, earthy, soft, very calcareous.
 SILTSTONE 20% Light to medium grey, argillaceous, arenaceous, soft to firm, very calcareous.
 LIMESTONE 10% Light grey, chalky, lithographic, mudstone, very soft, anhydritic.
- 5810-40 ANHYDRITE 10% White, translucent, amorphous, soft to firm.
 SHALE 40% Light to medium grey, blocky to platy, earthy, soft, very calcareous.
 SANDSTONE 20% Light grey, grey brown, very fine (lower) to fine (upper) grained, sub rounded, well sorted, poor cement, clay matrix, friable, calcareous cement, no show.
 LIMESTONE 30% Light grey, chalky, lithographic, argillaceous, mudstone, very soft, anhydritic.
- 5840-70 ANHYDRITE 10% White, translucent, amorphous, soft to firm.
 SHALE 60% Light to medium grey, blocky to platy, earthy, soft, calcareous.
 SANDSTONE 20% Light grey, grey brown, very fine (lower) to fine (upper) grained, sub rounded, well sorted, poor cement, clay matrix, friable, calcareous cement, no show.
 LIMESTONE 10% Light grey, chalky, lithographic, argillaceous, mudstone, very soft, anhydritic.
- 5870-5900 ANHYDRITE 10% White, translucent, amorphous, soft to firm.
 SHALE 30% Light to medium grey, blocky to platy, earthy, soft, calcareous.
 SILTSTONE 10% Light grey, argillaceous, arenaceous, friable to firm, calcareous.
 LIMESTONE 50% Light grey, chalky, lithographic, mudstone, very soft.
- 5900-30 SHALE 40% Light to medium grey, blocky, earthy, soft, very calcareous.
 SILTSTONE 10% Light grey, argillaceous, arenaceous, friable to firm, calcareous.
 LIMESTONE 50% Light grey, chalky, lithographic, mudstone, very soft.
- 5930-60 SHALE 30% Light to medium grey, blocky, earthy, soft, very calcareous.
 LIMESTONE 70% Light grey, chalky, lithographic, mudstone, very soft.
- 5960-90 SHALE 40% Light to medium grey, blocky, earthy, soft, very calcareous.
 LIMESTONE 60% Light grey, chalky, lithographic, mudstone, very soft.
- 5990-6020 ANHYDRITE 10% White, translucent, amorphous, soft to firm.
 SHALE 40% Light to medium grey, blocky, earthy, soft, very calcareous.
 LIMESTONE 50% Light grey, chalky, lithographic, mudstone, very soft.
- 6020-50 ANHYDRITE 10% White, translucent, amorphous, soft to firm.
 SHALE 30% Light to medium grey, blocky, earthy, soft, very calcareous.
 LIMESTONE 60% Light grey, chalky, lithographic, mudstone, very soft.

- 6050-80 SHALE 30% Light to medium grey, blocky, earthy, soft, very calcareous.
SANDSTONE 20% Clear, light orange frosted, very fine (upper) to coarse (lower) grained, sub rounded to sub angular, poor sorted, poor cement, unconsolidated, friable, no show.
LIMESTONE 50% Light grey, chalky, lithographic, mudstone, very soft with traces of interbedded chert, smoky, translucent.
- 6080-6110 SHALE 60% Light to medium grey, blocky, earthy, soft, very calcareous.
LIMESTONE 30% Light grey, chalky, lithographic, mudstone, very soft with traces of interbedded chert, smoky, translucent.
CHERT 10% White, smokey, translucent, hard.
- 6110-40 SHALE 30% Light to medium grey, blocky, earthy, soft, very calcareous with traces of interbedded Anhydrite.
SILTSTONE 10% Light grey, grey brown, argillaceous, arenaceous, soft, calcareous.
LIMESTONE 60% Light grey, chalky, lithographic, mudstone, very soft with traces of interbedded chert, smoky, translucent.
- 6140-70 ANHYDRITE 10% White, translucent, amorphous, soft to firm.
SHALE 50% Light to medium grey, blocky, earthy, soft, very calcareous with traces of chert, smoky translucent, hard.
LIMESTONE 40% Light grey, chalky, lithographic, mudstone, very soft with traces of interbedded chert, smoky, translucent.
- 6170-6200 ANHYDRITE 10% White, translucent, amorphous, soft to firm.
SHALE 30% Light to medium grey, blocky, earthy, soft, very calcareous with traces of chert, smoky translucent, hard.
LIMESTONE 60% Light grey, chalky, lithographic, mudstone, very soft.
- 6200-30 SHALE 40% Light to medium grey, blocky, earthy, soft, very calcareous.
LIMESTONE 60% Light grey, chalky, lithographic, mudstone, very soft.
- 6230-60 SHALE 60% Light to medium grey, blocky, earthy, soft, very calcareous.
SILTSTONE 10% Light grey, grey brown, argillaceous, arenaceous, soft, calcareous.
LIMESTONE 30% Light grey, chalky, lithographic, mudstone, very soft.
- 6260-90 SHALE 50% Light to medium grey, blocky, earthy, soft, very calcareous.
SILTSTONE 10% Light grey, grey brown, argillaceous, arenaceous, soft, calcareous.
LIMESTONE 40% Light grey, chalky, lithographic, mudstone, very soft.
- 6290-6320 SHALE 60% Light to medium grey, blocky, earthy, soft with traces of calcite filled fractures.
SILTSTONE 20% Light grey, grey brown, argillaceous, arenaceous, soft, calcareous.
LIMESTONE 20% Light grey, chalky, lithographic, mudstone, very soft.
- 6320-50 SHALE 40% Light to medium grey, blocky, earthy, soft with traces of calcareous filled fractures.
LIMESTONE 40% Light grey, chalky, lithographic, mudstone, very soft.
SALT 20% Over shale shaker and drill rate.

- 6350-80 SHALE 40% Light to medium grey, blocky, earthy, soft with traces of calcareous filled fractures.
LIMESTONE 30% Light grey, chalky, lithographic, mudstone, very soft.
SALT 30% Clear, white, light orange.
- 6380-6410 SHALE 40% Light to medium grey, grey brown, blocky, earthy, very soft, calcareous.
LIMESTONE 40% Light grey, chalky, lithographic, mudstone, very soft.
SALT 20% Clear, white, light orange.
- 6410-40 SHALE 40% Light to medium grey, grey brown, blocky, earthy, very soft, calcareous.
LIMESTONE 40% Light grey, chalky, lithographic, mudstone, very soft.
SALT 20% Clear, white, light orange.
- 6440-70 SHALE 30% Light to medium grey, blocky to platy, earthy, soft, calcareous.
LIMESTONE 60% Light grey, chalky, lithographic, mudstone, very soft.
SALT 10% Clear, white, light orange.
- 6470-6500 SHALE 60% Light to medium grey, blocky, earthy, soft, calcareous with traces of interbedded anhydrite, white, amorphous, firm.
LIMESTONE 40% Light grey, chalky, lithographic, mudstone, very soft.
- 6500-30 SHALE 60% Light to medium grey, chalky, earthy, soft, very calcareous with interbedded anhydrite.
LIMESTONE 40% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic, very soft.
- 6530-60 SHALE 60% Light to medium grey, light green, blocky, earthy, soft, very calcareous.
LIMESTONE 40% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic, very soft.
- 6560-90 SHALE 40% Light to medium grey, light green, blocky, earthy, soft, very calcareous.
LIMESTONE 60% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 6590-6620 SHALE 40% Light to medium grey, light green, blocky, earthy, soft, very calcareous with traces of interbedded salt, light orange, white.
LIMESTONE 60% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 6620-50 SHALE 40% Light to medium grey, light green, blocky, earthy, soft, very calcareous.
LIMESTONE 60% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 6650-80 SHALE 40% Light to medium grey, light green, blocky, earthy, soft, very calcareous.
LIMESTONE 60% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 6680-6710 SHALE 30% Light to medium grey, light green, blocky, earthy, soft, very calcareous.
LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.

- 6710-40 SHALE 30% Light to medium grey, blocky, earthy, soft, very calcareous.
LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 6740-70 SHALE 30% Light to medium grey, blocky, earthy, soft, very calcareous.
LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 6770-6800 SHALE 30% Light to medium grey, light green, blocky, earthy, soft, very calcareous with traces of interbedded Anhydrite.
LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 6800-30 SHALE 20% Light to medium grey, light green, blocky, earthy, soft, very calcareous with traces of interbedded Anhydrite.
SILTSTONE 20% Light to medium grey, argillaceous, arenaceous, friable to firm, very calcareous to limy.
LIMESTONE 60% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 6830-60 SHALE 30% Light to medium grey, light green, blocky, earthy, soft, very calcareous with traces of salt, clear, light orange.
SILTSTONE 20% Light to medium grey, argillaceous, arenaceous, friable to firm, very calcareous to limy.
LIMESTONE 50% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft with traces of interbedded anhydrite.
- 6860-90 SHALE 50% Light to medium grey, blocky to platy, earthy, soft, very calcareous with traces of interbedded anhydrite and salt.
SILTSTONE 10% Light to medium grey, argillaceous, arenaceous, friable to firm, very calcareous to limy.
LIMESTONE 40% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft with traces of interbedded anhydrite.
- 6890-6920 SHALE 30% Light to medium grey, blocky to platy, earthy, soft, very calcareous with traces of interbedded anhydrite and salt.
SILTSTONE 10% Light to medium grey, argillaceous, arenaceous, friable to firm, very calcareous to limy.
LIMESTONE 60% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic, very soft, with traces of interbedded anhydrite.
- 6920-50 SHALE 30% Light to medium grey, light green, blocky to platy, earthy, very calcareous.
SILTSTONE 10% Light to medium grey, argillaceous, arenaceous, friable to firm, very calcareous to limy.
LIMESTONE 60% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic, very soft, with traces of interbedded anhydrite.

- 6950-80 SHALE 50% Light to medium grey, light green, blocky to platy, earthy, very calcareous.
LIMESTONE 50% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic, very soft, with traces of interbedded anhydrite.
- 6980-7010 SHALE 40% Light to medium grey, blocky, earthy, soft, very calcareous.
LIMESTONE 60% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic, very soft, with traces of interbedded anhydrite.
- 7010-40 SHALE 40% Light to medium grey, blocky, earthy, soft, very calcareous with traces of interbedded anhydrite, white amorphous, soft.
LIMESTONE 50% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 7040-70 SALT 10% Clear light orange.
SHALE 50% Light to medium grey, blocky, earthy, soft, with traces of interbedded anhydrite, white, soft.
SILTSTONE 10% Light grey arenaceous, argillaceous, friable, very calcareous.
LIMESTONE 30% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 7070-7100 SHALE 40% Light to medium grey, light green, blocky, earthy, soft to firm, very calcareous.
SILTSTONE 20% Light grey, arenaceous, argillaceous, friable, limy.
LIMESTONE 40% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 7100-30 SHALE 40% Light to medium grey, light green, blocky, earthy, soft to firm, with traces of calcareous filled fractures.
SANDSTONE 40% Clear light orange, frosted, very fine (lower) to medium (lower) grained, sub rounded, medium sorted, unconsolidated.
LIMESTONE 30% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 7130-60 SHALE 40% Light to medium grey, light green, blocky, earthy, soft to firm, with traces of calcareous filled fractures.
SANDSTONE 20% Clear light orange, frosted, very fine (lower) to medium (lower) grained, sub rounded, medium sorted, unconsolidated.
LIMESTONE 40% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 7160-90 SHALE 30% Light to medium grey, light green, blocky, earthy, soft to firm, with traces of calcite filled fractures.
LIMESTONE 70% Light grey, white, chalky, argillaceous, lithographic, mudstone, very soft.
- 7190-7220 SHALE 60% Light to medium grey, light green, brown, blocky, earthy, soft to firm, very calcareous.
LIMESTONE 40% Light grey, white, chalky, argillaceous, lithographic, mudstone, very soft.
- 7220-50 SHALE 60% Light to medium grey, brown, light green, blocky, earthy, soft, very calcareous with traces of interbedded Anhydrite.
LIMESTONE 40% Light grey, white, chalky, argillaceous, lithographic, mudstone, very soft.

- 7250-80 SHALE 30% Light to medium grey, brown, light green, blocky, earthy, soft, very calcareous with traces of interbedded anhydrite.
SILTSTONE 10% Light grey brown, light grey, argillaceous, arenaceous, firm, limy.
LIMESTONE 60% Light grey, chalky, argillaceous, lithographic, mudstone, very soft.
- 7280-7310 SHALE 30% Light to medium grey, brown, light green, blocky, earthy, soft, very calcareous with traces of interbedded anhydrite.
SILTSTONE 10% Light grey brown, light grey, argillaceous, arenaceous, firm, limy.
LIMESTONE 60% Light grey, chalky, argillaceous, lithographic, mudstone, very soft.
- 7310-40 SHALE 30% Light to medium grey, blocky, earthy, soft to firm, very calcareous.
LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft with traces of interbedded anhydrite.
- 7340-70 ANHYDRITE 10% White, amorphous, soft to firm.
SHALE 50% Light to medium grey, blocky, earthy, soft to firm, very calcareous.
LIMESTONE 40% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft with traces of interbedded anhydrite.
- 7370-7400 ANHYDRITE 10% White, amorphous, soft to firm.
SHALE 60% Light to medium grey, blocky, earthy, soft to firm, very calcareous.
LIMESTONE 30% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft with traces of interbedded anhydrite.
- 7400-30 SHALE 60% Light to medium grey, red brown, light green maroon, blocky, earthy, soft to firm, very calcareous, with traces of interbedded Anhydrite.
LIMESTONE 40% Light grey, chalky, argillaceous, lithographic, mudstone (70%) grey brown, crypto to microcrystalline, anhydritic, firm (30%).
- 7430-60 SHALE 50% Light to medium grey, red brown, light green, maroon, blocky, earthy, soft, very calcareous.
LIMESTONE 50% Light grey, chalky, argillaceous, lithographic, mudstone (70%) grey brown, dark grey, microcrystalline, anhydritic, occasionally calcite filled fractures, dense, firm (30%).
- 7460-90 ANHYDRITE 30% White, amorphous, very soft.
SHALE 20% Light to medium grey, red brown, light green, maroon, blocky, earthy, soft, very calcareous.
LIMESTONE 50% Light to medium gray, chalky, argillaceous, lithographic, mudstone (90%) dark gray, microcrystalline, anhydritic, firm (10%).
- 7490-7510 ANHYDRITE 10% White, amorphous, very soft.
SHALE 30% Light to medium grey, red brown, light green, maroon, blocky, earthy, soft, very calcareous.
LIMESTONE 60% Light to medium grey, chalky, argillaceous, lithographic, mudstone (90%) dark grey, microcrystalline, anhydritic, firm (10%).
- 7510-20 SHALE 20% Light to medium grey, blocky to splintery, firm, very calcareous.
LIMESTONE 80% Light grey, chalky, argillaceous, lithographic, anhydritic, very soft.

- 7520-30 SHALE 20% Light to medium grey, blocky to splintery, firm, very calcareous.
LIMESTONE 80% Light grey, chalky, argillaceous, lithographic, anhydritic, very soft.
- 7530-40 SHALE 20% Light to medium grey, blocky to splintery, firm, very calcareous.
LIMESTONE 80% Light grey, chalky, argillaceous, lithographic, anhydritic, very soft (80%)
light grey brown, medium grey, microcrystalline, occasionally sucrosic, firm (20%).
- 7540-50 SHALE 30% Light to medium grey, blocky to splintery, firm, very calcareous.
LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, anhydritic, very soft, (100%).
- 7550-60 SHALE 20% Light to medium grey, blocky to splintery, firm, very calcareous.
SILTSTONE 20% Light to medium grey, arenaceous, argillaceous, firm, limy.
LIMESTONE 60% Light grey, chalky, argillaceous, lithographic, anhydritic, very soft, (100%).
- 7560-70 SHALE 20% Medium grey, blocky to splintery, earthy, firm, very calcareous.
LIMESTONE 80% Light grey, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 7570-80 SHALE 30% Medium grey, blocky to splintery, earthy, firm, very calcareous.
LIMESTONE 70% Light grey, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 7580-90 SHALE 20% Medium grey, blocky to splintery, earthy, firm, very calcareous.
LIMESTONE 80% Light grey, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 7590-7600 SHALE 30% Light to medium grey, blocky to splintery, earthy, soft to firm, very calcareous.
LIMESTONE 70% Light grey, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 7600-10 SHALE 30% Light to medium grey, blocky to splintery, earthy, soft to firm, very calcareous.
SILTSTONE 10% Light to medium grey, arenaceous, argillaceous, firm, limy.
LIMESTONE 60% Light grey, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 7610-20 SHALE 30% Light to medium grey, blocky to splintery, earthy, soft to firm, very calcareous.
SILTSTONE 10% Light to medium grey, arenaceous, argillaceous, firm, limy.
LIMESTONE 60% Light grey, chalky, argillaceous, lithographic, mudstone, very soft.
- 7620-30 SHALE 30% Light to medium grey, blocky, earthy, soft to firm, calcareous.
LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, very soft.
- 7630-40 SHALE 30% Light to medium grey, blocky, earthy, soft to firm, calcareous.
LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, very soft.
- 7640-50 ANHYDRITE 20% White, amorphous, very soft.
SHALE 20% Light to medium grey, blocky, earthy, soft to firm, calcareous.
LIMESTONE 60% Light grey, chalky, argillaceous, lithographic, mudstone, very soft.
- 7650-60 ANHYDRITE 10% White, amorphous, very soft.
SHALE 40% Light to medium grey, blocky, earthy, soft to firm, calcareous.
LIMESTONE 50% Light grey, chalky, argillaceous, lithographic, mudstone, very soft.

- 7660-70 ANHYDRITE 10% White, amorphous, very soft.
SHALE 50% Light to medium grey, blocky, earthy, soft to firm, calcareous.
LIMESTONE 40% Light grey, chalky, argillaceous, lithographic, mudstone, very soft.
- 7670-80 SHALE 50% Light to medium grey, maroon, green, red brown, blocky, earthy, soft, very calcareous.
LIMESTONE 50% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic.
- 7680-90 ANHYDRITE 10% White, amorphous, very soft.
SHALE 30% Light to medium grey, maroon, green, red brown, blocky, earthy, soft, very calcareous.
LIMESTONE 60% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic.
- 7690-7700 ANHYDRITE 10% White, amorphous, very soft.
SHALE 50% Light to medium grey, maroon, green, red brown, blocky, earthy, soft, very calcareous.
LIMESTONE 40% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic.
- 7700-20 ANHYDRITE 10% White, amorphous, very soft.
SHALE 50% Light to medium grey, blocky, earthy, soft to firm, very calcareous.
LIMESTONE 40% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic.
- 7720-40 ANHYDRITE 10% White, amorphous, very soft.
SHALE 30% Light to medium grey, blocky, earthy, soft to firm, very calcareous.
LIMESTONE 60% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic, very soft.
- 7740-60 ANHYDRITE 10% White, amorphous, very soft.
SHALE 40% Light to medium grey, blocky, earthy, soft to firm, very calcareous.
LIMESTONE 50% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic, very soft.
- 7760-80 ANHYDRITE 20% White, amorphous, very soft.
SHALE 30% Light to medium grey, blocky, earthy, soft to firm, very calcareous.
LIMESTONE 50% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic, very soft.
- 7780-7800 SHALE 40% Light to medium grey, blocky, earthy, soft to firm, very calcareous.
LIMESTONE 60% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic, very soft.
- 7800-20 SHALE 30% Light to medium grey, blocky, earthy, soft to firm, very calcareous.
LIMESTONE 70% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic, very soft.
- 7820-40 ANHYDRITE 20% White, amorphous, crystalline in parts, very soft to firm.
SHALE 30% Light to medium grey, blocky, earthy, soft to firm, very calcareous.
LIMESTONE 50% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic, very soft.

- 7840-60 ANHYDRITE 10% White, amorphous, crystalline in parts, very soft to firm.
 SHALE 40% Light to medium grey, grey green, blocky to platy, earthy, soft to firm.
 LIMESTONE 50% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic, very soft.
- 7860-80 ANHYDRITE 10% White, amorphous, crystalline in parts, very soft to firm.
 SHALE 40% Light to medium grey, grey green, blocky to platy, earthy, soft to firm.
 LIMESTONE 50% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic, very soft.
- 7880-7900 ANHYDRITE 10% White, amorphous, crystalline in parts, very soft to firm.
 SHALE 30% Light to medium grey, grey green, blocky to platy, earthy, soft to firm.
 LIMESTONE 60% Light grey, chalky, argillaceous, lithographic, mudstone (80%) gray brown, microcrystalline, anhydritic, firm.
- 7900-20 ANHYDRITE 10% White, amorphous, crystalline in parts, very soft to firm.
 SHALE 20% Light to medium grey, grey green, blocky to platy, earthy, soft to firm.
 LIMESTONE 70% Light grey, chalky (80%) grey brown, grey, crypto crystalline, anhydritic, firm (20%).
- 7920-40 ANHYDRITE 20% White, amorphous, crystalline in parts, very soft to firm.
 SHALE 30% Light to medium grey, brown red brown, blocky, earthy, soft, very calcareous.
 LIMESTONE 50% Light grey, chalky (80%) grey brown, grey, crypto crystalline, anhydritic, firm (20%).
- 7940-60 ANHYDRITE 10% White, amorphous, crystalline in parts, very soft to firm.
 SHALE 20% Light to medium grey, brown red brown, blocky, earthy, soft, very calcareous.
 LIMESTONE 70% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic (90%), grey brown, cryptocrystalline, anhydritic, firm (10%).
- 7960-80 ANHYDRITE 10% White, amorphous, crystalline in parts, very soft to firm.
 SHALE 20% Light to medium grey, brown red brown, blocky, earthy, soft, very calcareous.
 LIMESTONE 70% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic (90%), grey brown, cryptocrystalline, anhydritic, firm (10%).
- 7980-8000 ANHYDRITE 30% White, chalky, amorphous, very soft.
 SHALE 20% Light to medium grey, brown red brown, blocky, earthy, soft, very calcareous.
 LIMESTONE 50% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic (90%), grey brown, cryptocrystalline, anhydritic, firm (10%).
- 8000-20 SALT 10%
 ANHYDRITE 30% White, chalky, amorphous, very soft.
 SHALE 20% Light to medium grey, brown red brown, blocky, earthy, soft, very calcareous.
 LIMESTONE 40% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic (90%), grey brown, cryptocrystalline, anhydritic, firm (10%).

- 8020-40 ANHYDRITE 30% White, chalky, amorphous, very soft.
 SHALE 30% Light to medium grey, brown red brown, green, blocky, earthy, soft, very calcareous.
 LIMESTONE 40% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic (90%), grey brown, cryptocrystalline, anhydritic, firm (10%).
- 8040-60 ANHYDRITE 30% White, chalky, amorphous, very soft.
 SHALE 30% Light to medium grey, brown red brown, green, blocky, earthy, soft, very calcareous.
 LIMESTONE 40% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic (90%), grey brown, cryptocrystalline, anhydritic, firm (10%).
- 8060-80 ANHYDRITE 30% White, chalky, amorphous, very soft.
 SHALE 30% Light to medium grey, brown red brown, green, blocky, earthy, soft, very calcareous.
 LIMESTONE 40% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic (90%), grey brown, cryptocrystalline, anhydritic, firm (10%).
- 8080-8100 ANHYDRITE 30% White, chalky, amorphous, very soft.
 SHALE 20% Light to medium grey, brown red brown, green, blocky, earthy, soft, very calcareous.
 LIMESTONE 50% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic (90%), grey brown, cryptocrystalline, anhydritic, firm (10%).
- 8100-20 ANHYDRITE 30% White, chalky, amorphous, very soft.
 SHALE 20% Light to medium grey, brown red brown, green, blocky, earthy, soft, very calcareous.
 LIMESTONE 50% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic (90%), grey brown, cryptocrystalline, anhydritic, firm (10%).
- 8120-40 ANHYDRITE 30% White, chalky, amorphous, very soft.
 SHALE 30% Light to medium grey, brown red brown, green, blocky, earthy, soft, very calcareous.
 LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (70%) grey brown, medium dark grey, microcrystalline, firm, anhydritic (30%).
- 8140-60 ANHYDRITE 10% White, chalky, amorphous, very soft.
 SHALE 20% Light to medium grey, brown red brown, green, blocky, earthy, soft, very calcareous.
 LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (90%) grey brown, medium dark grey, microcrystalline, firm, anhydritic (10%).
- 8160-80 ANHYDRITE 10% White, chalky, very soft.
 SHALE 30% Light to medium grey, brown red brown, green, blocky, earthy, soft, very calcareous.
 LIMESTONE 60% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (90%) grey brown, medium dark grey, microcrystalline, firm, anhydritic (10%).

- 8180-8200 ANHYDRITE 10% White, chalky, amorphous, very soft.
 SHALE 50% Light to medium grey, pink, light green, brown, blocky, earthy, very soft to firm, calcareous.
 LIMESTONE 40% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (90%) grey brown, medium dark grey, microcrystalline, firm, anhydritic (10%).
- 8200-20 ANHYDRITE 10% White, chalky, amorphous, very soft.
 SHALE 50% Light to medium grey, pink, light green, brown, blocky, earthy, very soft to firm, calcareous.
 LIMESTONE 40% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (90%) grey brown, medium dark grey, microcrystalline, firm, anhydritic (10%).
- 8220-40 ANHYDRITE 10% White, chalky, amorphous, very soft.
 SHALE 40% Light to medium grey, pink, light green, brown, blocky, earthy, very soft to firm, calcareous.
 LIMESTONE 50% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (60%) medium to dark grey, grey brown, crypto to microcrystalline, anhydritic, firm (40%).
- 8240-60 SHALE 30% Light to medium grey, pink, light green, brown, blocky, earthy, very soft to firm, calcareous.
 LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (60%) medium to dark grey, grey brown, crypto to microcrystalline, anhydritic, firm (40%).
- 8260-80 SHALE 70% Orange, red brown, pink, light to medium grey, blocky, earthy, very soft, calcareous.
 LIMESTONE 30% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (60%) medium to dark grey, grey brown, crypto to microcrystalline, anhydritic, firm (40%).
- 8280-8300 SHALE 40% Orange, pink, red brown, blocky, earthy, soft, calcareous.
 SANDSTONE 40% Clear, light orange, white, frosted, very fine (lower) to medium (upper) grained, sub rounded, medium sorted, poor cement, predominantly unconsolidated, friable, no show.
 LIMESTONE 20% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (60%) medium to dark grey, grey brown, crypto to microcrystalline, anhydritic, firm (40%).
- 8300-20 SHALE 60% Orange, pink, red brown, blocky, earthy, soft, calcareous.
 SANDSTONE 20% Clear, light orange, white, frosted, very fine (lower) to medium (upper) grained, sub rounded, medium sorted, poor cement, predominantly unconsolidated, friable, no show.
 LIMESTONE 20% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (60%) medium to dark grey, grey brown, crypto to microcrystalline, anhydritic, firm (40%).
- 8320-40 SHALE 60% Orange, red brown, light to medium grey, pink, blocky, earthy, soft to firm, calcareous.
 LIMESTONE 40% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.

- 8340-60 SHALE 30% Orange, red brown, light to medium grey, pink, blocky, earthy, soft to firm, calcareous.
LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 8360-80 SHALE 20% Orange, red brown, light to medium grey, pink, blocky, earthy, soft to firm, calcareous.
LIMESTONE 80% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 8380-8400 SHALE 20% Orange, red brown, light to medium grey, pink, blocky, earthy, soft to firm, calcareous.
LIMESTONE 80% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 8400-20 SHALE 60% Orange, red brown, light to medium grey, blocky, earthy, soft, calcareous with interbedded Anhydrite.
SANDSTONE 20% Light orange, clear, white, very fine (lower) to medium (lower) grained, sub rounded, medium sorted, unconsolidated, friable, no show.
LIMESTONE 20% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 8420-40 SHALE 50% Orange, red brown, light to medium grey, light green, blocky, earthy, soft, calcareous with traces of interbedded anhydrite.
SANDSTONE 30% Light orange, clear, white, very fine (lower) to medium (lower) grained, sub rounded, medium sorted, unconsolidated, friable, no show.
LIMESTONE 20% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 8440-60 SHALE 60% Orange, red brown, light to medium grey, light green, blocky, earthy, soft, calcareous with traces of interbedded anhydrite.
SANDSTONE 20% Light orange, clear white frosted, very fine (lower) to coarse grained, sub rounded, poor sorted, unconsolidated, friable, no show.
LIMESTONE 20% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft.
- 8460-80 SHALE 30% Orange, red brown, light to medium grey, light green, blocky, earthy, soft, calcareous with traces of interbedded anhydrite.
SANDSTONE 10% Light orange, clear white frosted, very fine (lower) to coarse grained, sub rounded, poor sorted, unconsolidated, friable, no show.
LIMESTONE 60% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (80%) medium to dark grey, crypto to microcrystalline, anhydritic, occasionally calcite filled fractures, firm (20%) with interbedded Anhydrite, white, amorphous, soft.

- 8480-8500 SHALE 20% Orange, red brown, light to medium grey, light green, blocky, earthy, soft, calcareous with traces of interbedded anhydrite.
SANDSTONE 10% Light orange, clear white frosted, very fine (lower) to coarse grained, sub rounded, poor sorted, unconsolidated, friable, no show.
LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (80%) medium to dark grey, crypto to microcrystalline, anhydritic, occasionally calcite filled fractures, firm (20%) with interbedded anhydrite, white, amorphous, soft.
- 8500-20 SHALE 20% Orange, red brown, light to medium grey, light green, blocky, earthy, soft, calcareous with traces of interbedded anhydrite.
LIMESTONE 80% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (60%) medium to dark grey, microcrystalline, anhydritic, firm (40%).
- 8520-40 SHALE 10% Orange, red brown, light to medium grey, light green, blocky, earthy, soft, calcareous with traces of interbedded anhydrite.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (60%) medium to dark grey, microcrystalline, anhydritic, firm (40%) with traces of interbedded Anhydrite.
- 8540-60 ANHYDRITE 10% White, amorphous, soft to firm.
SHALE 10% Orange, red brown, light to medium grey, light green, blocky, earthy, soft, calcareous with traces of interbedded anhydrite.
LIMESTONE 80% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (60%) medium to dark grey, microcrystalline, anhydritic, firm (40%) with traces of interbedded anhydrite.
- 8560-80 SHALE 20% Orange, red brown, light to medium grey, light green, blocky, earthy, soft, calcareous with traces of interbedded Anhydrite.
LIMESTONE 80% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, (60%) medium to dark grey, grey brown, microcrystalline, anhydritic, firm (40%).
- 8580-8600 SHALE 30% Light to medium grey, light green, blocky, earthy, soft to firm, calcareous.
LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, (60%) medium to dark grey, grey brown, microcrystalline, anhydritic, firm (40%).
- 8600-20 SHALE 20% Light to medium grey, light green, blocky, earthy, soft to firm, calcareous.
LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, (50%) medium to dark grey, crypto to microcrystalline, anhydritic, firm (50%).
- 8620-40 SHALE 50% Orange, red brown, light to medium grey, light green, blocky, earthy, soft, calcareous.
LIMESTONE 50% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, (50%) medium to dark grey, crypto to microcrystalline, anhydritic, firm (50%).
- 8640-60 SHALE 70% Orange, red brown, light to medium grey, light green, blocky, earthy, soft, calcareous with traces of interbedded Anhydrite.
LIMESTONE 30% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, (50%) medium to dark grey, crypto to microcrystalline, anhydritic, firm (50%).

- 8660-80 SHALE 70% Orange, red brown, light to medium grey, light green, blocky, earthy, soft, calcareous.
LIMESTONE 30% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, (50%) medium to dark grey, crypto to microcrystalline, anhydritic, firm (50%).
- 8680-8700 SHALE 70% Orange, red brown, light to medium grey, light green, blocky, earthy, soft, calcareous.
SANDSTONE 20% Clear, light orange, frosted, very fine (lower) to medium (upper) grained, sub rounded, medium sorted, unconsolidated, friable, no show.
LIMESTONE 10% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, (50%) medium to dark grey, crypto to microcrystalline, anhydritic, firm (50%).
- 8700-20 SHALE 80% Orange, red brown, light to medium grey, light green, blocky, earthy, soft, calcareous.
SANDSTONE 10% Clear, light orange, frosted, very fine (lower) to medium (upper) grained, sub rounded, medium sorted, unconsolidated, friable, no show.
LIMESTONE 10% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, (50%) medium to dark grey, crypto to microcrystalline, anhydritic, firm (50%).
- 8720-40 SHALE 40% Orange, red brown, light to medium grey, light green, blocky, earthy, soft, calcareous.
SILTSTONE 10% Light grey, arenaceous, argillaceous, firm, limy.
LIMESTONE 50% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, (50%) medium to dark grey, crypto to microcrystalline, anhydritic, firm (50%).
- 8740-60 SHALE 10% Orange, red brown, light to medium grey, light green, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (90%) medium to dark grey, microcrystalline, firm (10%) with traces of interbedded anhydrite, white, amorphous.
- 8760-80 SHALE 10% Orange, red brown, light to medium grey, light green, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (90%) medium to dark grey, microcrystalline, firm (10%) with traces of interbedded anhydrite, white, amorphous.
- 8780-8800 SHALE 20% Light to medium grey, orange, td brown, blocky, earthy, soft to firm, calcareous.
LIMESTONE 80% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (90%) medium to dark grey, microcrystalline, firm (10%) with traces of interbedded anhydrite, white, amorphous.
- 8800-20 SHALE 20% Light to medium grey, orange, td brown, blocky, earthy, soft to firm, calcareous.
LIMESTONE 80% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (90%) medium to dark grey, microcrystalline, firm (10%) with traces of interbedded anhydrite, white, amorphous.

- 8820-40 ANHYDRITE 10% White, amorphous, soft.
 SHALE 20% Light to medium grey, orange, td brown, blocky, earthy, soft to firm, calcareous.
 LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (90%) medium to dark grey, microcrystalline, anhydritic, firm (10%) with traces of interbedded Anhydrite.
- 8840-60 ANHYDRITE 10% White, amorphous, soft.
 SHALE 20% Light to medium grey, orange, td brown, blocky, earthy, soft to firm, calcareous.
 LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (90%) medium to dark grey, microcrystalline, anhydritic, firm (10%) with traces of interbedded Anhydrite.
- 8860-80 SHALE 20% Light to medium grey, orange, td brown, blocky, earthy, soft to firm, calcareous.
 LIMESTONE 80% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (90%) medium to dark grey, microcrystalline, anhydritic, firm (10%) with traces of interbedded anhydrite.
- 8880-8900 ANHYDRITE 10% White, amorphous, soft.
 SHALE 10% Light to medium grey, orange, brown, blocky, earthy, soft to firm, calcareous.
 LIMESTONE 80% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic (80%) medium to dark grey, grey brown, microcrystalline, anhydritic, firm (20%).
- 8900-20 ANHYDRITE 30% White, amorphous, soft.
 SHALE 40% Red brown, brown, light to medium grey, blocky, earthy, soft, calcareous.
 LIMESTONE 30% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic (80%) medium to dark grey, grey brown, microcrystalline, anhydritic, firm (20%).
- 8920-40 ANHYDRITE 30% White, amorphous, soft.
 SHALE 40% Red brown, brown, light to medium grey, blocky, earthy, soft, calcareous.
 SANDSTONE 10% Clear, light orange, very fine (lower) to medium (lower) grained, sub rounded, medium sorted, unconsolidated, friable, no show.
 LIMESTONE 20% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic (80%) medium to dark grey, grey brown, microcrystalline, anhydritic, firm (20%).
- 8940-60 ANHYDRITE 20% White, amorphous, soft.
 SHALE 60% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
 LIMESTONE 20% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic (80%) medium to dark grey, grey brown, microcrystalline, anhydritic, firm (20%).
- 8960-80 ANHYDRITE 20% White, amorphous, soft.
 SHALE 70% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
 LIMESTONE 10% Light grey, chalky, lithographic, argillaceous, mudstone, anhydritic (80%) medium to dark grey, grey brown, microcrystalline, anhydritic, firm (20%).
- 8980-9000 ANHYDRITE 10% White, amorphous, soft.
 SHALE 30% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
 LIMESTONE 60% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, soft.

- 9000-20 ANHYDRITE 10% White, amorphous, soft.
SHALE 20% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, soft.
- 9020-40 ANHYDRITE 10% White, translucent, amorphous, soft to firm.
SHALE 20% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (80%)
medium to dark grey, grey brown, microcrystalline, anhydritic, firm (20%).
- 9040-60 ANHYDRITE 10% White, translucent, amorphous, soft to firm.
SHALE 20% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 70% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (80%)
medium to dark grey, grey brown, microcrystalline, anhydritic, firm (20%).
- 9060-80 SHALE 20% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 80% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (80%)
medium to dark grey, grey brown, microcrystalline, anhydritic, firm (20%).
- 9080-9100 SHALE 20% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 80% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (80%)
medium to dark grey, grey brown, microcrystalline, anhydritic, firm (20%).
- 9100-20 SHALE 10% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (80%)
medium to dark grey, grey brown, microcrystalline, anhydritic, firm (20%).
- 9120-40 SHALE 10% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very
soft, (90%) medium to dark grey, microcrystalline, anhydritic, firm (10%).
- 9140-60 SHALE 10% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very
soft, (90%) medium to dark grey, microcrystalline, anhydritic, firm (10%) with traces of
interbedded anhydrite, white, amorphous, soft.
- 9160-80 SHALE 10% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very
soft, (90%) medium to dark grey, microcrystalline, anhydritic, firm (10%) with traces of
interbedded anhydrite, white, amorphous, soft.
- 9180-9200 SHALE 10% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft
(100%).
- 9200-20 SHALE 10% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft
(100%).

- 9220-40 SHALE 10% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, very soft (100%) with interbedded anhydrite, white, amorphous, soft.
- 9240-60 SHALE 10% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, anhydritic, soft (90%) grey brown, medium to dark grey, microcrystalline, anhydritic, with traces of calcareous, fracture filled.
- 9260-80 SHALE 10% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, (100%)
- 9280-9300 SHALE 10% Red brown, orange, light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (100%) with traces of interbedded anhydrite, white, amorphous, soft.
- 9300-20 LIMESTONE 100% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (100%) with traces of interbedded anhydrite, white, amorphous, soft.
- 9320-40 LIMESTONE 100% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (80%) grey brown, microcrystalline, anhydritic, firm, traces calcite filled fractures (20%).
- 9340-60 LIMESTONE 100% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (80%) gray brown, microcrystalline, anhydritic, firm, traces calcite filled fractures (20%).
- 9360-80 LIMESTONE 100% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (80%) gray brown, microcrystalline, anhydritic, firm, traces calcite filled fractures (20%) with traces of interbedded anhydrite, white, amorphous, soft.
- 9380-9400 LIMESTONE 100% Light grey (90%), grey brown (10%).
- 9400-20 LIMESTONE 100% Light grey, argillaceous, lithographic, mudstone, anhydritic, very soft (90%) grey brown, medium grey, microcrystalline, anhydritic, firm (10%).
- 9420-40 LIMESTONE 100% Light grey, argillaceous, lithographic, mudstone, anhydritic, very soft (90%) grey brown, medium grey, microcrystalline, anhydritic, firm (10%).
- 9440-60 SANDSTONE 10% Clear frosted, very fine (lower) to course (lower) grained, sub rounded, poor sorted, unconsolidated, friable, no show.
LIMESTONE 90% Light grey, argillaceous, lithographic, mudstone, anhydritic, very soft (90%) grey brown, medium grey, microcrystalline, anhydritic, firm (10%).
- 9460-80 SANDSTONE 10% Clear frosted, very fine (lower) to course (lower) grained, sub rounded, poor sorted, unconsolidated, friable, no show.
LIMESTONE 90% Light grey, argillaceous, lithographic, mudstone, anhydritic, very soft (70%) grey brown, medium to dark grey, crypto to microcrystalline, anhydritic, firm to hard (30%) with traces of Chert, brown.

- 9480-9500 SHALE 20% Medium to dark grey, red brown, brown purple, blocky, earthy, soft to firm, calcareous.
SANDSTONE 10% Clear frosted, very fine (lower) to course (lower) grained, sub rounded, poor sorted, unconsolidated, friable, no show.
LIMESTONE 70% Light grey, argillaceous, mudstone (80%) gray brown, medium to dark grey, microcrystalline (20%).
- 9500-20 ANHYDRITE 20% White, translucent, amorphous, soft to firm.
SHALE 10% Medium to dark grey, red brown, brown purple, blocky, earthy, soft to firm, calcareous.
LIMESTONE 70% Light grey, argillaceous, mudstone, (70%) gray brown, microcrystalline (30%).
- 9520-40 ANHYDRITE 10% White, translucent, amorphous, soft to firm.
SHALE 10% Medium to dark grey, red brown, brown purple, blocky, earthy, soft to firm, calcareous.
LIMESTONE 80% Light grey, argillaceous, lithographic, mudstone, anhydritic (80%) gray brown, microcrystalline, firm, anhydritic (20%).
- 9540-60 ANHYDRITE 10% White, translucent, amorphous, occasionally crystalline, soft to firm.
SHALE 10% Medium to dark grey, red brown, brown purple, blocky, earthy, soft to firm, calcareous.
LIMESTONE 80% Light grey, argillaceous, lithographic, mudstone, anhydritic (80%) gray brown, microcrystalline, firm, anhydritic (20%).
- 9560-80 LIMESTONE 100% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, soft (70%) grey brown, microcrystalline, anhydritic, firm (30%).
- 9580-9600 LIMESTONE 100% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, soft (80%) grey brown, microcrystalline, anhydritic, firm (20%).
- 9600-20 LIMESTONE 100% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, soft (80%) grey brown, microcrystalline, anhydritic, firm (20%) with traces of interbedded Anhydrite.
- 9620-40 LIMESTONE 100% Light to medium grey, chalky, argillaceous, mudstone, anhydritic, soft (70%) grey brown, microcrystalline, anhydritic, firm (30%).
- 9640-60 LIMESTONE 100% Light to medium grey, chalky, argillaceous, mudstone, anhydritic, soft (70%) grey brown, microcrystalline, anhydritic, firm (30%).
- 9660-80 LIMESTONE 100% Light to medium grey, chalky, argillaceous, mudstone, anhydritic, soft (70%) grey brown, microcrystalline, anhydritic, firm (30%).
- 9680-9700 LIMESTONE 100% Light to medium grey, chalky, argillaceous, mudstone, anhydritic, soft (70%) grey brown, microcrystalline, anhydritic, firm (30%) with traces of interbedded Anhydrite.

- 9700-20 SHALE 10% Light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light to medium grey, chalky, argillaceous, mudstone, anhydritic, soft (70%) grey brown, microcrystalline, anhydritic, firm (30%) with traces of interbedded anhydrite.
- 9720-40 SHALE 10% Light to medium grey, blocky, earthy, soft, calcareous.
SANDSTONE 10% Clear, light orange, very fine (lower) to medium (upper) grained, sub rounded, medium sorted, unconsolidated, friable, no show.
LIMESTONE 80% Light to medium grey, chalky, argillaceous, mudstone, anhydritic, soft (70%) grey brown, microcrystalline, anhydritic, firm (30%) with traces of interbedded anhydrite.
- 9740-60 SHALE 10% Light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, soft (70%) grey brown, microcrystalline, argillaceous, anhydritic, firm (30%).
- 9760-80 SHALE 10% Light to medium grey, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic, soft (70%) grey brown, microcrystalline, argillaceous, anhydritic, firm (30%) with traces of interbedded Anhydrite.
- 9780-9800 SHALE 10% Light to medium grey, light green, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (70%) gray brown, microcrystalline, anhydritic, firm (30%).
- 9800-20 ANHYDRITE 10% White, amorphous, soft.
SHALE 10% Light to medium grey, light green, blocky, earthy, soft, calcareous.
LIMESTONE 80% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (70%) gray brown, microcrystalline, anhydritic, firm (30%).
- 9820-40 SHALE 10% Light to medium grey, light green, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (70%) grey brown, microcrystalline, anhydritic, firm (30%).
SALT by drill rate.
- 9840-60 SHALE 10% Light to medium grey, light green, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (70%) gray brown, microcrystalline, anhydritic, firm (30%).
- 9860-80 SHALE 10% Light to medium grey, light green, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (70%) gray brown, microcrystalline, anhydritic, firm (30%).
- 9880-9900 SHALE 10% Light to medium grey, light green, blocky, earthy, soft, calcareous.
LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (70%) gray brown, microcrystalline, anhydritic, firm (30%).
- 9900-20 ANHYDRITE 10% White, amorphous, soft.
SHALE 20% Light to medium grey, red brown, blocky, earthy, soft, calcareous

LIMESTONE 90% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (70%) gray brown, microcrystalline, anhydritic, firm (30%).

- 9920-40 ANHYDRITE 30% White, amorphous, soft.
 SHALE 20% Light to medium grey, red brown, blocky, earthy, soft, calcareous.
 SANDSTONE 20% Clear, light orange, frosted, very fine (lower) to medium (upper) grained, sub rounded, medium sorted, unconsolidated, friable.
 LIMESTONE 30% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (70%) gray brown, microcrystalline, anhydritic, firm (30%).
- 9940-60 ANHYDRITE 30% White, amorphous, soft.
 SHALE 30% Light to medium grey, light green, red brown, blocky to splintery, earthy, soft, calcareous.
 SANDSTONE 10% Clear, light orange, frosted, very fine (lower) to medium (upper) grained, sub rounded, medium sorted, unconsolidated, friable.
 LIMESTONE 30% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (60%) gray brown, microcrystalline, anhydritic, firm (40%) no show.
- 9960-70 ANHYDRITE 40% White, amorphous, occasionally crystalline, soft.
 SHALE 30% Light to medium grey, light green, red brown, blocky to splintery, earthy, soft, calcareous.
 LIMESTONE 30% Light grey, chalky, argillaceous, lithographic, mudstone, anhydritic (60%) gray brown, microcrystalline, anhydritic, firm (40%) no show.
- 9970-80 ANHYDRITE 10% White, translucent, amorphous, occasionally crystalline.
 SANDSTONE 20% Clear frosted, very fine (lower) to medium (lower) grained, sub rounded, medium sorted, unconsolidated, friable, no show.
 LIMESTONE 70% Grey brown, brown, crypto to microcrystalline, argillaceous, occasionally calcite filled fractures, hard (50%) light to medium grey, chalky, argillaceous, lithographic, mudstone, soft (50%).
- 9980-10000 ANHYDRITE 10% White, translucent, amorphous, occasionally crystalline.
 SHALE 20% Red brown, orange, light grey, blocky, earthy, soft, calcareous.
 SANDSTONE 20% Clear frosted, very fine (lower) to medium (lower) grained, sub rounded, medium sorted, unconsolidated, friable, no show.
 LIMESTONE 50% Grey brown, brown, crypto to microcrystalline, argillaceous, occasionally calcareous filled fractures, hard (50%) light to medium grey, chalky, argillaceous, lithographic, mudstone, soft (50%).
- 10000-20 ANHYDRITE 10% White, translucent, amorphous, occasionally crystalline.
 SHALE 20% Red brown, orange, light grey, blocky, earthy, soft, calcareous.
 SANDSTONE 20% Clear frosted, very fine (lower) to medium (lower) grained, sub rounded, medium sorted, unconsolidated, friable, no show.
 LIMESTONE 50% Grey brown, brown, crypto crystalline, dense, hard, occasionally calcite filled fractures (50%) light grey, chalky, argillaceous, lithographic, mudstone, soft (50%).
- 10020-40 ANHYDRITE 10% White, translucent, amorphous, occasionally crystalline.
 SHALE 20% Red brown, orange, light grey, blocky, earthy, soft, calcareous.
 LIMESTONE 50% Grey brown, brown, crypto crystalline, dense, hard, occasionally calcite filled fractures (60%) light grey, chalky, argillaceous, lithographic, mudstone, soft (40%).

- 10040-60 ANHYDRITE 10% White, translucent, amorphous, occasionally crystalline.
 SHALE 20% Red brown, orange, light grey, blocky, earthy, soft, calcareous.
 LIMESTONE 70% Grey brown, brown, crypto to microcrystalline, occasionally sucrosic, anhydritic in parts, firm to hard (70%) light to medium grey, chalky, lithographic, mudstone (30%).
- 10060-80 ANHYDRITE 10% White, translucent, amorphous, soft to firm.
 SHALE 30% Light to medium grey, red brown, blocky, earthy, soft, calcareous.
 LIMESTONE 60% Grey brown, brown, crypto to microcrystalline, occasionally sucrosic, anhydritic in parts, firm to hard (70%) light to medium grey, chalky, lithographic, mudstone (30%).
- 10080-10100 ANHYDRITE 10% White, translucent, amorphous, soft to firm.
 SHALE 20% Light to medium grey, red brown, blocky, earthy, soft, calcareous.
 SANDSTONE 20% Clear frosted, light orange, very fine (lower) to medium (upper) grained, sub rounded to sub angular, poor sorted, unconsolidated, friable, no show.
 LIMESTONE 50% Grey brown, brown, crypto to microcrystalline, occasionally sucrosic, anhydritic in parts, firm to hard (70%) light to medium grey, chalky, lithographic, mudstone (30%).
- 10120-40 ANHYDRITE 10% White, translucent, amorphous, soft to firm.
 SHALE 50% Orange, red brown, blocky, earthy, silty, soft, calcareous.
 LIMESTONE 40% Grey brown, brown, crypto to microcrystalline, occasionally sucrosic, anhydritic in parts, firm to hard (70%) light to medium grey, chalky, lithographic, mudstone (30%).
- 10140-60 LIMESTONE 100% Grey brown, dark grey, crypto to microcrystalline, anhydritic, firm to hard (80%) light grey, chalky, argillaceous, mudstone, soft (20%).
- 10160-80 LIMESTONE 100% Dark grey, grey brown, crypto to microcrystalline, traces of hairline fractures, firm to hard, no show (100%).
- 10180-200 LIMESTONE 100% Dark grey, grey brown, crypto to microcrystalline, traces of hairline fractures, firm to hard, no show (100%).
- 10200-20 LIMESTONE 100% Dark grey, grey brown, crypto to microcrystalline, traces of hairline and calcareous filled fractures, trace oolitic, firm to hard.
- 10220-40 LIMESTONE 100% Grey brown, dark grey, crypto to microcrystalline, calcareous filled fractures, firm to hard, no show.
- 10240-60 LIMESTONE 100% Dark grey, dark brown, grey brown, crypto to microcrystalline, traces of pellets, oolitic, firm to hard, no show.
- 10260-80 SHALE 10% Logged after short trip.
 SANDSTONE 20% Logged after short trip, probable cavings.
 LIMESTONE 70% Dark grey, dark brown, grey brown, crypto to microcrystalline, traces of pellets, oolitic, firm to hard, no show.

- 10280-300 LIMESTONE 70% Dark grey, dark brown, grey brown, crypto to microcrystalline, traces of pellets, oolitic, firm to hard, no show.
- 10300-20 SHALE 20% Light to medium grey, orange, maroon, blocky, earthy, silty, soft, calcareous.
LIMESTONE 80% Light to medium grey, chalky, argillaceous, lithographic, mudstone (60%) dark grey, grey brown, brown, crypto to microcrystalline, traces of calcite filled fractures, firm to hard (40%).
- 10320-40 SHALE 10% Light to medium grey, orange, maroon, blocky, earthy, silty, soft, calcareous.
LIMESTONE 90% Light to medium grey, chalky, argillaceous, lithographic, mudstone (70%) dark grey, grey brown, brown, crypto to microcrystalline, traces of calcite filled fractures, firm to hard (30%).
- 10340-60 LIMESTONE 100% Light to medium grey, chalky, argillaceous, lithographic, mudstone, soft (50%) dark grey, grey brown, crypto to microcrystalline, oolitic, traces of hairline fractures, firm to hard (50%).
- 10360-80 SHALE 10% Light to medium grey, orange, maroon, blocky, earthy, silty, soft, calcareous.
LIMESTONE 90% Light to medium grey, chalky, argillaceous, lithographic, mudstone, soft (60%) dark grey, grey brown, crypto to microcrystalline, oolitic, traces of hairline fractures, firm to hard (40%).
- 10380-400 LIMESTONE 100% Dark grey, grey brown, crypto to microcrystalline, traces of hairline fractures, firm to hard (60%) light to medium grey, chalky, argillaceous, lithographic, mudstone, soft (40%).
- 10400-20 LIMESTONE 100% Dark grey, grey brown, crypto to microcrystalline, occasionally hairline fractures, firm to hard (50%) light grey, chalky, argillaceous, lithographic, mudstone, soft (50%).
- 10420-40 LIMESTONE 100% Grey brown, brown, dark grey, crypto to microcrystalline, anhydritic in parts, traces of hairline fractures, firm to hard (20%) light grey, chalky, argillaceous, lithographic (30%).
- 10440-60 LIMESTONE 100% Grey brown, dark brown, dark grey, crypto to microcrystalline, anhydritic in parts, oolitic, occasionally sucrosic, calcite filled fractures, firm to hard (80%) light grey, chalky lithographic, (20%).
- 10460-80 ANHYDRITE 10% White, chalky, amorphous, soft.
LIMESTONE 90% Grey brown, dark brown, dark grey, crypto to microcrystalline, anhydritic in parts, oolitic, occasionally sucrosic, calcite filled fractures, firm to hard (80%) light grey, chalky lithographic, (20%).
- 10480-500 SHALE 50% White, light grey, blocky, very soft, slightly calcareous.
LIMESTONE 50% Grey brown, dark brown, dark grey, crypto to microcrystalline, anhydritic in parts, oolitic, occasionally sucrosic, calcite filled fractures, firm to hard (80%) light grey, chalky lithographic, (20%).

- 10500-20 ANHYDRITE 10% White, chalky, amorphous, soft.
LIMESTONE 90% Grey brown, dark brown, crypto to microcrystalline, anhydritic, oolitic, calcareous filled fractures, firm to hard (80%) light grey, chalky, lithographic, anhydritic, soft (20%).
- 10520-40 ANHYDRITE 10% White, chalky, amorphous, soft.
LIMESTONE 90% Grey brown, dark brown, crypto to microcrystalline, anhydritic, oolitic, calcareous filled fractures, firm to hard (80%) light grey, chalky, lithographic, anhydritic, soft (20%).
- 10540-60 ANHYDRITE 10% White, chalky, amorphous, very soft.
LIMESTONE 90% Grey brown, brown, crypto to microcrystalline, occasionally sucrosic, trace oolitic, anhydritic, firm to hard (90%) light grey, mudstone (10%).
- 10560-80 ANHYDRITE 10% White, chalky, amorphous, very soft.
LIMESTONE 80% Grey brown, brown, crypto to microcrystalline, occasionally sucrosic, traces of oolitic, anhydritic, firm to hard (90%) light grey, mudstone (10%).
DOLOMITE 10% Red brown, light grey, pink, crypto crystalline, argillaceous, firm.
- 10580-90 SILTSTONE 20% Orange, red brown, argillaceous, sandy, dolomite, soft to firm.
LIMESTONE 60% Grey brown, brown, crypto to microcrystalline, occasionally sucrosic, traces of oolitic, anhydritic, firm to hard (90%) light grey, mudstone (10%).
DOLOMITE 20% Light grey, pink, tan, red brown, limy, argillaceous, sandy, firm, yellow mineral fluorescence, no show.
- 10590-600 SHALE 20% Orange, red brown, light grey, blocky, earthy, silty, soft, calcareous.
SILTSTONE 40% Red brown, orange, argillaceous, arenaceous, firm, doloic.
LIMESTONE 30% Grey brown, dark grey brown, crypto to microcrystalline, oolitic, anhydritic, firm to hard, no show.
DOLOMITE 10% Light grey, pink, limy, microcrystalline, sandy, firm.
- 10600-10 SHALE 30% Orange, red brown, light grey, blocky, earthy, silty, soft, calcareous.
SILTSTONE 30% Red brown, orange, argillaceous, arenaceous, firm, doloic.
LIMESTONE 20% Grey brown, dark grey brown, crypto to microcrystalline, oolitic, anhydritic, firm to hard, no show.
DOLOMITE 20% Light grey, pink, limy, microcrystalline, sandy, firm.
- 10610-20 SHALE 20% Orange, red brown, light grey, blocky, earthy, silty, soft, calcareous.
SANDSTONE 60% Clear white, light orange, very fine (lower) to fine (upper) grained, sub rounded, medium to well sorted, predominantly unconsolidated, occasionally well cement, siliceous cement, white clay matrix, 8-12%, friable to hard, no show.
LIMESTONE 10% Grey brown, dark grey brown, crypto to microcrystalline, oolitic, anhydritic, firm to hard, no show.
DOLOMITE 10% Light grey, pink, limy, microcrystalline, sandy, firm.

- 10620-40 SHALE 10% Orange, red brown, light grey, blocky, earthy, silty, soft, calcareous.
SANDSTONE 80% Clear white, light orange, very fine (lower) to coarse (lower) grained, sub rounded, medium to poor sorted, predominantly unconsolidated, occasionally well cemented, some white clay matrix, siliceous cement, fair porosity, friable to firm, no show.
LIMESTONE 10% Grey brown, dark grey brown, crypto to microcrystalline, oolitic, anhydritic, firm to hard, no show.
- 10640-50 SANDSTONE 90% White, clear, light orange very fine (lower) to coarse (lower) grained, sub angular to sub rounded, poor sorted, medium cement, siliceous cement, occasionally white clay matrix, 8-12% porosity, friable to firm, no show.
LIMESTONE 10% Grey brown, dark grey brown, crypto to microcrystalline, oolitic, anhydritic, firm to hard, no show.
- 10650-60 LOST CIRC. NO RETURNS.
- 10660-80 SANDSTONE 80% White, clear, light orange, very fine (lower) to medium (upper) grained, sub rounded to sub angular, medium sorted, medium to poor cement, unconsolidated in parts, occasionally white clay matrix, siliceous cement, friable to firm, no show.
LIMESTONE 20% Cavings.
- 10680-700 SHALE 10% Probable cavings.
SANDSTONE 70% White, clear, light orange, very fine (lower) to medium (upper) grained, sub rounded to sub angular, medium sorted, medium to poor cement, unconsolidated in parts, occasionally white clay matrix, siliceous cement, friable to firm, no show.
LIMESTONE 20% Probable cavings.
- 10700-20 SANDSTONE 100% Clear, white, light orange, very fine (lower) to medium (upper) grained, sub rounded to sub angular, medium sorted, poor cement, predominantly unconsolidated, friable, siliceous cement, 8-12% porosity, no show.
- 10720-40 SANDSTONE 100% Clear, white, light orange, very fine (lower) to medium (upper) grained, sub rounded to sub angular, medium sorted, poor cement, predominantly unconsolidated, friable, siliceous cement, 8-12% porosity, no show.
- 10740-60 SANDSTONE 100% Clear, white, light orange, very fine (lower) to medium (upper) grained, sub rounded to sub angular, medium sorted, poor cement, predominantly unconsolidated, friable, siliceous cement, 8-12% porosity, no show.
- 10760-80 SANDSTONE 100% Clear, white, light orange, very fine (lower) to coarse (lower) grained, sub rounded to sub angular, poor sorted, poor cement, predominantly unconsolidated, friable to firm, siliceous cement, occasionally white, clay matrix, 8-12% porosity, no show.
- 10780-800 SANDSTONE 100% Clear, white, light orange, very fine (lower) to coarse (lower) grained, sub rounded to sub angular, poor sorted, medium to well cemented, siliceous cement, occasionally white clay matrix, firm to hard, 6-10% porosity, no show.

- 10800-20 SHALE 10% Cavings.
SANDSTONE 70% Clear, white, light orange, very fine (lower) to coarse (lower) grained, sub rounded to sub angular, poor sorted, medium to well cement, siliceous cement, occasionally white clay matrix, firm to hard, 6-10% porosity, no show.
LIMESTONE 20% Cavings.
- 10820-45 SHALE 20% Probable cavings.
SANDSTONE 70% Clear white, light orange, very fine (lower) to coarse (lower) grained, sub rounded to sub angular, poor sorted, medium to well cemented, siliceous cement, occasionally white clay matrix, firm to hard, 6-10% porosity, no show.
LIMESTONE 10% Cavings.

EXACT Engineering, Inc.

20 East Fifth St., Suite 310, Tulsa, OK 74103

www.exactengineering.com

(918) 599-9400 • (918) 599-9401 (fax)

Steven R. Hash, P.E.
Registered Professional Engineer
stevehash@exactengineering.com

June 26, 2009

CONFIDENTIAL

Mr. Al McKee
Bureau of Land Management
Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155

Mr. Dustin Doucet
Utah Division of Oil, Gas & Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

RECEIVED
JUL 01 2009
DIV OF OIL, GAS & MINING

Re: Well Completion Report and Log
Utah Great Eagle Federal 15-1 (Wildcat)
Sec 15 T23S R01W
Sevier Co, UT
API# 43-041-30048

Gentlemen,

On behalf of Utah Great Eagle, LLC, please find attached two copies of BLM form 3160-4 "Well Completion Report and Log" for the subject well accompanied by one set of electric logs, geologic report, mudlog, directional survey and plugging procedure.

We respectfully request that the enclosed information continues to remain confidential.

Sincerely,

Steven R. Hash, P.E.

Enclosures

copy without logs via email to:
Utah Great Eagle, LLC:
EXACT Engineering, Inc.

Rhonda Nordenson, Carl Marrs
well file

Petroleum Consulting, Property Management & Field Services
complete well design, construction & management, drilling, completion, production, pipelines, appraisals,
due diligence, acquisitions, procedures, field supervision

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.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. UTU-81052
2. Name of Operator Utah Great Eagle, LLC		6. If Indian, Allottee or Tribe Name
3a. Address 301 W Northern Lights Blvd, #410, Anchorage, AK 99509	3b. Phone No. (include area code) 907-339-7214	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 2187" FSL & 486' FWL Sec 15 T23S R01W, Sevier Co, UT		8. Well Name and No. Utah Great Eagle Federal 15-1
		9. API Well No. 43-041-30048
		10. Field and Pool, or Exploratory Area Exploratory
		11. County or Parish, State Sevier Co, UT

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"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete
	<input type="checkbox"/> Change Plans	<input checked="" 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
			<input type="checkbox"/> Water Shut-Off
			<input type="checkbox"/> Well Integrity
			<input type="checkbox"/> Other _____

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.)

Present Status: the subject well was drilled to a depth of 10845 ft on 8/27/2008 and the following cement plugs were placed in accordance with BLM requirements (see sundry 11/22/2008). Premium class G cement was used for all plugs mixed at 17ppg and 1.03 cfps.
 plug #1 - 10230' to 9630'; 600 ft with 300 sx Cl G w/ 15% salt; mix at 17.0ppg, 1.03 cfps
 plug #2 - 6000' to 5750'; 250 ft with 125 sx (same as above)
 plug #3 - 3422' to 3222'; 200 ft across 9-5/8" sfc csg shoe at 3312' w 150 sx (same as above 2% CC); WOC 6 hrs, TIH with DP, tag 3222' w 10k 10.1 ppg mud was left in the hole between plugs; the wellhead with an 11" 5M well cap flange was installed for monitoring.

Intent: It is now intended to complete the plugging, abandonment & location restoration of this well. Proposal is made to move in a portable well service unit, remove the well cap, run 2-3/8" 4.7ppf EUE tbg to 1600' in 9-5/8" 40ppf casing, pump 75 sx (200ft) Class G balanced cmt plug from 1600' to 1400'; then POOH to 200' and pump 75 sx (200ft) Class G balanced cmt plug from 200' to ground surface. Cut off wellhead and install well cap with name, API# and date. Plug rat & mouseholes and restore location to BLM standards.

CONFIDENTIAL

xc: UDOGM

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

Name (Printed/Typed) Steven R Hash, P.E.	Title Consulting Engineer - EXACT Engineering Inc
Signature	Date 11/22/2008

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by 	Title SNRS	Date 9-29-09
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 REMFIELD FIELD OFFICE	

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

(Instructions on page 2)

SUNDRY # 095LA00055

Well and Notice Remarks

Doc. Number 09SLA0005S	Doc. Type ABD	Case Number UTU81052	Type 311121	Name
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API 430413004800X1	Well Name UTAH GREAT EAGLE FEDERAL	Number 15-1	Operator UTAH GREAT EAGLE LLC
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Doc. Number 09SLA0005S	Date 09/29/2009	Author STAN ANDERSEN	Subject ABD	Category GENERAL
---------------------------	--------------------	-------------------------	----------------	---------------------

Category GENERAL

Date 09/29/2009

Sundry received by Al McKee (UTSO) 9-21-2009. Sundry approved 2-29-2009.

Marvin
Hendricks/PFO/UT/BLM/DOI
09/25/2009 01:21 PM

To "Steve Hash" <SteveHash@exactengineering.com>
cc Al McKee/UTSO/UT/BLM/DOI, Stan
Andersen/RFO/UT/BLM/DOI@BLM, Randy
Knight/PFO/UT/BLM/DOI, Walton_Willis@BLM.gov
bcc
Subject RE: Utah Great Eagle - Federal 15-1 

Steve,

I talked with Al about this sundry, and a little bit about the history of the well. The work you propose in your sundry looks good to finalize the plugging of the well. If you could call me a day or two in advance of your plugging operation, I'll let our PETs know this is coming up (they may or may not witness the work, depending on what else they have going on).

If you have any questions on anything, you can reach me at 435-636-3661.

Thanks,
Marvin Hendricks
Petroleum Engineer
BLM Price Field Office
(435) 636-3661 (o) / 3657 (f)
(435) 650-9136 (c)
Marvin_Hendricks@blm.gov

"Steve Hash" <SteveHash@exactengineering.com>



"Steve Hash"
<SteveHash@exactengineeri
ng.com>
09/23/2009 09:22 PM

To <Al_McKee@blm.gov>
cc <Marvin_Hendricks@blm.gov>, <Stan_Andersen@blm.gov>
Subject RE: Utah Great Eagle - Federal 15-1

Thanks Al, I'm in the field in N OK with poor communications the remainder of this week but will finalize the sundry this weekend and submit to Stan. We are trying to get all our ducks in a row to start this UGE work as soon as we can. Thanks for your help.

Steve
Steven R. Hash, P.E.
EXACT Engineering, Inc.
20 E 5th St, Suite 310
Tulsa, OK 74103
office (918) 599-9400
fax (918) 599-9401
cell (918) 629-9801
stevehash@exactengineering.com

-----Original Message-----

From: Al_McKee@blm.gov [mailto:Al_McKee@blm.gov]
Sent: Wednesday, September 23, 2009 1:46 PM
To: Steve Hash
Cc: Marvin_Hendricks@blm.gov; Stan_Andersen@blm.gov
Subject: Re: Utah Great Eagle - Federal 15-1

Steve -

Good to hear from you. I certainly hope all is well with you.

I see no big concerns with your proposal. I'd recommend submitting the hardcopy version to the Richfield Office. Just for your future info, the engineer who will be covering the westside of Utah is now Marvin Hendricks of our Price Field Office. I've cc'd both Stan and Marvin as a heads-up for your sundry.

As always, your professionalism has been appreciated, and I look forward to working with you again in some future project.

R. A. (Al) McKee, P.E.
Oil, Gas & Geothermal Operations
BLM - Utah State Office
440 West 200 South, Suite 500
Salt Lake City, Utah 84101
Voice: (801) 539-4045
Cell: (801) 828-7498
FAX: (801) 539-4261

"Steve Hash"
<SteveHash@exacte
ngineering.com>

09/21/2009 06:58
PM

<al_mckee@blm.gov>

To

cc

Subject

Utah Great Eagle - Federal 15-1

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.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> <input type="checkbox"/> Gas Well <input type="checkbox"/> <input type="checkbox"/> Other		5. Lease Serial No. UTU-81052
2. Name of Operator Utah Great Eagle, LLC		6. If Indian, Allottee or Tribe Name
3a. Address 301 W Northern Lights Blvd, #410, Anchorage, AK 99509	3b. Phone No. (include area code) 907-339-7214	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 2187" FSL & 486' FWL Sec 15 T23S R01W, Sevier Co, UT		8. Well Name and No. Utah Great Eagle Federal 15-1
		9. API Well No. 43-041-30048
		10. Field and Pool, or Exploratory Area Exploratory
		11. County or Parish, State Sevier Co, UT

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 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 <u>dryhole plugged</u>
	<input type="checkbox"/> Change Plans	<input checked="" 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	

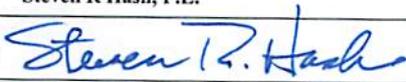
13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths 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.)

The subject well was plugged back to 3222' on 8/30/2008 & temporarily abandoned in accordance with BLM Sundry Report (11/22/2008)
 plug #1 - 10230' to 9630'; 600 ft with 300 sx Cl G w/ 15% salt; mix at 17.0ppg, 1.03 cfps
 plug #2 - 6000' to 5750'; 250 ft with 125 sx (same as above)
 plug #3 - 3422' to 3222'; 200 ft across 9-5/8" sfc csg shoe at 3312' w 150 sx (same as above 2% CC); WOC 6 hrs, TIH with DP, tag 3222' w 10k 10.1 ppg mud was left in the hole between plugs; the wellhead with an 11" 5M well cap flange was installed for monitoring while final prospect evaluation was pending.

Final plugging & abandonment was completed on 3/24/2010 in accordance with BLM Sundry Notice of Intent (9/29/2009) as follows:
 plug #4 - 1600' to 1400'; 200 ft with 74sx neat ready mix cement mixed at 16ppg
 plug #5 - 200' to 15'; 185 ft with 85sx neat ready mix cement mixed at 16ppg
 Cut off wellhead and install well cap with name, API# and date. Plug rat & mouseholes and restored location to BLM standards.

CONFIDENTIAL

xc: UDOGM

14. I hereby certify that the foregoing is true and correct	
Name (Printed/Typed) Steven R Hash, P.E.	Title Consulting Engineer - EXACT Engineering Inc
Signature 	Date 05/12/2015

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)

RACS

A. OPERATING				
Equipment Functions	Client			RACS
	Rate	Quantity	Total	
120 CT Rig				
Operation w/3-man crew	300	12	3600	
Minimum (12hrs/day)	300			
Tilt Deck / Winch Truck				
Hauling pipe, equip, etc.	85	4	340	
Minimum (4hrs/day)	85			
Water Truck 95 Brl.				
Hauling Water	85	4	340	
Minimum (4 hrs/day)	85			
Back Hoe 590 4X4				
Dig, Move, Tram, etc.	85			
Minimum (4hrs/day)	85			
Semi w/ trailer				
over the road hauling	155			
Minimum (4hrs/day)	155			
Cement Pump Truck				
Operation	300			
Minimum (4hrs/day)	300			
Mixer Truck				
Operation	85			
Minimum (4hrs/day)	85			
Cement Silo				
	3500			
Mud Tank (280 brl)				
Mix & Pump Skid (hr)	110			4
Bean Pump				
Concrete Pump				
Quintaplex Pump				
Trash Pump				
Stripping Head (day)				
	70			
BOPs' w/spool (Day)				
	200			
Crew Travel				
	145	2	290	
Service Truck 4X4				
	35			
Service Truck 4X4				
	35			
Trailer 20'				
	25			
Parts Trailer (day)				
Welding/ torches				
	30			
			=====	=====
TOTAL OPERATING TIME			4570	

B. NON OPERATING				
Repairs(Describe in Remarks)	Client			RACS
	Rate	Quantity	Total	
Service / Maint.				
Delays - access				
- client				
			=====	=====
TOTAL NON-OP TIME			0	

C. HOLE SPECIFICATIONS					
HOLE #	ID	from	to	Sks	
		Depth	Depth		
UGE15-1	8.84	1,600'	1,400'	74	
UGE15-1	8.84"	200'	15'	85	

D. MATERIALS CONSUMED					
(specify quantities & types)		CLIENT			RACS
		RATE	Quantity	Total	
Bentonite (Gel)	Per 50# sack	10			
Cal. Chloride	Per 50# sack	25			
Cement	Per 94# sack	22	159	3498	
Delay Set	Per #	5.24			
Hole Plug Chips	Per 50# sack	9			
Hydrosizer	Per #	9.6			
LCM	Per				
Plastisizer	Per #	5.76			35
Super Plug	Per 50# sack	12			
De-Flocculant	per gal.	40	2	80	
			=====	=====	
TOTAL MATERIALS CONSUMED			3578		

E. MATERIALS LEFT IN HOLE					
(specify quantities & types)		CLIENT			RACS
		RATE	Quantity	Total	
			=====	=====	
TOTAL MATERIALS LEFT IN HOLE			0		

F. OTHER CHARGEABLE					
MATERIALS / OPERATIONS		CLIENT			RACS
		RATE	Quantity	Total	
Camera	mob/de-mob, rig-up/down	100			
	video Survey (Footage)	1.25			
	Additional tape/disc	20			
Oil Saver	Rubber	15			
Stripping Head	Rubber				
Swab Cups	Per set (2 ea.)	30			
P&A Marker	3/8" Steel flat plate	300			
			=====	=====	
TOTAL OTHER CHARGEABLE			0		

G. LABOR SUMMARY					
Name		CLIENT			RACS
		Qty.	Per-Diem	Total	
Hours	(Y/N)				
Tool Pusher	E. Scartezina	110	0	0	12
Operator	J. Thompson		110	0	12
Operator	J. Brown		110	0	12
Operator	M. Meyer		110	0	12
Operator	K. Kokesh	12		540	12
Operator				0	
Hand				0	
Hand				0	
Hand					
			=====	=====	
TOTAL LABOR SUMMARY			440	540	

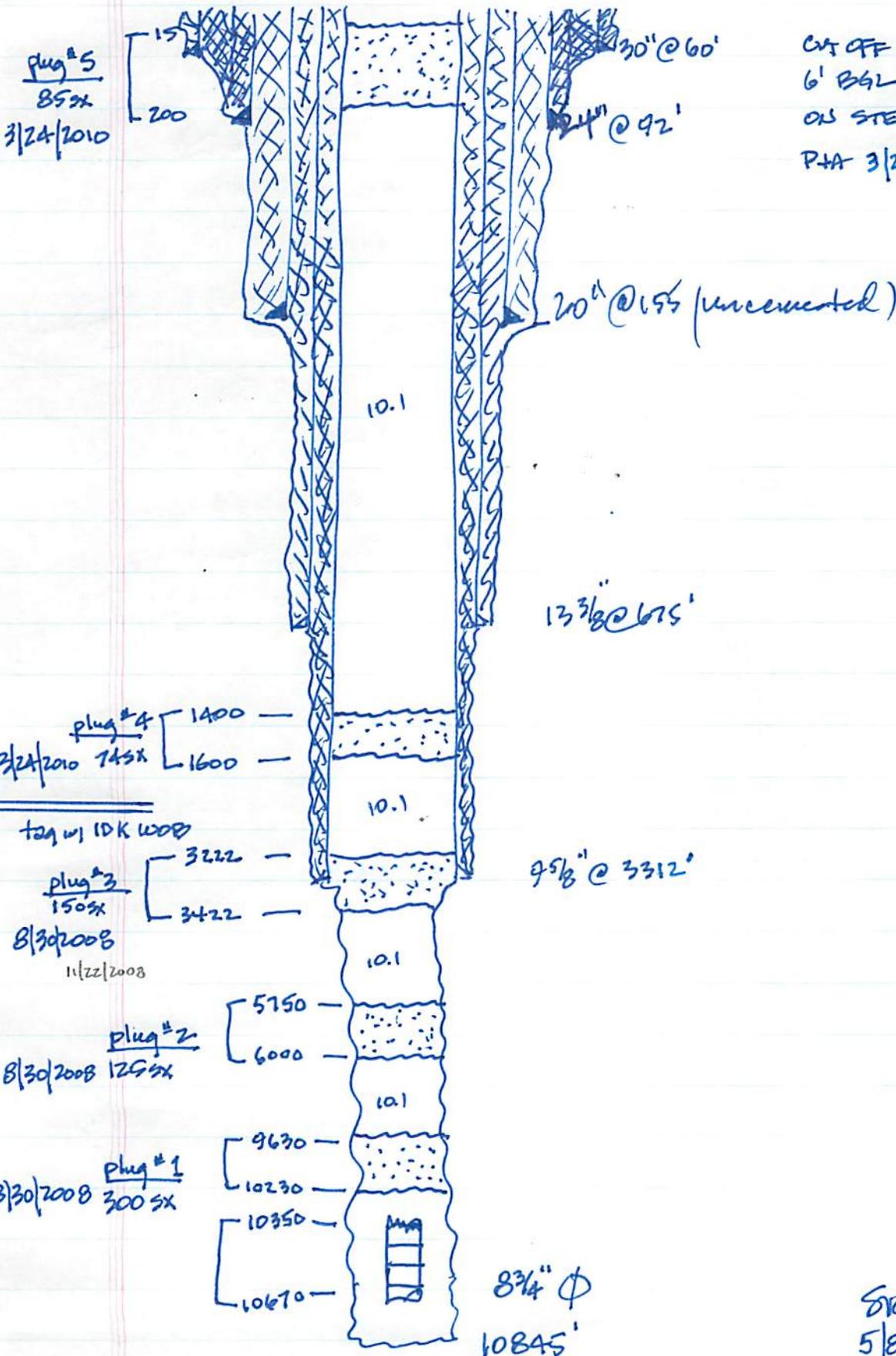
CLIENT	Utah Great Eagle	Total Invoice	9128
LOCATION	Richfield, UT	SHIFT: (Day/Night)	Day
DATE: (mm/dd/yy)	3/24/2010	JOB No.	
Client Signature			

Remarks: Crew travel w/equipment from motel to job site. Rigged up. Emptied cellar with vac-truck. Sent water truck for a load of water. Went down-hole with 2" CT while pumping water at 1-4 brl/minute. No mud washed out of the hole, relatively clean. Pumped De-flocculant 6brl pill. Washed down to 1,600'. Called out Batch plant truck w/74 sacks of neet cement, mixed @ 15.7 lb/gal. Added plastisizer. pumped 1 brl fresh water, then 74 sacks & chased with 2brl fresh water and then 7brl water while retracting CT. Pulled CT back to 200' and called out another batch plant truck with 85 sacks neet cement, added plastisizer & weighed @ 15.5 lbs./gal. pumped 1 brl fresh water then 7 brls well water, circulated cement to surface. pumped remainder of cement down the rat hole. re-entered drill hole 15' and displaced cement out. Rig down travel with all equipment back to Motel in Richfield, UT.

WBD

UGE Federal 15-1

Sec 15 T235 RIW Series Co, UT



CUT OFF ALL CASINGS
 6' BGL & WELDED
 ON STEEL PLATE
 P+A 3/24/2010

Sketch
 5/8/2015



UGEF 15.1

3.23 2010

3.048-30048

